2022年 7月 8 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 - 8 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.

Form No. S16-I
表格第 S16-I 號

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

根據《城市規劃條例》(第131章)第16條遞交的許可申請

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

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

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

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

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

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

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

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

& Please attach documentary proof 請夾附證明文件

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

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

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

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

2201724 7/7 by hand

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/NE-TK/753
	Date Received 收到日期	- 8 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。

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1. Name of Applicant 申請人姓名/名稱

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

The Society of Rehabilitation and Crime Prevention, Hong Kong 香港善導會

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)

Urban Design & Planning Consultants Limited (UDP International) 城市設計顧問有限公司

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 Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
(b) Site area and/or gross floor area involved 涉及的地盤面積及／或總樓面面積	☑Site area 地盤面積 4310 sq.m 平方米 ☑About 約 ☑Gross floor area 總樓面面積 6195.3 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）	4310 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 Ting Kok Outline Zoning Plan No. S/NE-TK/19
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Government, Institution or Community"
(f)	Current use(s) 現時用途	Vacant Land formerly occupied by Shuen Wan Eu Tong Sen School (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

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

The applicant 申請人 –

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

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

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

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

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

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

(b) The applicant 申請人 –

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

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

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

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

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

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

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

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

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

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

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

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

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

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

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

6. Type(s) of Application 申請類別

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

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

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

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

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

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

(i) For Type (i) application 供第(i)類申請

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

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

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

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

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

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

(a) Nature and scale
性質及規模

☐ Public utility installation 公用事業設施裝置

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

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

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

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

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

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

☐	Plot ratio restriction 地積比率限制	From 由 ..... to 至 .....
☐	Gross floor area restriction 總樓面面積限制	From 由 .....sq. m 平方米 to 至 .....sq. m 平方米
☐	Site coverage restriction 上蓋面積限制	From 由 .....% to 至 ..... %
☐	Building height restriction 建築物高度限制	From 由 .....m 米 to 至 ..... m 米 From 由 ..... mPD 米 (主水平基準上) to 至 .....mPD 米 (主水平基準上) From 由 ..... 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 Temporary Residential Institution (Transitional Housing) for a Period of 5 Years (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	6195.3 sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	1.44	☑About 約
Proposed site coverage 擬議上蓋面積	40 %	☑About 約
Proposed no. of blocks 擬議座數	2 (including 1 domestic block and 1 non-domestic block for Convenience Store and E&M Plant Room)	
Proposed no. of storeys of each block 每座建築物的擬議層數	Domestic Block: not more than 4 storeys 不多於4層 Non-Domestic Block: not more than 1 storey 不多於1層 ☐ include 包括 NA storeys of basements 層地庫 ☐ exclude 不包括 NA storeys of basements 層地庫	
Proposed building height of each block 每座建築物的擬議高度	Domestic Block: About 37mPD 約 37mPD 米 (主水平基準上) Non-Domestic Block: About 27.65mPD 約 27.65mPD 米 (主水平基準上) Domestic Block: About 13m 約13 米 Non-Domestic Block: About 3.65m 約3.65米	

☑ Domestic part 住用部分

GFA 總樓面面積	6082.4 sq. m 平方米	☑About 約
number of Units 單位數目	About 276	
average unit size 單位平均面積	22.0 sq. m 平方米	☑About 約
estimated number of residents 估計住客數目	About 608	

☑ Non-domestic part 非住用部分

	GFA 總樓面面積	
☐ eating place 食肆	..... sq. m 平方米	☐About 約
☐ hotel 酒店	..... sq. m 平方米	☐About 約
	(please specify the number of rooms 請註明房間數目)	
☐ office 辦公室	..... sq. m 平方米	☐About 約
☐ shop and services 商店及服務行業	..... sq. m 平方米	☑About 約
☐ Government, institution or community facilities 政府、機構或社區設施	(please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積)	
☑ other(s) 其他	(please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積) Non-domestic part with Multipurpose Room (with play area), Office, and Convenience Store - About 112.9 sq. m ..... E&M plant room: About 90.4 sq. m	

☑ Open space 休憩用地

	(please specify land area(s) 請註明地面面積)	
☐ private open space 私人休憩用地	..... sq. m 平方米	☐ Not less than 不少於
☑ public open space 公眾休憩用地	608 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]
Domestic Block	G/F	Units, Corridor/Stairs, Refuse Area, Plant Room, Management/Office, Multipurpose Hall
	1/F-3/F	Units, Corridor/Stairs, Refuse Area, Plant Room
Non - Domestic Block	G/F	Convenience Store and E&M

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

Local Landscape Area, Internal Roads and Emergency Vehicular Access

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)

Q2 2024

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)) .....Access road off Ting Kok Road ..... ☑ 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 _____ 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) _____ Bicycle Parking Spaces 8 _____ _____
	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 NA Coach Spaces 旅遊巴車位 NA Light Goods Vehicle Spaces 輕型貨車車位 NA Medium Goods Vehicle Spaces 中型貨車車位 NA Heavy Goods Vehicle Spaces 重型貨車車位 1(11m x3.5m) Others (Please Specify) 其他 (請列明) NA _____ _____ _____ _____
	No 否	☐

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

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

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

Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響？			
	On environment 對環境	Yes 會 ☐	No 不會 ☑
	On traffic 對交通	Yes 會 ☐	No 不會 ☑
	On water supply 對供水	Yes 會 ☐	No 不會 ☑
	On drainage 對排水	Yes 會 ☐	No 不會 ☑
	On slopes 對斜坡	Yes 會 ☐	No 不會 ☑
	Affected by slopes 受斜坡影響	Yes 會 ☐	No 不會 ☑
	Landscape Impact 構成景觀影響	Yes 會 ☐	No 不會 ☑
	Tree Felling 砍伐樹木	Yes 會 ☐	No 不會 ☑
	Visual Impact 構成視覺影響	Yes 會 ☐	No 不會 ☑
	Others (Please Specify) 其他 (請列明)	Yes 會 ☐	No 不會 ☑
	_____		
	_____		
	Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible) 請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可) Please refer to the Supporting Planning Statement.		

10. Justifications 理由

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

Please refer to the 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

DR. SUJATA S. GOVADA ..... CEO and Managing Director .....

Name in Block Letters 姓名（請以正楷填寫） Position (if applicable) 職位 （如適用）

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

on behalf of 代表 Urban Design & Planning Consultants Limited (UDP International)

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

Date 日期 07/07/2022 ..... (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 Shun Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Site area 地盤面積	4310 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 4310 sq. m 平方米 ☑ About 約)
Plan 圖則	Approved Ting Kok Outline Zoining Plan No. S/NE-TK/19
Zoning 地帶	"Government, Institution or Community"
Applied use/ development 申請用途/發展	Proposed Temporary Residential Institution (Transitional Housing) for Period of 5 Years

		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	6082.4 ☑ About 約 ☐ Not more than 不多於	1.41 ☑About 約 ☐Not more than 不多於
	Non-domestic 非住用	112.9 ☑ About 約 ☐ Not more than 不多於	0.03 ☑About 約 ☐Not more than 不多於
(ii) No. of block 幢數	Domestic 住用	1	
	Non-domestic 非住用	1 (Convenience Store and E&M plant rooms)	
	Composite 綜合用途	0	

(iii)	Building height/No. of storeys 建築物高度／層數	Domestic 住用	About 13.0	m 米 ☐ (Not more than 不多於)
			About 37	mPD 米(主水平基準上) ☐ (Not more than 不多於)
			4	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	About 3.65	m 米 ☐ (Not more than 不多於)
			About 27.65	mPD 米(主水平基準上) ☐ (Not more than 不多於)
			1	Storeys(s) 層 ☐ (Not more than 不多於) *(☐Include 包括/☐ Exclude 不包括* ☐ *Carport 停車間* ☐ *Basement 地庫* ☐ *Refuge Floor 防火層* ☐ *Podium 平台)*
		Composite 綜合用途	NA	m 米 ☐ (Not more than 不多於)
			NA	mPD 米(主水平基準上) ☐ (Not more than 不多於)
			NA	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		40 %	☑ About 約
(v)	No. of units 單位數目		About 276	
(vi)	Open space 休憩用地	Private 私人	NA	sq.m 平方米 ☐ Not less than 不少於
		Public 公眾	608	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) Bicycle Parking Spaces	8 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)	 Heavy Goods Vehicle Spaces: 1 (11m x 3.5m)

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）	☐	☑

Landscape Master Plan and Tree Preservation and Removal Proposal, Environmental Assesement, Water Supply Impact Assessment, Geotechnical Planning Review Report

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

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

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

Our ref: UDP/HB/THSW/TPB-L01

July 7, 2022

Secretary
Town Planning Board
17/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong
(Attn: Ms. Aileen Cheng)

Dear Sir/ Madam,

Planning Application
Under Section 16 of Town Planning Ordinance

Proposed Transitional Housing Project at Government Land at Shuen Wan,
Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Please see the Planning Application for the proposed transitional housing project at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School), submitted by Urban Design & Planning Consultants Limited (UDP International) to the Town Planning Board under Section 16 of the Town Planning Ordinance (Cap. 131) on behalf of the Applicant, The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP). The Application Site falls within the area zoned "Government, Institution or Community" under the Approved Outline Zoning Plan No. S/NE-TK/19, for a proposed temporary residential institution (transitional housing) for a period of 5 years.

Enclosed please find the authorization letter from the applicant, a duly signed Application Form together with 4 hard copies of the Planning Statement including an executive summary and appendices and soft copy of the Planning Statement in pdf format (with a content page having hyperlinks to appendices and chapters) in support of this application for your kind consideration.

Please feel free to contact the undersigned or Ms. Queenie Huang if you need any clarification or further information. We look forward to your favourable consideration on this planning application so that there is no further delay of this much-needed transitional housing project for needy households.

Yours sincerely,
For and on behalf of
Urban Design & Planning Consultants Limited (UDP International)

Dr. Sujata S. Govada
CEO and Managing Director
SG/AL

Encl.
cc.
Client (Ms. Anthea Lee) (By Hardcopy x1 and Softcopy x1)

香 港 善 導 會
The Society of Rehabilitation and Crime Prevention, Hong Kong

SECTION 16 PLANNING APPLICATION FOR THE GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

PLANNING STATEMENT



JULY 2022

UDP International
Urban Design & Planning Consultants Limited

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EXECUTIVE SUMMARY

The Planning Statement is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek planning permission from the Town Planning Board ("TPB") for a proposed temporary residential institution ("transitional housing") for a period of 5 years at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) under Section 16 ("S.16") of the Town Planning Ordinance ("TPO"). The period of construction expected to last for around two years and the period of operation for around three years. The Estimated Date of Commencement and Completion of Works will be in the Q2 of 2023 and Q2 of 2024 accordingly.

The Application Site (the Site) is situated in the Eastern part of Tai Po. It falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to paragraph (12) of the Covering Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

The planning approval will enable the proposed transitional housing development to address the shortage of housing supply in Hong Kong and improve the living conditions of households with priority needs. The proposal offers a better scheme to provide social benefits to the residents while satisfying the architectural and technical requirements as per relevant regulations and ordinances with the following additional site-specific benefits:

- The proposed transitional housing development will involve a total site area of about 4,310 m^2, a total Gross Floor Area ("GFA") of about 6,195.3 m^2, and total Plot Ratio ("PR") of about 1.44. The proposed transitional housing development will supply about 276 units in total and will accommodate an approximate of 608 residents using the reusable Modular Integrated Construction ("MiC") construction method.

- The proposed convenience store and the landscaped open space within the Site will provide a much needed amenity and social gathering spot for the residents, enhancing their quality of life as well as enhancing the Site area.

The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB in light of the planning merits and justifications provided:

- Aligned with Government policy to increase the supply of transitional housing;
- Better utilisation of underutilised Government land for public good;
- Offering better living conditions and improved quality of life for households in need;
- Improved accessibility and mobility for the households in need and neighbouring community;
- Proposed Site enhancements benefiting the residents and the neighbouring community;
- Design which is conducive to promote social interaction and nurture community building;
- Context sensitive design ensuring the proposed transitional housing development is compatible with the surrounding area
- Efficient modular design with visual and building separation retaining views and ensuring proper wind penetration across the Site with minimal long term impacts;
- Provision of mitigation measures to minimise any related visual, landscape, environmental and infrastructure adverse impacts as a result of the proposed transitional housing development;

- Improvement of visual, landscape and environmental quality of the Site benefiting the households in need and neighbouring community;
- Effective implementation, operation, and maintenance using MiC technology ensuring sustainable development with minimal environmental impacts; and

- The temporary nature of the proposed transitional housing development will not affect the long-term planning intention of the area.

With the justifications and merits presented above, the Applicant sincerely requests the TPB to give favourable consideration to the S.16 Planning Application so as to lessen the hardships of vulnerable households and provide them with an alternative living accommodation while waiting for public housing vacancies.

行政摘要

（內容如與英文版本有任何差異，應以英文版本為準）

申請人（香港善導會）現根據《城市規劃條例》（第 131 章）第 16 條向城市規劃委員會（城規會）就位於大埔汀角路船灣政府土地（「申請地點」）用作擬議臨時住宿機構（過渡性房屋）（為期 5 年）呈交規劃申請及綱領.

申請地點位於大埔東面，在現行汀角分區計劃大綱核准圖編號 S/NE-TK/19 （「大綱核准圖」）內的「政府、機構或社區」的地方地帶範圍內。根據大綱核准圖的《註釋》，任何土地或建築物的臨時用途或發展，如為期超過三年，須根據圖則的規定向城規會申請許可。考慮到擬建的「住宿機構」用途在大綱核准圖「政府、機構或社區」地帶中屬第二欄用途，擬議土地用途符合圖則的規定。

此申請如獲批准，擬議過渡性房屋發展將可舒緩房屋供應短缺問題及提高有需要家庭的生活質素。擬議方案將提供更高的社會效益，同時能夠滿足現行法規和條例下有關建築和技術要求。以下為擬議方案帶來的好處：

- 擬議發展地盤面積約為 4,310 平方米。總樓面面積約 6,195.3 平方米，地積比率約 1.44。 該發展項目採用組裝合成建築法建成 (MiC)。擬議發展項目將提供約 276 個單位，可容納約 608 人。
- 鄰舍休憩用地將形成本地社區活動新的集聚點，改善生活質素以及活化申請地點。

總括而言，規劃綱領中提及本計劃的規劃增益和理由如下：

- 配合政府現行政策，增加過渡性房屋供應的需求以舒緩房屋短缺的問題；
- 為公眾利益出發合理利用空置政府用地；
- 為有需要的家庭提供更好的生活環境和提高生活質素；
- 為有需要的家庭提高社區的可達性和交通便利性；
- 提供有利於居民和社區活動帶來高質素的環境和場地；
- 提供有利於促進社會互動和培育社區建設的設計；
- 環境敏感性設計確保擬議的過渡性房屋開發與融入社區；
- 高效的組裝合成法設計，視覺和通風廊道保留視野並確保整個場地適當通風，將長期影響降至最低；
- 採取緩解措施，盡量減少因擬議過渡性房屋發展而產生的任何相關視覺、景觀、環境和基礎設施的不利影響；

- 改善場地的視覺、景觀和環境質素，惠及有需要的家庭和社區；
- 使用組裝合成法技術進行有效實施、操作和維護，確保可持續發展，將環境影響降至最低；及
- 擬議過渡性房屋發展屬於臨時性質，不會影響該地區的長遠規劃意圖。

鑒於上述原因及詳細的補充規劃文件，申請人盼城規會可通過是次申請審批，以緩解有需要家庭的苦困及幫助他們渡過輪候公共房屋的這段期間。

1 Introduction/ Background

1.1 Pursuant to Section 16 (“S.16”) of the Town Planning Ordinance (“TPO”), this Planning Application for the implementation of transitional housing at the Government land at Shuen Wan, off Ting Kok Road, Tai Po is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek approval from the Town Planning Board (“TPB”).

1.2 The Application Site (the Site) was formerly the Shuen Wan Eu Tong Sen School and falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to the Cover Notes of the OZP, *“temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*”. Considering that ‘residential institution’, which encompasses temporary residential developments (“transitional housing”), falls within Column 2 uses of “G/IC” zone of the OZP, the applied use conforms to the terms of the Plan.

1.3 With the growing housing crisis in Hong Kong and a shortage of housing availability, the Hong Kong Government has been trying to increase the supply of Public Rental Housing (“PRH”) by identifying suitable land for development. However, due to the time needed to identify and construct sufficient public housing, transitional housing projects have been introduced as a short term solution as a means to alleviate pressure off of families living in sub-standard conditions and for those waiting in line for PRH in Hong Kong. Because of its comparatively remote location to the north of Hong Kong and abundance of Vacant School Premises (“VSP”) sites, Tai Po has become one of the key areas for transitional housing projects and developments within the city. The Transport and Housing Bureau (“THB”) has been facilitating the implementation of transitional housing projects among different community groups in Hong Kong. For this transitional housing project, SRACP is responsible for short-term tenancy, design and construction of the works, and other operational, rental, management and maintenance issues. In order to speed up the construction process, SRACP proposes the use of the MiC Method for the proposed transitional housing development. The MiC units allow for efficiency and flexibility, ensuring that the units can be taken down and moved or re-used in other projects when the allotted Site is to be vacated.

1.4 The Planning Statement provides the TPB with the relevant information and details in consideration of the S.16 Planning Application. The following chapters will detail information as follows: Section 2 provides details on the Site and surrounding context and accessibility. Section 3 details the planning context of the Site and overall land use. Section 4 provides an overview of the proposed transitional housing development scheme. Section 5 provides justifications supporting why the Planning Application should be considered. Section 6 provides the conclusion supporting the Planning Statement submitted as part of the overall Planning Application.

2 Site and Development Context

2.1 Site Location

2.1.1 The Site has an area of about 4,310 m^2 and is located at Shuen Wan, off Ting Kok Road, Tai Po. The Site is located atop a hill and is adjacent to the Spanish Primary School to the North-East, Beverly Hills Villas to the South-West and Shuen Wan Chan Uk Village to the East at the base of the hill. The Site is located in a primarily residential area at the eastern part of Tai Po. Please refer to **Figure 2.1** for location of the Site.

2.2 Land Status

2.2.1 The Site is an unleased Government land, as such there is no site boundary fixed as per the information obtained from Lands Department ("LandsD"). The site boundary for the adjacent Spanish Primary School cuts through the school building and may not be appropriate as a reference boundary for the transitional housing site, as part of the school building will fall within the proposed development area. Please refer to **Figure 2.2** for the Lot Index Plan defining the adjacent leased site. Given the situation, we have asked LandsD to consider the Site boundary as outlined in **Figure 2.1**, and it measures about 4,310 m^2. We have received confirmation regarding the same from the LandsD.

2.3 The Application Site and Existing Use

2.3.1 The Site has been underutilised for a long time and is currently listed as a demolished old school and has been retained for "G/IC" use. However, the Site was previously occupied by the Shuen Wan Eu Tong Sen School. Please refer to **Figure 2.3** for the current existing conditions of the Site.

2.4 Surrounding Area Context

2.4.1 The Site area surrounding context is rural in character and mainly occupied by low-density, low-rise private residential developments, village clusters, underutilised/unused land and vehicle parking areas.

2.4.2 To the immediate north of the Site is the Spanish Primary School zoned "G/IC". This is a low-rise one-storey development with small open spaces in front. Further north is a village cluster of Lee Uk Tsuen falling within the Village Type Development ("V") zone of the OZP.

2.4.3 To the immediate south of the Site is the low-rise residential development, namely the Beverly Hills Villas and village houses of Sha Lan which fall within the "V" zone in the OZP. These villas range between 3-4 storeys tall and are placed atop a hill overlooking the Site.

2.4.4 To the east of the Site is a Green Belt ("GB") zone and further east are village clusters of Shuen Wan Chan Uk and Lee Uk Tsuen, which fall within the "V" zone. These buildings are low-rise 1-2 storey private residential buildings spread mostly along the bottom of the hill.

2.4.5 To the immediate west of the Site the hill drops steeply leading to small village developments at road level adjacent to Ting Kok Road. The hill is vegetated with trees and is categorised within the “GB” zone in the OZP. Further west across the road is the Wong Yue Tan Village Houses with “V” and more “GB” zones.

2.4.6 Site visits were carried out by the project team on 8th March, 17th March and 12th April 2022. **Figure 2.4** illustrates relevant observations and the Site details.

2.5 Accessibility

2.5.1 The area is mainly accessible through Ting Kok Road which allows for public and private vehicular access as well as pedestrian access. The Site itself is located atop a hill and can be accessed via a local track connecting to Ting Kok Road. The current access road is around 5 m wide with an adjacent 1.2 m footpath, which makes it sufficient for vehicular and pedestrian traffic into the area.

2.5.2 In terms of the accessibility to public transport, the Site is about 200-300 meters away from an existing public transport stop on Ting Kok Road near Sam Mun Tsai Road. Residents can get access to the public transport services conveniently.

2.5.3 On a larger scale, the Site is located away from the Tai Po Town Centre and other major connections to the city such as the MTR. Public transportation such as Franchised Buses, Green Minibus and Taxis are the major connecting link from the Site to Tai Po Market Station and other areas in the New Territories, which can be reached through the Tolo Highway. Distributor roads are also connected from the highway to give access to the town centre, the Tai Po Industrial Estate, Shuen Wan and other residential neighbourhoods. An extensive biking network is also provided along the main road starting from Sha tin and passing through Tai Po until the end at Tai Mei Tuk, which makes the Site convenient to access for bikers as well.

3 Planning Context

3.1 Land Use Zoning

3.1.1 The Site falls within "G/IC" zone on the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 ("the OZP") was gazetted on 27th October 2015 [**Figure 3.1**].

3.1.2 According to the schedule of notes of the OZP, the "G/IC" zone "*is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments*" [**Figure 3.1**]. The explanatory statement of the "G/IC" zone supplements that this zone "*is intended primarily for the provision of "G/IC" facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area*" [**Figure 3.2**].

3.1.3 According to paragraph (12) of the Covering Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

3.2 Addressing the Severe Housing Shortage in Hong Kong

3.2.1 On its current trajectory for housing development, Hong Kong currently experiences a severe situation regarding the housing supply which will only become worse unless there is more provision of housing supply in the short and longer term. As at end-March 2022, the average waiting time for PRH was 6.1 years[1]. Meanwhile, the public housing supply in the next four years is expected to lag behind the Long Term Housing Strategy target by 28%[2]. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units with inadequate and poor living conditions[3]. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Rents of subdivided units are also remarkably high, which took up 41% of household income, according to a study by the Subdivided Flats Concerning Platform (Chiu, 2019). In view of the public's concern

[1] https://www.housingauthority.gov.hk/en/about-us/publications-and-statistics/prh-applications-average-waiting-time/index.html

[2] https://www.ourhkfoundation.org.hk/en/report/31/housing/hong-kong%E2%80%99s-housing-crisis-fewer-and-smaller-flats-quality-life-will-only-worsen#:~:text=According%20to%20the%20latest%20report,come%20a%20decrease%20in%20quality.

[3] https://www.legco.gov.hk/research-publications/english/1920issh28-transitional-housing-for-the-inadequately-housed-20200618-e.pdf

regarding the supply-demand imbalance and unsatisfactory living conditions, a multi-pronged approach is adopted by the Government to increase the housing supply. Transitional housing is one of the short-term initiatives to assist designated groups with priority needs as a transition into long-term housing.

3.2.2 Since 2017, the Government has facilitated various transitional housing initiatives to provide timely and flexible housing assistance to families on the PRH waiting lists and inadequately-housed households. For instance, it plans to construct 16,000 transitional homes by mid-2023 to meet the housing supply target projection in Hong Kong.

3.3 Administrative Measures to Support Transitional Housing Projects

3.3.1 The Government implemented different schemes to offer various types of transitional housing through better use of underutilised land and premises. For instance, a Task Force on Transitional Housing ("Task Force") has been established under the THB as one of the six new housing initiatives announced by the Chief Executive ("CE") on 29th June 2018. As stated in the 2020 Policy Address, the Government is committed to promoting the development of transitional housing. It has been actively spearheading the policy and closely collaborating with Non-Government Organisations ("NGOs"). Short-term initiatives such as funding schemes have been implemented by the Task Force to facilitate and support transitional housing projects conducted by NGOs. Regarding the latest figures as of April 2022, the funding scheme has approved a total of 35 projects and the progress is generally smooth. This prevailing collaboration model allows a flexible provision of transitional housing units in accordance with the unique characteristics of each project.

3.3.2 To further support the transitional housing development, the CE has announced an additional injection of $3.3 billion into the funding scheme, increasing the total Government commitment to $8.3 billion in the 2020 Policy Address. Subsequently, in the 2021 Policy Address, the CE proposed a further increase of the overall supply of transitional housing from 15,000 to 20,000 units in the next few years by offering 5,000 units additionally and an increase in funding to $11.6 billion. It highlighted that the Government has been striving to enrich and enlarge the housing provided by means of transitional housing.

3.3.3 In addition, adopting innovative construction methods such as the MiC method has been encouraged by the CE, initially in the 2018 Policy Address, and then recurringly in the 2019, 2020 and 2021 Policy Addresses. The proposed transitional housing development is to be constructed by the MiC method to speed up the construction process and minimise the impacts during the construction period as well as impacts in the long term. The Planning Application is therefore echoing the Government's prevailing policy to assist households in need.

4 Proposed Transitional Housing Development at the Site

4.1 Developing Transitional Housing to Address Housing Demand

4.1.1 Hong Kong has been suffering from prolonged housing problems, and there is an increasing need for transitional housing as residents struggle to attain public housing in the city due to the lack of public housing supply, paired with the increasingly unaffordable housing prices due to the rising demand. Recently, short-term accommodations, namely transitional housing initiatives have been launched in the community to lessen the hardships of vulnerable households before moving into longer-term public housing. The 2021 planning policy proposed the provision of at least 20,000 transitional housing units by the end of 2023 as a means to curb this severe housing demand and provide people with a temporary alternative while waiting for public housing vacancies.

4.1.2 In recent years, the queuing time for PRH has repeatedly hit high records. According to the Hong Kong Housing Authority, there were about 156,400 general applications for PRH, with an average waiting time of 6.1 years as at end-March 2022. Besides, approximately 119,100 households are inadequately housed. However, the process of producing new land for housing is lengthy, and the annual average of PRH units' allocation decreased by around 12% in 2018-2019, as compared with the past five-year period. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Given the above conditions, there is surging demand for a constant supply of transitional housing for the inadequately housed. Nevertheless, there are only three transitional housing projects in operation in Tai Po illustrating the unmatched level of supply and demand.

4.1.3 This transformation of existing “G/IC” land into a transitional housing facility will ensure effective use of underutilised land and maximise efficiency of land use to mitigate housing shortage issues in the short term. This project is one of many upcoming transitional housing projects within the city, working towards meeting the Government’s target as mentioned in the planning policy mentioned above. The proposed transitional housing development will provide about 276 transitional housing units for those inadequately housed households waiting in line for PRH.

4.1.4 The proposed design not only addresses the demand for housing but also aims to ensure that the building design and surroundings come together to create a pleasant environment with a conducive atmosphere for residents and as far as possible minimise any adverse impacts on the surrounding developments and for neighbouring villagers.

4.1.5 As stated in Section 3 above, the transitional housing development will be constructed using MiC for a more time-efficient, flexible and sustainable method of development to meet the demand for about 276 transitional housing units within the Site. The proposed transitional housing development will be in a period of 5 years, with the period of construction expected to last for around two years (until Q2 of 2024) and the period of operation for around three years. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

4.2 General Planning and Design Principles

4.2.1 The planning and design of the proposed transitional housing development aims to be compatible with its immediate surroundings and work harmoniously with the environment while also providing a quick short-term solution for those households with inadequate housing. The slightly secluded location from major public areas allows residents to form their own community culture and create a harmonious environment with the adjacent Beverly Hills development, neighbouring villages and the Spanish Primary School.

Engaging and benefitting the local community with context sensitive design

4.2.2 Similar to the recently approved transitional housing project in Wong Yue Tan nearby, the proposed transitional housing development faced initial hesitance from organisations such as the villagers of Wong Yue Tan Village, residents of the Beverly Hills Villas, Ting Kok Road public concern group, the Tai Po Rural Committee and attendees of the Spanish Primary School. The design has been revised to be more context sensitive and improve the overall form and disposition of the proposed transitional housing development, retaining some view corridors towards the surrounding areas and introducing landscaped open space and community facilities including a convenience store for residents. By improving accessibility with the proposed improvements to the footpath along the access road to enhance the overall quality of the development on the Site benefiting the neighbouring community as well. The inclusion of better landscaping will improve the direct view from street level for neighbours. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for not only future residents of the development but also those in neighbouring communities such as the Beverly Hills Villas. THB and SRACP have also continued to engage with the local community to gain their support with the aim of creating a harmonious community within the area. More recently, the adjacent Spanish Primary School has indicated support for the proposed transitional housing development. Please refer to **Figure 4.1** for a copy of the letter received from the Spanish Primary School. THB is liaising with LandsD with a view that the Spanish Primary School will be relocated to another site tentatively in Q2 of 2023, for the whole period during the construction and operation of the proposed transitional housing development. The School is expected to return to the site after cessation of operation of the proposed transitional housing development.

MiC construction as an effective and efficient building method

4.2.3 MiC is the primary construction method for this development and will allow for fast and effective inception of the project, making it ideal for short-term temporary developments. MiC units are freestanding modules which are prefabricated and completed with finishes and fixtures before being transported and assembled on site. This prefabrication method allows for speeding up the construction, saving up to 30% of overall construction time[4]. This increase in overall efficiency is extremely valuable in the quest for increasing transitional housing quantity in the next few years and providing quick short-term solutions. Additionally, MiC prefabrication also minimises construction errors and inaccuracies due to higher quality control prior to construction.

[4] https://mic.cic.hk/en/AdvantagesOfMiC

Sustainable and environmentally friendly design with efficient use of resources and materials

4.2.4 The modular nature of the building means that the development can be dismantled and transported to other sites as necessary when land needs to be allocated for a different purpose, hence reducing construction waste and allowing for sustainable reuse of materials and building elements. Prefabrication of the building modules in a factory prior to the construction and assembly phase also means that there is less noise and dust pollution affecting the surrounding environment during building construction. Regarding the overall building layout, the multiple view corridors integrated into the building design also reduces the dependence on air conditioning for ventilation, thus reducing energy usage as well.

Compatibility with surrounding context through sensitive design

4.2.5 The building is low-rise and lower in height than the surrounding villas without being over imposing or distracting and can barely be seen from major public areas. The natural green tones used for the building also allow it to blend harmoniously with the surroundings while creating a calming and pleasant environment for the occupants of the building. The building form of the transitional housing consists of one block with four extending wings. The wings are separated with adequate gaps between wings not only providing linear open space in between but also retaining views to the surrounding area as well as wind penetration across the Site. The staggered length of each wing helps maintain a respectful distance between the building and the Site boundary retaining trees around the periphery. The building form and nature is also compatible with the typical village type developments in the area.

Creation of spaces that enhance community and increase quality of life

4.2.6 Community experiences and social interaction are two primary factors that aid in improving overall quality of life and living experience, especially for those who have previously suffered from poor substandard living conditions and are looking to rebuild connections and relationships with people. Communal and recreational facilities such as multi-use spaces, exercise/play spaces and leisure areas will help enhance social interaction and create a close-knit community that is typical to village type developments.

Landscape design to minimise impact on surroundings and improve user experience

4.2.7 Landscape is used as a mechanism to mitigate any impacts of the building on its surrounding, for example, in order to compensate for the land used by the building, green areas have been curated to fit in and enhance the experience for users by creating open spaces between wings for residents. Landscape corridors are formed through the building to connect people within the Site and preserve connection to green areas in the periphery. Many trees are also preserved and invasive/unhealthy trees are proposed to be felled and replanted with healthier trees to improve overall environmental quality, increase shaded areas within the Site and maintain a green environment within and around the area.

4.3 Architectural Design of the Proposed Development

4.3.1 The proposed transitional housing development is a 4-storey one block development which is connected through internal walkways. The proposed building consists of a total of about 276 units, of which about 248 (about 90%) are single units for 1-2 people and about 28 units

(about 10%) are double units for use by 3-4 people. As per these parameters the maximum population of the development would be around 608 people. The built facility will also include a multifunction room at the ground floor of the wing closest to the driveway for residents to enjoy, along with an office area for administration purposes, a mail room on ground floor and refuse area on each floor to meet the overall need, building code and safety regulations. A Barrier Free Access ("BFA") ramp has also been provided at the north-west of the building near the loading/unloading area, while a stair core is incorporated in the middle of each wing as the main method of access and circulation. According to the building code and fire safety requirements, it is mandatory that there is no more than 25 m distance between the main circulation core and any housing unit, and this proposed design adheres to this requirement. In addition to the domestic transitional housing block, one non-domestic block is also proposed near the Site entrance to house the E&M plant room and a convenience store appropriate for the proposed transitional housing development and use by the residents.

4.3.2 The building is situated at the centre of the Site, with a buffer zone on all sides such as the Emergency Vehicular Access ("EVA") access and internal driveway to the building west, and trees which have been retained all around the building north, east and south peripheries to reduce visual impact of the built structure on its surroundings. From the masterplan as seen in ***Appendix A***, it can be seen that the EVA access from the entrance of the Site takes up the periphery of the NW and NE areas of the Site. This driveway will act as the main entrance into the Site for both pedestrians and vehicles, and there is a hammer head located between the second and third wings of the building at the centre of the Site. The driveway also has a loading/unloading area which will primarily be used by heavy goods vehicles. For the proposed transitional housing development, there is no parking space provision as residents will mainly use public transport rather than private cars to access the Site. However, 8 nos. of bike parking spaces will be provided for them instead.

4.3.3 Since the Site is situated right next to the Beverly Hills Villas (a low-density residential estate), it is of concern to existing residents that the proposed 4-storey development may block their views and natural wind penetration or sunlight. In consideration of this, the disposition of the building has been refined through context sensitive design and urban design considerations providing adequate separation between the wings considering the visual, ventilation and construction viability aspects as well. The landscape is further enhanced through planting and retention of trees along the periphery to act as a visual barrier. Additional design considerations, such as utilising a natural shade of green for the building facade to blend in better with the natural context and reduce the visual impact further.

4.3.4 There is a provision of a 10 m gap separating the building wings in the middle and 7 m separation between the wings at the ends, which is beyond the mandatory 4.5 m distance between each wing as required by the building code. This ensures that a sufficient visual quality is maintained for residents with access to good natural lighting and wind penetration but also makes it viable to construct using the MiC method. The units located in the 4 wings are also rotated to face the east-west orientations within the building so that residents of the Beverly Hills Villas do not see directly into the units of the proposed transitional housing development, thus increasing living quality and increasing privacy for residents and the neighbouring community as well. This configuration also allows for more efficient land use as

it allows for inclusion of more units and also works in favour of the natural wind direction in Hong Kong which flows from the south and east throughout majority of the year. Additionally, operable windows are all oriented so that there are no openings towards the Beverly Hills Villas and road, and rather the units look towards the open spaces within the Site or outwards towards the mountains at the north and east.

4.3.5 Gaps have also been incorporated into the design at the north part of the building in-between double units so that continuous visual corridors can be formed through the Site, reducing the visual impact of the development on residents of the nearby villas, retaining views while also improving overall visual quality and natural wind penetration within the development. The porous nature of the building mass also allows for birds and natural species in the area to fly through without as much obstruction, and creates a viewing window towards the trees, mountains and sea beyond the Site.

4.3.2 Please refer to ***Appendix A*** for detailed drawings of the proposed transitional housing development.

4.4 Development Parameters

4.4.1 The information in the table below summarises the key development parameters of the proposed transitional housing project. Further details and dimensions can be seen within ***Appendix A.***

Table 4.1: Key Development Parameters of the Comprehensive Transitional Housing Development

Key Development Parameters	Comprehensive Transitional Housing Development
Site Area	About 4,310 m^2
Total Gross Floor Area (GFA)* ● Domestic GFA	About 6,195.3 m^2 ● About 6,082.4 m^2 ○ Units = 4,508.3 m^2 ○ Stairs and Walkway = 1,402.6 m^2 ○ Refuse Area = 59.3 m^2 ○ Plant Room = 97.4 m^2 ○ Mail Collection = 14.8 m^2
● Non-domestic GFA	● About 112.9 m^2 ○ Multipurpose Room (with play area) = 59.3 m^2 ○ Office = 14.8 m^2 ○ Convenience Store = 38.8 m^2

Total Plot Ratio (PR)* ● Domestic PR ● Non-domestic PR	About 1.44 ● About 1.41 ● About 0.03
Total Site Coverage	About 40%
Total No. of Blocks ● Domestic Blocks ● Non-domestic Block	2 blocks ● 1 ● 1
No. of Storeys/ Building Height (BH) ● Domestic Blocks ● Non-domestic Block	● 4 storeys (About 13.0m / About +37mPD) ● 1 storey (About 3.65m / About +27.65mPD)
No. of Units	Total Units: About 276 1-2P Units: About 248 (about 90%) 3-4P Units: About 28 (about 10%)
Typical Unit Size	1-2P Units: About 14.8 m^2 3-4P Units: About 29.6 m^2
Maximum Estimated Population	Around 608
Local Open Space	Not less than 608 m^2 (Not less than 1 m^2 local open space per person)
Green Coverage	Not less than 20% of total site area

* Excluding E & M Plant within the external block which is exempted from overall GFA calculations according to PNAP APP-151. The External block includes a convenience store which is a total GFA of about 38.8 m^2 and the E&M plant room has a GFA of about 90.4 m^2.

4.5 Landscape Design and Tree Survey of the Proposed Development

4.5.1 The Landscape Design of the development aims to create a natural and comfortable environment for residents which will work in harmony with the surrounding Site context and increase the quality of life for those within the proposed transitional housing development. Existing greenery within the Site will be preserved as much as possible. According to the preliminary broad-brush Tree Survey conducted, many existing trees within the Site can be considered as invasive species, which may be a detriment to the overall quality of the space. Some undesirable aspects from the existing Site, such as clusters of invasive tree species are proposed to be removed and replaced with healthy trees to create a high-quality landscaped environment which does not infringe on any future developments. A total of 12 no. of compensatory trees are proposed considering the site constraints and temporary nature of the proposed development, which includes limited space for compensatory tree planting, limited growth potential, and overcrowding if there is over-provision of

compensatory trees. It is likely that the new compensatory trees will need to be removed at the end of the 3-year operation so that any future development on the Site will not be restricted as a result of the compensatory trees planted.

4.5.2 According to the Hong Kong Planning Standards and Guidelines ("HKPSG"), *"In rural villages and small residential developments in the rural areas, the standard of provision is a minimum of 1 m² per person for Local Open Space"*[5]. The proposed design adheres to these guidelines and ensures that there is a sufficient amount of open space per person. Since the maximum estimated population is around 608, not less than 608 m^2 of open space is provided within approximately 4,310 m^2. The green coverage of the Site is over 20%, maintaining a respectable amount of green coverage within the Site without sacrificing valuable living space.

4.5.3 The greening within the Site including the addition of shrubs, foliage and additional trees as well as the preservation of existing trees along the Site periphery will help mitigate and minimise the overall visual impact of the proposed transitional housing development for those in the surrounding areas and provide a landscaped edge between the proposed transitional housing development and neighbouring villas.

4.5.4 Open areas are provided in between each wing of the of the proposed transitional housing development block as well to the north and south of the Site. These areas will be enhanced through the provision of seating, open plazas, play areas and outdoor exercise equipment to create a high-quality living environment for residents that can be used by multiple generations of users and encourages a healthy and active lifestyle. These facilities and public areas will also act as gathering and recreational spaces for residents, therefore assisting in building a stronger sense of community between residents.

4.5.5 Further analysis on the landscape and tree conditions including the overall Landscape Masterplan ("LMP") and broad-brush Tree Survey can be found within the landscape proposal appended as ***Appendix B.***

4.6 Visual Impact Assessment of the Proposed Development

4.6.1 The Visual Impact Assessment ("VIA") assesses the visual impact of the proposed transitional housing development as seen from five public viewing points in order to understand the effect of the proposed transitional housing development within the surrounding context and ensure that no major and undesirable impacts are anticipated to the surrounding landscape character during the construction phases.

4.6.2 According to the VIA conducted, the proposed transitional housing development is only visible at the entrance of the Site at VP3 , while it is barely visible from VP4 and is not visible at all from any of the public viewpoints of VP1 and VP2 on Ting Kok Road or from VP5 near the Sha Lan Coast. The VIA reveals that the proposed development will have a low impact on its surroundings and there are no adverse residual impacts which are anticipated to affect either landscape character or resources during both the construction and operation stage of the project. Also with the proposed transitional housing development being temporary in

[5] https://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/pdf/ch4.pdf

nature, the visual impact is considered to be not significant. Therefore conclusion was drawn that the proposed transitional housing development with the proposed mitigation measures of greening around the periphery is considered to be fully acceptable in terms of visual impact.

4.6.3 For details regarding the viewpoints and overall visual assessment for the proposed transitional housing development, please refer to the VIA appended as ***Appendix C.***

4.7 Traffic Assessment of the Proposed Development

4.7.1 The Site is currently accessible through a steep road with an adjacent narrow footpath. This sloped pathway connects to Ting Kok main road allowing pedestrian and private vehicle connection to public areas. The Traffic Impact Assessment ("TIA") indicates the additional traffic to be generated by the proposed transitional housing development would be insignificant as the target population is for low-income households who do not own private cars and hence no parking spaces are provided within the development. In terms of the accessibility to public transport, the Site is about 200-300 metres away from existing public transport stops on Ting Kok Road near Sam Mun Tsai Road, it is identified that spare capacities of the existing bus services would be sufficient to cater for the additional traffic demand, ensuring convenient accessibility to surrounding areas for residents.

4.7.2 In any event, the Applicant will liaise with the NGO operating nearby transitional housing projects at Wong Yue Tan (i.e. The Lok Sin Tong Benevolent Society, Kowloon) and liaise with relevant Government departments on the possible public transport enhancement measures in due course.

4.7.3 During the TIA, it was noted that the current pedestrian access was dilapidated, and the footpath was uncontinuous appended as ***Appendix D***. However, it is noticed that there is no existing programme to improve the existing substandard pedestrian way and informal tracks. An improvement scheme is proposed within the TIA to connect the footpath to Ting Kok Road.

4.7.4 Similar to the nearby transitional housing projects, it was initially assumed that this proposed transitional housing development might be constrained by the limited traffic capacity at Ting Kok Road. There are over 20,000 existing residents living in the villages and low-rise residential estates in the Shuen Wan Constituency area. Additionally, the Lung Mei Beach attracts a lot of visitors during the weekend. With the only main road Ting Kok Road connecting to the Centre of Tai Po and the two railway stations, there were initial concerns that traffic capacity may be overloaded because of the proposed transitional housing development and other substandard roads and informal village tracks may not be able to handle the daily traffic volume in the future. This was analysed within the TIA which concluded that the proposed transitional housing development would not generate adverse traffic impact as the amount of vehicular traffic to be generated is insignificant.

4.7.5 According to fire safety standards, the EVA access needs to cover at least 25% of the building façade perimeter. The proposed driveway meets this requirement and resultantly it utilises much of the west area within the Site, with a roundabout and the road extending

across the north of the Site. This swept path assessment results reveal that this driveway has enough turning radius allowance to allow for vehicles of up to 10 m in length.

4.7.6 Further analysis of overall accessibility to the Site, existing conditions and future traffic conditions can be seen within the TIA appended as ***Appendix D.***

4.8 Environmental, Engineering and Infrastructure Assessments of the Proposed Development

4.8.1 As the Site is situated next to the Beverly Hills Villas and Spanish Primary School, issues regarding noise nuisance and air pollution during the construction process and during the building operation period are of local concern. Moreover, the noise generated by the increased population can possibly affect the daily operations of the Spanish Primary School. Hence, the Government Departments have recommended that close liaison with the school should be undertaken during the overall planning and design process.

4.8.2 In addition to noise and air which are considered under the Environment Assessment ("EA"), a Drainage Impact Assessment ("DIA"), Sewerage Impact Assessment ("SIA"), Water Supply Impact Assessment ("WSIA") and Geotechnical Planning Review ("GPR") will also be conducted to determine which aspects of the Site can be maintained versus improved during the development and construction process and how to reduce impact to the surroundings as much as possible.

Environmental Assessment ("EA")

4.8.3 The EA assesses the potential impacts of the proposed transitional housing development on the immediate surroundings and the impacts arising from the construction and operation of the development, as well as ensures that the proposed transitional housing development maintains overall environmental sustainability. Overall air quality, vehicular emissions, industrial emissions, odour impact, construction noise and traffic noise are addressed in the EA, along with the impact of these on water quality. Recommended mitigation measures are also proposed to reduce the impacts of these elements on the environment and neighbourhood. Further details are included within the EA appended as ***Appendix E***.

Drainage Impact Assessment ("DIA")

4.8.4 As the Site is located on higher ground, flooding and drainage maintenance is important as it will have an impact on the immediate surrounding area. The DIA assesses the potential impacts of the proposed transitional housing development on the existing drainage and flooding system within the Site and identifies potential mitigation measures as required to ensure that the development will not increase flooding risk or impose any issues to the drainage system within or around the Site. Further details are included within the DIA appended as ***Appendix F.***

Sewerage Impact Assessment ("SIA")

4.8.5 According to the drainage record plan as retrieved from the Drainage Services Department ("DSD"), the nearest public sewerage system from the Site is around 200 m away. The SIA assesses the potential impacts of the proposed transitional housing development on the

sewage network and determines whether it is sufficient for the increased capacity of sewage flow during building operation. Through the investigation it was concluded that there would be no adverse impacts on the existing sewage system in the area. Further details are included within the SIA appended as ***Appendix G.***

Water Supply Impact Assessment ("WSIA")

4.8.6 Water supply within the Site is currently retrieved from the Tai Po East Low Level Fresh Water Service Reservoir ("TPELLFWSR"). The WSIA assesses whether the existing water supply capacity is sufficient for the increased water demand for freshwater and flushing water as a result of the proposed transitional housing development. The assessment revealed that there would be no adverse impacts to the overall water supply. However, it is also proposed to connect the Site to an existing freshwater main closer to the proposed transitional housing development along Sam Mun Tsai Road which will be analysed further in the detailed design stage. Further details on the water supply are included within the WSIA appended as ***Appendix H.***

Geotechnical Planning Review ("GPR")

4.8.7 Because of the Site location atop a hill, the Site is surrounded by slopes and the existing ground and structural condition needs to be taken into consideration. The GPR assesses the existing site condition and reviews the existing structures, slopes and other geotechnical features within the Site and its vicinity. A review on the ground investigation works findings and proposed construction is also conducted. Through the investigation it is determined that there are no major effects to the existing surrounding area, and a detailed design for the Site formation works in the long term will be carried out later on in the detailed design stage. Further details are included within the GPR appended as ***Appendix I.***

4.9 Tentative Development Programme

4.9.1 The tentative construction of this project expected to commence in Q2 of 2023 with plans for completion anticipated until Q2 of 2024. The proposed development programme is expedited through the use of MiC construction methods.

5 Justifications and Planning Gains

5.1 Aligning with Government Policy to increase the supply of Transitional Housing

5.1.1 Housing supply shortage has long been a major challenge for Hong Kong due to insufficient land provision. Although the Long Term Housing Strategy ("LTHS") has been introduced to alleviate arising housing problems, the shortage has still aggravated persistently in recent years. For example, the PRH supply is still expected to lag behind the Long Term Housing Target by 28% with approximately 21,800 units. As discussed in Section 3, the proposed transitional housing development echoes the Government's policy to address the

skyrocketing housing demand. Being one of the six major new housing initiatives announced by the CE in 2018, transitional housing will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place.

5.1.2 In recent years, the role of transitional housing in alleviating the housing shortage problem in the short-term has been repeatedly strengthened in various policy addresses affirming that: (a) the supply of transitional housing units will be increasing constantly in responding to the housing shortage (2017-18, 2021), (b) qualified NGOs will play a critical role in the transitional housing development (2018). To directly echo the words of the Government in stressing the importance of transitional housing development, the proposed transitional housing development managed by SRACP, a non-profit making organisation (i.e. the Applicant) will be able to accommodate approximately 608 residents with about 276 transitional housing units flexibly installed by the MiC method. With the innovative and efficient construction method suggested by the Government, the estimated operation date could be brought forward after the completion of work in Q2 of 2024, securing a timely supply of interim housing units.

5.2 Offering better Living Conditions and Improved Quality of Life for Households in need

5.2.1 Hong Kong has long suffered from inferior quality living conditions. The implementation of transitional housing projects would be able to relieve the pressure on families living in poor and sub-standard conditions, and those waiting for PRH for a long time. Since the proposed transitional housing development could provide about 276 transitional housing units to people in urgent need of community support, their livelihood can be improved and alleviated in the long run with adequate PRH supply.

5.2.2 The units will also come equipped with the basic necessary facilities such as toilets, beds, air-conditioning and natural wind penetration. For those who were previously in sub-standard living conditions such as in cramped sub-divided flats, the upgraded living conditions allow each unit to enjoy individual necessities so that people can enjoy a much better overall quality of life.

5.2.3 Around 2.61 m^2 of local open space per person is provided, which fulfils the minimum requirement of 1 m^2 per person for residential developments in the rural areas. The total open space provision will be around 1586.8 m^2. This encourages passive and active recreational use and enhances the overall spatial quality of the development. The above design features and elements showcase the Applicant's approach to striking a balance between addressing the housing shortage issue and enhancing the living quality in the proposed transitional housing development.

5.3 Design which Promotes Social Interaction and Community Building

5.3.1 Other than providing transitional housing units, the proposed transitional housing development at its core focuses on improving the livelihood of the tenants and promoting

community building and social interaction. The proposed layout is planned in a way that facilitates communication between residents and assists them in developing strong social support networks. To actively engage the residents in community dialogue, a playground, plaza, leisure sitting-out area, fitness area with exercise equipment, multi-purpose room and community garden are appropriately located on the Site. Activities such as volunteer programmes, family activities, career development workshops and health talks will be regularly arranged in the multi-purpose room and other communal areas. The design of the proposed transitional housing development ensures that all residents could have facilitated access to a comprehensive array of community facilities and services to improve their social capital.

5.3.2 The improved facilities and living conditions and increased overall quality of life allows residents to focus more on other aspects of life such as building valuable relationships and focusing on self-development. Moreover, the convenience store will be accessible for the residents within the Site development. The proposed transitional housing development also offers possible opportunities for residents to be employed within the community store or upkeep of the Site landscape could give livelihood and income source for some and also create a sense of community ownership and belonging.

5.3.3 The flexible tenancy arrangement shall allow people to climb up the social ladder and continue developing in life even after tenancy period in the development. The tenancy period shall normally be no more than two years in view of the nature of transitional housing project being temporary uses (expected to be 5 years or less). An option to renew/extend the lease for one year will be provided for tenants subject to the genuine need as assessed by the Applicant, rental review and adjustment, and availability. The proposed rental level ranges from $2,515 to $6,005, depending on the number of residents of the household. Details would be given for further instructions in the later stage.

5.4 Sensitive and Compatible Design respecting the Surrounding Context

5.4.1 The proposed transitional housing is compatible with the surrounding low-rise residential developments, including the nearby Shuen Wan Chan Uk village, which consists of small houses with maximum building heights of 3 stories; the 1-storey Spanish Primary school; and the Beverly Hills Villlas with a maximum BH of 4 storeys. The proposed 4-storey development with a PR of 1.41 is in line with the general planning intention of the OZP and blends in well with the surrounding context.

5.4.2 The proposed transitional housing development is designed with view corridor and building separation which not only help wind penetration across the Site and helps retain existing views from the neighbouring villas. Please refer to **Figure 5.1** for Wind Penetration and View Corridors within Proposed Design. By this more porous and context-sensitive building design, views toward the mountain, sea and beyond are maintained and the unappealing unkempt state of the existing site is significantly enhanced and improved through increased landscaping. The green colour of the building also makes it work harmoniously with the surroundings rather than sticking out as a distraction within its surroundings.

5.5 Proposed Enhancements Benefiting Neighbouring Community

5.5.1 The existing quality of the Site is subpar, with numerous plants of invasive species and other minor trash, along with dilapidated buildings. The view from neighbouring areas is therefore currently unappealing with a low visual quality. The proposed transitional housing development with landscape enhancements, such as creation of more appealing plazas, green fences and replacement of invasive tree species with healthier trees, helps improve the overall visual quality of the Site creating a pleasant landscaped environment. The inclusion of better landscaping will improve the direct view from street level for neighbours. The addition of a convenience store within the development premises will serve the residents, so they can have access to daily necessities and food much more conveniently without having to leave the Site premises.

5.6 Improved Accessibility and Mobility for Neighbouring Community

5.6.1 The existing footpath is currently is dilapidated, not continuous, inadequate and inconvenient for pedestrians making it unsafe to access. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for future residents of the proposed transitional housing development.

5.6.2 The improved continuity of the journey from nearby bus stops to the Site and the Beverly Hills Villas will ensure that people have a safer pedestrian experience as they will no longer need to walk up along the internal road, and this will resultantly make the overall pedestrian journey safer and much more enjoyable. THB and SRACP will separately liaise with relevant Government departments in taking forward the proposed enhancement works.

5.7 Provision of Mitigation Measures to Minimise Adverse Impacts

5.7.1 To minimise the potential visual impact resulting from the proposed transitional housing development, corresponding mitigation measures will be introduced, for instance, planting/replanting schemes are provided between the Site and the vicinity, serving as physical and visual separation to screen off any disturbance to neighbouring developments. Moreover, a green colour for the building facade helps to smoothen the edge of the proposed transitional housing development.

5.7.2 Meanwhile, the disposition and layout of the buildings has been revised to better maintain the external quality and visual connectivity of nearby developments. Building separation between the wings of the proposed building not only allow ventilation and wind penetration but also retain views beyond the Site. The proposed transitional housing development will not result in an adverse impact on the accessibility given that an EVA will be provided in situ with a hammerhead to enhance accessibility within the Site and connect with the existing road network beyond. Technical assessments have also been conducted to investigate the visual and landscape, traffic and transport, water supply, drainage and sewerage impacts of the Application at various stages. It was concluded that there will be no insurmountable problems for the implementation of the proposed transitional development within the Site.

5.8 Improvement of Visual and Environmental Quality of the Site

5.8.1 The proposed transitional housing development adopts innovative and sustainable design to optimise the efficient use of energy, material and land resources. With regards to the building design, a 7 m to 10 m building gap between each wing is preserved to ensure the view and wind penetration of lighting and also to make the development viable to construct using MiC method which is efficient and environmentally sustainable as well. Furthermore, each floor contains a semi-open walkway that allows for natural wind penetration to pass through the building for improved air circulation. The proposed transitional housing development incorporates feasible and appropriate green design practices on the ground level. The landscape design and greening strategy helps nourish the existing character of the area and protect biodiversity by compensating the habitat for wildlife. The Health and well-being of residents can be improved with the provisions of linear open spaces between the wings while aesthetic and environmental benefits are generated as well. The above careful consideration through architectural and urban design features help minimise the impact on the surrounding rural environment and natural setting.

5.9 Better Utilisation of Underutilised Government Site for Public Good

5.9.1 Efficient use of land resources had all along been encouraged by the Government. To support and facilitate this objective, different schemes and plans have been formulated to invite stakeholders such as NGOs to make better use of underutilised Government site for the community, institutional and non-profit making purposes. For instance, the NGOs can apply to rent the surplus Government properties for housing and various uses under certain conditions, demonstrating the Government's decisiveness in taking necessary measures. Nevertheless, the NGO's interest remains tepid even though it would be a great opportunity to utilise the Site which has been left idle for a long period. Taking into account that the Planning Application utilises one of the unleased and unallocated Government sites, the proposed transitional housing development can put the underutilised site with development potential into a gainful use for public good.

5.10 The Proposed Development will not affect the long term planning intention of the area

5.10.1 The proposed transitional housing development is temporary in nature and will not affect the long-term planning intentions of the "G/IC" zones. SRACP proposes to speed up the construction process by using the MiC method to develop transitional housing projects. The MiC units can be taken down and reused in other projects when the above sites are subsequently needed for other purposes. Meanwhile, the proposed transitional housing development is also intended to provide support to meet community needs which highly suits the planning intention of the zone. The other measures taken regarding overall landscaping, water supply, drainage, sewage, traffic, environment and geotechnical aspects of the Site will also ensure that the Site is prepared for other uses once the short term tenancy period of the transitional housing is over.

5.11 Modular and Efficient Design with Minimal Impact in the long run

5.11.1 Instead of the conventional construction method, the use of the MiC construction is proposed for the reason of speedy delivery, cost-efficient and environmentally self-sustaining. As the most advanced off-site construction technology, the relocatable prefabricated housing modules used for construction will accelerate the project delivery process since minimal additional work is required in the construction process. Hence, the on-site waste disposal, electricity consumption, and air and noise pollution can be reduced by no less than 10-70% for corresponding measured performance in a project adopting MiC techniques. In the meantime, a tidier and cleaner site environment can be maintained during the construction period due to the greatly reduced wet concrete works on site. The disturbance to the surrounding neighbourhood can be minimised because of the reduced number of material delivery trips to and from the construction site. The Applicant is committed to sustainability, carbon reduction and building a more liveable neighbourhood that creates positive value for the environment and society.

5.12 Effective Implementation, Operation, and Maintenance

5.12.1 The Government actively promotes cross-sector collaboration with NGOs and the community to encourage organisations to showcase their creativity in providing diversified and flexible transitional housing projects, including exercising flexibility in the handling of planning, land lease and building requirements for development plans.

5.12.2 As one of the Hong Kong-based charitable organisations well-recognized by the Government, SRACP has been striving to contribute to the development of an inclusive society by offering diversified community services. Since 1986, SRACP has cooperated with different parties on social housing projects and transitional accommodation services. During the operation of programs such as the “SOUK" scheme and halfway house, SRACP has developed an efficient management approach to offer comprehensive support while assuring the provision of decent housing for transitional use. Moreover, it demonstrated SRACP’s willingness in contributing to addressing the housing issues in Hong Kong. With SRACP’s profound experience in launching various community programs, SRACP is committed to upholding professionalism and providing equitable services with a dedication to groups in need.

5.12.3 SRACP has, since August 2021, been engaging with the local community (including the Chairman of Tai Po Rural Committee, former District Councillors of the relevant constituencies, representatives of Tai Po South and North Area Committees, representatives of nearby residential developments including the Beverly Hills Villas and villages, Principal of Spanish Primary School, etc.) with a view to explaining the project and listening to their views on the proposed development scheme. In general, there is no objection to the preliminary design, given that there is landscaping, view corridor with building separation to enhance natural wind penetration and lighting, and the reduced roundabout minimises any potential vehicular traffic that would affect nearby villages. SRACP will continue to engage with the local community throughout the development process to incorporate their views as far as possible.

6 Conclusion

6.1 The Applicant seeks approval from the TPB for the proposed transitional housing for a period of 5 years at the Site falling within "G/IC" zone in the Approved Ting Kok OZP No. S/NE-TK/19 under S.16 of the TPO. The period of construction and operation are expected to last for around two years (until Q2 of 2024) and three years accordingly. Normally, the usual operation period of transitional housing projects is around five years, subject to review towards the end of operation period. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

6.2 The planning approval will enable the proposed transitional housing development to be implemented and provide housing for about 276 inadequately housed households in the short term. The proposal will achieve a better scheme to provide social benefits whilst being able to satisfy the architectural and technical requirements as per relevant regulations and ordinances.

6.3 Whilst the Site was originally intended for the provision of "G/IC" facilities serving the needs of the local residents and supporting the government or organisations to provide relevant social services, the Site has been underutilised with poor condition and lack of social resources for a long time. The proposed transitional housing development thus seeks to address this underutilised Site situation while offering a better life to the households in need and contribute to solving the affordable housing issue in Hong Kong as well.

6.4 According to paragraph (12) of the Covering Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development is classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

6.5 The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB since it highly aligns with the Government's policy to increase the supply of transitional housing to relieve housing shortage. The proposed transitional housing development will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place. In addition, the non-intrusive MiC construction method proposed by the Applicant can help speed up the process without affecting the long-term planning intention. Given that the Planning Application utilises unleased and unallocated Government Site, the approval can showcase Government's decisiveness in activating and enhancing the Site area for public use.

6.6 As one of the experienced transitional housing operators in Hong Kong, the Applicant is familiar with the implementation, management and maintenance process. The Applicant is also dedicated in continuously promoting a quality living among people with priority needs by offering abundant open space for social and recreational activities, incorporating sustainable

and innovative design for the well-being of the tenants and adjusting disposition and layout of the buildings for connectivity to nearby areas. The technical assessments also conducted that no insurmountable issues are observed for the implementation of the proposed transitional housing development and it is compatible with the surrounding environment. With reference to the approved Planning Application A/NE-TK/702 with the same proposed use of land and similar site context, it is believed that the proposed transitional housing development can also achieve the objectives mentioned above and set a desirable precedent to the future transitional housing projects in the area.

6.7 In light of the evidence furnished in the Planning Statement supported by the various technical assessments and the Applicant's strong commitment to provide quality transitional housing to households in need, which is clearly supported by the CE and the society, we trust that the TPB will see fit to approve the Planning Application.

FIGURES

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)



Figure No.	Title
2.1	**Site Location Plan**
Date	Description
06/2022	**Scale 1:1000**

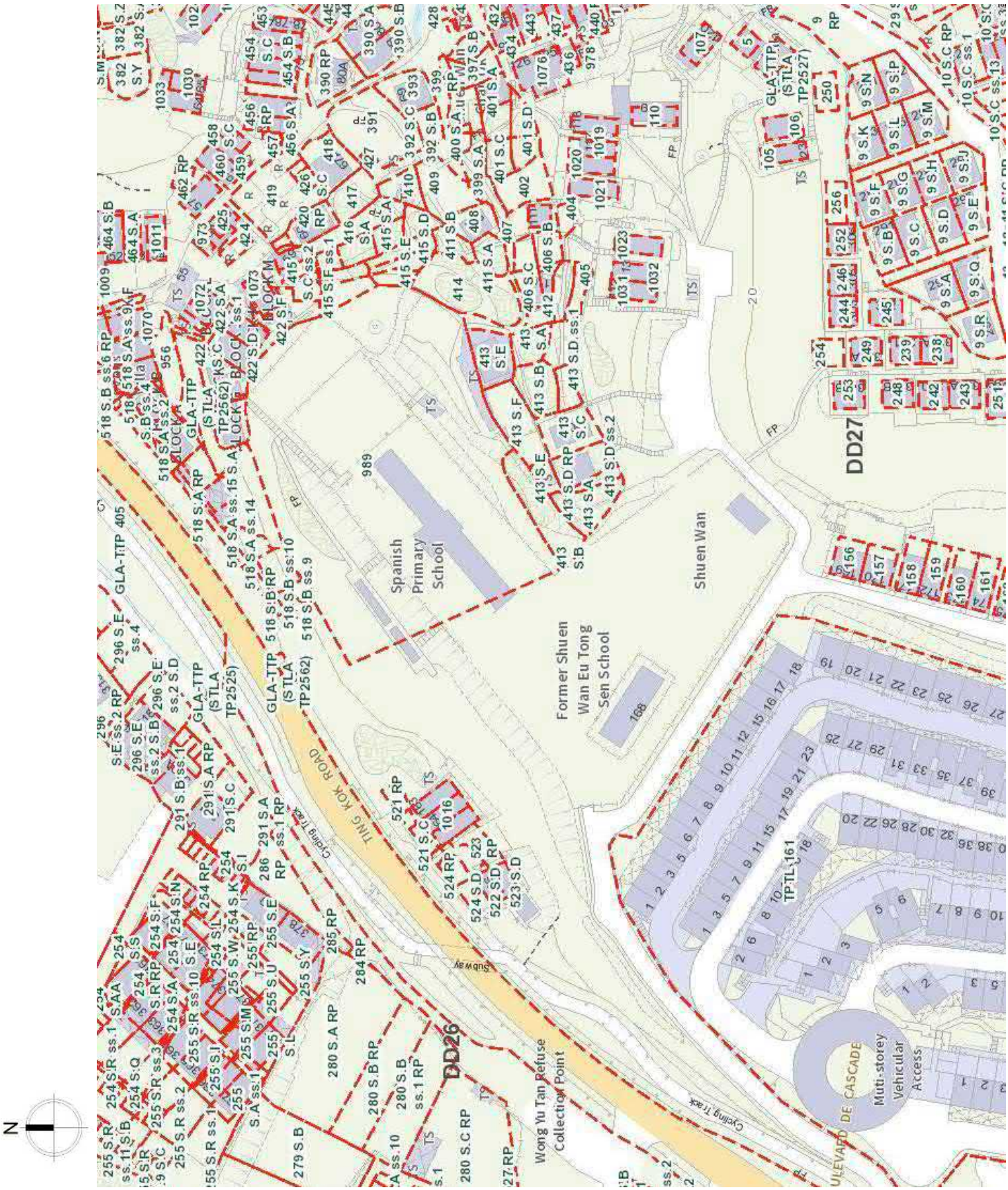


Figure No.	Title
2.2	**Lot Index Plan**
Date	Description
06/2022	**Lot Index Plan From Lands Department**





Figure No.	Title
2.3	**Current Existing Condition of the Site**
Date	Description
06/2022	**Government-owned vacant land**



Figure No.	Title
2.4	**Site Surrounding Context**
Date	Description
06/2022	**-**

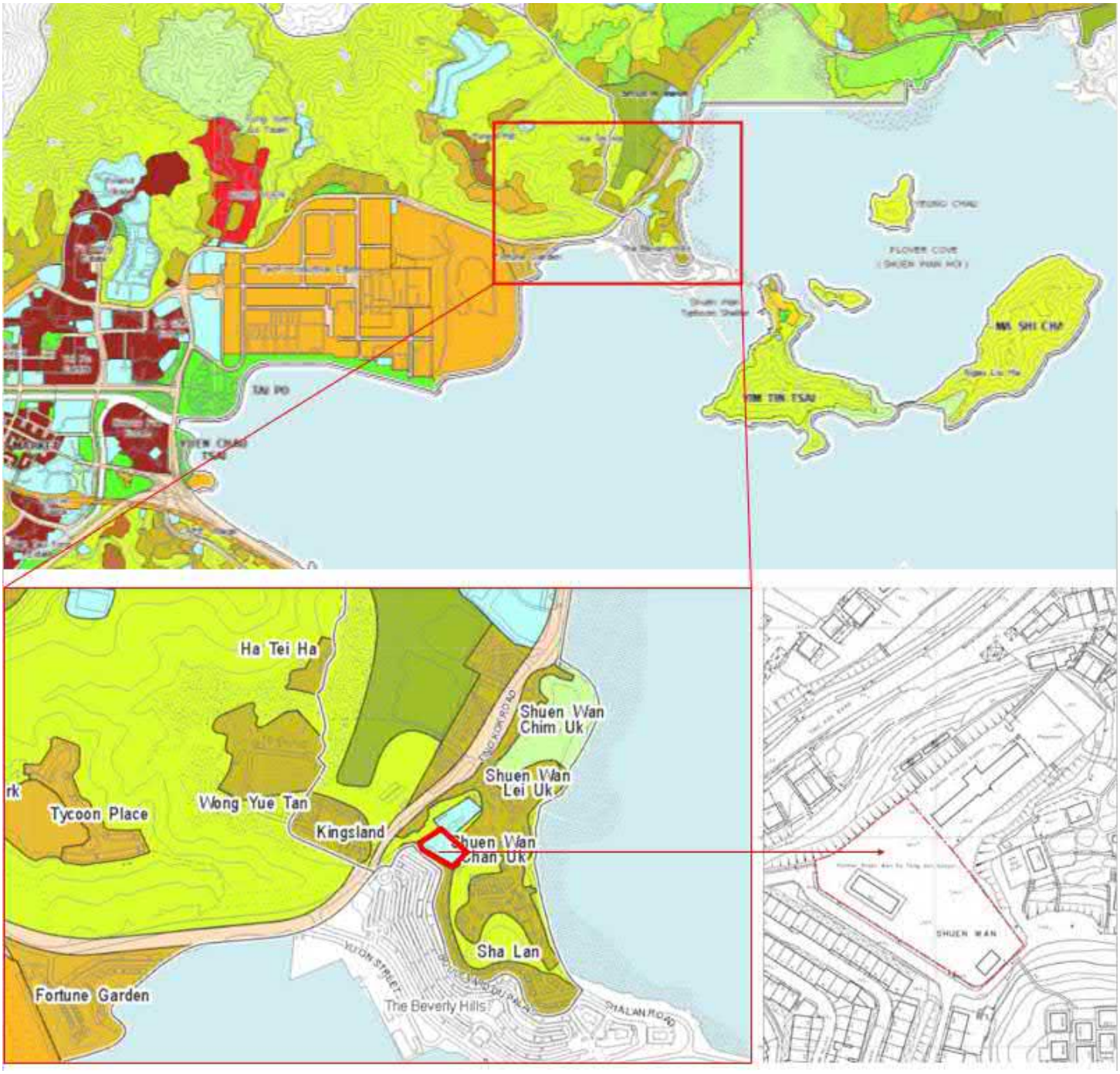


Figure No.	Title
3.1	**Extracted Approved Ting Kok OZP No. S/NE-TK/19**
Date	Description
06/2022	**-**

APPROVED TING KOK OUTLINE ZONING PLAN NO. S/NE-TK/19

(Being an Approved Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

(1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.

(2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.

(3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering any such land or building conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(4) A use or development of any land or building permitted under an earlier draft or approved plan including interim development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the interim development permission area plan without permission from the Town Planning Board.

(6) Except to the extent that paragraph (4) applies, any use or development of land or building falling within the boundaries of the Plan but not within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date when such land or building was first included within the boundaries of the Plan or an earlier draft or approved outline zoning plan published by notice in the Gazette without permission from the Town Planning Board.

(7) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

(8) Road junctions, alignment of roads, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.

(9) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (10) in relation to areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area" :

(a) maintenance, repair or demolition of a building;

(b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;

(c) maintenance or repair of road, watercourse, nullah, sewer and drain;

(d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;

(e) rebuilding of New Territories Exempted House;

(f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering such building, by a New Territories Exempted House; and

(g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.

Figure No.	Title
3.2	**Extracted Notes of the Approved OZP**
Date	Description
06/2022	**(2/4)**

(10) In areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area",

(a) the following uses or developments are always permitted:

(i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;

(ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and

(iii) provision of amenity planting by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(11) In any area shown as 'Road', all uses or developments except those specified in paragraphs (9)(a) to (9)(d) and (9)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

(12) (a) Except in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

(b) Except as otherwise provided in paragraph (12)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

(c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

Figure No.	Title
3.2	**Extracted Notes of the Approved OZP**
Date	Description
06/2022	**(3/4)**

(13) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

(14) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

Planning Intention

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

Figure No.	Title
3.3	**Extracted Schedule of Uses of "G/IC" Zone of the approved OZP**
Date	Description
06/2022	**-**

9.2.2 The boundaries of the "V" zones are drawn up having regard to the village 'environs' boundaries, local topography, the existing land-use pattern, the provision of infrastructural facilities, the approved applications for Small House development, the outstanding Small House applications, as well as Small House demand forecast. Areas of difficult terrain, dense vegetation, stream courses and burial grounds had been avoided.

9.2.3 The existing population of the Area is mostly concentrated in the 14 recognized villages in the Area, namely, Tai Mei Tuk Village, Lung Mei Village (including Ng Uk Tsuen and Wong Chuk Tsuen), Lo Tsz Tin Village, Ting Kok Village, Shan Liu Village, Po Sam Pai Village, San Tau Kok Village, Tseng Tau Village, Tung Tsz Village, Wai Ha Village, Sha Lan Village, Shuen Wan Chan Uk Village, Shuen Wan Lei Uk Village and Shuen Wan Chim Uk Village. These villages are concentrated in the flat land and surrounded by agricultural land and mountainous areas.

9.2.4 Most of these villages are accessible by Ting Kok Road while a few of them are away from the main road and linked up by substandard village tracks.

9.2.5 Any village improvement proposals or new village housing development which might affect the historic buildings detailed in paragraph 12 below should be forwarded to the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) for comment well in advance.

9.2.6 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction stated in the Notes may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

9.3 Government, Institution or Community ("G/IC") : Total Area 17.96 ha

9.3.1 The intention of this zone is intended primarily for the provision of Government, institution or community (GIC) facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area.

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(1/2)**

9.3.2 The major existing GIC uses in the Area include the plant nursery run by the LCSD at the southern side of San Tau Kok Village, the Country Park Management Centre run by the Agriculture, Fisheries and Conservation Department at the eastern end of Ting Kok Road, and a cultural and recreational centre run by the Soka Gakkai International of Hong Kong Limited on the western side of Lo Tsz Tin Village.

9.3.3 The intended use of the "G/IC" site situated along the coast of Shuen Wan has yet to be decided. However, a proposed flood pumping station under the project "Drainage Improvement in Sha Tin and Tai Po" will be located at the southern portion of this "G/IC" site.

9.3.4 Apart from the above, there are several "G/IC" sites near Shuen Wan Chan Uk Village, Ting Kok Village and Ng Uk Tsuen which are occupied by some rural schools.

9.4 Government, Institution or Community(1) ("G/IC(1)")

9.4.1 This zone is intended primarily for the development of a proposed religious institution use with an outdoor Guan Yin Statue and ancillary facilities. Any development on land zoned "G/IC(1)" should be compatible and blends in harmoniously with its surrounding environment. In order to preserve the rural character and the natural landscape of the area, with the exception of Area (a) where an outdoor Guan Yin Statue is proposed to serve as a landmark in Ting Kok area, buildings (including structures) at Area (b) where a Great Buddha's Hall is proposed and Area (c) which covers the remaining portion of the proposed religious institution should be low-rise in nature. In view of the local concern, no funeral-related facilities shall be provided at the "G/IC(1)" site.

9.4.2 A site north of the San Tau Kok Village is zoned "G/IC(1)" for a proposed religious institution development. In order to preserve the rural character and landscape of the area, control the building bulk and avoid excessive development overburdening the infrastructure provisions, development within the "G/IC(1)" zone is restricted to a maximum gross floor area of 4,900m^2 and a site coverage of 28% including landscaped deck structure. The development in the "G/IC(1)" zone is also subject to a maximum building height of 132mPD for Area (a) where a Guan Yin Statue is proposed, 18m (one storey) for Area (b) where a Great Buddha's Hall is proposed, and 14m (two storeys (including car park) for Area (c) which covers the remaining portion of the proposed monastery. Open spaces of not less than 13,000m^2 should also be provided in the development.

9.4.3 Since the "G/IC(1)" site occupies a visually prominent location with direct line of sight from a wide coverage area, the compatibility of the proposal, especially the 132mPD height limit for the outdoor Guan Yin Statue at Area (a), should be fully justified by a visual impact assessment (including photomontages). If the absolute maximum height of 132mPD for Guan Yin Statue cannot be justified at the

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(2/2)**

Spanish Primary School

To: Mr Frank Chan Fan, JP
Secretary for Transport and Housing
Transport and Housing Bureau
Secretary for Transport and Housing's Office
22/F, East Wing, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong.

RECEIVED
25 APR 2022
BY:

22 April 2022

Dear Mr Chan,

Support letter for the building of transitional housing at Former Eu Tong Sen School site

I am writing on behalf of the school board of Spanish Primary School to render our support to the building of transitional housing at former Eu Tong Sen School site, which is halvely occupied by our school.

After in-depth discussion with Mr. Wong Wing-hung, Stephen, the Project Director of the transitional housing project, we are very satisfied with the remedial measures offered by the THB to address the school needs and parents' concern.

In the future, after the completion of the transitional housing project, our school would like to continue to apply for the STT of the other half of the Former Eu Tong Sen School site for school development purpose and the establishment of sports and recreational facitilites that can be shared with the Shuen Wan resisdents during non-school hours.

We look forward to working closely with the THB to build a harmonious neighbourhood.

Kind regards,

Adriana Chan
School Supervisor
Spanish Primary School

SEO(TFTH) USTH - fi please
Grateful for TFTH's follow-up as appropriate, please. We have not acknowledged receipt.
SEO
cc. PD(2) 25 Apr 2022

Figure No.	Title
4.1	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Spanish Primary School**



Figure No.	Title
5.1	**Wind Penetration and View Corridors within Proposed Design**
Date	Description
06/2022	**Drawing of Wind Flow and Views through the Site**

UP International

APPENDIX A - ARCHITECTURAL DRAWINGS

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED MASTER PLAN LAYOUT

- Site Boundary
- Paving/ Open Areas
- Green Area
- Proposed Transitional Housing Block
- Convenience Store
- E&M Plant Room

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

GROUND FLOOR PLAN - MASTER LAYOUT

- Site Boundary
- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

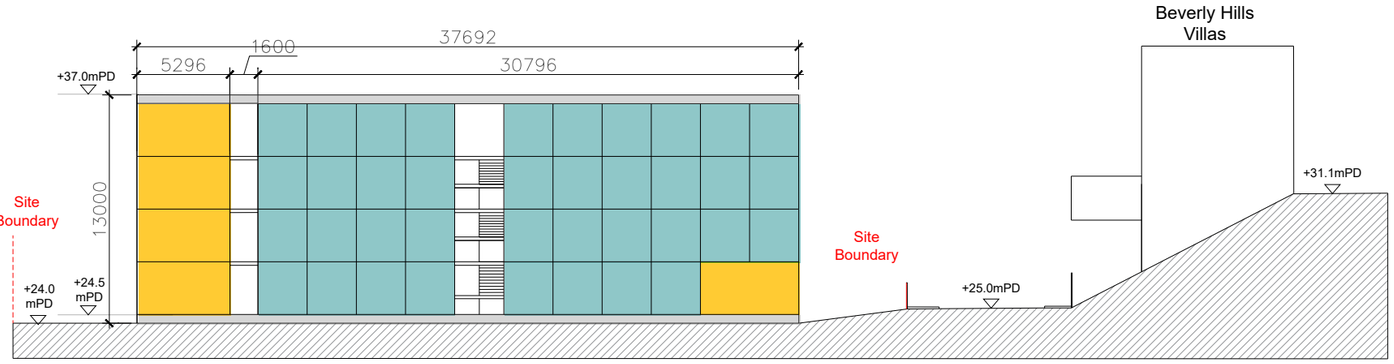
TYPICAL FLOOR PLAN (1/F -3/F) - MASTER LAYOUT

- Site Boundary
- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada



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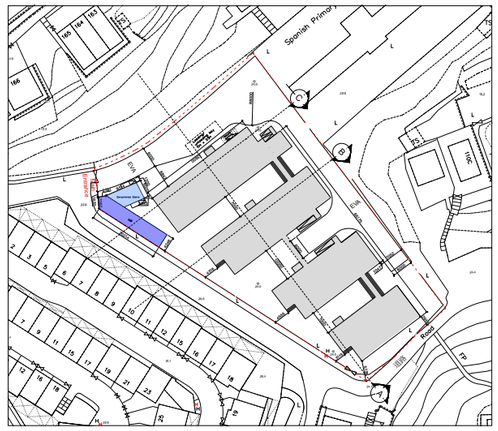
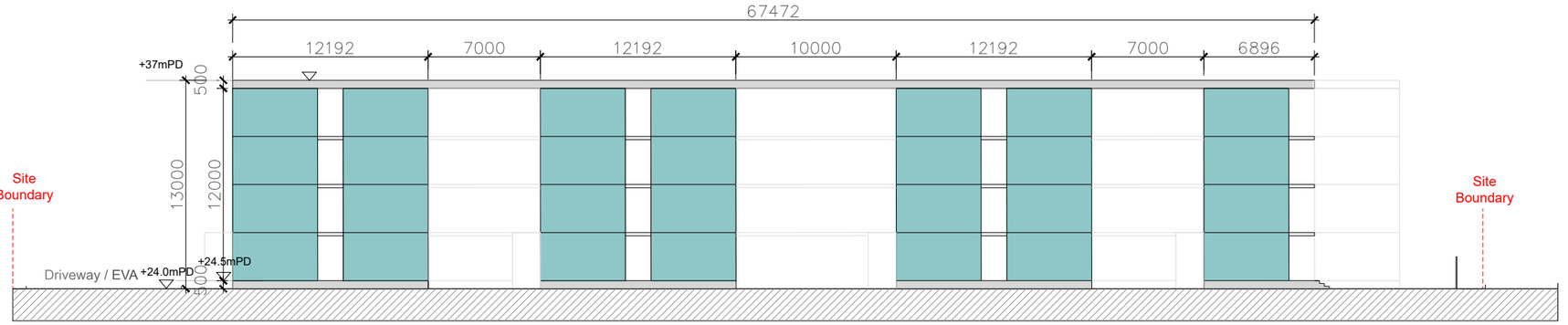


KEY PLAN 1:2000



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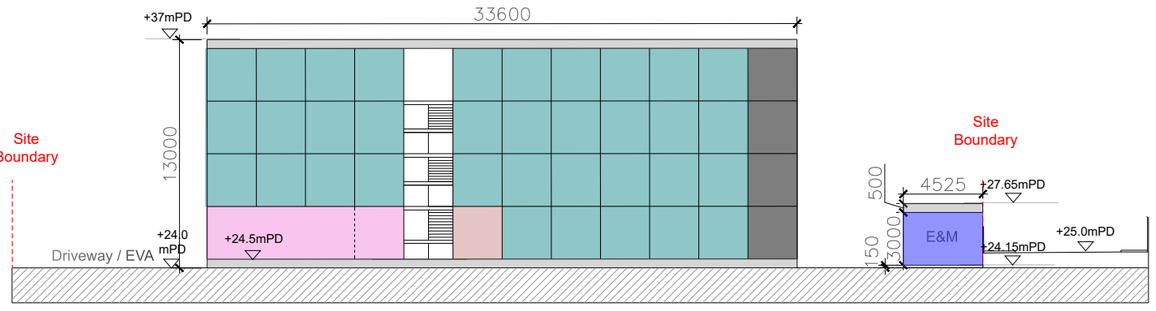

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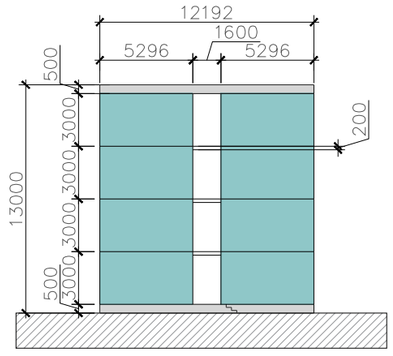


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Roof & Foundation
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:250 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada

GROUND FLOOR PLAN



TYPICAL FLOOR PLAN (1/F -3/F)



PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

TYPICAL BLOCK LAYOUT

- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

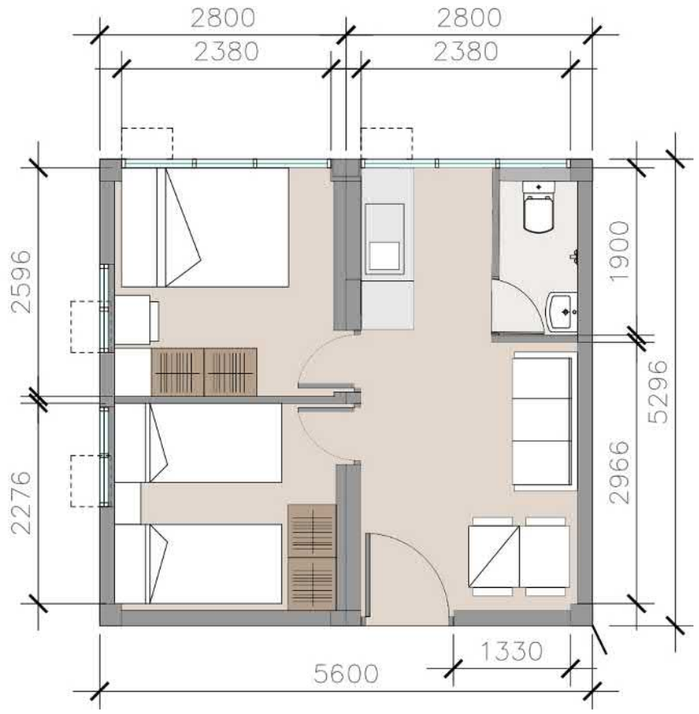
UDP INTERNATIONAL
SCALE 1:250 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada



SINGLE UNIT
(1-2P)

Dim: 5296mm (L) x 2800mm (W)



DOUBLE UNIT
(3-4P)

Dim: 5296mm (L) x 5600mm (W)

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

UNIT LAYOUT

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:50 @ A3

Drafted By: Architect

Designed By: Architect

Checked By: Queenie Huang

Approved By: Sujata Govada

APPENDIX B - LANDSCAPE MASTERPLAN AND TREE PRESERVATION AND REMOVAL PROPOSAL

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Landscape Master Plan

and

Tree Preservation and Removal Proposal

Urban Design & Planning Consultants Limited

(UDP International)

6 July, 2022

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1.2 This document has been prepared in accordance with the following Government regulation and guidelines: 3

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Figure 2 Open Space Demarcation Plan

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Annex A Broad-Brush Tree Survey and Recommendation Plan

Annex B Tree Assessment Schedule

Annex C Tree Photos

1 Introduction

1.1 Background

The Landscape Master Plan and Tree Preservation Proposal are prepared to support the S16 Application for proposed transitional housing project at Government land at Shuen Wan, off Ting Kok Road, Tai Po (The Application Site) which is for 5 years temporary use. The site was zoned as "Government Institution or Community ("GIC")" under Outline Zoning Plan ("OZP") No. S/NETK/19.

1.2 This document has been prepared in accordance with the following Government regulation and guidelines:

- DevB TC(W) No.4/2020 'Tree Preservation'
- DevB TC(W) No. 3/2012 'Site Coverage of Greening for Government Project'
- Guidelines for Tree Risk Assessment and Management Arrangement (TRAM) 9th edition, section 2.6
- Hong Kong Planning Standards and Guidelines
- PlanD Practice Note for Professional Person No.1/2019 'Processing and Compliance Checking of Landscape Submission relating to Planning Applications'
- BD/ LandsD/ PlanD Joint Practice Note No.3 'Landscape and Site Coverage of Greenery'

2 Site and Development Context

2.1 Description of the Site

The Application site approximately 4310 m^2 is located at Shuen Wan, off Ting Kok Road, Tai Po. The site is close to the shoreline of Tolo Harbour and benefits from mid-distance views of attractive green hillsides. However, the immediate surroundings of the site are mainly occupied by low-density residential development, extensive development, village clusters, underutilised/unused land, vehicle parking sites, including the Beverly Hills Villas and the Spanish Primary School.

2.2 Proposed Development

The proposed design of the transitional housing is 4-storeys and comprises of 1 block with 4 wings which will provide about 276 transitional housing units including about 248 for 1-2P and about 28 for 3-4P. The transitional housing development will be operated and managed by the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP), a Non-Governmental Organisation ("NGO").

According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) is required for the proposed transitional housing as a temporary use. A total of 4 building wings are proposed in an inter-linked parallel NE-SW alignment across the site. The development design connects the wings at the rear to create clear view corridors which also facilitates the movement of air in-between the wings through the building. This will not only create a more ventilated environment within the site but also be beneficial to the residents of the adjacent Beverly Hills Villas as their waterfront views are preserved. Furthermore, these corridors between the wings create opportunities to introduce community sitting areas and open space is close proximity to the residential units.

3 Broad-Brush Tree Survey

The Broad-Brush Tree Survey was carried out during April - May 2022. All of the technical data, including the photographs, locations, size, species and condition of the existing trees within the survey boundary have been recorded. The location of each tree is shown in **Annex A – Broad-Brush Tree Survey and Recommendation Plan**. The details of each tree, such as Diameter at Breast Height (DBH), tree number, crown spread, etc. is shown in **Annex B - Tree Assessment Schedule**. The photos of all the trees are shown in **Annex C - Tree Photos**.

3.1 Methodology and Assessment Criteria

3.1.1 All living trees at and over 95mm Diameter at Breast Height (DBH) at 1300mm above ground level were included in the Tree Survey. Each tree was identified by species, measurements taken of its trunk diameter, overall height and crown spread, date-stamped photograph taken and its position plotted on topographic plans. The report includes the following information on each Tree Surveyed:

Tree Number	Tree numbers are determined by Topographic Surveyors and are corresponded to the Tree Survey plan.
Species	Tree species are identified with their botanical and Chinese names.
Trunk Diameter	Trunk Diameter in Breast Height (DBH) of trees are measured in millimetres and are taken at 1300mm height above ground level.
Overall Height	Height of trees is measured in metres and are taken from ground level to the top of trees.
Crown Spread	Crown Spread of trees are measured in metres.

3.1.2 The health condition and form of each tree are evaluated according to the following criteria (Webb 1991):

G	Trees of good form, moderate to large size and in good health are classified as *good*;
F	Trees of reasonable form, with few or no visible defects or health problems are classified as being *fair*;
P	Trees that are of poor form, badly damaged or clearly suffering from decay, dying back or the effects of very heavy vine growth are classified as *poor*.

3.1.3 Each tree is also graded and assessed on its amenity value. The factors that are taken into consideration are conservation value, functional value, visual impact and aesthetic value. The assessment of each tree was evaluated according to the following criteria:

H Trees that are rare or protected species, Fung Shui ***significance*** or have high visual impact with good health condition and form are classified as ***high*** in amenity value.

M Trees that are common species with average health condition and acceptable form are classified as ***medium*** in amenity value;

L Trees that are common species with poor health and form are classified as ***low*** in amenity value.

3.1.4 In addition, any trees that are deemed to be classed as Trees of Particular Interest (TPIs) is accordance with TRAM Guidelines and DevB TC(W) 4/2020 must be identified and considered for possible additional sensitivity analysis. TPIs are normally defined as trees of DBH is excess of 750mm.

3.1.5 Based on the above criteria and the site constraints, the trees are considered for the following actions:

R Trees located on unaffected site areas are recommended to be ***retained*** and shall be protected during site formation and construction.

T Trees located on affected site areas but have medium to high health condition, form and amenity value are recommended to be ***transplanted***. Trees that are to be transplanted shall be relocated to a suitable location on site or held in a nursery until site formation and construction is completed.

F Trees located on affected site areas but have poor health condition, form and amenity value are recommended to be ***felled***.

3.1.6 The Conservation Status indicates the tree species rarity and protection status which is under the ordinances as listed below:

- Rare and Precious Plants of Hong Kong
- The Forests and Countryside Ordinance (Cap. 96)

If the tree species are not listed in the above ordinances, then the input for the conservation status in the Tree Assessment Status will be blank.

3.1.7 For the Structural Condition of the individual tree, assessment is rated as Good, Fair or Poor. They are based on the criteria as listed below:

G Trees which meet the following conditions are classified as ***good***:
• Good root condition and stability
• Good trunk and branch soundness
• The absence of critical decay, cavities that can lead to potential tree failure and damage

F Trees which meet the following conditions are classified as *fair*:
- Average root condition and stability
- Basic trunk and branch soundness
- Acceptable condition of critical decay, cavities that can not lead to potential tree failure and damage

P Trees which meet the following conditions are classified as *poor*:
- Poor root condition and stability
- Poor trunk and branch soundness
- The presence of critical decay, cavities that can lead to potential tree failure and damage

3.1.8 The Suitability for Transplant of individual trees are determined by the survival rate of the trees after transplanting. The Suitability is evaluated as High, Medium and Low. The evaluation is assessed according to the criteria listed below:
- The ability of the tree species to survive after transplanting
- The individual tree size, form and health conditions
- Any physical obstruction or barriers that may restrict the lifting of the root ball. This includes retaining walls, utility lines, manholes, catch pits and foundations etc.

3.2 Findings of Broad-Brush Tree Survey

3.2.1 There are a total of 70 trees >95mm dia included in the survey (68 trees are inside the site boundary and 2 trees are outside the site boundary). Many of the trees recorded are considered to be invasive weed species. A total of 12 tree species were identified, including 14 specimens of Leucaena leucocephala which is considered to be an undesirable invasive weeds species and should be removed (in accordance with DevB TC(W) 4/2020).

3.2.2 The trees identified on site are of common species found throughout Hong Kong. Species and quantity of the existing trees recorded in the Broad-Brush Tree Survey are listed below:

Within Site Boundary

Species	Chinese Name	Total Number of Individuals
Acacia confusa	台灣相思	4
Albizia lebbeck	大葉合歡	2
Bombax ceiba	木棉	2
Celtis sinensis	朴樹	1
Ficus hispida	對葉榕	1
Ficus virens	大葉榕	1
Leucaena leucocephala	銀合歡	14
Macaranga tanarius	血桐	16
Terminalya mantaly	小葉欖仁	11
Tetradium glabrifolium	楝葉吳茱萸	1
Trema tomentosa	山黃麻	14
Zanthoxylum avicennae	簕欓花椒	1
Total		68

Outside Site Boundary

Species	Chinese Name	Total Number of Individuals
Bombax ceiba	木棉	1
Celtis sinensis	朴樹	1
Total		2

3.2.3 Condition of Existing Trees

Most of the existing trees are in generally poor to fair health and form and have suffered from lack of maintenance and management.

None of the existing trees are rare or protected tree species, nor are they listed as Old and Valuable Trees. One tree (T011) has a DBH exceeding 750mm and therefore the potential to be listed as a Tree of Particular Interest (TPI). However, this tree is located outside the site boundary and will be retained, therefore further sensitivity analysis will not be required.

3.3 Proposed Treatment of Existing Trees

According to the condition of existing trees, we proposed to fell **37** trees within the site boundary, all as detailed in the Tree Assessment Schedule at Appendix B. Of the 37 trees proposed to be felled, 14 No. are invasive weeds species (T012-016, T018-025 and T052) whereas a further 19 No. are unavoidable impacted by the development proposal and not considered for transplanting due to their poor health or form and common species (these are T27, T31, T036-037, T039-041, T044-45, T47, T53, T59-61, T63-66 and T68). In addition, 4 No. trees (T48-49 and T69-70) are in very poor condition and recommended to be felled/ replaced despite not being in direct conflict with the development. There are **33** trees to be retained, including 31 trees within the site boundary and 2 trees outside site boundary.

Proposed Treatment of Existing Trees	Total Surveyed Tree Nos.	Trees to be Retained	Trees to be Transplanted	Trees to be Felled
Within the site boundary	68	31	0	37
	-	46%	0%	54%
Out of the site boundary	2	2	0	0
	-	100%	0%	0%

3.4 Proposed New Tree Planting

3.4.1 There are totally 37 trees proposed to be felled within the site boundary. A total of 37 no. trees are required to be felled to facilitate the development but, of these, 14 no. are classed as invasive weed species which require neither permission to fell nor compensatory planting to be provided.

3.4.2 The development is only of a temporary nature with an operation period of three years and occupies an extremely tight site. For these reasons, as well as to avoid unnecessary constraints to future development, minimise overcrowding, and allow sufficient open amenity space for the enjoyment of residents, we propose to plant 12 no. compensatory trees.

3.4.3 The 12 no. of trees are carefully located in the communal sitting and play areas between the residential blocks, adding ambience, human scale and amenity to these important gathering areas and significantly enhancing overall social value of the development. Due to lack of available space, any additional tree planting would actually reduce visual amenity and result in a lack of usable space for the enjoyment of residents.

3.4.4 The proposed species for new trees, green roof planting, shurbs and groundcovers will be provided. Indicative only at this stage: small, flowering tree species will be selected as appropriate to the temporary domestic residential use. These will include Cassia Speciosa and Bauhinia Blakeana. Flowering shrubs will include Ixora Chinensis, Hibiscus Rosa-Sinensis, Gardenia Jasminoides, Bouganvillea Spp, Allamanda Spp and Russellia Equisetifolia. Ground covers will include Hymenocallis Littoralis, Catharanthus Roseus Ophiopogon Japonicus and other appropriate grass species where possible subject to future detailed design.

3.4.5 All compensatory tree planting will be carried out at G/F, where the residents and public will gain the greatest benefit in terms of their amenity.

3.4.6 Compensatory trees will be at heavy standard size, at minimum of 4 m intervals and will be provided with a minimum 1.2 m clear soil depth excluding drainage layer.

4 Landscape Master Plan

4.1 Landscape Design Concept

The Landscape master plan (LMP) showing in **Figure 1** incorporates several different key landscaping elements into open space for forming a sustainable, healthy, liveable environment for residents. The concept was created based on this transitional housing core theme of “Good House” with a focus on People, Place and Planet.

4.2 Landscape Design Objective

The objective of the LMP is:

- To consider the existing surrounding landscape context;
- To integrate the proposed transitional housing development into a blue and green context through the use of landscaping elements;
- To form a usable open space network from the landscape and social perspective;
- To arrange different landscape nodes to attract people to utilise the open space for maximizing space and social interaction;
- To provide more green space for the enjoyment of the residents with new trees and shrubs.
- To provide a high-quality healthy and happy living environment with different functional open space and diverse plantings.

4.3 Green Coverage and Open Space

The LMP and Green Coverage Plan at **Figure 1 and 2** detail the layout and configuration of green space throughout the site. At present the green area covers not less than 20% of the overall site

area, i.e. not less than 862 m^2 meeting the government requirement for projects with an area between 1,000 and 20,000 m^2. Public open space and amenity areas of not less than 608 m^2, i.e. not less than 1 m^2 local open space per person, are also provided to create a healthy, safe and alternative environment for residents and their visitors.

4.4 Landscape Design Components

4.4.1 Streetscape Design

Streetscape along the periphery of the site is kept simple and functional, retaining existing trees where possible particularly along the NW boundary, provided much-needed shade and amenity. Wherever possible, access routes are enhanced with tree, shrub and lawn plantings together with bright, patterned yet functional paving,

4.4.2 'Residential' Landscape

Areas between the residential building wings are conceived at the human scale, providing sitting-out areas and gardens for leisure and uniformed social interaction. These areas also act as connectors or communicate corridor through the housing areas. The palette of material, both hard and soft, will be vibrant and attractive, but functional and economical.

Fitness equipment. simple sports and play facilities, seating areas and community gardens are provided flowing between the wings, and activating the green areas around the boundaries of the site.

4.4.3 Soft Landscape

Trees, shrubs, groundcovers and lawn species will be selected for their amenity (flowering color, scent and attractive form or texture). Climbing plants will also be provided against the housing development where feasible.

4.4.4 Soil Depth for Planting Areas

Minimum clear soil depth of 1,200 mm for trees, 600 mm for shrubs and 300 mm for lawn / ground cover will be provided.

4.4.5 Irrigation and Drainage

Simple manual water-point irrigation system will be provided to all planted areas.

Drainage will be provided to all planted areas, including tree pits, to prevent waterlogging. Careful selection of paving materials will also serve to enhance the overall drainage regime.

4.4.6 Hard Landscape

As the essential element in the landscape, the proposed paving will show the key notes of the landscape and walkways within the site for providing the hierarchy for the open space. The playground /plaza and sitting area between the building wings will be paved by warm colours to highlight the location of the landscape zones or nodes, while the walkways will use light colourful paving.

Based on the sustainability principle, the recycled paving block or permeable paving blocks will be selected. The permeable blocks can solve the hardening surface and facilitate the water to penetrate back to the ground soil which can help to create a high quality of living environment.

4.5 Landscape Management and Maintenance

Landscape management and maintenance operation will be responsibility of SRACP. All landscape elements are designed and selected with sustainability and ease of maintenance as over-riding principles.

FIGURES

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

FIGURE 1

LANDSCAPE MASTER PLAN



Site Boundary

Pedestrian/Vehicular Entrance

Green Fence

Proposed New Trees (12 nos.)

E&M with Green Roof

EVA

The trees to be retained (33 nos.)

Proposed Shrubs/Groundcovers (Green Area: Not less than 862 sqm)

Pavings

1 Playground/Plaza

2 Leisure Sitting Out Area

3 Fitness Area with Exercise Equipment

4 Community Garden

5 E&M and Convenience store

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE MASTER PLAN

LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE

APPROVED BY: SUJATA GOVADA

FIGURE 2

OPEN SPACE DEMARCATION PLAN



PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

OPEN SPACE DEMARCATION PLAN

Site Boundary

Local Open Space
(Not less than 608 sqm)

LEAD AND LANDSCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

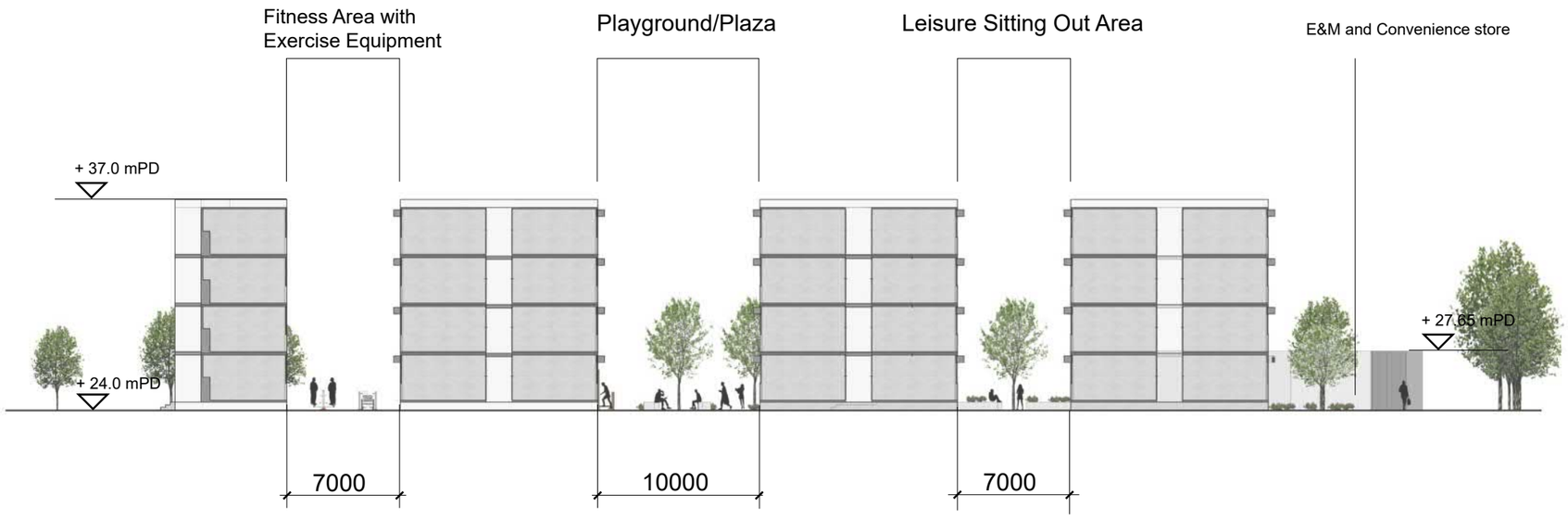
DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

FIGURE 3

LANDSCAPE SECTION



KEY PLAN 1: 2000



SECTION A-A

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE SECTION

LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:250 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

ANNEX A

BROAD-BRUSH TREE SURVEY AND
RECOMMENDATION PLAN

Tree No.	Diameter (mm)	Height (m)	Easting	Northing	RL (mPD)
T001	130	5.0	839245.46	835787.83	23.74
T002	320	4.5	839249.07	835789.94	24.07
T003	110	4.0	839250.71	835789.67	24.02
T004	130	5.0	839255.29	835792.63	24.16
T005	130	5.0	839260.15	835796.42	24.04
T006	520	9.0	839263.78	835799.37	24.10
T007	130	5.0	839268.00	835802.04	24.03
T008	150	4.0	839272.72	835806.35	24.02
T009	160	4.0	839277.88	835810.54	24.02
T010	180	4.0	839286.17	835817.32	24.03
T011	800	18.0	839309.01	835794.61	24.33
T012	200	7.0	839297.41	835782.67	24.43
T013	140	6.0	839303.35	835744.44	24.37
T014	160	6.0	839309.96	835779.12	24.36
T015	110	6.0	839311.30	835775.00	24.27
T016	100	6.0	839311.57	835774.40	24.28
T017	570	9.0	839311.12	835791.31	23.87
T018	160	6.0	839317.65	835779.26	24.12
T019	170	6.0	839319.92	835776.95	24.10
T020	170	6.0	839318.71	835765.86	24.25
T021	140	6.0	839316.13	835774.65	24.21
T022	160	9.0	839321.10	835771.96	24.14
T023	250	6.0	839324.16	835771.14	24.09
T024	150	3.0	839326.88	835761.73	24.28
T025	100	8.0	839319.51	835771.11	24.25
T026	330	6.0	839325.57	835733.88	24.55
T027	170	7.0	839326.55	835736.02	24.46
T028	330	11.0	839337.51	835745.40	24.39
T029	260	6.0	839327.90	835735.40	24.48
T030	160	6.0	839327.20	835735.15	24.51
T031	140	4.0	839317.03	835731.92	24.33
T032	110	4.0	839310.56	835735.07	24.44
T033	140	4.0	839333.15	835741.93	24.22
T034	180	7.0	839326.33	835734.06	24.58
T035	110	4.0	839318.91	835730.18	24.33
T036	120	4.0	839314.80	835739.03	24.33
T037	100	4.0	839315.61	835741.56	24.36
T038	100	4.0	839305.83	835737.36	24.75
T039	400	10.0	839303.97	835744.40	24.43
T040	120	4.0	839302.56	835749.58	24.37
T041	140	5.0	839319.43	835736.56	24.33
T042	180	4.0	839312.20	835733.22	24.68
T043	130	4.0	839309.28	835735.49	24.43
T044	100	5.0	839299.91	835762.71	24.34
T045	120	5.0	839278.66	835757.02	24.39
T046	110	3.0	839276.95	835755.80	24.47
T047	100	4.0	839277.75	835759.06	24.40
T048	100	4.0	839275.74	835761.39	24.27
T049	100	5.0	839274.94	835760.25	24.34
T050	100	5.0	839271.86	835759.34	24.27
T051	350	7.0	839340.85	835748.88	24.49
T052	100	6.0	839319.09	835768.86	24.25
T053	120	4.0	839317.20	835742.46	24.31
T054	100	5.0	839310.27	835734.55	24.55
T055	120	5.5	839265.41	835763.14	24.29
T056	100	6.0	839269.17	835763.17	24.29
T057	100	6.0	839269.58	835762.75	24.32
T058	110	5.0	839269.77	835760.74	24.32
T059	100	5.0	839271.69	835763.76	24.37
T060	100	5.0	839280.08	835756.81	24.41
T061	100	4.0	839329.86	835751.67	24.33
T062	120	5.0	839258.96	835783.39	24.11
T063	130	4.0	839254.74	835780.47	24.15
T064	110	5.0	839248.69	835777.62	23.91
T065	130	5.0	839247.60	835775.54	24.07
T066	170	4.0	839247.43	835774.23	24.39
T067	120	4.0	839256.07	835775.58	24.35
T068	140	5.0	839260.32	835765.91	24.81
T069	380	10.0	839285.84	835748.94	25.21
T070	360	13.0	839293.86	835744.11	25.18



INDEX PLAN

NOTES
1. ALL LEVELS SHOWN ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM.
2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

LOCATION:

SHUEN WAN – TAI PO

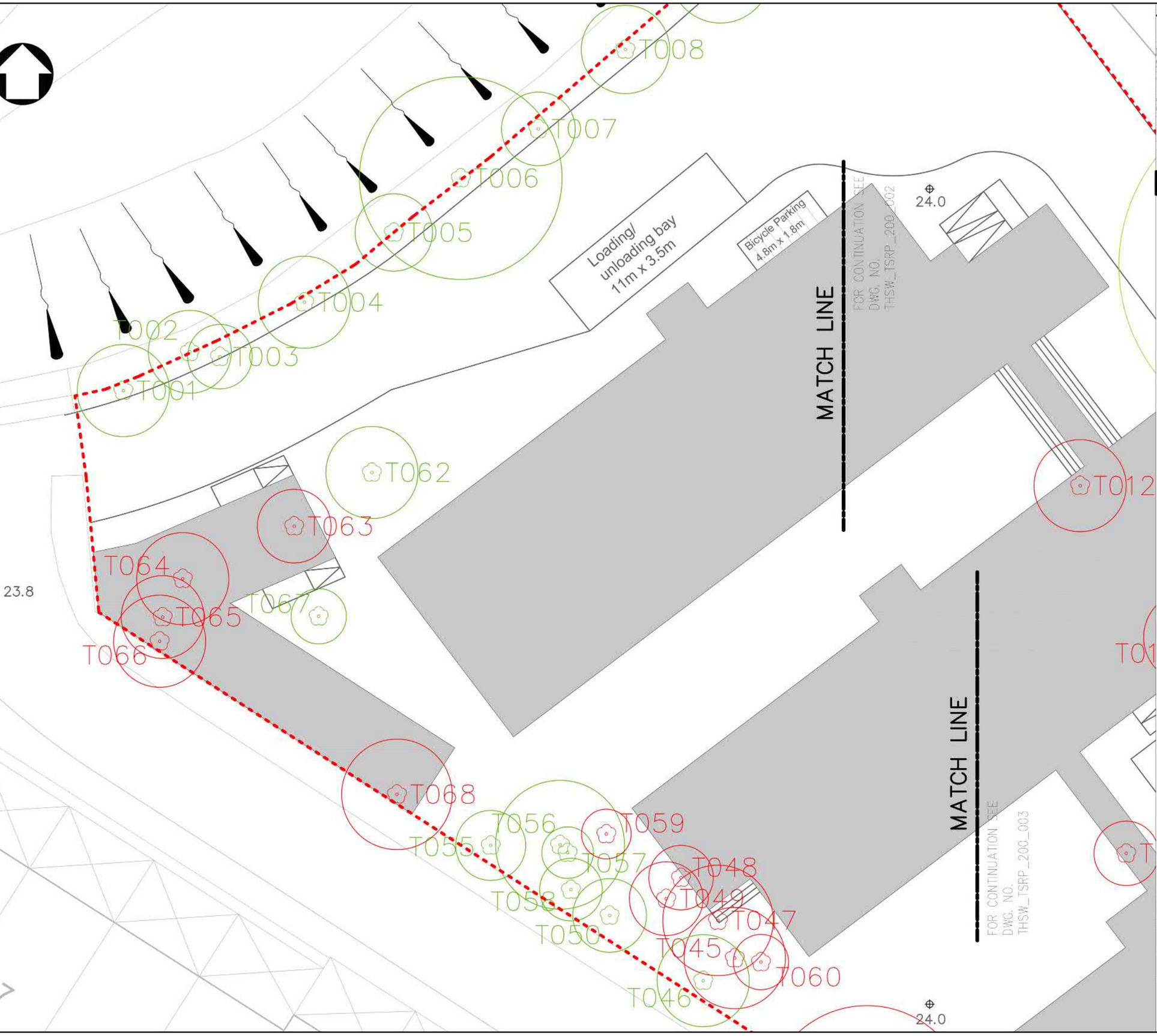
DRAWING TITLE:

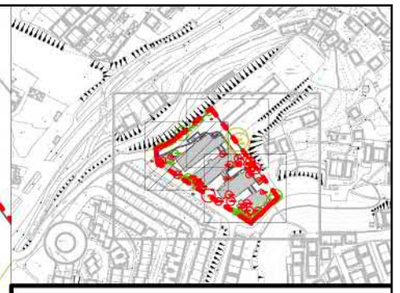
BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO.
THSW_TSRP_400_001

SHEET NO.	DATE
SHEET 1 OF 1	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:400@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA





INDEX PLAN

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LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

LOCATION:
SHUEN WAN – TAI PO

DRAWING TITLE:
BROAD–BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO.
THSW_TSRP_200_001

SHEET NO.	DATE
SHEET 1 OF 3	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA



INDEX PLAN

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2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

Spanish

L

T010

T009

T008

T007

24.0

23.8

L

L

T011

T017

24.0

Loading/ unloading bay 11m x 3.5m

Bicycle Parking 4.8m x 1.8m

MATCH LINE

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_003

T012

MATCH LINE

T014

T018

T019

T015

T021

T013

T016

T022

TS

LOCATION:

SHUEN WAN – TAI PO

DRAWING TITLE:

BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO. THSW_TSRP_200_002

SHEET NO.	DATE
SHEET 2 OF 3	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

T012

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_002

MATCH LINE

T014

T018

T019

T015

T021

T013

T016

T022

T025

T023

T052

T020

T044

T024

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_001

MATCH LINE

060

24.0

T069

T061

T040

T051

T028

T070

T039

T053

T037

T033

T036

Road

T038

T041

T027

T029

T043

T030

T054

T042

T026

T034

T031

道路

FP

T035

26.4



INDEX PLAN

NOTES
1. ALL LEVELS SHOWN ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM.
2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

LOCATION:

SHUEN WAN – TAI PO

DRAWING TITLE:

BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO. THSW_TSRP_200_003

SHEET NO.	DATE
SHEET 3 OF 3	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

ANNEX B

TREE ASSESSMENT SCHEDULE

Tree Assessment Schedule

Project: Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Tree Survey was conducted/updated on 15th April 2022 to 30th May 2022

Tree ID number	Tree Species		Tree Size			Proposed Treatment	Remarks
	(Botanical Name)	(Chinese Name)	Overall Height (m)	Trunk diameter (mm)	Average crown spread (m)	(Retain/Transplant/Fell)	
Within Site Boundary							
T001	Terminalya mantaly	小葉欖仁	5	130	4.5	Retain	Healthy, no major issues
T002	Albizia lebbeck	大葉合歡	4.5	320	5	Retain	Very poor condition, cavities and structural problems
T003	Terminalya mantaly	小葉欖仁	4	110	3.5	Retain	Healthy, no major issues
T004	Terminalya mantaly	小葉欖仁	5	130	5	Retain	Healthy, no major issues
T005	Terminalya mantaly	小葉欖仁	5	130	4.2	Retain	Healthy, no major issues
T006	Bombax ceiba	木棉	9	520	11	Retain	Healthy, no major issues
T007	Terminalya mantaly	小葉欖仁	5	130	4	Retain	Healthy, no major issues
T008	Terminalya mantaly	小葉欖仁	4	150	4.8	Retain	Healthy, no major issues
T009	Terminalya mantaly	小葉欖仁	4	160	5.5	Retain	Healthy, no major issues
T010	Terminalya mantaly	小葉欖仁	4	180	6.2	Retain	Healthy, no major issues
T012	Leucaena leucocephala	銀合歡	7	200	5	Fell	Self sown invasive species

T013	Leucaena leucocephala	銀合歡	6	140	5	Fell	Self sown invasive species
T014	Leucaena leucocephala	銀合歡	6	160	6	Fell	Self sown invasive species
T015	Leucaena leucocephala	銀合歡	6	110	3.2	Fell	Self sown invasive species
T016	Leucaena leucocephala	銀合歡	6	100	3.5	Fell	Self sown invasive species
T018	Leucaena leucocephala	銀合歡	6	160	7	Fell	Self sown invasive species
T019	Leucaena leucocephala	銀合歡	6	170	7.3	Fell	Self sown invasive species
T020	Leucaena leucocephala	銀合歡	6	170	5	Fell	Self sown invasive species
T021	Leucaena leucocephala	銀合歡	6	140	3.3	Fell	Self sown invasive species
T022	Leucaena leucocephala	銀合歡	9	160	5.1	Fell	Self sown invasive species.Storm damaged broken branch
T023	Leucaena leucocephala	銀合歡	6	250	9	Fell	Self sown invasive species.
T024	Leucaena leucocephala	銀合歡	3	150	3.4	Fell	Self sown invasive species. Crown broken off at 3.0 above ground
T025	Leucaena leucocephala	銀合歡	8	100	2	Fell	Self sown invasive species.Leaning and leggy
T026	Macaranga tanarius	血桐	6	330	6.5	Retain	Multistemmed. Some rot at trunk base, broken decayed branches
T027	Macaranga tanarius	血桐	7	170	7	Fell	Leaning over existing building
T028	Bombax ceiba	木棉	11	330	8.3	Retain	High branching. Some vine attachment. Lowest branch extends 3.7 m into the site
T029	Macaranga tanarius	血桐	6	260	5.2	Retain	In the fence line . Broken branch.Multi stemmed
T030	Macaranga tanarius	血桐	6	160	3.7	Retain	Multistemmed
T031	Trema tomentosa	山黃麻	4	140	6.2	Fell	Inward leaning, adjacent to fence footings, restricted roots
T032	Macaranga tanarius	血桐	4	110	4	Retain	Adjacent to fence footings , restricted rootzone

T033	Ficus virens	大葉榕	4	140	4.1	Retain	Unbalanced crown but healthy. Extends 3.0 m into site from base
T034	Macaranga tanarius	血桐	7	180	4	Retain	Fungal fruiting bodies at base. Conks. Included bark rotten with basal cavity, potential hazard. Remove
T035	Trema tomentosa	山黃麻	4	110	3.5	Retain	Poor form ,leggy, some vines
T036	Trema tomentosa	山黃麻	4	120	5	Fell	Borer trails on trunk, poor form bent trunk, sparse foliage at tips
T037	Trema tomentosa	山黃麻	4	100	2.8	Fell	Unbalanced lopsided crown, some vine cover
T038	Macaranga tanarius	血桐	4	100	3	Retain	Restricted roots adjacent to fence footings, poor form
T039	Acacia confusa	台灣相思	10	400	7	Fell	Trunk cavities, rotten, leaning, almost dead, substantial dieback in crown, vine coverage, hazard tree, potentially dangerous
T040	Macaranga tanarius	血桐	4	120	6	Fell	Twin codominant stems, healthy but future hazard
T041	Trema tomentosa	山黃麻	5	140	6	Fell	Leaning, vine cover, sparse foliage only at branch tips, dead lower branches
T042	Macaranga tanarius	血桐	4	180	5	Retain	Multistemmed,Restricted growth, adjacent to fence footings on boundary
T043	Trema tomentosa	山黃麻	4	130	5	Retain	Restricted roots adjacent to fence footings, poor form
T044	Acacia confusa	台灣相思	5	100	3.5	Fell	Twin codominant stems
T045	Trema tomentosa	山黃麻	5	120	5.5	Fell	Low branching, dense crown
T046	Macaranga tanarius	血桐	3	110	5	Retain	Root integrated with fenceline footings
T047	Trema tomentosa	山黃麻	4	100	6	Fell	Some vines but otherwise no major issues
T048	Trema tomentosa	山黃麻	4	100	3.5	Fell	Poor form, some vines, sparse crown
T049	Trema tomentosa	山黃麻	5	100	4	Fell	Poor form, unbalanced crown, sparse foliage
T050	Macaranga tanarius	血桐	5	100	4	Retain	Restricted roots adjacent to fence footings, poor form
T051	Macaranga tanarius	血桐	7	350	10	Retain	Broken and decayed branches,South east corner location
T052	Leucaena leucocephala	銀合歡	6	100	3.5	Fell	Self sown invasive species.Leaning and leggy

T053	Ficus hispida	對葉榕	4	120	6	Fell	Healthy, no major issues, surrounded by abandoned materials. Crown extends 6.0 m into site from edge of existing building
T054	Macaranga tanarius	血桐	5	100	3	Retain	Restricted roots adjacent to fence footings, poor form, vines attached
T055	Trema tomentosa	山黃麻	5.5	120	3.8	Retain	Restricted roots adjacent to fence footings
T056	Trema tomentosa	山黃麻	6	100	7	Retain	Leaning inwards , leggy
T057	Zanthoxylum avicennae	簕欓花椒	6	100	2.8	Retain	Spiny stem, Tall and leggy, foliage only at very top, otherwise healthy
T058	Trema tomentosa	山黃麻	5	110	3.4	Retain	Foliage sparse, Restricted rootzone near fence footings. Outward lean
T059	Trema tomentosa	山黃麻	5	100	2.7	Fell	Leaning and bent
T060	Macaranga tanarius	血桐	5	100	3	Fell	Lopsided,unbalanced crown
T061	Acacia confusa	台灣相思	4	100	3.2	Fell	Healthy but very common self sown species, does not transplant easily
T062	Terminalya mantaly	小葉欖仁	5	120	5	Retain	Healthy, no major issues
T063	Terminalya mantaly	小葉欖仁	4	130	4	Fell	Healthy, no major issues apart from restricted rootzone adjacent to existing root stump
T064	Terminalya mantaly	小葉欖仁	5	110	5	Fell	Healthy, no major issues
T065	Albizia lebbeck	大葉合歡	5	130	4.5	Fell	Restricted roots adjacent to fence footings, poor form
T066	Macaranga tanarius	血桐	4	170	5	Fell	Multistemmed, on boundary fence line,restricted rootzone
T067	Tetradium glabrifolium	楝葉吳茱萸	4	120	3	Retain	Twin codominant stems,healthy
T068	Macaranga tanarius	血桐	5	140	6	Fell	Restricted roots adjacent to fence footings and large tree stump
T069	Celtis sinensis	朴樹	12	460	11	Fell	Dieback in the crown.Poor form. On the boundary fenceline
T070	Acacia confusa	台灣相思	17	410	6	Fell	Covered in vines ,poor form, on boundary fence line, crown dieback. Unhealthy, restricted root in concrete footings

Out of Site Boundary							
T011	Bombax ceiba	木棉	18	800	19	Retain	Outside site boundary. Canopy extends into the site at a distance of approx 15 m from the base of the trunk
T017	Celtis sinensis	朴樹	9	570	17	Retain	Outside site boundary. Crown extends into site approx 9.0 m from trunk base

Total Number of Existing Trees	70

Trees inside site boundary	68
Tree to be felled	37
Tree to be retained	31
Tree to be transplanted	0

Trees outside site boundary	2
Tree to be felled	0
Tree to be retained	2
Tree to be transplanted	0

ANNEX C

TREE PHOTOS



T001- Overview - Retain



T002 - Trunk - Retain



T002 - Crown - Retain



T002 - Overview - Retain



T003 - Trunk - Retain



T003 - Overview - Retain



T004 - Trunk - Retain



T004 - Overview - Retain



T005 - Trunk - Retain



T005 - Overview - Retain



T006 - Trunk - Retain



T006 - Overview - Retain



T007 - Trunk - Retain



T007 - Overview - Retain



T008 - Trunk - Retain



T008 - Overview - Retain



T009 - Trunk - Retain



T009 - Overview - Retain



T010 - Trunk - Retain



T010 - Overview - Retain



T011 - Overview - Retain



T011 - Trunk t - Retain



T012 - Trunk - Fell



T012 - Overview - Fell



T013 - Trunk - Fell



T013 - Overview - Fell



T014 - Trunk - Fell



T014 - Overview - Fell



T015 - Trunk - Fell



T015 - Overview - Fell



T016 - Trunk - Fell



T016 - Overview - Fell



T017 - Trunk - Retain



T017 - Trunk - Retain



T017 - Foliage - Retain



T017 - Foliage - Retain



T017 - Overview - Retain



T018 - Trunk - Fell



T018 - Overview - Fell



T019 - Trunk - Fell



T019 - Trunk - Fell



T019 - Overview - Fell



T020 - Trunk - Fell



T020 - Trunk - Fell



T020 - Overview - Fell



T021 - Trunk - Fell



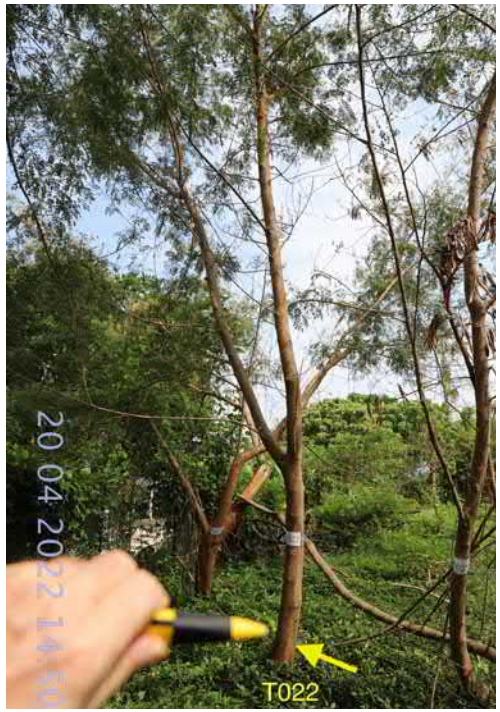
T021 - Trunk - Fell



T021 - Overview - Fell



T022 - Trunk - Fell



T022 - Overview - Fell



T022 - Crown - Fell



T023 - Trunk - Fell



T023 - Overview - Fell



T024 - Trunk - Fell



T024 - Trunk - Fell



T025 - Trunk - Fell



T025 - Overview - Fell



T026 - Trunk - Retain



T026 - Overview - Retain



T026 - Trunk - Retain



T026 - Crown - Retain



T027 - Trunk - Fell



T027 - Crown - Fell



T028 - Trunk - Retain



T028 - Overview - Retain



T029 - Trunk - Retain



T029 - Branch - Retain



T029 - Crown - Retain



T030 - Trunk - Retain



T030 - Overview - Retain



T031 - Trunk - Fell



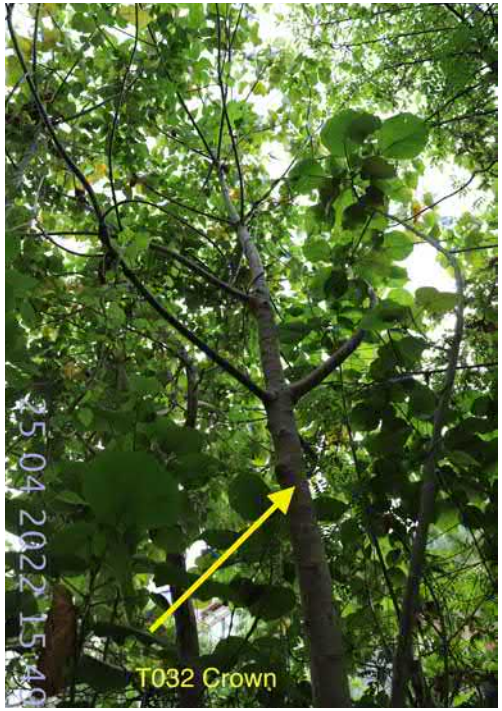
T031 - Overview - Fell



T031 - Overview - Fell



T032 - Trunk - Retain



T032 - Crown - Retain



T031 - Crown - Fell



T033 - Foliage - Retain



T033 - Trunk - Retain



T033 - Overview - Retain



T034 - Trunk - Retain



T034 - Trunk - Retain


T034 - Trunk - Retain



T034 - Trunk - Retain



T035 - Trunk - Retain



T035 - Overview - Retain



T035 - Crown - Retain



T035 - Crown - Retain



T036 - Trunk - Fell



T036 - Overview - Fell



T036 - Trunk - Fell



T036 - Trunk - Fell



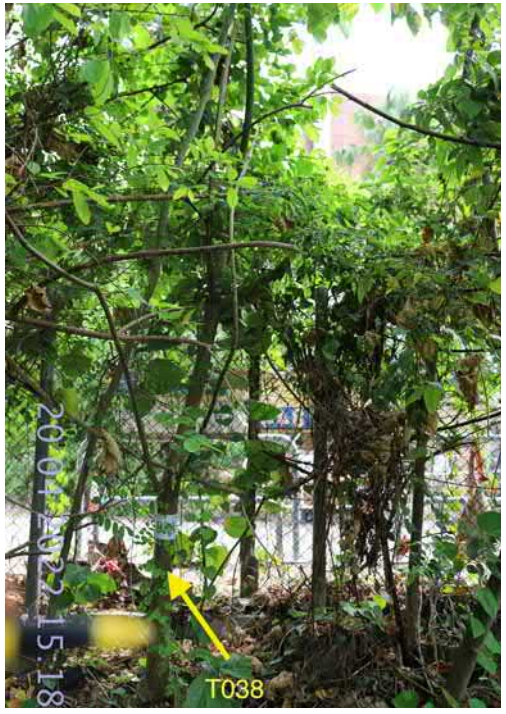
T037 - Trunk - Fell



T037 - Overview - Fell



T038 - Trunk - Retain



T038 - Overview - Retain



T039 - Trunk - Fell



T039 - Trunk - Fell



T039 - Overview - Fell



T040 - Overview - Fell



T040 - Trunk - Fell



T041 - Trunk - Fell



T042 - Overview - Retain



T041 - Overview - Fell



T042 - Trunk - Retain



T043 - Trunk - Retain



T043 - Crown - Retain



T044 - Trunk - Fell



T044 - Overview - Fell



T045 - Trunk - Fell



T045 - Trunk and Crown - Fell



T045 - Crown - Fell



T046 - Overview - Retain



T045 - Foliage - Fell



T047 - Foliage - Fell



T046 - Trunk - Retain



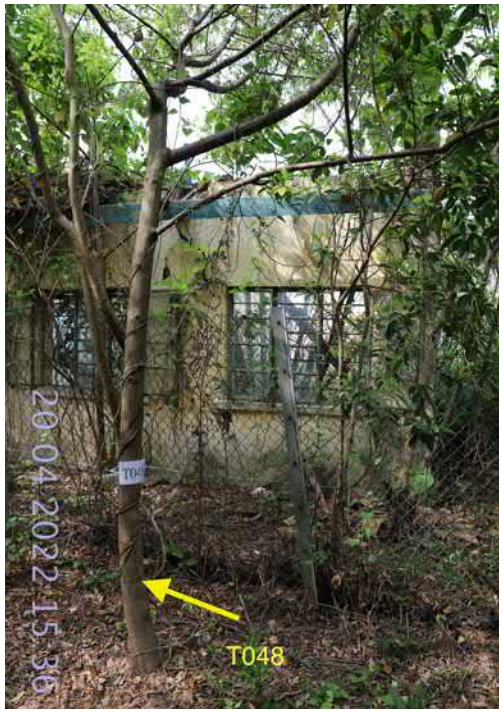
T047 - Trunk - Fell



T047 - Overview - Fell



T048 - Trunk - Fell



T048 - Overview - Fell



T049 - Trunk - Fell



T049 - Overview - Fell



T050 - Trunk - Retain



T050 - Overview - Retain



T051 - Trunk - Retain



T051 - Trunk - Retain



T051 - Branch - Retain



T051 - Branch - Retain



T051 - Trunk - Retain



T051 - Overview - Retain



T052 - Trunk - Fell



T052 - Overview - Fell



T053 - Trunk - Fell



T053 - Trunk - Fell



T053 - Overview - Fell



T054 - Trunk - Retain



T054 - Trunk - Retain



T054 - Crown - Retain



T055 - Trunk - Retain



T055 - Trunk - Retain



T055 - Overview - Retain



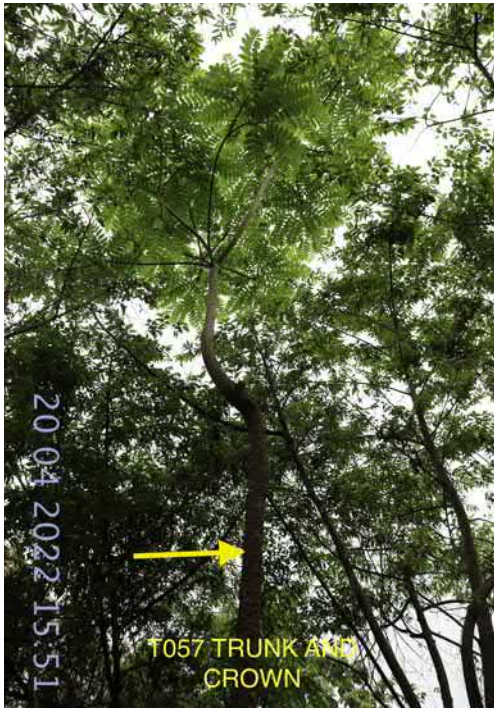
T056 - Crown - Retain



T056 - Trunk - Retain



T057 - Trunk - Retain



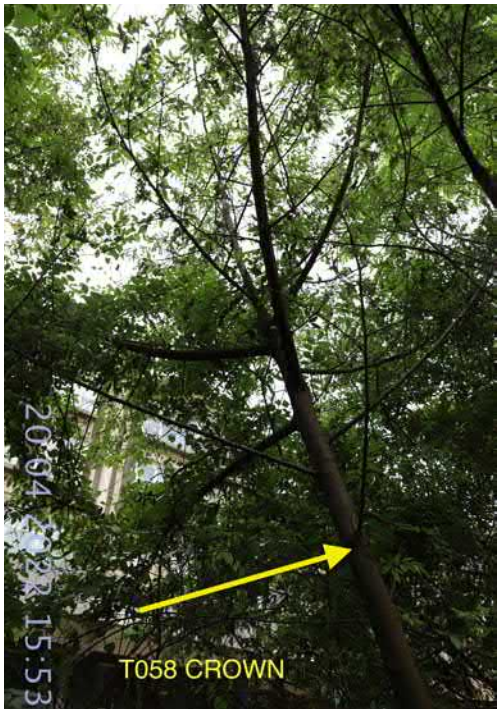
T057 - Trunk and Crown - Retain



T058 - Trunk - Retain



T058 - Overview - Retain



T058 - Crown - Retain



T059 - Trunk - Fell



T059 - Overview - Fell



T060 - Trunk - Fell



T060 - Overview - Fell



T061 - Trunk - Fell



T061 - Trunk - Fell



T061 - Overview - Fell



T062 - Trunk - Retain



T062 - Overview - Retain



T063 - Trunk - Fell



T063 - Overview - Fell



T064 - Trunk - Fell



T064 - Overview - Fell



T065 - Trunk - Fell



T066 - Overview - Fell



T065 - Crown - Fell



T066 - Crown - Fell



T066 - Trunk - Fell



T066 - Trunk - Fell



T067 - Trunk - Retain



T067 - Overview - Retain



T068 - Trunk - Fell



T068 - Overview - Fell



T068 - Trunk - Fell



T069 - Trunk - Fell



T069 - Overview - Fell



T069 - Overview - Fell



T070 - Crown - Fell



T070 - Trunk - Fell

APPENDIX C - VISUAL IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Planning & Design Services

3D rendered view



Planning & Design Services

3D rendered view



Planning & Design Services

VIA - View Points



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View Point 1 - Existing



VP1: at Bus Stop along Ting Kok Rd

This is a publicly accessible View Point (VP) from the Wong Yue Tan bus stop which is located along Ting Kok Road, across the main road from the site. VP1 is adjacent to the Cycling Track and Main Road and is easily accessible to the residents nearby and visitors as well. The existing visual quality from VP1 is medium and the view includes the steep slope next to the site which is covered with trees along with one-storey and two storey residential buildings at the base of the slope across the road from the bus stop..



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View Point 1 – With Proposed Development



VP1: at Bus Stop along Ting Kok Rd

The proposed development cannot be seen from this VP is it is hidden by trees along the slope and is higher up that the main road, therefore it can be considered that the development has no impact from VP1.



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View Point 2 - Existing



VP2: at Bus Stop along Ting Kok Rd

This is a publicly accessible View Point (VP) from the Shuen Wan Bus stop, which is located further north from the site along Ting Kok Road. VP2 is easily accessible and is a key point because of the large number of people who gather here to access public transport back into the city. The existing visual quality from VP2 is high and includes the Ting Kok Road lined with trees on both sides forming a rich landscaped backdrop. The hill at the back with the Beverly hills residences adjacent to our site are partially visible from VP2 as the majority of the development is hidden by the trees.



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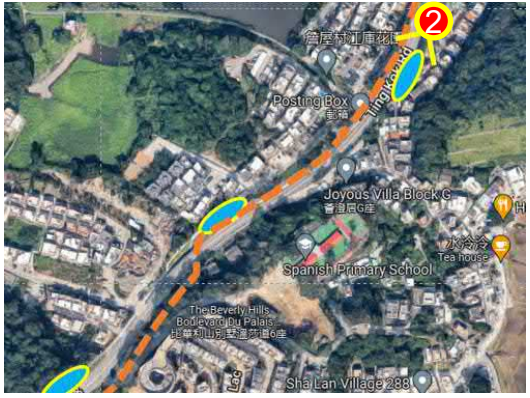
View Point 2 - With Proposed Development



VP2: at Bus Stop along Ting Kok Rd

The proposed development cannot be seen from this VP as it is much further away from the site and is blocked by trees, therefore the proposed development has no impact as seen from VP2.



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View Point 3 - Existing



VP3: at Entrance of the site

This is a publicly accessible View Point (VP) looking from the perspective of future transitional housing residents going into the site or other residents in the surrounding residential areas, including the Beverly Hill Villas and Sha Lan Villas and the staff and students going to the Spanish School with access from the main sloped road. VP3 is accessible to pedestrians, although it is currently not as frequently visited unless by residents of the adjacent residential developments as well as the school staff and students. The existing visual quality is low to medium from VP3 with the main sloped pathway with the brick gate for the Spanish Primary School and into our site to the left, and car parking and the Beverly Hill Villas to the right. The trees at the periphery of the site can also be seen to the left of the road from this View Point.



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View Point 3 – With Proposed Development



VP3: at Entrance of the site

The proposed development can be seen from this view point as it is at the entrance of the site seen from the access road, and so the visual impact to the area can be considered as medium. The green colour of the building and the landscaping along the site periphery help in reducing the overall impact of the building. Overall, given the temporary nature of the proposed development the impact is considered not significant.



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View Point 3 – With Mitigation Measures



VP3: at Entrance of the site

Mitigation measures have to be considered in order to reduce the overall impact as seen from VP3. The convenience store added at the entrance makes the space more vibrant and active, and the entrance gate of the school is removed, which allows the access road to connect with the Driveway within the site and create a more open and seamless transition between spaces. Green spaces and landscaping is also added to the entrance areas and periphery of the site to reduce impact of the built form and create a barrier between the public areas and the site.



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View Point 4 – Existing



VP4: at Entrance of the WYT Residential Area

This is a publicly accessible View Point (VP) looking towards the Site and Ting Kok Road from the Wong Yu residential area. VP4 is more secluded than the other VPs and is utilised more by residents of the area, however it is still easily accessible to the public. The existing visual quality from this view point is low and shows parking spaces in the foreground with residential villas of either side of the internal road. When looking straight ahead, our site along with a partial view of the Beverly Hills Villas can be seen atop the hill with many trees at the side and base of the hill.



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View Point 4 – With Proposed Development



VP4: at Entrance of the WYT Residential Area

The proposed development can only minimally be seen from this VP as it is located atop the hill and blocked by trees along the sloped edge. Therefore the proposed development is considered to have low impact from VP4.



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View Point 5 - Existing



VP5: at coastal Sha Lan Road

VP5 is easily accessible and is the located near the public Jetty area along the coast of Shuen Wan. The existing visual quality from this view point is low, with only nearby residences in view. The site is not visible from this location as it is on lower ground in comparison to the site.

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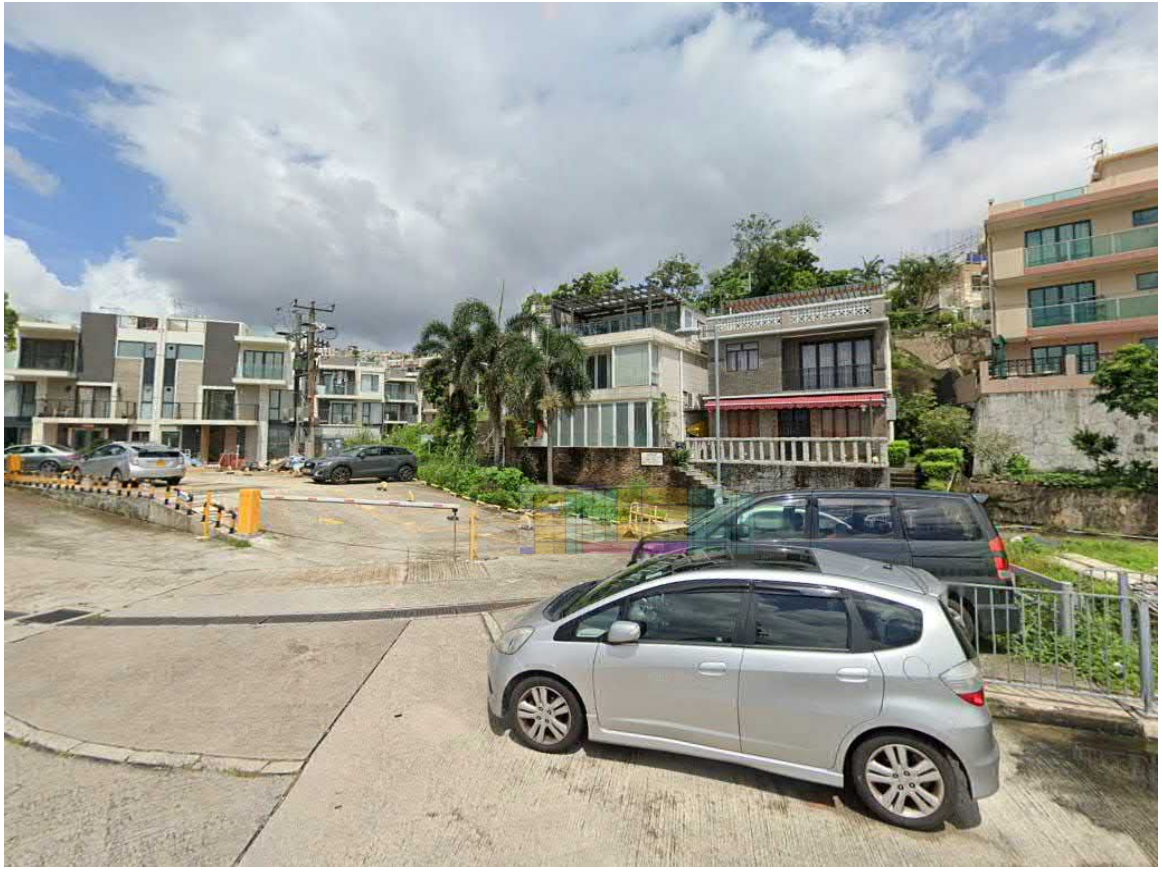

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View Point 5 – With Proposed Development



VP5: at coastal Sha Lan Road

The proposed development cannot be seen from this VP as it is on lower ground and is blocked by nearby residences, therefore the proposed development has no impact as seen from VP5

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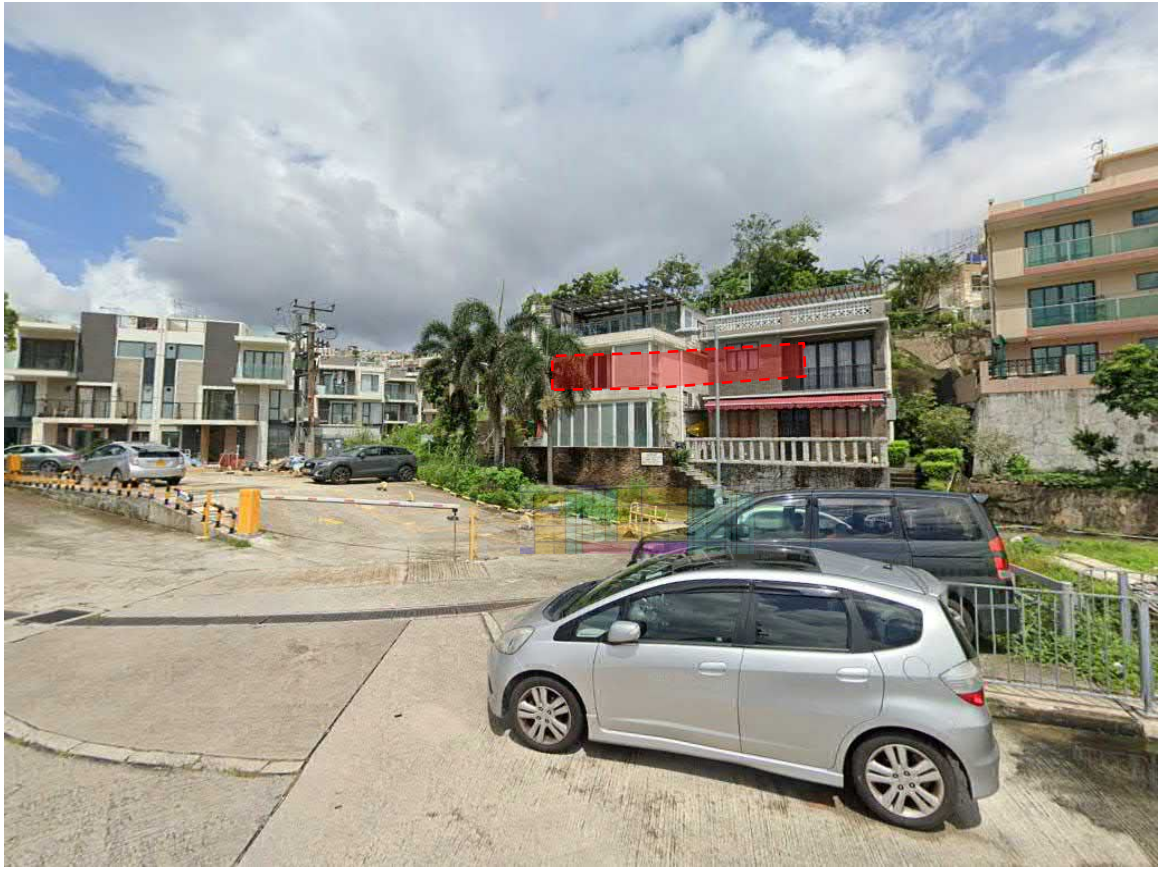

APPENDIX D - TRAFFIC IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Planning Application For Transitional Housing Project At Government Land At Shuen Wan Off Ting Kok Road, Tai Po

Traffic Impact Assessment Study Report

June 2022

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Planning Application For Transitional Housing Project At Government Land At Shuen Wan Off Ting Kok Road, Tai Po

Traffic Impact Assessment
Study Report
June 2022

Contents Amendment Record

This report has been issued and amended as follows:

Revision	Description	Prepared / Date	Checked / Date	Approved / Date
0	Study Report	4/5/2022 ML	6/5/2022 LL	12/5/2022 OC
1	Study Report	15/6/2022 AH	28/6/2022 LL	30/6/2022 OC

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1 INTRODUCTION

1.1 Background

1.1.1 The Applicant, The Society of Rehabilitation and Crime Prevention (SRACP), intends to develop the site ("The Application Site") located at Government Land at Shun Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) for transitional housing ("The Proposed Development"). According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) for the proposed transitional housing as a temporary use is required.

1.1.2 Ozzo Technology (HK) Limited are commissioned to undertake a Traffic Impact Assessment (TIA) Study, to assess the traffic impact to be induced by the Proposed Development on the road network in the vicinity of the Application Site.

1.2 Study Objectives

1.2.1 The objectives of the TIA study are as follows:

- To review the existing traffic situation of the surrounding road network;
- To estimate the potential traffic generations/attractions to be induced by the Proposed Development;
- To assess the future traffic situation of the surrounding road network;
- To appraise the potential traffic impact of the Proposed Development on the surrounding road network and to recommend improvement proposals, if required; and
- To advise on the internal transport arrangements.

1.3 Report Structure

1.3.1 Following this introductory chapter, this report is arranged as follow:

- Chapter 2 describes the Proposed Development;
- Chapter 3 summarizes the existing traffic condition in the vicinity of the Application Site;
- Chapter 4 provides traffic forecast in the future design year;
- Chapter 5 presents the traffic impact assessment results; and

  A summary of the findings and conclusion of this TIA study are given in Chapter 6.

2 THE PROPOSED DEVELOPMENT

2.1 Site Location and Study Area

2.1.1 **Figure 2-1** shows the location of the Application Site which is zoned as "Government Institution or Community ("GIC")" under Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) for the proposed transitional housing as a temporary use for a period of five years is required.

2.1.2 **Figure 2-1** also shows the Area of Influence (AOI) for this TIA Study and which includes the key junctions in the vicinity of the Application Site and along Ting Kok Road.

2.2 The Proposed Development

2.2.1 **Table 2-1** summarizes the proposed development parameters.

Table 2-1 Summary of Proposed Development Parameters

Parameters	Proposed Development
Site Area:	About 4,310 m^2
Transitional Housing Unit	276 nos.
Typical unit size 1-2P units 3-4P units	 about 14.8 m^2 (248 nos.) about 29.6 m^2 (28 nos.)
Maximum population	Around 608

2.2.2 The Proposed Development will provide around 276 nos. of transitional housing units to accommodate around 608 residents in total.

2.3 Access Arrangements and Internal Transport Facilities

2.3.1 **Figure 2-2** shows the proposed vehicular and pedestrian access arrangements for the Proposed Development. The site can be accessed via a local access road off Ting Kok Road. The width of the access road varies between 5m – 5.5m for vehicular traffic with a 1.2m wide footpath adjacent to the northern kerb of the road.

2.3.2 There is no specific requirement for parking and loading/unloading provision in HKPSG for transitional housing type. As the target group of the proposed transitional housing is low-income households who do not own private vehicle, hence, there will be no provision of parking space within the transitional housing development.

2.3.3 One loading/ unloading bay (11m x 3.5m) sufficient for different vehicle types will be provided to meet daily need. Vehicle swept paths are presented in **Appendix A**.

3 EXISTING TRAFFIC CONDITION

3.1 Existing Road Network

3.1.1 **Figure 2-1** shows the existing road network in the vicinity of the Application Site and within the AOI. Ting Kok Road is the major road connecting Tai Po district in the west and Tai Mei Tuk to the east. The section of Ting Kok Road adjacent to the Site is a Rural Road in single-2 lane carriageway standards.

3.1.2 The local access road off Ting Kok Road varies between 5m – 5.5m wide, serving the local developments, including the Proposed Development, along the road.

3.2 Existing Public Transport Services

3.2.1 The area is well served by public transport services including franchised bus and Green Minibus services. **Table 3-1** summarized the public transport services serving the area and **Figure 3-1** shows the locations of the bus/GMB stops in the vicinity of the Site.

Table 3-1 Public Transport Services in the Study Area

Route No.	Termination Points			Frequency (Mins)
Franchised Bus Services				
KMB 72C	One-Bound	From Tai Mei Tuk	To Tai Po Market Station	Weekday service at 06:55
KMB 73P	Both-Bound	Tsuen Wan (Nina Tower)	Tai Mei Tuk	Weekday services at 07:05 and 17:50
KMB 74E	Both-Bound	Tai Mei Tuk	Kwun Tong Ferry Pier	Weekday services at 07:00, 07:15, 07:30 and 17:50
KMB 74K	Circular	Tai Po Market Station	Sam Mun Tsai	Daily services every 10-30 mins
KMB 75K	Both-Bound	Tai Mei Tuk	Tai Po Market Station	Daily services every 8-30 mins
KMB 75P	One-Bound	From Tai Mei Tuk	To Tai Po Market Railway Station	Weekday service at 07:20
KMB 275R	Both-Bound	Wu Kau Tang	Tai Po Market Station	Sat, Sun and Public Holiday services every 10-20 mins
Green Minibus (GMB) Services				
GMB 20B	Both-Bound	Tai Po Market Station	Tung Tsz	Daily services every 12-20 mins
GMB 20C	Both-Bound	Tai Po Market Station	Tai Mei Tuk	Daily services every 4-10 mins
	Both-Bound	Tai Po Market Station	Tai Mei Tuk (via Shan Liu Road)	Daily services every 30 mins
GMB 20E	Circular	Tai Po Market Station	Shan Liu	Mon to Sat services every 30 mins
	Circular	Tai Po Market Station	Shan Liu (via Ting Kok Village)	Mon to Sat services at 09:00, 09:30, 10:00 and 10:30
GMB 20R	Both-Bound	Tai Po Market Station	Wu Kau Tang	Daily services every 60 mins
GMB 20T	Both-Bound	Tai Po Market Station	Tsz Shan Monastery	Weekday services every 30 mins
GMB 20K	Both-Bound	Tai Po Market Station	Sam Mun Tsai	Daily services every s every 3-20 mins
	Both-Bound	Tai Po Market Station	Sam Mun Tsai (via Sam Mun Tsai Road, Sha Lan Road)	Daily services at 9:05, 9:35, 10:05, 10:35 and 11:05

Source: "HKeMobility.gov.hk" as at 23 June, 2022

3.3 Existing Peak Hour Traffic

3.3.1 To understand the existing traffic conditions in the area, traffic and pedestrian count surveys were carried out at the key junctions in the vicinity of the Application Site on 24 April 2022 (Sunday) between 08:00 – 20:00 and on 25 April 2022 (Monday) over the periods of 07:00 – 10:00 and 16:00 – 19:00. Supplementary surveys at key junctions along Ting Kok Road were also undertaken on 19 June 2022 (Sunday) and 21 June 2022 (Tuesday). **Figure 3-2** shows the locations of the surveyed junctions and key links.

3.3.2 All vehicle flows in the subsequent analysis have been converted to passenger car unit (PCU) based on the PCU factors as indicated in Table 2.3.1.1 of Volume 2 of Transport Planning and Design Manual (TPDM) and shown in **Table 3-2**.

Table 3-2 Passenger Car Unit Conversion Factors

Vehicle Type	PCU Conversion Factor	
	Traffic Signal	Priority
Car / Taxi	1.00	1.00
Public Light Bus / Minibus	1.50	1.50
Light Goods Vehicle	1.50	1.50
Medium/ Heavy Goods Vehicle	1.75	2.80
Bus / Coach	2.00	2.80

Source: Table 2.3.1.1, Chapter 2.3, Volume 2, TPDM-2022

3.3.3 By applying the above PCU factors, vehicular traffic flows in PCUs are calculated and the Sunday peak hour is identified to occur at 14:45 – 15:45 and the weekday AM and PM peak hour is 07:30 – 08:30 and 17:00 – 18:00 respectively. The peak hour flows on the road network in the vicinity of the Site are shown in **Figure 3-3**.

3.4 Existing Junction Performance

3.4.1 Based on observed peak hour traffic flows, the performances of the key junctions are assessed and the results are indicated in **Table 3-3**. Detailed junction calculation sheets are given in **Appendix B**.

Table 3-3 2022 Peak Hour Performances at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Weekday AM Peak	Weekday PM Peak	Sunday Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	100%+	84%	96%
J2	Ting Kok Road / Access Road	Priority	DFC	0.06	0.02	0.02
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.10	0.04	0.10
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	42%	56%	51%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	39%	61%	67%
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	17%	28%	39%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	51%	45%	71%
J8	Yuen Shin Road / Dai Fat Street,	Signal	R.C.	22%	43%	85%

Notes: (1) The Capacity Index for Signal controlled junction is the Reserve Capacity (RC);
The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC).

3.4.2 The results of the junction assessments show that all the key junctions in the vicinity of the Site operate within capacity during the weekday and Sunday peak hours in 2022.

3.5 Existing Link Performance

3.5.1 Based on the existing traffic flows, the peak hour performance of the key links in the vicinity of the Application Site are also assessed. The assessment results are indicated in **Table 3-4**.

Table 3-4 2022 Peak Hour Performances of Key Road Links

Link ID.	Section[1]	Direc-tion	Design Capacity (pcu/hr)	Weekday AM Peak		Weekday PM Peak		Sunday Peak	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	598	0.19	812	0.25	841	0.26
		WB	3200	969	0.30	699	0.22	743	0.23
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	417	0.33	654	0.51	733	0.57
		SB	1280	770	0.60	566	0.44	625	0.49
L3	Local Access Off Ting Kok Road	NB	440	25	0.45	7	0.13	9	0.02
		SB	440	31	0.56	13	0.24	9	0.02
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	407	0.32	624	0.49	738	0.58
		SB	1280	775	0.61	571	0.45	635	0.50
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	891	0.28	1046	0.33	1089	0.34
		WB	3200	1207	0.38	887	0.28	892	0.28
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	893	0.28	1009	0.32	1039	0.32
		WB	3200	1098	0.34	834	0.26	804	0.25
L7	Ting Kok Road between Dai Fuk Street and Fung Yuen Road	EB	3200	1371	0.43	1373	0.43	1300	0.41
		WB	3200	1476	0.46	1183	0.37	1097	0.34

Notes: (1) Refer to Figure 3-2 for locations of the key links

3.5.2 The results show that the key road links in the vicinity of the Proposed Development operate within capacity during both the Weekday and Sunday peak hours in 2022.

3.6 2022 Adjusted Peak Hour Flows

3.6.1 Since 2020, the traffic conditions in Hong Kong were affected by the implementation of various social distancing measures as a result of COVID-19, **Table 3-5** shows a comparison of traffic flows recorded at the various ATC stations along Ting Kok Road by comparing the 2020 AADT flows (i.e. with the impact of Covid-19) against the 2020 Project flows (i.e. without the impact of Covid-19). The 2020 Project flows are derived by applying the average annual growth rate between 2013-2018 to the 2018 AADT flows (i.e. before the outbreak of Covid-19).

Table 3-5 Comparisons of AADT at Ting Kok Road

ATC Station	From	To	2018 AADT(1)	2013-2018 Average Annual Growth(1)	2020 Projected Flows(2)	2020 AADT(1)	Difference (2020 AADT/ Projected Flows)
6608	Tai Mei Tuk	Bride's Pool Road	1,400	-1.1%	1,369	1,460	+6.6%
6211	Dai Kwai Street	Tai Mei Tuk	29,580	+4.6%	32,366	28,530	-11.9%
5006	Nam Wan Road	Dai Kwai Street	30,900	+5.5%	34,388	29,430	-14.4%

Notes: (1) Extracted from Annual Traffic Census (ATC) Reports published by Transport Department
(2) 2020 Projected Flows = 2018 AADT x annual growth rate

3.6.2 With reference to the comparison results in **Table 3-5**, it is noted that the differences between the 2020 AADT and 2020 Projected Flows ranged from -14.4% to +6.6%. To reflect the potential impact due to Covid-19, therefore, the 2022 observed traffic flows are increased by +15% to provide the "2022 Adjusted Flows" for subsequent assessments.

4 FUTURE TRAFFIC SITUATION

4.1 Design Year

4.1.1 The planned completion year of the Proposed Development is 2024, hence, the "Design Year" for this TIA study is set as 2027, i.e. 3 years after the completion year.

4.2 Methodology

4.2.1 In forecasting the future traffic flows on the road network in the Study Area, references are made to the following sources of information which include:

- The forecast population and employment from the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department; and
- Committed and Planned developments in the vicinity of the Study Area.

4.2.2 The following steps are undertaken to derive the 2027 Peak Hour Reference Flows (i.e. without the Proposed Development) and Design Flows (i.e. with the Proposed Development):

2022 Adjusted Flows =	2022 Observed Flows x adjustment factor (Section 3.6)
2027 Background Flows =	2022 Adjusted Flows x annual growth factors
2027 Reference Flows =	2027 Background Flows + additional traffic generated by planned developments
2027 Design Flows =	2027 Reference Flows + additional traffic generated by the Proposed Development

4.2.3 The traffic impact to be induced by the Proposed Development is assessed by comparing the 2027 Peak Hour Reference Traffic Flows against the 2027 Design Traffic Flows.

4.3 2027 Background Flows

4.3.1 Growth factor method is adopted to estimate future background traffic with reference to the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department. **Table 4-1** presents the population and employment data in Tai Po District for 2019, 2026 and 2031.

Table 4-1 2019-Based TPEDM for Tai Po District

Category	2019	2022*	2026	2027*	2031	% Growth p.a. 2022 - 2027
Population	250,050	265,393	285,850	281,440	263,800	1.18%
Employment Places	86,750	85,443	83,700	82,670	78,550	-0.66%
Total	336,800	350,836	369,550	364,110	342,350	0.75%

Source: 2019, 2026 and 2031 from 2019-based TPEDM published by Planning Department.
**2022 and 2027 data by interpolation*

4.3.2 As shown in the table, the predicted growth of population and employment places in Tai Po District from 2022 to 2027 is approximately +1.18% and -0.66% per annum respectively. Based on this, to provide conservative estimates, an annual growth rate of +1.2% is applied to the 2022 Adjusted Flows to derive the 2027 Background Flows.

4.4 2027 Reference Traffic Flows

4.4.1 The planned and committed developments within or in the vicinity of the Study Area are summarized in **Table 4-2**. The estimated peak hour traffic flows to be generated by these developments are also indicated in the table.

Table 4-2 Estimated Peak Hour Traffic by Planned/Committed Developments

Location	Use	Traffic Flows (pcu/hour)			
		AM Peak Hour		PM Peak Hour	
		Out	In	Out	In
Various lots in D.D.26, Wong Yue Tan [1]	Transitional Housing (1236 units)	46	36	36	36
Tai Po Town Lot (TPTL) 223 & 229[1]	Private Housing (660 units)	59	34	24	32
Chung Nga Road West[1]	Public Housing (950 units)	64	53	45	32

Reference: (1) Planning Application A/NE-TK/702 Proposed Temporary Residential Institution (Transitional Housing) for a Period of 5 Years with Filling and Excavation of Land. Wong Yue Tan, Tai Po

4.4.2 The development flows to be generated by the planned/committed developments are added to the 2027 Peak Hour Background Traffic Flows to derive the 2027 Peak Hour Reference Traffic Flows (i.e. without the Proposed Development). To establish conservative estimates, the weekday AM peak hour flows are adopted for Sunday peak hour. The resulting 2027 Reference Flows are shown in **Figure 4-1**.

4.5 Development Traffic

4.5.1 The trip rates for Subsidized Housing: Public Rental in TPDM Volume 1 Chapter 3 Appendix I are adopted to estimate the development trips to be induced by the Proposed Development and the results are summarized below:

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
TPDM Trip Rates (pcu/hr/flat)	0.0046	0.0071	0.0140	0.0112
Development Traffic (pcu/hr)	1	2	3	3

4.5.2 Hence, it is estimated that the Proposed Development would induce total two-way traffic of 3 pcu's (1 in and 2 out) and 6 pcu's (3 in and 3 out) during the AM and PM peak hours respectively. To provide conservative estimates, the higher PM peak hour trips are adopted for the traffic assessment of Sunday peak hour. The distribution of peak hour development flows are shown in **Figure 4-2**.

4.6 2027 Design Traffic Flows

4.6.1 Hence, by adding the peak hour development flows, as shown in **Figure 4-2**, to the forecast 2027 Peak Hour Reference Flows (**Figure 4-1**), the 2027 Peak Hour Design Flows (i.e. with Proposed Development) are derived and shown in **Figure 4-3**.

4.7 Public Transport Demand

4.7.1 The proposed transitional housing development is for low-income groups who rely on public transport services for daily commuting. Reference is made to the "Travel Characteristics Survey (TCS) 2011 Final Report" published by Transport Department for estimating the public transport demand. According to TCS, the total mechanized trip rate is 1.83 trips per person per day and the AM and PM peak hour account for 12% of the daily total each. To provide conservative estimates, it is assumed 90% of the peak hour trips are outbound trips in the AM peak hour and the other direction in the PM peak hour. As a result, a peak hour demand of 120 passengers (i.e. 608 persons x 1.83 x 12% x 90% = 120) in the peak direction is estimated for both Sunday and weekday peak hours.

4.7.2 **Table 4-3** shows the amount of hourly bus trips recorded at both the Ting Kok Road near Sam Mun Tsai Road westbound and eastbound bus stops nearby the Application Site over the survey periods on 24 April 2022 (Sunday) and 25 April 2022 (Monday). The locations of the surveyed bus stops are shown in **Figure 3-2**.

Table 4-3 2022 Observed Hourly Bus Trips at Ting Kok Road near Sam Mun Tsai Road Bus Stops

Hour	No. of Bus Trips	
	Sam Mun Tsai Road Westbound bus-stop (Outbound)	Sam Mun Tsai Road Eastbound bus-stop (Inbound)
Weekday		
07:00 – 08:00	10	3
08:00 – 09:00	3	2
09:00 – 10:00	2	3
10:00 – 11:00	3	2
16:00 – 17:00	3	2
17:00 – 18:00	2	3
18:00 – 19:00	3	3
19:00 – 20:00	3	4
Sunday		
08:00 – 09:00	4	8
09:00 – 10:00	5	11
10:00 – 11:00	7	11
11:00 – 12:00	9	10
12:00 – 13:00	10	10
13:00 – 14:00	9	9
14:00 – 15:00	7	10
15:00 – 16:00	13	9
16:00 – 17:00	11	8
17:00 – 18:00	13	9
18:00 – 19:00	12	6

4.7.3 During weekday, the peak hour for outbound services are 10 bus trips at 07:00 – 08:00 and 4 bus trips at 19:00 – 20:00 for inbound services. On Sunday, the peak hours for outbound services (i.e. 13 bus trips) are recorded at 15:00 – 16:00 and 17:00 – 1800; and the peak hours for inbound services are between 09:00 – 11:00 with 11 bus trips per hour.

4.7.4 **Table 4-4** shows the detailed outbound bus services observed at the Ting Kok Road near Sam Mun Tsai Road westbound bus stop during the weekday peak hour (07:00-08:00) and Sunday peak hour (15:00 – 16:00). The peak hour bus demand by the Proposed Development (i.e. 120 passengers) are then assigned to the various bus routes with reference to the observed occupancy of individual routes to identify if the spare capacities of individual routes could accommodate the anticipated demand. The results are also shown in **Table 4-4**.

Table 4-4 Peak Hour Outbound Bus Services at Ting Kok Road near Sam Mun Tsai Road Westbound Bus-stop

	Route	Existing bus trips	Additional bus trips	Passengers / hour				
				Total Capacity	Existing Occupancy on Departure	Wong Yue Tan Demand(1)	Proposed Development Demand(1)	Remaining Capacity
Weekday (07:00 - 08:00)	72C	1	-	125	30	28	6	61
	75K	4	2(3)	758	305	284	65	104
	74E	3	-	410	145	71	31	163
	73P	1	-	137	40	71	9	17
	75P	1	-	137	45	42	9	41
	Total	**10**	**2**	**1567**	**565**	**496(2)**	**120**	**386**
Sunday (15:00 - 16:00)	75K	7	-	966	168	310	75	413
	275R	6	-	486	101	186	45	154
	Total	**13**	**-**	**1452**	**269**	**496**	**120**	**567**

Notes: (1) Demand of individual routes is estimated with reference to existing observed occupancy of individual bus routes
(2) Reference: Table 4.1 . Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)
(3) Assume additional capacity for 120 passengers per bus

4.7.5 As shown in **Table 4-4**, based on the observed vehicle occupancies of all the 10 nos. of outbound bus trips at the westbound bus stop in the weekday AM peak hour, a total capacity of 1,327 passengers/hour are available. compared to the occupancy of 565 passengers, a spare capacity of about 762 passengers is available by the existing bus services.

4.7.6 According to the planned transitional housing development at Wong Yue Tan, a peak hour demand of around 496 passengers is forecast. The additional passenger demand by individual routes is estimated with reference to the observed demand by different routes as shown in **Table 4-4**. Similarly, the additional demand of 120 passengers by the Proposed Development for individual routes are estimated with reference to the existing demand pattern. As a result, two additional bus services to Tai Po Market (75K) would be required in the weekday AM peak hour. Sufficient spare capacity for all other routes would be available to cope with the additional demand by the two new developments in general. The additional bus trips are included in the 2027 peak hour traffic flows.

4.7.7 To provide conservative estimate, it is assumed the Sunday peak hour bus demand by the Wong Yue Tan development and the Proposed Development are same as the weekday peak hour demand, i.e. 496 passengers and 120 passengers respectively. **Table 4-4** shows that there would be sufficient spare capacities by the existing 13 nos. of bus trips to cope with the additional demand by both the new developments during Sunday peak hour.

4.7.8 For inbound bus services, the spare capacities of inbound bus services observed at Ting Kok Road near Sam Mun Tsai eastbound bus-stop, and also at Tai Po Market Station are presented in **Table 4-5**.

Table 4-5 Peak Hour Inbound Bus Services at Ting Kok Road near Sam Mun Tsai Road and Tai Po Market Bus-stops

	Route	Existing bus trips	Additional bus trips	Total Capacity	Existing Occupancy on Arrival	Wong Yue Tan Demand(1)	Proposed Development Demand(1)	Remaining Capacity
	Sam Mun Tsai Eastbound Bus-stop							
Weekday (19:00 - 20:00)	73P	1	-	137	9	71	6	51
	75K	3	3	756	175	425	114	42
	Total	**4**	**3**	**893**	**184**	**496**	**120**	**93**
Sunday (9:00 - 10:00)	75K	**5**	-	690	121	248	60	261
	275R	6	-	486	120	248	60	58
	Total	**11**	**-**	**1176**	**241**	**496**	**120**	**319**
	Tai Po Market Station Bus-stop							
Weekday (19:00-20:00)	75K	3	3	756	40	496	120	100
	Total	**3**	**3**	**756**	**40**	**496**	**120**	**100**
Sunday (9:00 - 10:00)	75K	5	-	684	156	312	65	65
	275R	5	-	405	135	184	55	55
	Total	**10**		**1089**	**291**	**496**	**120**	**120**

Notes (1) Demand by proposed development is estimated with reference to observed occupancy of individual bus routes.

4.7.9 To provide conservative estimates, the peak hour bus demand for outbound services is assumed for inbound services, i.e. 496 passengers by Wong Yue Tan Development and 120 passengers by the Proposed Development. As indicated in **Table 4-5**, 3 additional bus trips from Tai Po Market (75K) would be required to accommodate the additional demand by the two new developments. The additional bus trips are included in the 2027 peak hour traffic flows.

4.7.10 During Sunday peak hours, there would be sufficient spare capacities by the existing inbound bus services to cope with the anticipated demand and no additional services would be required.

4.8 Passenger Queueing Area

4.8.1 As indicated in Section 4.7 above, a peak hour demand of 120 passengers by the Proposed Development for outbound bus services at Ting Kok Road near Sam Mun Tsai Road westbound bus-stop during the weekday AM peak hour are anticipated. On the other hand, the peak hour demand for inbound services at the eastbound bus-stop during the weekday PM peak hour are mainly alighting passengers who do not need to queue. Hence, queueing assessment for the queueing area at the westbound bus-stop is undertaken.

4.8.2 As indicated in **Table 4-4**, 10 nos. of buses stop at the westbound bus-stop in the weekday AM peak hour, i.e. an average headway of 6 min. Hence, the maximum amount of queueing passengers by the Proposed Development would be around 12 passengers (120 passengers / 60 min x 6 min = 12).

4.8.3 To provide the worst case analysis, the additional bus services proposed by the transitional housing project at Wong Yue Tan are not included in this queueing assessment. Hence, a maximum amount of queueing passengers by the Wong Yue Tan Transitional Housing Development would be around 50 passengers (496 passengers[1] / 60 min x 6 min = 50).

4.8.4 In addition to the existing maximum queue of 6 passengers observed during 07:00 – 08:00, hence, a maximum of around 68 queueing passengers (i.e. 12 + 50 + 6 = 68) are anticipated if no additional bus services are provided.

4.8.5 Based on a crush capacity of 5 persons per 1.2m square grid (i.e. 0.288 m^2 per person) as indicated in TPDM Volume 9 Chapter 2.7, Clause 2.7.14.16, a queueing area of around 25m in length and 0.8m wide (i.e. 20 m^2 for 70 queueing passengers) would be required. **Figure 4-4** shows the maximum queue adjacent to the extended bus bay proposed by Wong Yue Tan transitional housing project. As shown in the figure, a footway width of around 2m would be available for other pedestrians. The above is the worst-case assessment as the required queueing area would be reduced if additional bus services are provided.

[1] *Table 4.1 Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)*

5 TRAFFIC IMPACT ASSESSMENT

5.1 Junction Capacity Assessment

5.1.1 Based on the 2027 Reference Flows (i.e. without Proposed Development) and 2027 Design Flows (i.e. with Proposed Development), junction capacity assessments are undertaken and the results are presented in **Table 5-1** with detailed calculation sheets provided in **Appendix C**.

Table 5-1 2027 Peak Hour Performance at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Reference			Design		
				Wkday AM	Wkday PM	Sun Peak	Wkday AM	Wkday PM	Sun Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	92%	81%	55%	92%	80%	55%
J2	Ting Kok Road / Access Road	Priority	DFC	0.08	0.04	0.03	0.09	0.04	0.03
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.26	0.19	0.38	0.26	0.19	0.38
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	11%	18%	17%	11%	18%	17%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	10%	26%	29%	10%	26%	29%
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	-7%	2%	11%	-7%	2%	10%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	15%	13%	34%	15%	13%	34%
J8	Yuen Shin Road / Dai Fat Street	Signal	R.C.	3%	13%	45%	3%	13%	45%

Notes: (1) The Capacity Index for Signal-controlled junction is Reserve Capacity (RC)
The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)

5.1.2 It is indicated in **Table 5-1** that, with the exception of J6, all of the assessed junctions in the vicinity of the Application Site would be operating within capacity during the weekday and Sunday peak hours for both the 2027 Reference (without Proposed Development) and Design (with Proposed Development) scenarios.

5.1.3 The Reserve Capacity of Junction of Ting Kok Road and Fung Yuen Road (J6) could be increased with reference to the proposed junction improvement[2], as shown in **Appendix E**, by modifying the nearside lane of Fung Yuen Road from left turn only to allow both left and right turn movements. With the proposed modifications, the junction performances could be improved as shown in **Table 5-2**.

[2] *Figure 5.5 Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)*

Table 5-2 2027 Peak Hour Performance of J6 with Improvement

Jn. ID.	Location	Type	Capacity Index(1)	Reference Scenario			Design Scenario		
				Wkday AM	Wkday PM	Sunday Peak	Wkday AM	Wkday PM	Sunday Peak
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	5%	8%	22%	5%	8%	21%

5.1.4 As the amount of traffic flows to be generated by the Proposed Development is very small (i.e. around 3 to 6 pcu's per hour), the differences in junction performances between the Reference and Design scenarios are minute. Hence, the traffic impact to be induced by the Proposed Development are insignificant.

5.2 Link Capacity Assessment

5.2.1 **Table 5-3** shows the link capacity assessment for the 2027 Reference and Design scenarios.

Table 5-3 2027 Peak Hour Performances of Key Road Links

Link ID.	Section	Direc-tion	Design Capacity (pcu/hr)	Reference		Design	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
Weekday AM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	761	0.24	763	0.24
		WB	3200	1224	0.38	1225	0.38
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	540	0.42	540	0.42
		SB	1280	981	0.77	981	0.77
L3	Local Access Off Ting Kok Road	NB	440	32	0.07	34	0.08
		SB	440	39	0.09	40	0.09
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	498	0.39	498	0.39
		SB	1280	957	0.75	957	0.75
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	1150	0.36	1152	0.36
		WB	3200	1556	0.49	1557	0.49
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1152	0.36	1154	0.36
		WB	3200	1423	0.44	1424	0.45
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1725	0.54	1727	0.54
		WB	3200	1880	0.59	1881	0.59
Weekday PM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	1022	0.32	1025	0.32
		WB	3200	884	0.28	887	0.28
L2	Ting Kok Road between Sam Mun	NB	1280	829	0.65	829	0.65

	Tsai Road and Wong Yue Tan Village	SB	1280	722	0.56	722	0.56
L3	Local Access Off Ting Kok Road	NB	440	10	0.02	13	0.03
		SB	440	17	0.04	20	0.05
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	763	0.60	763	0.60
		SB	1280	698	0.55	698	0.55
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1331	0.42	1334	0.42
		SB	1280	1145	0.36	1148	0.36
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1286	0.40	1289	0.40
		WB	3200	1081	0.34	1084	0.34
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1732	0.54	1735	0.54
		WB	3200	1508	0.47	1511	0.47
Sunday Peak Hour							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	1057	0.33	1060	0.33
		WB	3200	948	0.30	951	0.30
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	926	0.72	926	0.72
		SB	1280	804	0.63	804	0.63
L3	Local Access Off Ting Kok Road	NB	440	12	0.03	15	0.03
		SB	440	12	0.03	15	0.03
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	939	0.73	939	0.73
		SB	1280	782	0.61	782	0.61
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1391	0.43	1394	0.44
		SB	1280	1172	0.37	1175	0.37
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	NB	1280	1330	0.42	1333	0.42
		SB	1280	1064	0.33	1067	0.33
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1649	0.52	1652	0.52
		WB	3200	1422	0.44	1425	0.45

5.2.2 **Table 5-3** indicates that all the key road links in the vicinity of the Application Site would perform satisfactorily within acceptable levels.

5.2.3 As the amount of traffic flows to be generated by the Proposed Development is very small, it is noted that the differences in link performances between the Reference and Design scenarios are minute. Therefore, it can be concluded that the traffic generated by the proposed Development would not cause adverse traffic impact to the road network in the vicinity of the Application Site and along Ting Kok Road.

5.3 Pedestrian Impact Assessment

5.3.1 Pedestrian count surveys were also undertaken along the key pedestrian links in the vicinity of the Proposed Development, as shown in **Figure 5-1,** over the survey periods on 24/4/2022 (Sunday) and 25/4/2022 (Monday). LOS assessments are undertaken based on the peak-5 min flows recorded at the key pedestrian links and the results are shown in **Table 5-4**.

Table 5-4 Existing Level of Services of Key Footways

Location	Actual Footway Width	Effective Footway Width(1)	Peak 5-Minute Flow	Peak Minute Flow /Metre	Level of Service
Weekday					
P1	1.2m	0.7m	6	1.71	A
P2	2.6m	2.1m	6	0.58	A
P3	2.0m(2)	1.5m	12	1.60	A
Sunday					
P1	1.2m	0.7m	4	1.14	A
P2	2.6m	2.1m	7	0.68	A
P3	2.0m(2)	1.5m	10	1.33	A

Notes: (1) Effective width = Actual width minus 0.5m shy zone

(2) Actual width already deducted 0.8m passenger queueing area adjacent to bus bay

5.3.2 In general, the amounts of pedestrians on the footpaths in the vicinity of the development site are not high and a LOS of A can be achieved on all key footpaths.

5.3.3 The peak hour public transport trips discussed in Section 4.7 (i.e. 608 x 1.83 x 12% = 134 persons (2-way) during peak hour) are adopted for assessing the performance of the key pedestrian links. To establish conservative estimates, a peak factor of 20% is applied to derive the peak-5 min flows (i.e. 134 / 60min x 5 min x 120% = 14 pedestrians) for undertaking the LOS assessment. The additional pedestrians are then assigned onto the footpaths in the vicinity of the proposed development taking into the public transport facilities. The LOS of the footpaths with the additional pedestrian flows by the proposed development are assessed and the results are indicated in **Table 5-5**.

Table 5-5 Level of Services of Key Footways With Development

Location	Actual Footway Width	Effective Footway Width(1)	Peak 5-Minute Flow	Peak Minute Flow /Metre	Level of Service
Weekday					
P1	1.2m	0.7m	20	5.71	A
P2	2.6m	2.1m	6	0.58	A
P3	2.0m(2)	1.5m	26	3.47	A
Sunday					
P1	1.2m	0.7m	18	5.14	A
P2	2.6m	2.1m	7	0.68	A
P3	2.0m(2)	1.5m	24	3.20	A

Notes: (1) Effective width = Actual width minus 0.5m shy zone
(2) Actual width already deducted 0.8m passenger queueing area adjacent to bus bay

5.3.4 The results indicate that a LOS of A can be achieved on all the key footpaths in the vicinity of the development.

5.4 Proposed Footpath Connection

5.4.1 **Figure 5-2** shows the major pedestrian route between the Proposed Development and Sam Mun Tsai bus stops. The walking distance between the nearest and farthest block of the proposed development and Sam Mun Tsai westbound and eastbound bus stops are summarized in **Table 5-6**.

Table 5-6 Walking Distances between Proposed Development and Nearby Bus-stops

Location	Walking Distance (m)	
	Nearest Block	Farthest Block
Sam Mun Tsai westbound bus stop	~230m	~300m
Sam Mun Tsai eastbound bus stop	~350m	~420m

5.4.2 It is noted that the southern end of the existing footpath along the access road is terminated without connecting to the existing footpath at Ting Kok Road. To improve the existing condition, an improvement scheme is proposed by extending the footpath and connect with the existing footpath network on Ting Kok Road as shown in **Figure 5-3**. The proposed footpath connection will provide a continuous and safe pedestrian link to the existing footpath at Ting Kok Road.

5.4.3 It is noted that, due to the steep gradients of the existing slope, to provide a ramp connection is not feasible as the gradient of the ramp will be above +15% which does not comply with the relevant requirements as stipulated in the Transport Planning and Design Manual. A comparison of the footpath connection options with steps or ramp is presented in **Appendix D** for reference.

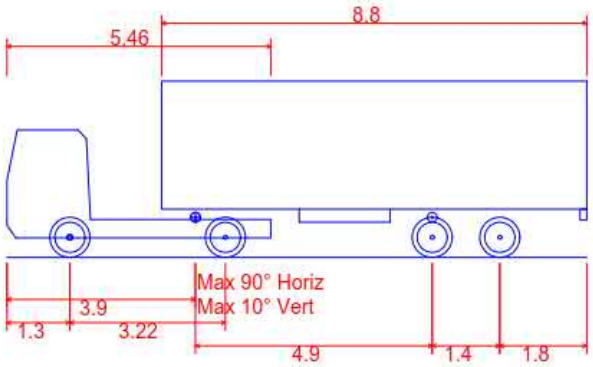
6 CONSTRUCTION ARRANGEMENT

6.1 Modular Integration Construction (MiC) Method

6.1.1 It is proposed to adopt Modular Integration Construction (MiC) method for the construction of the proposed transitional housing development. The maximum size of the MiC units would be around 2.8m (W) x 7m (L). As the width of the MiC units will be in excess of 2.5m, Wide Load Permit will be required from Transport Department for delivery of the units on public roads.

6.1.2 To demonstrate the feasibility of adopting the proposed MiC method, swept path assessment of a 12m articulated vehicle carrying a 2.8m wide load along the local access road and its immediate junction with Ting Kok Road are undertaken and the results are indicated in **Appendix A**. Details of the delivery vehicle (low flatbed trailer) adopted in the swept path assessment study is shown in Exhibit 1 below.

Exhibit 1 Details of 12m Long Delivery Vehicle



12m Articulated Vehicle	
Overall Length	12.000m
Overall Width	2.800m
Overall Body Height	3.652m
Min Body Ground Clearance	0.406m
Track Width	2.376m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	11.650m

6.1.3 For transportation of the MiC units on public roads, escort vehicles to the front and rear of the delivery trailer truck will be required to ensure road safety in particular to alert the general traffic when changing lanes and crossing road junctions. To minimise the potential traffic impact, the operation hours for the delivery of MiC units will be restricted to 10:00 – 16:00.

6.1.4 The exact delivery routes and corresponding Temporary Traffic Arrangement (TTA) will be determined when more detailed information is available. Detail TTA will be submitted for approval by relevant authorities such as Transport Department, Hong Kong Police Force, Highways Department etc. prior to implementation of the TTA schemes. The contractor needs to provide sufficient manpower resources and appropriate equipment to implement the approved TTA schemes.

6.2 Construction Traffic Impact Assessment

6.2.1 As the detailed haul routes for the delivery of MiC units will be determined at later stage. A construction traffic impact assessment to evaluate the potential traffic impact based on conventional construction method is undertaken for reference.

6.2.2 The proposed redevelopment is anticipated to be completed by Year 2024, to provide conservative estimates, Year 2024 is adopted as the peak construction period for the construction traffic impact assessment.

6.2.3 As the construction site is small, to provide conservative estimates, a maximum amount of 8 construction vehicles per hour (7 nos. of trucks and 1 no. of staff car) is assumed during peak periods.

6.2.4 The same approach in forecasting the 2027 Peak Hour Design Traffic (refers to Chapter 4) is adopted to forecast the 2024 Peak Hour Design Flows.

6.3 Junction and Link Capacity Assessments

6.3.1 Based on the traffic forecasts, results of the junction and link capacity assessments during the construction year of 2024 are presented in **Table 6-1** and **Table 6-2** respectively. Detailed calculation sheets of the junction assessment are provided in **Appendix E**.

Table 6-1 2024 Peak Hour Performance at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Reference		Design	
				AM Peak	PM Peak	AM Peak	PM Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	99%	87%	97%	83%
J2	Ting Kok Road / Access Road	Priority	DFC	0.08	0.03	0.11	0.06
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.25	0.18	0.25	0.18
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	15%	22%	14%	21%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	14%	30%	13%	29%
J6	Ting Kok Road / Fung Yuen Road (2)	Signal	R.C.	9%	12%	8%	11%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	19%	17%	18%	17%
J8	Yuen Shin Road / Dai Fat Street,	Signal	R.C.	7%	17%	7%	17%

Notes: (1) The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)
The Capacity Index for signalized junction is Reserve Capacity (RC)
(2) With junction improvement scheme shown in Appendix E.

Table 6-2 2024 Peak Hour Performance at Key Road Links

Link ID.	Section	Direc-tion	Design Capacity (pcu/hr)	Reference		Design	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
Weekday AM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	735	0.23	752	0.24
		WB	3200	1183	0.37	1199	0.37
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	522	0.41	522	0.41
		SB	1280	948	0.74	948	0.74
L3	Local Access Off Ting Kok Road	NB	440	31	0.07	48	0.11
		SB	440	38	0.09	55	0.13
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	480	0.38	480	0.38
		SB	1280	923	0.72	923	0.72
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	1112	0.35	1128	0.35
		WB	3200	1504	0.47	1521	0.48
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1114	0.35	1130	0.35
		WB	3200	1376	0.43	1393	0.44
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1668	0.52	1684	0.53
		WB	3200	1817	0.57	1834	0.57

Link ID.	Section	Direc-tion	Design Capacity (pcu/hr)	Reference		Design	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
Weekday PM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	987	0.31	1004	0.31
		WB	3200	855	0.27	871	0.27
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	801	0.63	801	0.63
		SB	1280	698	0.55	698	0.55
L3	Local Access Off Ting Kok Road	NB	440	10	0.02	26	0.06
		SB	440	16	0.04	33	0.08
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	736	0.58	736	0.58
		SB	1280	673	0.53	673	0.53
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1287	0.40	1304	0.41
		SB	1280	1107	0.35	1124	0.35
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1244	0.39	1261	0.39
		WB	3200	1045	0.33	1062	0.33
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1672	0.52	1689	0.53
		WB	3200	1456	0.46	1473	0.46

6.3.2 The results indicate that the key junctions and road links in the vicinity of the Application Site would operate within capacity during the AM and PM peak hours even with the additional construction traffic during the construction period, i.e. the construction traffic would not create significant traffic impact on the nearby road network.

7 SUMMARY AND CONCLUSIONS

7.1 Summary

7.1.1 The Applicant intends to submit a S16 Planning Application to develop the site ("The Application Site") located at Government Land at Shun Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) for transitional housing for a period of five years. The development will provide 276 housing units for low-income groups.

7.1.2 To reveal the existing traffic conditions, traffic and pedestrian count surveys were carried out at the key junctions in the vicinity of the Application Site in April and June 2022. Junction and link capacity assessments are carried out and the results indicate that all the key junctions and road links perform satisfactorily during the peak hours on a Sunday and weekday in 2022.

7.1.3 It is noted that the traffic conditions in 2022 was affected by the outbreak of Covid-19, hence, the observed traffic flows recorded in 2022 are increased by 15% with reference to the historic ATC flows recorded along Ting Kok Road.

7.1.4 The planned completion year for the Proposed Development is 2024 and hence the "Design Year" for this study is set as 2027, i.e. 3 years after the completion year. Having reviewed the forecast population and employment growth in Tai Po District and the planned developments in the area, to provide conservative estimates, a growth factor of +1.2% per annum is adopted for estimating the 2027 Reference Traffic Flows.

7.1.5 As the housing development is mainly for low-income households, no car parking provision will be provided but one loading/loading bay will be provided within the Proposed Development to meet daily need.

7.1.6 It is forecast that the Proposed Development would generate a demand of 120 bus passengers during the peak hours. The requirements for public transport services are assessed and it is identified that the spare capacities by the current bus services would be sufficient to cope with the anticipated demand by the Proposed Development.

7.1.7 It is estimated that total two-way traffic of around 3 pcu's in the weekday AM Peak hour and 6 pcu's in the weekday PM peak hour and Sunday peak hour would be induced by the Proposed Development. The development traffic is then added to the 2027 Peak Hour Reference Traffic Flows (i.e. without Proposed Development) to derive the 2027 Peak Hour Design Traffic Flows (i.e. with Proposed Development).

7.1.8 Traffic impact assessments are undertaken by comparing the peak hour junction performances of the 2027 Reference scenario against the Design scenario. The results of the assessments indicate that, with the exception of the Junction of Ting Kok Road and Fung Yuen Road, all the assessed junctions and road links in the vicinity of the Proposed Development would perform within capacity during the peak hours for both scenarios.

7.1.9 The performance of the Junction of Ting Kok Road and Fung Yuen Road would be improved by modifying the nearside lane of Fung Yuen Road from left turn only to allow both left and right turn movements.

7.1.10 Pedestrian impact assessments are also carried out and the assessment results indicate that all the footpaths along the major pedestrian routes would perform satisfactorily with a Level of Services (LOS) of A even with the additional pedestrian flows by the Proposed Development.

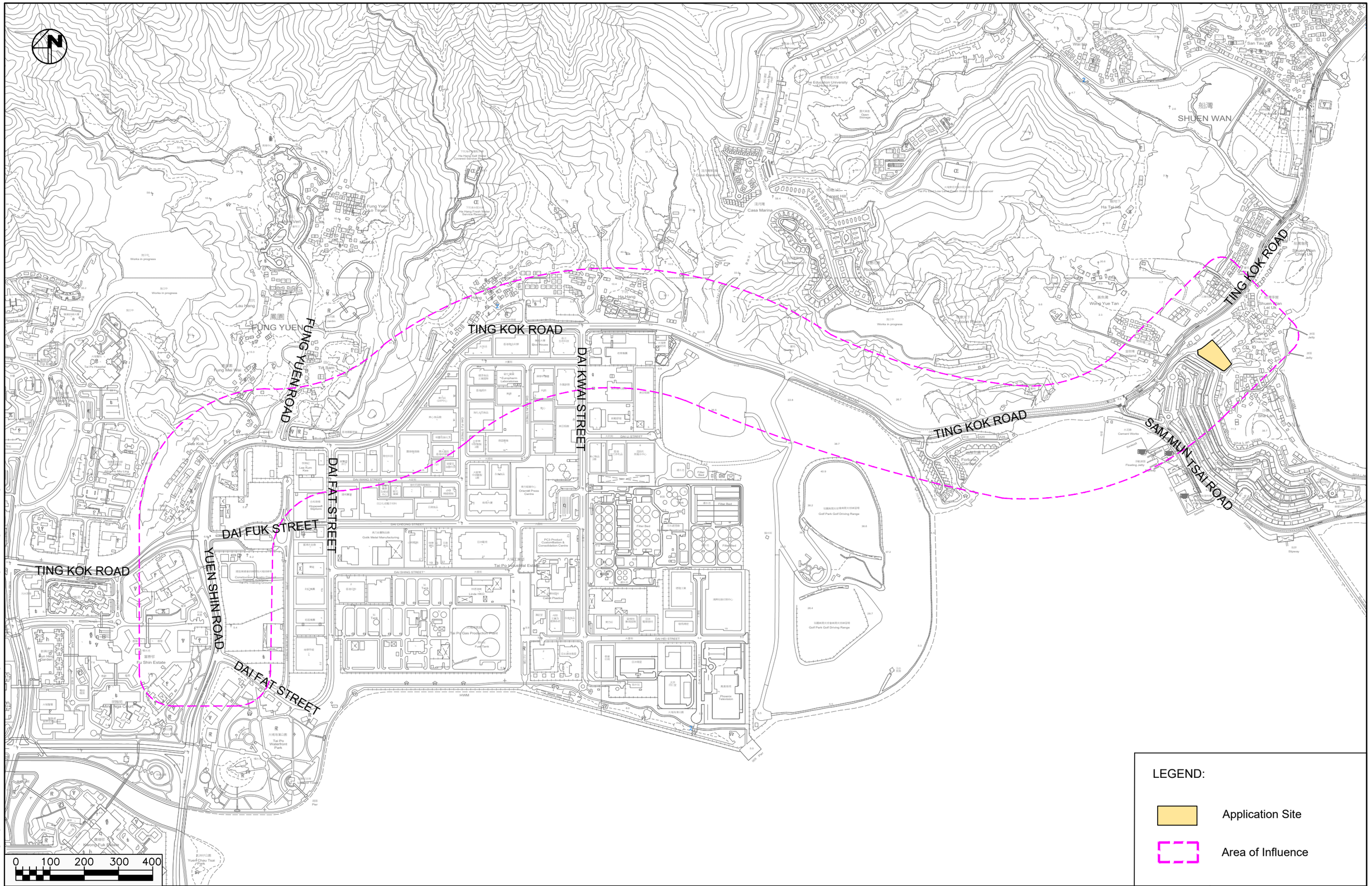
7.1.11 Modular Integrated Construction (MiC) method is proposed for the construction of the proposed transitional housing. Detailed traffic impact assessment will be undertaken once the exact haul route(s) for the delivery of the MiC units are determined at later stage. For reference, construction traffic impact assessment based on conventional construction method is undertaken. To provide conservative estimates, the completion year of the Proposed Redevelopment, i.e. 2024, is adopted as the peak construction period. The assessment results indicate that the construction traffic would not create significant traffic impact on the nearby road network over the construction period.

7.2 Conclusions

7.2.1 As the amount of vehicular traffic to be induced by the Proposed Development is very small, based on the results of the traffic impact assessment, it is concluded that the Proposed Development would not create significant traffic impact on the road network in the vicinity of the Site.

7.2.2 To improve the existing walking condition, an improvement scheme is proposed by connecting the existing footpath along the local access road with the existing footpath at Ting Kok Road.

Figures



Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Site Location and Area of Influence

Date	Scale	Dwg No.	Rev.
22/06/2022	1:10000	Figure 2-1	A

OZZO TECHNOLOGY

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Loading / Unloading Bay (11m x 3.5m)

Pedestrian Access

Vehicular Access

Pedestrian Access

3.3m

TING KOK ROAD

Subway 行人隧道

Spanish Primary School

ROAD

Road

道路

FP

Loading/ unloading bay 11m x 3.5m

Multipurpose Hall

Play Area

Office

Convenience Store

Plant Room

E&M

Refuse

Mail Collection

LEGEND:

- Site Boundary
- Footpath
- Pedestrian Access
- Vehicular Access

0 5 10 15 20

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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Proposed Vehicular and Pedestrian Access Arrangements

Date	Scale	Drawing No.	Rev.
28/06/2022	1:500	Figure 2-2	A

OZZO TECHNOLOGY

KMB:275R,73P,74E,75K

GMB:20C,20E,
20R,20T

KMB:275R,73P,
74E,75K

GMB:20B,20C,20E,
20R,20T

KMB:275R,72C,
73P,74E,75K,75P

TING KOK ROAD

SAM MUN TSAI ROAD

KMB:74K

GMB:20K

GMB:20K

KMB:74K

船灣
SHUEN WAN

前船灣余東旅學校
Former Shuen Wan Eu Tong Sen School

船灣陳屋
SHUEN WAN CHAN UK

沙欄小築
Sha Lan Villas

沙欄
SHA LAN

LEGEND:

Application Site

Bus Stops

GMB Stops

0 20 40 60 80

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Existing Public Transport Inventory

Date	Scale
22/06/2022	1:2000

OZZO TECHNOLOGY

Dwg No.	Rev.
Figure 3-1	A

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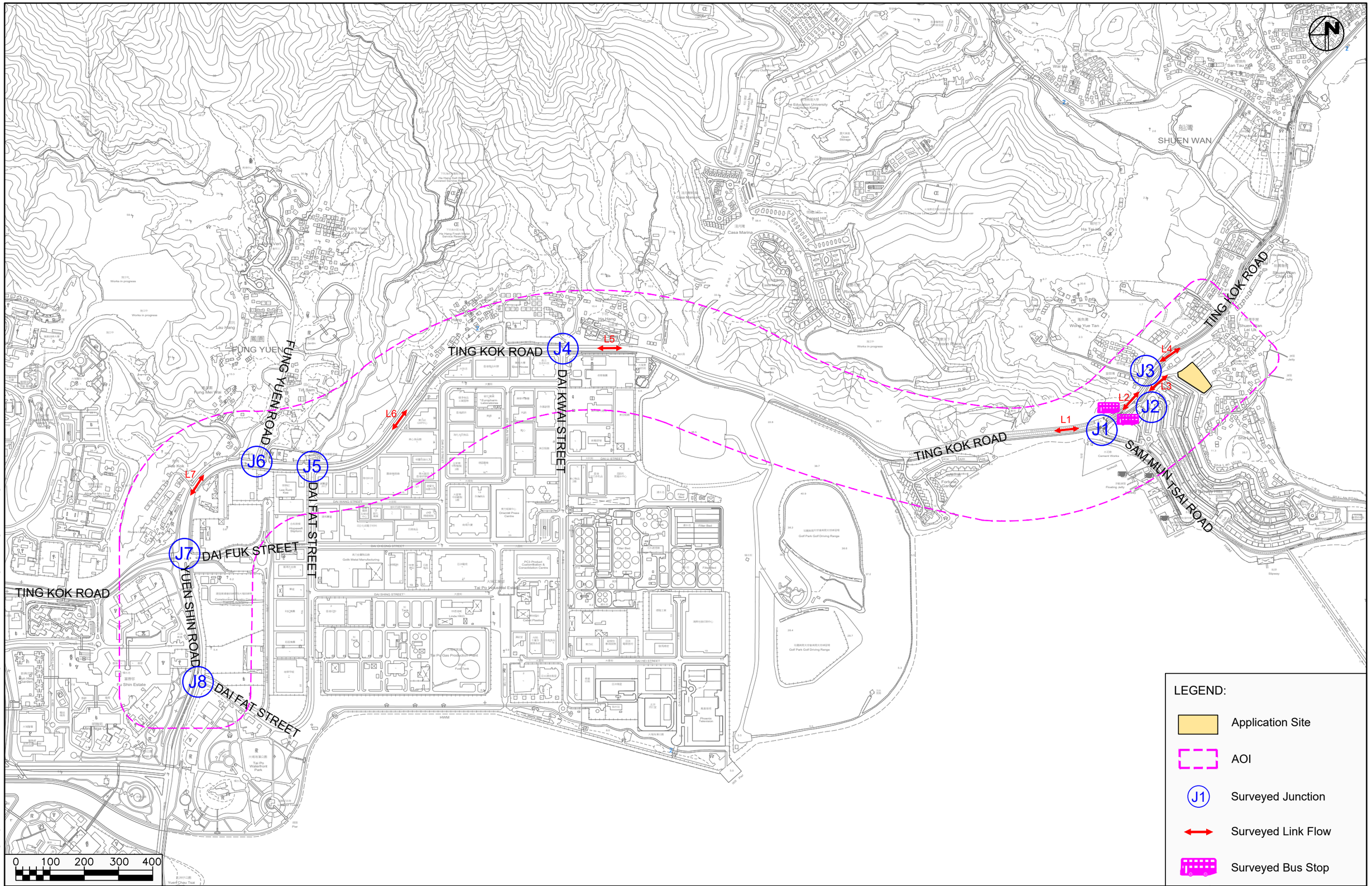

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Locations and Types of Surveys

Date	Scale	Dwg No.	Rev.
24/06/2022	1:10000	Figure 3-2	A

OZZO TECHNOLOGY

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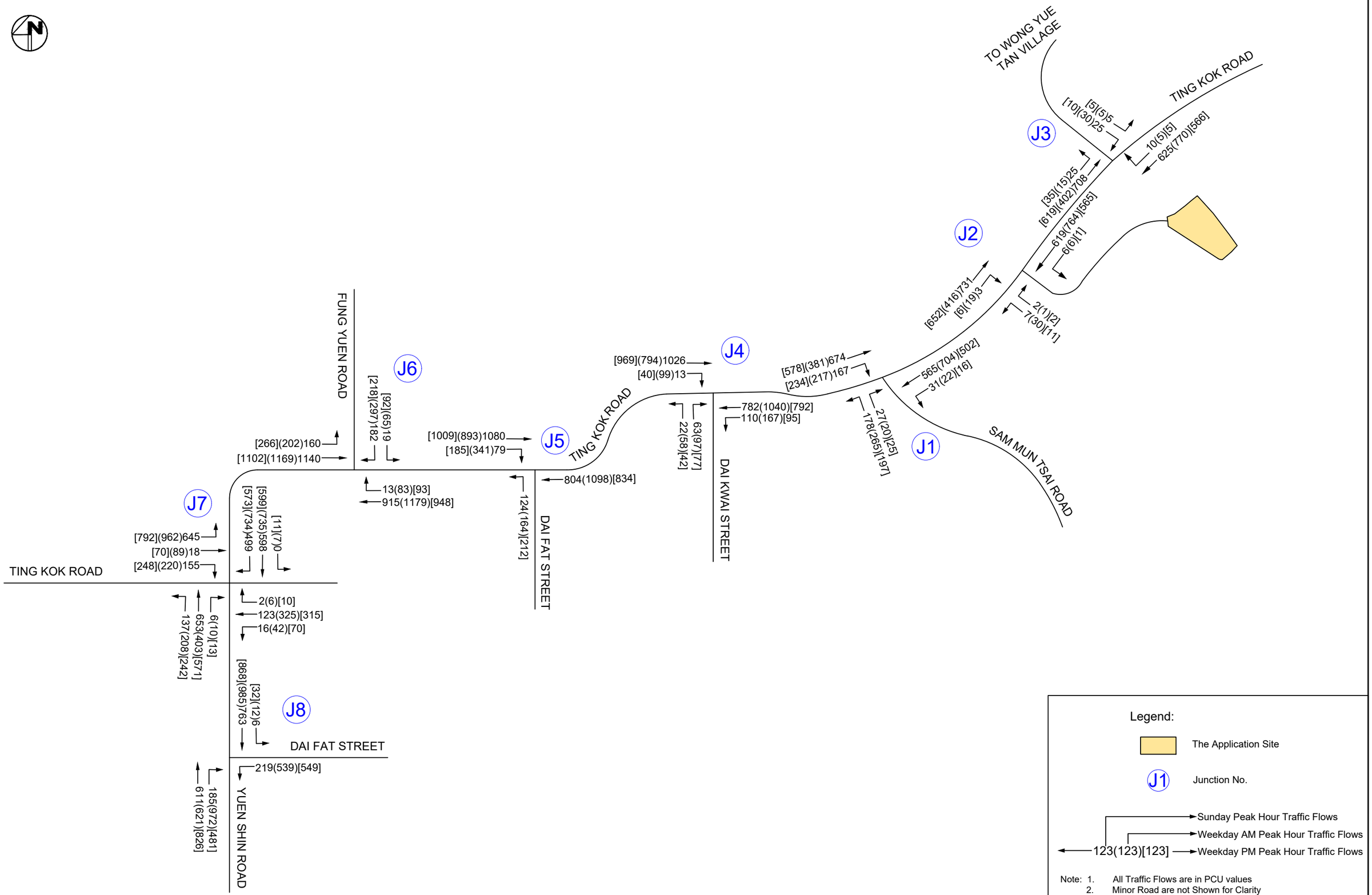

Legend:

The Application Site

J1 Junction No.

Sunday Peak Hour Traffic Flows

Weekday AM Peak Hour Traffic Flows

123(123)[123] Weekday PM Peak Hour Traffic Flows

Note: 1. All Traffic Flows are in PCU values
2. Minor Road are not Shown for Clarity

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2022 Observed Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
30/06/2022	N.T.S	Figure 3-3	A

OZZO TECHNOLOGY

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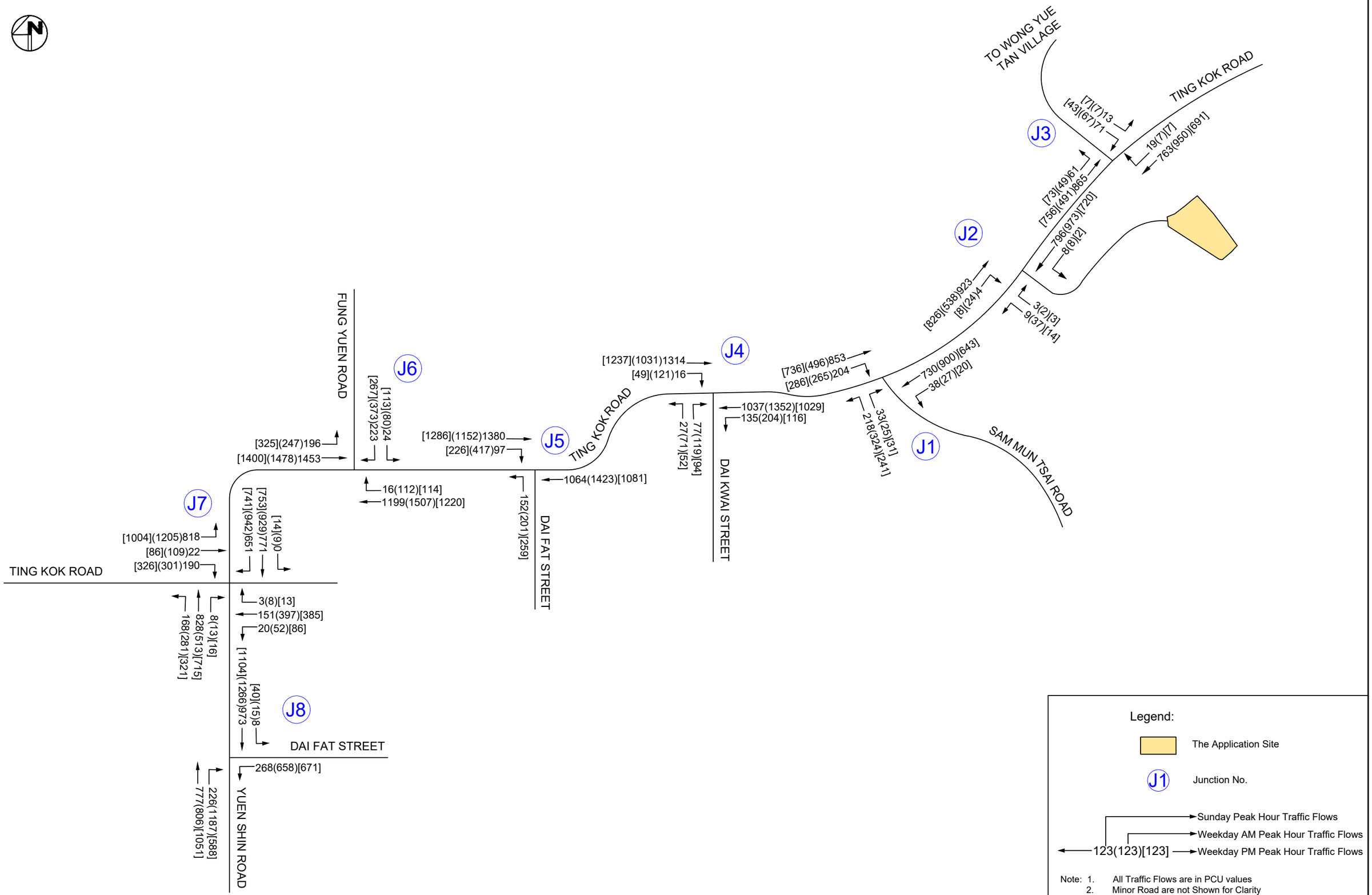

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2027 Reference Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
30/06/2022	N.T.S	Figure 4-1	A

OZZO TECHNOLOGY

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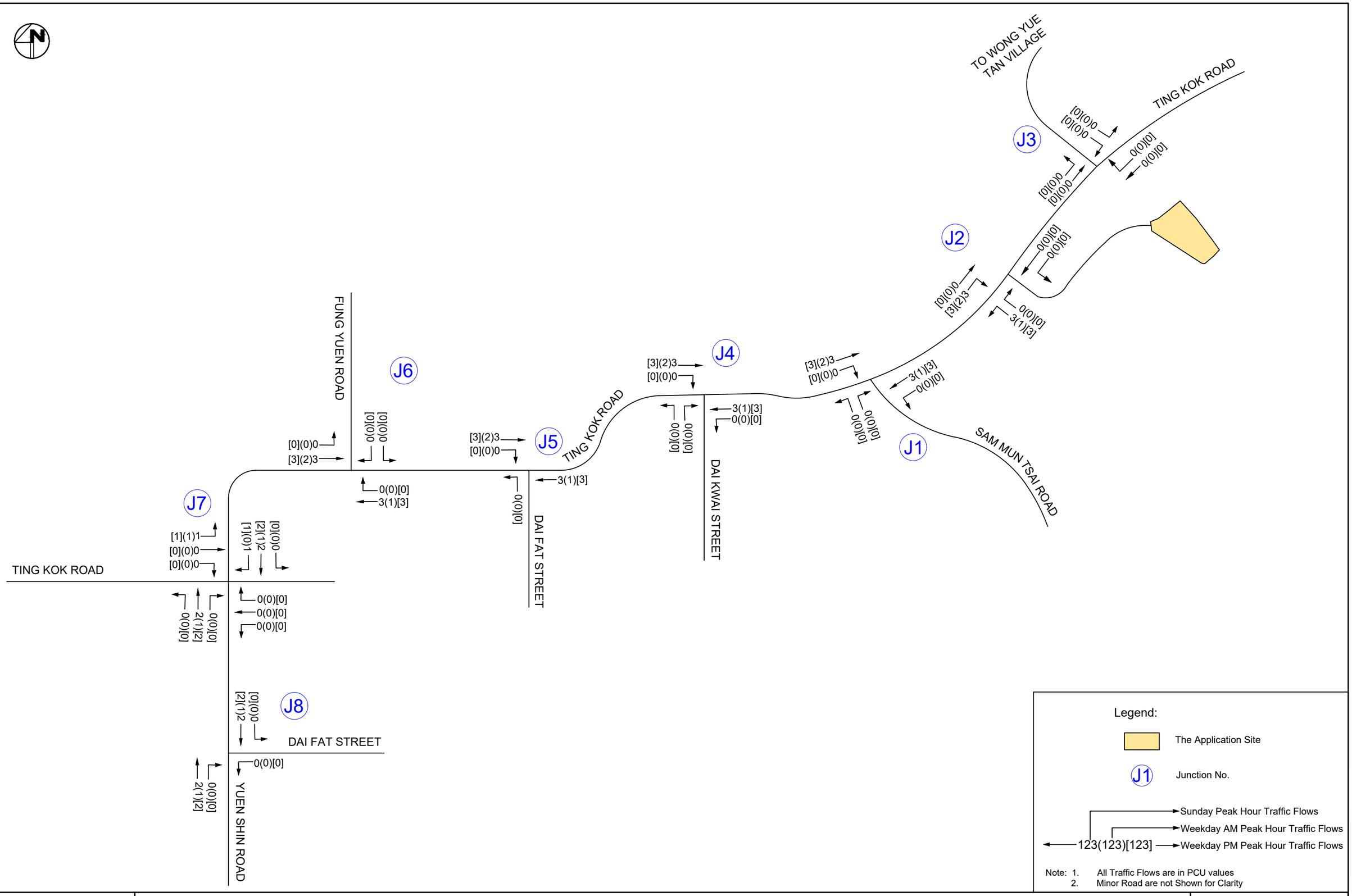

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Peak Hour Development Traffic Flows

Date	Scale	Dwg No.	Rev.
28/06/2022	N.T.S	Figure 4-2	A

OZZO TECHNOLOGY

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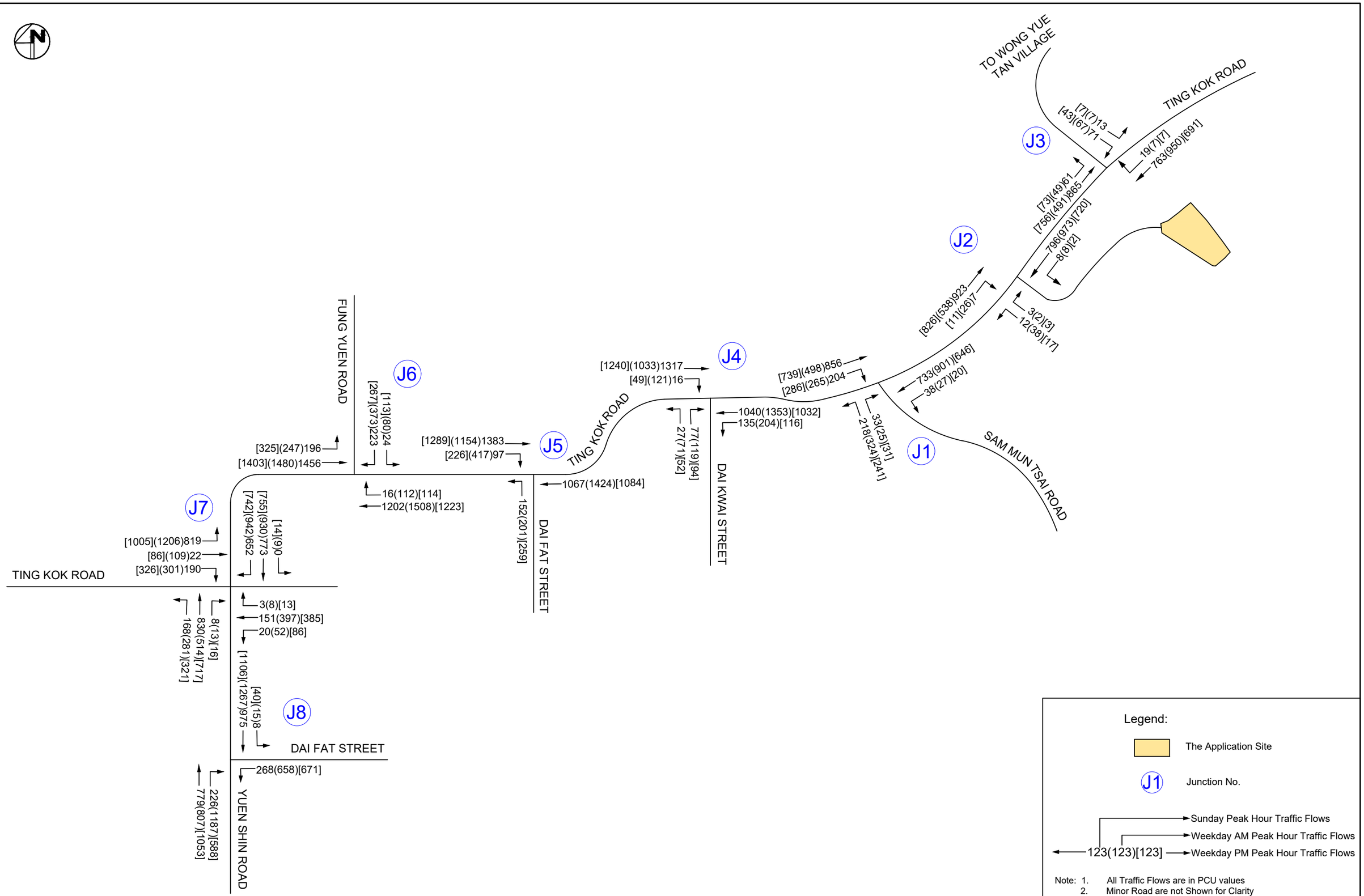

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2027 Design Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
30/06/2022	N.T.S	Figure 4-3	A

OZZO TECHNOLOGY

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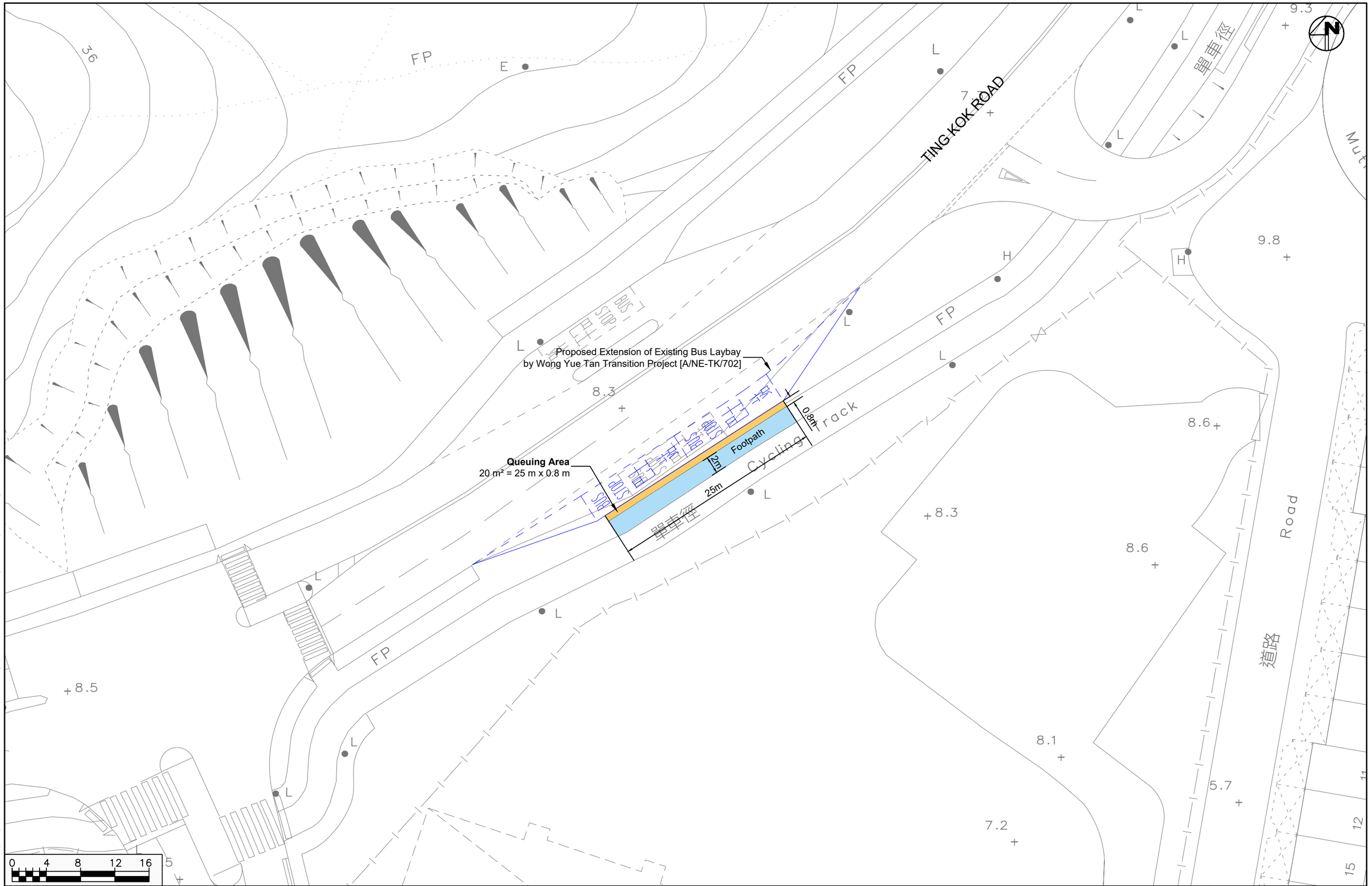

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Maximum Passenger Queueing Area at Ting Kok Road near Sam Mun Tsai Westbound Bus-stop

Date	Scale	Dwg No.	Rev.
30/06/2022	1:400	Figure 4-4	-

OZZO TECHNOLOGY

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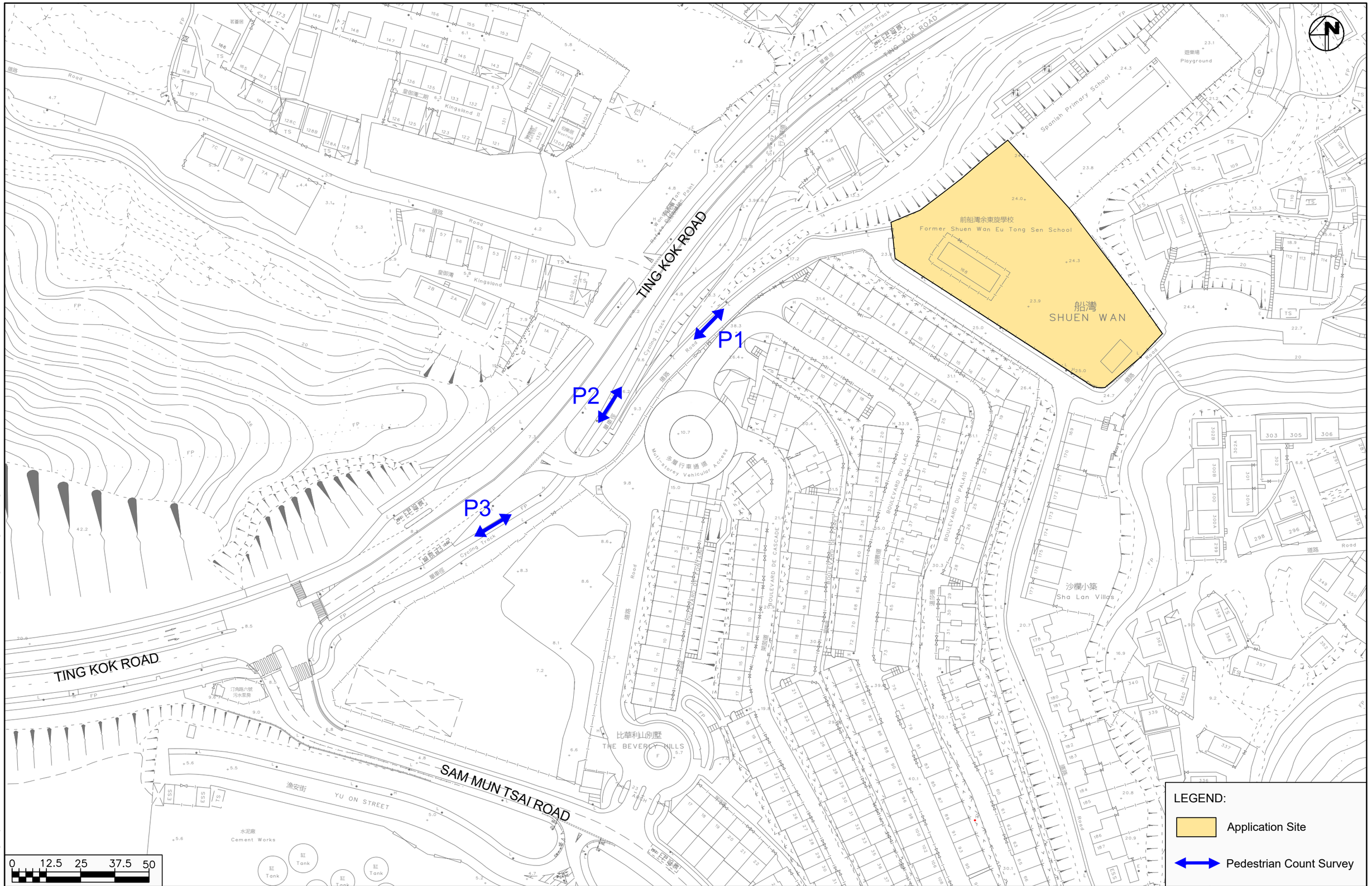


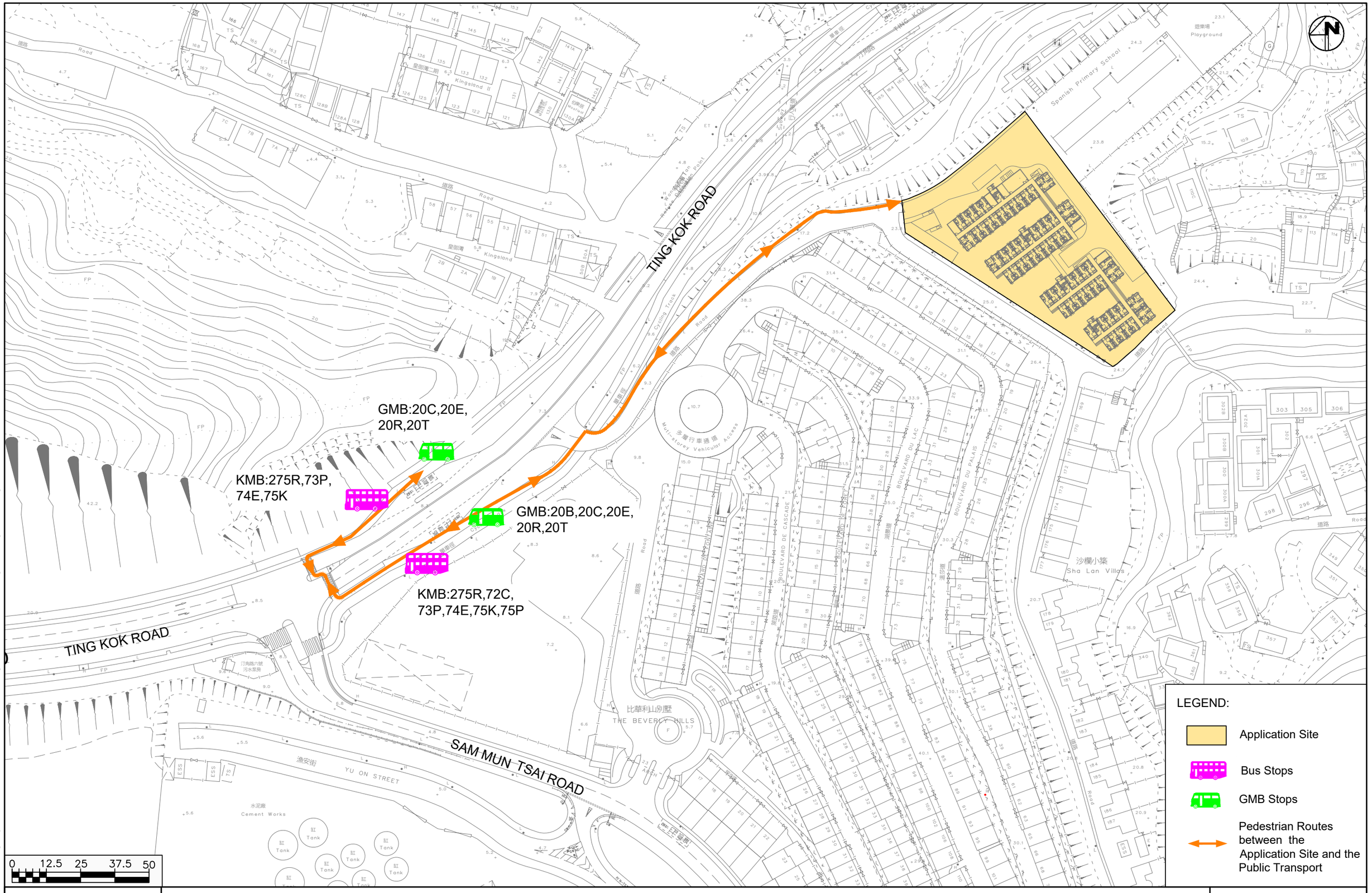
X:\O:zzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 5-1.dwg 2022/06/28 18:30:09

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Survey Locations for Key Pedestrian Links

Date	Scale	Dwg No.	Rev.
10/05/2022	1:1250	Figure 5-1	-

OZZO TECHNOLOGY



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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Major Desire Pedestrian Routes

OZZO TECHNOLOGY

Date	Scale	Dwg No.	Rev.
28/06/2022	1:1250	Figure 5-2	A

Site for Transitional Housing

Existing 5 - 5.5m Access Leading to Site

Existing 1.2m Footpath

Existing Footpath Network

Refer to Figure 5-4 for Details of Adjusted Cycle Track Facility

Proposed 1.2m Footpath to Connect Existing Footpath Network

TING KOK ROAD

Ting Kok Road

Subway 行人隧道

Cycling Track

Spanish Primary School

前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School

船灣
SHUEN WAN

Kingsland II 皇御灣一期

Kingsland 皇御灣

Mosfield 伯樂居

Multi-storey Vehicular Access 多層行車通道

BOULEVARD DU LAC

BOULEVARD DU PALAIS

E CASCADE

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

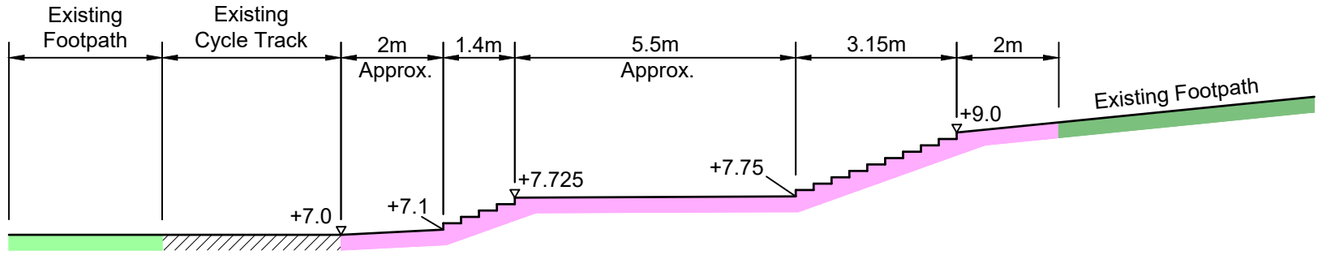
Proposed Footpath Connection

Date	Scale
28/06/2022	1:800

OZZO TECHNOLOGY

Drawing No.	Rev.
Figure 5-3	A

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 5-3A.dwg 2022/06/28 16:13:04



Typical Section of Proposed New Footpath

Scale 1:150

2m Crossing Width to be Provided
Relocated Frangible Bollard
Relocated Cycle Track Marking
Existing Footpath
Existing Cycle Track
Existing Signing and Marking on Cycle Track to be Shifted by 3m
Relocated TS225
Cyclist dismount
Use pedestrian crossing
騎單車者須此下車
由附近行人線過路
RM1171
RM1171
RM1174
Ting Kok Road
汀角路
道路
Road
Track
FP
Cycling Track

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Details of New Footpath and Adjusted Signing and Marking on Cycle Track

Date	Scale
28/06/2022	1:400

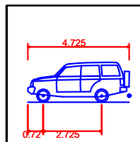
OZZO TECHNOLOGY

Drawing No.	Rev.
Figure 5-4	-

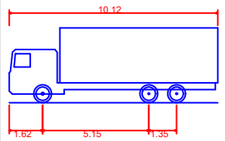
X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 5-4.dwg 2022/06/28 10:01:33

Appendix A

Swept Path Assessment Results



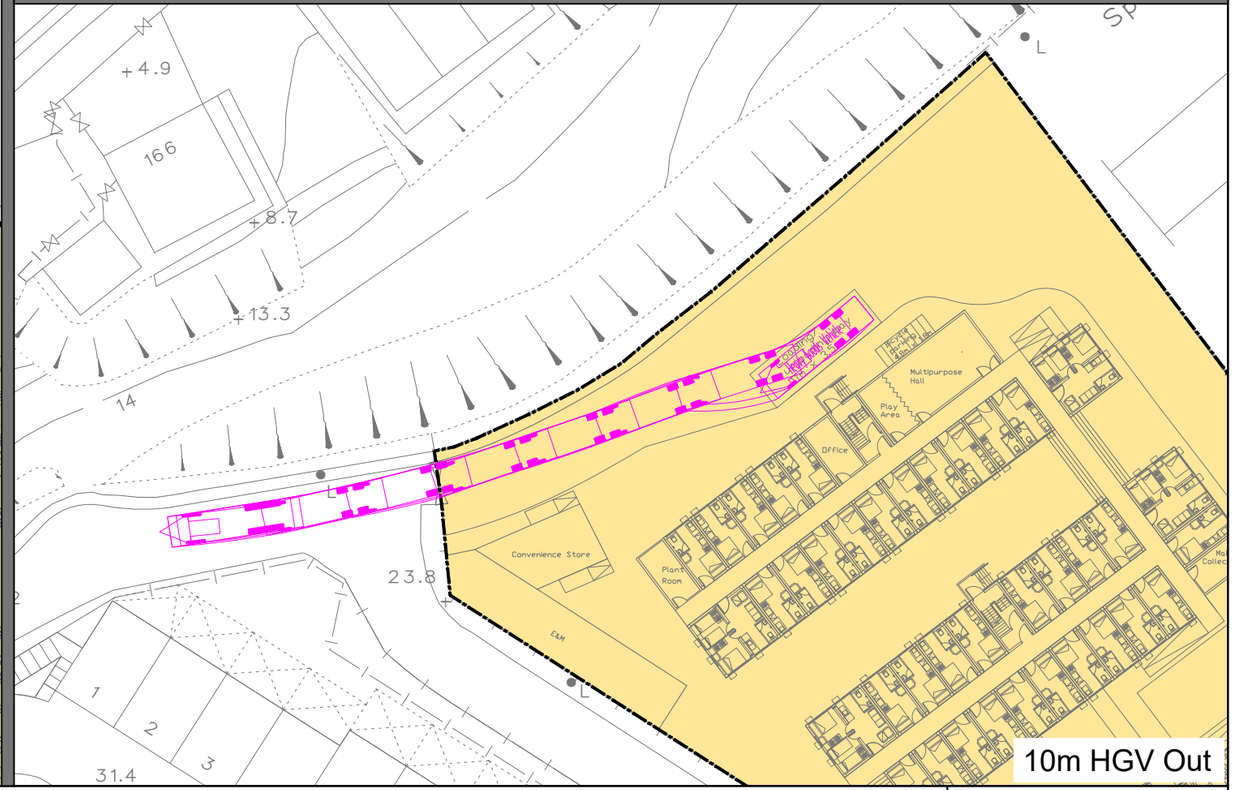
Private Car	
Overall Length	4.725m
Overall Width	1.785m
Overall Body Height	1.860m
Min Body Ground Clearance	0.254m
Max Track Width	1.745m
Lock to Lock Time	2.00 sec
Kerb to Kerb Turning Radius	6.400m



Heavy Goods Vehicle	
Overall Length	10.120m
Overall Width	2.500m
Overall Body Height	3.623m
Min Body Ground Clearance	0.419m
Track Width	2.450m
Lock to Lock Time	4.00 sec
Wall to Wall Turning Radius	10.000m

PV In & Out

10m HGV In



10m HGV Out

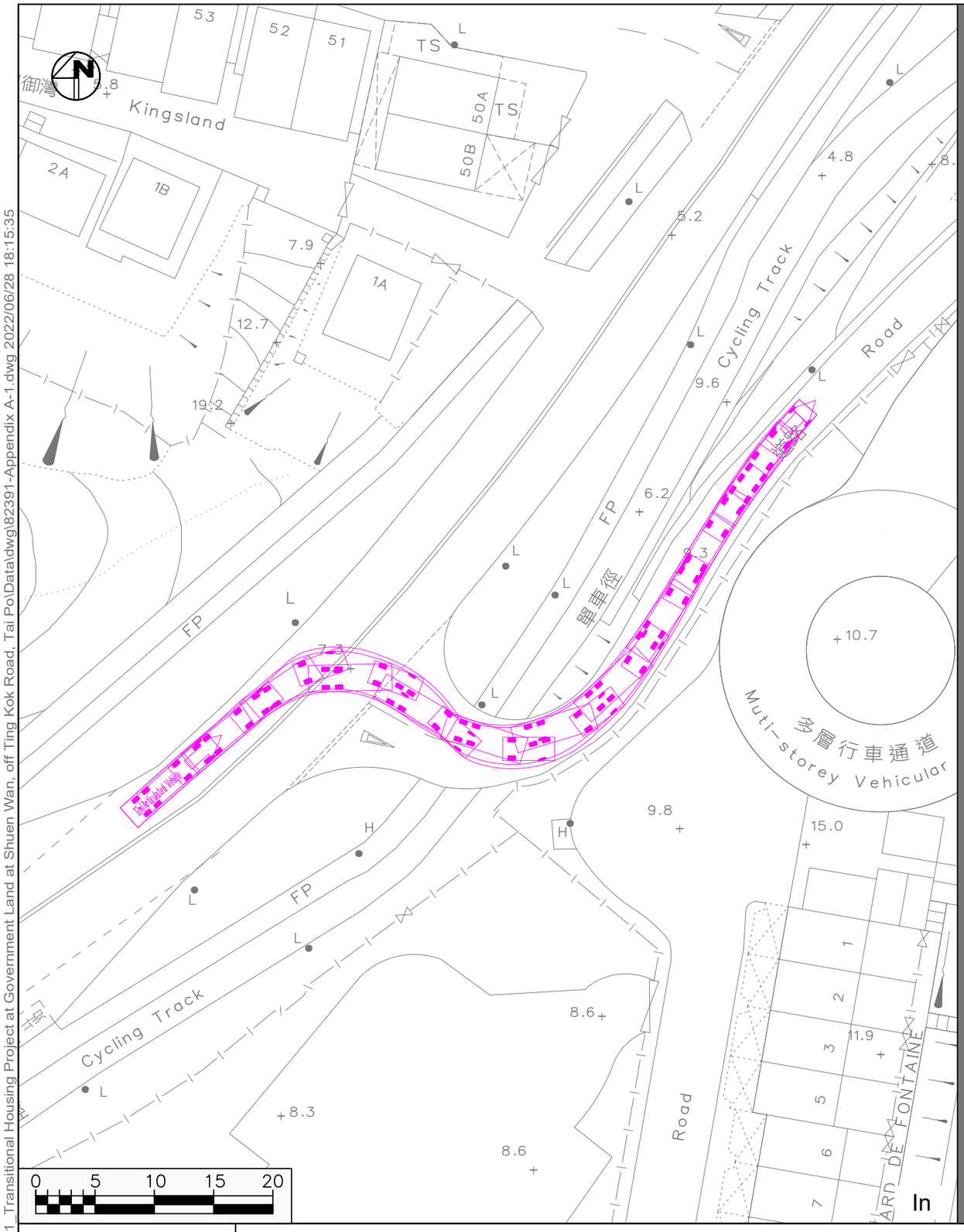
X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Appendix A-1.dwg 2022/06/28 18:15:59

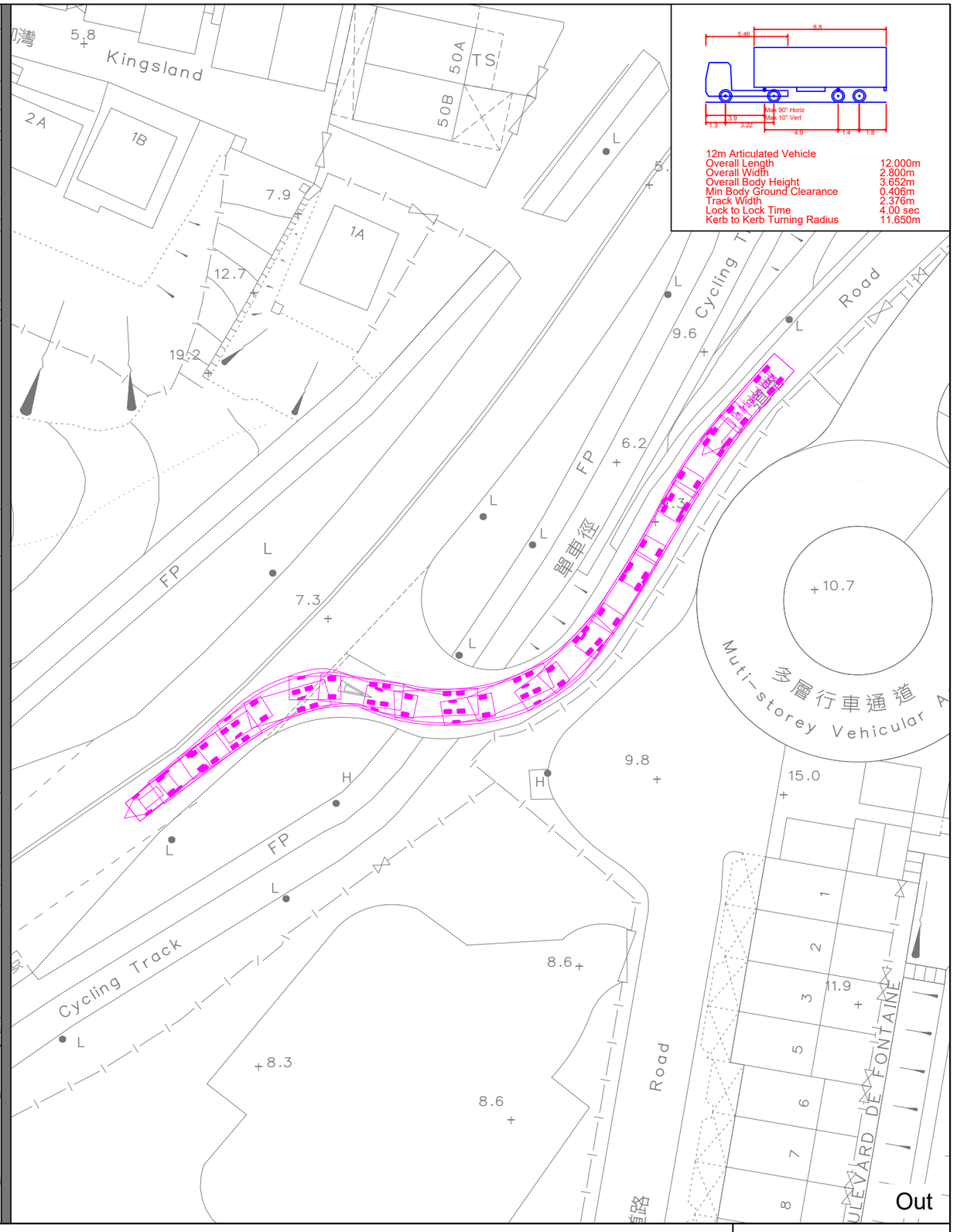
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Private Car & Heavy Goods Vehicle Swept Path Assessment

Date	Scale	Drawing No.	Rev.
28/06/2022	1:500	Appendix A-1	A

OZZO TECHNOLOGY





12m Articulated Vehicle

Overall Length	12.000m
Overall Width	2.800m
Overall Body Height	3.652m
Min Body Ground Clearance	0.408m
Track Width	2.376m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	11.650m

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Appendix A-1.dwg 2022/06/28 18:15:35

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

12m Articulated Vehicle Swept Path for MiC Delivery Assessment

Date	Scale	Drawing No.	Rev.
27/06/2022	1:500	Appendix A-2	A

OZZO TECHNOLOGY

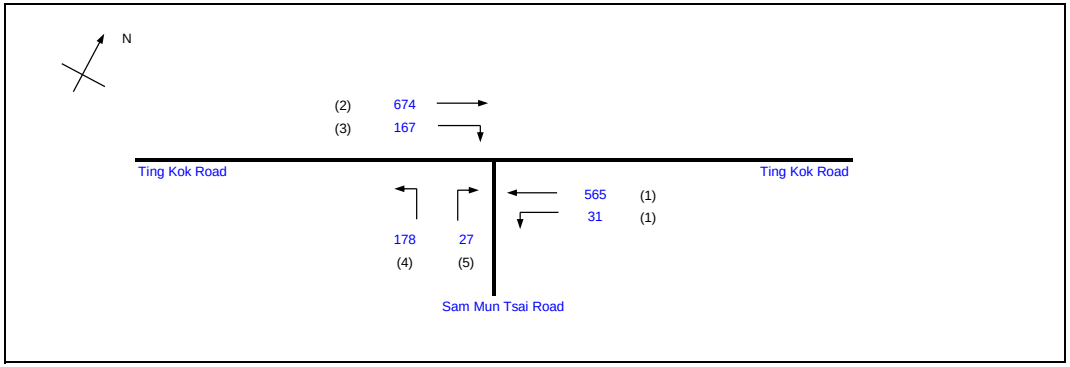
Appendix B

2022 Junction Calculation Sheets

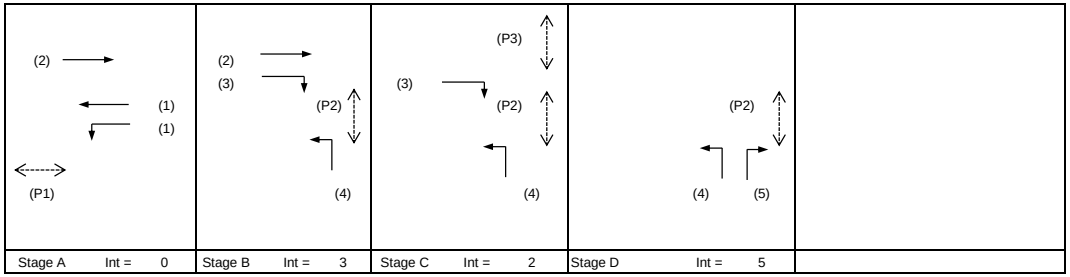
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.361	
Loss time		L =	18	sec
Total Flow		=	1642	pcu
Co	= (1.5*L+5)/(1-Y)	=	50.1	sec
Cm	= L/(1-Y)	=	28.2	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	111.7	%
Cp	= 0.9*L/(0.9-Y)	=	30.1	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	96.4	%



Stage A Int = 0 | Stage B Int = 3 | Stage C Int = 2 | Stage D Int = 5

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

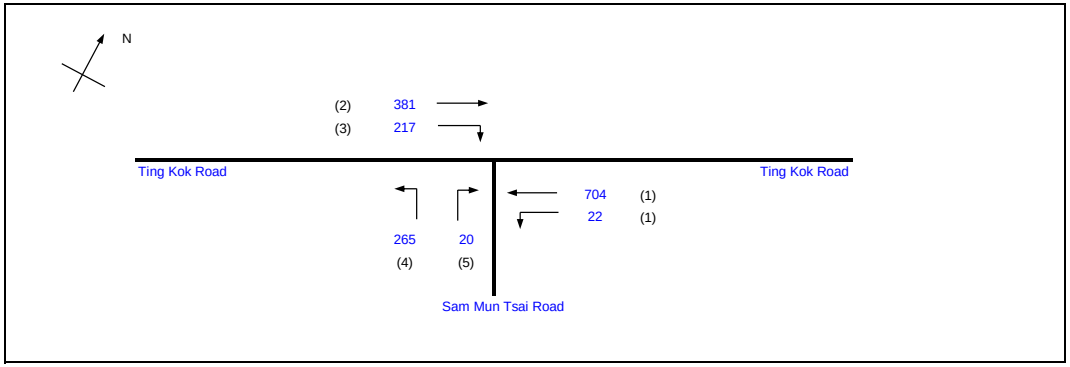
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	31	256		287	0.11	1905			1905	0.151			28	31	0.413	24	20
SA	A	3.00	1	1				2055		309		309	0.00	2055			2055	0.151			28	31	0.413	24	20
SA	A,B	3.30	2	1			N	1945		674		674	0.00	1945			1945	0.347	0.347		64	56	0.526	30	8
RT	B,C	3.50	3	1	10			2105			167	167	1.00	1830			1830	0.091			17	29	0.267	12	19
LT	B,C,D	3.30	4	1	10		N	1945	178			178	1.00	1691			1691	0.105			20	44	0.203	12	10
RT	D	3.50	5	1	10			2105			27	27	1.00	1830			1830	0.015	0.015		3	11	0.114	0	30
Ped	C																			10					

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

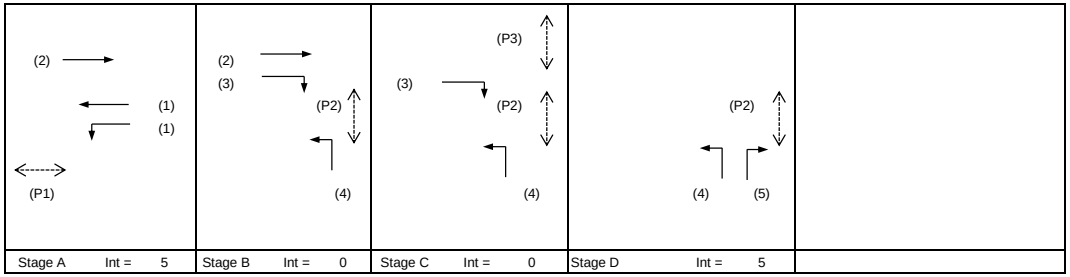
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.340	
Loss time		L =	8	sec
Total Flow		=	1609	pcu
Co	= (1.5*L+5)/(1-Y)	=	25.8	sec
Cm	= L/(1-Y)	=	12.1	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	147.2	%
Cp	= 0.9*L/(0.9-Y)	=	12.9	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	140.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

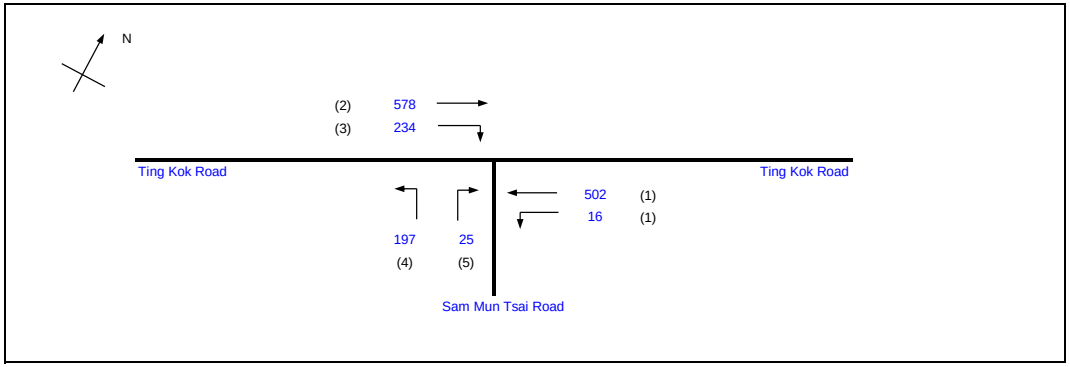
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	22	328		350	0.06	1909			1909	0.183	0.183		43	41	0.393	24	15
SA	A	3.00	1	1				2055		376		376	0.00	2055			2055	0.183			43	41	0.393	24	15
SA	A,B	3.30	2	1			N	1945		381		381	0.00	1945			1945	0.196			46	58	0.297	18	6
RT	B,C	3.50	3	1	10			2105			217	217	1.00	1830			1830	0.119			28	23	0.454	18	27
LT	B,C,D	3.30	4	1	10		N	1945	265			265	1.00	1691			1691	0.157	0.157		37	39	0.354	18	16
RT	D	3.50	5	1	10			2105			20	20	1.00	1830			1830	0.011			3	10	0.096	0	32

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

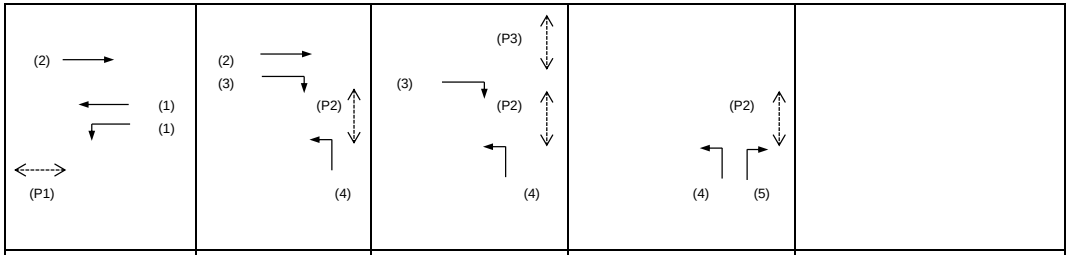
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_PM**	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.311	
Loss time		L =	32	sec
Total Flow		=	1552	pcu
Co	= (1.5*L+5)/(1-Y)	=	76.9	sec
Cm	= L/(1-Y)	=	46.4	sec
Yult		=	0.660	
R.C.ult	= (Yult-Y)/Y*100%	=	112.3	%
Cp	= 0.9*L/(0.9-Y)	=	48.9	sec
Ymax	= 1-L/C	=	0.636	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	84.3	%



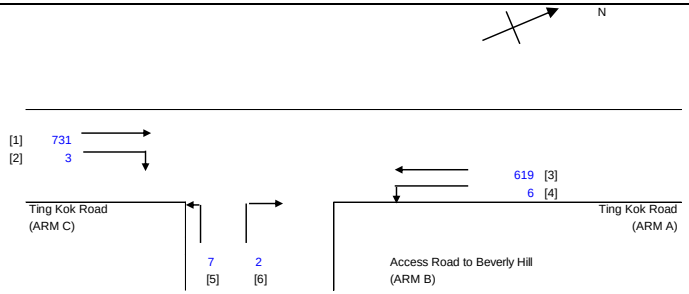
Stage A	Int = 0	Stage B	Int = 3	Stage C	Int = 2	Stage D	Int = 5

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	16	233		249	0.06	1909			1909	0.131			24	37	0.311	18	16
SA	A	3.00	1	1				2055		269		269	0.00	2055			2055	0.131			24	37	0.311	18	16
SA	A,B	3.30	2	1			N	1945		578		578	0.00	1945			1945	0.297	0.297		54	62	0.422	24	6
RT	B,C	3.50	3	1	10			2105			234	234	1.00	1830			1830	0.128			23	29	0.388	18	22
LT	B,C,D	3.30	4	1	10		N	1945	197			197	1.00	1691			1691	0.116			21	45	0.228	12	11
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014	0.014		2	12	0.100	0	31
Ped	C																			24					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	6	(pcu/hr)
q a-c	=	619	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	731	(pcu/hr)
q c-b	=	3	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.777777778

THE CAPACITY OF MOVEMENT :

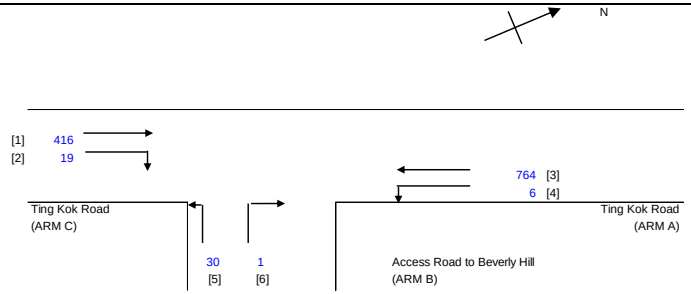
Q b-a	=	343			
Q b-c	=	566	Q b-c (O) =	565.17	
Q c-b	=	708			
Q b-ac	=	494.55			
TOTAL FLOW	=	1368	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0058
DFC b-c	=	0.0124
DFC c-b	=	0.0042
DFC b-ac	=	0.0182

CRITICAL DFC = 0.02

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	6	(pcu/hr)
q a-c	=	764	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	416	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	1	(pcu/hr)
q b-c	=	30	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.967741935

THE CAPACITY OF MOVEMENT :

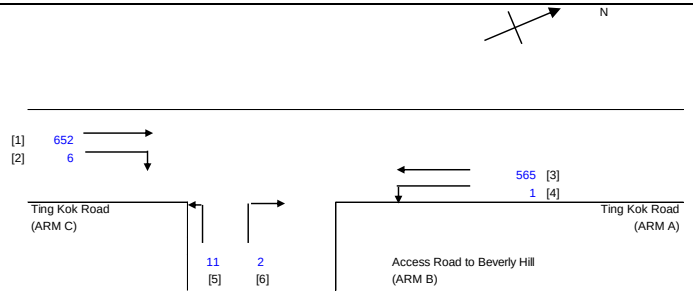
Q b-a	=	350			
Q b-c	=	534	Q b-c (O) =	533.62	
Q c-b	=	668			
Q b-ac	=	525.1			
TOTAL FLOW	=	1236	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0029
DFC b-c	=	0.0562
DFC c-b	=	0.0284
DFC b-ac	=	0.0590

CRITICAL DFC = 0.06

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	1	(pcu/hr)
q a-c	=	565	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	652	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	11	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.846153846

THE CAPACITY OF MOVEMENT :

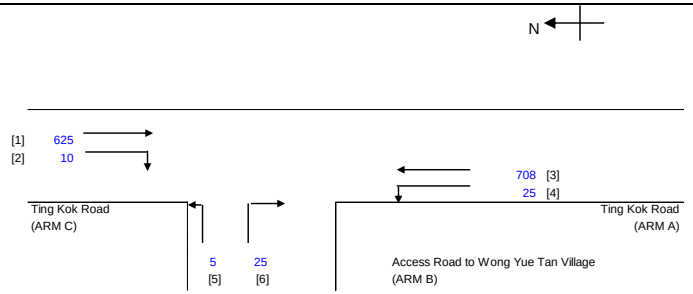
Q b-a	=	365			
Q b-c	=	578	Q b-c (O) =	577.21	
Q c-b	=	724			
Q b-ac	=	530.38			
TOTAL FLOW	=	1237	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0055
DFC b-c	=	0.0190
DFC c-b	=	0.0083
DFC b-ac	=	0.0245

CRITICAL DFC = 0.02

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	708	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	625	(pcu/hr)
q c-b	=	10	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	25	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.166666667

THE CAPACITY OF MOVEMENT :

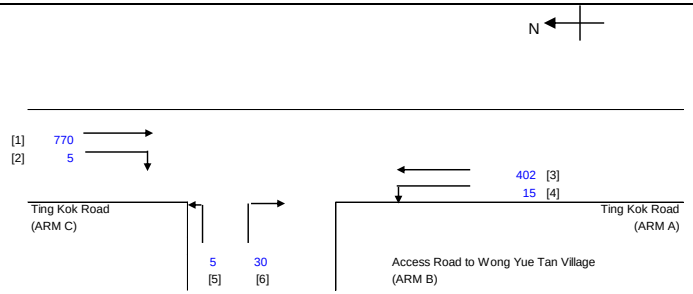
Q b-a	=	267			
Q b-c	=	475	Q b-c (O) =	463.88	
Q c-b	=	509			
Q b-ac	=	288.02			
TOTAL FLOW	=	1398	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0936
DFC b-c	=	0.0105
DFC c-b	=	0.0196
DFC b-ac	=	0.1042

CRITICAL DFC = 0.10

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	402	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	770	(pcu/hr)
q c-b	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.142857143

THE CAPACITY OF MOVEMENT :

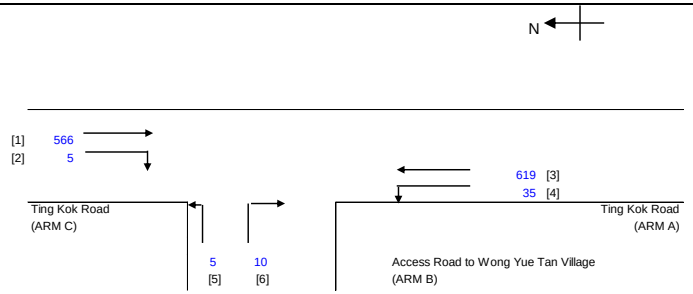
Q b-a	=	320			
Q b-c	=	549	Q b-c (O) =	536.13	
Q c-b	=	591			
Q b-ac	=	340.28			
TOTAL FLOW	=	1227	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0938
DFC b-c	=	0.0091
DFC c-b	=	0.0085
DFC b-ac	=	0.1029

CRITICAL DFC = 0.10

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	35	(pcu/hr)
q a-c	=	619	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	566	(pcu/hr)
q c-b	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	10	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.333333333

THE CAPACITY OF MOVEMENT :

Q b-a	=	298			
Q b-c	=	495	Q b-c (O) =	490.85	
Q c-b	=	530			
Q b-ac	=	343.58			
TOTAL FLOW	=	1240	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

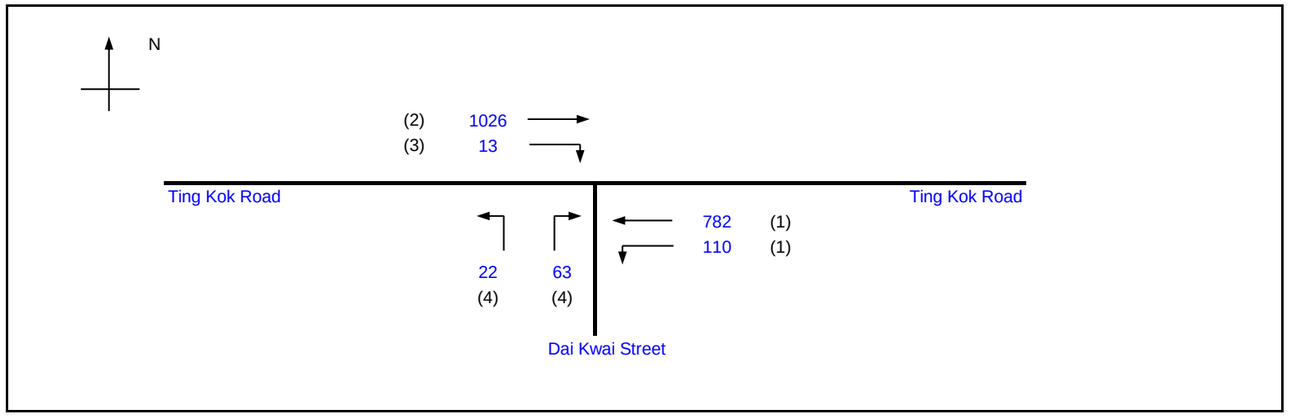
DFC b-a	=	0.0336
DFC b-c	=	0.0101
DFC c-b	=	0.0094
DFC b-ac	=	0.0437

CRITICAL DFC = 0.04

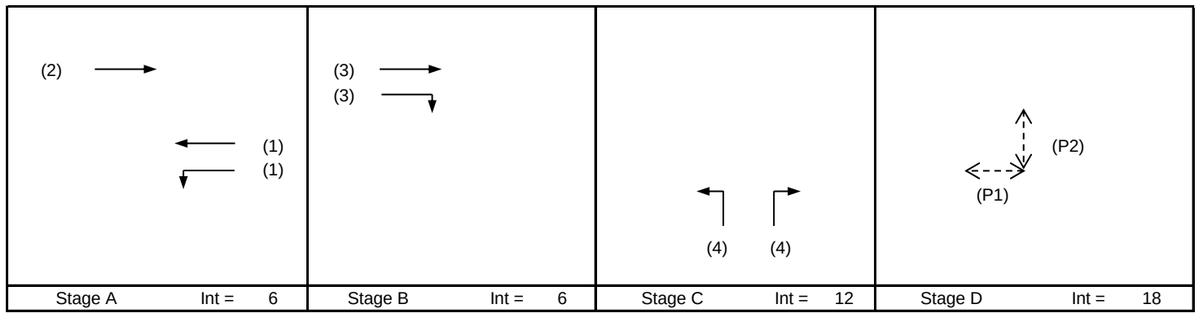
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2022_SUN**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.403	
Loss time		L =	39	sec
Total Flow		=	2016	pcu
Co	= (1.5*L+5)/(1-Y)	=	106.5	sec
Cm	= L/(1-Y)	=	65.4	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	50.6	%
Cp	= 0.9*L/(0.9-Y)	=	70.7	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	50.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

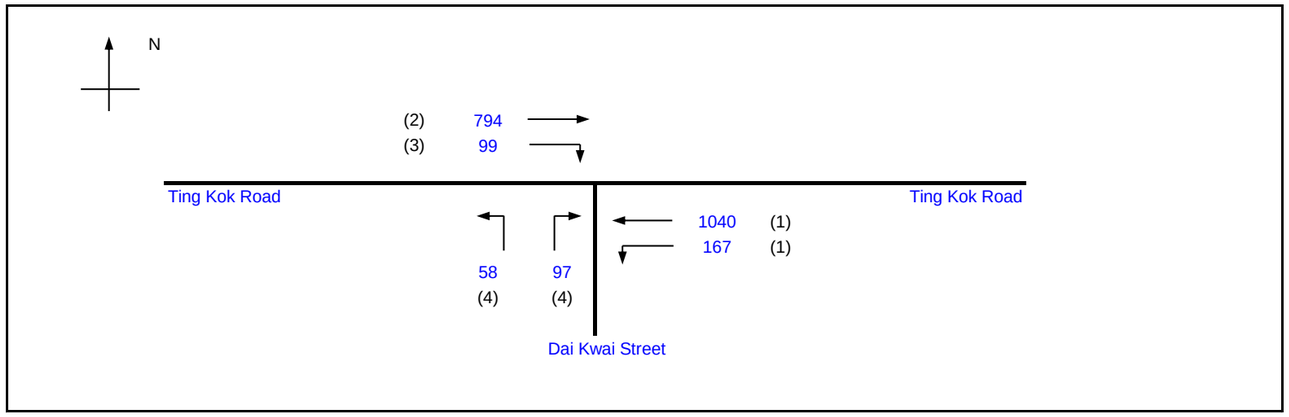
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		429		429	0.00	1953			1953	0.220			44	58	0.598	54	31
LT,SA	A	3.65	1	1	15		N	1980	110	315		425	0.26	1930			1930	0.220	0.220		44	58	0.598	48	31
SA	A	3.65	1	1				2120		467		467	0.00	2120			2120	0.220			44	58	0.598	54	31
SA	B	3.38	3	1			N	1953		295		295	0.00	1953			1953	0.151	0.151		30	13	0.598	42	40
SA,RT	B	3.38	3	1	20			2093		302	13	315	0.04	2086			2086	0.151			30	13	0.598	42	40
LT	C	3.50	4	1	15		N	1965	22			22	1.00	1786			1786	0.012			2	15	0.598	6	118
LT,RT	C	3.50	4	1	20			2105	0		63	63	1.00	1958			1958	0.032	0.032		6	15	0.598	12	73

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

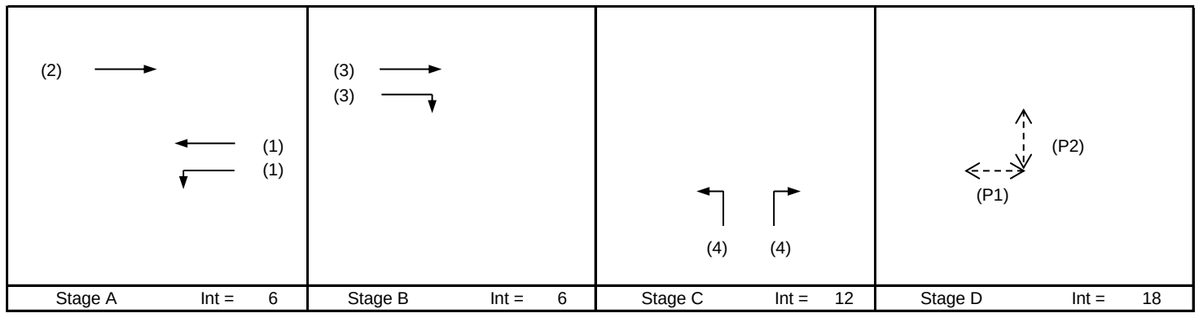
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	**2022_AM** J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



		Existing Cycle Time	
No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.427	
Loss time	L =	39	sec
Total Flow	=	2255	pcu
Co = (1.5*L+5)/(1-Y)	=	110.7	sec
Cm = L/(1-Y)	=	68.0	sec
Yult	=	0.608	
R.C.ult = (Yult-Y)/Y*100%	=	42.4	%
Cp = 0.9*L/(0.9-Y)	=	74.1	sec
Ymax = 1-L/C	=	0.675	
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	42.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

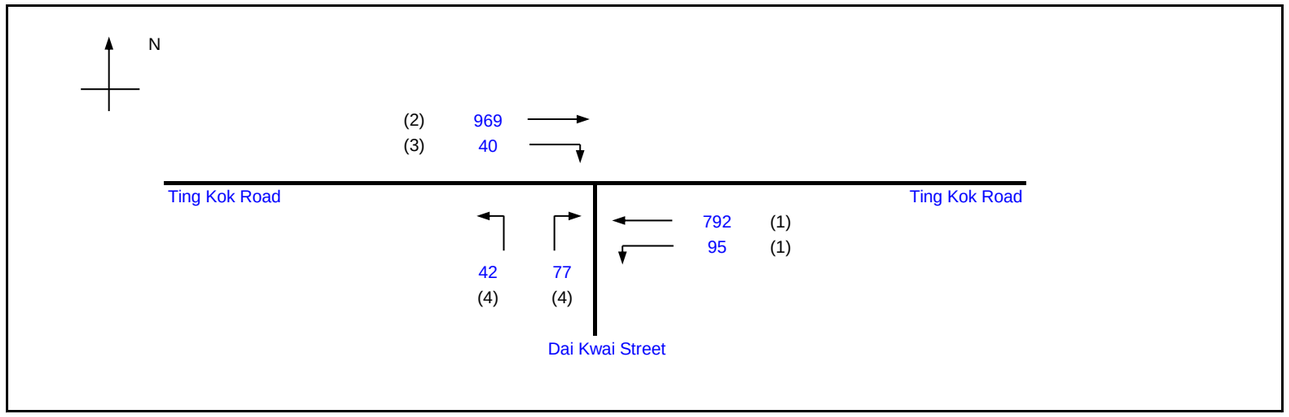
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		583		583	0.00	1953			1953	0.298			57	58	0.618	60	23
LT,SA	A	3.65	1	1	15		N	1980	167	407		574	0.29	1924			1924	0.298	0.298		57	58	0.618	54	23
SA	A	3.65	1	1				2120		633		633	0.00	2120			2120	0.298			57	58	0.618	60	23
SA	B	3.38	3	1			N	1953		153		153	0.00	1953			1953	0.079	0.079		15	13	0.725	30	67
SA,RT	B	3.38	3	1	20			2093		58	99	157	0.63	1998			1998	0.079			15	13	0.725	30	66
LT	C	3.50	4	1	15		N	1965	58			58	1.00	1786			1786	0.032			6	15	0.260	6	45
LT,RT	C	3.50	4	1	20			2105	0		97	97	1.00	1958			1958	0.050	0.050		9	15	0.396	12	48

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

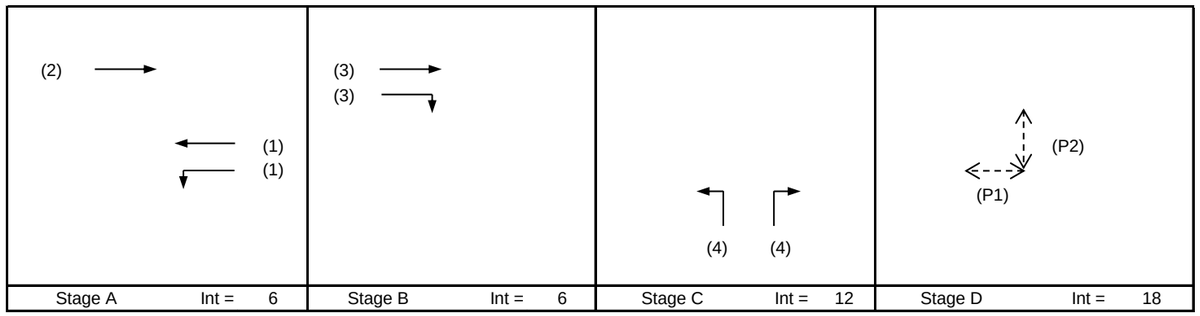
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	FILENAME :		Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM**	J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.390	
Loss time		L =	39	sec
Total Flow		=	1920	pcu
Co	= (1.5*L+5)/(1-Y)	=	104.1	sec
Cm	= L/(1-Y)	=	64.0	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	55.7	%
Cp	= 0.9*L/(0.9-Y)	=	68.9	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

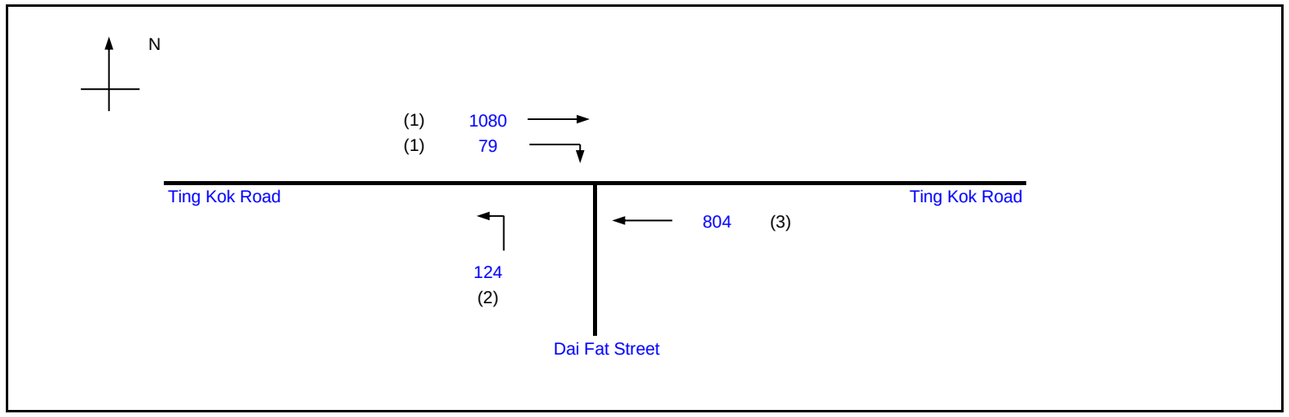
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		374		374	0.00	1953			1953	0.192			40	58	0.578	48	33
LT,SA	A	3.65	1	1	15		N	1980	0	382		382	0.00	1980			1980	0.193	0.193		40	58	0.578	48	33
SA	A	3.65	1	1				2120		410		410	0.00	2120			2120	0.193			40	58	0.578	54	33
SA	B	3.38	3	1			N	1953		308		308	0.00	1953			1953	0.158	0.158		33	13	0.578	42	38
SA,RT	B	3.38	3	1	20			2093		287	40	327	0.12	2073			2073	0.158			33	13	0.578	42	38
LT	C	3.50	4	1	15		N	1965	42			42	1.00	1786			1786	0.024			5	15	0.578	6	81
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		8	15	0.578	12	65

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

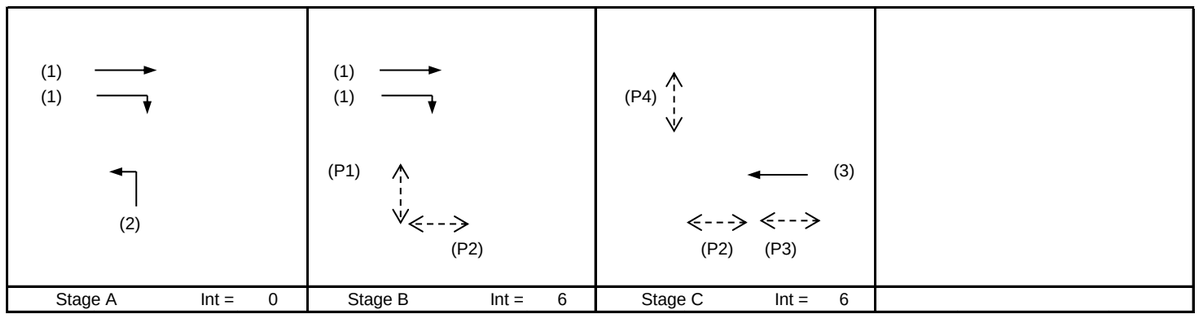
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2022_SUN**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.486	
Loss time		L =	10	sec
Total Flow		=	2087	pcu
Co	= (1.5*L+5)/(1-Y)	=	38.9	sec
Cm	= L/(1-Y)	=	19.4	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	69.9	%
Cp	= 0.9*L/(0.9-Y)	=	21.7	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	66.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

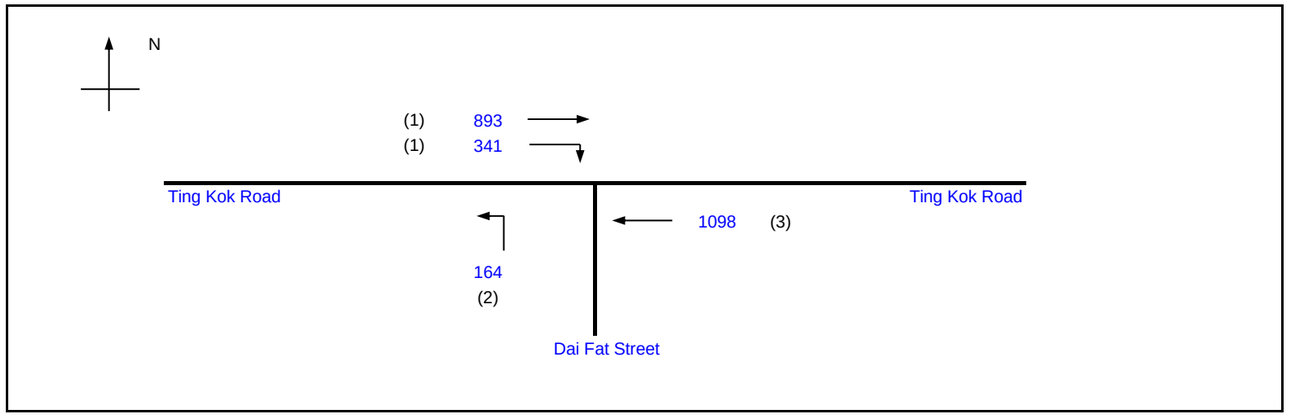
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		563		563	0.00	1945			1945	0.290	0.290		54	50	0.579	42	18
SA, RT	A,B	3.30	1	1	15			2085		517	79	596	0.13	2058			2058	0.290			54	50	0.579	48	18
LT	A	3.65	2	2	20		N	4100	124			124	1.00	3814			3814	0.033			6	20	0.163	6	30
SA	C	3.65	3	2			N	4100		804		804	0.00	4100			4100	0.196	0.196		36	40	0.490	39	21

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

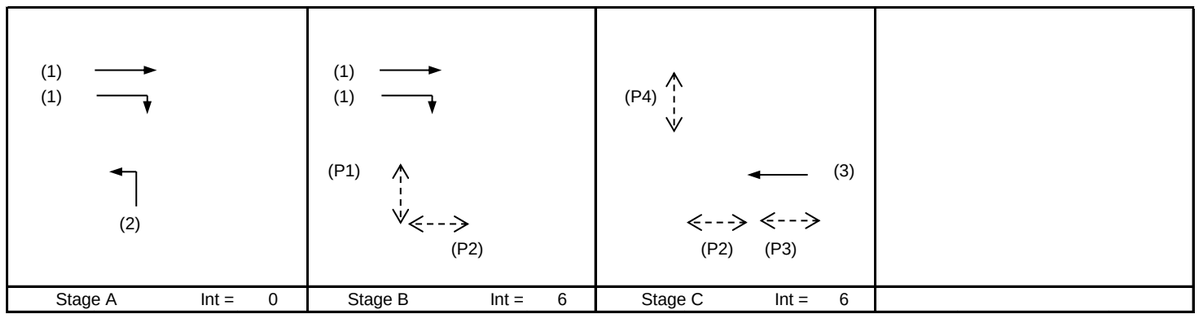
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2022_AM**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.582	
Loss time		L =	10	sec
Total Flow		=	2496	pcu
Co	= (1.5*L+5)/(1-Y)	=	47.9	sec
Cm	= L/(1-Y)	=	24.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	41.6	%
Cp	= 0.9*L/(0.9-Y)	=	28.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

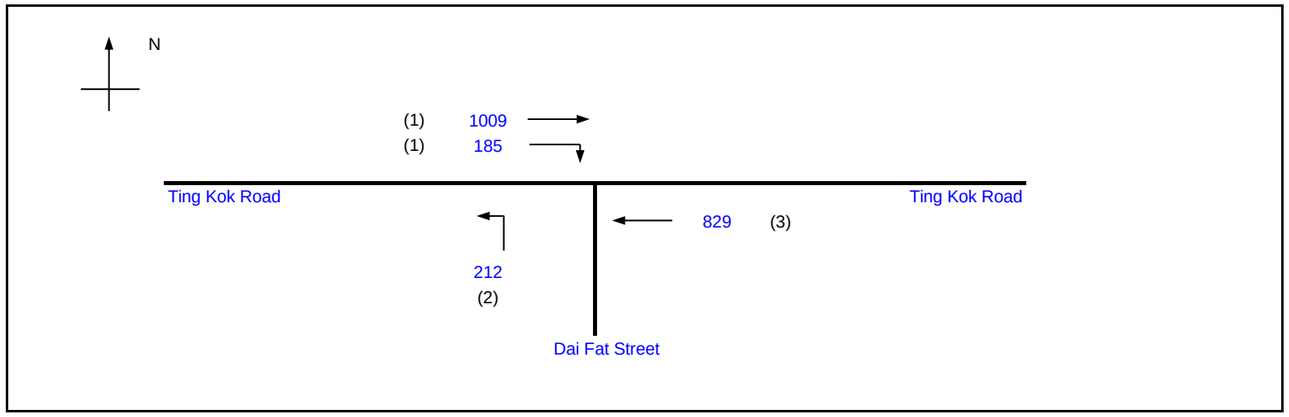
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		612		612	0.00	1945			1945	0.315	0.315		49	50	0.629	48	19
SA, RT	A,B	3.30	1	1	15			2085		281	341	622	0.55	1977			1977	0.315			49	50	0.629	48	19
LT	A	3.65	2	2	20		N	4100	164			164	1.00	3814			3814	0.043			7	20	0.215	9	31
SA	C	3.65	3	2			N	4100		1098		1098	0.00	4100			4100	0.268	0.268		41	40	0.670	54	24

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

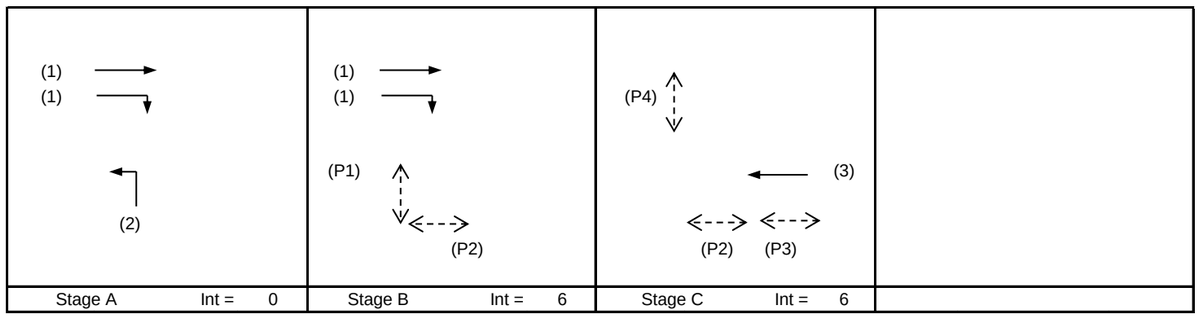
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.503	
Loss time		L =	10	sec
Total Flow		=	2235	pcu
Co	= (1.5*L+5)/(1-Y)	=	40.2	sec
Cm	= L/(1-Y)	=	20.1	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	64.0	%
Cp	= 0.9*L/(0.9-Y)	=	22.7	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

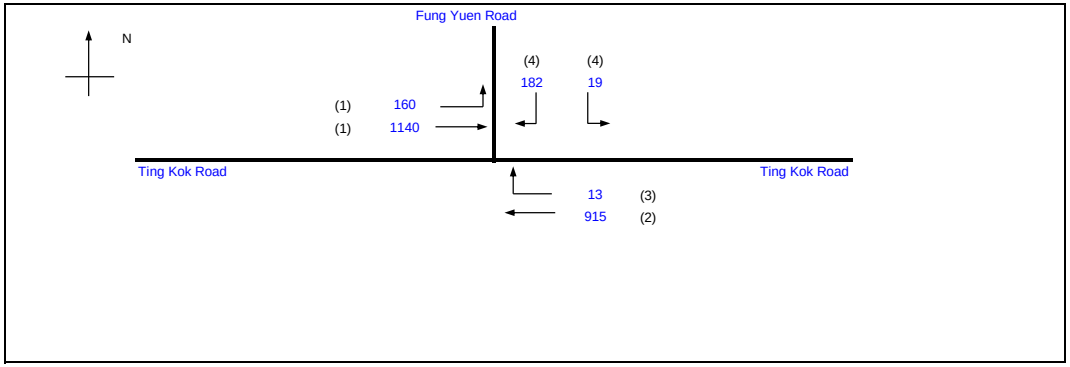
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		585		585	0.00	1945			1945	0.301	0.301		54	50	0.602	48	19
SA, RT	A,B	3.30	1	1	15			2085		424	185	609	0.30	2024			2024	0.301			54	50	0.602	48	19
LT	A	3.65	2	2	20		N	4100	212			212	1.00	3814			3814	0.056			10	20	0.278	12	31
SA	C	3.65	3	2			N	4100		829		829	0.00	4100			4100	0.202	0.202		36	40	0.505	39	21

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

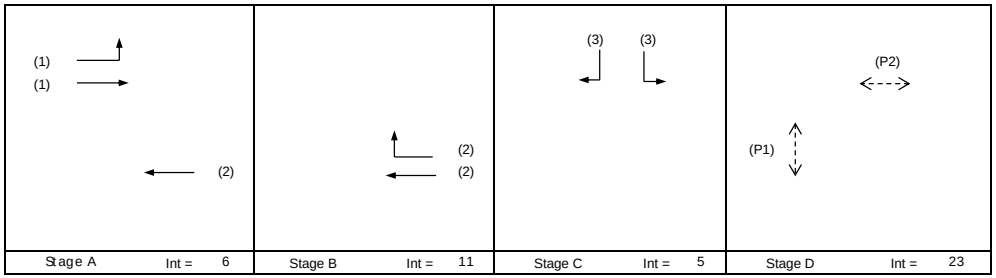
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle	N =		4	
Cycle time	C =		120	sec
Sum(y)	Y =		0.415	
Loss time	L =		43	sec
Total Flow	=		2429	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.8	sec
Cm	= L/(1-Y)	=	73.5	sec
Yult	=		0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	39.2	%
Cp	= 0.9*L/(0.9-Y)	=	79.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

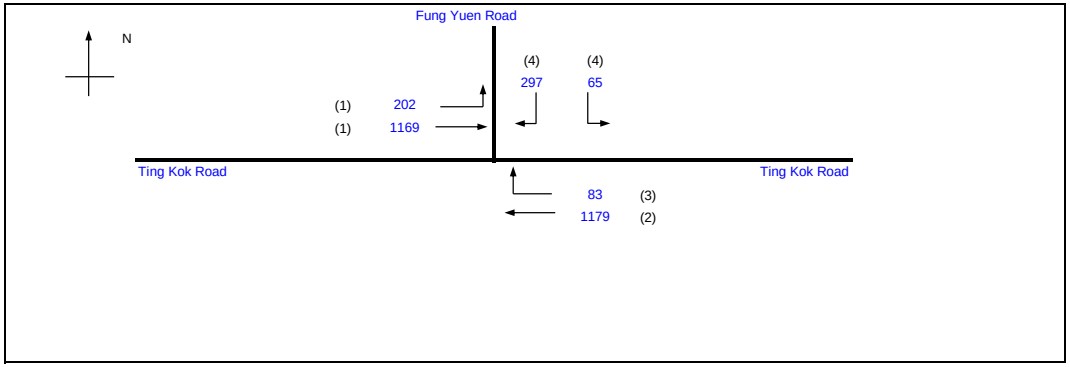
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	160	459		619	0.26	1921			1921	0.322	0.322		60	56	0.690	66	27
SA	A	3.60	1	1				2115		681		681	0.00	2115			2115	0.322			60	56	0.690	72	26
SA	A,B	3.60	2	1			N	1975		487		487	0.00	1975			1975	0.246			46	65	0.455	42	16
SA,RT	A,B	3.60	3	1	19	O		2115		428	13	441	0.03	1881			1881	0.235			44	65	0.433	36	16
LT	C	3.60	4	1	11		N	1975	19			19	1.00	1738			1738	0.011			2	24	0.055	0	35
RT	C	3.80	4	1	17			2135			182	182	1.00	1962			1962	0.093	0.093		17	24	0.464	24	42

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

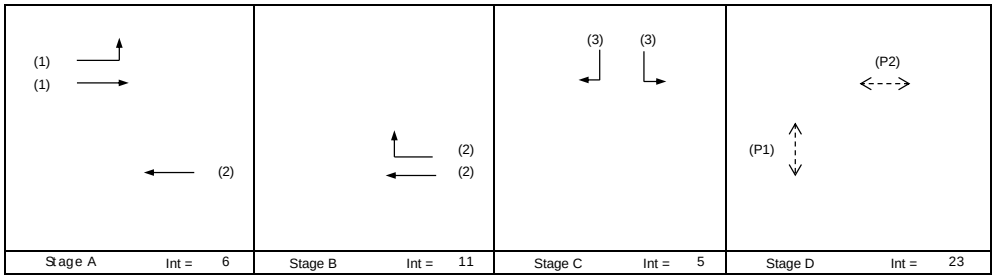
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle	N =		4	
Cycle time	C =		120	sec
Sum(y)	Y =		0.492	
Loss time	L =		43	sec
Total Flow	=		2995	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.8	sec
Cm	= L/(1-Y)	=	84.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	17.4	%
Cp	= 0.9*L/(0.9-Y)	=	94.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

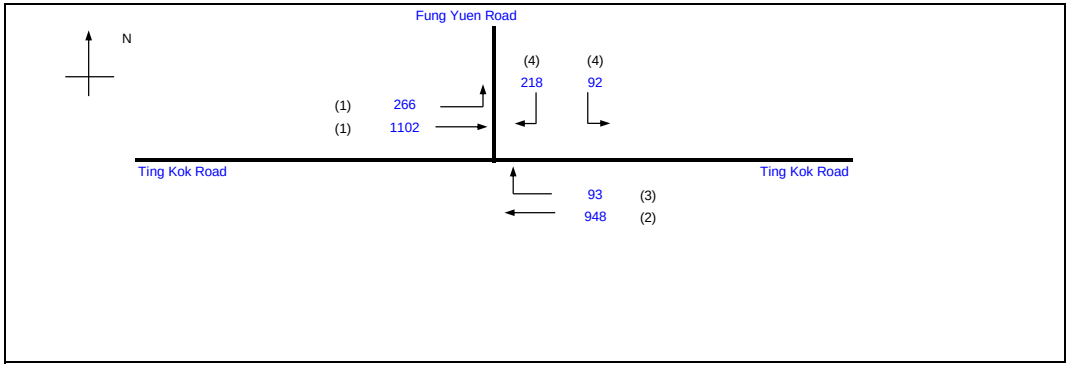
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	202	449		651	0.31	1913			1913	0.340	0.340		53	56	0.729	66	28
SA	A	3.60	1	1				2115		720		720	0.00	2115			2115	0.340			53	56	0.729	72	28
SA	A,B	3.60	2	1			N	1975		651		651	0.00	1975			1975	0.329			52	65	0.608	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		528	83	611	0.14	1865			1865	0.328			51	65	0.605	54	19
LT	C	3.60	4	1	11		N	1975	65			65	1.00	1738			1738	0.037			6	24	0.187	6	37
RT	C	3.80	4	1	17			2135			297	297	1.00	1962			1962	0.151	0.151		24	24	0.757	48	54

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

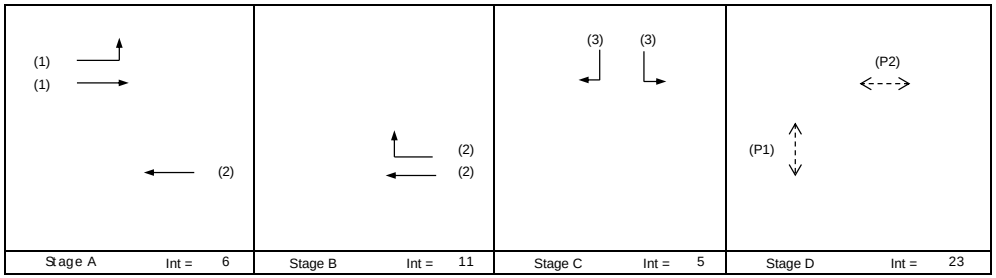
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_PM**	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.452	
Loss time		L =	43	sec
Total Flow		=	2719	pcu
Co	= (1.5*L+5)/(1-Y)	=	126.9	sec
Cm	= L/(1-Y)	=	78.5	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	27.7	%
Cp	= 0.9*L/(0.9-Y)	=	86.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	27.7	%



Stage A	Int = 6	Stage B	Int = 11	Stage C	Int = 5	Stage D	Int = 23

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

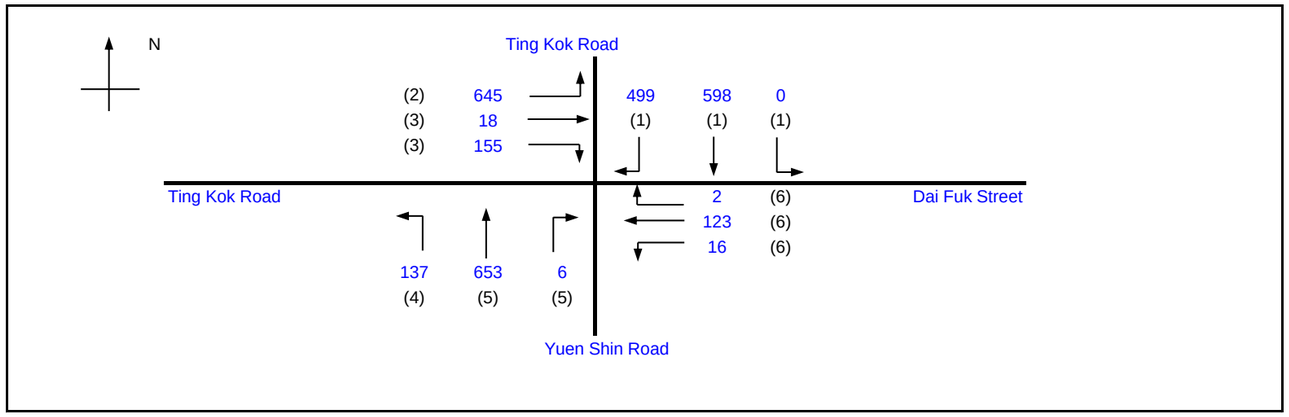
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	266	381		647	0.41	1896			1896	0.341	0.341		58	56	0.731	66	28
SA	A	3.60	1	1				2115		721		721	0.00	2115			2115	0.341			58	56	0.731	72	28
SA	A,B	3.60	2	1			N	1975		544		544	0.00	1975			1975	0.276			47	65	0.509	48	17
SA,RT	A,B	3.60	3	1	19	O		2115		404	93	497	0.19	1858			1858	0.267			46	65	0.494	42	17
LT	C	3.60	4	1	11		N	1975	92			92	1.00	1738			1738	0.053			9	24	0.265	12	38
RT	C	3.80	4	1	17			2135			218	218	1.00	1962			1962	0.111	0.111		19	24	0.556	30	44

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

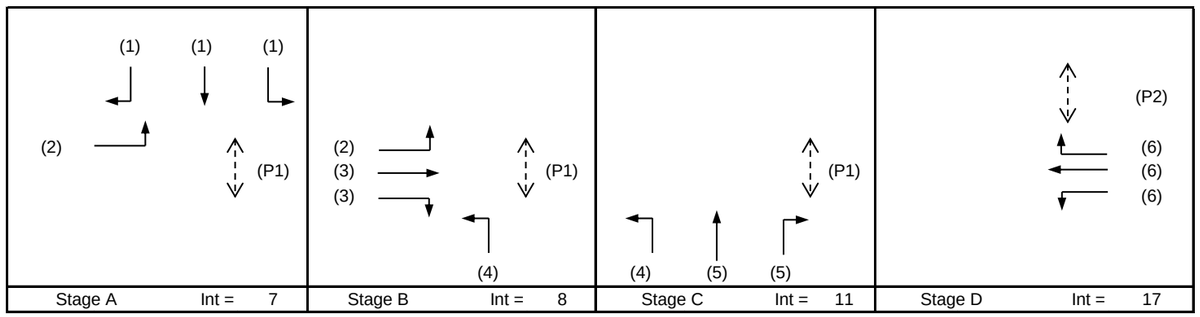
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	**2022_SUN** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.317	
Loss time		L =	40	sec
Total Flow		=	2852	pcu
Co	= (1.5*L+5)/(1-Y)	=	95.1	sec
Cm	= L/(1-Y)	=	58.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	89.6	%
Cp	= 0.9*L/(0.9-Y)	=	61.7	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	70.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

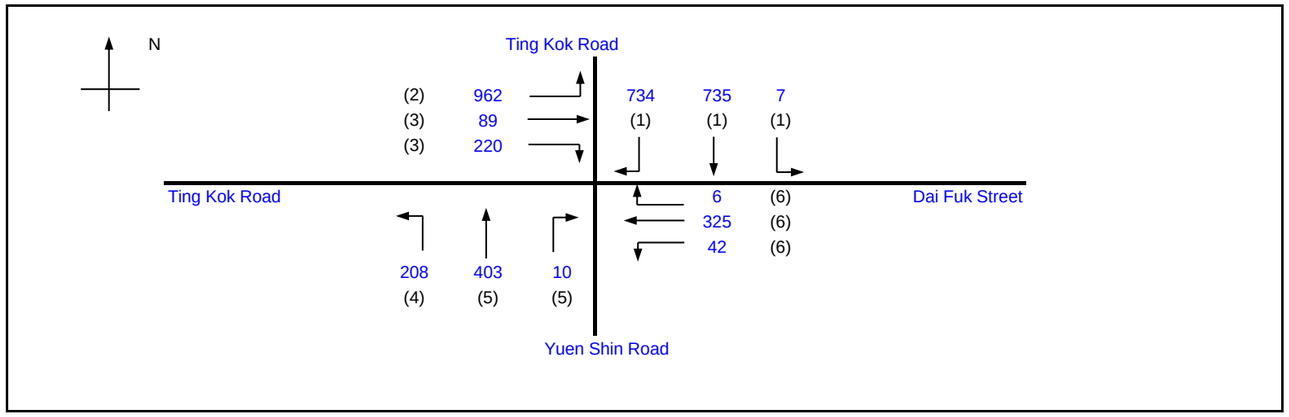
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	268		268	0.00	1980			1980	0.135		40	26	26	0.528	30	32
SA	A	3.65	1	1				2120		286		286	0.00	2120			2120	0.135			26	26	0.528	30	32
RT	A	3.65	1	2	25			4240		44	499	543	0.92	4018			4018	0.135	0.135		26	26	0.528	33	31
LT	A,B	3.65	2	2	20		N	4100	645			645	1.00	3814			3814	0.169			32	32	0.528	36	26
SA	B	3.65	3	1				2120		18		18	0.00	2120			2120	0.008			2	2	0.528	0	97
RT	B	3.65	3	1	25			2120			155	155	1.00	2000			2000	0.078	0.078		15	15	0.528	18	42
LT	B,C	3.40	4	1	15		N	1955	137			137	1.00	1777			1777	0.077			15	15	0.528	18	43
SA	C	3.40	5	3				6285		653		653	0.00	6285			6285	0.104	0.104		20	20	0.528	28	34
RT	C	3.40	5	1	20			2095			6	6	1.00	1949			1949	0.003			1	1	0.528	0	204
LT,SA	D	3.65	6	1	15		N	1980	16	51		67	0.24	1934			1934	0.035			7	7	0.528	6	55
SA,RT	D	3.65	6	1	25			2120		72	2	74	0.03	2117			2117	0.035			7	7	0.528	12	54

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

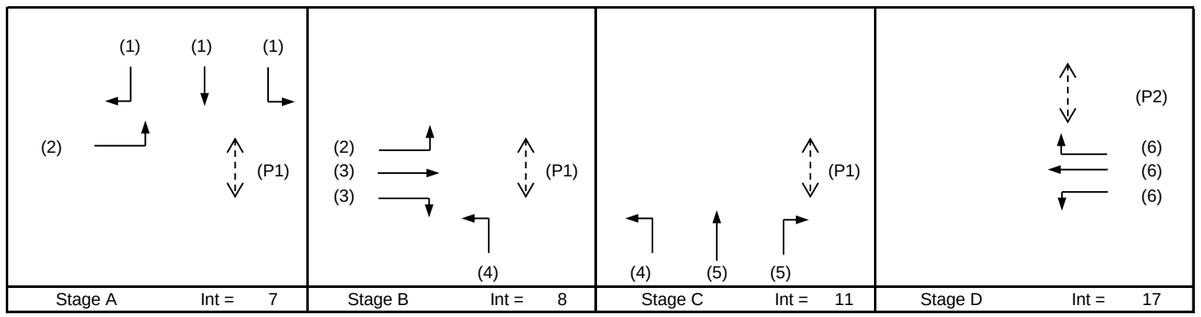
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	**2022_AM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.358	
Loss time		L =	40	sec
Total Flow		=	3741	pcu
Co	= (1.5*L+5)/(1-Y)	=	101.2	sec
Cm	= L/(1-Y)	=	62.3	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	67.8	%
Cp	= 0.9*L/(0.9-Y)	=	66.4	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

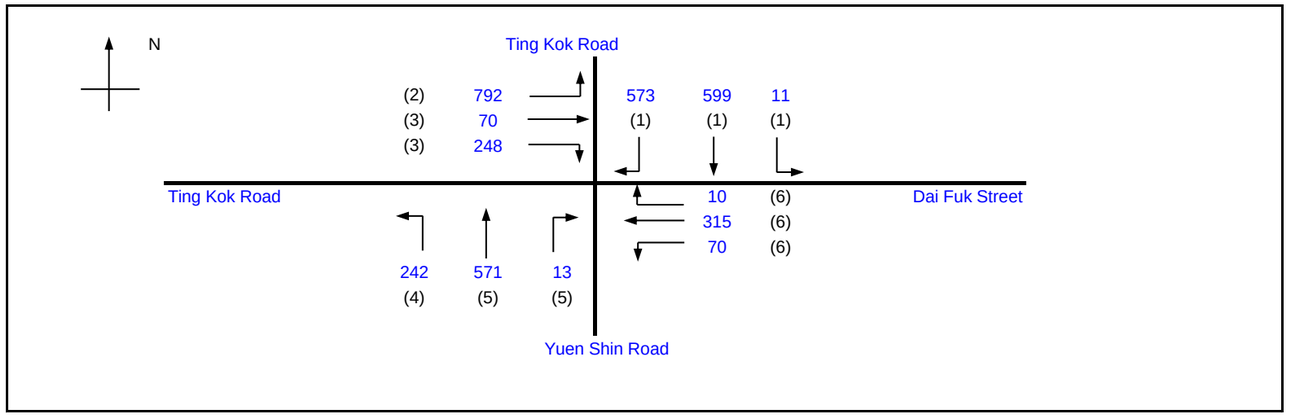
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	7	351		358	0.02	1977			1977	0.181		40	30	30	0.596	36	31
SA	A	3.65	1	1				2120		384		384	0.00	2120			2120	0.181			30	30	0.596	42	30
RT	A	3.65	1	2	25			4240		0	734	734	1.00	4000			4000	0.184	0.184		31	31	0.596	42	28
LT	A,B	3.65	2	2	20		N	4100	962			962	1.00	3814			3814	0.252			42	42	0.596	45	22
SA	B	3.65	3	1				2120		89		89	0.00	2120			2120	0.042			7	7	0.596	12	57
RT	B	3.65	3	1	25			2120			220	220	1.00	2000			2000	0.110	0.110		18	18	0.596	24	40
LT	B,C	3.40	4	1	15		N	1955	208			208	1.00	1777			1777	0.117			20	20	0.596	24	40
SA	C	3.40	5	3				6285		403		403	0.00	6285			6285	0.064	0.064		11	11	0.596	18	42
RT	C	3.40	5	1	20			2095			10	10	1.00	1949			1949	0.005			1	1	0.596	0	187
LT,SA	D	3.65	6	1	15		N	1980	42	136		178	0.24	1934			1934	0.092			15	15	0.596	24	43
SA,RT	D	3.65	6	1	25			2120		189	6	195	0.03	2116			2116	0.092			15	15	0.596	24	43

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

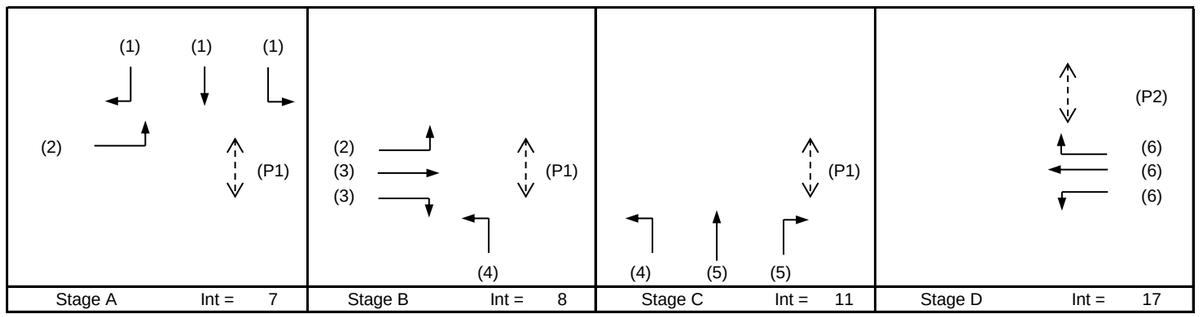
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.361	
Loss time		L =	40	sec
Total Flow		=	3514	pcu
Co	= (1.5*L+5)/(1-Y)	=	101.7	sec
Cm	= L/(1-Y)	=	62.6	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	66.2	%
Cp	= 0.9*L/(0.9-Y)	=	66.8	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

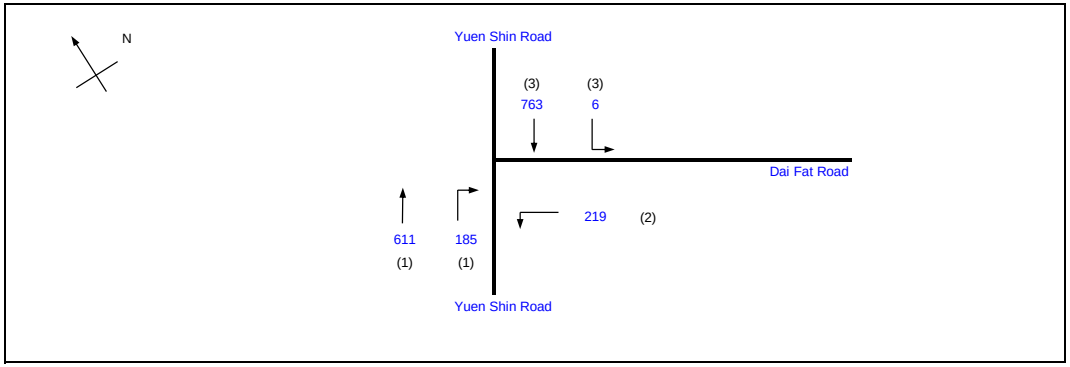
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	11	277		288	0.04	1974			1974	0.146		40	23	23	0.619	30	35
SA	A	3.65	1	1				2120		310		310	0.00	2120			2120	0.146			23	23	0.619	36	35
RT	A	3.65	1	2	25			4240		12	573	585	0.98	4005			4005	0.146	0.146		23	23	0.619	33	32
LT	A,B	3.65	2	2	20		N	4100	792			792	1.00	3814			3814	0.208			32	32	0.619	42	26
SA	B	3.65	3	1				2120		70		70	0.00	2120			2120	0.033			5	5	0.619	12	63
RT	B	3.65	3	1	25			2120			248	248	1.00	2000			2000	0.124	0.124		19	19	0.619	30	38
LT	B,C	3.40	4	1	15		N	1955	242			242	1.00	1777			1777	0.136			21	21	0.619	30	37
SA	C	3.40	5	3				6285		571		571	0.00	6285			6285	0.091	0.091		14	14	0.619	24	37
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.619	0	168
LT,SA	D	3.65	6	1	15		N	1980	70	117		187	0.37	1909			1909	0.098			15	15	0.619	24	43
SA,RT	D	3.65	6	1	25			2120		198	10	208	0.05	2114			2114	0.098			15	15	0.619	24	42

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

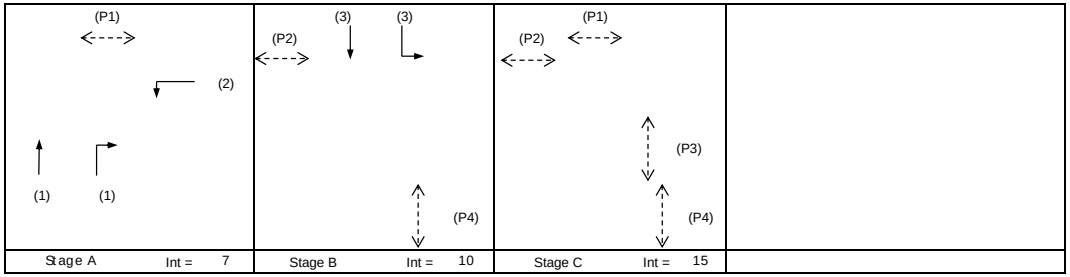
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.341	
Loss time		L =	30	sec
Total Flow		=	1784	pcu
Co	= (1.5*L+5)/(1-Y)	=	75.8	sec
Cm	= L/(1-Y)	=	45.5	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	98.2	%
Cp	= 0.9*L/(0.9-Y)	=	48.3	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	85.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

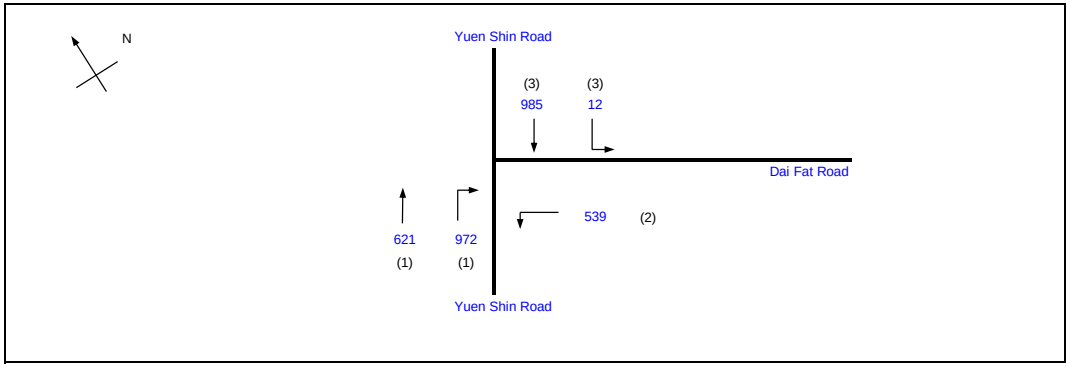
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		295		295	0.00	1965			1965	0.150	0.150	30	31	31	0.487	30	28
SA,RT	A	3.50	1	1	25			2105		316	0	316	0.00	2105			2105	0.150			31	31	0.487	36	28
RT	A	3.50	1	1	23			2105			185	185	1.00	1976			1976	0.094			19	31	0.303	18	25
LT	A	3.80	2	2	19		N	4130	219			219	1.00	3828			3828	0.057			12	12	0.487	15	41
LT,SA	B	3.20	3	1	17		N	1935	6	362		368	0.02	1932			1932	0.190	0.190		39	39	0.487	36	23
SA	B	3.50	3	1				2105		401		401	0.00	2105			2105	0.190			39	39	0.487	36	22

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

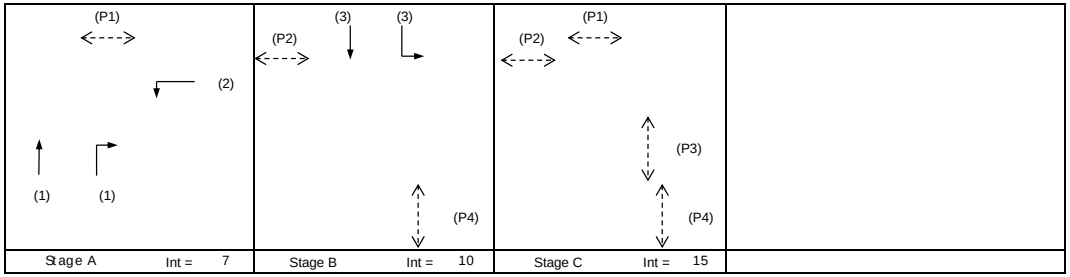
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.515	
Loss time		L =	30	sec
Total Flow		=	3129	pcu
Co	= (1.5*L+5)/(1-Y)	=	103.1	sec
Cm	= L/(1-Y)	=	61.8	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	31.1	%
Cp	= 0.9*L/(0.9-Y)	=	70.1	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	22.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

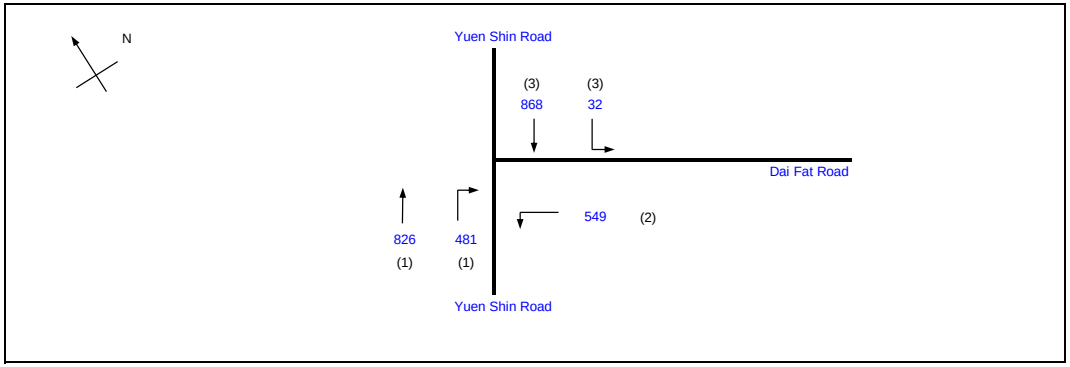
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		526		526	0.00	1965			1965	0.268	0.268	30	36	36	0.736	54	31
SA,RT	A	3.50	1	1	25			2105		95	443	537	0.82	2006			2006	0.268			36	36	0.736	54	31
RT	A	3.50	1	1	23			2105			529	529	1.00	1976			1976	0.268			36	36	0.736	54	31
LT	A	3.80	2	2	19		N	4130	539			539	1.00	3828			3828	0.141			19	19	0.736	36	40
LT,SA	B	3.20	3	1	17		N	1935	12	465		477	0.03	1931			1931	0.247	0.247		34	34	0.736	48	33
SA	B	3.50	3	1				2105		520		520	0.00	2105			2105	0.247			34	34	0.736	54	33

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

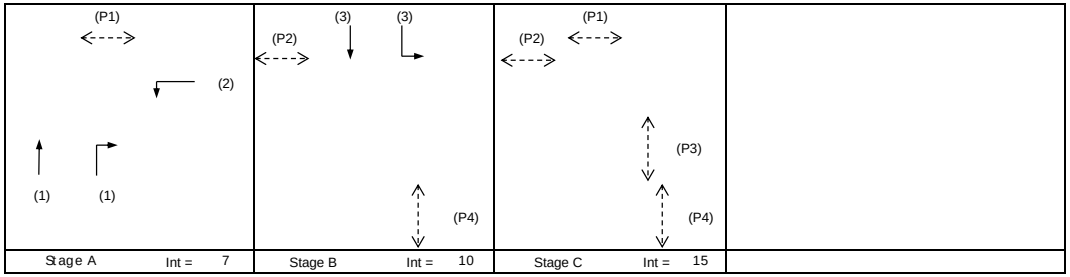
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po		PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_PM**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.440	
Loss time		L =	30	sec
Total Flow		=	2756	pcu
Co	= (1.5*L+5)/(1-Y)	=	89.3	sec
Cm	= L/(1-Y)	=	53.6	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	53.4	%
Cp	= 0.9*L/(0.9-Y)	=	58.7	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	43.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		426		426	0.00	1965			1965	0.217	0.217	30	34	34	0.629	42	29
SA,RT	A	3.50	1	1	25			2105		400	53	453	0.12	2090			2090	0.217			34	34	0.629	48	28
RT	A	3.50	1	1	23			2105			428	428	1.00	1976			1976	0.217			34	34	0.629	42	29
LT	A	3.80	2	2	19		N	4130	549			549	1.00	3828			3828	0.143			23	23	0.629	33	34
LT,SA	B	3.20	3	1	17		N	1935	32	398		430	0.07	1922			1922	0.223	0.223		36	36	0.629	42	28
SA	B	3.50	3	1				2105		470		470	0.00	2105			2105	0.223			36	36	0.629	48	28

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

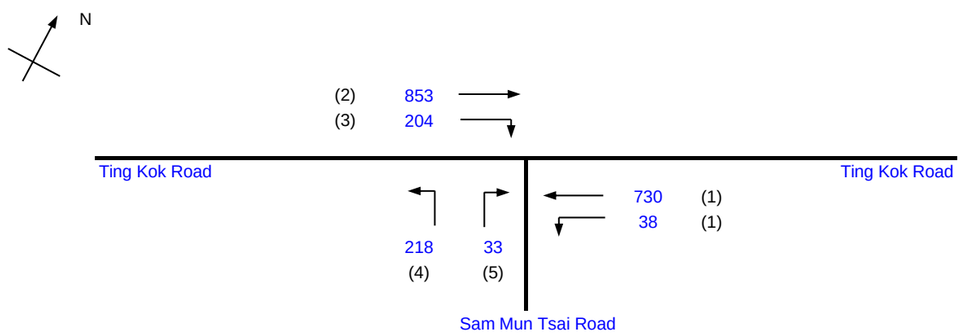
Appendix C

2027 Junction Calculation Sheets

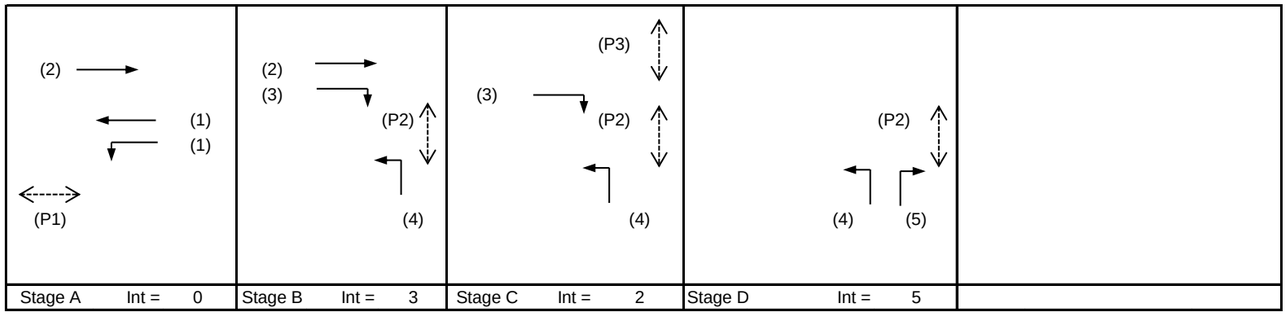
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2027Ref_SUN**	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.457	
Loss time		L =	18	sec
Total Flow		=	2076	pcu
Co	= (1.5*L+5)/(1-Y)	=	58.9	sec
Cm	= L/(1-Y)	=	33.1	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	67.5	%
Cp	= 0.9*L/(0.9-Y)	=	36.5	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

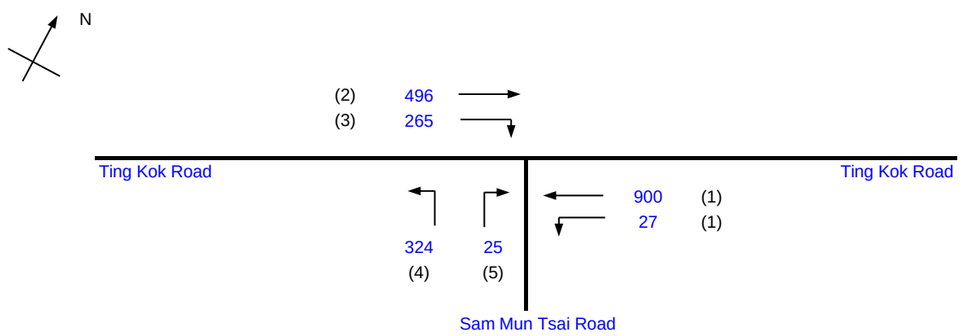
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	38	331		369	0.10	1905			1905	0.194			28	28	0.579	30	24
SA	A	3.00	1	1				2055		399		399	0.00	2055			2055	0.194			28	28	0.579	36	24
SA	A,B	3.30	2	1			N	1945		853		853	0.00	1945			1945	0.439	0.439		64	64	0.579	24	6
RT	B,C	3.50	3	1	10			2105			204	204	1.00	1830			1830	0.111			16	16	0.579	18	34
LT	B,C,D	3.30	4	1	10		N	1945	218			218	1.00	1691			1691	0.129			19	19	0.579	24	32
RT	D	3.50	5	1	10			2105			33	33	1.00	1830			1830	0.018	0.018		3	3	0.579	6	76
Ped	C																			10					

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

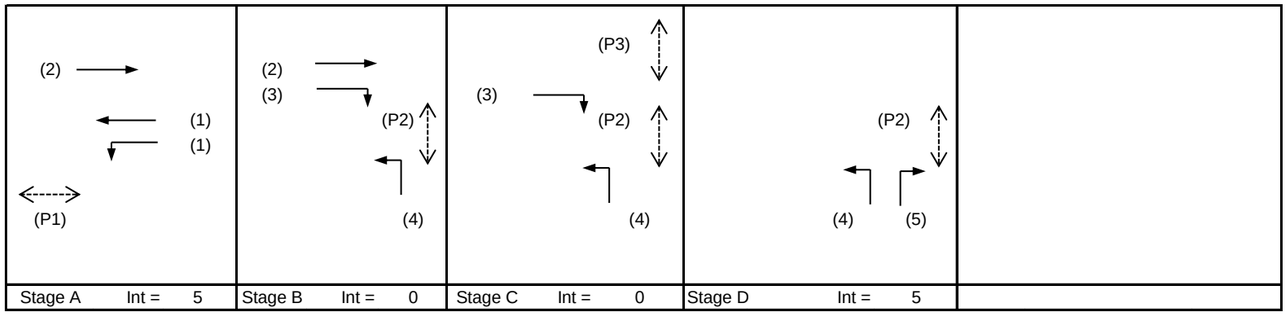
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	**2027Ref_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.425	
Loss time		L =	8	sec
Total Flow		=	2037	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.6	sec
Cm	= L/(1-Y)	=	13.9	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	97.5	%
Cp	= 0.9*L/(0.9-Y)	=	15.2	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	92.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

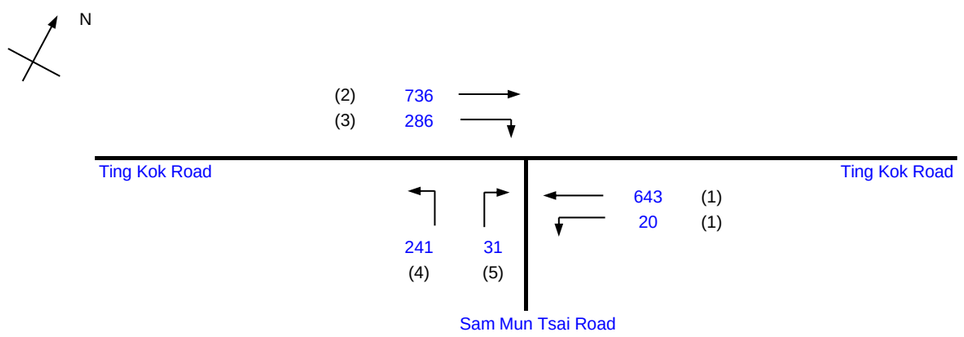
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	27	419		446	0.06	1909			1909	0.234	0.234		44	44	0.468	30	14
SA	A	3.00	1	1				2055		481		481	0.00	2055			2055	0.234			44	44	0.468	30	14
SA	A,B	3.30	2	1			N	1945		496		496	0.00	1945			1945	0.255			48	48	0.468	30	12
RT	B,C	3.50	3	1	10			2105			265	265	1.00	1830			1830	0.145			27	27	0.468	24	25
LT	B,C,D	3.30	4	1	10		N	1945	324			324	1.00	1691			1691	0.192	0.192		36	36	0.468	24	19
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014			3	3	0.468	0	65

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

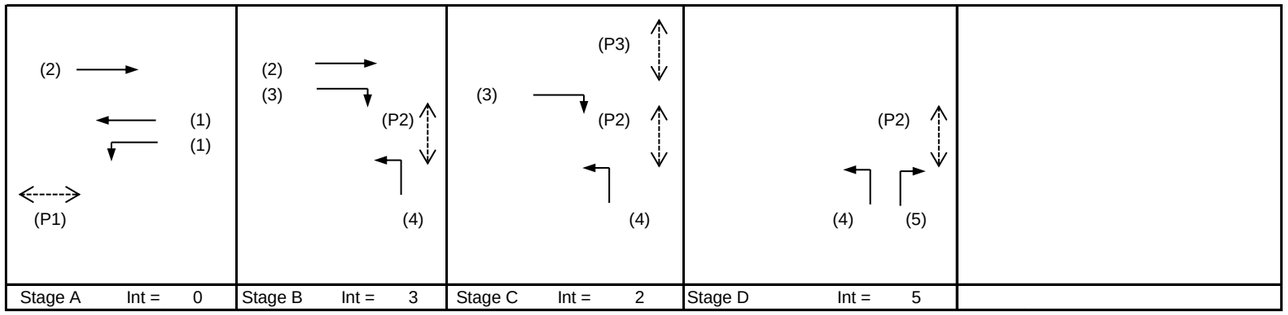
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.395	
Loss time		L =	18	sec
Total Flow		=	1957	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.9	sec
Cm	= L/(1-Y)	=	29.8	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	93.5	%
Cp	= 0.9*L/(0.9-Y)	=	32.1	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	81.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

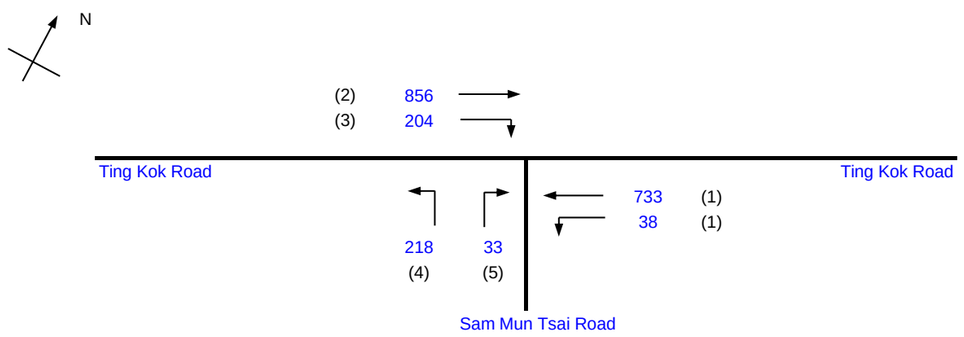
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	20	299		319	0.06	1909			1909	0.167			30	30	0.497	30	23
SA	A	3.00	1	1				2055		344		344	0.00	2055			2055	0.167			30	30	0.497	30	23
SA	A,B	3.30	2	1			N	1945		736		736	0.00	1945			1945	0.378	0.378		67	67	0.497	24	5
RT	B,C	3.50	3	1	10			2105			286	286	1.00	1830			1830	0.156			28	28	0.497	24	25
LT	B,C,D	3.30	4	1	10		N	1945	241			241	1.00	1691			1691	0.142			25	25	0.497	24	27
RT	D	3.50	5	1	10			2105			31	31	1.00	1830			1830	0.017	0.017		3	3	0.497	0	63
Ped	C																			10					

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

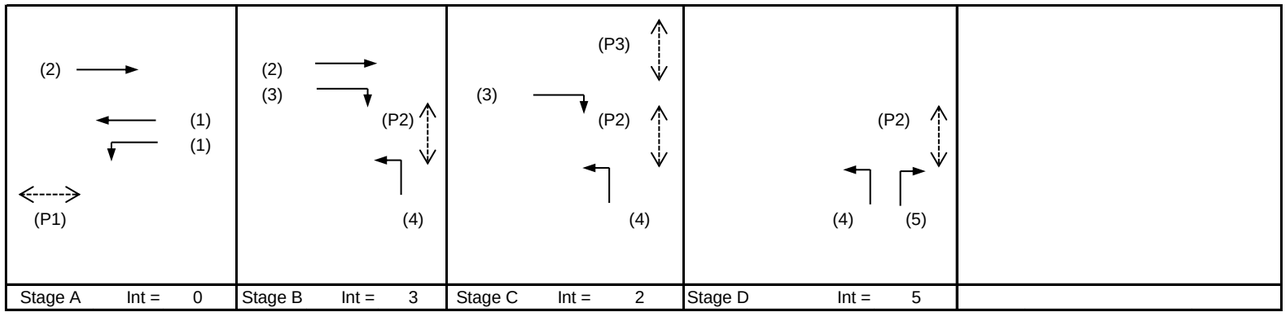
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.458	
Loss time		L =	18	sec
Total Flow		=	2082	pcu
Co	= (1.5*L+5)/(1-Y)	=	59.1	sec
Cm	= L/(1-Y)	=	33.2	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	67.0	%
Cp	= 0.9*L/(0.9-Y)	=	36.7	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	54.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

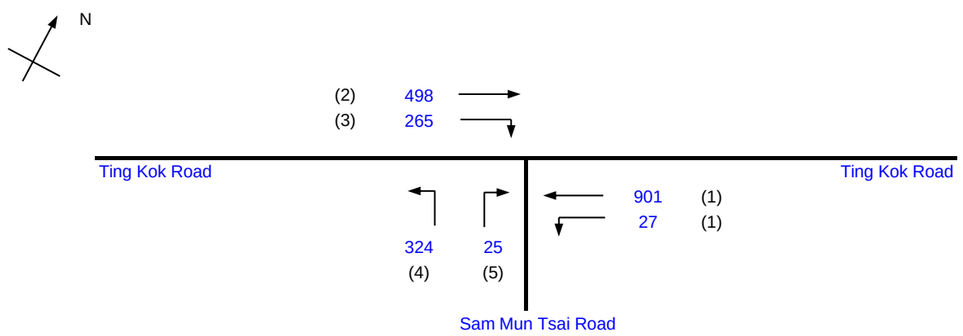
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	38	333		371	0.10	1905			1905	0.195			28	28	0.581	30	25
SA	A	3.00	1	1				2055		400		400	0.00	2055			2055	0.195			28	28	0.581	36	24
SA	A,B	3.30	2	1			N	1945		856		856	0.00	1945			1945	0.440	0.440		64	64	0.581	24	6
RT	B,C	3.50	3	1	10			2105			204	204	1.00	1830			1830	0.111			16	16	0.581	18	35
LT	B,C,D	3.30	4	1	10		N	1945	218			218	1.00	1691			1691	0.129			19	19	0.581	24	33
RT	D	3.50	5	1	10			2105			33	33	1.00	1830			1830	0.018	0.018		3	3	0.581	6	76
Ped	C																			10					

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

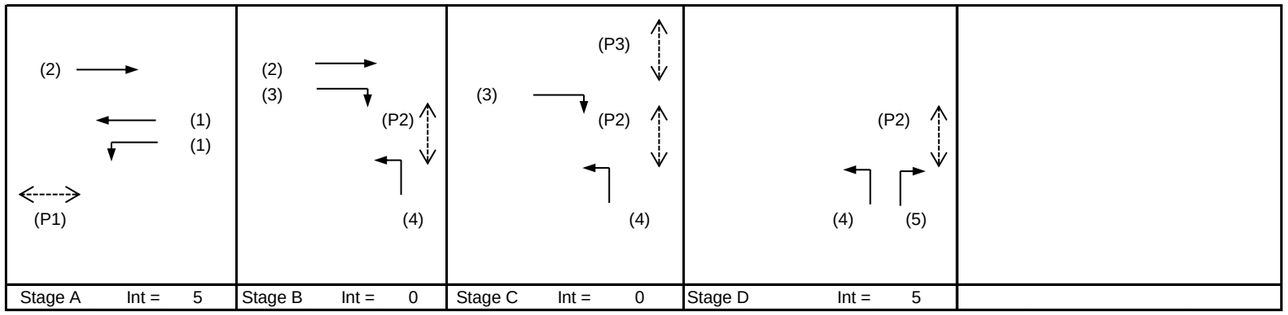
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.426	
Loss time		L =	8	sec
Total Flow		=	2040	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.6	sec
Cm	= L/(1-Y)	=	13.9	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	97.3	%
Cp	= 0.9*L/(0.9-Y)	=	15.2	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	92.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

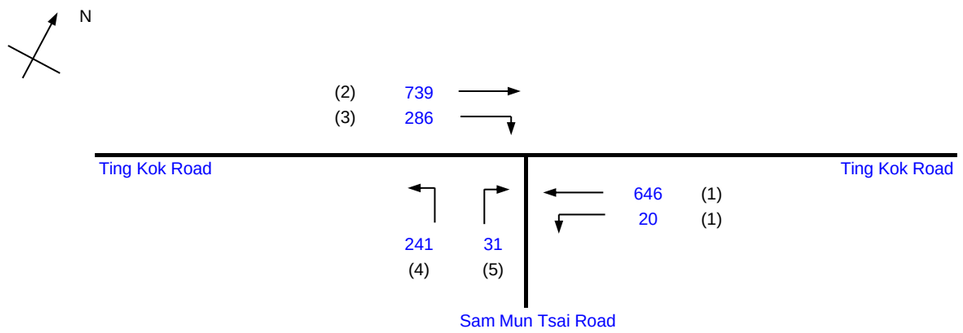
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	27	420		447	0.06	1909			1909	0.234	0.234		44	44	0.468	30	14
SA	A	3.00	1	1				2055		481		481	0.00	2055			2055	0.234			44	44	0.468	30	14
SA	A,B	3.30	2	1			N	1945		498		498	0.00	1945			1945	0.256			48	48	0.468	30	12
RT	B,C	3.50	3	1	10			2105			265	265	1.00	1830			1830	0.145			27	27	0.468	24	25
LT	B,C,D	3.30	4	1	10		N	1945	324			324	1.00	1691			1691	0.192	0.192		36	36	0.468	24	19
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014			3	3	0.468	0	65

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

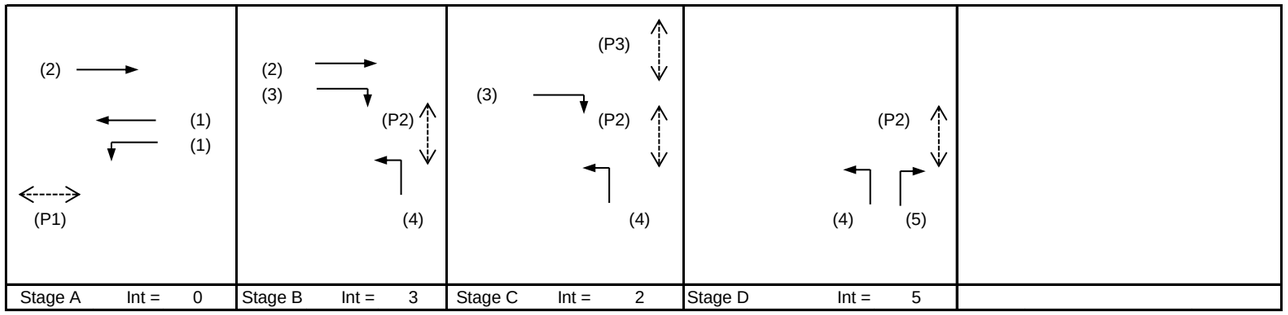
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.397	
Loss time		L =	18	sec
Total Flow		=	1963	pcu
Co	= (1.5*L+5)/(1-Y)	=	53.1	sec
Cm	= L/(1-Y)	=	29.8	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	92.8	%
Cp	= 0.9*L/(0.9-Y)	=	32.2	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	80.4	%

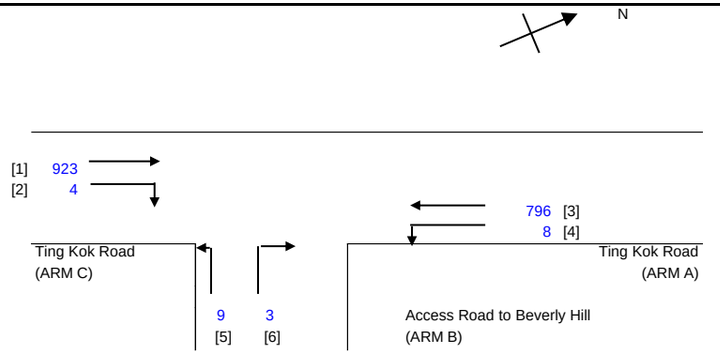


Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	20	301		321	0.06	1909			1909	0.168			30	30	0.499	30	23
SA	A	3.00	1	1				2055		345		345	0.00	2055			2055	0.168			30	30	0.499	30	23
SA	A,B	3.30	2	1			N	1945		739		739	0.00	1945			1945	0.380	0.380		67	67	0.499	24	5
RT	B,C	3.50	3	1	10			2105			286	286	1.00	1830			1830	0.156			28	28	0.499	24	25
LT	B,C,D	3.30	4	1	10		N	1945	241			241	1.00	1691			1691	0.142			25	25	0.499	24	27
RT	D	3.50	5	1	10			2105			31	31	1.00	1830			1830	0.017	0.017		3	3	0.499	0	64
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	796	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	923	(pcu/hr)
q c-b	=	4	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	9	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.75

THE CAPACITY OF MOVEMENT :

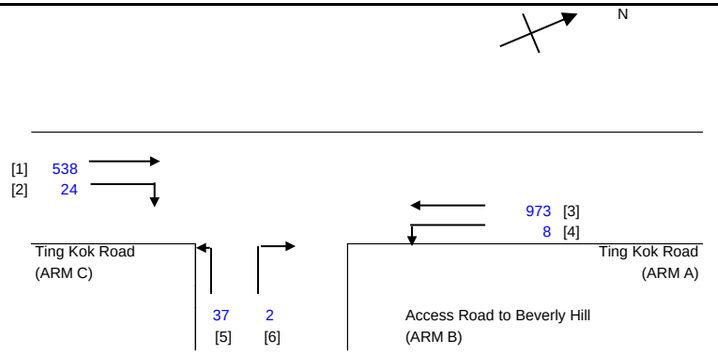
Q b-a	=	280			
Q b-c	=	527	Q b-c (O) =	525.6	
Q c-b	=	659			
Q b-ac	=	431.8			
TOTAL FLOW	=	1743	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0107
DFC b-c	=	0.0171
DFC c-b	=	0.0061
DFC b-ac	=	0.0278

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	973	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	538	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	37	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9487179

THE CAPACITY OF MOVEMENT :

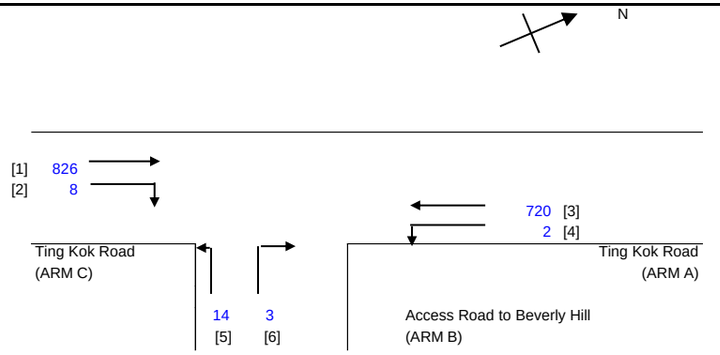
Q b-a	=	288			
Q b-c	=	488	Q b-c (O) =	487.2	
Q c-b	=	611			
Q b-ac	=	471.2			
TOTAL FLOW	=	1582	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0069
DFC b-c	=	0.0758
DFC c-b	=	0.0393
DFC b-ac	=	0.0828

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	720	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	826	(pcu/hr)
q c-b	=	8	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	14	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8235294

THE CAPACITY OF MOVEMENT :

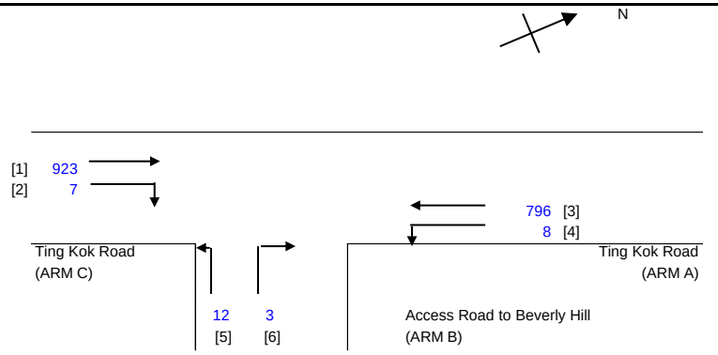
Q b-a	=	308			
Q b-c	=	544	Q b-c (O) =	542.7	
Q c-b	=	681			
Q b-ac	=	479.2			
TOTAL FLOW	=	1573	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0097
DFC b-c	=	0.0257
DFC c-b	=	0.0117
DFC b-ac	=	0.0355

CRITICAL DFC = 0.04

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	796	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	923	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	12	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8

THE CAPACITY OF MOVEMENT :

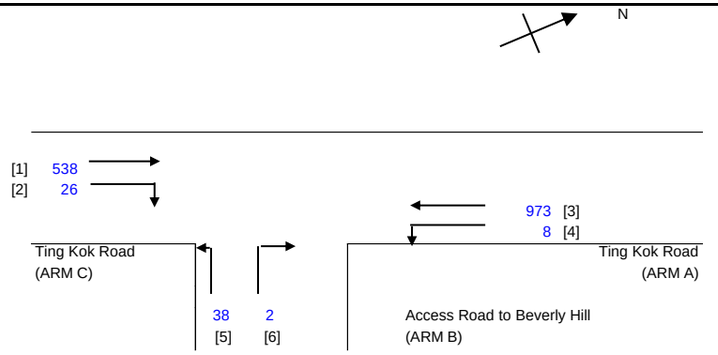
Q b-a	=	279			
Q b-c	=	527	Q b-c (O) =	525.6	
Q c-b	=	659			
Q b-ac	=	447.5			
TOTAL FLOW	=	1749	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0108
DFC b-c	=	0.0228
DFC c-b	=	0.0106
DFC b-ac	=	0.0335

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	973	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	538	(pcu/hr)
q c-b	=	26	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	38	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.95

THE CAPACITY OF MOVEMENT :

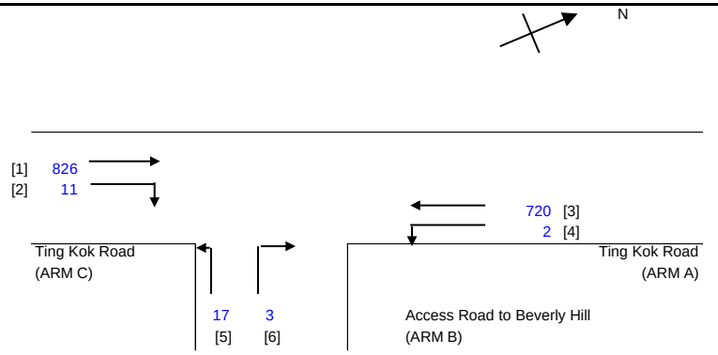
Q b-a	=	287			
Q b-c	=	488	Q b-c (O) =	487.1	
Q c-b	=	611			
Q b-ac	=	471.5			
TOTAL FLOW	=	1585	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0070
DFC b-c	=	0.0779
DFC c-b	=	0.0426
DFC b-ac	=	0.0848

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	720	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	826	(pcu/hr)
q c-b	=	11	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	17	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.85

THE CAPACITY OF MOVEMENT :

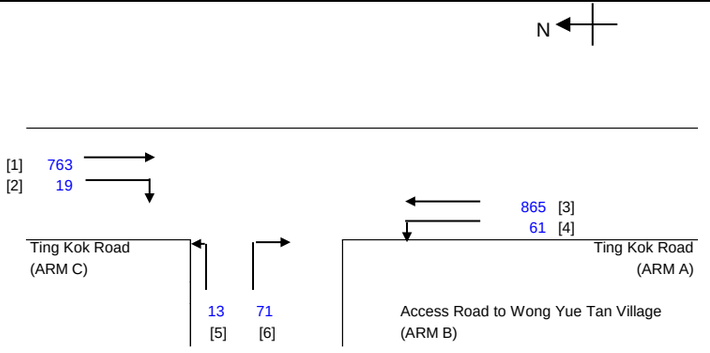
Q b-a	=	307			
Q b-c	=	544	Q b-c (O) =	542.7	
Q c-b	=	681			
Q b-ac	=	487.5			
TOTAL FLOW	=	1579	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0098
DFC b-c	=	0.0313
DFC c-b	=	0.0162
DFC b-ac	=	0.0410

CRITICAL DFC = 0.04

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	61	(pcu/hr)
q a-c	=	865	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	763	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	71	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.1547619

THE CAPACITY OF MOVEMENT :

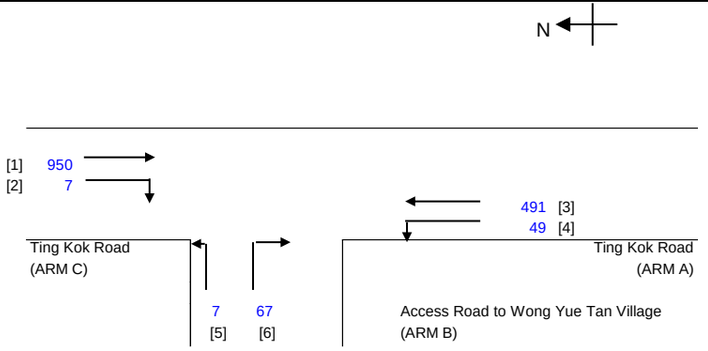
Q b-a	=	204			
Q b-c	=	434	Q b-c (O) =	396.2	
Q c-b	=	459			
Q b-ac	=	222.2			
TOTAL FLOW	=	1792	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3480
DFC b-c	=	0.0300
DFC c-b	=	0.0414
DFC b-ac	=	0.3780

CRITICAL DFC = 0.38

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	49	(pcu/hr)
q a-c	=	491	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	950	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	67	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0945946

THE CAPACITY OF MOVEMENT :

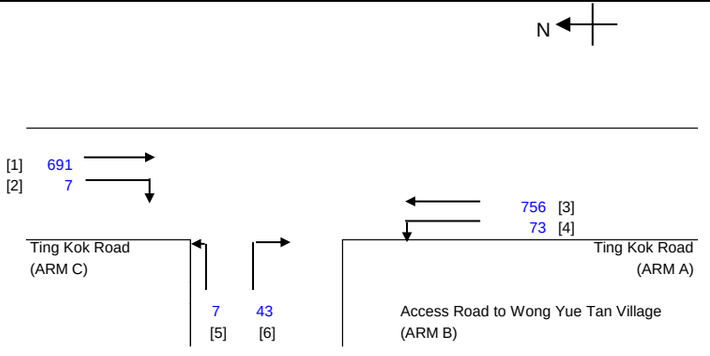
Q b-a	=	269			
Q b-c	=	525	Q b-c (O) =	492.3	
Q c-b	=	559			
Q b-ac	=	282			
TOTAL FLOW	=	1571	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2491
DFC b-c	=	0.0133
DFC c-b	=	0.0125
DFC b-ac	=	0.2624

CRITICAL DFC = 0.26

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	73	(pcu/hr)
q a-c	=	756	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	691	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.14

THE CAPACITY OF MOVEMENT :

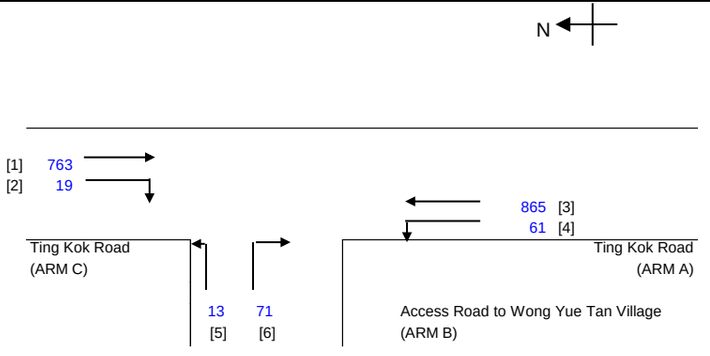
Q b-a	=	243			
Q b-c	=	459	Q b-c (O) =	438.7	
Q c-b	=	485			
Q b-ac	=	260.1			
TOTAL FLOW	=	1577	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1770
DFC b-c	=	0.0153
DFC c-b	=	0.0144
DFC b-ac	=	0.1922

CRITICAL DFC = 0.19

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	61	(pcu/hr)
q a-c	=	865	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	763	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	71	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.1547619

THE CAPACITY OF MOVEMENT :

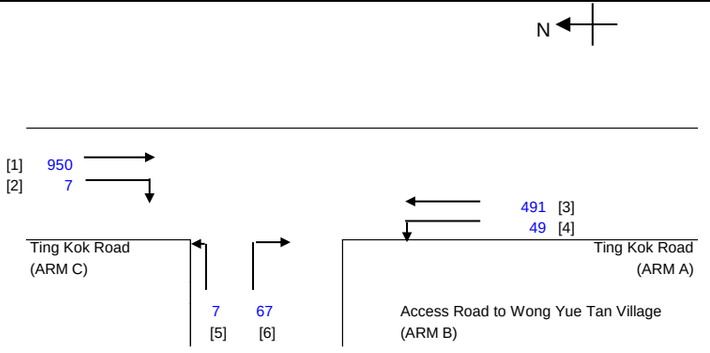
Q b-a	=	204			
Q b-c	=	434	Q b-c (O) =	396.2	
Q c-b	=	459			
Q b-ac	=	222.2			
TOTAL FLOW	=	1792	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3480
DFC b-c	=	0.0300
DFC c-b	=	0.0414
DFC b-ac	=	0.3780

CRITICAL DFC = 0.38

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	49	(pcu/hr)
q a-c	=	491	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	950	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	67	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0945946

THE CAPACITY OF MOVEMENT :

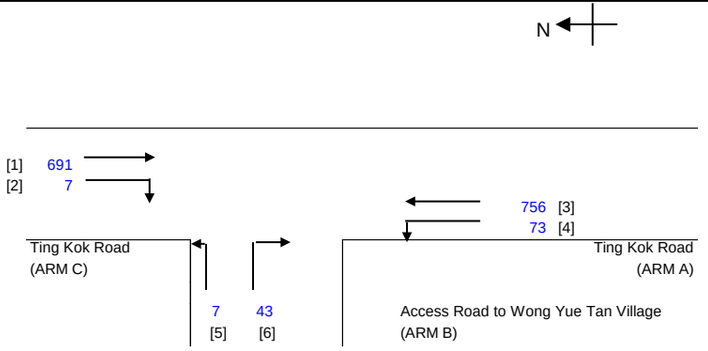
Q b-a	=	269			
Q b-c	=	525	Q b-c (O) =	492.3	
Q c-b	=	559			
Q b-ac	=	282			
TOTAL FLOW	=	1571	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2491
DFC b-c	=	0.0133
DFC c-b	=	0.0125
DFC b-ac	=	0.2624

CRITICAL DFC = 0.26

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	73	(pcu/hr)
q a-c	=	756	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	691	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.14

THE CAPACITY OF MOVEMENT :

Q b-a	=	243			
Q b-c	=	459	Q b-c (O) =	438.7	
Q c-b	=	485			
Q b-ac	=	260.1			
TOTAL FLOW	=	1577	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

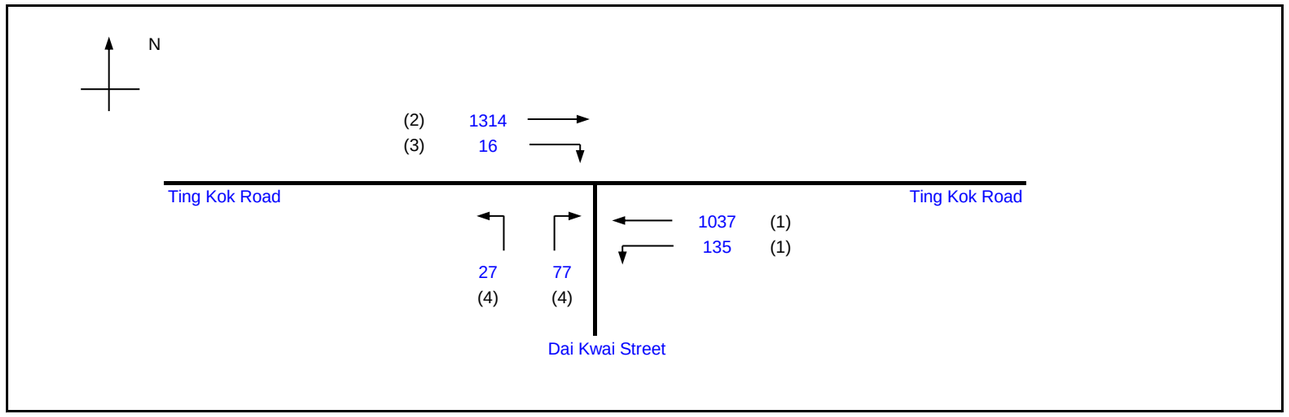
DFC b-a	=	0.1770
DFC b-c	=	0.0153
DFC c-b	=	0.0144
DFC b-ac	=	0.1922

CRITICAL DFC = 0.19

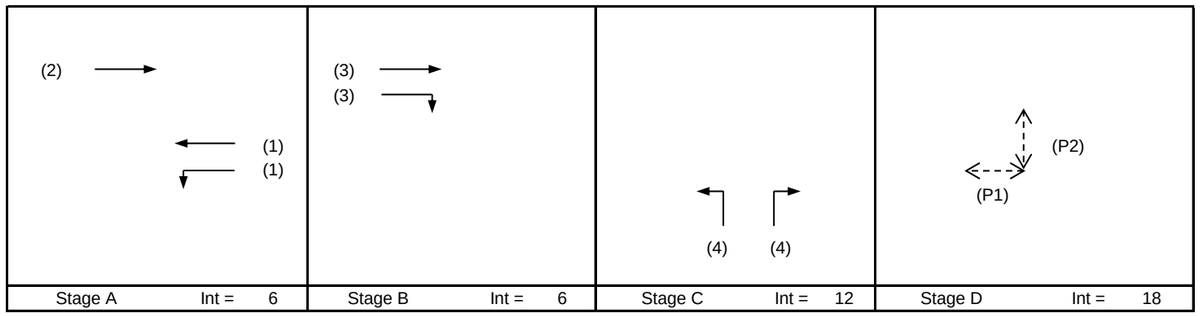
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_SUN**	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	FILENAME : J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.518	
Loss time		L =	39	sec
Total Flow		=	2606	pcu
Co	= (1.5*L+5)/(1-Y)	=	131.7	sec
Cm	= L/(1-Y)	=	80.9	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	17.3	%
Cp	= 0.9*L/(0.9-Y)	=	91.9	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

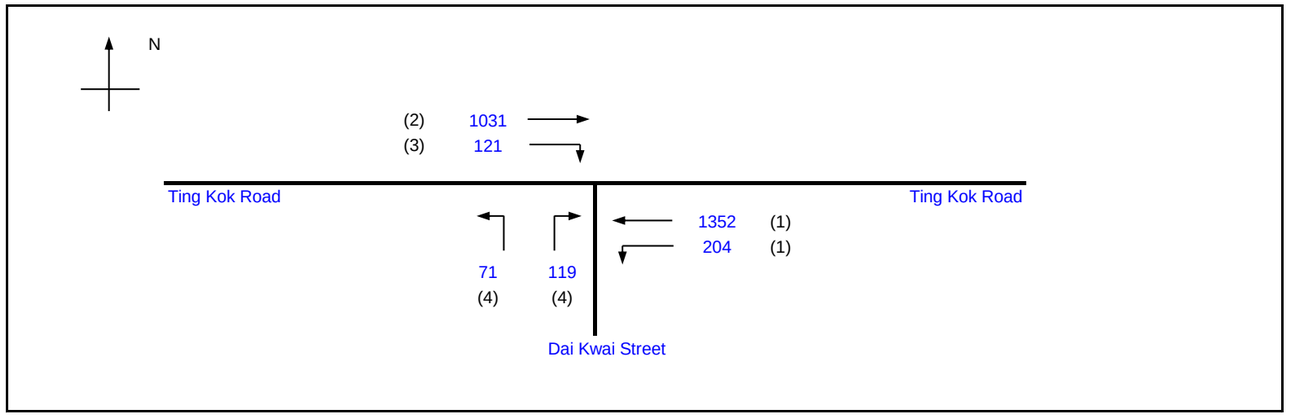
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		565		565	0.00	1953			1953	0.289			45	45	0.768	66	37
LT,SA	A	3.65	1	1	15		N	1980	135	424		559	0.24	1933			1933	0.289	0.289		45	45	0.767	66	37
SA	A	3.65	1	1				2120		613		613	0.00	2120			2120	0.289			45	45	0.767	72	36
SA	B	3.38	3	1			N	1953		370		370	0.00	1953			1953	0.189	0.189		30	30	0.767	54	49
SA,RT	B	3.38	3	1	20			2093		379	16	395	0.04	2086			2086	0.189			30	30	0.767	60	48
LT	C	3.50	4	1	15		N	1965	27			27	1.00	1786			1786	0.015			2	6	0.295	0	57
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		6	6	0.767	18	104

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

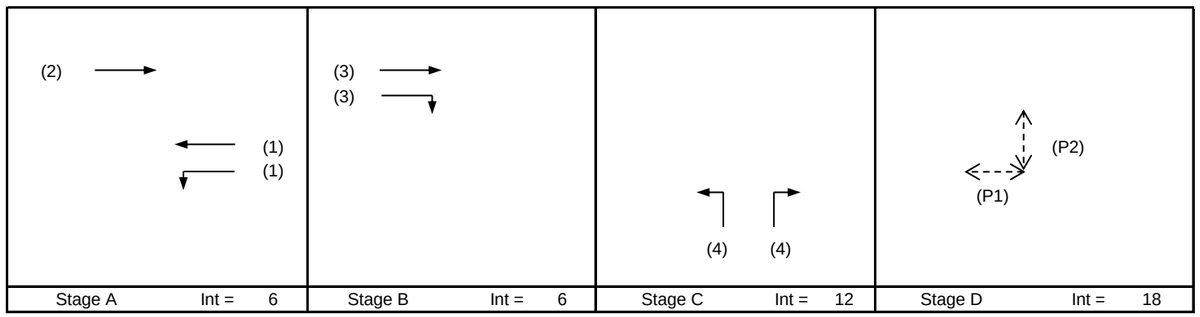
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.547	
Loss time		L =	39	sec
Total Flow		=	2898	pcu
Co	= (1.5*L+5)/(1-Y)	=	140.2	sec
Cm	= L/(1-Y)	=	86.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	11.1	%
Cp	= 0.9*L/(0.9-Y)	=	99.4	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

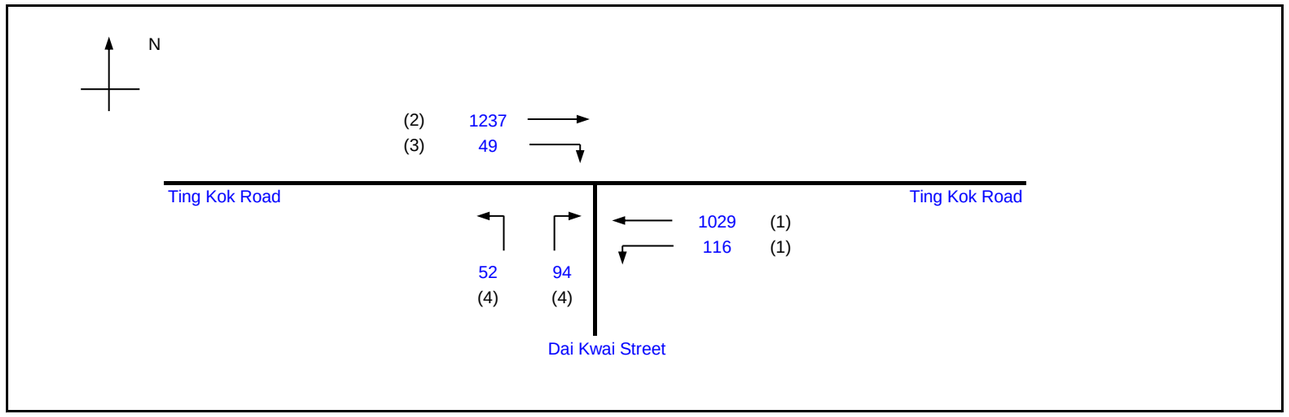
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		750		750	0.00	1953			1953	0.384			57	57	0.809	78	32
LT,SA	A	3.65	1	1	15		N	1980	204	537		741	0.28	1927			1927	0.384	0.384		57	57	0.810	78	32
SA	A	3.65	1	1				2120		815		815	0.00	2120			2120	0.384			57	57	0.810	84	31
SA	B	3.38	3	1			N	1953		199		199	0.00	1953			1953	0.102	0.102		15	15	0.810	36	74
SA,RT	B	3.38	3	1	20			2093		83	121	204	0.59	2003			2003	0.102			15	15	0.810	42	73
LT	C	3.50	4	1	15		N	1965	71			71	1.00	1786			1786	0.040			6	9	0.530	12	62
LT,RT	C	3.50	4	1	20			2105	0		119	119	1.00	1958			1958	0.061	0.061		9	9	0.810	30	96

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

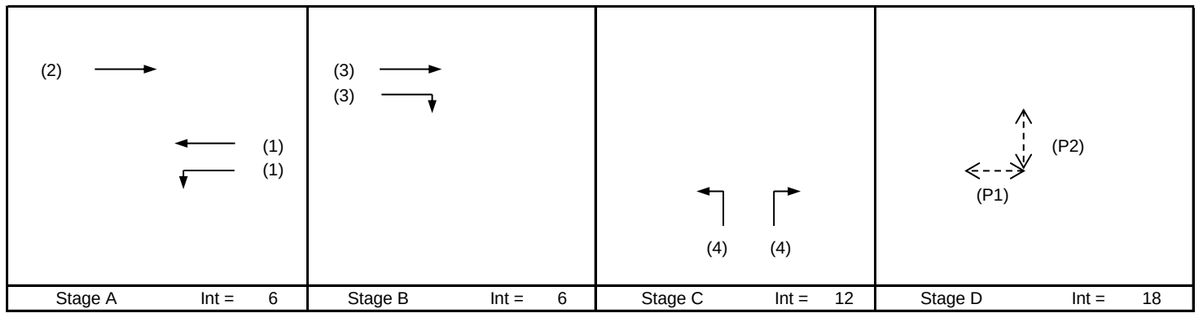
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.513	
Loss time		L =	39	sec
Total Flow		=	2577	pcu
Co	= (1.5*L+5)/(1-Y)	=	130.4	sec
Cm	= L/(1-Y)	=	80.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	18.4	%
Cp	= 0.9*L/(0.9-Y)	=	90.7	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

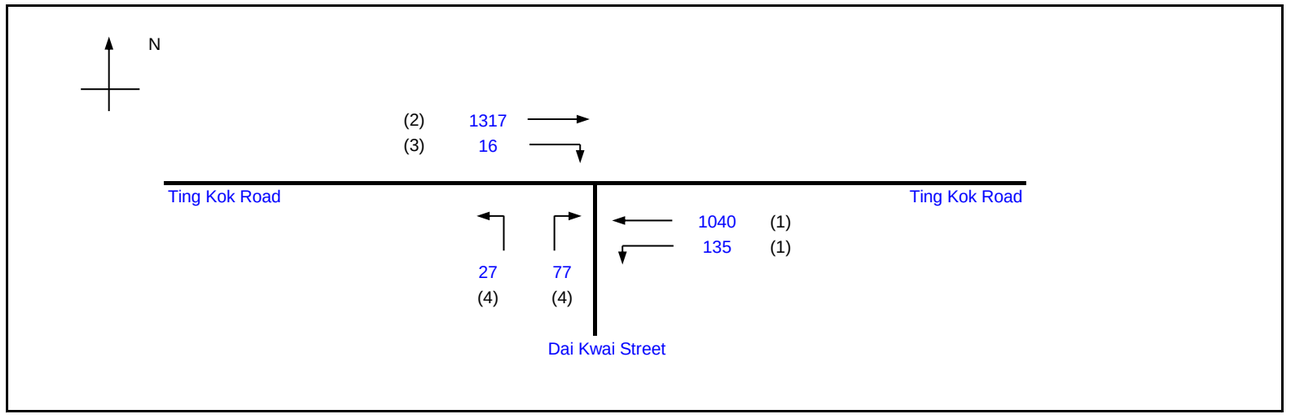
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		549		549	0.00	1953			1953	0.281			44	44	0.760	66	37
LT,SA	A	3.65	1	1	15		N	1980	116	431		547	0.21	1939			1939	0.282	0.282		45	45	0.760	66	37
SA	A	3.65	1	1				2120		598		598	0.00	2120			2120	0.282			45	45	0.760	72	36
SA	B	3.38	3	1			N	1953		357		357	0.00	1953			1953	0.183	0.183		29	29	0.760	54	49
SA,RT	B	3.38	3	1	20			2093		330	49	379	0.13	2072			2072	0.183			29	29	0.760	54	48
LT	C	3.50	4	1	15		N	1965	52			52	1.00	1786			1786	0.029			5	8	0.461	6	61
LT,RT	C	3.50	4	1	20			2105	0		94	94	1.00	1958			1958	0.048	0.048		8	8	0.760	18	91

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

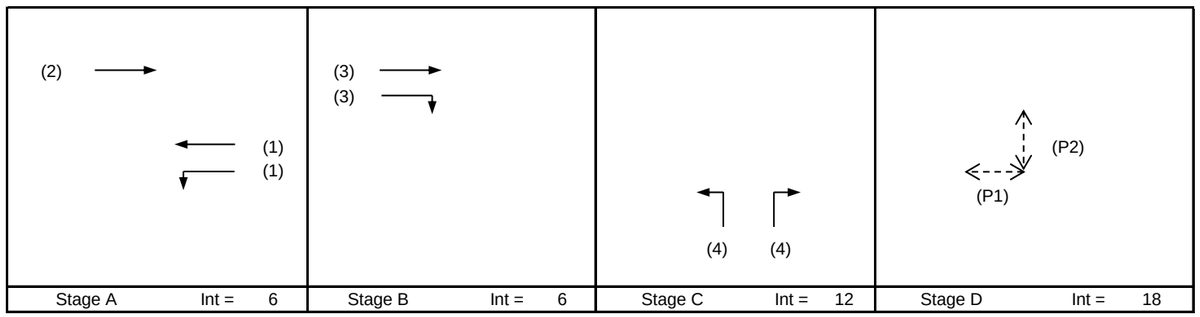
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.519	
Loss time		L =	39	sec
Total Flow		=	2612	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.0	sec
Cm	= L/(1-Y)	=	81.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	17.0	%
Cp	= 0.9*L/(0.9-Y)	=	92.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

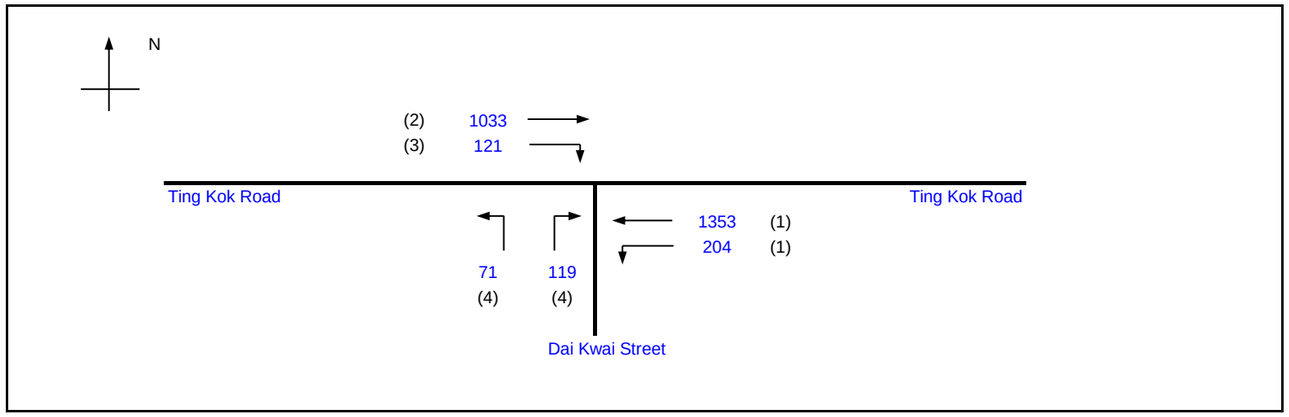
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		566		566	0.00	1953			1953	0.290			45	45	0.769	66	37
LT,SA	A	3.65	1	1	15		N	1980	135	425		560	0.24	1933			1933	0.290	0.290		45	45	0.769	66	37
SA	A	3.65	1	1				2120		615		615	0.00	2120			2120	0.290			45	45	0.769	72	36
SA	B	3.38	3	1			N	1953		371		371	0.00	1953			1953	0.190	0.190		30	30	0.769	54	49
SA,RT	B	3.38	3	1	20			2093		380	16	396	0.04	2086			2086	0.190			30	30	0.769	60	48
LT	C	3.50	4	1	15		N	1965	27			27	1.00	1786			1786	0.015			2	6	0.296	0	57
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		6	6	0.769	18	104

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

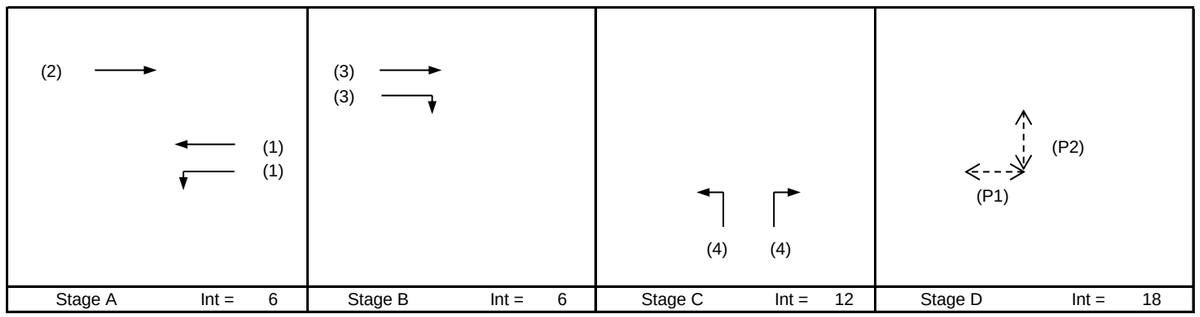
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.547	
Loss time		L =	39	sec
Total Flow		=	2901	pcu
Co	= (1.5*L+5)/(1-Y)	=	140.3	sec
Cm	= L/(1-Y)	=	86.2	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	11.0	%
Cp	= 0.9*L/(0.9-Y)	=	99.5	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

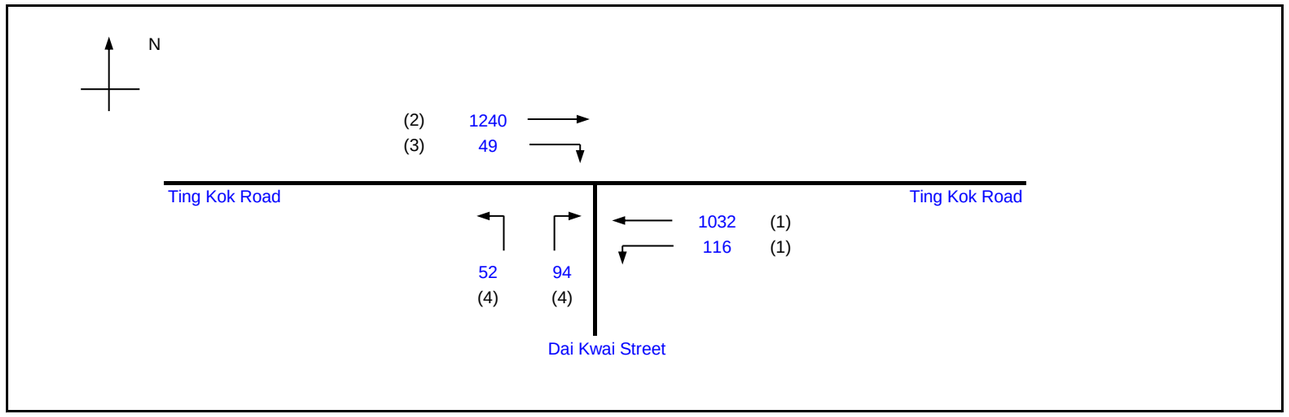
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		751		751	0.00	1953			1953	0.385			57	57	0.811	78	32
LT,SA	A	3.65	1	1	15		N	1980	204	537		741	0.28	1927			1927	0.385	0.385		57	57	0.811	78	32
SA	A	3.65	1	1				2120		816		816	0.00	2120			2120	0.385			57	57	0.811	84	31
SA	B	3.38	3	1			N	1953		199		199	0.00	1953			1953	0.102	0.102		15	15	0.811	42	74
SA,RT	B	3.38	3	1	20			2093		83	121	204	0.59	2003			2003	0.102			15	15	0.811	42	74
LT	C	3.50	4	1	15		N	1965	71			71	1.00	1786			1786	0.040			6	9	0.530	12	62
LT,RT	C	3.50	4	1	20			2105	0		119	119	1.00	1958			1958	0.061	0.061		9	9	0.811	30	97

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

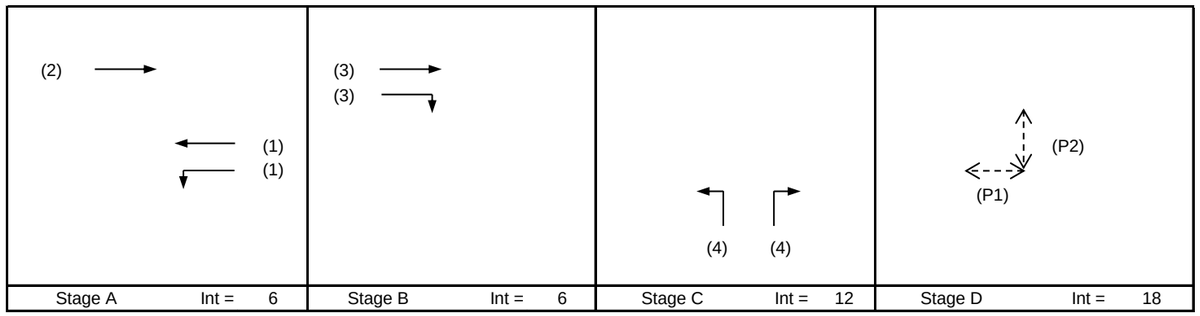
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.515	
Loss time		L =	39	sec
Total Flow		=	2583	pcu
Co	= (1.5*L+5)/(1-Y)	=	130.8	sec
Cm	= L/(1-Y)	=	80.3	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	18.1	%
Cp	= 0.9*L/(0.9-Y)	=	91.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

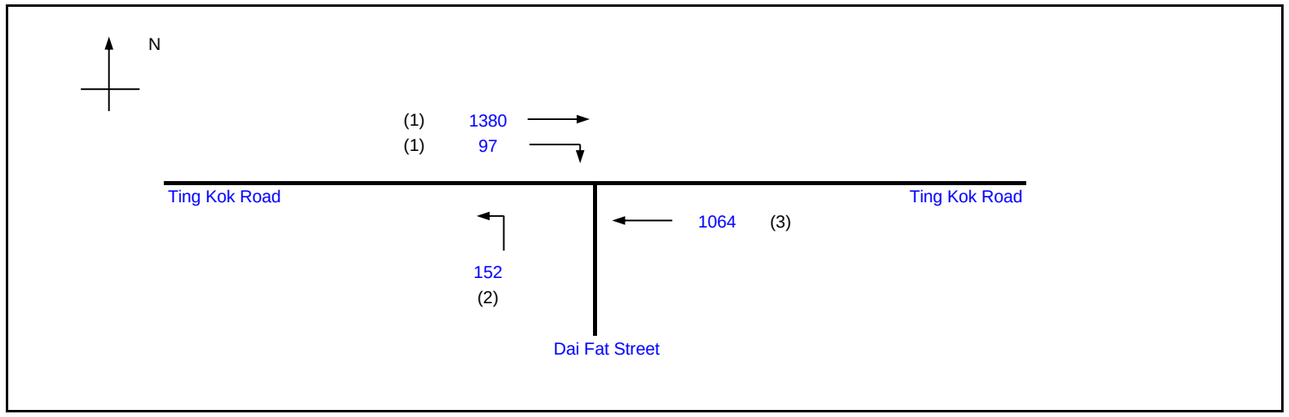
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		549		549	0.00	1953			1953	0.281			44	44	0.762	66	37
LT,SA	A	3.65	1	1	15		N	1980	116	432		548	0.21	1939			1939	0.283	0.283		45	45	0.762	66	37
SA	A	3.65	1	1				2120		600		600	0.00	2120			2120	0.283			45	45	0.762	72	36
SA	B	3.38	3	1			N	1953		359		359	0.00	1953			1953	0.184	0.184		29	29	0.762	54	49
SA,RT	B	3.38	3	1	20			2093		332	49	381	0.13	2073			2073	0.184			29	29	0.762	54	49
LT	C	3.50	4	1	15		N	1965	52			52	1.00	1786			1786	0.029			5	8	0.462	6	61
LT,RT	C	3.50	4	1	20			2105			94	94	1.00	1958			1958	0.048	0.048		8	8	0.762	18	92

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

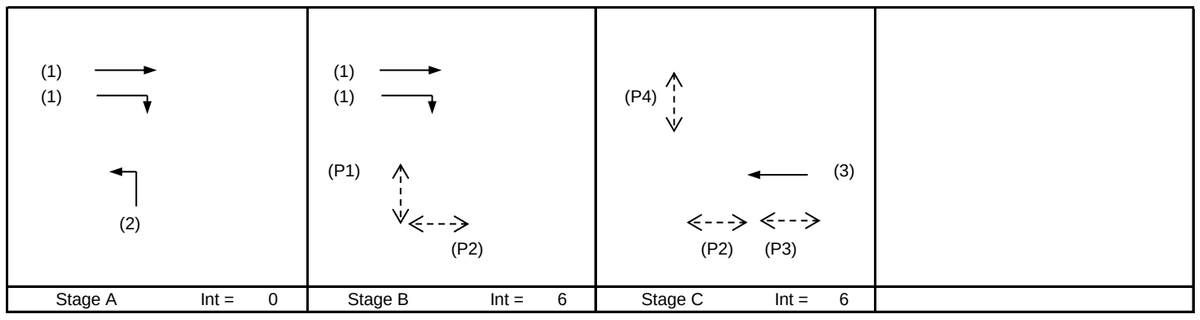
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	**2027Ref_SUN** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.628	
Loss time		L =	10	sec
Total Flow		=	2693	pcu
Co	= (1.5*L+5)/(1-Y)	=	53.8	sec
Cm	= L/(1-Y)	=	26.9	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.3	%
Cp	= 0.9*L/(0.9-Y)	=	33.1	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.9	%



Stage A Int = 0 | Stage B Int = 6 | Stage C Int = 6

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

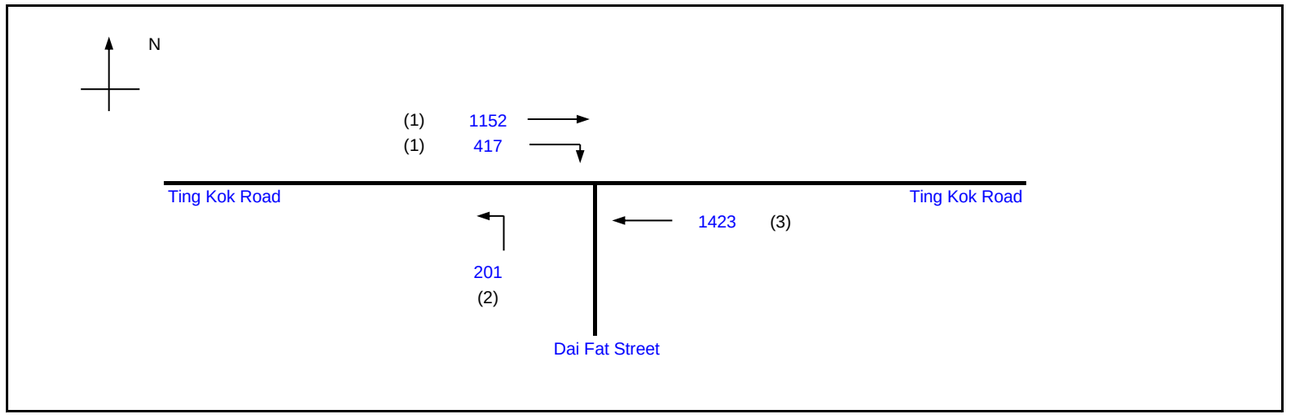
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		718		718	0.00	1945			1945	0.369	0.369		53	53	0.698	54	20
SA, RT	A,B	3.30	1	1	15			2085		662	97	759	0.13	2059			2059	0.369			53	53	0.698	54	19
LT	A	3.65	2	2	20		N	4100	152			152	1.00	3814			3814	0.040			6	6	0.698	12	59
SA	C	3.65	3	2			N	4100		1064		1064	0.00	4100			4100	0.260	0.260		37	37	0.698	54	26

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

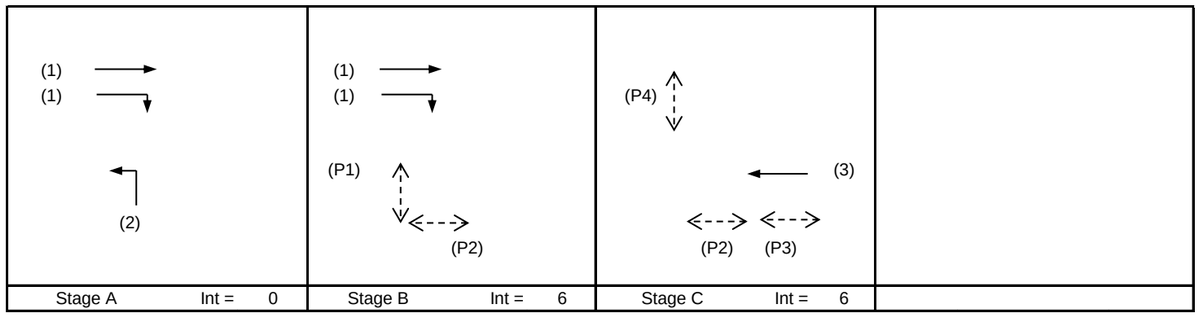
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2027Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.747	
Loss time		L =	10	sec
Total Flow		=	3193	pcu
Co	= (1.5*L+5)/(1-Y)	=	79.0	sec
Cm	= L/(1-Y)	=	39.5	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	10.5	%
Cp	= 0.9*L/(0.9-Y)	=	58.7	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		777		777	0.00	1945			1945	0.400	0.400		59	59	0.815	78	31
SA, RT	A,B	3.30	1	1	15			2085		375	417	792	0.53	1981			1981	0.400			59	59	0.815	78	31
LT	A	3.65	2	2	20		N	4100	201			201	1.00	3814			3814	0.053			8	8	0.815	21	79
SA	C	3.65	3	2			N	4100		1423		1423	0.00	4100			4100	0.347	0.347		51	51	0.815	81	31

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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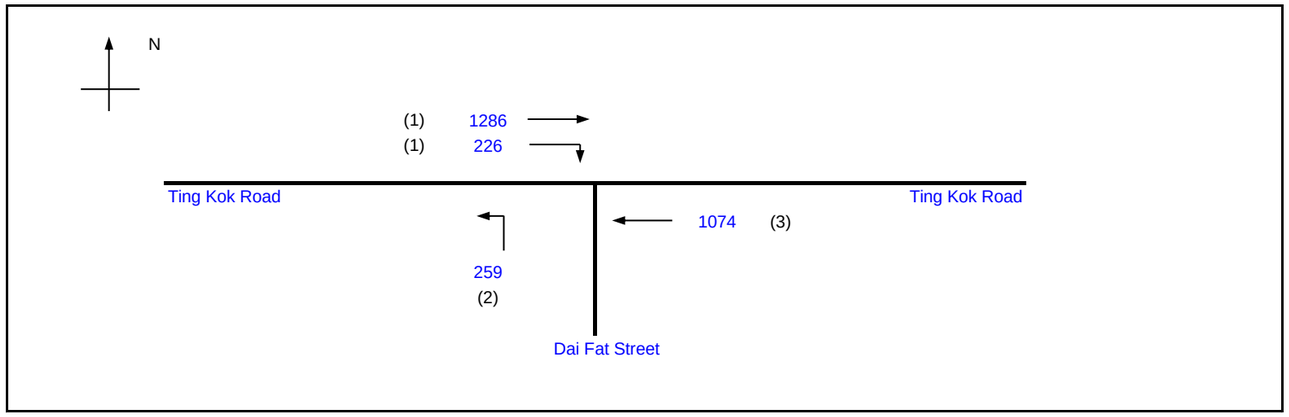
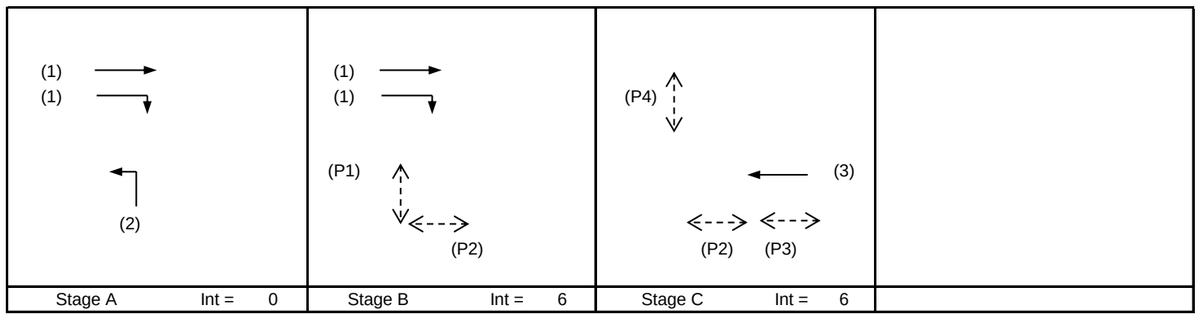
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.643	
Loss time		L =	10	sec
Total Flow		=	2845	pcu
Co	= (1.5*L+5)/(1-Y)	=	56.0	sec
Cm	= L/(1-Y)	=	28.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	28.4	%
Cp	= 0.9*L/(0.9-Y)	=	35.0	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	26.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

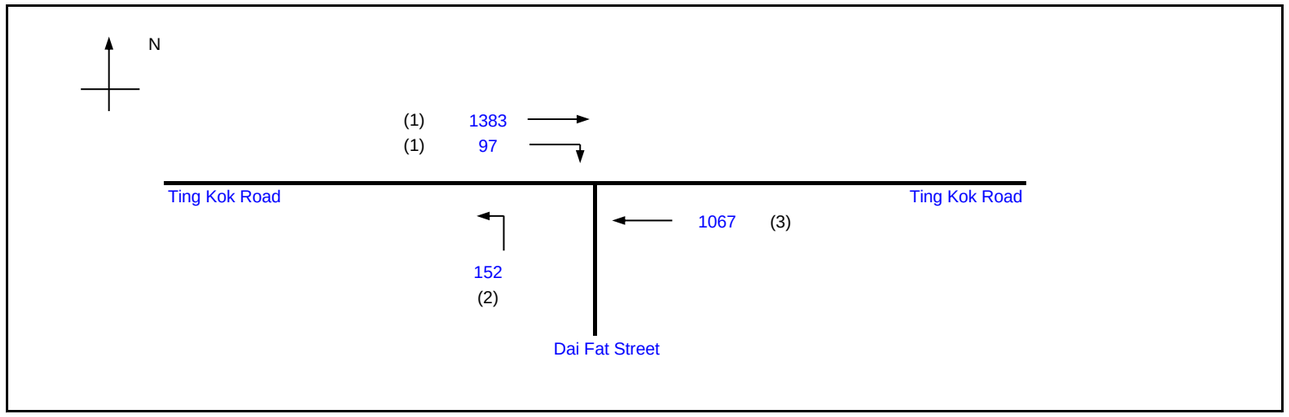
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		741		741	0.00	1945			1945	0.381	0.381		53	53	0.714	54	20
SA, RT	A,B	3.30	1	1	15			2085		545	226	771	0.29	2026			2026	0.381			53	53	0.714	60	20
LT	A	3.65	2	2	20		N	4100	259			259	1.00	3814			3814	0.068			10	10	0.714	18	51
SA	C	3.65	3	2			N	4100		1074		1074	0.00	4100			4100	0.262	0.262		37	37	0.714	54	27

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

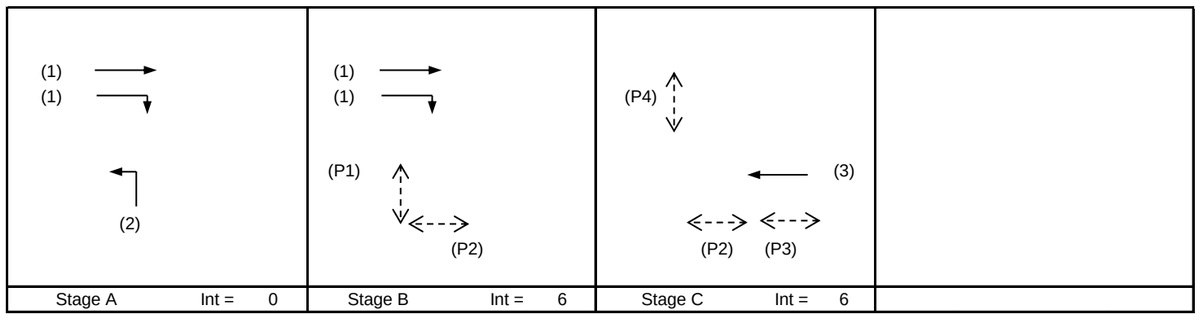
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.630	
Loss time		L =	10	sec
Total Flow		=	2699	pcu
Co	= (1.5*L+5)/(1-Y)	=	54.0	sec
Cm	= L/(1-Y)	=	27.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.0	%
Cp	= 0.9*L/(0.9-Y)	=	33.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

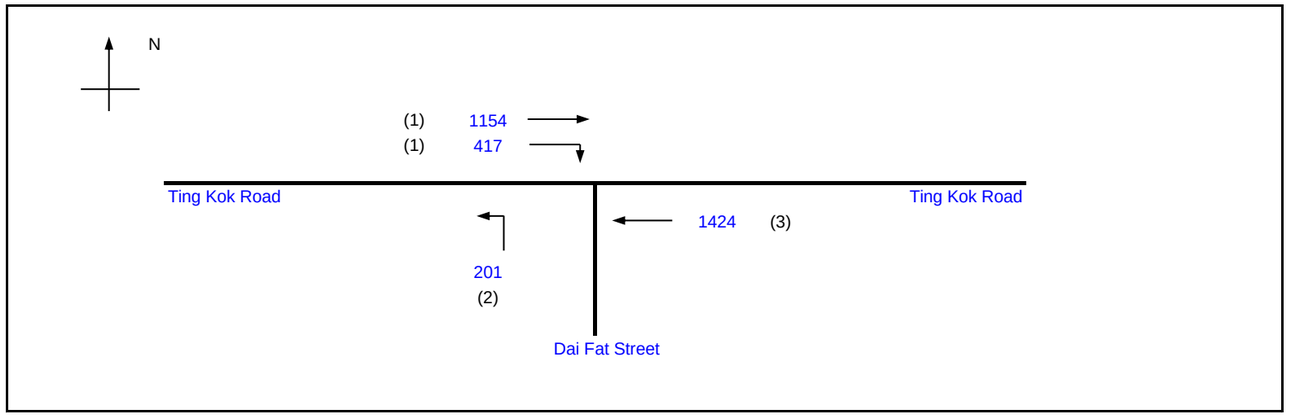
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		719		719	0.00	1945			1945	0.370	0.370		53	53	0.700	54	20
SA, RT	A,B	3.30	1	1	15			2085		664	97	761	0.13	2059			2059	0.370			53	53	0.700	54	19
LT	A	3.65	2	2	20		N	4100	152			152	1.00	3814			3814	0.040			6	6	0.700	12	59
SA	C	3.65	3	2			N	4100		1067		1067	0.00	4100			4100	0.260	0.260		37	37	0.700	54	26

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

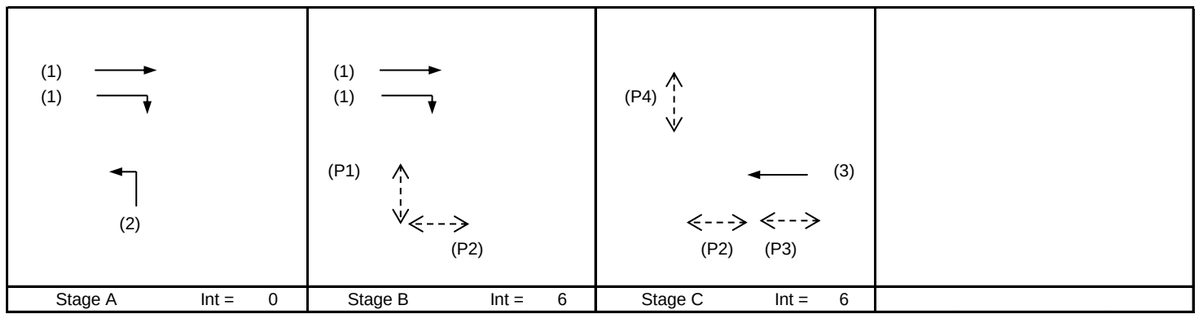
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2027Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.747	
Loss time		L =	10	sec
Total Flow		=	3196	pcu
Co	= (1.5*L+5)/(1-Y)	=	79.2	sec
Cm	= L/(1-Y)	=	39.6	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	10.4	%
Cp	= 0.9*L/(0.9-Y)	=	59.0	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		778		778	0.00	1945			1945	0.400	0.400		59	59	0.815	78	31
SA, RT	A,B	3.30	1	1	15			2085		376	417	793	0.53	1981			1981	0.400			59	59	0.815	78	31
LT	A	3.65	2	2	20		N	4100	201			201	1.00	3814			3814	0.053			8	8	0.815	21	79
SA	C	3.65	3	2			N	4100		1424		1424	0.00	4100			4100	0.347	0.347		51	51	0.815	81	31

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

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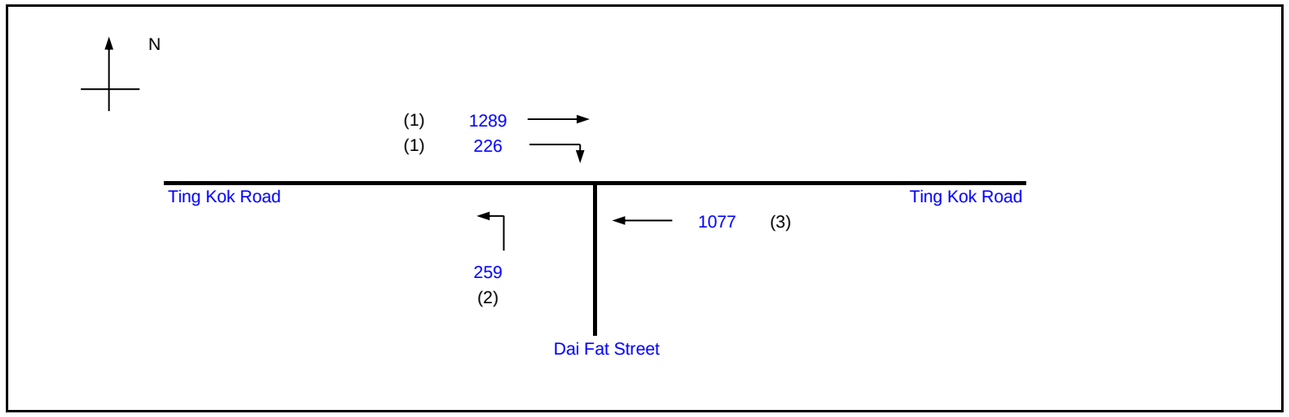
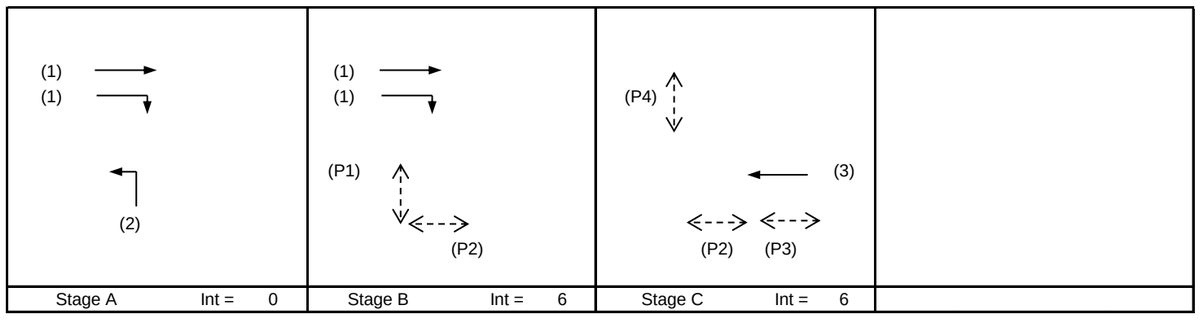
			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.644	
Loss time		L =	10	sec
Total Flow		=	2851	pcu
Co	= (1.5*L+5)/(1-Y)	=	56.2	sec
Cm	= L/(1-Y)	=	28.1	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	28.1	%
Cp	= 0.9*L/(0.9-Y)	=	35.2	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	25.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

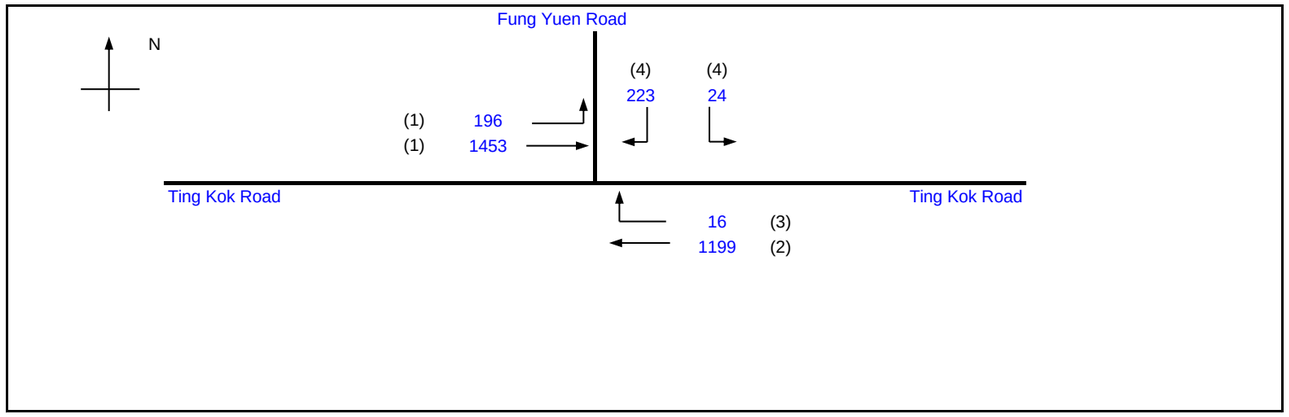
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		742		742	0.00	1945			1945	0.382	0.382		53	53	0.716	54	20
SA, RT	A,B	3.30	1	1	15			2085		547	226	773	0.29	2026			2026	0.382			53	53	0.716	60	20
LT	A	3.65	2	2	20		N	4100	259			259	1.00	3814			3814	0.068			9	9	0.716	18	51
SA	C	3.65	3	2			N	4100		1077		1077	0.00	4100			4100	0.263	0.263		37	37	0.716	54	27

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

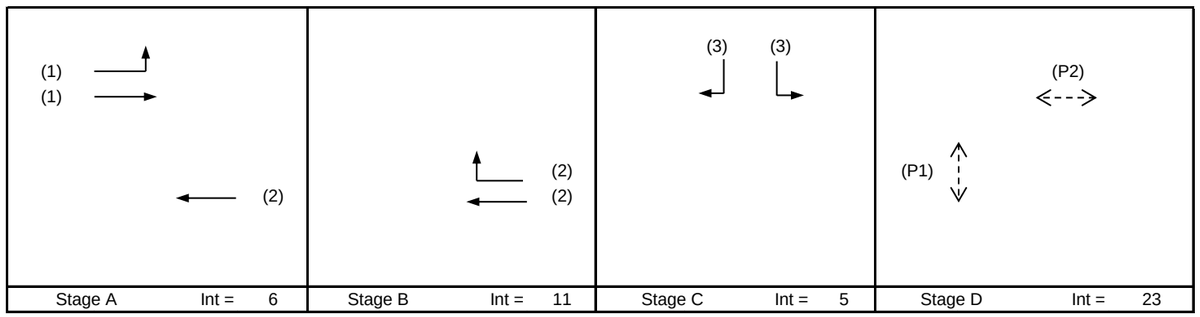
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	**2027Ref_SUN** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.522	
Loss time		L =	43	sec
Total Flow		=	3111	pcu
Co	= (1.5*L+5)/(1-Y)	=	145.4	sec
Cm	= L/(1-Y)	=	90.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	10.6	%
Cp	= 0.9*L/(0.9-Y)	=	102.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

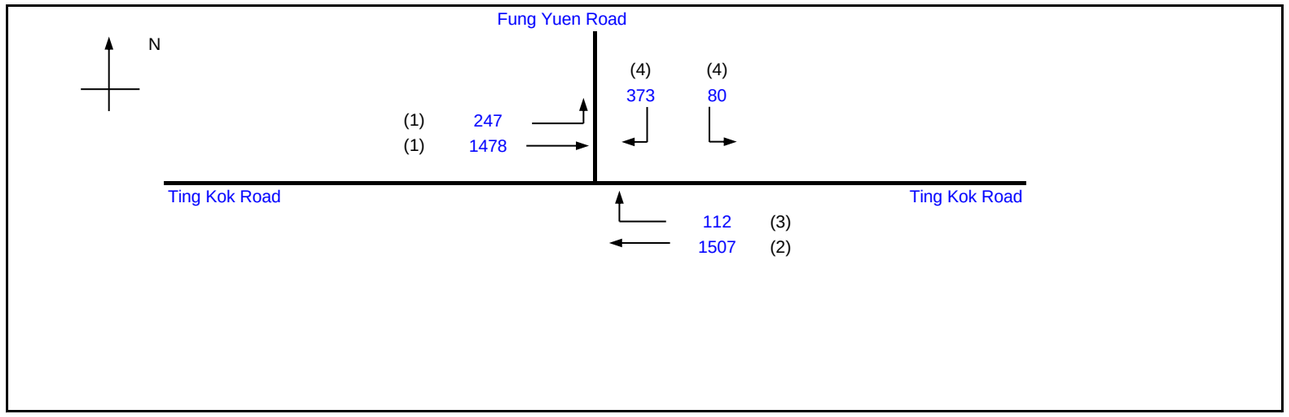
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	589		785	0.25	1923			1923	0.408	0.408		60	56	0.875	90	22
SA	A	3.60	1	1				2115		864		864	0.00	2115			2115	0.408			60	56	0.875	96	22
SA	A,B	3.60	2	1			N	1975		625		625	0.00	1975			1975	0.317			47	65	0.585	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		574	16	590	0.03	1881			1881	0.314			46	65	0.579	54	19
LT	C	3.60	4	1	11		N	1975	24			24	1.00	1738			1738	0.014			2	24	0.069	0	35
RT	C	3.80	4	1	17			2135			223	223	1.00	1962			1962	0.114	0.114		17	24	0.568	30	44

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

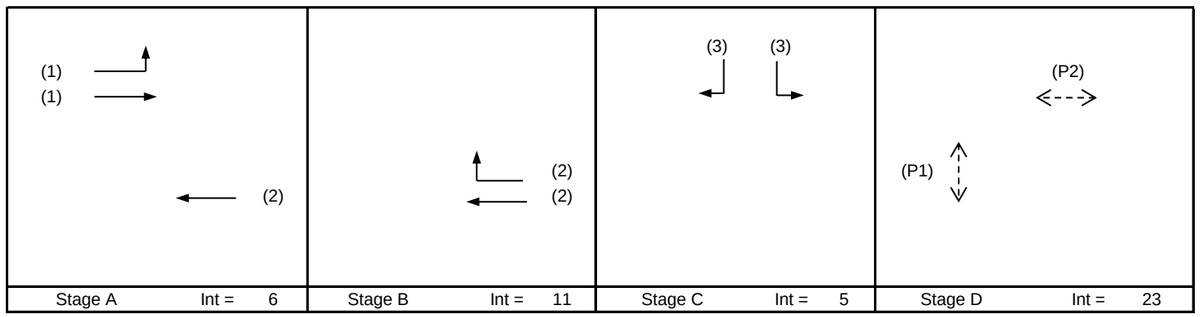
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	**2027Ref_AM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.618	
Loss time		L =	43	sec
Total Flow		=	3797	pcu
Co	= (1.5*L+5)/(1-Y)	=	182.1	sec
Cm	= L/(1-Y)	=	112.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-6.6	%
Cp	= 0.9*L/(0.9-Y)	=	137.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

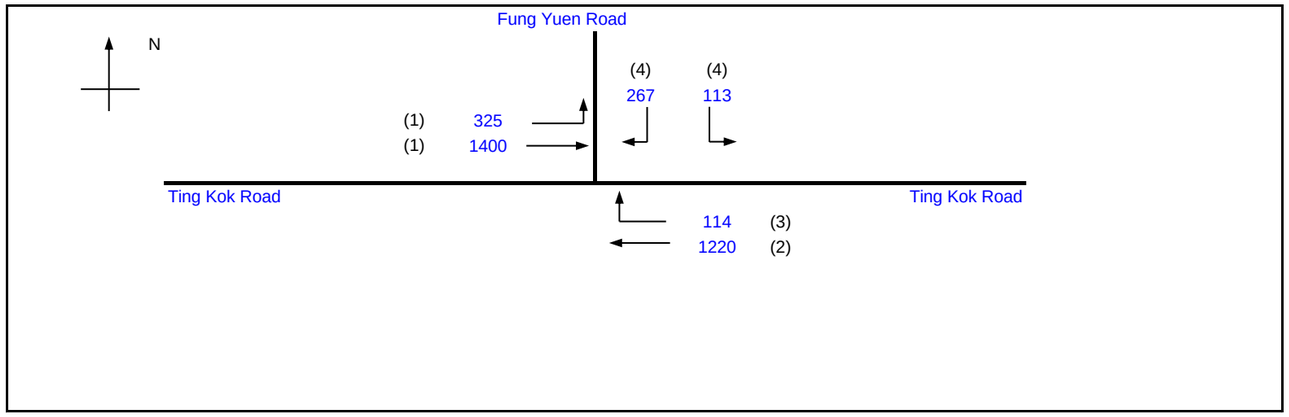
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	572		819	0.30	1914			1914	0.428	0.428		53	53	0.964	150	24
SA	A	3.60	1	1				2115		906		906	0.00	2115			2115	0.428			53	53	0.964	162	25
SA	A,B	3.60	2	1			N	1975		824		824	0.00	1975			1975	0.417			52	53	0.964	156	25
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.426			53	53	0.964	150	24
LT	C	3.60	4	1	11		N	1975	80			80	1.00	1738			1738	0.046			6	24	0.964	78	56
RT	C	3.80	4	1	17			2135			373	373	1.00	1962			1962	0.190	0.190		24	24	0.964	120	43

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

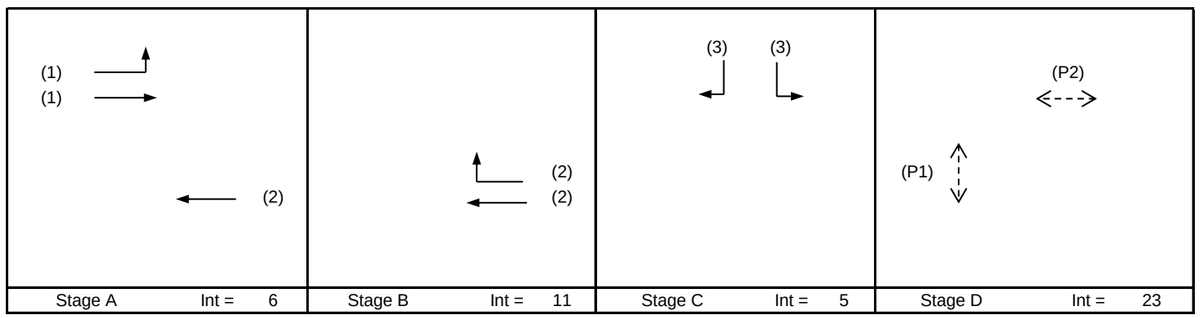
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.566	
Loss time		L =	43	sec
Total Flow		=	3439	pcu
Co	= (1.5*L+5)/(1-Y)	=	160.1	sec
Cm	= L/(1-Y)	=	99.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	2.0	%
Cp	= 0.9*L/(0.9-Y)	=	115.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	2.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

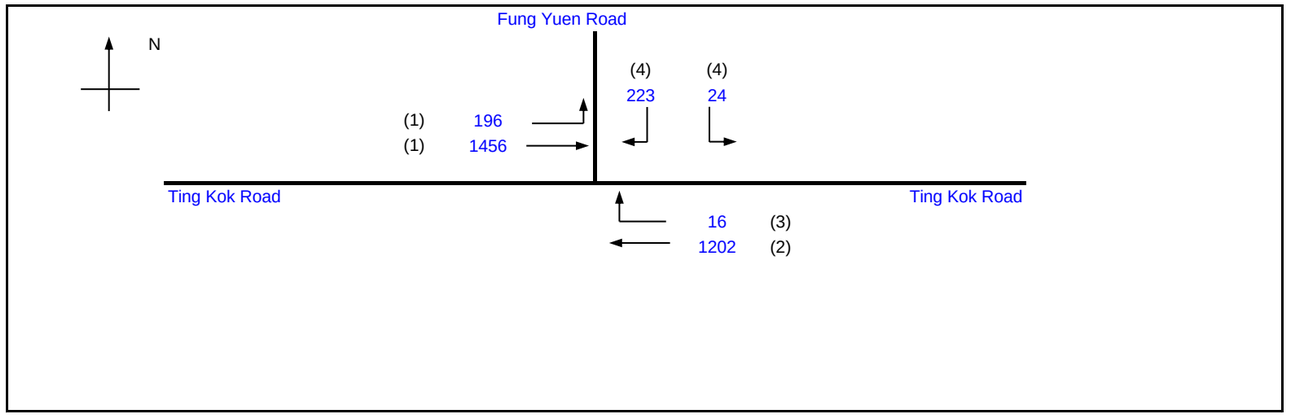
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	491		816	0.40	1898			1898	0.430	0.430		58	58	0.882	90	20
SA	A	3.60	1	1				2115		909		909	0.00	2115			2115	0.430			58	58	0.882	102	21
SA	A,B	3.60	2	1			N	1975		687		687	0.00	1975			1975	0.348			47	47	0.880	90	27
SA,RT	A,B	3.60	3	1	19	O		2115		533	114	647	0.18	1859			1859	0.348			47	47	0.882	84	27
LT	C	3.60	4	1	11		N	1975	113			113	1.00	1738			1738	0.065			9	19	0.421	18	46
RT	C	3.80	4	1	17			2135			267	267	1.00	1962			1962	0.136	0.136		19	19	0.882	60	46

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

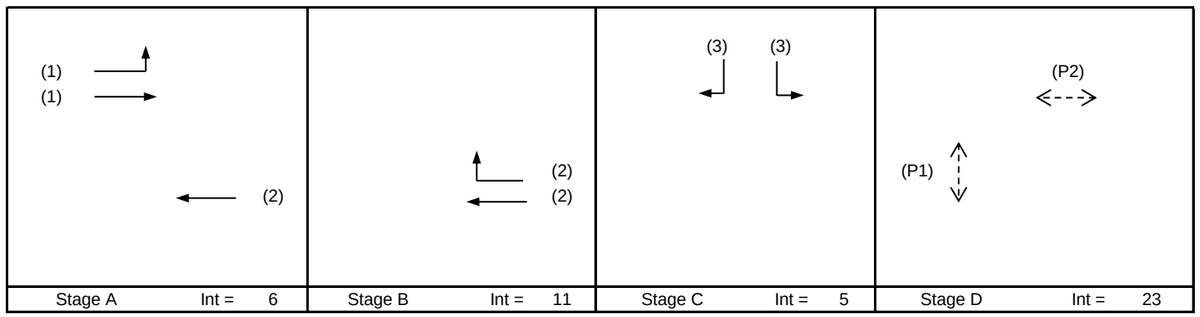
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.523	
Loss time		L =	43	sec
Total Flow		=	3117	pcu
Co	= (1.5*L+5)/(1-Y)	=	145.6	sec
Cm	= L/(1-Y)	=	90.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	10.5	%
Cp	= 0.9*L/(0.9-Y)	=	102.6	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

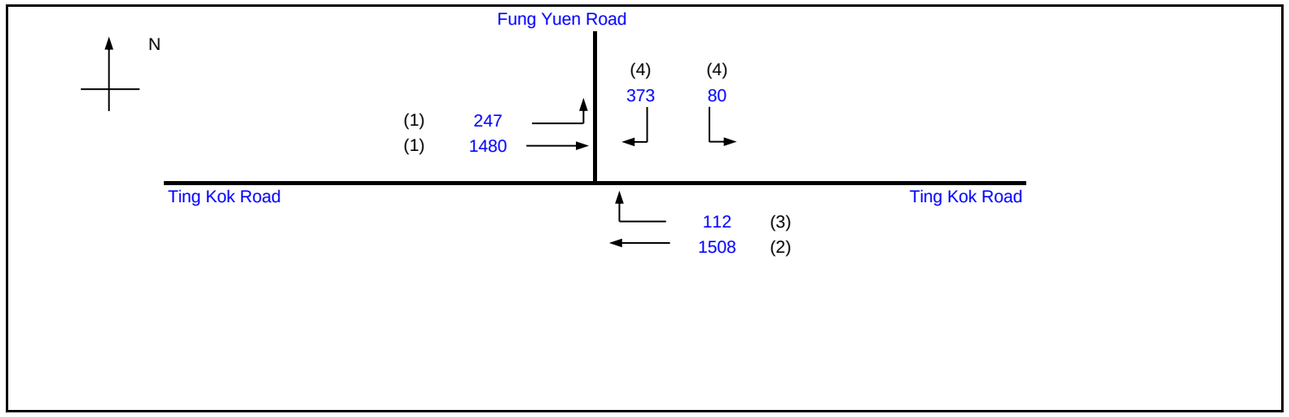
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	591		787	0.25	1923			1923	0.409	0.409		60	56	0.877	90	22
SA	A	3.60	1	1				2115		865		865	0.00	2115			2115	0.409			60	56	0.877	96	22
SA	A,B	3.60	2	1			N	1975		627		627	0.00	1975			1975	0.317			47	65	0.586	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		575	16	591	0.03	1881			1881	0.314			46	65	0.580	54	19
LT	C	3.60	4	1	11		N	1975	24			24	1.00	1738			1738	0.014			2	24	0.069	0	35
RT	C	3.80	4	1	17			2135			223	223	1.00	1962			1962	0.114	0.114		17	24	0.568	30	44

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

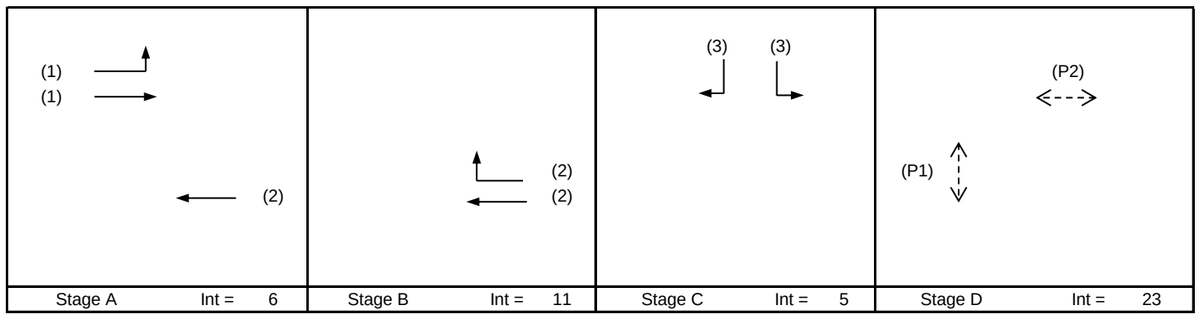
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.619	
Loss time		L =	43	sec
Total Flow		=	3800	pcu
Co	= (1.5*L+5)/(1-Y)	=	182.3	sec
Cm	= L/(1-Y)	=	112.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-6.7	%
Cp	= 0.9*L/(0.9-Y)	=	137.6	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

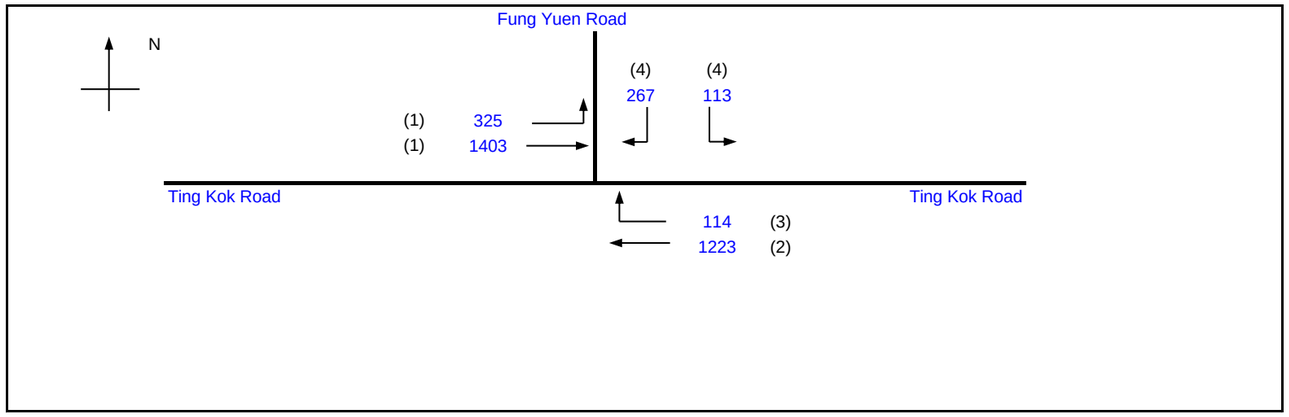
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	573		820	0.30	1914			1914	0.429	0.429		53	53	0.964	150	24
SA	A	3.60	1	1				2115		907		907	0.00	2115			2115	0.429			53	53	0.964	162	25
SA	A,B	3.60	2	1			N	1975		825		825	0.00	1975			1975	0.417			52	53	0.964	156	25
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.427			53	53	0.964	150	24
LT	C	3.60	4	1	11		N	1975	80			80	1.00	1738			1738	0.046			6	24	0.964	84	56
RT	C	3.80	4	1	17			2135			373	373	1.00	1962			1962	0.190	0.190		24	24	0.964	126	43

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

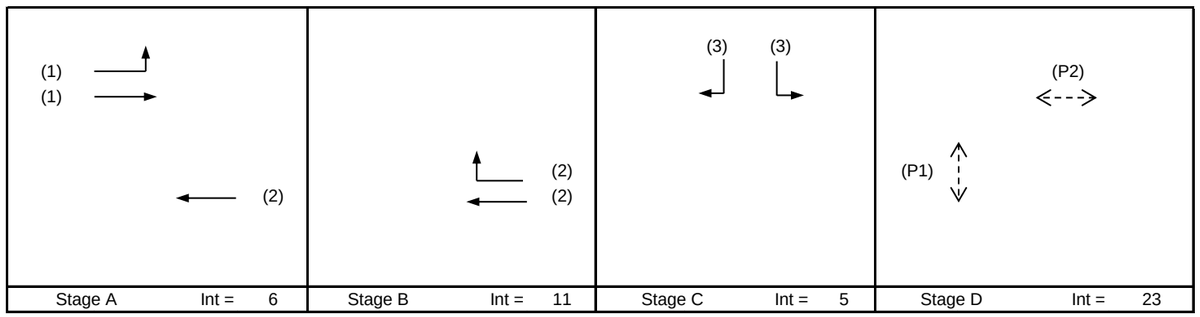
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.567	
Loss time		L =	43	sec
Total Flow		=	3445	pcu
Co	= (1.5*L+5)/(1-Y)	=	160.4	sec
Cm	= L/(1-Y)	=	99.2	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	1.9	%
Cp	= 0.9*L/(0.9-Y)	=	116.1	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	1.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

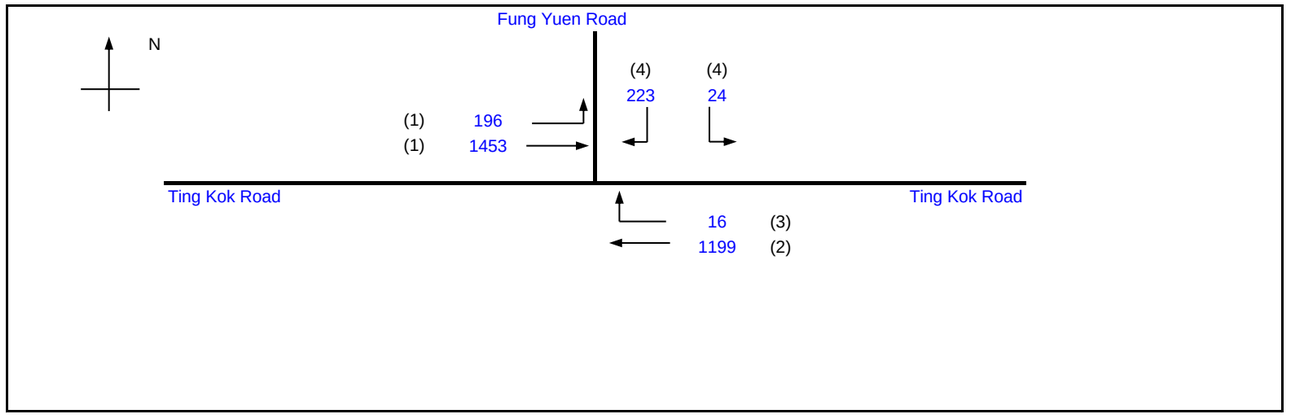
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	492		817	0.40	1898			1898	0.431	0.431		59	59	0.883	90	20
SA	A	3.60	1	1				2115		911		911	0.00	2115			2115	0.431			59	59	0.883	102	21
SA	A,B	3.60	2	1			N	1975		688		688	0.00	1975			1975	0.348			47	47	0.881	90	27
SA,RT	A,B	3.60	3	1	19	O		2115		535	114	649	0.18	1859			1859	0.349			47	47	0.883	90	27
LT	C	3.60	4	1	11		N	1975	113			113	1.00	1738			1738	0.065			9	18	0.422	18	46
RT	C	3.80	4	1	17			2135			267	267	1.00	1962			1962	0.136	0.136		18	18	0.883	60	46

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

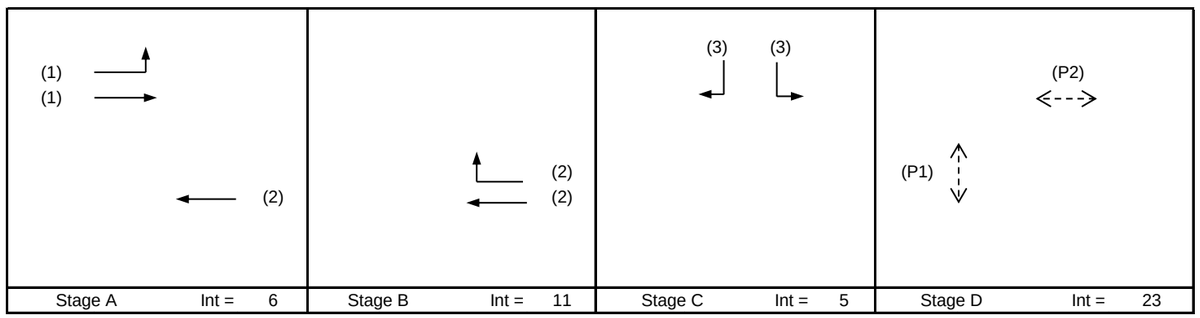
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_SUN (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.475	
Loss time		L =	43	sec
Total Flow		=	3111	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.4	sec
Cm	= L/(1-Y)	=	81.9	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	21.5	%
Cp	= 0.9*L/(0.9-Y)	=	91.1	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	21.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

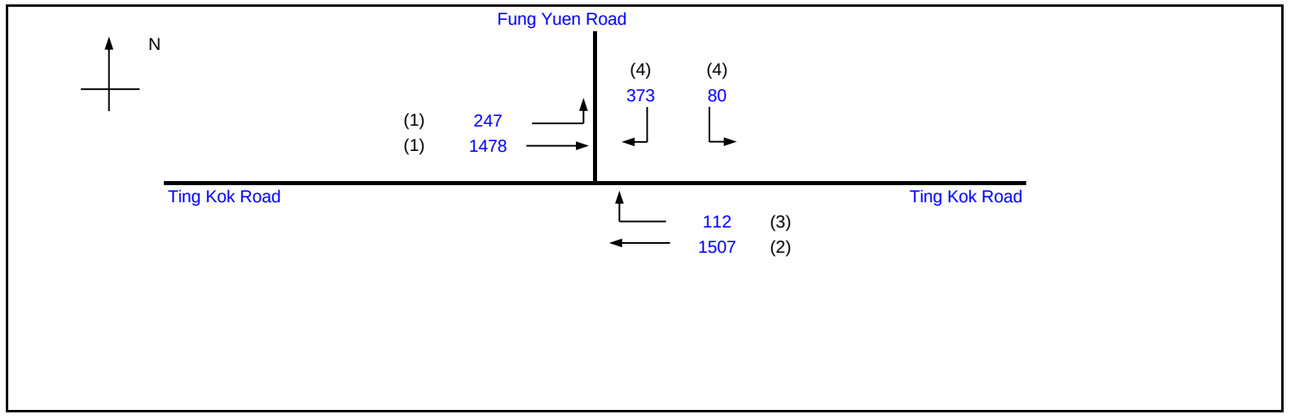
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	589		785	0.25	1923			1923	0.408	0.408		66	66	0.741	66	23
SA	A	3.60	1	1				2115		864		864	0.00	2115			2115	0.408			66	66	0.741	72	22
SA	A,B	3.60	2	1			N	1975		625		625	0.00	1975			1975	0.317			51	51	0.748	72	32
SA,RT	A,B	3.60	3	1	19	O		2115		574	16	590	0.03	1881			1881	0.314			51	51	0.741	66	32
LT,RT	C	3.60	4	1	11		N	1975	24		92	116	1.00	1738			1738	0.067	0.067		11	11	0.741	24	77
RT	C	3.80	4	1	17			2135			131	131	1.00	1962			1962	0.067			11	11	0.741	24	74

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

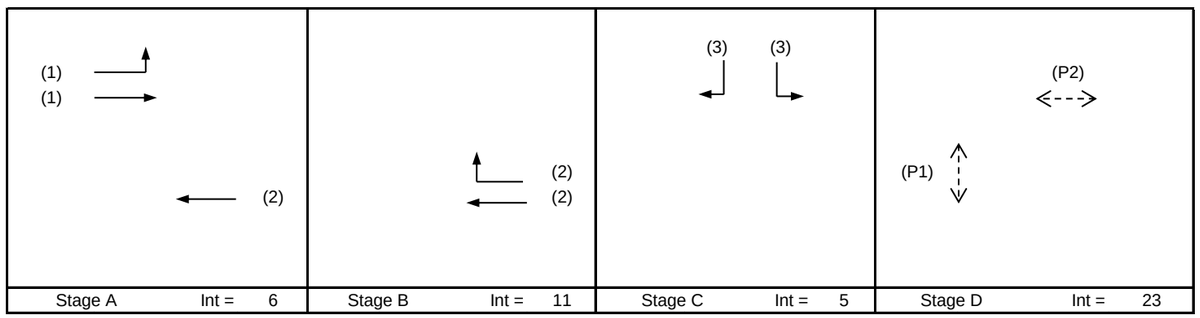
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_AM (Imp)**	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows (with Improvement)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.551	
Loss time		L =	43	sec
Total Flow		=	3797	pcu
Co	= (1.5*L+5)/(1-Y)	=	154.6	sec
Cm	= L/(1-Y)	=	95.7	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	4.9	%
Cp	= 0.9*L/(0.9-Y)	=	110.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	4.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

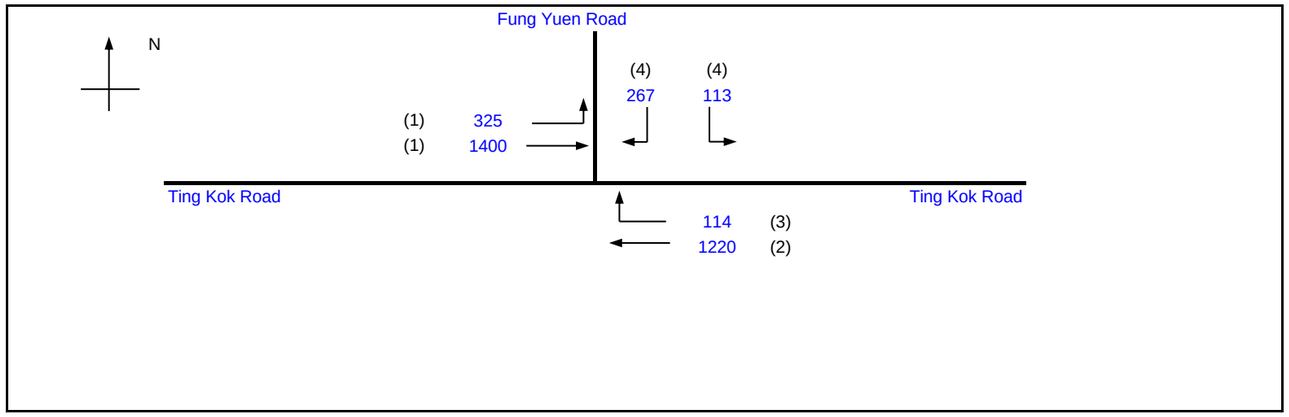
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	572		819	0.30	1914			1914	0.428	0.428		60	60	0.858	84	20
SA	A	3.60	1	1				2115		906		906	0.00	2115			2115	0.428			60	60	0.858	90	20
SA	A,B	3.60	2	1			N	1975		824		824	0.00	1975			1975	0.417			58	60	0.840	84	32
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.426			60	60	0.858	84	19
LT,RT	C	3.60	4	1	11		N	1975	80		133	213	1.00	1738			1738	0.122	0.122		17	17	0.858	48	47
RT	C	3.80	4	1	17			2135			240	240	1.00	1962			1962	0.122			17	17	0.858	48	47

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

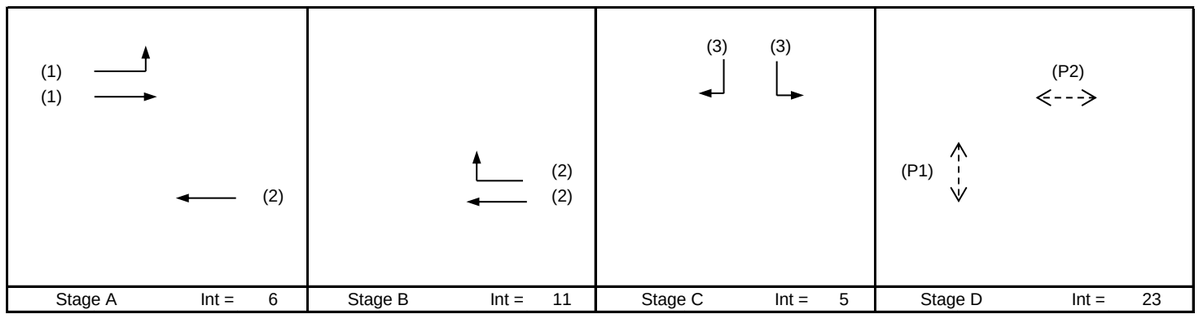
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.533	
Loss time		L =	43	sec
Total Flow		=	3439	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.7	sec
Cm	= L/(1-Y)	=	92.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.4	%
Cp	= 0.9*L/(0.9-Y)	=	105.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

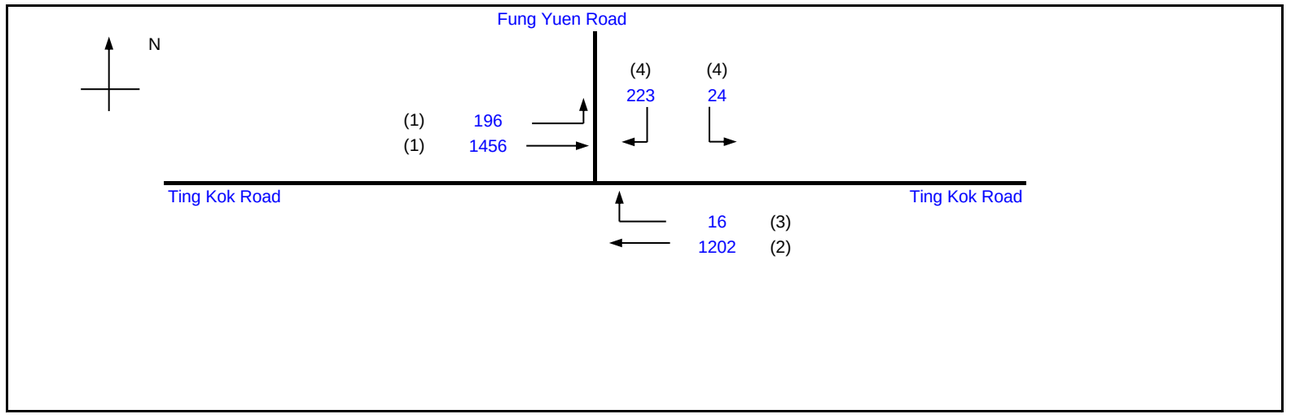
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	491		816	0.40	1898			1898	0.430	0.430		62	62	0.830	78	30
SA	A	3.60	1	1				2115		909		909	0.00	2115			2115	0.430			62	62	0.830	84	29
SA	A,B	3.60	2	1			N	1975		687		687	0.00	1975			1975	0.348			50	50	0.828	78	37
SA,RT	A,B	3.60	3	1	19	O		2115		533	114	647	0.18	1859			1859	0.348			50	50	0.830	78	38
LT,RT	C	3.60	4	1	11		N	1975	113		66	179	1.00	1738			1738	0.103	0.103		15	15	0.830	36	83
RT	C	3.80	4	1	17			2135			201	201	1.00	1962			1962	0.103			15	15	0.830	42	79

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

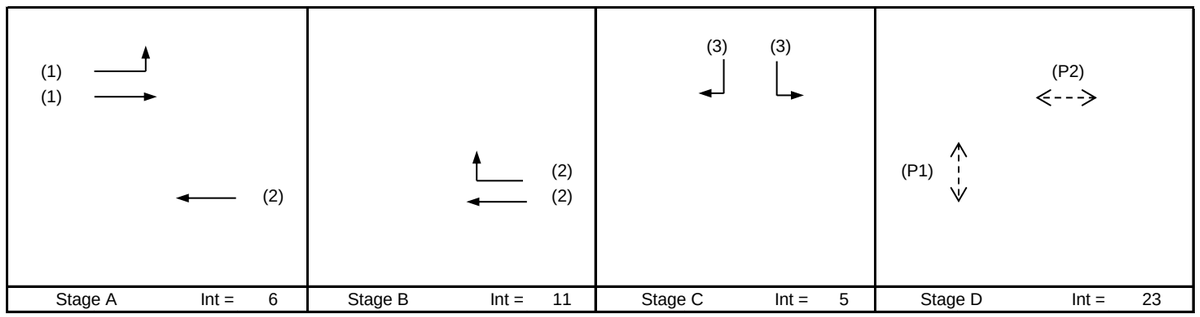
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows (with Improvement)	**2027Des_SUN (Imp)** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.476	
Loss time		L =	43	sec
Total Flow		=	3117	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.6	sec
Cm	= L/(1-Y)	=	82.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	21.3	%
Cp	= 0.9*L/(0.9-Y)	=	91.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	21.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

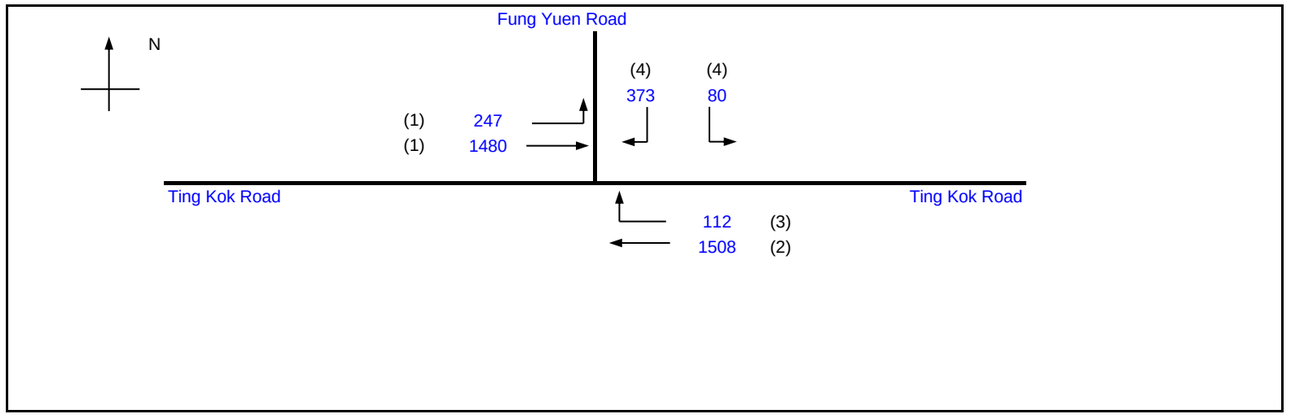
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	591		787	0.25	1923			1923	0.409	0.409		66	66	0.742	66	23
SA	A	3.60	1	1				2115		865		865	0.00	2115			2115	0.409			66	66	0.742	72	22
SA	A,B	3.60	2	1			N	1975		627		627	0.00	1975			1975	0.317			51	51	0.749	72	32
SA,RT	A,B	3.60	3	1	19	O		2115		575	16	591	0.03	1881			1881	0.314			51	51	0.742	66	32
LT,RT	C	3.60	4	1	11		N	1975	24		92	116	1.00	1738			1738	0.067	0.067		11	11	0.742	24	78
RT	C	3.80	4	1	17			2135			131	131	1.00	1962			1962	0.067			11	11	0.742	24	74

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

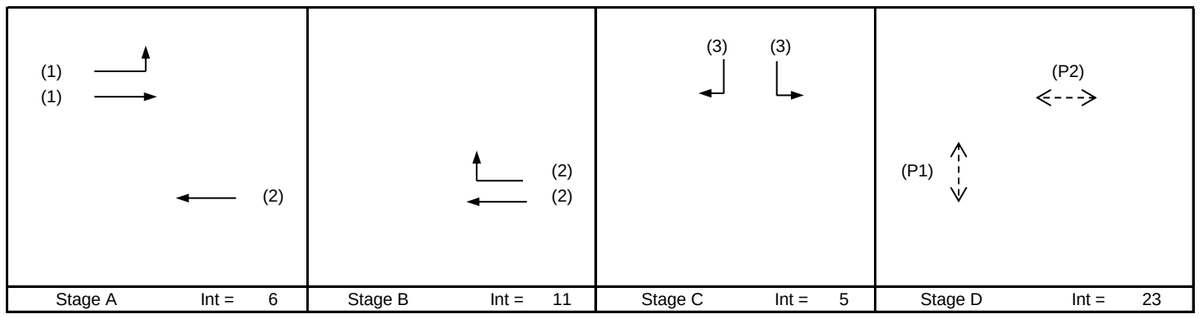
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_AM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.551	
Loss time		L =	43	sec
Total Flow		=	3800	pcu
Co	= (1.5*L+5)/(1-Y)	=	154.8	sec
Cm	= L/(1-Y)	=	95.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	4.8	%
Cp	= 0.9*L/(0.9-Y)	=	110.9	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	4.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

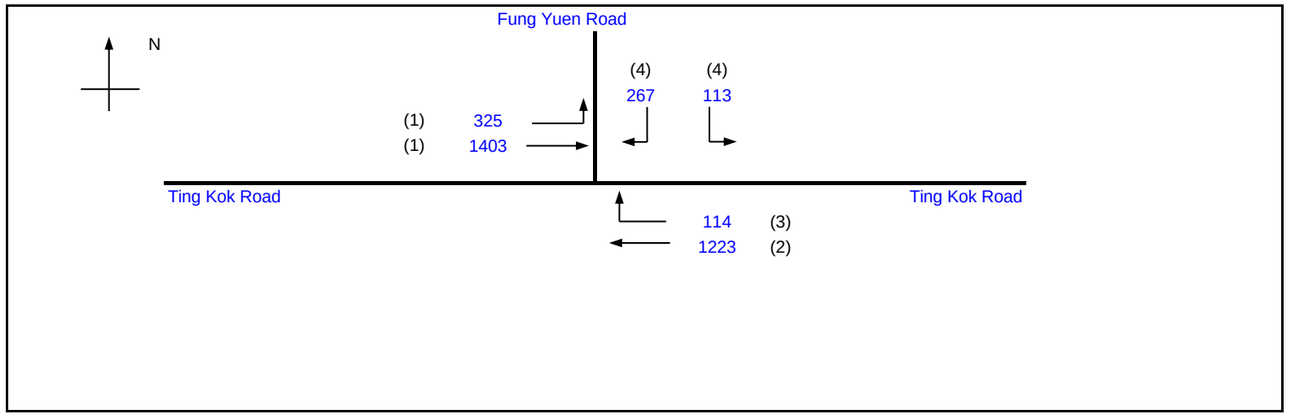
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	573		820	0.30	1914			1914	0.429	0.429		60	60	0.859	84	19
SA	A	3.60	1	1				2115		907		907	0.00	2115			2115	0.429			60	60	0.859	90	20
SA	A,B	3.60	2	1			N	1975		825		825	0.00	1975			1975	0.417			58	60	0.840	84	32
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.427			60	60	0.859	84	19
LT,RT	C	3.60	4	1	11		N	1975	80		133	213	1.00	1738			1738	0.122	0.122		17	17	0.859	48	47
RT	C	3.80	4	1	17			2135			240	240	1.00	1962			1962	0.122			17	17	0.859	48	47

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

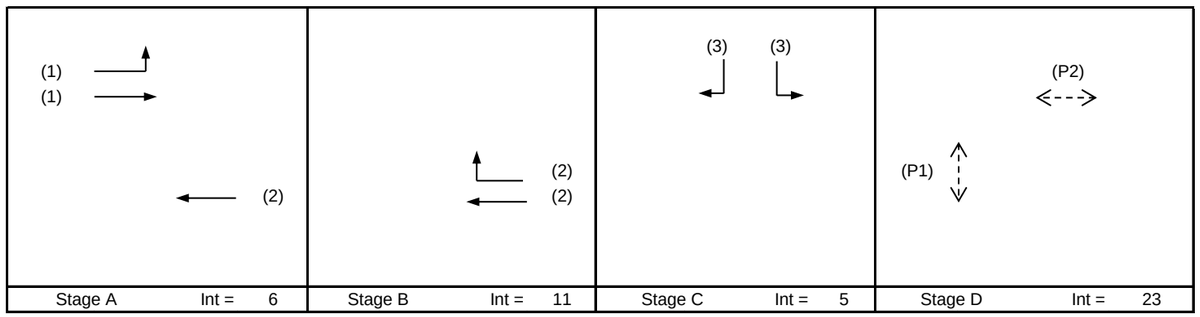
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.533	
Loss time		L =	43	sec
Total Flow		=	3445	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.9	sec
Cm	= L/(1-Y)	=	92.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.3	%
Cp	= 0.9*L/(0.9-Y)	=	105.5	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

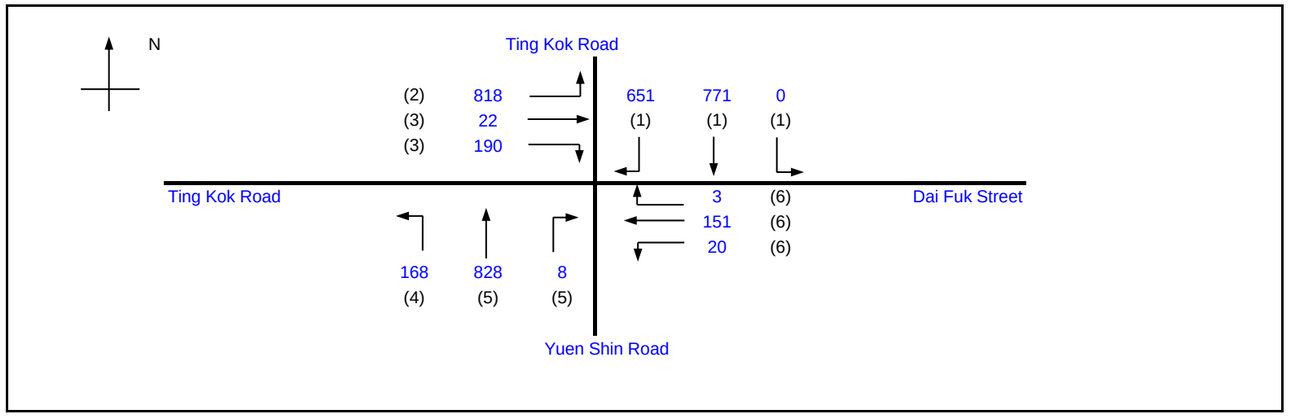
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	492		817	0.40	1898			1898	0.431	0.431		62	62	0.831	78	30
SA	A	3.60	1	1				2115		911		911	0.00	2115			2115	0.431			62	62	0.831	84	29
SA	A,B	3.60	2	1			N	1975		688		688	0.00	1975			1975	0.348			50	50	0.829	78	37
SA,RT	A,B	3.60	3	1	19	O		2115		535	114	649	0.18	1859			1859	0.349			50	50	0.831	78	38
LT,RT	C	3.60	4	1	11		N	1975	113		66	179	1.00	1738			1738	0.103	0.103		15	15	0.831	36	83
RT	C	3.80	4	1	17			2135			201	201	1.00	1962			1962	0.103			15	15	0.831	42	79

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

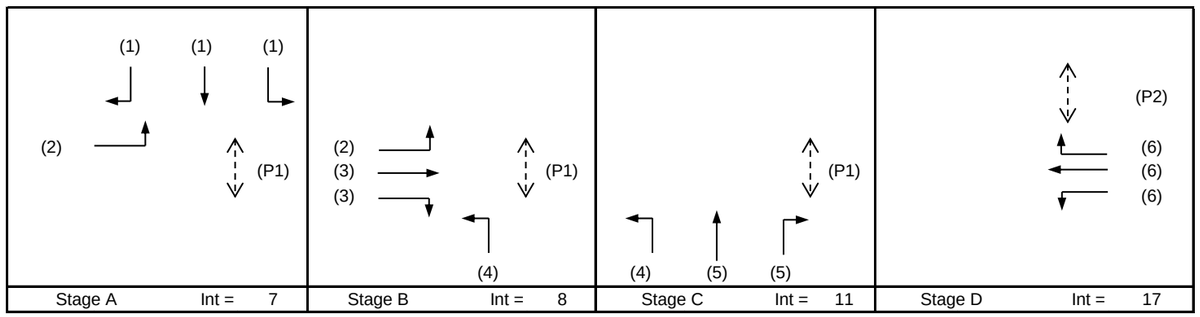
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	**2027Ref_SUN** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.402	
Loss time		L =	40	sec
Total Flow		=	3630	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.7	sec
Cm	= L/(1-Y)	=	66.9	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	49.3	%
Cp	= 0.9*L/(0.9-Y)	=	72.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	34.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

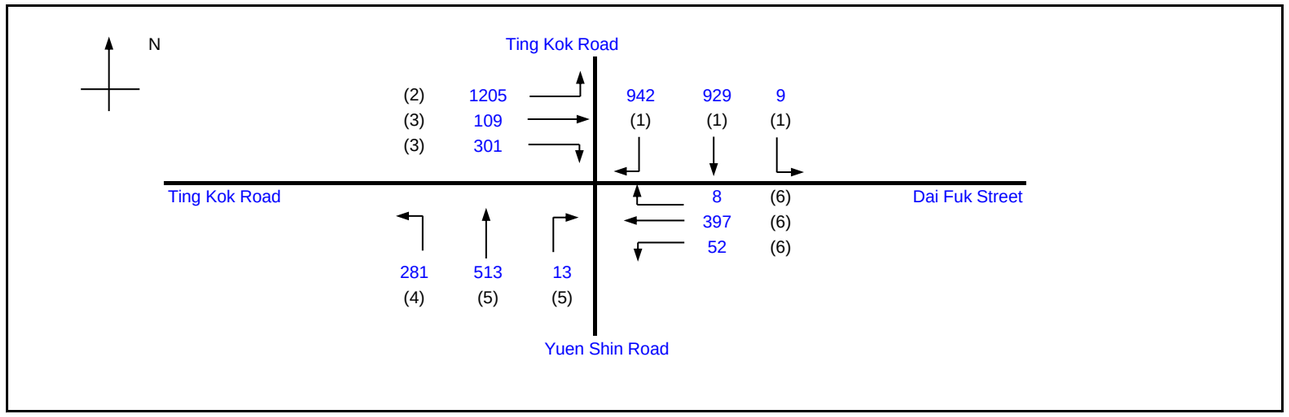
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	347		347	0.00	1980			1980	0.175		40	26	26	0.670	42	36
SA	A	3.65	1	1				2120		371		371	0.00	2120			2120	0.175			26	26	0.670	42	36
RT	A	3.65	1	2	25			4240		53	651	704	0.93	4017			4017	0.175	0.175		26	26	0.670	42	33
LT	A,B	3.65	2	2	20		N	4100	818			818	1.00	3814			3814	0.214			32	32	0.670	45	29
SA	B	3.65	3	1				2120		22		22	0.00	2120			2120	0.010			2	2	0.670	6	144
RT	B	3.65	3	1	25			2120			190	190	1.00	2000			2000	0.095	0.095		14	14	0.670	24	48
LT	B,C	3.40	4	1	15		N	1955	168			168	1.00	1777			1777	0.095			14	14	0.670	24	50
SA	C	3.40	5	3				6285		828		828	0.00	6285			6285	0.132	0.132		20	20	0.670	36	36
RT	C	3.40	5	1	20			2095			8	8	1.00	1949			1949	0.004			1	1	0.670	0	320
LT,SA	D	3.65	6	1	15		N	1980	20	63		83	0.24	1933			1933	0.043			6	6	0.670	12	68
SA,RT	D	3.65	6	1	25			2120		88	3	91	0.03	2116			2116	0.043			6	6	0.670	12	65

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

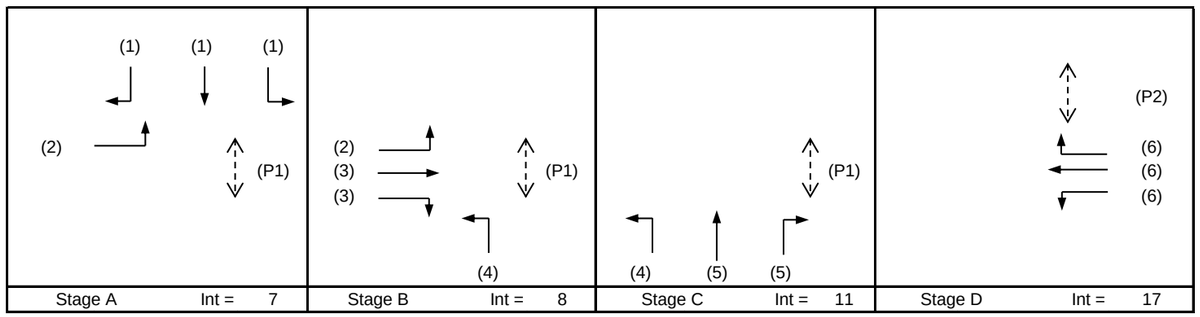
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	**2027Ref_AM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.468	
Loss time		L =	40	sec
Total Flow		=	4759	pcu
Co	= (1.5*L+5)/(1-Y)	=	122.1	sec
Cm	= L/(1-Y)	=	75.1	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	28.3	%
Cp	= 0.9*L/(0.9-Y)	=	83.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	15.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

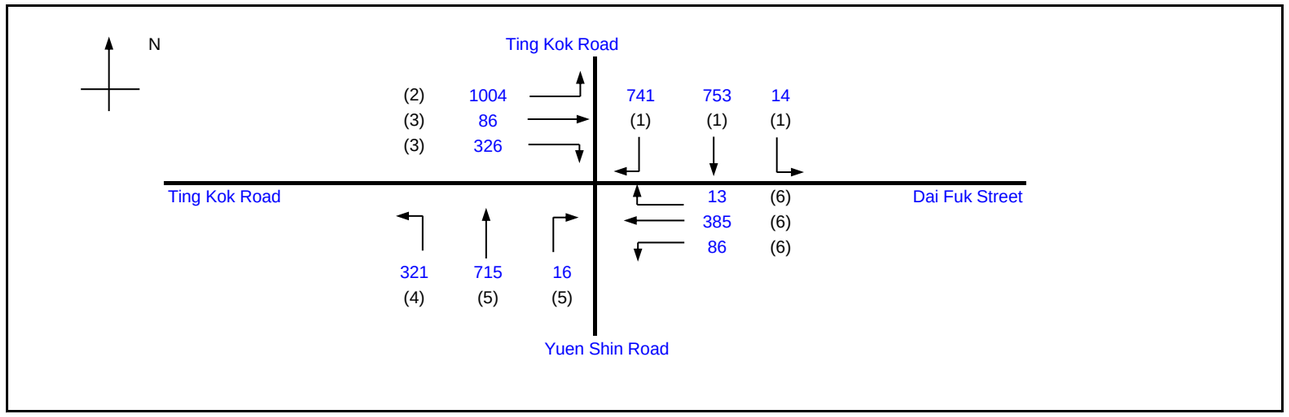
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	444		453	0.02	1977			1977	0.229		40	29	29	0.779	54	39
SA	A	3.65	1	1				2120		485		485	0.00	2120			2120	0.229			29	29	0.779	54	38
RT	A	3.65	1	2	25			4240		0	942	942	1.00	4000			4000	0.236	0.236		30	30	0.779	54	33
LT	A,B	3.65	2	2	20		N	4100	1205			1205	1.00	3814			3814	0.316			41	41	0.779	57	27
SA	B	3.65	3	1				2120		109		109	0.00	2120			2120	0.051			7	7	0.779	18	82
RT	B	3.65	3	1	25			2120			301	301	1.00	2000			2000	0.151	0.151		19	19	0.779	42	49
LT	B,C	3.40	4	1	15		N	1955	281			281	1.00	1777			1777	0.158			20	20	0.779	42	50
SA	C	3.40	5	3				6285		513		513	0.00	6285			6285	0.082	0.082		10	10	0.779	26	48
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.779	6	388
LT,SA	D	3.65	6	1	15		N	1980	52	166		218	0.24	1934			1934	0.113			14	14	0.779	36	58
SA,RT	D	3.65	6	1	25			2120		231	8	239	0.03	2116			2116	0.113			14	14	0.779	36	56

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

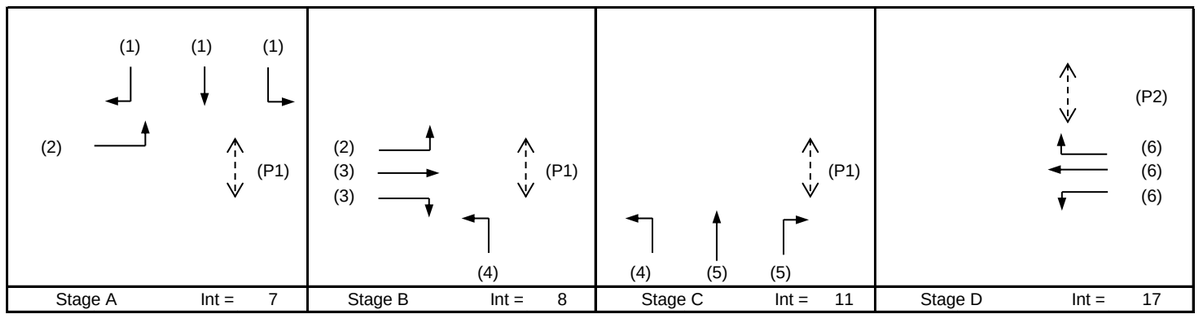
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.463	
Loss time		L =	40	sec
Total Flow		=	4460	pcu
Co	= (1.5*L+5)/(1-Y)	=	121.1	sec
Cm	= L/(1-Y)	=	74.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	29.6	%
Cp	= 0.9*L/(0.9-Y)	=	82.4	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

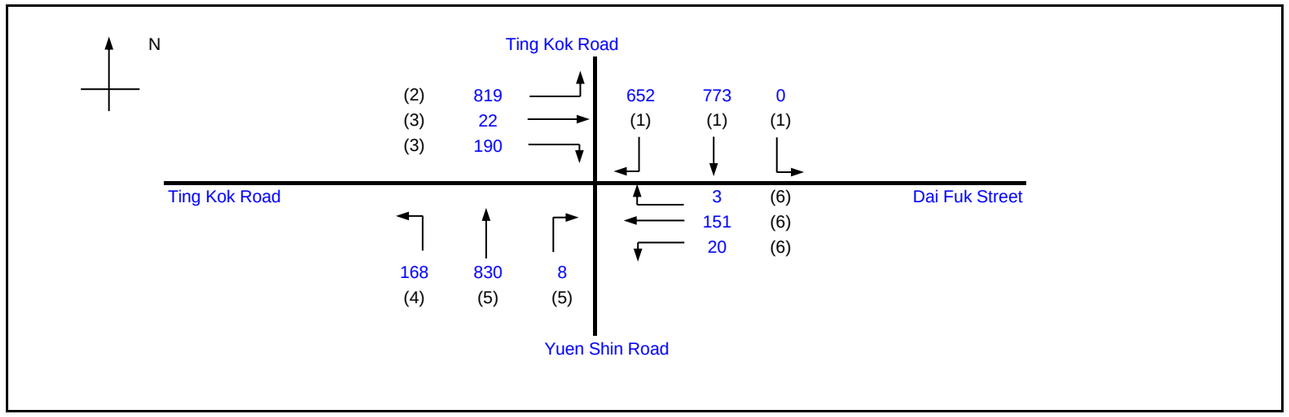
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	14	354		368	0.04	1974			1974	0.186		40	23	23	0.794	48	45
SA	A	3.65	1	1				2120		395		395	0.00	2120			2120	0.186			23	23	0.794	48	44
RT	A	3.65	1	2	25			4240		4	741	745	0.99	4001			4001	0.186	0.186		23	23	0.794	45	38
LT	A,B	3.65	2	2	20		N	4100	1004			1004	1.00	3814			3814	0.263			32	32	0.794	51	31
SA	B	3.65	3	1				2120		86		86	0.00	2120			2120	0.041			5	5	0.794	18	98
RT	B	3.65	3	1	25			2120			326	326	1.00	2000			2000	0.163	0.163		20	20	0.794	42	48
LT	B,C	3.40	4	1	15		N	1955	321			321	1.00	1777			1777	0.181			22	22	0.794	42	47
SA	C	3.40	5	3				6285		715		715	0.00	6285			6285	0.114	0.114		14	14	0.794	32	43
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.794	6	352
LT,SA	D	3.65	6	1	15		N	1980	86	144		230	0.37	1909			1909	0.120			15	15	0.794	36	57
SA,RT	D	3.65	6	1	25			2120		241	13	254	0.05	2114			2114	0.120			15	15	0.794	36	55

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

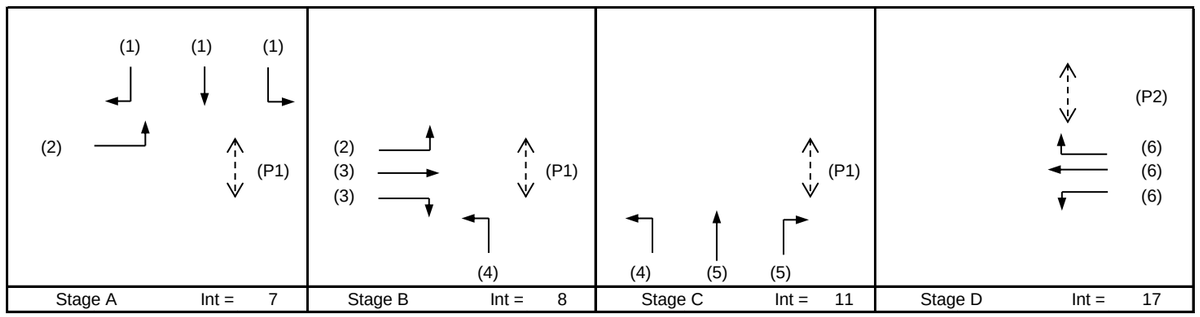
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Des_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.403	
Loss time		L =	40	sec
Total Flow		=	3636	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.8	sec
Cm	= L/(1-Y)	=	67.0	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	49.0	%
Cp	= 0.9*L/(0.9-Y)	=	72.4	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	34.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

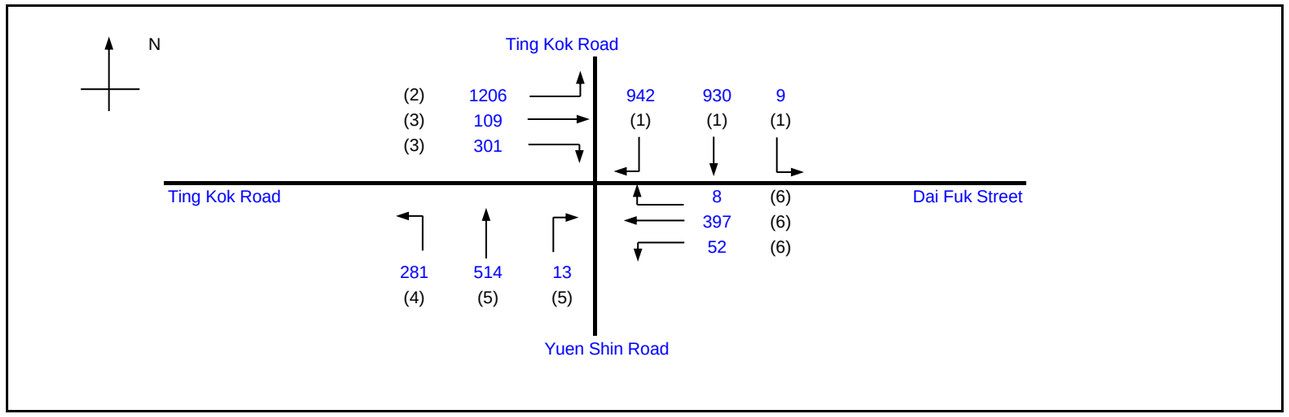
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	348		348	0.00	1980			1980	0.176		40	26	26	0.671	42	36
SA	A	3.65	1	1				2120		372		372	0.00	2120			2120	0.176			26	26	0.671	42	36
RT	A	3.65	1	2	25			4240		53	652	705	0.92	4017			4017	0.176	0.176		26	26	0.671	42	33
LT	A,B	3.65	2	2	20		N	4100	819			819	1.00	3814			3814	0.215			32	32	0.671	45	29
SA	B	3.65	3	1				2120		22		22	0.00	2120			2120	0.010			2	2	0.671	6	145
RT	B	3.65	3	1	25			2120			190	190	1.00	2000			2000	0.095	0.095		14	14	0.671	24	48
LT	B,C	3.40	4	1	15		N	1955	168			168	1.00	1777			1777	0.095			14	14	0.671	24	50
SA	C	3.40	5	3				6285		830		830	0.00	6285			6285	0.132	0.132		20	20	0.671	36	36
RT	C	3.40	5	1	20			2095			8	8	1.00	1949			1949	0.004			1	1	0.671	0	322
LT,SA	D	3.65	6	1	15		N	1980	20	63		83	0.24	1933			1933	0.043			6	6	0.671	12	68
SA,RT	D	3.65	6	1	25			2120		88	3	91	0.03	2116			2116	0.043			6	6	0.671	12	66

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

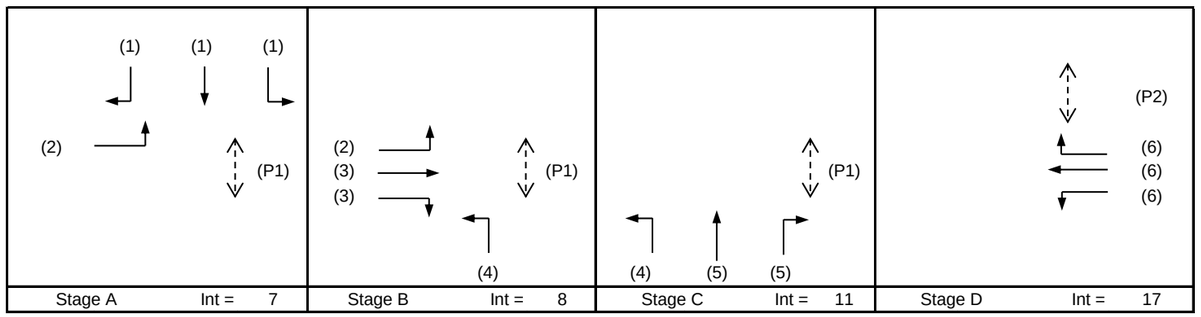
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.468	
Loss time		L =	40	sec
Total Flow		=	4762	pcu
Co	= (1.5*L+5)/(1-Y)	=	122.1	sec
Cm	= L/(1-Y)	=	75.2	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	28.3	%
Cp	= 0.9*L/(0.9-Y)	=	83.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	15.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

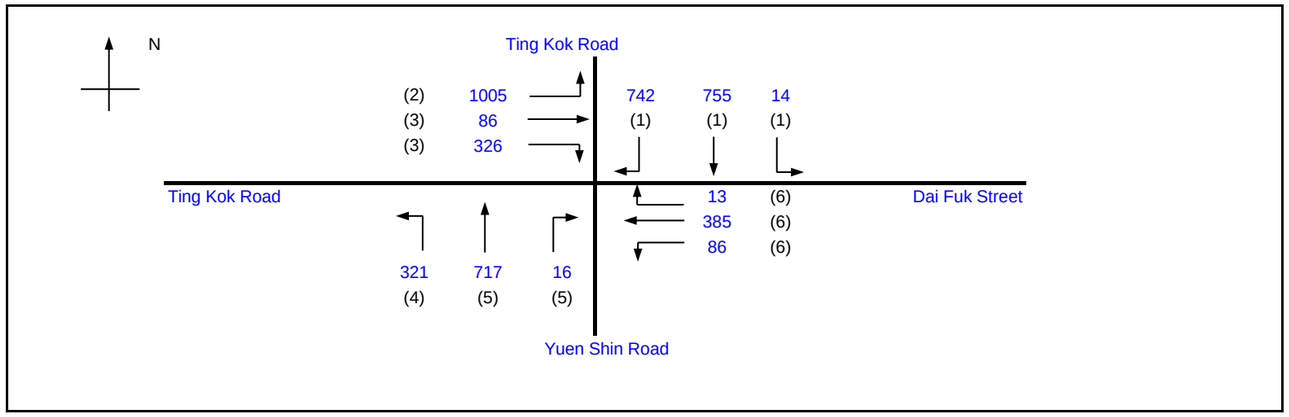
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	444		453	0.02	1977			1977	0.229		40	29	29	0.780	54	39
SA	A	3.65	1	1				2120		486		486	0.00	2120			2120	0.229			29	29	0.780	54	38
RT	A	3.65	1	2	25			4240		0	942	942	1.00	4000			4000	0.236	0.236		30	30	0.780	54	33
LT	A,B	3.65	2	2	20		N	4100	1206			1206	1.00	3814			3814	0.316			41	41	0.780	57	27
SA	B	3.65	3	1				2120		109		109	0.00	2120			2120	0.051			7	7	0.780	18	82
RT	B	3.65	3	1	25			2120			301	301	1.00	2000			2000	0.151	0.151		19	19	0.780	42	49
LT	B,C	3.40	4	1	15		N	1955	281			281	1.00	1777			1777	0.158			20	20	0.780	42	50
SA	C	3.40	5	3				6285		514		514	0.00	6285			6285	0.082	0.082		10	10	0.780	26	48
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.780	6	388
LT,SA	D	3.65	6	1	15		N	1980	52	166		218	0.24	1934			1934	0.113			14	14	0.780	36	58
SA,RT	D	3.65	6	1	25			2120		231	8	239	0.03	2116			2116	0.113			14	14	0.780	36	56

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

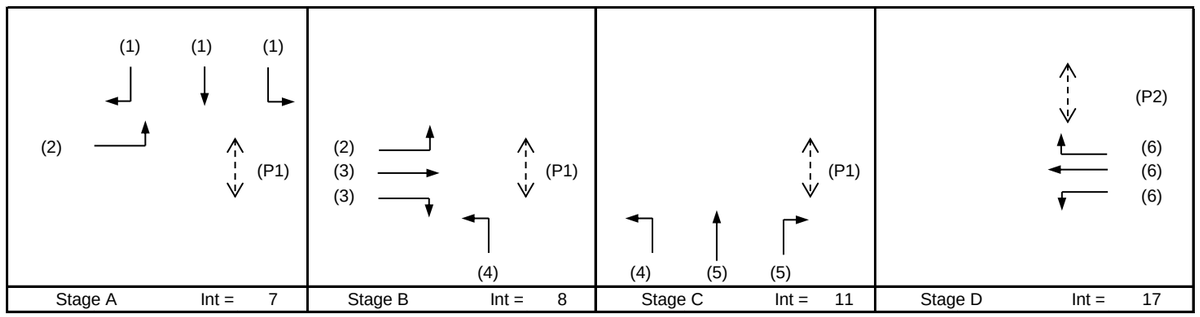
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.464	
Loss time		L =	40	sec
Total Flow		=	4466	pcu
Co	= (1.5*L+5)/(1-Y)	=	121.2	sec
Cm	= L/(1-Y)	=	74.6	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	29.4	%
Cp	= 0.9*L/(0.9-Y)	=	82.5	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

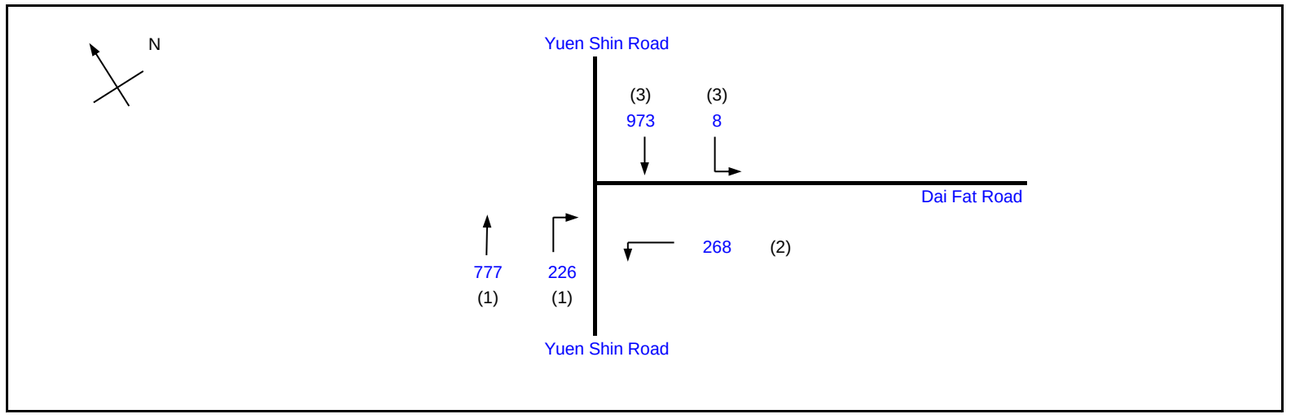
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	14	354		368	0.04	1974			1974	0.187		40	23	23	0.795	48	45
SA	A	3.65	1	1				2120		396		396	0.00	2120			2120	0.187			23	23	0.795	48	44
RT	A	3.65	1	2	25			4240		5	742	747	0.99	4001			4001	0.187	0.187		23	23	0.795	45	38
LT	A,B	3.65	2	2	20		N	4100	1005			1005	1.00	3814			3814	0.264			32	32	0.795	51	31
SA	B	3.65	3	1				2120		86		86	0.00	2120			2120	0.041			5	5	0.795	18	99
RT	B	3.65	3	1	25			2120			326	326	1.00	2000			2000	0.163	0.163		20	20	0.795	42	48
LT	B,C	3.40	4	1	15		N	1955	321			321	1.00	1777			1777	0.181			22	22	0.795	42	47
SA	C	3.40	5	3				6285		717		717	0.00	6285			6285	0.114	0.114		14	14	0.795	32	43
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.795	6	355
LT,SA	D	3.65	6	1	15		N	1980	86	144		230	0.37	1909			1909	0.120			15	15	0.795	36	57
SA,RT	D	3.65	6	1	25			2120		241	13	254	0.05	2114			2114	0.120			15	15	0.795	36	55

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

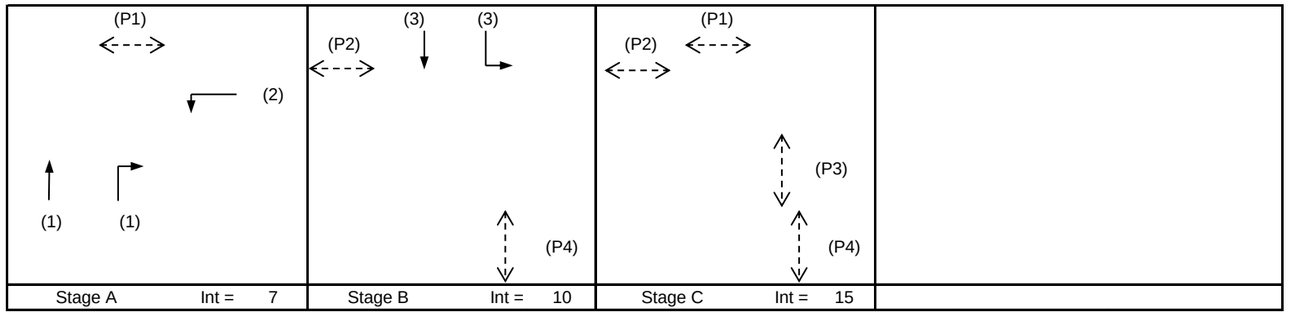
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.434	
Loss time		L =	30	sec
Total Flow		=	2252	pcu
Co	= (1.5*L+5)/(1-Y)	=	88.3	sec
Cm	= L/(1-Y)	=	53.0	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	55.6	%
Cp	= 0.9*L/(0.9-Y)	=	57.9	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

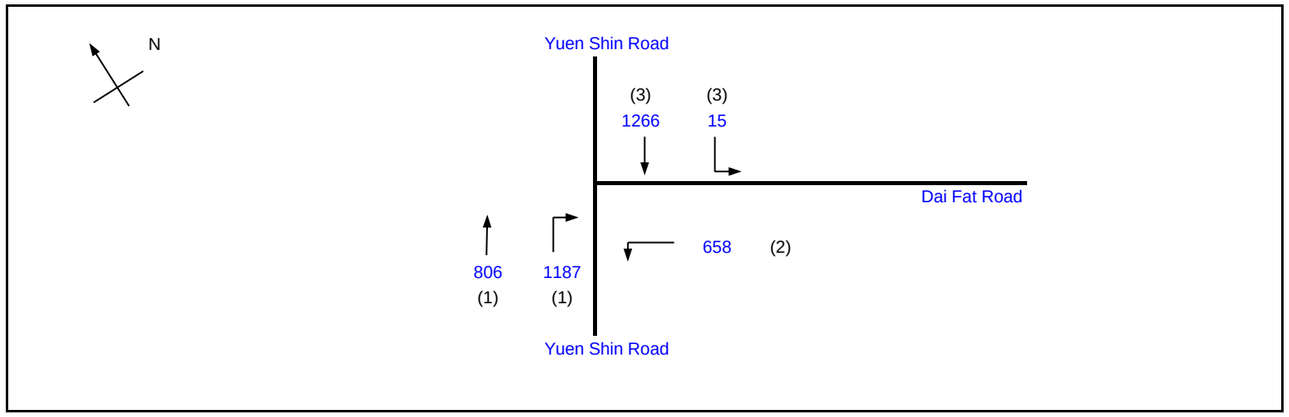
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		375		375	0.00	1965			1965	0.191	0.191	30	31	31	0.620	42	31
SA,RT	A	3.50	1	1	25			2105		402	0	402	0.00	2105			2105	0.191			31	31	0.620	42	31
RT	A	3.50	1	1	23			2105			226	226	1.00	1976			1976	0.114			18	31	0.371	24	26
LT	A	3.80	2	2	19		N	4130	268			268	1.00	3828			3828	0.070			11	11	0.620	18	44
LT,SA	B	3.20	3	1	17		N	1935	8	461		469	0.02	1932			1932	0.243	0.243		39	39	0.620	42	25
SA	B	3.50	3	1				2105		512		512	0.00	2105			2105	0.243			39	39	0.620	48	25

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

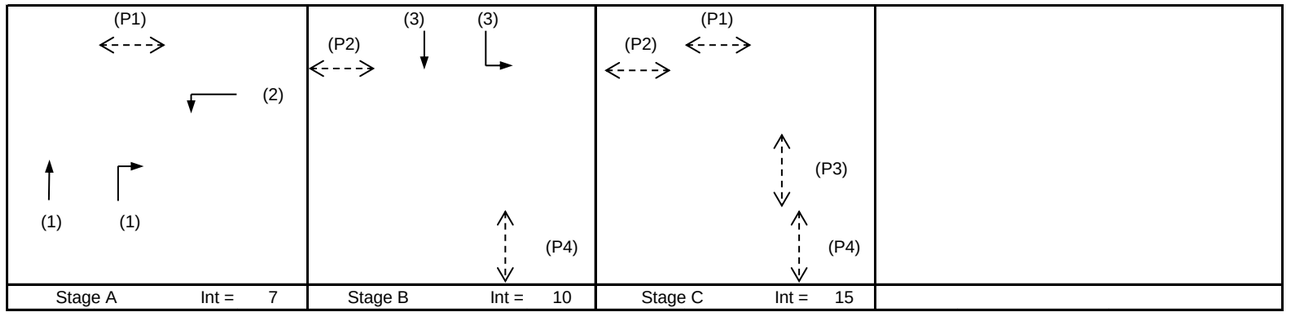
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_AM**	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.652	
Loss time		L =	30	sec
Total Flow		=	3932	pcu
Co	= (1.5*L+5)/(1-Y)	=	143.8	sec
Cm	= L/(1-Y)	=	86.3	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	3.5	%
Cp	= 0.9*L/(0.9-Y)	=	109.0	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

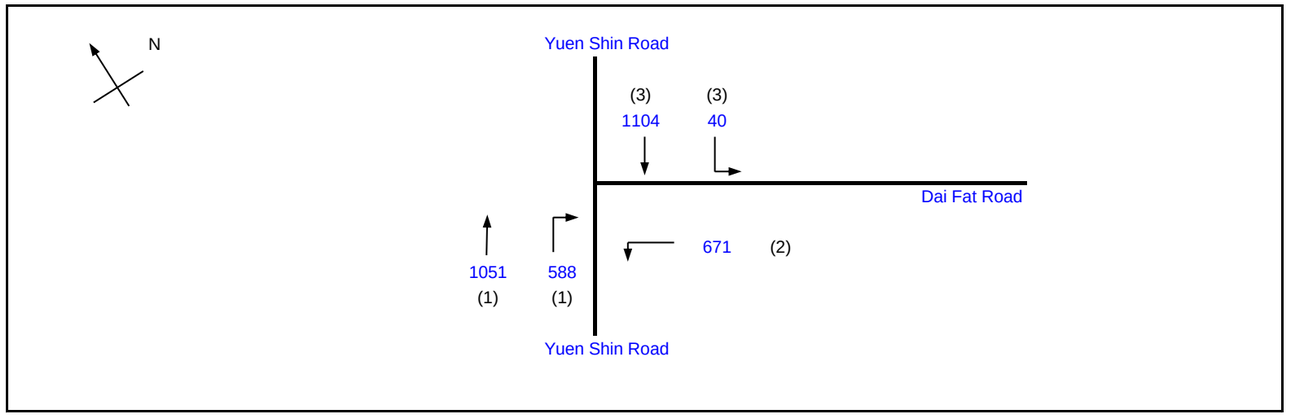
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		658		658	0.00	1965			1965	0.335	0.335	30	46	46	0.870	84	28
SA,RT	A	3.50	1	1	25			2105		148	525	673	0.78	2011			2011	0.335			46	46	0.870	90	28
RT	A	3.50	1	1	23			2105			662	662	1.00	1976			1976	0.335			46	46	0.870	90	28
LT	A	3.80	2	2	19		N	4130	658			658	1.00	3828			3828	0.172			24	24	0.870	57	47
LT,SA	B	3.20	3	1	17		N	1935	15	598		613	0.02	1931			1931	0.317	0.317		44	44	0.870	84	29
SA	B	3.50	3	1				2105		668		668	0.00	2105			2105	0.317			44	44	0.870	90	30

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

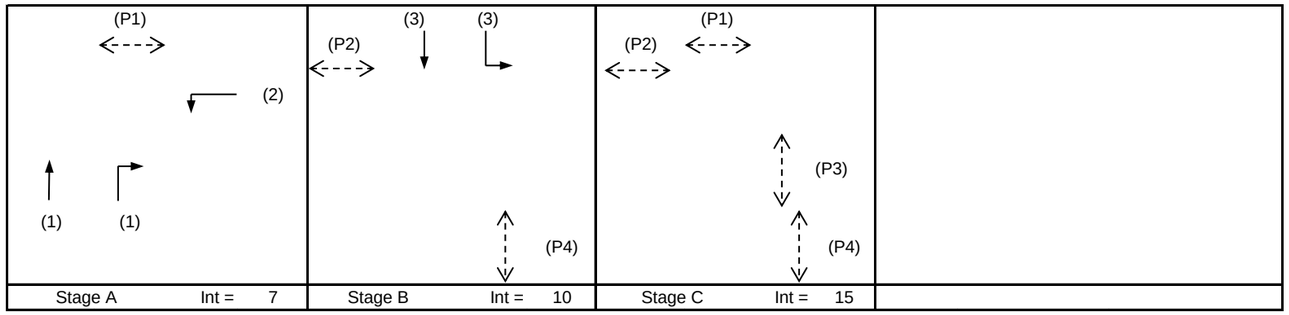
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.556	
Loss time		L =	30	sec
Total Flow		=	3454	pcu
Co	= (1.5*L+5)/(1-Y)	=	112.5	sec
Cm	= L/(1-Y)	=	67.5	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	21.5	%
Cp	= 0.9*L/(0.9-Y)	=	78.4	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

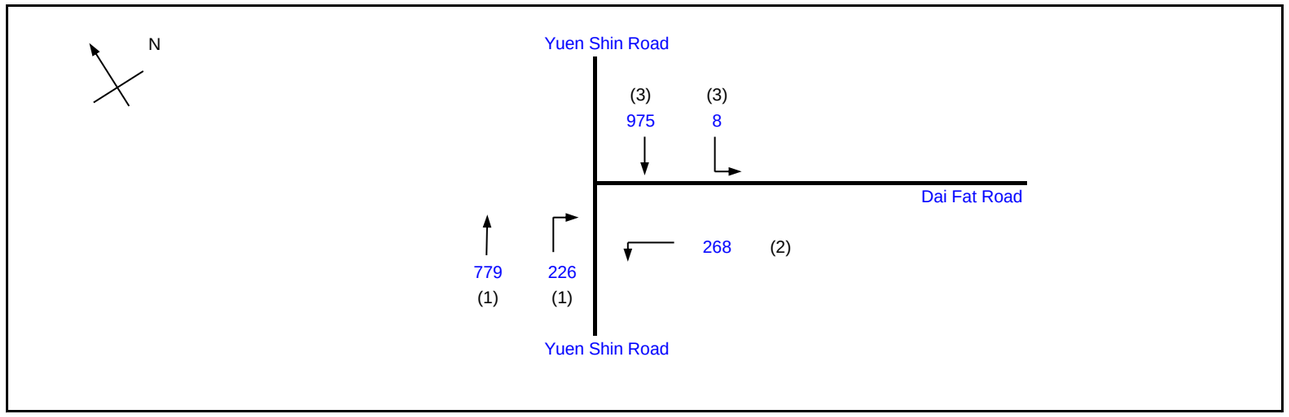
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		534		534	0.00	1965			1965	0.272	0.272	30	34	34	0.794	60	36
SA,RT	A	3.50	1	1	25			2105		517	51	569	0.09	2094			2094	0.272			34	34	0.794	60	35
RT	A	3.50	1	1	23			2105			537	537	1.00	1976			1976	0.272			34	34	0.794	60	36
LT	A	3.80	2	2	19		N	4130	671			671	1.00	3828			3828	0.175			22	22	0.794	42	41
LT,SA	B	3.20	3	1	17		N	1935	40	506		546	0.07	1923			1923	0.284	0.284		36	36	0.794	60	35
SA	B	3.50	3	1				2105		598		598	0.00	2105			2105	0.284			36	36	0.794	66	34

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

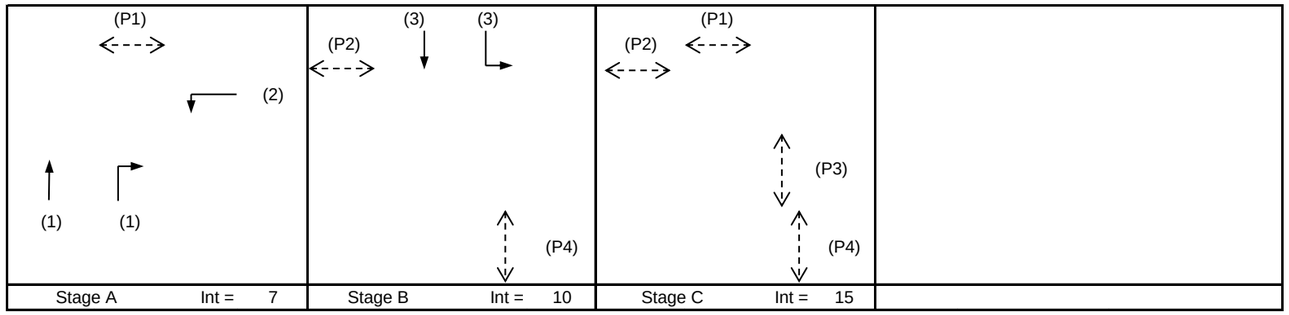
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Des_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.435	
Loss time		L =	30	sec
Total Flow		=	2256	pcu
Co	= (1.5*L+5)/(1-Y)	=	88.5	sec
Cm	= L/(1-Y)	=	53.1	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	55.2	%
Cp	= 0.9*L/(0.9-Y)	=	58.1	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	44.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

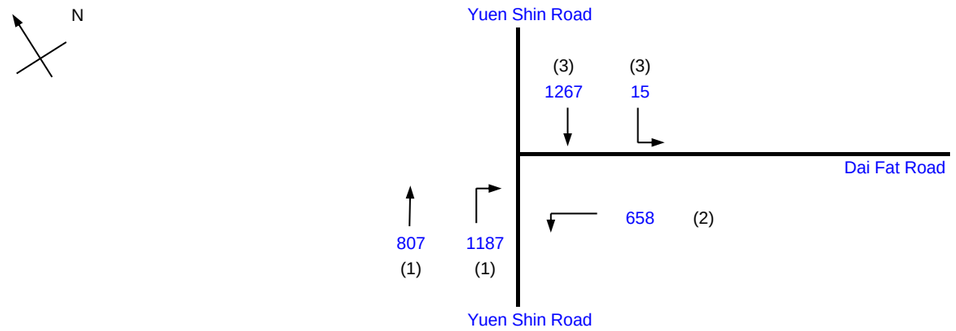
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		376		376	0.00	1965			1965	0.191	0.191	30	31	31	0.621	42	31
SA,RT	A	3.50	1	1	25			2105		403	0	403	0.00	2105			2105	0.191			31	31	0.621	42	31
RT	A	3.50	1	1	23			2105			226	226	1.00	1976			1976	0.114			18	31	0.371	24	26
LT	A	3.80	2	2	19		N	4130	268			268	1.00	3828			3828	0.070			11	11	0.621	18	44
LT,SA	B	3.20	3	1	17		N	1935	8	462		470	0.02	1932			1932	0.243	0.243		39	39	0.621	42	26
SA	B	3.50	3	1				2105		513		513	0.00	2105			2105	0.243			39	39	0.621	48	25

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

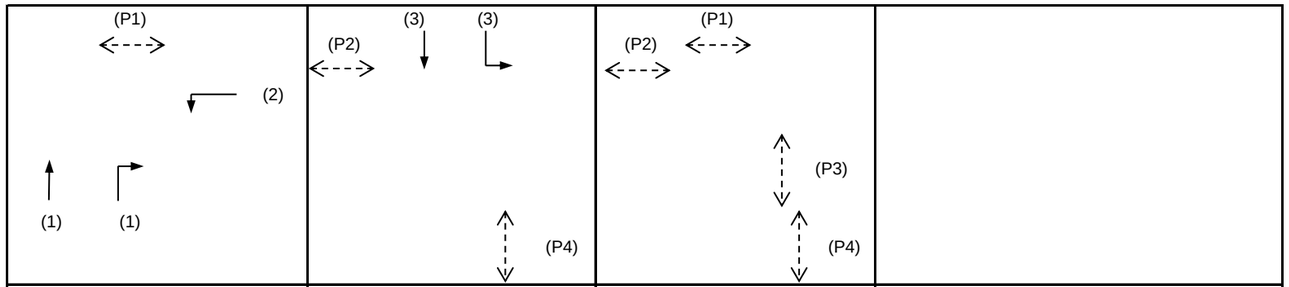
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.653	
Loss time		L =	30	sec
Total Flow		=	3934	pcu
Co	= (1.5*L+5)/(1-Y)	=	144.0	sec
Cm	= L/(1-Y)	=	86.4	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	3.4	%
Cp	= 0.9*L/(0.9-Y)	=	109.2	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

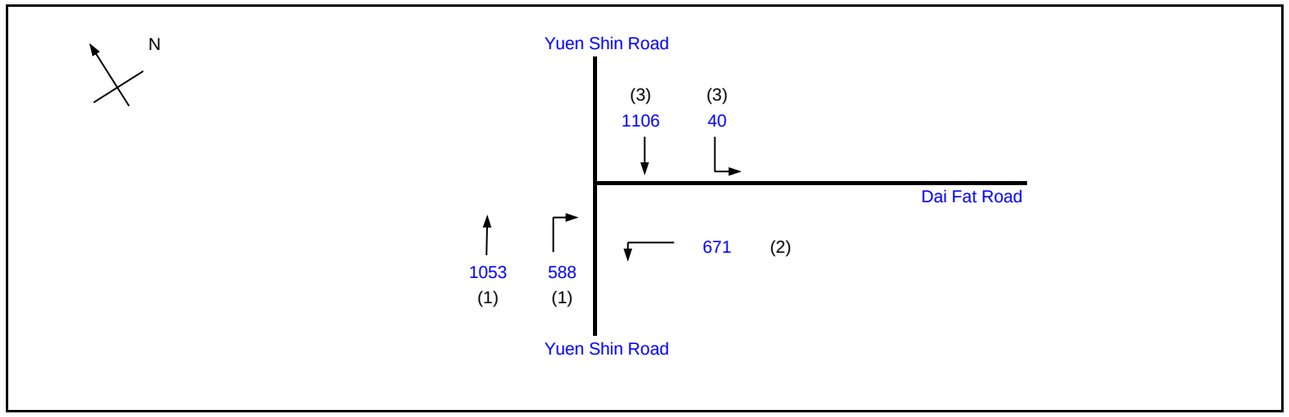
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		658		658	0.00	1965			1965	0.335	0.335	30	46	46	0.870	84	28
SA,RT	A	3.50	1	1	25			2105		149	525	674	0.78	2011			2011	0.335			46	46	0.870	90	28
RT	A	3.50	1	1	23			2105			662	662	1.00	1976			1976	0.335			46	46	0.870	90	28
LT	A	3.80	2	2	19		N	4130	658			658	1.00	3828			3828	0.172			24	24	0.870	57	47
LT,SA	B	3.20	3	1	17		N	1935	15	598		613	0.02	1931			1931	0.318	0.318		44	44	0.870	84	29
SA	B	3.50	3	1				2105		669		669	0.00	2105			2105	0.318			44	44	0.870	90	30

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

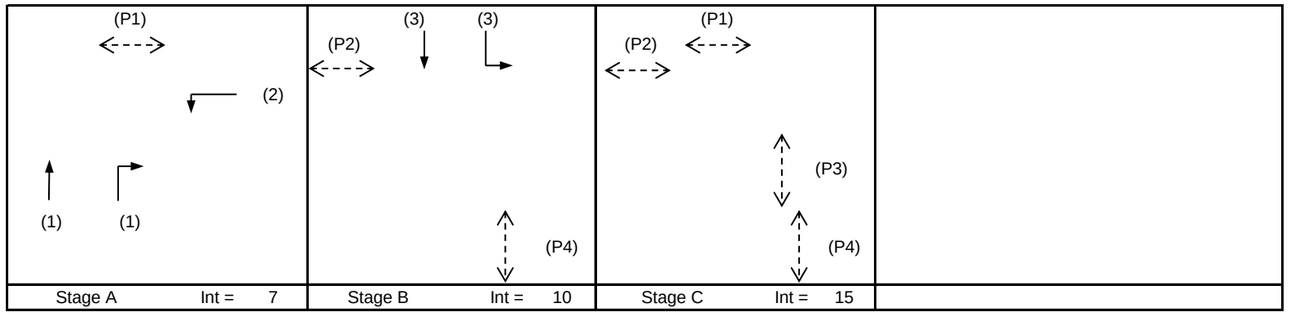
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.556	
Loss time		L =	30	sec
Total Flow		=	3458	pcu
Co	= (1.5*L+5)/(1-Y)	=	112.7	sec
Cm	= L/(1-Y)	=	67.6	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	21.3	%
Cp	= 0.9*L/(0.9-Y)	=	78.6	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.2	%



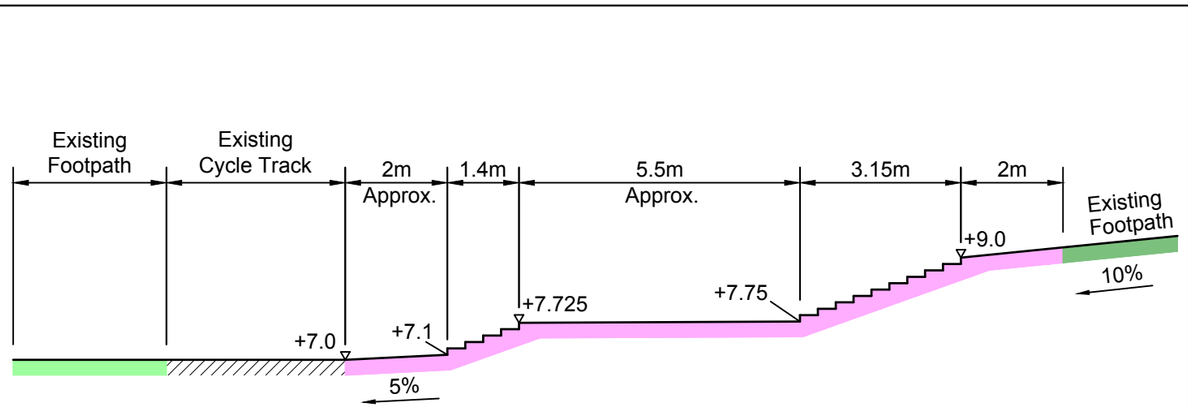
Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		534		534	0.00	1965			1965	0.272	0.272	30	34	34	0.795	60	36
SA,RT	A	3.50	1	1	25			2105		519	51	569	0.09	2094			2094	0.272			34	34	0.795	60	36
RT	A	3.50	1	1	23			2105			537	537	1.00	1976			1976	0.272			34	34	0.795	60	36
LT	A	3.80	2	2	19		N	4130	671			671	1.00	3828			3828	0.175			22	22	0.795	42	41
LT,SA	B	3.20	3	1	17		N	1935	40	507		547	0.07	1923			1923	0.285	0.285		36	36	0.795	60	35
SA	B	3.50	3	1				2105		599		599	0.00	2105			2105	0.285			36	36	0.795	66	34

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

Appendix D

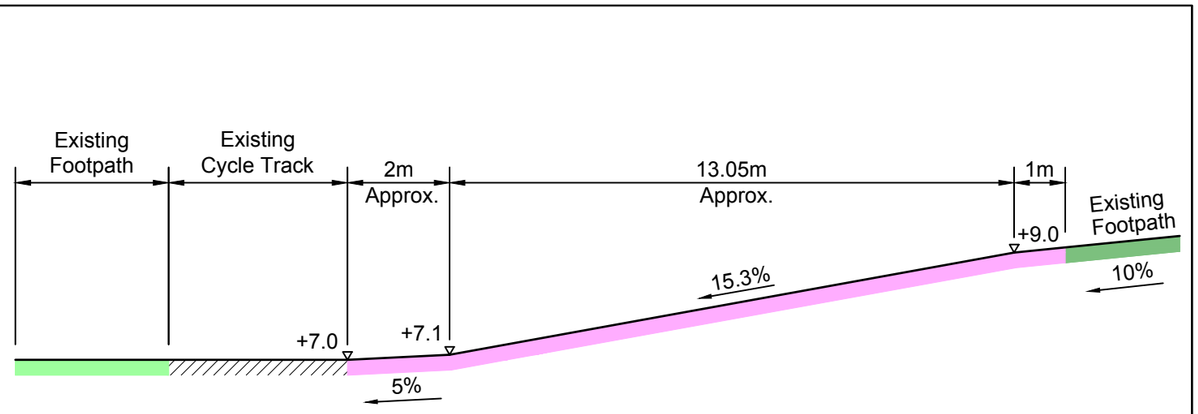
Comparison of Footpath Connection Options



Typical Section of Proposed New Footpath

Option A

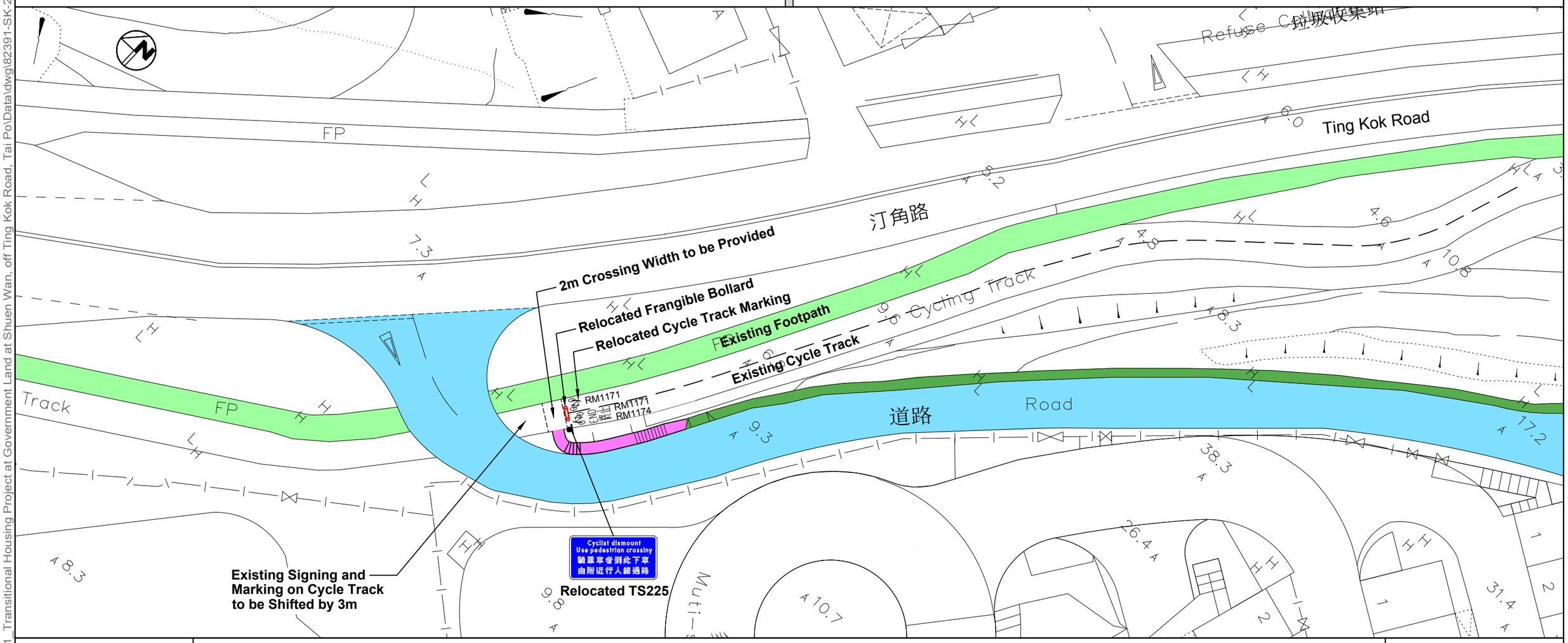
Scale 1:150



Typical Section of Proposed New Footpath

Option B

Scale 1:150



Date	06/04/2022
Scale	1:400

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Details of New Footpath and Adjusted Signing and Marking on Cycle Track

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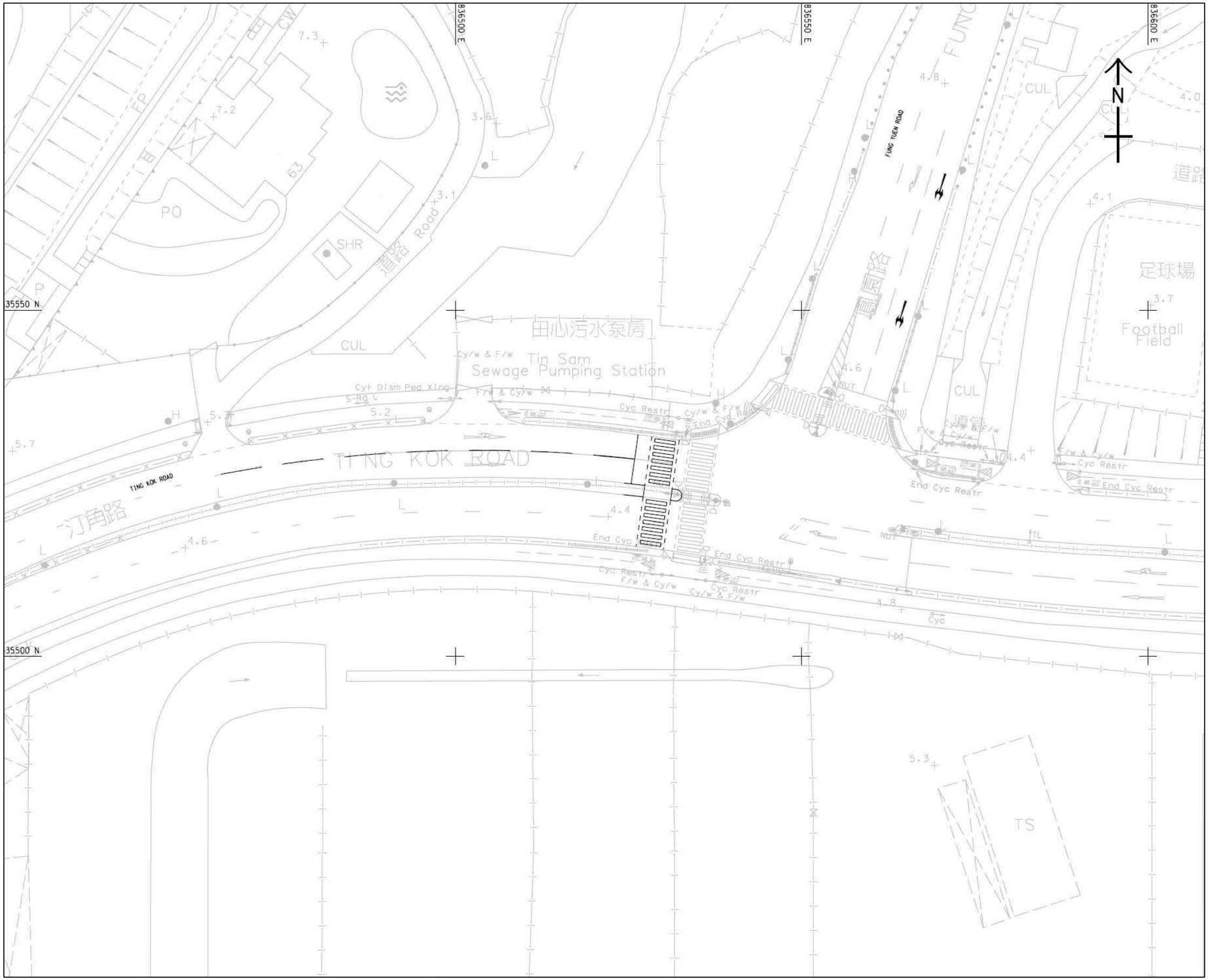
Drawing No.	Rev.
Appendix D	-

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-SK-2A(20220512).dwg 2022/05/12 18:51:42

Appendix E

Proposed Improvement to Junction of Ting Kok Road and Fung Yuen Road



Source: Figure 5.5 -- Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)

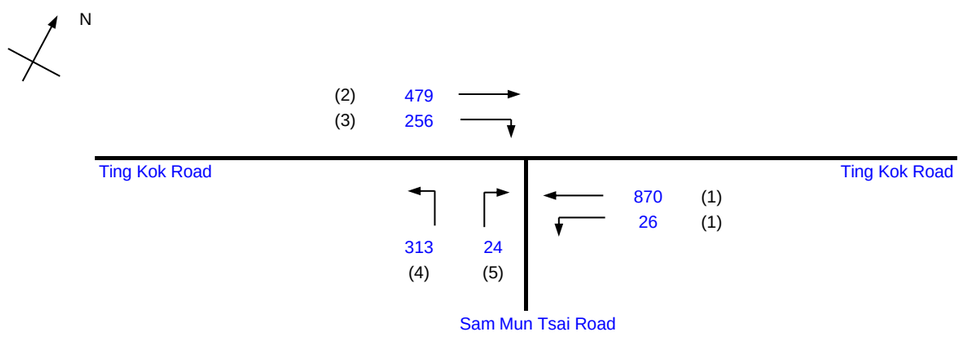
Appendix F

2024 Junction Calculation Sheets

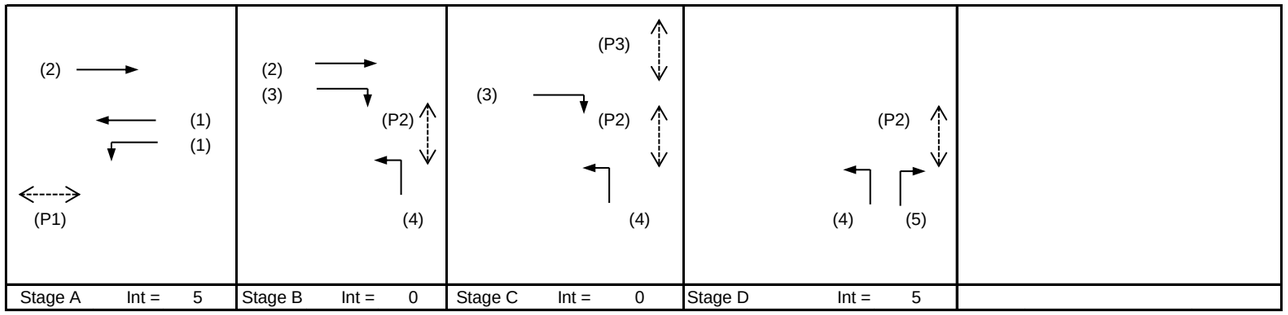
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.411	
Loss time		L =	8	sec
Total Flow		=	1968	pcu
Co	= (1.5*L+5)/(1-Y)	=	28.9	sec
Cm	= L/(1-Y)	=	13.6	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	104.3	%
Cp	= 0.9*L/(0.9-Y)	=	14.7	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	99.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

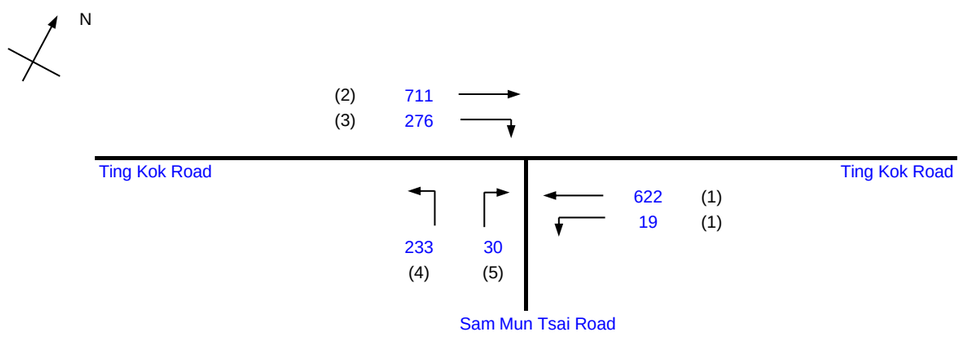
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	26	406		432	0.06	1909			1909	0.226	0.226		44	44	0.452	30	14
SA	A	3.00	1	1				2055		464		464	0.00	2055			2055	0.226			44	44	0.452	30	14
SA	A,B	3.30	2	1			N	1945		479		479	0.00	1945			1945	0.246			48	48	0.452	30	12
RT	B,C	3.50	3	1	10			2105			256	256	1.00	1830			1830	0.140			27	27	0.452	24	24
LT	B,C,D	3.30	4	1	10		N	1945	313			313	1.00	1691			1691	0.185	0.185		36	36	0.452	24	19
RT	D	3.50	5	1	10			2105			24	24	1.00	1830			1830	0.013			3	3	0.452	0	63

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

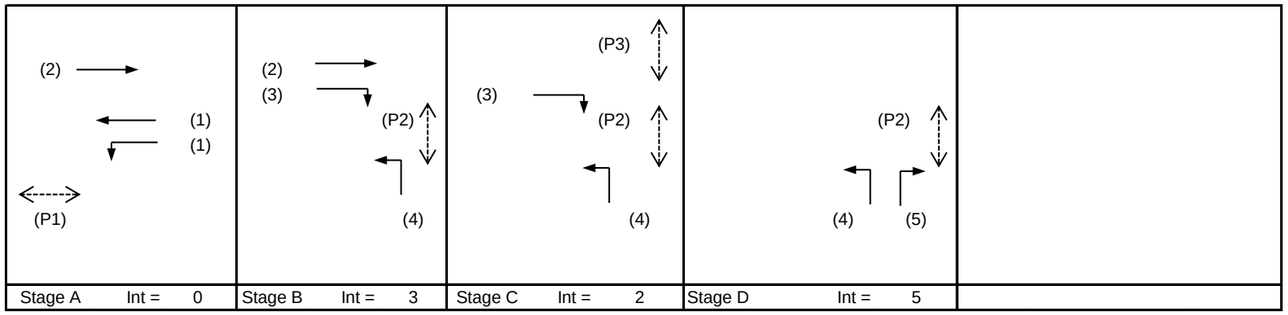
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)	**2024Ref_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.382	
Loss time		L =	18	sec
Total Flow		=	1891	pcu
Co	= (1.5*L+5)/(1-Y)	=	51.8	sec
Cm	= L/(1-Y)	=	29.1	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	100.3	%
Cp	= 0.9*L/(0.9-Y)	=	31.3	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	87.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	19	290		309	0.06	1909			1909	0.162			30	30	0.480	30	23
SA	A	3.00	1	1				2055		332		332	0.00	2055			2055	0.162			30	30	0.480	30	23
SA	A,B	3.30	2	1			N	1945		711		711	0.00	1945			1945	0.366	0.366		67	67	0.480	24	5
RT	B,C	3.50	3	1	10			2105			276	276	1.00	1830			1830	0.151			28	28	0.480	24	25
LT	B,C,D	3.30	4	1	10		N	1945	233			233	1.00	1691			1691	0.138			25	25	0.480	24	26
RT	D	3.50	5	1	10			2105			30	30	1.00	1830			1830	0.016	0.016		3	3	0.480	0	62
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
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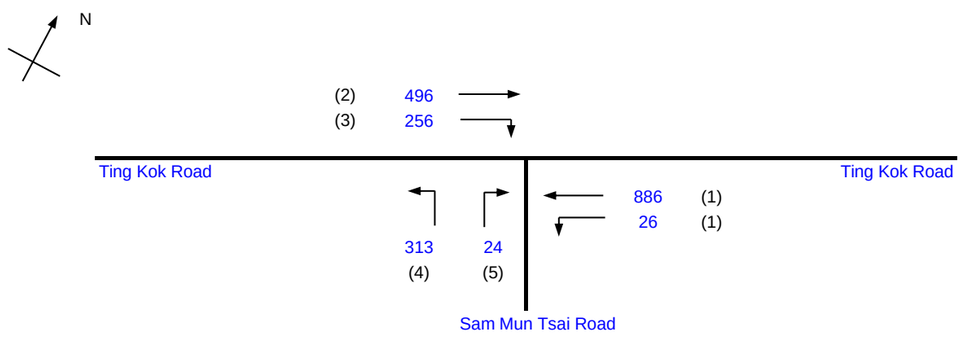
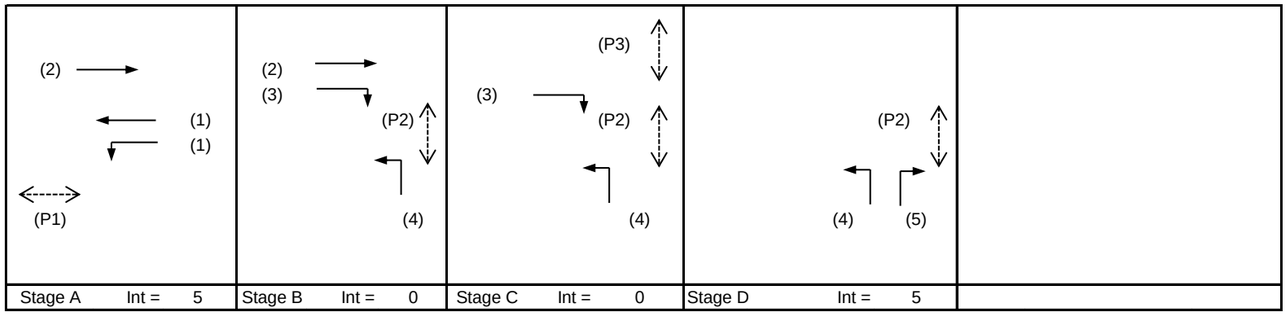


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.415	
Loss time		L =	8	sec
Total Flow		=	2001	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.1	sec
Cm	= L/(1-Y)	=	13.7	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	102.4	%
Cp	= 0.9*L/(0.9-Y)	=	14.8	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	97.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	26	413		439	0.06	1909			1909	0.230	0.230		44	44	0.457	30	14
SA	A	3.00	1	1				2055		473		473	0.00	2055			2055	0.230			44	44	0.457	30	14
SA	A,B	3.30	2	1			N	1945		496		496	0.00	1945			1945	0.255			49	49	0.457	30	12
RT	B,C	3.50	3	1	10			2105			256	256	1.00	1830			1830	0.140			27	27	0.457	24	25
LT	B,C,D	3.30	4	1	10		N	1945	313			313	1.00	1691			1691	0.185	0.185		36	36	0.457	24	19
RT	D	3.50	5	1	10			2105			24	24	1.00	1830			1830	0.013			3	3	0.457	0	64

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
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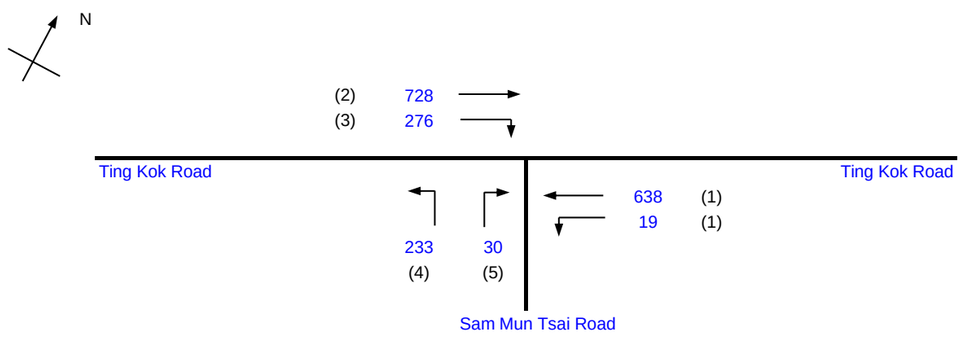
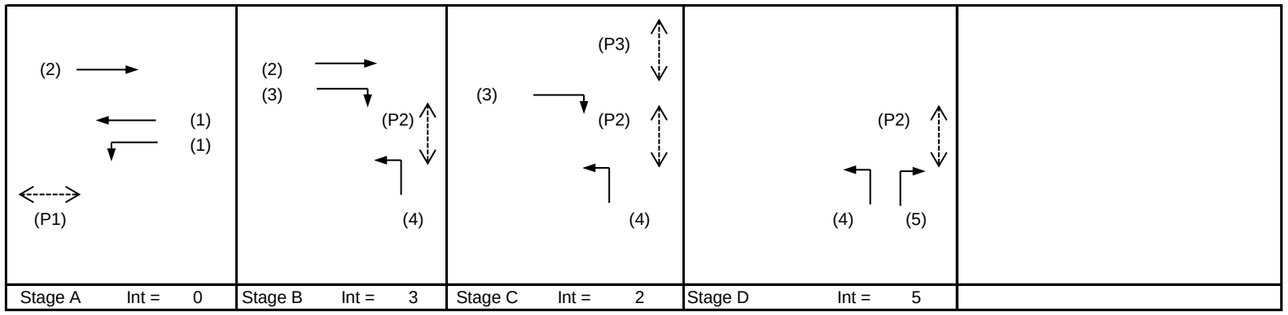


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.391	
Loss time		L =	18	sec
Total Flow		=	1924	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.5	sec
Cm	= L/(1-Y)	=	29.5	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	95.8	%
Cp	= 0.9*L/(0.9-Y)	=	31.8	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	83.2	%

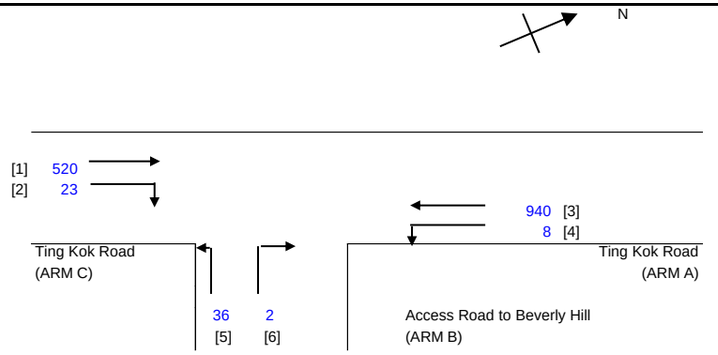


Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	19	297		316	0.06	1909			1909	0.166			30	30	0.491	30	23
SA	A	3.00	1	1				2055		341		341	0.00	2055			2055	0.166			30	30	0.491	30	23
SA	A,B	3.30	2	1			N	1945		728		728	0.00	1945			1945	0.374	0.374		67	67	0.491	24	5
RT	B,C	3.50	3	1	10			2105			276	276	1.00	1830			1830	0.151			27	27	0.491	24	25
LT	B,C,D	3.30	4	1	10		N	1945	233			233	1.00	1691			1691	0.138			25	25	0.491	24	27
RT	D	3.50	5	1	10			2105			30	30	1.00	1830			1830	0.016	0.016		3	3	0.491	0	63
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	940	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	520	(pcu/hr)
q c-b	=	23	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	36	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9473684

THE CAPACITY OF MOVEMENT :

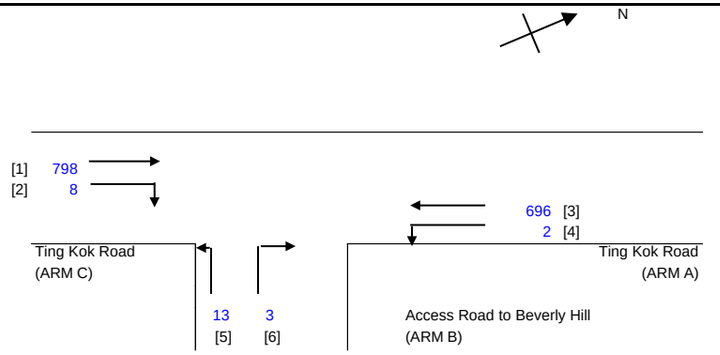
Q b-a	=	297			
Q b-c	=	496	Q b-c (O) =	495.2	
Q c-b	=	620			
Q b-ac	=	479.1			
TOTAL FLOW	=	1529	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0067
DFC b-c	=	0.0726
DFC c-b	=	0.0371
DFC b-ac	=	0.0793

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	696	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	798	(pcu/hr)
q c-b	=	8	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8125

THE CAPACITY OF MOVEMENT :

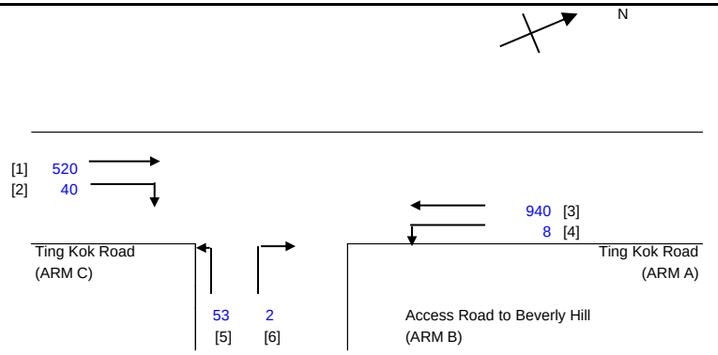
Q b-a	=	317			
Q b-c	=	549	Q b-c (O) =	547.7	
Q c-b	=	688			
Q b-ac	=	482.8			
TOTAL FLOW	=	1520	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0095
DFC b-c	=	0.0237
DFC c-b	=	0.0116
DFC b-ac	=	0.0331

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	940	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	520	(pcu/hr)
q c-b	=	40	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	53	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9636364

THE CAPACITY OF MOVEMENT :

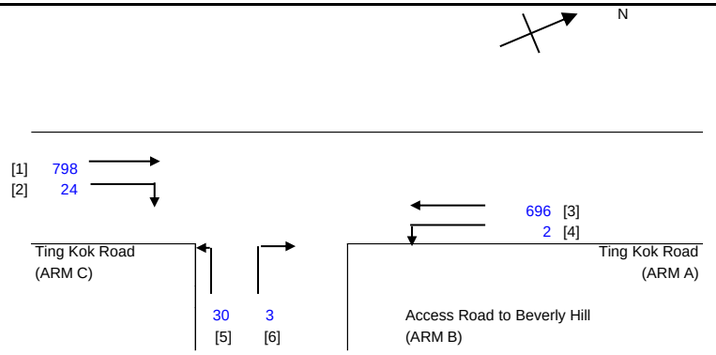
Q b-a	=	292			
Q b-c	=	496	Q b-c (O) =	495.2	
Q c-b	=	620			
Q b-ac	=	483.7			
TOTAL FLOW	=	1563	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0068
DFC b-c	=	0.1069
DFC c-b	=	0.0645
DFC b-ac	=	0.1137

CRITICAL DFC = 0.11

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	696	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	798	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	30	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9090909

THE CAPACITY OF MOVEMENT :

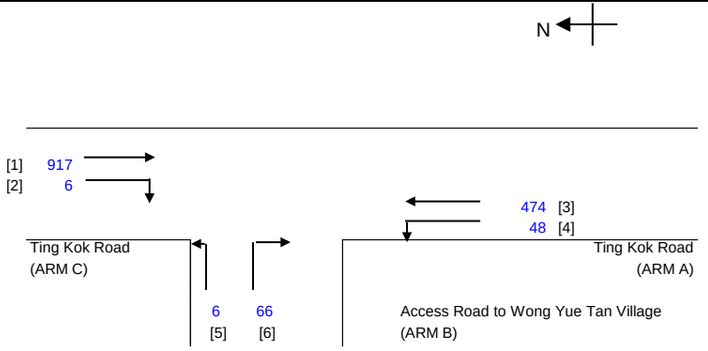
Q b-a	=	312			
Q b-c	=	549	Q b-c (O) =	547.7	
Q c-b	=	688			
Q b-ac	=	513.5			
TOTAL FLOW	=	1553	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0096
DFC b-c	=	0.0546
DFC c-b	=	0.0349
DFC b-ac	=	0.0643

CRITICAL DFC = 0.06

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	48	(pcu/hr)
q a-c	=	474	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	917	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	66	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0833333

THE CAPACITY OF MOVEMENT :

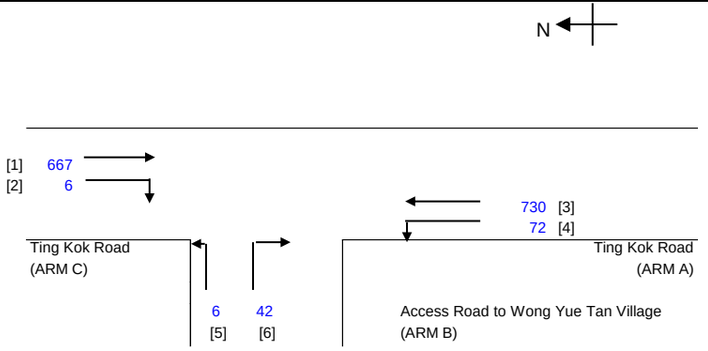
Q b-a	=	278			
Q b-c	=	529	Q b-c (O) =	497.6	
Q c-b	=	564			
Q b-ac	=	289.4			
TOTAL FLOW	=	1517	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2374
DFC b-c	=	0.0113
DFC c-b	=	0.0106
DFC b-ac	=	0.2488

CRITICAL DFC = 0.25

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	72	(pcu/hr)
q a-c	=	730	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	667	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	42	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.125

THE CAPACITY OF MOVEMENT :

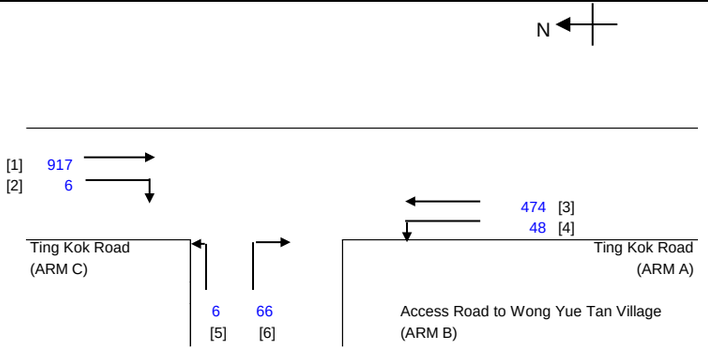
Q b-a	=	253			
Q b-c	=	465	Q b-c (O) =	445.7	
Q c-b	=	492			
Q b-ac	=	268.3			
TOTAL FLOW	=	1523	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1660
DFC b-c	=	0.0129
DFC c-b	=	0.0122
DFC b-ac	=	0.1789

CRITICAL DFC = 0.18

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	48	(pcu/hr)
q a-c	=	474	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	917	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	66	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0833333

THE CAPACITY OF MOVEMENT :

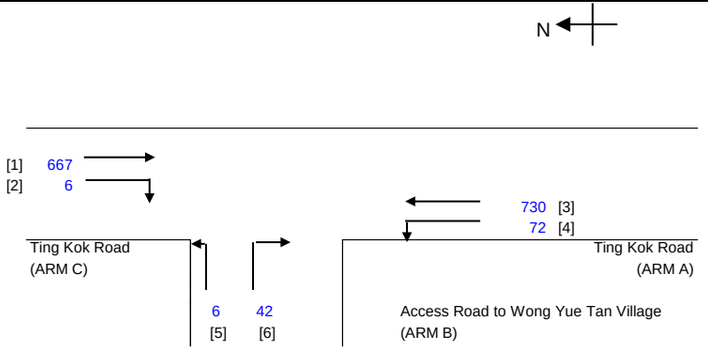
Q b-a	=	278			
Q b-c	=	529	Q b-c (O) =	497.6	
Q c-b	=	564			
Q b-ac	=	289.4			
TOTAL FLOW	=	1517	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2374
DFC b-c	=	0.0113
DFC c-b	=	0.0106
DFC b-ac	=	0.2488

CRITICAL DFC = 0.25

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	72	(pcu/hr)
q a-c	=	730	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	667	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	42	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.125

THE CAPACITY OF MOVEMENT :

Q b-a	=	253			
Q b-c	=	465	Q b-c (O) =	445.7	
Q c-b	=	492			
Q b-ac	=	268.3			
TOTAL FLOW	=	1523	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

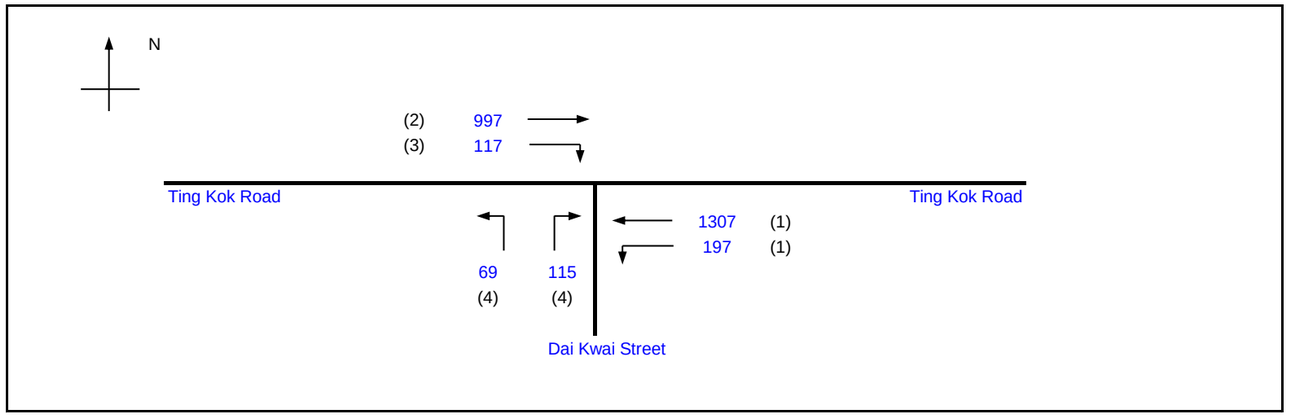
DFC b-a	=	0.1660
DFC b-c	=	0.0129
DFC c-b	=	0.0122
DFC b-ac	=	0.1789

CRITICAL DFC = 0.18

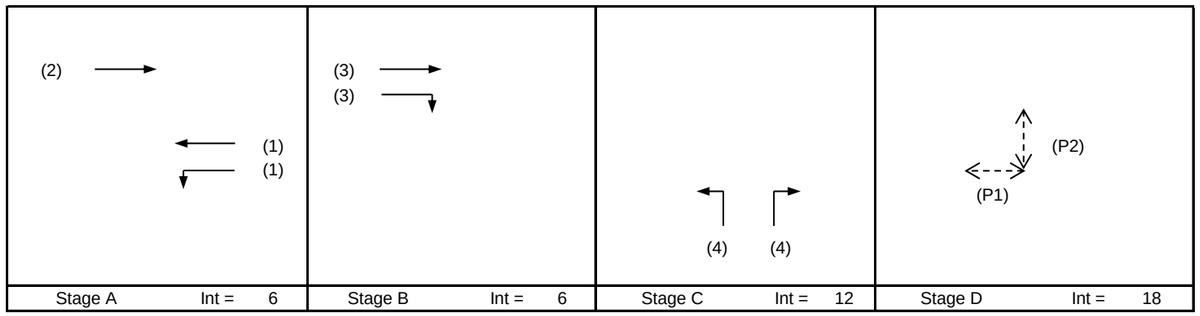
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.528	
Loss time		L =	39	sec
Total Flow		=	2802	pcu
Co	= (1.5*L+5)/(1-Y)	=	134.7	sec
Cm	= L/(1-Y)	=	82.7	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	14.9	%
Cp	= 0.9*L/(0.9-Y)	=	94.5	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	14.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

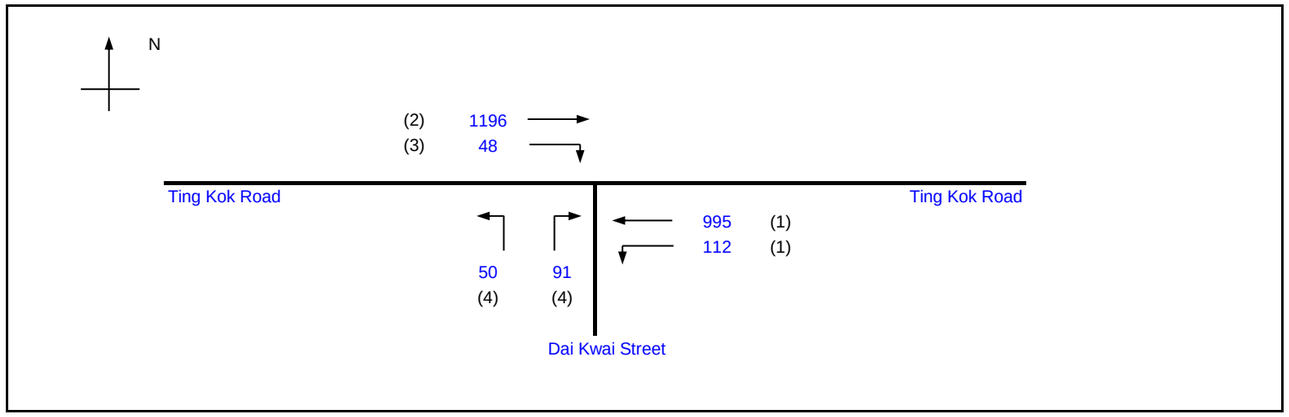
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		726		726	0.00	1953			1953	0.372			57	57	0.783	72	30
LT,SA	A	3.65	1	1	15		N	1980	197	519		716	0.28	1927			1927	0.372	0.372		57	57	0.783	72	30
SA	A	3.65	1	1				2120		788		788	0.00	2120			2120	0.372			57	57	0.783	78	30
SA	B	3.38	3	1			N	1953		192		192	0.00	1953			1953	0.098	0.098		15	15	0.783	36	70
SA,RT	B	3.38	3	1	20			2093		80	117	197	0.60	2003			2003	0.098			15	15	0.783	36	69
LT	C	3.50	4	1	15		N	1965	69			69	1.00	1786			1786	0.039			6	9	0.515	12	61
LT,RT	C	3.50	4	1	20			2105	0		115	115	1.00	1958			1958	0.059	0.059		9	9	0.783	24	89

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

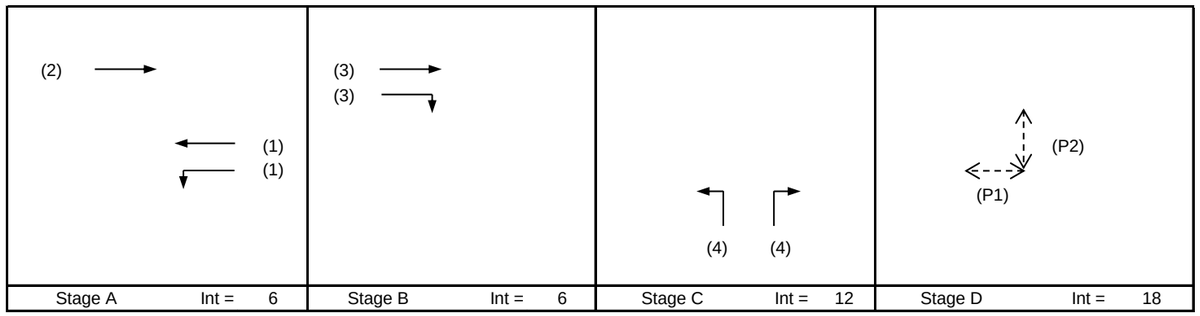
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.497	
Loss time		L =	39	sec
Total Flow		=	2492	pcu
Co	= (1.5*L+5)/(1-Y)	=	126.2	sec
Cm	= L/(1-Y)	=	77.5	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	22.2	%
Cp	= 0.9*L/(0.9-Y)	=	87.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	22.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

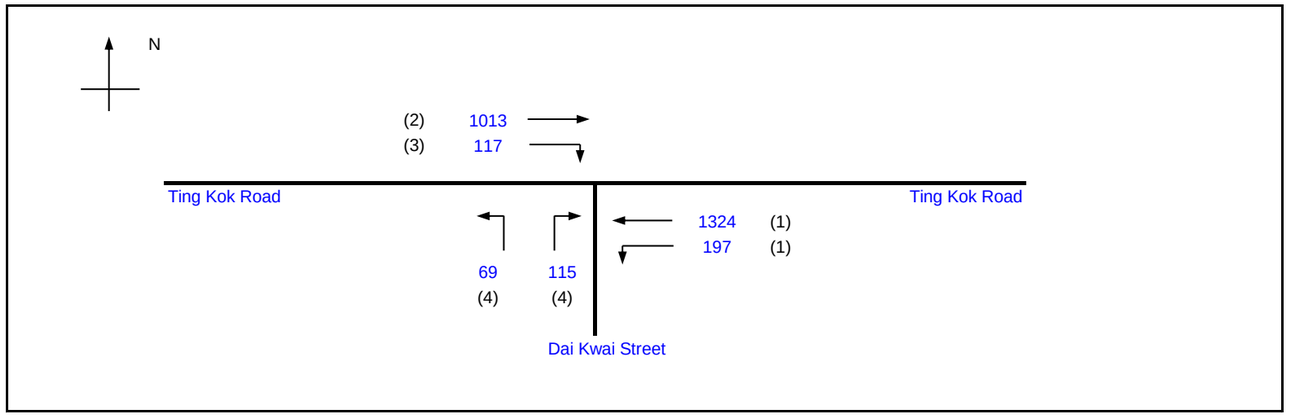
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		529		529	0.00	1953			1953	0.271			44	44	0.736	66	36
LT,SA	A	3.65	1	1	15		N	1980	112	417		529	0.21	1939			1939	0.273	0.273		44	44	0.736	66	36
SA	A	3.65	1	1				2120		578		578	0.00	2120			2120	0.273			44	44	0.736	72	35
SA	B	3.38	3	1			N	1953		347		347	0.00	1953			1953	0.178	0.178		29	29	0.736	48	47
SA,RT	B	3.38	3	1	20			2093		320	48	368	0.13	2072			2072	0.178			29	29	0.736	54	47
LT	C	3.50	4	1	15		N	1965	50			50	1.00	1786			1786	0.028			5	8	0.443	6	60
LT,RT	C	3.50	4	1	20			2105	0		91	91	1.00	1958			1958	0.046	0.046		8	8	0.736	18	86

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

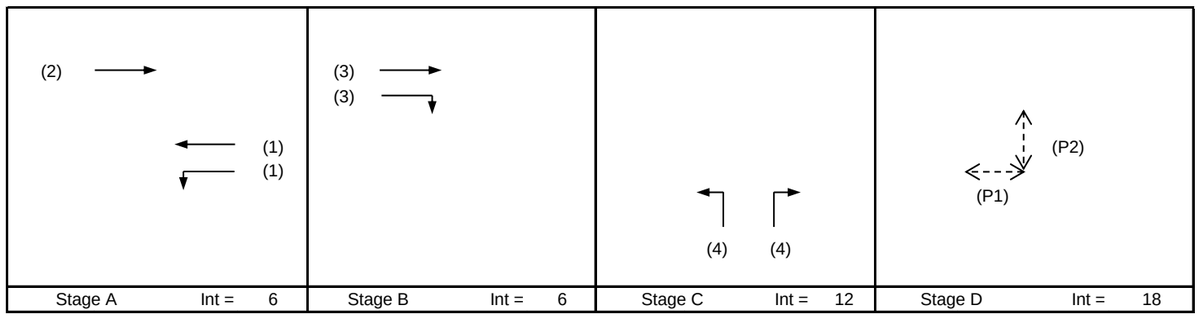
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.535	
Loss time		L =	39	sec
Total Flow		=	2835	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.6	sec
Cm	= L/(1-Y)	=	83.9	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	13.6	%
Cp	= 0.9*L/(0.9-Y)	=	96.2	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		732		732	0.00	1953			1953	0.375			57	57	0.791	72	31
LT,SA	A	3.65	1	1	15		N	1980	197	527		724	0.27	1928			1928	0.376	0.376		57	57	0.793	72	31
SA	A	3.65	1	1				2120		797		797	0.00	2120			2120	0.376			57	57	0.793	78	30
SA	B	3.38	3	1			N	1953		196		196	0.00	1953			1953	0.100	0.100		15	15	0.793	36	71
SA,RT	B	3.38	3	1	20			2093		84	117	201	0.58	2005			2005	0.100			15	15	0.793	36	70
LT	C	3.50	4	1	15		N	1965	69			69	1.00	1786			1786	0.039			6	9	0.521	12	61
LT,RT	C	3.50	4	1	20			2105	0		115	115	1.00	1958			1958	0.059	0.059		9	9	0.793	24	92

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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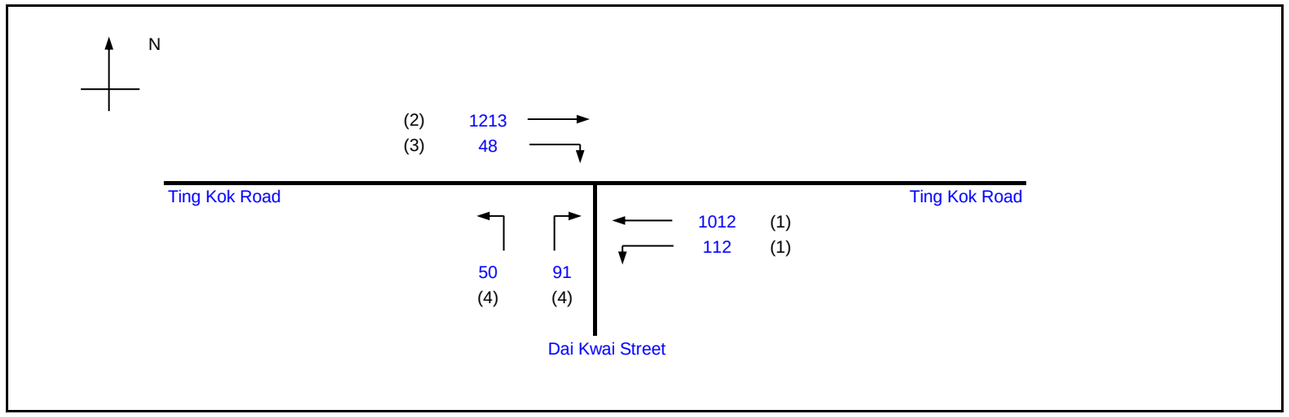
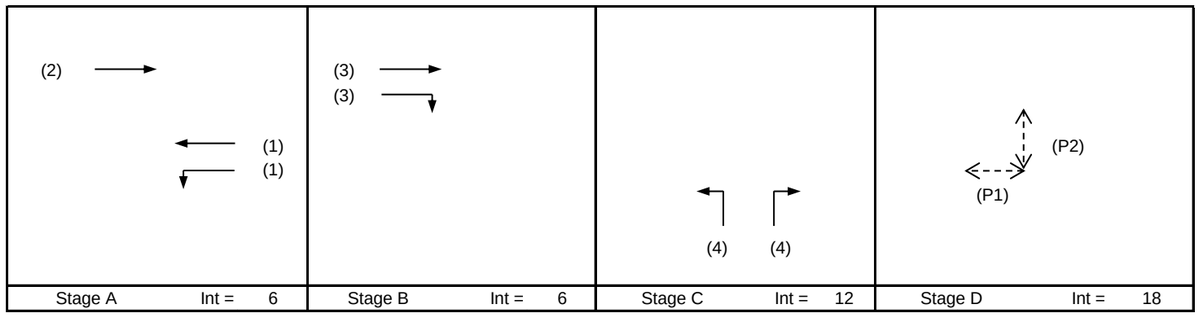
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.503	
Loss time		L =	39	sec
Total Flow		=	2526	pcu
Co	= (1.5*L+5)/(1-Y)	=	127.7	sec
Cm	= L/(1-Y)	=	78.4	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	20.8	%
Cp	= 0.9*L/(0.9-Y)	=	88.4	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	20.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		539		539	0.00	1953			1953	0.276			44	44	0.745	66	36
LT,SA	A	3.65	1	1	15		N	1980	112	425		537	0.21	1940			1940	0.277	0.277		45	45	0.745	66	36
SA	A	3.65	1	1				2120		587		587	0.00	2120			2120	0.277			45	45	0.745	72	35
SA	B	3.38	3	1			N	1953		350		350	0.00	1953			1953	0.179	0.179		29	29	0.745	54	48
SA,RT	B	3.38	3	1	20			2093		324	48	372	0.13	2072			2072	0.179			29	29	0.745	54	47
LT	C	3.50	4	1	15		N	1965	50			50	1.00	1786			1786	0.028			5	7	0.449	6	61
LT,RT	C	3.50	4	1	20			2105	0		91	91	1.00	1958			1958	0.046	0.046		7	7	0.745	18	89

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
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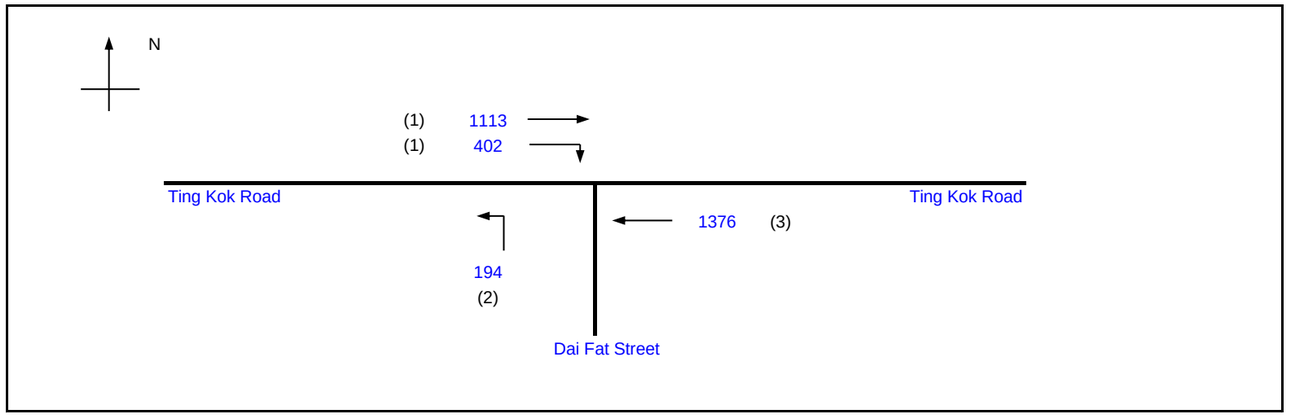
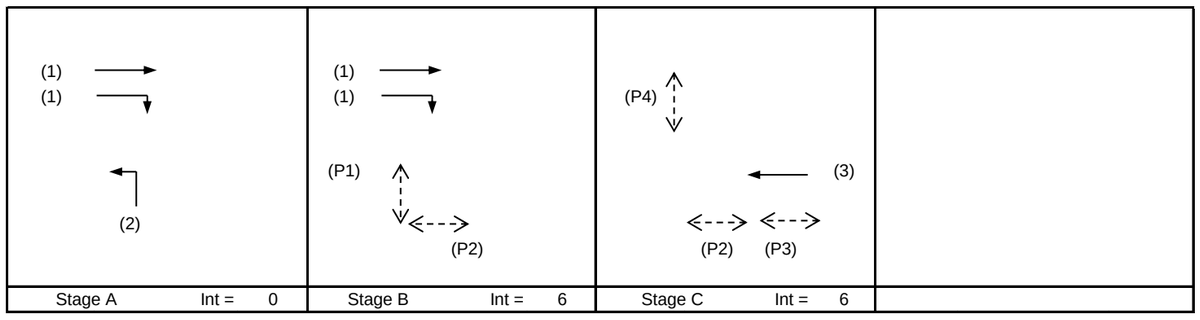
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.722	
Loss time		L =	10	sec
Total Flow		=	3085	pcu
Co	= (1.5*L+5)/(1-Y)	=	71.8	sec
Cm	= L/(1-Y)	=	35.9	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	14.3	%
Cp	= 0.9*L/(0.9-Y)	=	50.4	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	14.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		751		751	0.00	1945			1945	0.386	0.386		59	59	0.787	72	29
SA, RT	A,B	3.30	1	1	15			2085		362	402	764	0.53	1981			1981	0.386			59	59	0.787	72	29
LT	A	3.65	2	2	20		N	4100	194			194	1.00	3814			3814	0.051			8	8	0.787	21	74
SA	C	3.65	3	2			N	4100		1376		1376	0.00	4100			4100	0.336	0.336		51	51	0.787	78	30

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

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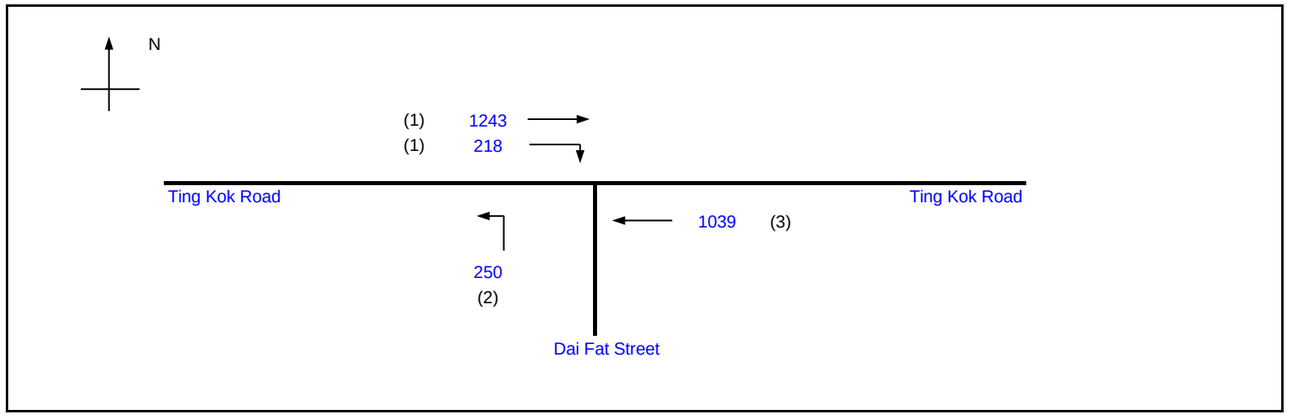
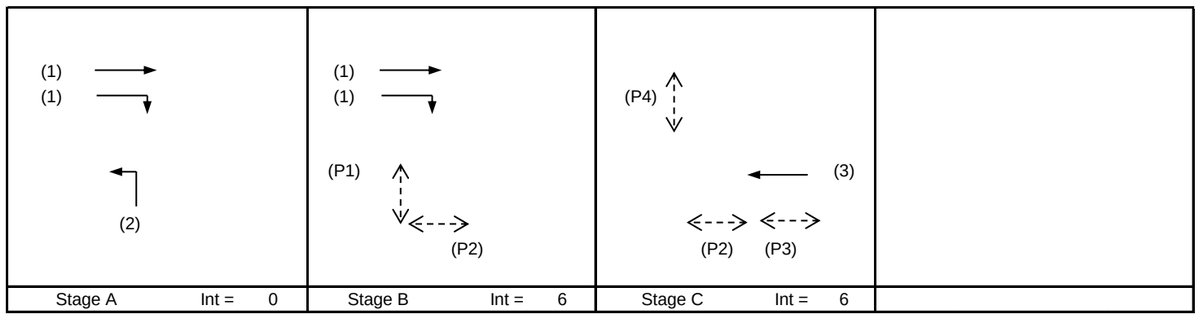
2024 Reference PM Peak Hour Traffic Flows (Construction Period)			Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.621	
Loss time		L =	10	sec
Total Flow		=	2750	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.8	sec
Cm	= L/(1-Y)	=	26.4	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	32.8	%
Cp	= 0.9*L/(0.9-Y)	=	32.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	30.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		716		716	0.00	1945			1945	0.368	0.368		53	53	0.690	54	19
SA, RT	A,B	3.30	1	1	15			2085		527	218	745	0.29	2026			2026	0.368			53	53	0.690	54	19
LT	A	3.65	2	2	20		N	4100	250			250	1.00	3814			3814	0.066			9	9	0.690	18	49
SA	C	3.65	3	2			N	4100		1039		1039	0.00	4100			4100	0.253	0.253		37	37	0.690	54	27

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

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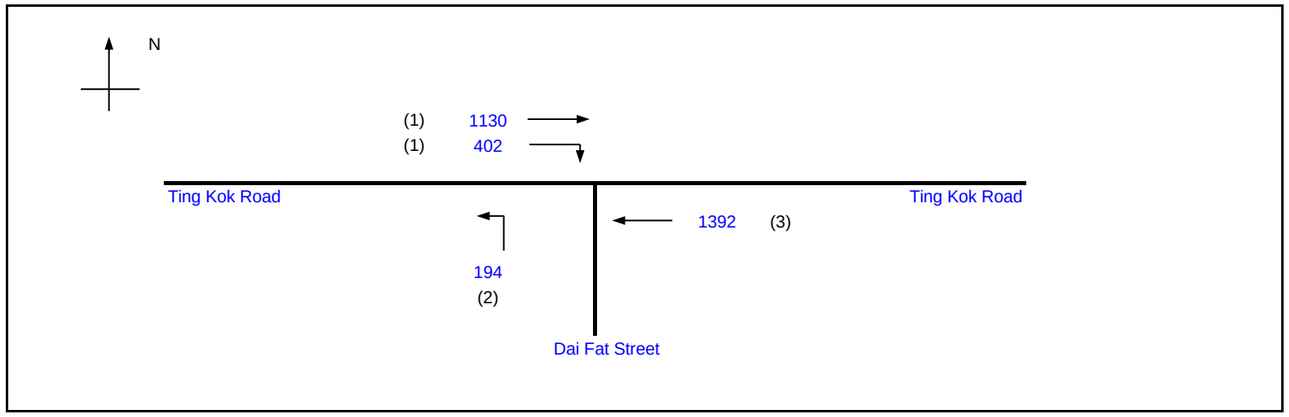
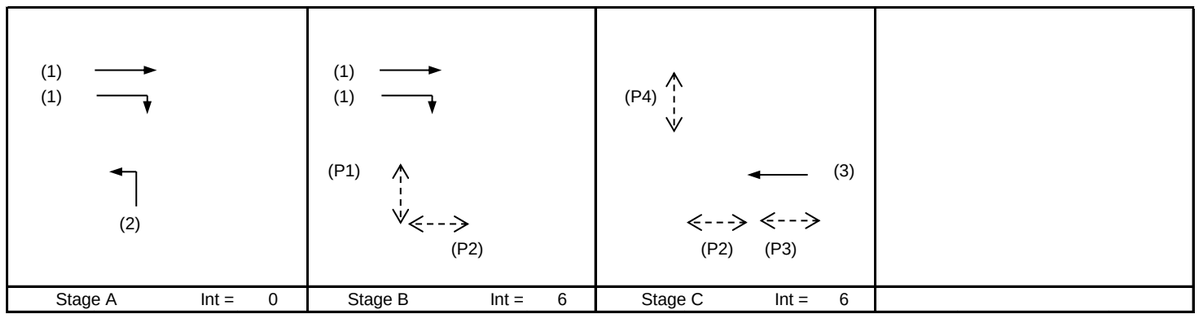


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.730	
Loss time		L =	10	sec
Total Flow		=	3118	pcu
Co	= (1.5*L+5)/(1-Y)	=	74.0	sec
Cm	= L/(1-Y)	=	37.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	13.1	%
Cp	= 0.9*L/(0.9-Y)	=	52.8	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		759		759	0.00	1945			1945	0.390	0.390		59	59	0.796	72	30
SA, RT	A,B	3.30	1	1	15			2085		371	402	773	0.52	1982			1982	0.390			59	59	0.796	78	30
LT	A	3.65	2	2	20		N	4100	194			194	1.00	3814			3814	0.051			8	8	0.796	21	76
SA	C	3.65	3	2			N	4100		1392		1392	0.00	4100			4100	0.340	0.340		51	51	0.796	78	31

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

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TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
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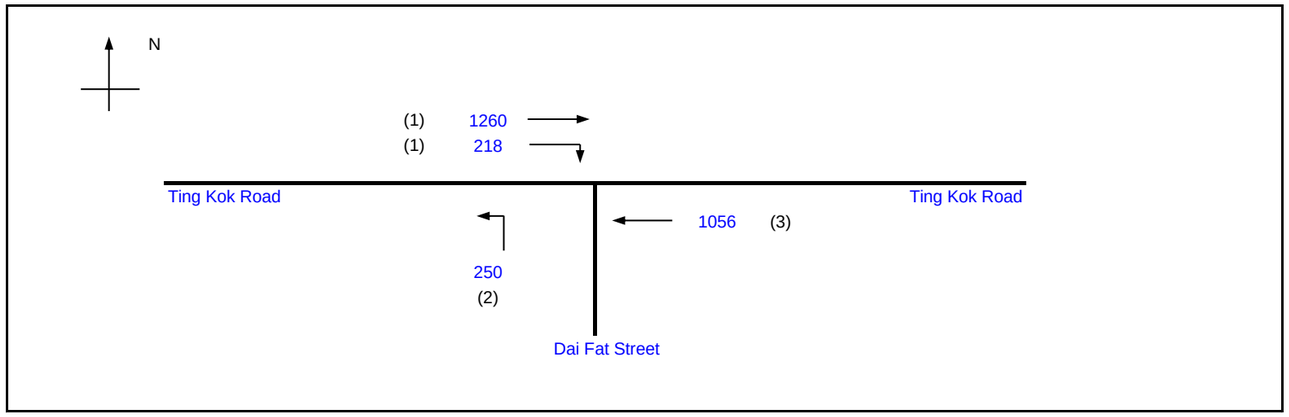
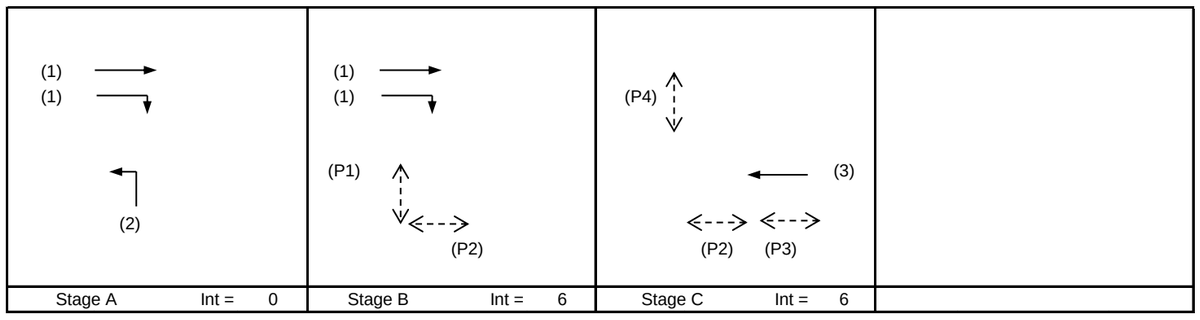


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.630	
Loss time		L =	10	sec
Total Flow		=	2784	pcu
Co	= (1.5*L+5)/(1-Y)	=	54.0	sec
Cm	= L/(1-Y)	=	27.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.0	%
Cp	= 0.9*L/(0.9-Y)	=	33.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

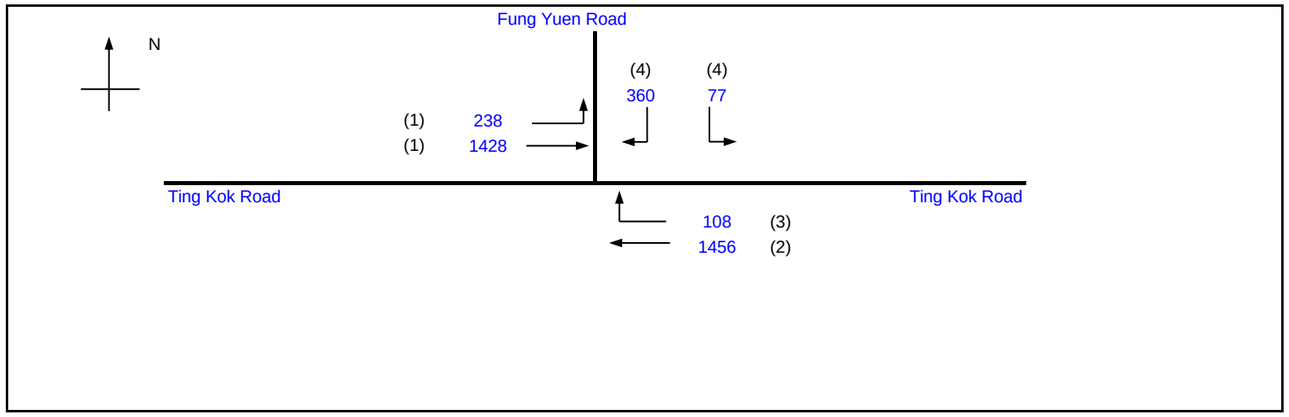
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		724		724	0.00	1945			1945	0.372	0.372		53	53	0.700	54	19
SA, RT	A,B	3.30	1	1	15			2085		536	218	754	0.29	2026			2026	0.372			53	53	0.700	54	19
LT	A	3.65	2	2	20		N	4100	250			250	1.00	3814			3814	0.066			9	9	0.700	18	50
SA	C	3.65	3	2			N	4100		1056		1056	0.00	4100			4100	0.258	0.258		37	37	0.700	54	27

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

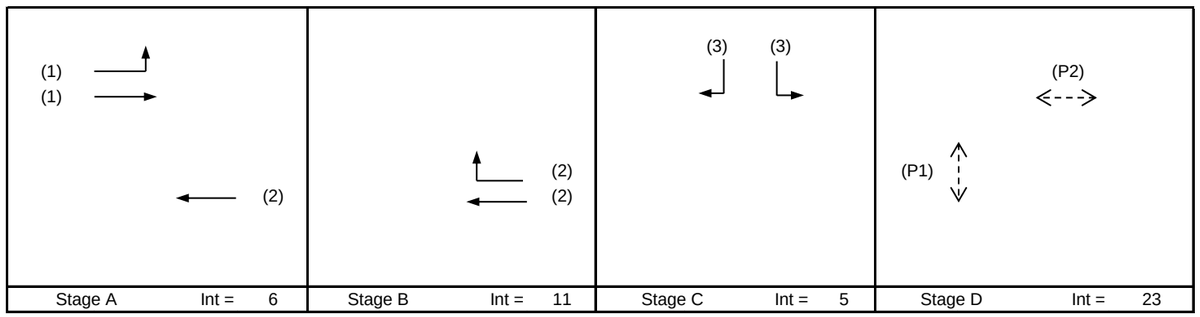
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period with Improvement)	**2024Ref_AM (Imp)** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.532	
Loss time		L =	43	sec
Total Flow		=	3667	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.4	sec
Cm	= L/(1-Y)	=	91.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.6	%
Cp	= 0.9*L/(0.9-Y)	=	105.0	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

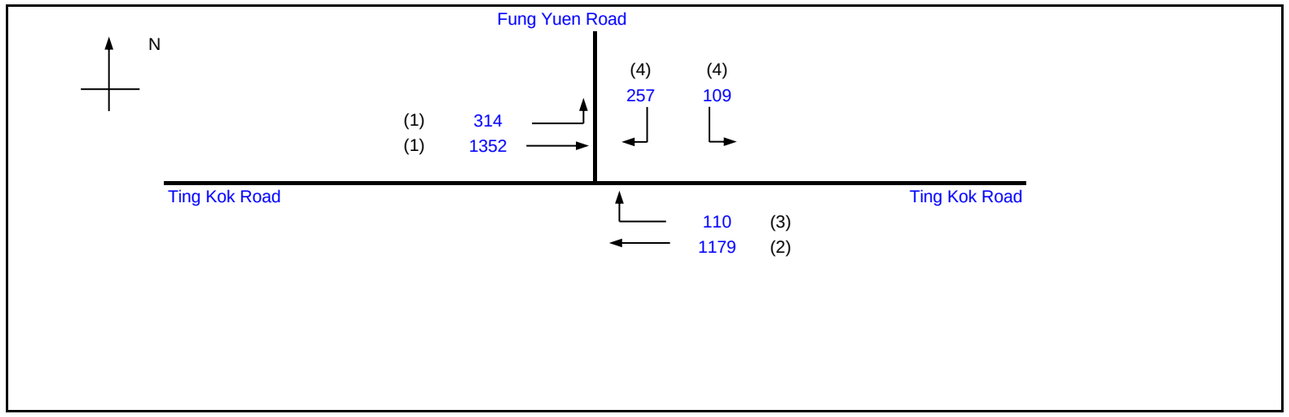
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	553		791	0.30	1914			1914	0.413	0.413		60	60	0.828	78	31
SA	A	3.60	1	1				2115		875		875	0.00	2115			2115	0.413			60	60	0.828	84	31
SA	A,B	3.60	2	1			N	1975		797		797	0.00	1975			1975	0.404			58	60	0.813	78	30
SA,RT	A,B	3.60	3	1	19	O		2115		659	108	767	0.14	1864			1864	0.411			60	60	0.828	78	32
LT,RT	C	3.60	4	1	11		N	1975	77		128	205	1.00	1738			1738	0.118	0.118		17	17	0.828	42	77
RT	C	3.80	4	1	17			2135			232	232	1.00	1962			1962	0.118			17	17	0.828	48	73

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

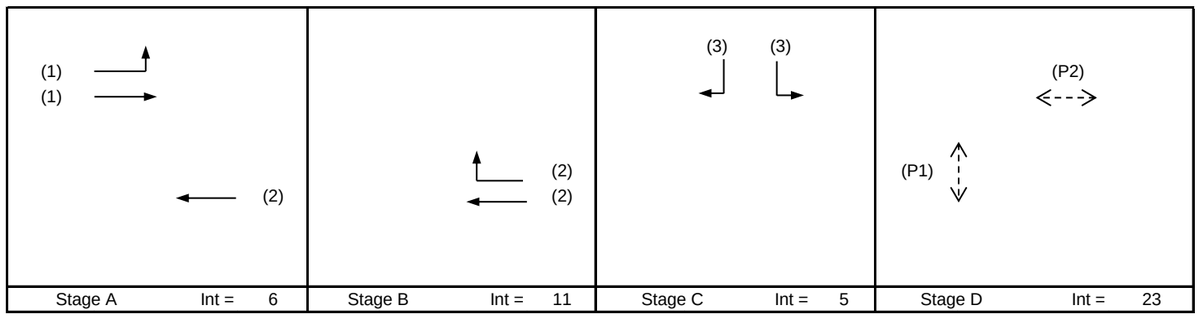
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Ref_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.514	
Loss time		L =	43	sec
Total Flow		=	3321	pcu
Co	= (1.5*L+5)/(1-Y)	=	143.0	sec
Cm	= L/(1-Y)	=	88.5	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	12.3	%
Cp	= 0.9*L/(0.9-Y)	=	100.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	12.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

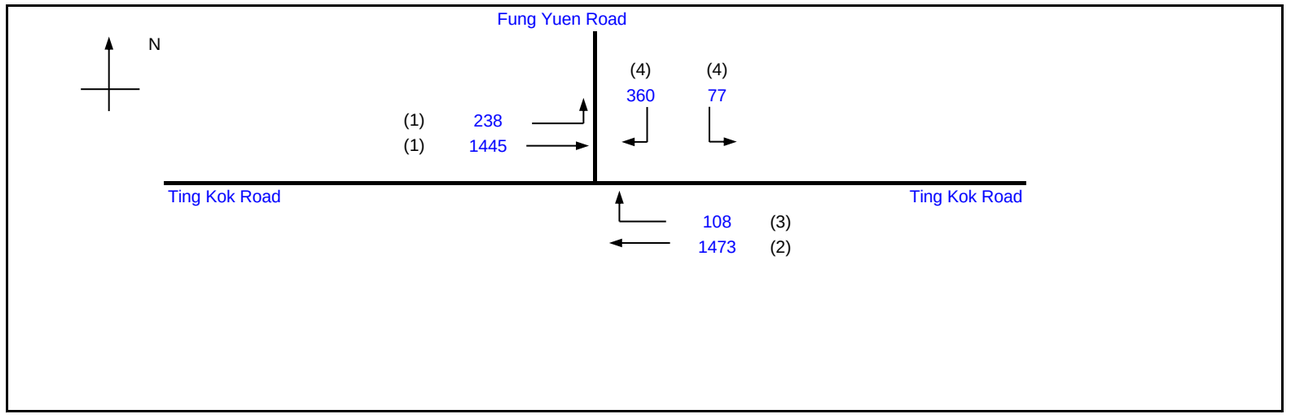
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	474		788	0.40	1898			1898	0.415	0.415		62	62	0.801	72	28
SA	A	3.60	1	1				2115		878		878	0.00	2115			2115	0.415			62	62	0.801	84	27
SA	A,B	3.60	2	1			N	1975		665		665	0.00	1975			1975	0.337			50	50	0.803	72	35
SA,RT	A,B	3.60	3	1	19	O		2115		514	110	624	0.18	1859			1859	0.336			50	50	0.801	72	36
LT,RT	C	3.60	4	1	11		N	1975	109		63	172	1.00	1738			1738	0.099	0.099		15	15	0.801	36	76
RT	C	3.80	4	1	17			2135			194	194	1.00	1962			1962	0.099			15	15	0.801	36	73

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

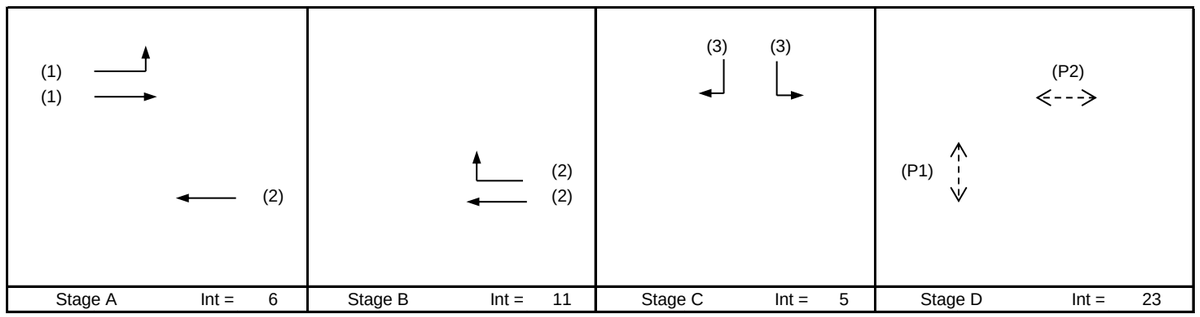
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Des_AM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.536	
Loss time		L =	43	sec
Total Flow		=	3701	pcu
Co	= (1.5*L+5)/(1-Y)	=	149.7	sec
Cm	= L/(1-Y)	=	92.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	7.8	%
Cp	= 0.9*L/(0.9-Y)	=	106.2	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

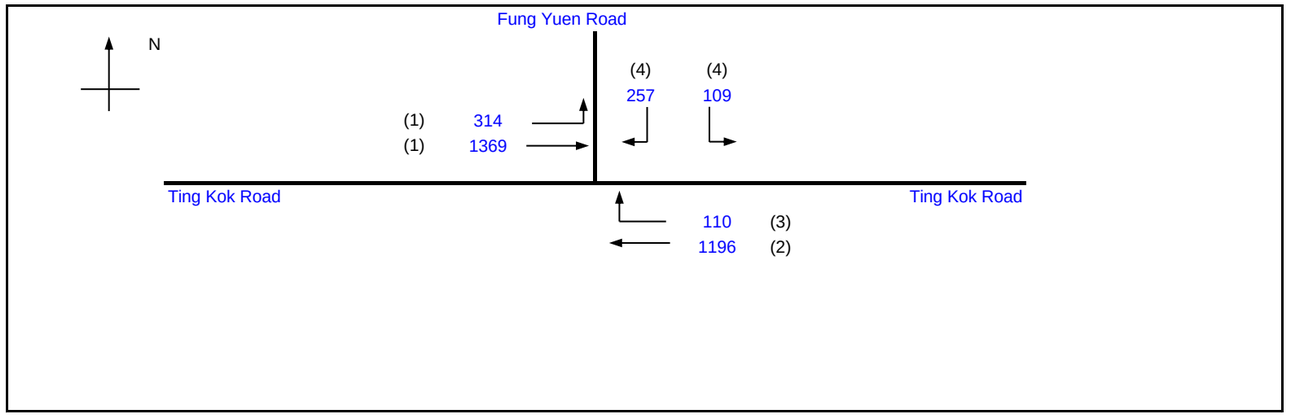
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	562		800	0.30	1915			1915	0.418	0.418		60	60	0.835	78	32
SA	A	3.60	1	1				2115		883		883	0.00	2115			2115	0.418			60	60	0.835	84	31
SA	A,B	3.60	2	1			N	1975		806		806	0.00	1975			1975	0.408			59	60	0.819	78	30
SA,RT	A,B	3.60	3	1	19	O		2115		667	108	775	0.14	1864			1864	0.416			60	60	0.835	78	32
LT,RT	C	3.60	4	1	11		N	1975	77		128	205	1.00	1738			1738	0.118	0.118		17	17	0.835	42	78
RT	C	3.80	4	1	17			2135			232	232	1.00	1962			1962	0.118			17	17	0.835	48	75

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

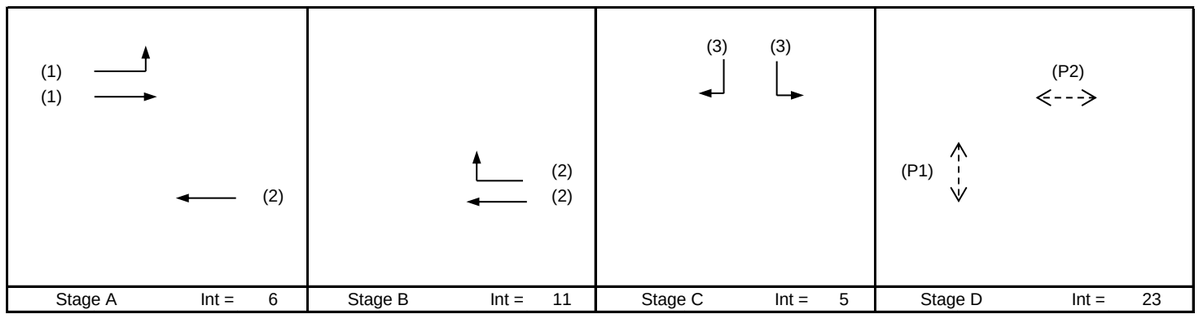
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Des_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.518	
Loss time		L =	43	sec
Total Flow		=	3355	pcu
Co	= (1.5*L+5)/(1-Y)	=	144.3	sec
Cm	= L/(1-Y)	=	89.3	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	11.4	%
Cp	= 0.9*L/(0.9-Y)	=	101.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

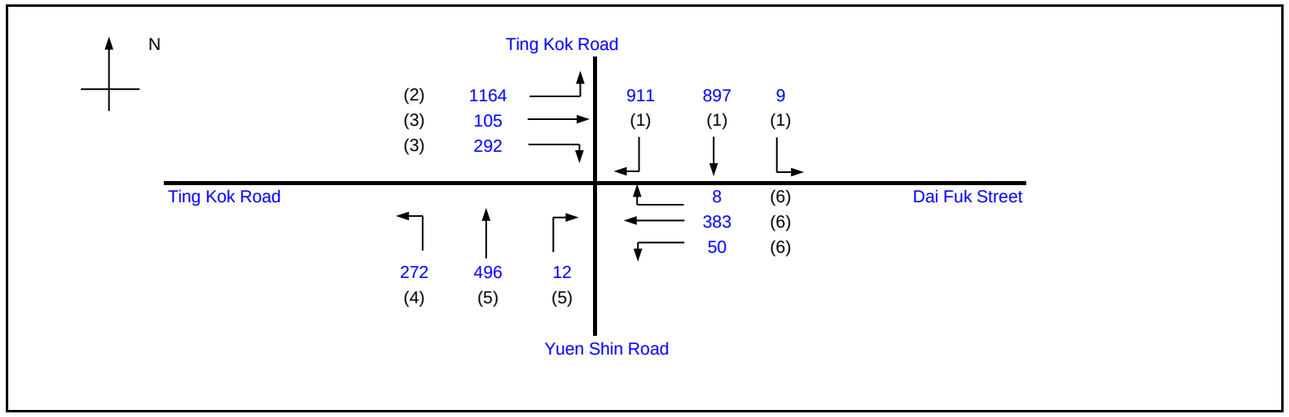
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	482		796	0.39	1899			1899	0.419	0.419		62	62	0.808	72	28
SA	A	3.60	1	1				2115		887		887	0.00	2115			2115	0.419			62	62	0.808	84	28
SA	A,B	3.60	2	1			N	1975		673		673	0.00	1975			1975	0.341			51	51	0.808	78	36
SA,RT	A,B	3.60	3	1	19	O		2115		523	110	633	0.17	1859			1859	0.341			51	51	0.808	72	36
LT,RT	C	3.60	4	1	11		N	1975	109		63	172	1.00	1738			1738	0.099	0.099		15	15	0.808	36	78
RT	C	3.80	4	1	17			2135			194	194	1.00	1962			1962	0.099			15	15	0.808	36	74

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

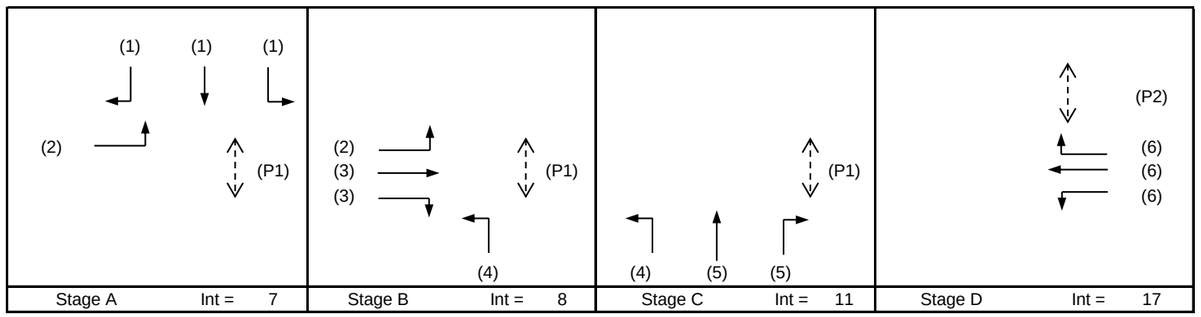
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.453	
Loss time		L =	40	sec
Total Flow		=	4599	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.8	sec
Cm	= L/(1-Y)	=	73.1	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	32.5	%
Cp	= 0.9*L/(0.9-Y)	=	80.5	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	19.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

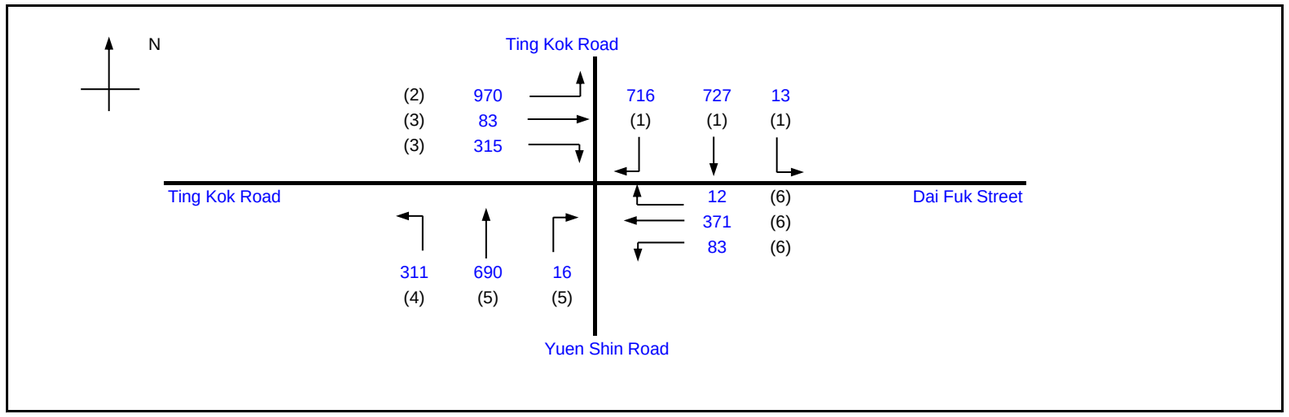
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	428		437	0.02	1977			1977	0.221		40	29	29	0.754	48	37
SA	A	3.65	1	1				2120		469		469	0.00	2120			2120	0.221			29	29	0.754	54	37
RT	A	3.65	1	2	25			4240		0	911	911	1.00	4000			4000	0.228	0.228		30	30	0.754	51	33
LT	A,B	3.65	2	2	20		N	4100	1164			1164	1.00	3814			3814	0.305			40	40	0.754	57	26
SA	B	3.65	3	1				2120		105		105	0.00	2120			2120	0.050			7	7	0.754	18	77
RT	B	3.65	3	1	25			2120			292	292	1.00	2000			2000	0.146	0.146		19	19	0.754	42	47
LT	B,C	3.40	4	1	15		N	1955	272			272	1.00	1777			1777	0.153			20	20	0.754	36	48
SA	C	3.40	5	3				6285		496		496	0.00	6285			6285	0.079	0.079		10	10	0.754	24	47
RT	C	3.40	5	1	20			2095			12	12	1.00	1949			1949	0.006			1	1	0.754	6	357
LT,SA	D	3.65	6	1	15		N	1980	50	161		211	0.24	1934			1934	0.109			14	14	0.754	30	55
SA,RT	D	3.65	6	1	25			2120		222	8	230	0.03	2116			2116	0.109			14	14	0.754	36	53

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

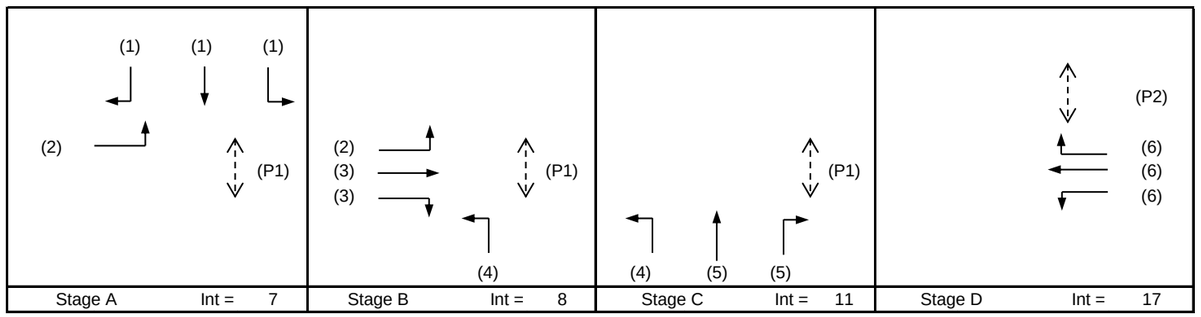
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.447	
Loss time		L =	40	sec
Total Flow		=	4307	pcu
Co	= (1.5*L+5)/(1-Y)	=	117.6	sec
Cm	= L/(1-Y)	=	72.4	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	34.2	%
Cp	= 0.9*L/(0.9-Y)	=	79.5	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

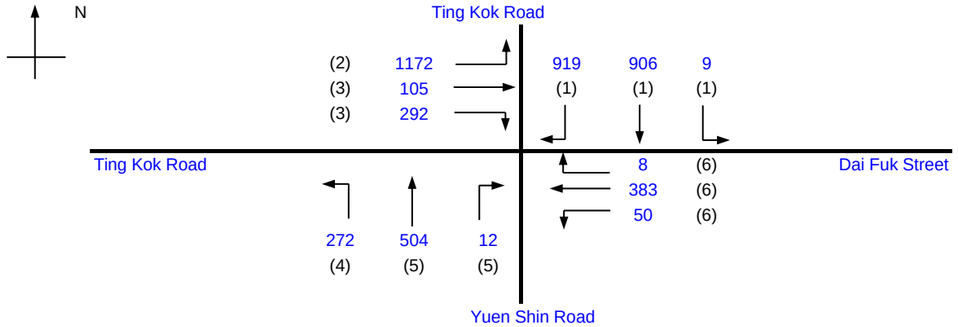
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	13	342		355	0.04	1975			1975	0.180		40	23	23	0.767	42	42
SA	A	3.65	1	1				2120		381		381	0.00	2120			2120	0.180			23	23	0.767	48	42
RT	A	3.65	1	2	25			4240		4	716	720	1.00	4001			4001	0.180	0.180		23	23	0.767	42	37
LT	A,B	3.65	2	2	20		N	4100	970			970	1.00	3814			3814	0.254			32	32	0.767	51	30
SA	B	3.65	3	1				2120		83		83	0.00	2120			2120	0.039			5	5	0.767	18	90
RT	B	3.65	3	1	25			2120			315	315	1.00	2000			2000	0.158	0.158		20	20	0.767	42	45
LT	B,C	3.40	4	1	15		N	1955	311			311	1.00	1777			1777	0.175			22	22	0.767	42	44
SA	C	3.40	5	3				6285		690		690	0.00	6285			6285	0.110	0.110		14	14	0.767	30	42
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.767	6	297
LT,SA	D	3.65	6	1	15		N	1980	83	138		221	0.38	1908			1908	0.116			15	15	0.767	30	54
SA,RT	D	3.65	6	1	25			2120		233	12	245	0.05	2114			2114	0.116			15	15	0.767	36	52

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

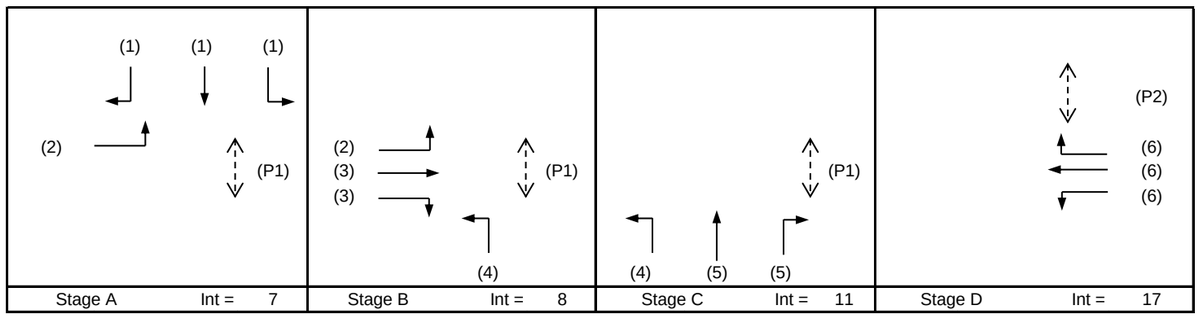
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.456	
Loss time		L =	40	sec
Total Flow		=	4632	pcu
Co	= (1.5*L+5)/(1-Y)	=	119.5	sec
Cm	= L/(1-Y)	=	73.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	31.6	%
Cp	= 0.9*L/(0.9-Y)	=	81.1	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

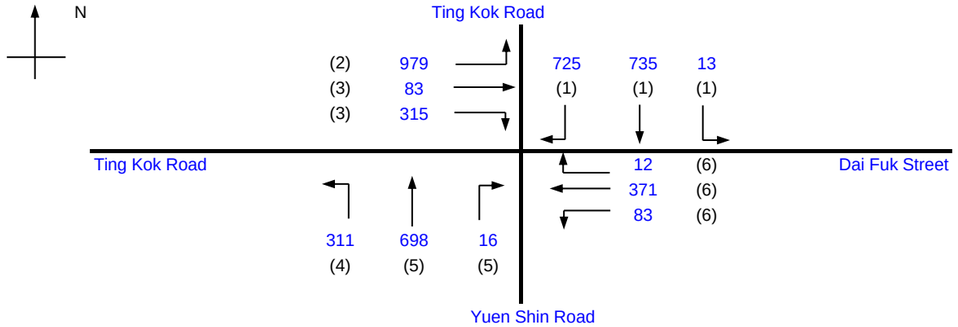
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	433		442	0.02	1977			1977	0.223		40	29	29	0.760	48	38
SA	A	3.65	1	1				2120		473		473	0.00	2120			2120	0.223			29	29	0.760	54	37
RT	A	3.65	1	2	25			4240		0	919	919	1.00	4000			4000	0.230	0.230		30	30	0.760	51	33
LT	A,B	3.65	2	2	20		N	4100	1172			1172	1.00	3814			3814	0.307			40	40	0.760	57	26
SA	B	3.65	3	1				2120		105		105	0.00	2120			2120	0.050			7	7	0.760	18	78
RT	B	3.65	3	1	25			2120			292	292	1.00	2000			2000	0.146	0.146		19	19	0.760	42	48
LT	B,C	3.40	4	1	15		N	1955	272			272	1.00	1777			1777	0.153			20	20	0.760	36	48
SA	C	3.40	5	3				6285		504		504	0.00	6285			6285	0.080	0.080		11	11	0.760	24	47
RT	C	3.40	5	1	20			2095			12	12	1.00	1949			1949	0.006			1	1	0.760	6	369
LT,SA	D	3.65	6	1	15		N	1980	50	161		211	0.24	1934			1934	0.109			14	14	0.760	30	56
SA,RT	D	3.65	6	1	25			2120		222	8	230	0.03	2116			2116	0.109			14	14	0.760	36	54

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

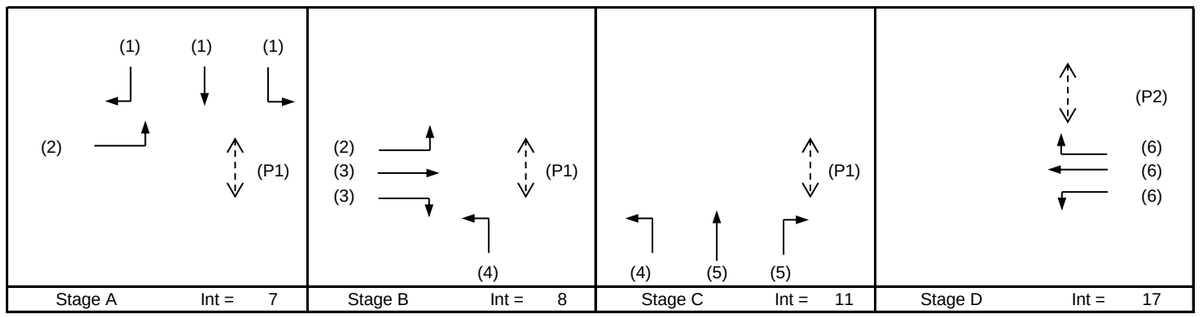
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.451	
Loss time		L =	40	sec
Total Flow		=	4341	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.3	sec
Cm	= L/(1-Y)	=	72.8	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	33.2	%
Cp	= 0.9*L/(0.9-Y)	=	80.1	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

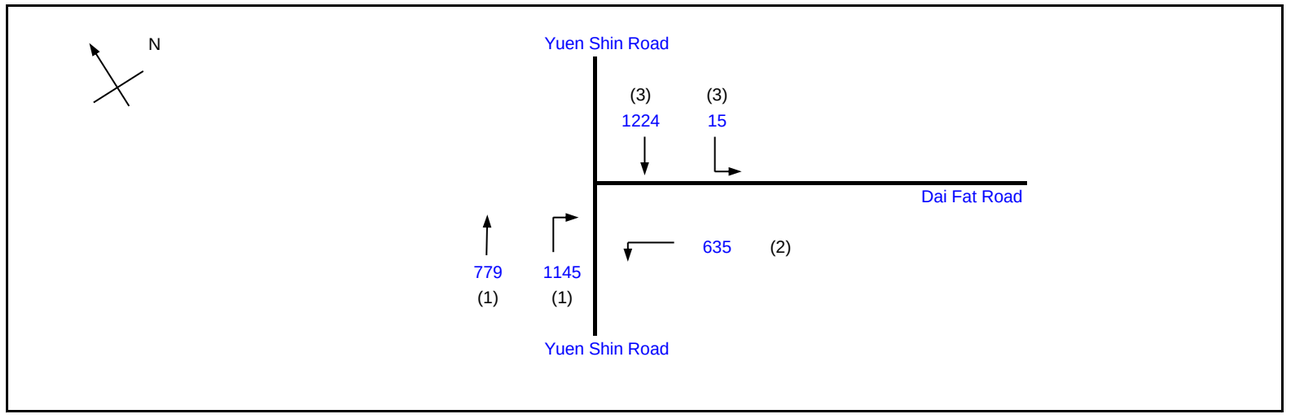
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	13	346		359	0.04	1975			1975	0.182		40	23	23	0.772	42	43
SA	A	3.65	1	1				2120		386		386	0.00	2120			2120	0.182			23	23	0.772	48	42
RT	A	3.65	1	2	25			4240		3	725	728	1.00	4001			4001	0.182	0.182		23	23	0.772	42	37
LT	A,B	3.65	2	2	20		N	4100	979			979	1.00	3814			3814	0.257			32	32	0.772	51	30
SA	B	3.65	3	1				2120		83		83	0.00	2120			2120	0.039			5	5	0.772	18	92
RT	B	3.65	3	1	25			2120			315	315	1.00	2000			2000	0.158	0.158		20	20	0.772	42	46
LT	B,C	3.40	4	1	15		N	1955	311			311	1.00	1777			1777	0.175			22	22	0.772	42	45
SA	C	3.40	5	3				6285		698		698	0.00	6285			6285	0.111	0.111		14	14	0.772	32	42
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.772	6	308
LT,SA	D	3.65	6	1	15		N	1980	83	138		221	0.38	1908			1908	0.116			14	14	0.772	30	54
SA,RT	D	3.65	6	1	25			2120		233	12	245	0.05	2114			2114	0.116			14	14	0.772	36	53

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

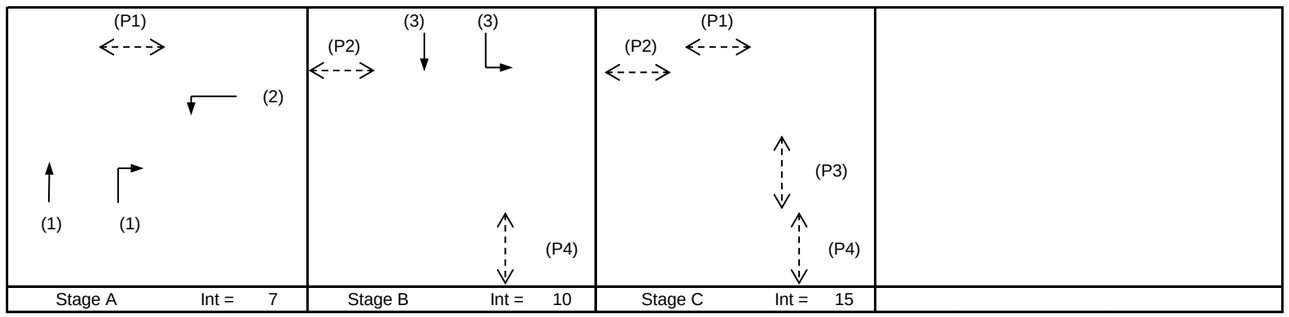
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.630	
Loss time		L =	30	sec
Total Flow		=	3798	pcu
Co	= (1.5*L+5)/(1-Y)	=	135.2	sec
Cm	= L/(1-Y)	=	81.1	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	7.1	%
Cp	= 0.9*L/(0.9-Y)	=	100.1	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		635		635	0.00	1965			1965	0.323	0.323	30	46	46	0.840	78	41
SA,RT	A	3.50	1	1	25			2105		144	506	650	0.78	2011			2011	0.323			46	46	0.840	84	41
RT	A	3.50	1	1	23			2105			639	639	1.00	1976			1976	0.323			46	46	0.840	78	41
LT	A	3.80	2	2	19		N	4130	635			635	1.00	3828			3828	0.166			24	24	0.840	51	53
LT,SA	B	3.20	3	1	17		N	1935	15	578		593	0.03	1931			1931	0.307	0.307		44	44	0.840	78	43
SA	B	3.50	3	1				2105		646		646	0.00	2105			2105	0.307			44	44	0.840	84	42

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

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TRAFFIC SIGNAL CALCULATION

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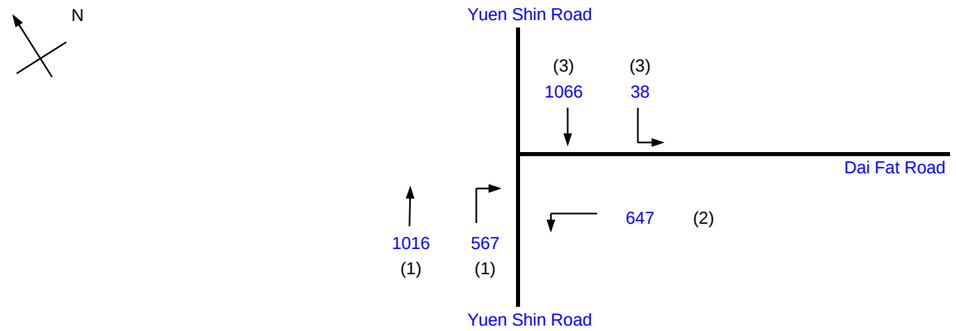
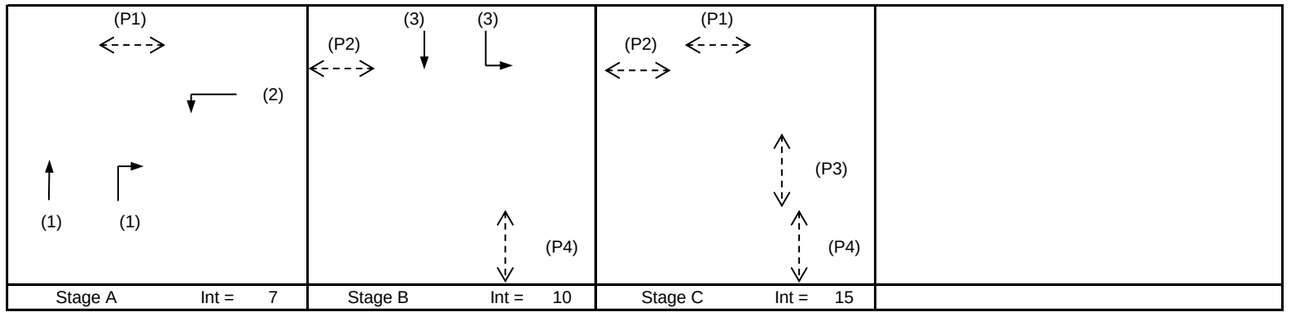
J8: Yuen Shin Road / Dai Fat Street	**2024Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.536	
Loss time		L =	30	sec
Total Flow		=	3334	pcu
Co	= (1.5*L+5)/(1-Y)	=	107.9	sec
Cm	= L/(1-Y)	=	64.7	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	25.8	%
Cp	= 0.9*L/(0.9-Y)	=	74.3	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		515		515	0.00	1965			1965	0.262	0.262	30	34	34	0.766	54	34
SA,RT	A	3.50	1	1	25			2105		501	49	549	0.09	2094			2094	0.262			34	34	0.766	60	34
RT	A	3.50	1	1	23			2105			518	518	1.00	1976			1976	0.262			34	34	0.766	54	34
LT	A	3.80	2	2	19		N	4130	647			647	1.00	3828			3828	0.169			22	22	0.766	42	39
LT,SA	B	3.20	3	1	17		N	1935	38	489		527	0.07	1923			1923	0.274	0.274		36	36	0.766	54	33
SA	B	3.50	3	1				2105		577		577	0.00	2105			2105	0.274			36	36	0.766	60	33

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
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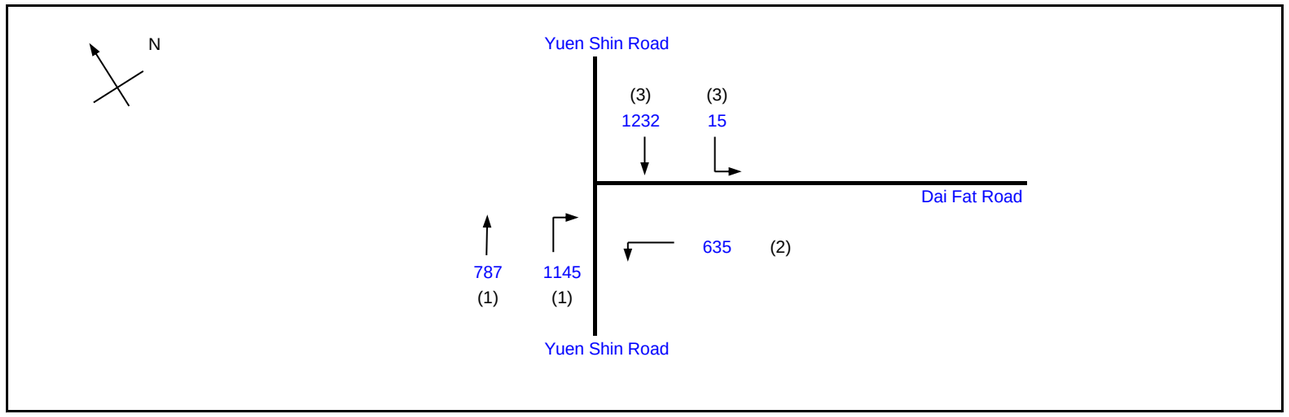
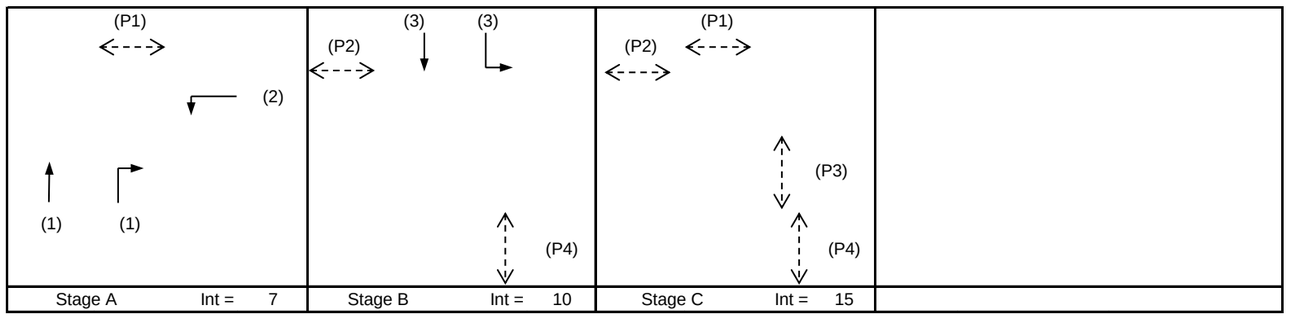


			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.634	
Loss time		L =	30	sec
Total Flow		=	3814	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.4	sec
Cm	= L/(1-Y)	=	81.9	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	6.5	%
Cp	= 0.9*L/(0.9-Y)	=	101.3	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	6.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

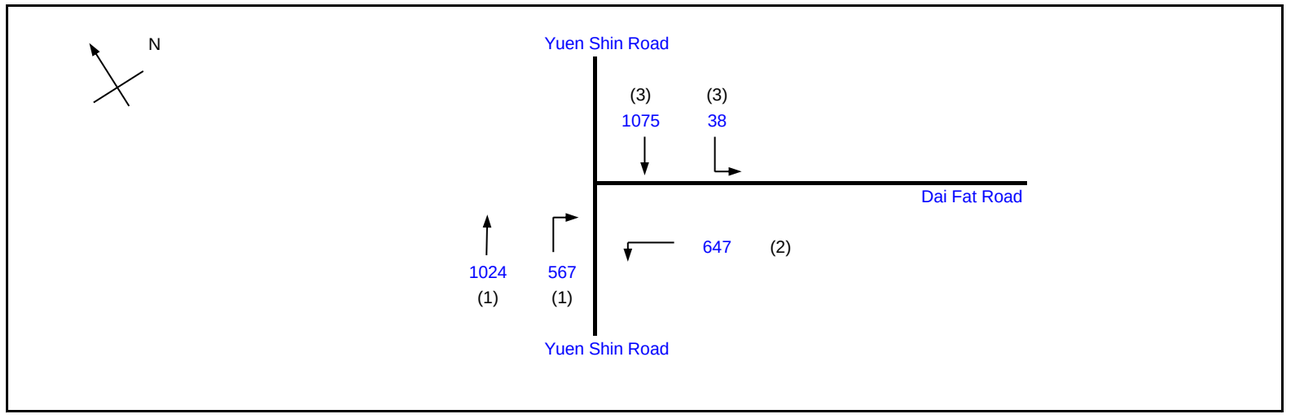
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		638		638	0.00	1965			1965	0.325	0.325	30	46	46	0.845	78	42
SA,RT	A	3.50	1	1	25			2105		149	504	653	0.77	2012			2012	0.325			46	46	0.845	84	42
RT	A	3.50	1	1	23			2105			641	641	1.00	1976			1976	0.325			46	46	0.845	84	42
LT	A	3.80	2	2	19		N	4130	635			635	1.00	3828			3828	0.166			24	24	0.845	51	54
LT,SA	B	3.20	3	1	17		N	1935	15	582		597	0.03	1931			1931	0.309	0.309		44	44	0.845	78	44
SA	B	3.50	3	1				2105		650		650	0.00	2105			2105	0.309			44	44	0.845	84	43

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

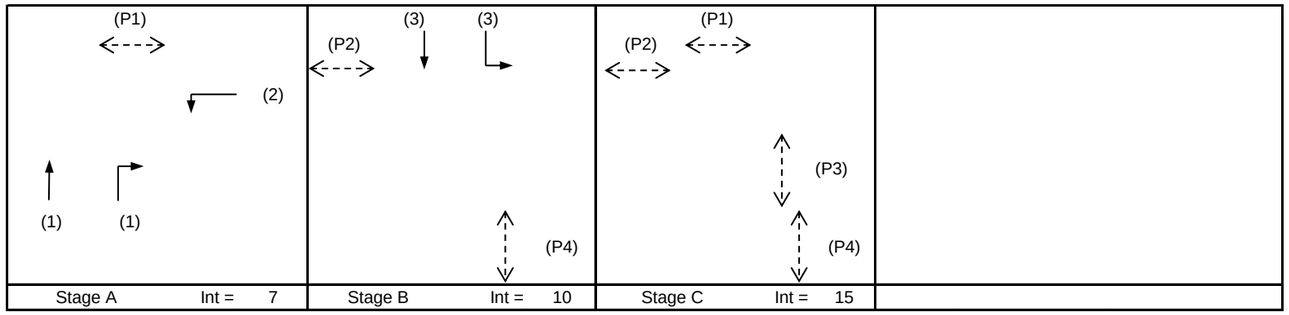
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)	**2024Des_PM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.540	
Loss time		L =	30	sec
Total Flow		=	3351	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.7	sec
Cm	= L/(1-Y)	=	65.2	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	25.0	%
Cp	= 0.9*L/(0.9-Y)	=	75.0	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		518		518	0.00	1965			1965	0.264	0.264	30	34	34	0.771	54	35
SA,RT	A	3.50	1	1	25			2105		506	46	552	0.08	2095			2095	0.264			34	34	0.771	60	34
RT	A	3.50	1	1	23			2105			521	521	1.00	1976			1976	0.264			34	34	0.771	54	35
LT	A	3.80	2	2	19		N	4130	647			647	1.00	3828			3828	0.169			22	22	0.771	42	40
LT,SA	B	3.20	3	1	17		N	1935	38	493		531	0.07	1923			1923	0.276	0.276		36	36	0.771	54	34
SA	B	3.50	3	1				2105		582		582	0.00	2105			2105	0.276			36	36	0.771	60	33

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

APPENDIX E - ENVIRONMENTAL ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF THING KOK ROAD, TAI PO

ENVIRONMENTAL ASSESSMENT

Jun 2022

Ref No: RT21466-EA-01B

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Project:	SECTION 16 PLANNING APPLICATION TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF THING KOK ROAD, TAI PO ENVIRONMENTAL ASSESSMENT
Report No.:	Ref: RT21466-EA-01B

Revision	Issue Date	Description	Author	Checker	Approver
0	5/2022	Issued for Comment	BW	EN	HM
A	5/2022	Issued for Comment	BW	EN	HM
B	6/2022	Issued for Comment	BW	EN	HM

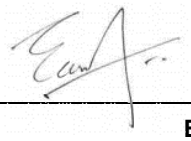
Prepared By:



Ben Wong

Consultant

Checked by



Eddy Ng

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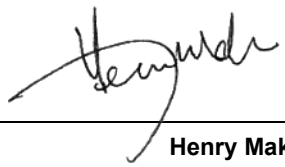

Henry Mak

Director

Disclaimer:

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk

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1 INTRODUCTION

1.1 BACKGROUND

A transitional housing development has been proposed at Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) (the proposed Site).

The proposed Site is currently zoned "Government, Institution or Community" ("G/IC") under the approved Ting Kok Outline Zoning Plan (OZP) No. S/NE-TK/19. The proposed transitional housing development could be classified as 'Residential Institution', which is a Column 2 use in "G/IC" zone according to the Notes of the OZP requiring planning permission from the Town Planning Board.

BeeXergy Consulting Limited (BeeXergy) was commissioned by the The Society of Rehabilitation and Crime Prevention Hong Kong to conduct an Environmental Assessment (EA) to fulfill the THB planning application requirement of the proposed development.

1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment is prepared to identify and assess the potential environmental impacts arising from the operation of the proposed development within the site to confirm the environmental suitability.

2 PROJECT DESCRIPTION

2.1 SITE LOCATION

The proposed Site area is approximately 4,000 m^2 and it is located to the southeast of Ting Kok Road, northeast of Beverly Hills, and southwest of Spanish Primary School, as shown on **Figure 1**. The Site is currently vacant.



Figure 1 Site Location Plan

2.2 PROPOSED USE

The Proposed Development is intended for developing transitional housing which comprises approximate 276 units, communal area, and a facility management office. The layout plan of the proposed Site is provided in **Appendix 2.1**.

The anticipated year of construction completion and occupation is 2024.

3 AIR QUALITY

3.1 INTRODUCTION

This section presents the assessment of potential air quality impacts associated with the construction and operational phases of the proposed development.

3.2 AIR QUALITY LEGISLATION AND STANDARDS

The Air Pollution Control Ordinance (APCO) provides the statutory framework for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs), which stipulate the statutory limits of air pollutants and the maximum allowable numbers of exceedance over specific periods should be met. The updated AQOs as listed in **Table 3.1** have been effective since 1 January 2022.

Table 3.1 Hong Kong Air Quality Objectives

Pollutant	**Averaging time**	**Concentration limit [1] (μg/m^3)**	**Allowable number of exceedances**
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) [2]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [3]	24-hour	50	35
	Annual	25	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
Ozone (O_3)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead (Pb)	Annual	0.5	Not Applicable

Note:

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

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

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

3.3 EXISTING AIR ENVIRONMENT

The existing environment of the proposed development is primarily affected by the local traffic Ting Kok Road only. A site survey in April 2022 identified that there are no air pollution sources (including chimney in used and odour source) located at the surrounding of the Project Site. As such, local traffic is considered to be the dominant emission source affecting the ambient air quality in the proposed site.

The recent 5-year (i.e. Year 2016 to Year 2020) air quality monitoring data from an EPD's Air Quality Monitoring Station (AQMS) Station have been reviewed. The nearest AQMS to the proposed development is Tai Po AQMS, with its monitoring data tabulated in **Table 3.2** below. The monitoring data indicates that only O_3 concentrations exceeded the corresponding AQO. The measured high O_3 concentrations are a regional air pollution problem. The Hong Kong Government works closely with the Guangdong Provincial Government to tackle the photochemical-smog related regional problem, such as restricting the local vehicle emissions.

Table 3.2 Air quality monitoring data (Tai Po AQMS, 2016-2020)

Pollutant	Parameter	Concentrations (μg/m³) [1]						AQOs [2] (μg/m³)
		2016	2017	2018	2019	2020	5-year mean [3]	
SO_2	4th highest 10-minute	37	39	24	20	19	28	500 (3)
	24-hour	10	9	8	10	7	9	125 (3)
NO_2	19th highest 1-hour	112	127	125	142	106	122	200 (18)
	Annual	33	39	36	36	30	35	40
O_3	10th highest 8-hour	147	**181**	**167**	**197**	**165**	**171**	160 (9)
RSP	10th highest 24-hour	74	82	69	65	58	70	100 (9)
	Annual	29	32	31	31	24	30	50
FSP	10th highest 24-hour	55	55	47	47	38	48	75 (9)

	Annual	20	22	19	20	15	19	35

Notes:

[1] Underlined and **bold** values mean exceedance of the AQO.

[2] Values in ( ) mean the number of exceedances allowed, based on the historical AQO effective from 2014 to 2021.

[3] The 5-year means are the arithmetic average.

3.4 HONG KONG PLANNING STANDARD AND GUIDELINES (HKPSG)

According to Chapter 9, Environment of the Hong Kong Planning Standard and Guidelines (HKPSG), adequate buffer distance or screening should be provided between sensitive receptors and potential air pollution emitters. For roads that are distinguished as District Distributor for active and passive recreational uses, the buffer distance must be greater than 10m as shown in **Table 3.3** below.

Table 3.3 Guidelines on Usage of Open Space Site

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	Type of Road		
	Trunk Road and Primary Distributor	>20m	Active and passive recreation 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

According to **Table 1.3** in the same Chapter, buffer distances of at least 200m and 100m for Industrial chimneys and dusty uses, respectively, from the proposed development are required.

3.5 REPRESENTATIVE AIR SENSITIVE RECEIVERS

The identified representative air sensitive receivers (ASRs) are shown in **Table 3.4** below. Their locations are provided in **Figure 3.1**.

Table 3.4 Identified representative ASRs

ASRs	Description	Remarks

ASR 1	Proposed development	Planned receiver; affected by air quality impact during operational phase
ASR 2	Village house near Ting Kok Road	Existing receiver; affected by air quality impact during construction phase
ASR 3	Beverly Hills	Existing receiver; affected by air quality impact during construction phase
ASR 4	Spanish Primary School	Existing receiver; affected by air quality impact during construction phase
ASR 5	Village house in Shuen Wan	Existing receiver; affected by air quality impact during construction phase

3.6 VEHICULAR EMISSION SOURCES IN OPERATIONAL PHASE AND EVALUATION OF IMPACTS

The proposed development is subject to vehicular emission impact from the nearby Ting Kok Road during the operational phase of the project. With reference to the Annual Traffic Census 2020 published by the Transport Department, Ting Kok Road is classified as a Rural Road and is analogous to a District Distributor[1] shown in **Table 3.3**. The proposed development has a minimal horizontal distance of 46m to the road kerb of Ting Kok Road. Therefore, the buffer distance recommended in the HKPSG is satisfied and no adverse vehicular emission impact is anticipated. The road between the Project site and the Beverly Hills is a local access road rather than a Local Distributor defined in Table 1 of Chapter 8 of the HKPSG. As such, the buffer distance requirement listed in the HKPSG is not appropriate for the assessment here. In fact, the number of vehicles on this road is minimal as observed in our site survey. Therefore, the air quality impact aroused from this road on the nearby ASRs is minimal.

[1]Adopted from the air quality impact assessment of the EA Report of Section 16 Planning Application for Comprehensive Transitional Housing Village Development in Various Lots in D.D. 26, Wong Yue Tan, Tai Po.

3.7 INDUSTRIAL CHIMNEY AND DUST EMISSIONS IN OPERATIONAL PHASE AND EVALUATION OF IMPACTS

As discussed in **Section 3.3**, there is no active chimney within 200m from site boundary, i.e., complying with the buffer distance for chimney emissions under the HKPSG. The Tai Po Industrial Estate as the nearest industrial use is more than 1.3 km away from the proposed development. Thus, no adverse air quality impact to the proposed development due to industrial chimney emissions is anticipated. An existing concrete mixing plant is located more than 250 m away from the proposed development, complying with the requirement of buffer distance for dusty use under the HKPSG.

3.8 POTENTIAL ODOUR IMPACT IN OPERATIONAL PHASE

The provision of a refuse collection point (RCP) for the proposed development will be considered during the detailed design stage of the Project. In case that the RCP is included, the RCP should be kept enclosed and equipped with a deodorization system. The exhaust location should be located far from any ASRs to avoid any residual impact of odour. As such, no adverse odour impact is expected with these provisions. Nevertheless, the details of the RCP, if any, will be determined in later stage of the Project. The proposed development does not include any sewage treatment plant since the sewage generated from the proposed development will be conveyed through a public sewer.

3.9 POLLUTION SOURCES DURING CONSTRUCTION PHASE AND EVALUATION OF IMPACTS

During the construction phase, the potential air quality impacts include the dust and exhaust emissions arising from the construction activities (e.g. site formation, minimal foundation works, erection of building blocks based on MIC, emissions from construction plants and machineries, etc.). This may cause short–term air quality impacts on the surrounding ASRs. For the mobile machinery emissions, however, only a limited number of diesel machinery are operated in the proposed site. Furthermore, the requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation allows only approved or exempted non-road mobile machinery to be used in the construction sites. According to the Air Pollution Control (Fuel Restriction) Regulations, ultra-low Sulphur diesel (ULSD) with Sulphur content not exceeding 0.005% by weight is required to be used as fuel to minimize the SO_2 emissions. As such, the exhaust emissions from the construction plants and machineries are expected to be minimal. To minimize the potential dust emissions and for good site practice, applicable mitigation measures under the Air Pollution Control

(Construction Dust) Regulation are required to be incorporated in the relevant works contracts. These measures include:

- Hoarding should be provided along the entire construction site boundary except the site entrance/exit;
- Washing device should be provided at the site entrance/exit. Construction vehicles should be washed immediately before leaving the site to remove the construction dust from their bodies and wheels;
- Materials to be transported by truck should be dampened or covered;
- Dusty activities should be sprayed with water prior to, during and immediately after the activities as far as practicable. Haul roads within the construction site should be watering frequently;
- Dropping heights for construction materials should be minimized to avoid the dust emission during the unloading operation;
- Water spraying or covering should be provided for construction materials stockpiling; and
- Haul roads, dusty activities and stockpiling areas should be positioned away from any ASRs as far as practicable.

With the implementation of the recommended mitigation measures, no adverse dust impacts during construction is anticipated. The “Recommended Pollution Control Clauses for Construction Contracts” available in the EPD’s website provide the recommended control measures to be implemented by the contractor.

3.10 CONCLUSIONS

There are no chimneys found within 200m of the proposed site. No adverse impact of vehicular emissions and dusty uses on the proposed development due to the adequate buffer distances between the pollution sources and the proposed development. As such, no adverse impacts on air quality are anticipated during the operational phase.

During the construction phase, there will be no adverse impacts on air quality with the implementation of recommended mitigation measures and good site practices.

4 NOISE

4.1 INTRODUCTION

This section assesses the potential noise impacts associated with the proposed development during the construction and operational phases.

4.2 CONSTRUCTION NOISE ASSESSMENT

4.2.1 EVALUATION

Referring to the project nature, construction noise is anticipated which is mainly generated by the Powered Mechanical Equipment (PME) such as dump truck and crane for minor site clearance and site formation, as well as minor pre-casting superstructure works. Reference shall be made to EPD's *"Recommended Pollution Control Clauses for Construction Contracts"* and *ProPECC PN 2/93 "Noise from Construction Activities – Non-statutory Controls"* as good practices. These mitigation measures could be enforced by specifying a construction noise control plan as part of the contract document to ensure implementation in sitework.

With implementation of mitigation measures mentioned as well as sufficient separation distance from the site boundary, the construction noise impact at the NSRs can be minimized.

4.2.2 CONSTRUCTION NOISE STANDARD

As stipulated in EPD's *"Recommended Pollution Control Clauses for Construction Contracts"*, for carrying out any construction work other than percussive piling during the time period from 0700 to 1900 hours on any day not being a general holiday (including Sundays), the Contractor shall comply with the following requirements as shown in **Table 4.1**.

Table 4.1 Noise Limits for Daytime Construction Activities

Noise Sensitive Receivers	0700-1900 hours on any day not being a Sunday or general holiday Leq (30 min.), dB(A)
Dwellings	75
School	70 65(during examination)

4.3 TRAFFIC NOISE ASSESSMENT

4.3.1 TRAFFIC NOSIE STANDARD

The maximum permissible road traffic noise level at the external facades of noise sensitive buildings which rely on openable windows for ventilation specified in the Hong Kong Planning Standards and Guidelines (HKPSG) is as follows:

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

4.3.2 ASSESSMENT POINTS

Based on the surrounding environmental context, traffic noise is identified to be mainly dictated by the nearby road traffic noise at north-west to the proposed site contributed from the Ting Kok Road. The two assessment points selected has considered for the worst-case scenario closest to the Ting Kok Road with openable window at the north-west of the proposed site directly facing to the traffic noise source. The locations of the assessment points are shown in **Figure 4.1**.

4.3.3 ASSESSMENT METHODOLOGY

The traffic data of Year 2027 provided by Traffic Consultant are used for the assessment. The traffic flow and percentage of heavy vehicle (%HV) for the major roads surrounding the site are presented in **Appendix 4.1**. The road network is shown in **Figure 4.1**.

The traffic noise levels at the external facades of representative NSRs are predicted with consideration of correction factors of distance, view angle, road surface, percentage of heavy vehicle and façade reflection in accordance with the UK Department of the Transport *"Calculation of Road Traffic Noise"* (CRTN).

4.3.4 ASSESSMENT RESULTS

The façade noise levels at the representative NSRs (i.e. NSR1 and NSR2) are predicted. No exceedance of noise criterion of 70 dB(A) is anticipated in both AM and PM Peak hours. Detailed calculation is shown in **Appendix 4.2**.

Since the predicted noise level at all representative NSRs are expected to comply with the noise criterion of 70 dB(A) for both AM and PM Peak hours based on the assessment results of traffic noise calculation, no significant adverse road traffic noise impact at the proposed Site is anticipated.

4.4 FIXED PLANT NOISE ASSESSMENT

4.4.1 FIXED PLANT NOSIE STANDARDS

Noise limit at the NSRs subject to the existing fixed-plant noise impact shall be referred to the Acceptable Noise Levels (ANL) in accordance with the "*Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites"* (IND-TM) under NCO. The Acceptable Noise Levels (ANL) depends on the Area Sensitivity Rating (ASR: "A", "B" or "C").

The appropriate ASR and the corresponding ANL for the NSRs shall be assigned on the basis of **Table 4.2** and **Table 4.3** respectively, however, any NSR shall, irrespective of **Table 4.2**, be assigned an ASR of "C" if it is within 100m of a zone designated as "Industrial" or "Industrial Estate" on a statutory Outline Zoning Plan, or an ASR of "B" if it is between 100m and 250m

from such a zone, except in cases where **Table 4.2** indicate an ASR of "C".

Table 4.2 Area sensitivity ratings (ASRs)

Type of area containing ASR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
(i) Rural area, including country parks or village type developments	A	B	B
(ii) Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

Table 4.3 Acceptable noise level for different ASRs and time periods

Time Period	ASR		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

In order to plan for a better environment, the Hong Kong Planning Standards and Guidelines (HKPSG) has specified all planned fixed noise sources should be so located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the facade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background.

4.4.2 NOISE SENSITIVE RECEIVERS

The AADT of the major road nearby the proposed site (Ting Kok Road) is 28530 as per the annual traffic census 2020 which is not considered as IF. Representative NSRs rely on opened windows for ventilation of the proposed development are identified, NSRs are assigned an ASR of "A" where located in low density residential area consisting of low-rise or isolated high-rise developments not affected by influencing factors.

Table 4.4 summarized the assigned ASR for the selected NSRs and the corresponding noise criteria adopted according to **Table 4.3**.

Table 4.4 Adopted ASR for representative NSRs

Receiver ID	Land Use	No. of storey	ASR	Acceptable noise level, dB(A)	
				Day-time / Evening-time	Night-time
N01	Residential	4	A	60	50
N02	School	1	A	60	50
NSR1	Residential	4	A	60	50

Noise generated from E&M plant room of the proposed Site is anticipated. The noise criteria (i.e. ANL-5 or prevailing background noise levels, whichever is lower) for the planned fixed noise sources are applied according to the HKPSG.

Prevailing background noise measurement was conducted in 08 Apr 2022 for both daytime/ evening time and night-time periods to determine the suitable noise criteria. The reference background noise levels are shown in **Table 4.5**.

Table 4.5 Reference Prevailing Background Noise Levels (free-field)

Time Period		Noise Level	
		Leq, dB(A)	L90, dB(A)
Day-time / Evening-time Period	14:00 – 16:00	48.3	42.6
	21:00 – 23:00	43.5	38.3
Night-time Period	02:00 – 04:00	42.9	38.1

Representative NSRs subject to the planned fixed noise sources are identified, the locations of NSRs are shown in **Figure 4.2**. **Table 4.6** summarized the adopted noise criteria for the selected NSRs.

Table 4.6 Adopted Criteria for Existing and Planned NSRs

NSR ID	ASR	Background noise measurement, L90 (1hrs), dB(A)[1]		ANL-5, dB(A)		Adopted Criteria, dB(A)	
		Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time
N01	A	41.3	41.1	55	45	41	41
N02	A	41.3	41.1	55	45	41	41
NSR1	A	41.3	41.1	55	45	41	41

Note:
[1] 3 dB(A) of façade correction has included to represent background noise at external façade of NSRs

4.4.3 ASSESSMENT METHODOLOGY

Existing Fixed Noise Sources

Desktop review and site inspection was conducted in the vicinity of the proposed Site in 08 Apr 2022 to identify the fixed noise sources in the neighborhood. During the site survey, a concrete factory was the only potential noise source identified within 300m from the proposed Site. The locations of the identified existing fixed plant noise sources are shown in **Figure 4.2**.

The K. Wah Concrete Company Limited was identified during site inspection. The company located >100m from the project site, no direct line of sight to the company from the planned NSRs is anticipated due to the obstruction of surrounding building which provide shielding effect to minimize the noise transmitted to the surrounding environment. No noticeable noise from the company was perceived at the project site. No evening or night time operation of the company was observed. Due to distance attenuation and shielding effects of surrounding buildings, it is anticipated the noise impact of the concrete plant on the proposed site to be minimal.

Based on the site inspection observation, the noise generated from the identified noise source is insignificant. No adverse noise impact from the existing fixed noise source is anticipated.

Planned Fixed Noise Sources

Since information regarding the sound power levels of the planned E&M plant room are not available from project proponent at the time. The assessment approach is to specify a maximum allowable sound power level of the plant equipment which is determined by backward calculation with a known maximum allowable impact sound level i.e. the adopted criteria. The locations of planned fixed plant noise sources are shown in **Figure 4.2**.

The proposed maximum allowable Sound Power Level of the planned fixed noise sources are shown in **Table 4.7**. For the planned fixed noise sources, tonality correction of 3 dB(A) has been applied for conservative approach. The maximum allowable SWLs of the planned fixed noise sources would be specified in the specification during design and tender stage for noise control purpose.

Table 4.7 Maximum Allowable SWL of Planned Fixed Noise Sources

Source ID	Maximum Allowable SWL, dB(A)	
	Daytime/ Evening Time Period	Night-time Period
PNS01	65	65

4.4.4 ASSESSMENT RESULTS

Assessment results for each NSRs at day/evening-time and night-time periods are summarized in **Table 4.8**. Detailed calculations are shown in **Appendix 4.3**.

Table 4.8 Predicted Fixed Noise Level at NSRs

NSR ID	Predicted Noise Level, dB(A)		Adopted Noise Criteria, dB(A)		Compliance (Y/N)
	Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time	
N01	41	41	41	41	Y
N02	28	28	41	41	Y
NSR1	41	41	41	41	Y

The predicted noise levels at all representative NSRs comply with the adopted noise criteria stipulated in IND-TM and HKPSG for both day/evening-time and night-time periods. Thus no adverse fixed noise impact at the proposed Site is anticipated.

4.5 ASSESSMENT SUMMARY

Construction works including minor site formation and pre-casting superstructure works are anticipated during construction periods. With the implementation of the recommended good site practices, no significant noise impact is predicted.

Road traffic noise impact assessment has been carried out for the proposed development. The predicted noise levels at all residential units comply with HKPSG $L_{10(1\ hour)}$ 70dB(A) noise

criterion.

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

5 WATER QUALITY IMPACT

5.1 INTRODUCTION

This section assesses the potential water quality impacts during the construction and operational phases of the proposed development.

5.2 WATER QUALITY LEGISLATIONS, STANDARDS AND GUIDELINES

For the assessment of the water quality impact include the following:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Technical Memorandum Standards for Effluents Discharged and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 1/94 “Construction Site Drainage;
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 5/93 “Drainage Plans subject to Comment by the EPD”; and
- Technical Circular (Works) No. 5/2005 Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works (TCW No. 5/2005).

5.3 WATER POLLUTION CONTROL ORDINANCE (CAP. 358)

The Water Pollution Control Ordinance (WPCO) provides a statutory framework for the control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary WCZs. A designated set of Water Quality Objectives (WQOs) has been set for each WCZ. The study area of the proposed development is located within the Tolo Harbour and Channel WCZ. The relevant WQOs as listed in **Table 5.1.**

Table 5.1 Hong Kong Water Quality Objectives for the Tolo Harbour and Channel WCZ

Parameters	Objective	Part(s) of Zone
Aesthetic Appearance	(a)Not to contain substance which settle to form objectionable deposits; (b)No float as debris, scum, oil or other matter to form nuisances; (c)Not to produce objectionable colour, odour, taste or turbidity; (d)Not to injure or be toxic or produce adverse physiological responses in humans, animals or plants; or (e)Not to be conducive to undesirable aquatic life or a nuisance to aquatic life.	Whole Zone
Bacteria	Not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in one calendar year Not exceed 0 per 100 mL Not exceed 1,000 per 100mL .	Secondary Contact Recreation Subzone and Fish Culture Zone Inland Waters in Shing Mun (B, F, G) subzones Inland Waters in Shing Mun (A, C, D, E, H, I) subzones and other watercourses
Dissolved Oxygen (all depths)	Not less than 4 mg/L Not less than 3 mg/L within 2 m of the bottom, or not less than 4 mg/L in the remainder of the water column Not less than 4 mg/L or 40% saturation (at 15°C) at any time	Channel Subzone Buffer Subzone Inland Waters

pH value	Change due to waste discharge not to be greater than ± 0.1 Change due to waste discharge not to be greater than ± 0.3	Channel Subzone Buffer Subzone
Temperature	Change due to waste discharges not to exceed natural daily temperature by more than 2.0℃	Inland Waters
Ammonia Nitrogen	Not to exceed 0.5 mg/L at any time	Inland Waters
Suspended Solids	Annual median of suspended solids not to exceed 20 mg/L Annual median of suspended solids not to exceed 25 mg/L	Inland Waters in Shing Mun (A, B, C, F, G, H) subzones Inland Waters in Shing Mun (D, E, I) subzones and other water courses
5-Day Biochemical Oxygen Demand	Waste discharges not cause the 5-day biochemical oxygen demand to exceed 3 mg/L Waste discharges not cause the 5-day biochemical oxygen demand to exceed 5 mg/L	Inland Waters in Shing Mun (B, F, G) subzones Inland Waters in Shing Mun (A, C, D, E, H, I) subzones and other watercourses
Chemical Oxygen Demand	Waste discharges not cause the chemical oxygen demand to exceed 15 mg/L Waste discharges not cause the chemical oxygen demand to exceed 30 mg/L	Inland Waters in Shing Mun (B, F, G) subzones Inland Waters in Shing Mun (A, C, D, E, H, I) subzones and other watercourses
Salinity	Change due to waste discharge not to be greater than ± 3ppt	Marine Waters

Toxicants	Waste discharges shall not cause the toxicants in waters of the subzone to attain such a level as to produce significant toxic effects in humans, fish or any other aquatic organism, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone

5.4 TECHNICAL MEMORANDUM STANDARDS FOR EFFLUENTS DISCHARGED AND SEWERAGE SYSTEMS, INLAND AND COASTAL WATERS (TM-DSS)

Discharge of effluent is also subject to control under the WPCO. Technical Memorandum Standards for Effluents Discharged into drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS) sets standards for controlling the physical, chemical and microbial quality of effluents. Specific standards apply for different control zones and beneficial use of water bodies. The discharge standards vary with the effluent flow rates and the type of receiving waters (foul sewers, storm water drains, inland and coastal waters). Standards for effluents discharged into the coastal waters is summarized in **Table 5.2**.

Table 5.2 Standards for Effluents Discharged into the Coastal Waters of Tolo and Port Shelter Water Control Zones

Flow rate (m^3/day) Determinand	≦10	>10 and ≦200	>200 and ≦400	>400 and ≦600	>600 and ≦800	>800 and ≦1000	>1000 and ≦1500	>1500 and ≦2000	>2000 and ≦3000	>3000 and ≦4000	>4000 and ≦5000	>5000 and ≦6000
pH (pH units)	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9
Temperature (℃)	45	45	45	45	45	45	45	45	45	45	45	45
Colour (lovibond units) (25mm cell length)	1	1	1	1	1	1	1	1	1	1	1	1
Suspended solids	30	30	30	30	30	30	15	15	15	15	15	15
BOD	20	20	20	20	20	20	10	10	10	10	10	10
COD	80	80	80	80	80	80	50	50	50	50	50	50
Oil & Grease	20	20	20	20	20	20	10	10	10	10	10	10
Iron	10	10	10	7	5	4	2.7	2	1.3	1	0.8	0.6
Boron	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Barium	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Mercury	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Other toxic metals individually	1	1	0.8	0.5	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1
Total toxic metals	2	2	1.6	1	1	0.8	0.2	0.2	0.2	0.2	0.14	0.1
Cyanide	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.03	0.02	0.02	0.01
Phenols	0.5	0.5	0.5	0.25	0.25	0.25	0.1	0.1	0.1	0.1	0.1	0.1
Sulphide	5	5	5	5	5	5	2.5	2.5	1.5	1	1	0.5
Total residual chlorine	1	1	1	1	1	1	1	1	1	1	1	1
Total nitrogen	20	20	20	15	15	15	15	15	10	10	10	10
Total phosphorus	8	8	5	5	5	5	5	5	5	5	5	5
Surfactants (total)	15	15	15	15	15	15	10	10	10	10	10	10
E. coli (count/100ml)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Notes:

1. All units in mg/L unless otherwise stated; all figures are upper limits unless otherwise indicated.
2. Source: Table 7 of TM-DSS.

5.5 PRACTICE NOTE FOR PROFESSIONAL PERSONS

The Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 1/94) provides environmental guidelines for handling and disposal of construction site discharges. It provides good practice guidelines for dealing with various types of discharge from a construction site. Practices as outlined in the ProPECC PN 1/94 should be followed during the construction phase in order to minimise the water quality impact due to construction site drainage. In addition, other ProPECC Notes including the ProPECC PN 5/93 Drainage Plan (subject to Comment by the Environmental Protection Department) shall also be followed. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN 5/93.

5.6 DESCRIPTION OF THE ENVIRONMENT

According to EPD's Annual Report titled "Marine Water Quality in Hong Kong in 2020", the Tolo Harbour is reported to have shown a great improvement in water quality since the 1980s, including reductions in organic matters, sewage bacteria, nutrients, metals and BODs. The overall WQO compliance rate of the Tolo Harbour and Channel Water Control Zone was reported to be 93% in 2020. However, Tolo Channel was subject to a natural hydrological phenomenon of water column stratification and associated lower bottom DO level due to restricted water exchange with the open waters. The water quality index grading and compliance with the WQOs of the TM3 and TM5 are presented in **Table 5.3**. Stations TM3 (in Harbour Subzone) and TM5 (in Buffer Subzone) are selected since they are the closest monitoring points to the Project Site.

Parameter	Unit	TM3	TM5
Dissolved Oxygen Dissolved Oxygen (bottom)	mg/L	6.4 (5.3 - 7.2) 5.9 (3.8 – 7.2)	6.2 (5.5 - 6.8) 6.0 (4.9 - 6.8)
pH	--	8.0 (7.6 - 8.3)	7.9 (6.8 - 8.2)
Suspended Solids	mg/L	8.2 (1.4 - 19.3)	6.2 (1.1 - 14.0)
5-Day Biochemical Oxygen Demand	mg/L	1.8 (1.2 - 2.9)	1.4 (0.7. - 2.6)
E. coli	counts/ 100mL	18 (<1 – 2 700)	3 (<1 - 450)
Faecal Coliforms	counts/ 100mL	76 (1 - 13 000)	6 (<1 - 890)
Ammonia-Nitrogen	mg/L	0.046 (0.011 - 0.127)	0.031 (0.016 - 0.063)
Nitrate-Nitrogen	mg/L	0.003 (0.002 - 0.049)	0.002 (<0.002 - 0.004)
Total Kjeldahl Nitrogen	mg/L	0.56 (0.25 - 0.86)	0.56 (0.25 - 0.94)
Orthophosphate Phosphorus	mg/L	0.006 (0.003 – 0.014)	0.006 (0.003 - 0.009)
Total Phosphorus	mg/L	0.04 (<0.02 - 0.06)	0.04 (<0.02 - 0.06)

Note:

1. Data presented are annual arithmetic means of the depth-averaged (unless specified) results except for E. coli and faecal coliforms which are annual geometric means.

2. Data in brackets indicate the ranges.

3. NM indicates no measurement taken.

5.7 WATER QUALITY SENSITIVE RECEIVERS

In order to evaluate the potential water quality impact during the construction and operation phases, the water sensitive receivers (WSRs) were identified and are listed in the **Table 5.4**. The assessment area for the water quality impact assessment is defined by a distance of 500m from the project boundary. Locations of the WSRs are provided in **Figure 5.1**.

Table 5.4 Water quality sensitive receivers in the vicinity of the proposed site

WSRs	Description	Approximate distance from the project site (m)
WSR 1	Stream	> 75 m
WSR 2	Marshland	> 160 m
WSR 3	Pond	> 200 m
WSR 4	Mangrove	> 160 m
WSR 5	Shuen Wan Egretry SSSI	> 150 m

5.8 POTENTIAL SOURCES OF WATER QUALITY IMPACT

The potential sources of water quality impacts during the construction phase include construction runoff and drainage (include accidental spillage of chemicals), runoff from general construction activities, sewage effluent generated by on-site workforce and construction works in close proximity to inland water. During the operational phase, sources of water quality impacts include surface runoff and drainage from the development site, and sewage effluent from the proposed development.

5.9 ASSESSMENT OF WATER QUALITY IMPACTS

Construction Phase

Construction runoff and drainage

The runoff from construction works may contain considerable loads of sediments, suspended solids and contaminants. Potential sources of pollutants from site drainage include*:*

- Runoff and erosion of exposed soil surfaces, earth working areas, drainage channels and temporary stockpiles;
- Release of any bentonite slurries, concrete washings and other grouting materials with construction run-off or storm water;
- Used water from dust suppression sprays and wheel washing facilities; and

- Accidental chemicals spillage such as fuel, oil, solvents and lubricant from maintenance of construction machinery and equipment.

The construction site runoff could cause potential impacts on to the water bodies in the vicinity and on inland water in close proximity. With the proper implementation of mitigation measures, practices and housekeeping, as discussed in **Section 5.10**, unacceptable water quality impacts related to construction runoff and drainage is not anticipated.

General construction activities

On-site construction activities may cause water pollution from the following:

- Uncontrolled discharge of debris and rubbish such as packaging, construction materials and refuse
- Spillage of liquid and chemicals stored on-site such as fuel, oil and solvents

The impact of water quality related to construction activities are likely to be minimal, provided that the site boundaries are well maintained and good construction site management and practices described in **Section 5.10** are well implemented.

Operational Phase

Surface runoff and drainage

Substances such as vehicle dust, tyre scraps and oils deposited on the road surfaces and the exposed soil surfaces of the green areas are washed into the nearby drainage system or watercourses during rainfall events. Surface water will be routed to stormwater drains or other water body nearby.

The recommendations in clause 5 of ProPECC PN 5/93 will be followed to ensure minimal potential water quality impact to the most practicable extent. As a precautionary measure, surface runoff from the Site will be collected in the proposed terminal manhole and discharged into the existing public drainage system to the southwest of the proposed site to avoid any potential poor surface runoff discharge directly to watercourses. Before discharge to a public drainage system, interceptors for oil (for loading/unloading bay) and desilting facilities such as silt traps, sedimentation tanks, etc. will be provided.

Sewage Effluent

As the sewage produced will be discharged into the nearby public foul sewer, no adverse water quality impact is anticipated.

5.10 MITIGATION MEASURES

Construction Phase

All discharges into any drainage or sewerage systems, or inland or coastal waters, or into the ground within a WCZ are controlled under the WPCO, except the discharge of domestic sewage into foul sewers or the discharge of unpolluted water into storm drains or into the waters of Hong Kong. Construction site discharges are controlled under the WPCO.

Construction runoff and drainage

The site practices outlined in the ProPECC PN 1/94 “Construction Site Drainage” and Technical Circular (Works) No. 5/2005 “Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works” should be followed strictly as far as practicable in order to minimize surface runoff and the chance of erosion, and also to reduce any suspended solids in the waste water prior to discharge. The practices include the following items:

- Perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works at the beginning of site establishment. Both temporary and permanent channels or sand bag barriers should be provided on site to direct stormwater to silt removal facilities.
- Embankments for flood protection around the boundaries of earthwork areas should be implemented. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt trap. The provision of silt removal facilities such as silt traps or sedimentation facilities to remove silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of silt removal facilities should be based on the guidelines as stipulated in ProPECC PN 1/94. Regular inspection and maintenance of all drainage facilities and erosion and sediment control structures is required to ensure proper and efficient operation at all times and particularly during rainstorms.
- Careful programming of the works is required to minimize surface excavations during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces should be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarized in ProPECC PN 1/94.
- Exposed soil surfaces should be protected by paving or filling materials to reduce the potential of soil erosion.
- Open stockpiles of construction materials or wastes on-site should be covered with tarpaulin or similar fabric during rainstorms to prevent the washing away of construction materials into any drainage system. These materials should not be placed near water courses.

- Manholes should always be covered and temporarily sealed to prevent silt and construction waste entering the drainage system and storm runoff being directed into foul sewers.
- All vehicles and plant should be cleaned before the construction site to ensure no earth, debris and the like is disposed by them on roads. Wheel washing facilities should be provided at every construction site exit where practicable. To ensure the continued efficiency of the process, wash-water should have sand and silt settled out and removed weekly. The access road from the wheel-wash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay.

General Construction Activities

- Construction solid waste, debris and refuse generated from the site should be collected, handled and disposed of properly. Stockpiles, cement and other construction materials should be kept covered when they are not in use.
- Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank to prevent the spillage of fuel from reaching water sensitive receivers.
- Portable chemical toilets shall be provided to collect the sewage generated by the construction workforce. A licensed contractor shall be employed to clean the toilets on a regular basis, as well as responsible for sewage collection and disposal.

Construction effluent, site run-off and sewage shall be properly collected and/or treated. Wastewater from a construction site should be managed with the following approach in descending order:

(i) minimisation of wastewater generation;

(ii) reuse and recycle;

(iii) treatment.

<u>Operational Phase</u>

Reducing polluted Rainwater and domestic wastewater

The site practices outlined in the ProPECC PN 5/93 “Discharge to Storm Drains and Foul Sewers” should be followed strictly as far as practicable in order to minimize the discharge of stormwater to foul sewers and prevent the contamination of domestic wastewater. The

practices include the following items:

- Polluted rainwater should be discharged to stormwater drains after removal of the pollutants by appropriate facilities. Domestic wastewater can be discharged to foul sewers without pretreatment while commercial and industrial wastewater should be pretreated, where necessary, to meet prescribed effluent standards. Proposals to reduce wastewater generation are encouraged, but proposal on effluent reuse should be discussed with the EPD at the early conception stage.

5.11 EVALUATION OF RESIDUAL IMPACT

With the implementation and incorporation of the recommended mitigation measures for both construction and operation phases, residual impacts due to the works of the proposed development on the water quality are not anticipated to be occurred.

5.12 MONITORING AND AUDIT REQUIREMENTS

No adverse water quality impact would be expected from the construction activities of the Project. All the site effluents and runoff generated from the construction works would be treated such that their quality is fulfilled under the requirements of the WPCO discharge license. Water quality monitoring is considered unnecessary. It is recommended that regular site inspections be undertaken to inspect the construction activities and works area to ensure the proper implementation of proposed mitigation measures.

5.13 SUMMARY

For the construction phase, pollution sources including the surface runoff from construction site and the sewage from site workforce. Their potential pollution impacts have been assessed. With the implementation of recommended site management practices listed in ProPECC PN 1/94, no adverse water quality impact to the nearby WSRs is anticipated.

For the operational phase, potential water quality impacts are mainly due to the surface runoff and the sewage generation from future population associated with the proposed development. Following the ProPECC PN5/93, no adverse water quality impact related to the surface runoff is anticipated. Moreover, all the sewage generated from the proposed development will be discharged to the public foul sewer. Thus, adverse water quality impact on the nearby WSRs

during operational phase is not anticipated.

6 WASTE MANAGEMENT IMPLICATION

6.1 INTRODUCTION

The potential waste management implication during the construction and operational phases of the proposed Development is discussed in this Section.

6.2 WASTE MANAGEMENT LEGISLATIONS, STANDARDS AND GUIDELINES

The Waste Disposal Ordinance (WDO, Cap. 354) provides the statutory framework for planning, control and management of waste, including construction waste, chemical waste, etc. All wastes should be handled and disposed according to the WDO and relevant guidelines such as the Practice Note for Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (PNAP ADV – 19) issued by the Buildings Department.

The storage, collection, transportation and disposal of wastes shall be according to the WDO and the relevant guidelines.

6.3 CONSTUCTION WASTE IMPACT

Construction materials and wastes generated during the construction phase include the construction & demolition (C&D) materials, refuse generated by workforce and chemical waste. The C&D materials consist of inert (broken concrete and soil) and non-inert (wood and vegetation) components. Inert C&D materials shall be reused as far as practicable to minimize the amount of construction waste generated. Disposal of the inert C&D materials is considered only when it is the last resort. In addition, the inert C&D materials shall be disposed of at the public fill reception facilities. The net generation of the C&D materials to be disposed of is estimated to be 1790 m^3. This amount is considered as the majority part of generated waste. General refuse generated by workforce and non-inert C&D materials shall be disposed of at a designated landfill. Operation and maintenance of the construction equipment will generate chemical wastes, which shall be collected by a licensed collector for subsequent disposal of and treated at licensed waste disposal facilities such as the Chemical Waste Treatment Centre.

6.4 OPERATIONAL PHASE WASTE IMPACT

Domestic waste contributes to a major portion of waste generated from the proposed Development during the operational phase. The proposed Development has 608 residents

and 7 employees. Based on the disposal rate of domestic waste of 0.91 kg/head/day[2] for resident and employee, respectively, the proposed Development will generate 559.7 kg solid waste per day.

Proper collection, storage and disposal facilities shall be provided in the detail design stage of the proposed Development, in order to ensure no adverse environmental impact of the domestic waste on the future residents.

6.5 LAND CONTAMINATION

This sub-section reviews the potential land contamination of the proposed Site. Historical aerial photographs from 1963 to 2021 (**Appendix 6.1**) have been reviewed to evaluate the potential land contamination at the proposed Site in the past land uses. According to the aerial photos, Shuen Wan Eu Tong Sen School and its playground were existed and construction of Beverly Hills was found in 1973. With the closure of the School before 2000, the School area was mostly covered with grass / vegetation until now. A portion of the School area was paved as indicated in the latest aerial photo taken in 2021 and in a photo taken in our site survey in April 2022 (. Since the proposed Site area was used as a School and covered with vegetation when the Site was vacant, it is unlikely to have a potential land contamination issue. Thus a detailed land contamination assessment is not necessary.

[2]Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2020.

7 CONCLUSION

This Environmental Assessment presents the findings from assessing the potential impacts associated with the construction and operational phases of the proposed development to confirm its environmental suitability. Key environmental concerns have been addressed and potential impacts assessed covering the following:

Air Quality

The development may be subject to vehicular emission impact from roads nearby during the operation of the project. However, no adverse vehicular emission impact is anticipated upon the incorporation of the relevant buffer distance stipulated under the HKPSG into the layout design.

There is no chimney within 200m from site boundary, i.e., complying with the buffer distance for chimney emissions under the HKPSG. Thus, no adverse air quality impact to the proposed residential development due to industrial chimney emissions is anticipated.

Noise

Site inspection around the site vicinity of the application was carried out. In terms of the fixed plant noise and traffic noise, it was confirmed that no noticeable noise will be perceived within the proposed site. With administrative measures such as limiting maximum allowable SWLs of the planned fixed noise sources in contractor's specification during design and tender stage, adverse noise impact due to the planned fixed noise sources is not anticipated.

Water Quality

Water quality impacts during both construction and operational phases have been assessed qualitatively. Construction runoff and activities from the site and sewage from the construction workforce during construction phase, and surface runoff and drainage and sewage effluent from future population during operational phase are identified.

Through the implementation of the water quality control measures regarding the surface runoff, wastewater from the construction site, together with the proper design of drainage system, no adverse water quality impacts during construction and operation is anticipated.

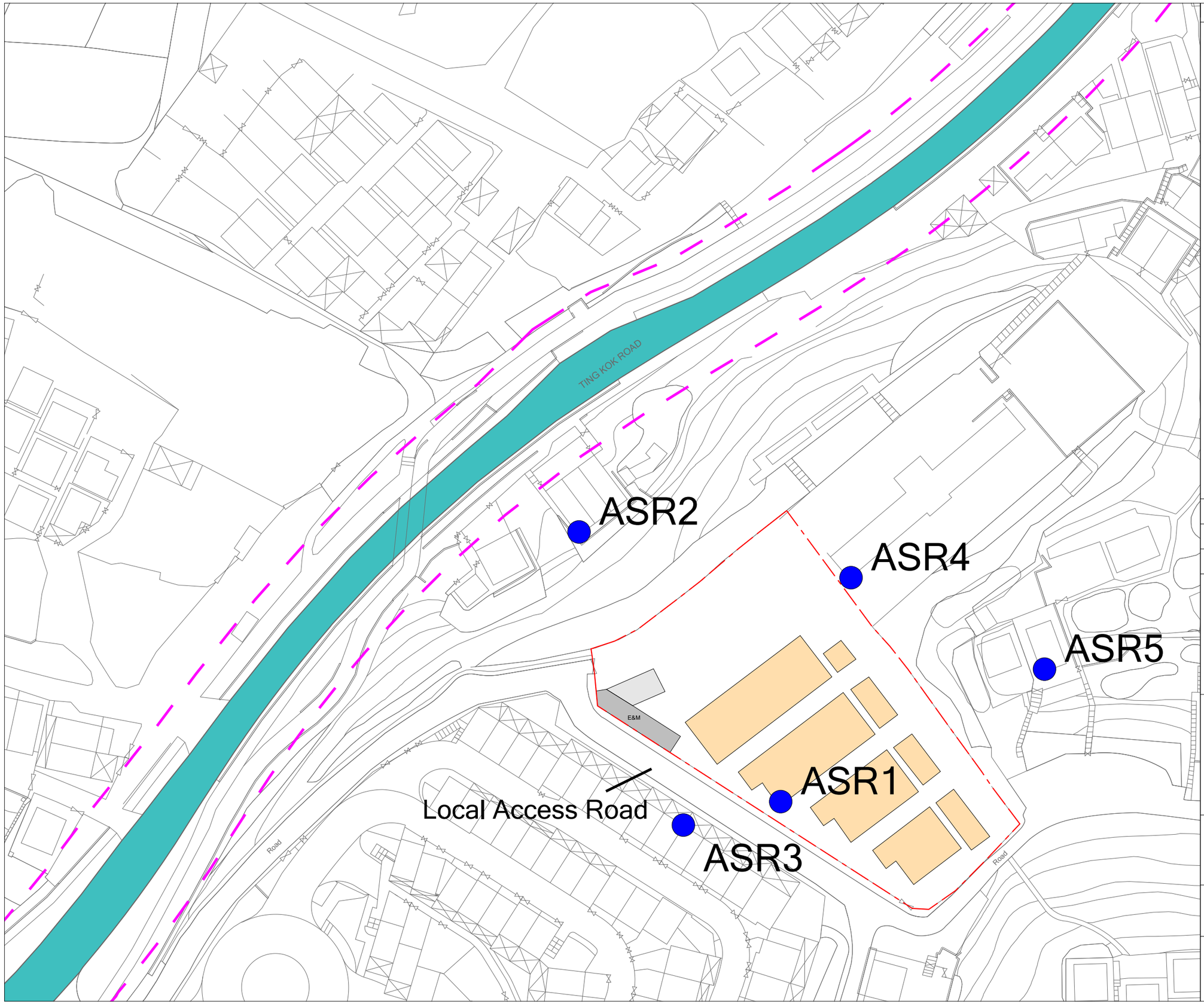
Waste

With proper measures to manage wastes generated from the proposed Development according to their types, no significant waste implication during the construction phase is anticipated. Domestic waste and municipal solid waste generated during the operational phase will be collected and sent to a refuse transfer station for dispose of and thus no adverse waste impact is expected.

The review of historical aerial photos indicates no potential land contamination issue with the proposed Site.

Overall, it would be environmentally acceptable with no adverse impacts on the identified sensitive uses.

FIGURE 3.1 LOCATIONS OF ASRS



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LEGEND:

- Site Boundary
- 10m Buffer Distance
- Air Sentative Receivers

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

LOCATIONS OF REPRESENTATIVE ASRS

Drawing No.	Rev.
FIGURE 3.1	1

Scale:

A4 - 1:1200

BXG

BeeXergy Consulting Limited

FIGURE 4.1 LOCATIONS OF REPRESENTATIVE NSRS AND ROAD NETWORK



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LEGEND:

- Site Boundary
- 300m Assessment Area
- Road Netwroks
- (1) Road Link and Index No.
- Noise Sentative Receivers

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

ROAD NETWORK AND LOCATIONS OF REPRESENTATIVE NSRS

Drawing No.

FIGURE 4.1

Rev.

1

Scale:

A4 - 1:4000

BXG

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FIGURE 4.2 LOCATIONS OF REPRESENTATIVE NSRS AND FIXED NOISE SOURCES



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LEGEND:

- Site Boundary
- 300m Assessment Area
- Noise Sentative Receivers
- Planned Fixed Plant Sources
- Existing Fixed Plant Sources

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

PLANNED AND EXISTING FIXED PLANT SOURCES AND REPRESENTATIVE NSRS

Drawing No.	Rev.
FIGURE 4.2	1

Scale:

A4 - 1:4000

BXG

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FIGURE 5.1 LOCATIONS OF WATER SENSITIVE RECEIVERS

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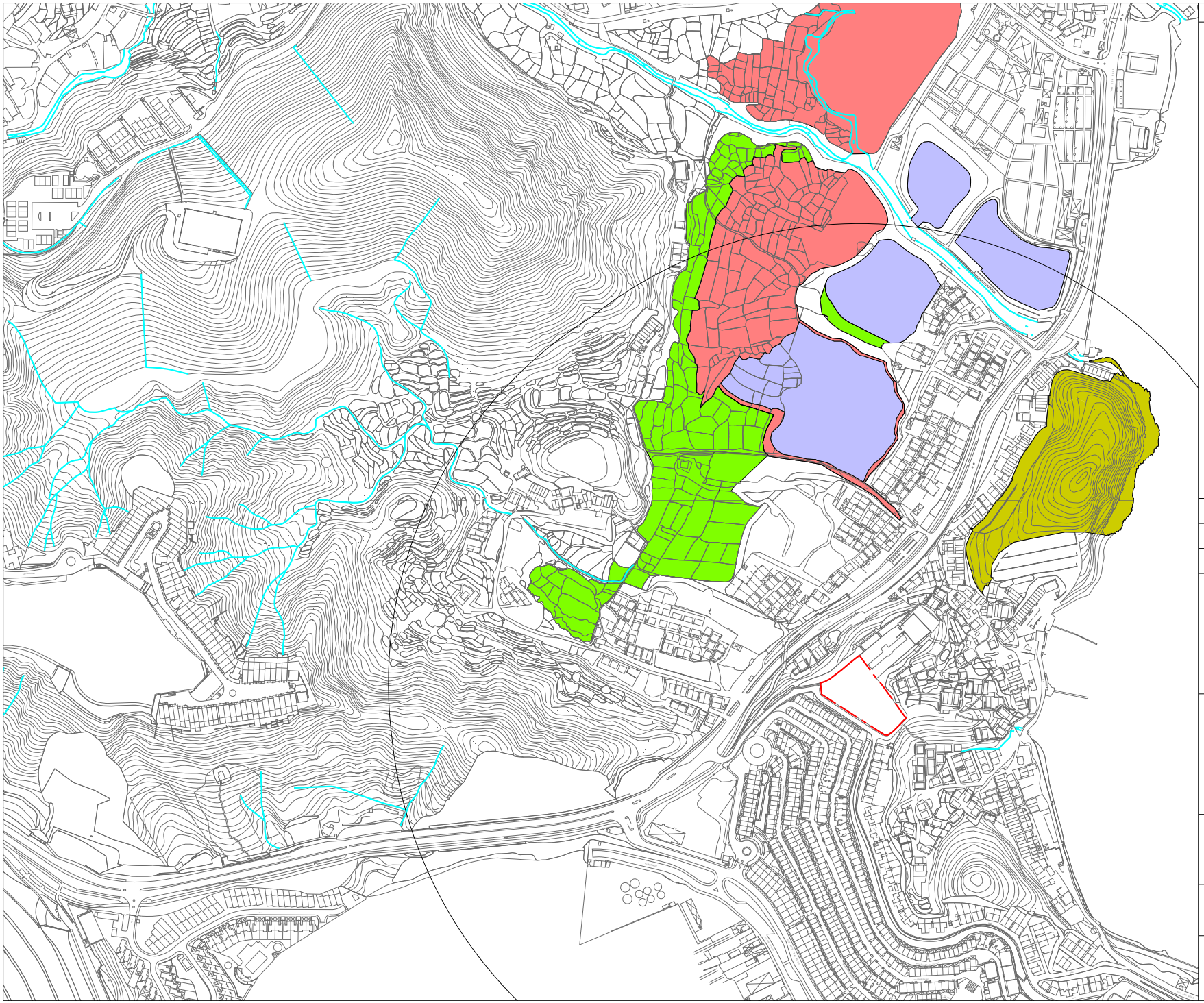

LEGEND:

- Site Boundary
- 500m Assessment Area
- Mangrove
- Marshland
- Pond
- SSSI
- Natural / Channelized Watercourse

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220613	20220614	20220614

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

LOCATIONS OF WATER SENSITIVE RECEIVERS

Drawing No.

FIGURE 5.1

Rev.

0

Scale:

A4 - 1:6000

BXG

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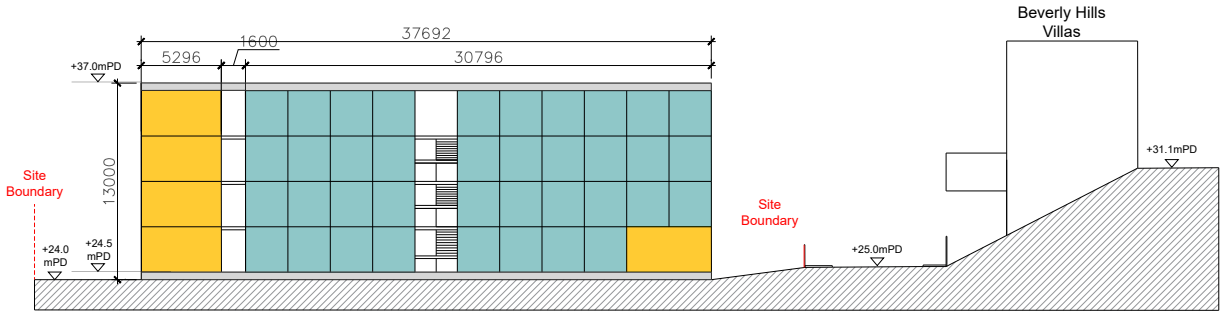
APPENDIX 2.1
MASTER LAYOUT PLAN


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

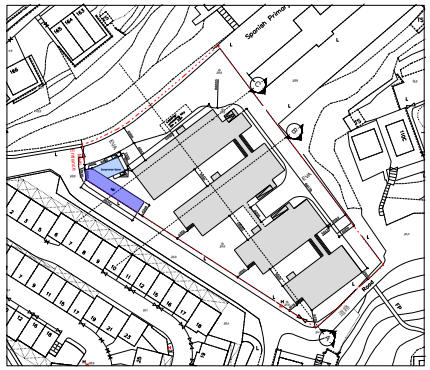


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



SECTION B



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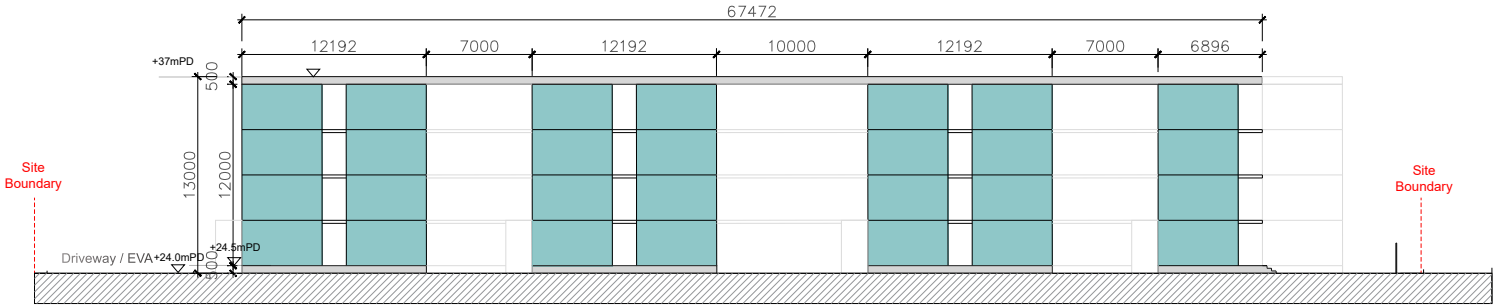

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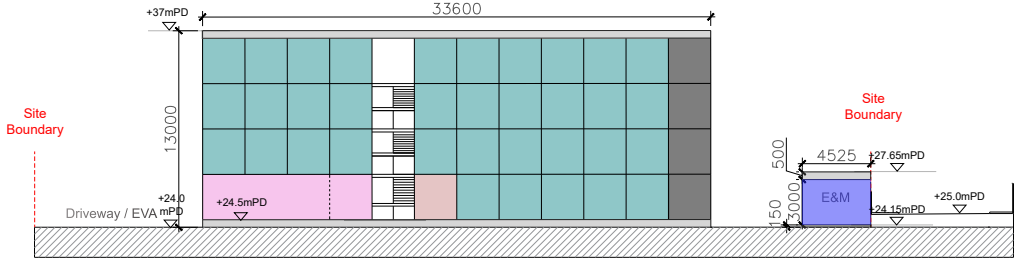

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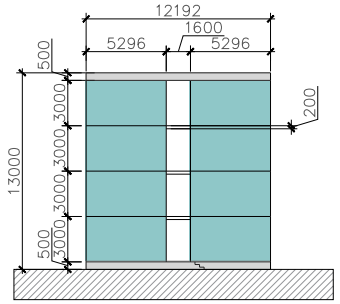


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX 4.1
TRAFFIC FORECAST DATA

2027 Peak Hour Traffic Forecast for Traffic Noise Impact Assessment

Road ID	Road Name	Section Between		1- or 2-Way	Weekday AM Peak Hour		Weekday PM Peak Hour	
					Flow (veh/hr)	% HV	Flow (veh/hr)	% HV
1	Ting Kok Road	Sam Mun Tsai Road	Hess Garden	1-way	482	18.1%	723	11.5%
2	Ting Kok Road	Hess Garden	Sam Mun Tsai Road	1-way	857	10.0%	670	11.3%
3	Sam Mun Tsai Road	Ting Kok Road	Tai Po Marine Office and Fisheries Office	1-way	236	25.7%	244	27.8%
4	Sam Mun Tsai Road	Tai Po Marine Office and Fisheries Office	Ting Kok Road	1-way	274	30.2%	225	20.7%
5	Ting Kok Road	Fortune Garden	Sam Mun Tsai Road	1-way	693	20.8%	908	16.7%
6	Ting Kok Road	Sam Mun Tsai Road	Fortune Garden	1-way	1098	14.5%	828	14.0%

APPENDIX 4.2
CALCULATIONS FOR TRAFFIC NOISE ASSESSMENT

Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at NSRs

NSR ID	AM/PM	Road Index	Nearest Horizontal Distance (m)	View Angle (deg)	Corrections					Basic Noise Level, dB(A) [5]	Max Noise Levels L10, 1hr, dB(A)	Cumulative Max Noise Levels L10,1hr, dB(A)	Noise Criterion, dB(A)	Compliance (Y/N)
					Distance [1]	View Angle [2]	Road Surface [3]	Speed/ %HV [4]	Façade					
NSR1	AM	1	74	150	-7.6	-0.8	-1	1.7	2.5	69	64	68	70	Y
		2	74	150	-7.6	-0.8	-1	0.2	2.5	72	65			
		3	236	56	-12.5	-5.1	-1	2.7	2.5	66	53			
		4	236	56	-12.5	-5.1	-1	3.2	2.5	67	54			
		5	279	5	-13.2	-15.6	-1	2.1	2.5	71	45			
		6	279	5	-13.2	-15.6	-1	1.1	2.5	73	46			
NSR1	PM	1	74	150	-7.6	-0.8	-1	0.5	2.5	71	64	68		Y
		2	74	150	-7.6	-0.8	-1	0.5	2.5	70	64			
		3	236	56	-12.5	-5.1	-1	3.0	2.5	66	53			
		4	236	56	-12.5	-5.1	-1	2.1	2.5	66	52			
		5	279	5	-13.2	-15.6	-1	1.5	2.5	72	46			
		6	279	5	-13.2	-15.6	-1	1.0	2.5	71	45			
NSR2	AM	1	73	150	-7.5	-0.8	-1	1.7	2.5	69	64	68		Y
		2	73	150	-7.5	-0.8	-1	0.2	2.5	72	65			
		3	266	53	-13.0	-5.3	-1	2.7	2.5	66	52			
		4	266	53	-13.0	-5.3	-1	3.2	2.5	67	53			
		5	311	4	-13.7	-16.5	-1	2.1	2.5	71	44			
		6	311	4	-13.7	-16.5	-1	1.1	2.5	73	45			
NSR2	PM	1	73	150	-7.5	-0.8	-1	0.5	2.5	71	64	68		Y
		2	73	150	-7.5	-0.8	-1	0.5	2.5	70	64			
		3	266	53	-13.0	-5.3	-1	3.0	2.5	66	52			
		4	266	53	-13.0	-5.3	-1	2.1	2.5	66	51			
		5	311	4	-13.7	-16.5	-1	1.5	2.5	72	45			
		6	311	4	-13.7	-16.5	-1	1.0	2.5	71	44			

Note:
[1] Distance correction = -10*log((horizontal distance + 3.5)/13.5)
[2] Angle of view correction (AoV) = 10*log(AoV/180)
[3] Road surface = -1 for concrete paved
[4] Speed and percentage of HV = 33*log(speed + 40 + 500/speed) + 10*log(1 + 5*percentage of HV/speed) - 68.8
[5] Basic noise level = 42.2 + 10*log(flow)

APPENDIX 4.3
CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at Existing NSRs

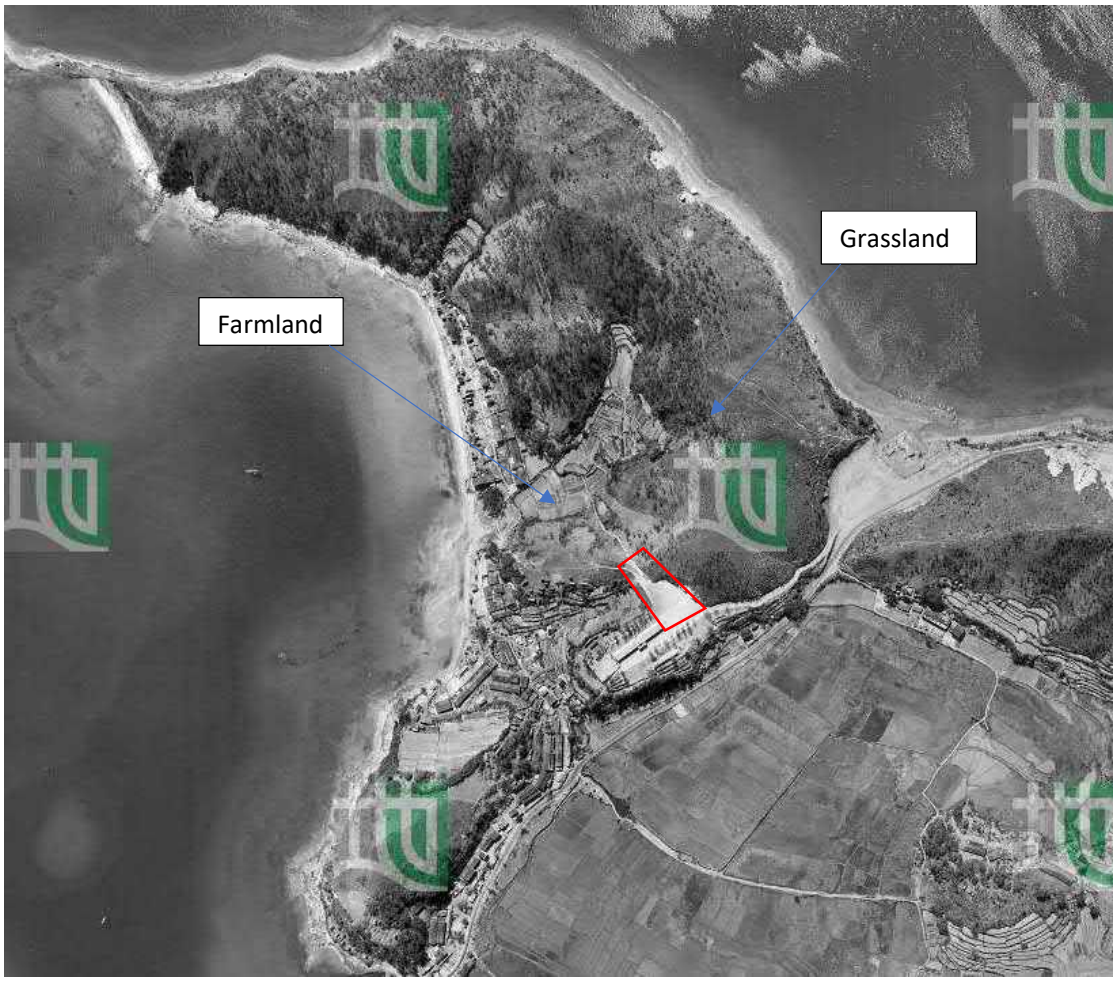
NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
N01	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
N01	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-

NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
N02	PNS01	65	59	-43	3	3	0	28
							Total SPL, dB(A)	28
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
N02	PNS01	65	59	-43	3	3	0	28
							Total SPL, dB(A)	28
							Criteria, ANL	41
							Exceedance	-

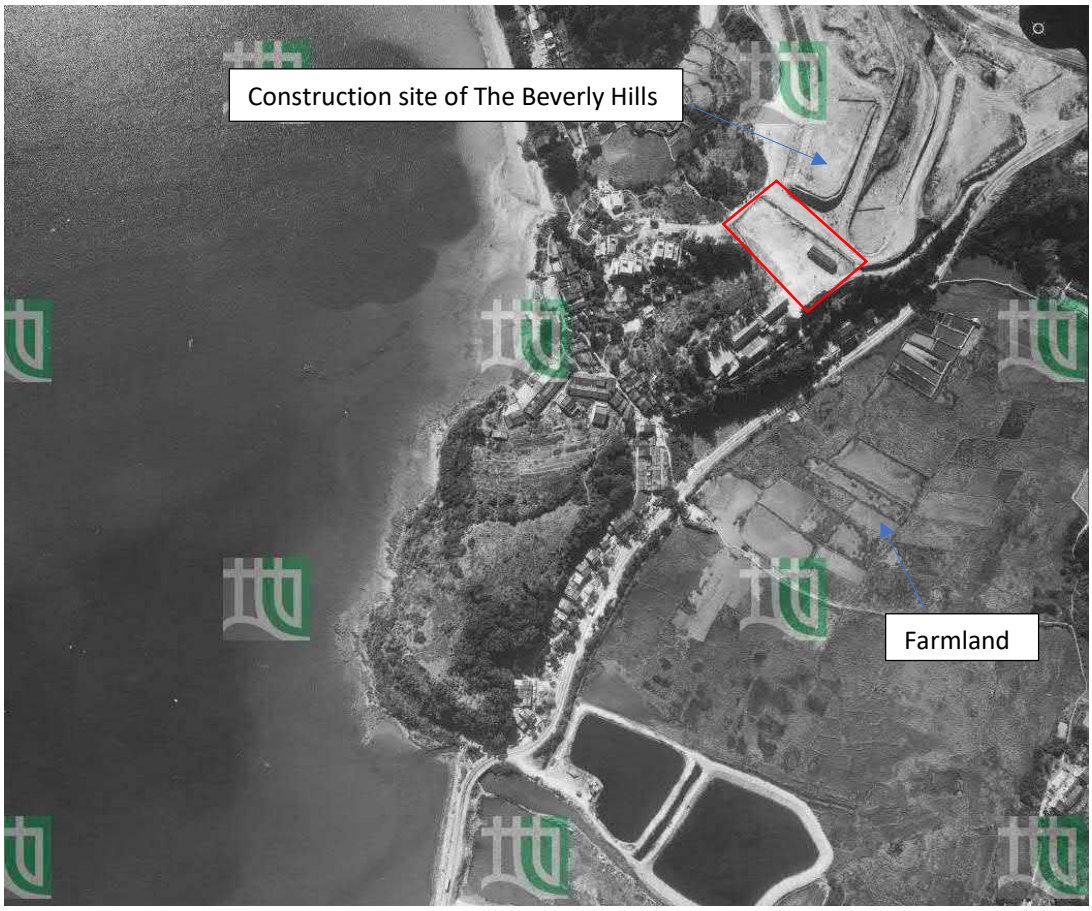
Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at Planned NSRs

NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
NSR1	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
NSR1	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-

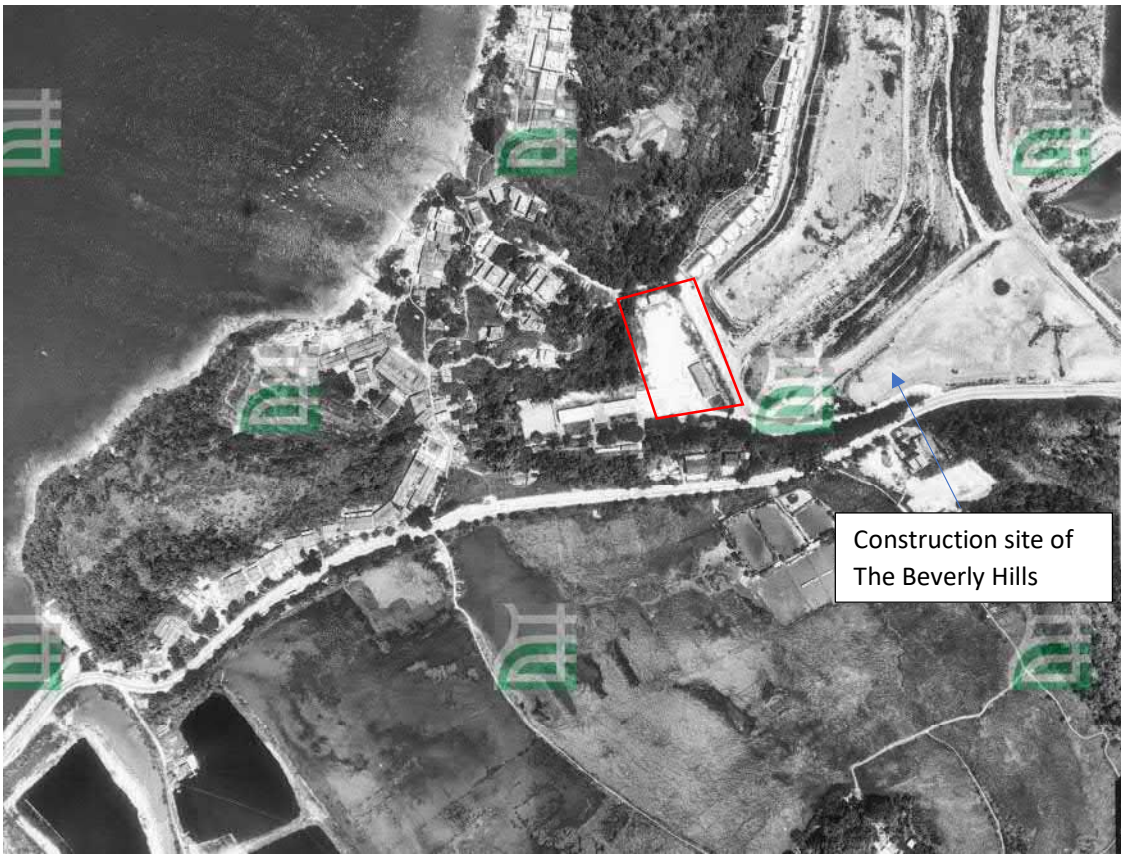
APPENDIX 6.1
HISTORICAL AERIAL PHOTOS



Aerial Photo in 1963. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1973. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1981. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1990. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2000. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2005. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2011. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2017. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2021. ——— Subject site. Photo source: Lands Department, HKSAR.



Current condition (Apr., 2022) of the Site, photo taken during the site survey

APPENDIX F - DRAINAGE IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAINAGE IMPACT ASSESSMENT

FOR

THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

5 Jul 2022

Ref No: RT21466-DIA-02R1

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Project:	DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)
Report No.:	RT21466-DIA-02

Revision	Issue Date	Description	Author	Checker	Approver
1	6/5/2022	Issued for Comment	TL	YS	HM
2	30/6/2022	Issued for Comment	TL	YS	HM

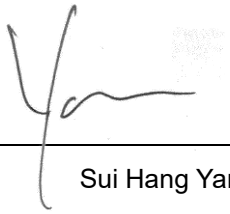
Prepared by:



Theo Lai

Senior Consultant

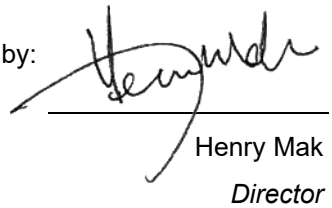
Checked by:



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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Appendix A Master Layout Plan of the Proposed Development
Appendix B Overview of Existing Drainage System
Appendix C DSD's email response
Appendix D Runoff Calculation
Appendix E Proposed Drainage System

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was appointed by The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP) to conduct a drainage impact assessment to fulfill the THB planning application requirement of the proposed Transitional Housing Project at Government Land at Shuen Wan, Off Ting Kok Road, Tai Po (Former Sheun Wan Eu Tong Sen School).

1.2 PROJECT LOCATION

The proposed site is currently zoned as “Government, Institution or Community (G/IC)” under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19. It is bounded by Spanish Primary School to the northeast, Ting Kok Road to the northwest, Beverly Hills to the southwest, and low-rise residential flats to the southeast. Figure 1 shows the project site location and its surrounding area.



Figure 1 Site Location Plan of the Project Area

1.3 DESCRIPTION OF THE SITE AND PROPOSED DEVELOPMENT

The site is a former school development, the school building is located at the west of the Site with a temporary storage at the southeast of the Site. The proposed transitional housing development comprises of a 4-storey residential block, communal area, and a facility management office. Site layout plan is presented in **Appendix A**.

1.4 SCOPE OF WORKS

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

1.5 EXISTING SITE CONDITION AND DRAINAGE FACILITIES

The site is a former school development with concrete paved ground at the north to west of the Site while flat soil and greenery at the east to south of the Site. According to the site visit conducted on 13 April 2022, there is an existing 300mm surface channel at the northwest of the Site. While an existing 350mm surface channel is also identified along Beverly Hills. A detailed drainage layout showing the existing drainage system around the Subject Site is provided in **Appendix B**.

1.6 PROPOSED DRAINAGE CONNECTION

As shown in the DSD's email dated 20 December 2021 as provided in **Appendix C**, a stormwater channel and catchpit shall be constructed by the project proponent connecting the surface channel inside the Site towards the existing 300mm surface channel along Beverly Hills. Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site.

2 DRAINAGE ANALYSIS

2.1 ASSUMPTIONS AND METHODOLOGY

Peak instantaneous runoff before and after the Proposed Development was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.

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

$$\boldsymbol{Q_p = 0.278\, C\, i\, A}$$

where:

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

Rainfall intensity is calculated using the following expression:

$$\boldsymbol{i = \frac{a}{(t_d + b)^c}}$$

where:

i = rainfall intensity in mm/hr
t_d = duration in minutes (td≤240)
a, b, c = storm constants given in Table 3 of SDM

For a single catchment, duration (t_d) can be assumed to be the time of concentration (t_c) which is calculated as follows:

$$\boldsymbol{t_c = t_0 + t_r}$$

where:

t_c = time of concentration
t_0 = inlet time (time taken for flow from the most remote point to reach the most upstream point of the urban drainage system)
Generally, t_0 is much smaller than t_f. As shown in Equation 2, t_d is the divisor. Therefore, larger t_d will result in smaller rain intensity (i) as well as a smaller Q_p. For the worst-case scenario, t_r is assumed to be negligible and so:

$$\boldsymbol{t_d = t_c = t_0}$$

$$\boldsymbol{t_0 = \frac{0.14465\, L}{H^{0.2}\, A^{0.1}}}$$

where:

A = catchment area (m^2)
H = average slope (m per 100m), measure along the line of natural flow, from the summit of the catchment to the point under consideration
L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

The capacities of the open channel have been calculated using the Manning Equation, assuming full bore flow with no surcharge, as follows, incorporate 10% sedimentation in the calculation of drainage flow capacity in accordance with the *Stormwater Drainage Manual:*

$$\bar{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$$

where:

V = mean velocity (m/s)

g = gravitation acceleration (m/s^2)

R = hydraulic radius (m)

k_s = hydraulic pipeline roughness (m)

V = kinematic viscosity of fluid (m^2/s)

S = hydraulic gradient (energy loss per unit length due to friction)

2.2 ASSESSMENT ASSUMPTIONS

2.2.1 SUBJECT SITE

The greenery area of existing site is approximately 2,000m^2, the runoff of the Site should be conveyed to the existing surface channel at the northwest of the Site. While the greenery area of the proposed development is approximately 1324.6m^2, as provided in **Appendix A**.

With reference to the *Stormwater Drainage Manual*, as the Site is relatively steep, the runoff coefficients of paved surface and soft landscape at the existing site are 0.95 and 0.35, respectively. The adopted runoff coefficients for the Site before development and after development respectively are summarised in ***Table 2.1***.

Table 2.1: Surface Characteristics and Runoff Coefficients of the Site

Scenario of Project	**Area (m^2)**	**Surface Characteristics**	**Runoff Coefficient for paved area**	**Runoff Coefficient for Greenery**
Before Development	4,310	50% concrete paved + 50% greenery area	0.95	0.35
After Development	4,310	67% concrete paved + 33% greenery area	0.95	0.35
Catchment A	1,441	100% concrete paved	0.95	/

Based on the site visit conducted on 13 April 2022, the existing 300mm surface channel is serving the Subject Site only. Catchment A is identified along the surface channel from SCH04 towards SCH05.

2.3 ESTIMATED EXISTING AND FUTURE RUNOFF

2.3.1 PEAK RUNOFF FROM THE SITE

In accordance with DSD's Stormwater Drainage Manual (2018) (SDM), the flood protection standard for drainage system is as follows:-

Table 2.2 Flood Protection Standard

Intensively Used Agricultural Land	2 – 5 years
Village Drainage including Internal Drainage System under a Polder Scheme	10 years [1, 3]
Main Rural Catchment Drainage Channels	50 years [2, 3]
Urban Drainage Trunk Systems	200 years [4]
Urban Drainage Branch Systems	50 years [4]

Notes:
1. *The impact of a 50-year event should be assessed in each village to check whether a higher standard than 10 years can be justified.*
2. *Embanked channels must be capable of passing a 200-year flood within banks.*
3. *For definitions of Village Drainage and Main Rural Catchment Drainage Channels, refer to Section 6.6.1 of SDM.*
4. *For definitions of Urban Drainage Branch and Urban Drainage Trunk Systems, refer to Section 6.6.2 of SDM*

With reference to definitions of Main Rural Catchment Drainage Channels as stated in Section 6.6.1 of SDM, flood protection standards shall adopt 1 in 50 years. Based on the assumptions described in Section 2.2, the runoff from the Site before and after development were estimated based on the return periods of 50 years. Detail calculation can be found in **Appendix D** and summarized in ***Table 2.3*** below:

Table 2.3: Estimated Peak Runoff

Catchment	Estimated Peak Runoff (m^3/s)
Subject Site (Before)	0.192
Subject Site (After)	0.212

2.4 HYDRAULIC CAPACITY OF THE DRAINAGE SYSTEM

According to the calculation as shown in **Appendix D**, the peak flow of 0.192m^3/s generated from the Subject Site before the development occupied 25.2% of the downstream catchpit at SCH02. Considering the current design has a slightly increase on hard paved area as presented in Section 2.2, Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site and an upgrade of the existing 300mm surface channel to 600mm surface channel by the project proponent is recommended. In order to divert the stormwater from Subject Site towards the existing 350mm surface channel along Beverly Hills, a 300mm surface channel across the access road together with a catchpit to be constructed by the project proponent is also proposed. Detail design can be found in **Appendix E**.

After the transitional housing development, the peak flow of 0.294m^3/s generated from the Subject Site and catchment A will take up 66.6% in capacity of the existing downstream SCH05 as shown in the calculation given in **Appendix D.**

3 CONCLUSION

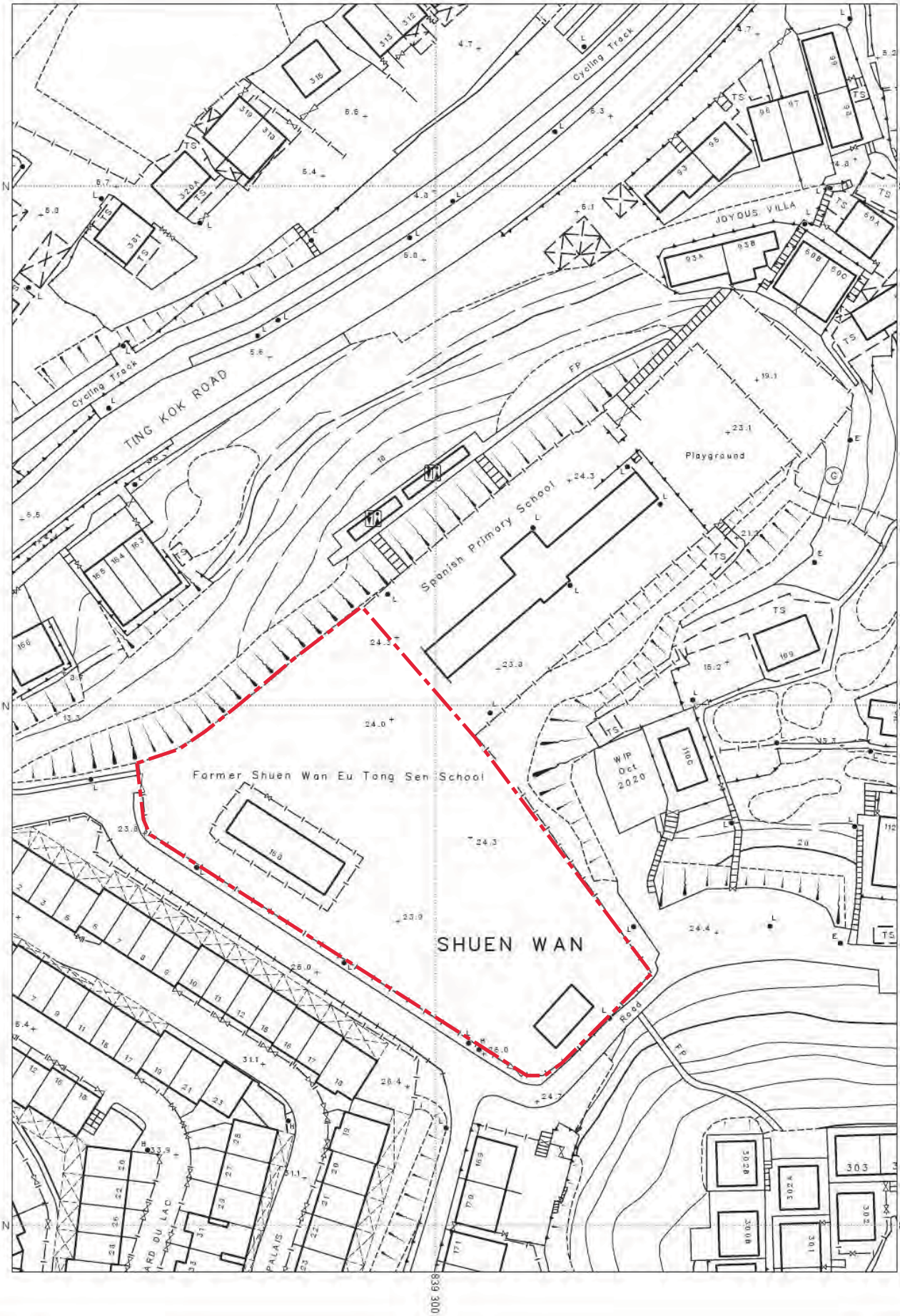
DIA has been conducted for the proposed development at the Subject Site. Since the existing 300mm surface channel inside the Site cannot cope with the existing surface runoff and future needs, an upgrade of surface channel to 600mm by the project proponent is recommended.

A stormwater channel and catchpit shall be constructed by the project proponent connecting the surface channel inside the Site towards the existing 350mm surface channel along Beverly Hills. Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site.

The maximum capacity occupied at downstream is 66.6%, which is way below 90%. The capacity of the existing drainage system is considered sufficient to cater the surface runoff generated from the proposed development. Therefore, it is anticipated that no adverse drainage impact would be imposed from the proposed transitional housing development to the existing drainage system after the upgrading of pipeworks.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

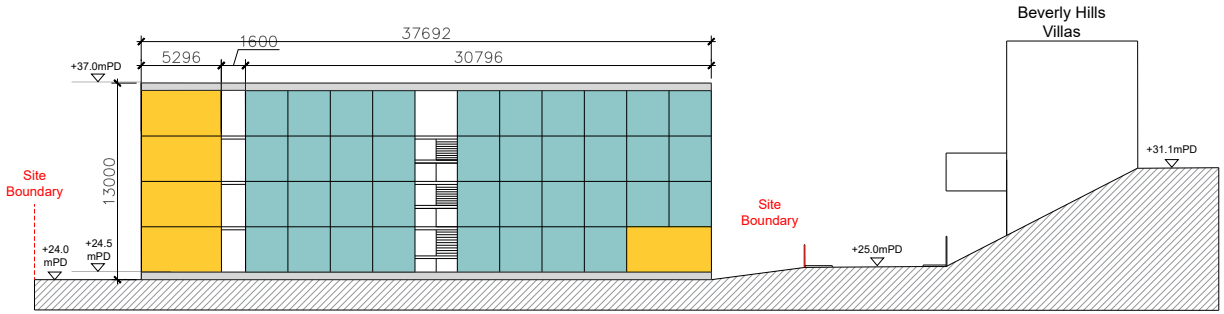
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

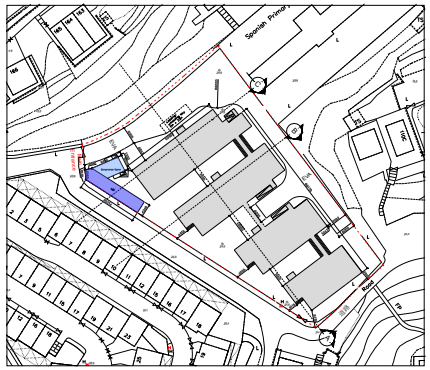


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

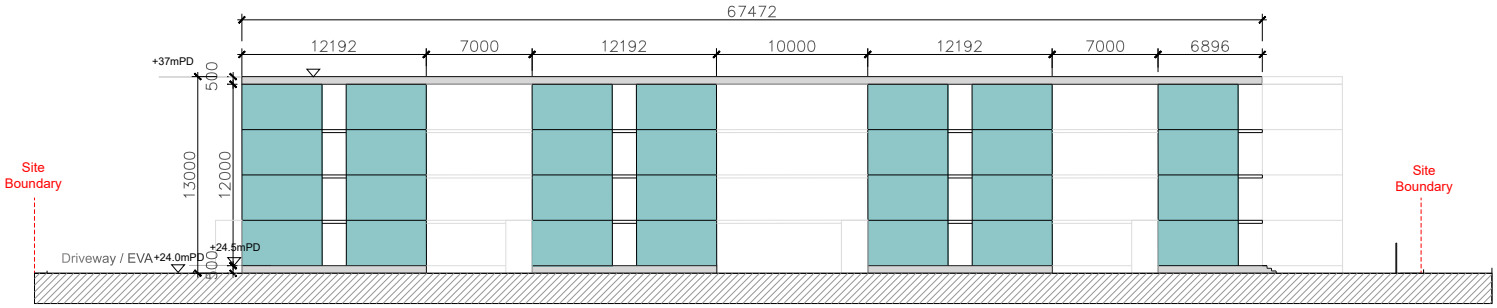

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



SECTION B



KEY PLAN 1:4000



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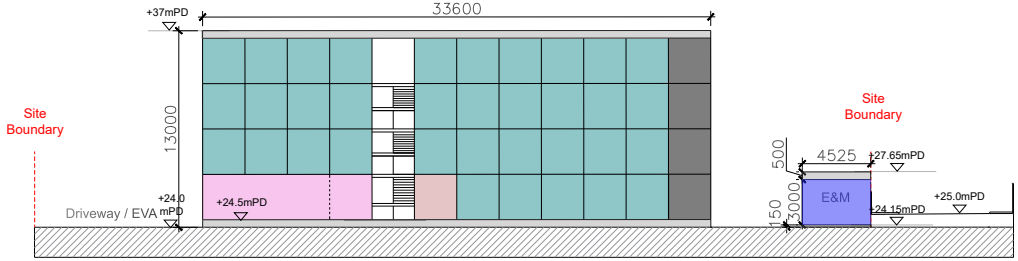

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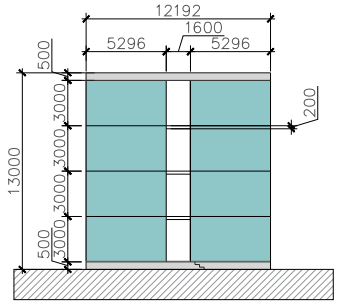


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada



Site Boundary

Pedestrian/Vehicular Entrance

Green Fence

Proposed New Trees (12 nos.)

E&M with Green Roof

EVA

The trees to be retained (33 nos.)

Proposed Shrubs/Groundcovers (Green Area: Not less than 862 sqm)

Pavings

1. Playground/Plaza
2. Leisure Sitting Out Area
3. Fitness Area with Exercise Equipment
4. Community Garden
5. E&M and Convenience store

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE MASTER PLAN

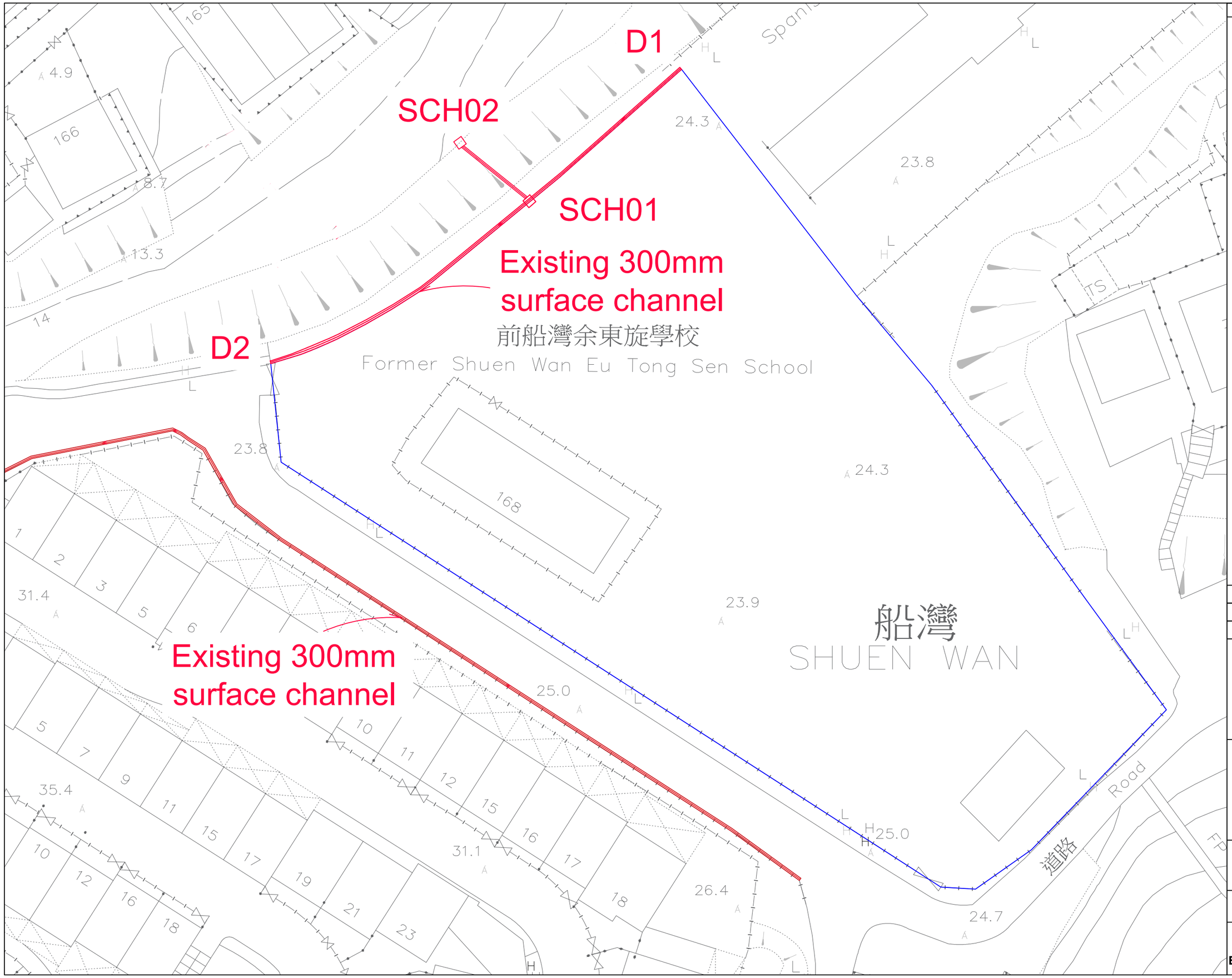
LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

APPENDIX B

OVERVIEW OF EXISTING DRAINAGE SYSTEM



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Site Boundary

Existing Stormwater Drainage System

	Prepared	Checked	Approved
Initial	TL	YS	HM
Date			

Project Title

DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Drawing Title

Existing Stormwater Drainage System in the vicinityof the Site

Drawing No.	Rev.
App B	2

Scale: A3

BeeXergy Consulting Limited

APPENDIX C

DSD'S EMAIL RESPONSE DATED 20 DECEMBER 2021

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand groups

From: **"Stephen WH WONG/THB" <stephenwong@thb.gov.hk>** - 2021/12/20 下午 06:01
To: "KT SHEK/DSD" <ktshek@dsd.gov.hk>
Cc: "Wing Hing CHOI/DSD" <whchoi@dsd.gov.hk>, "Kwan YEUNG/HD" <k.yeung@hd.gov.hk>, "Raymond WM SO/THB" <raymondso@thb.gov.hk>, "WH NG/MND/DSD" <winghungng@dsd.gov.hk>, "CK YIP/LDD/DSD"
Subject: Re: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Kenneth,
Many thanks for your help in materializing this transitional housing to meet CE's target. We will incorporated your suggestions in the detailed design. Million thanks.
Regards,
Stephen
Tel 3509 8254

From: KT SHEK [mailto:ktshek@dsd.gov.hk]
Sent: Monday, December 20, 2021 5:03 PM
To: Stephen WH WONG/THB <stephenwong@thb.gov.hk>
Cc: Wing Hing CHOI/DSD <whchoi@dsd.gov.hk>; Kwan YEUNG/HD <k.yeung@hd.gov.hk>; Raymond WM SO/THB <raymondso@thb.gov.hk>; WH NG/MND/DSD <winghungng@dsd.gov.hk>; CK YIP/LDD/DSD <ckyip@dsd.gov.hk>
Subject: Re: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Stephen,

I refer to your email on 6 December 2021 regarding the proposed transitional housing at Shuen Wan, Ting Kok Road (Former Shuen Wan Eu Tong Sen School) and our recent discussion of the details of the proposal.

I understand that there are limitations of the proposed transitional housing project at Shuen Wan and the proposed drainage and sewerage connections from the site to the existing systems at Ting Kok Road could not be implemented under the project due to various site, programme and funding constraints.

To facilitate your implementation of the transitional housing project at this site, we have visited the site and further reviewed the stormwater drainage and sewerage proposals. Our findings are appended below for your consideration.

Stormwater Drainage

After further review of the site condition, a connection point near the site entrance in lieu of the nearby slope drainage as previously proposed has been identified. The stormwater drainage connection to the existing 300mm surface channel on the side of access road leading to the site should be technically feasible according to our site inspection.

It is therefore proposed for the project proponent to construct the drainage system within the site, and a short section of stormwater channel (about 15m) and a catchpit near the site entrance for the discharge of stormwater collected from the site (a plan and indicative photo are attached).

However, as the spare capacity of the existing stormwater drainage is limited, the additional surface runoff generated from the site should be minimized as far as practicable. Please consider minimizing the extent of hard paving to the existing vegetated area (currently about 50% of the site) and/or providing greening areas within the site during the development.





Sewerage
After further review of the sewerage provision in this area, DSD can help construct a sewerage manhole and associated sewers near the southern side of the site for the discharge of sewage collected from the site to the existing public sewerage system.

Hence, the project proponent is only required to construct the sewerage system within the site and a short section of sewer from the site to the new sewerage manhole to be provided (a plan and indicative photo are attached).



Sewerage Manhole/sewer provided by DSD

Sewer constructed by **Project Proponent**



I hope the above proposal would help the implementation of the transitional housing project at this site. Should you require any further information/details about the proposal, please feel free to contact me or my colleague, Mr Michael CK Yip, Ag. SE/TP, at 2300 1258.

Thank you.

Regards,
Kenneth Shek
CE/MN, DSD
Tel.: 2300 1145



From: "Stephen WH WONG/THB" <stephenwong@thb.gov.hk>
To: "KT SHEK/DSD" <ktshek@dsd.gov.hk>
Cc: "Raymond WM SO/THB" <raymondso@thb.gov.hk>, "Kwan YEUNG/HD" <k.yeung@hd.gov.hk>
Date: 06/12/2021 17:13
Subject: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Serial No.:

Dear Mr. Shek,

I refer to the proposed Transitional Housing (TH) project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School). The site plan is attached for your information, lease.

[See attachment "Site plan.pdf"]
The preliminary development parameters proposed by the operating NGO (The Society of Rehabilitation and Crime Prevention, Hong Kong) is listed below for your information and reference.

Site Area: Approx. 4,000 sq.m
No. of blocks: 1
No. of storey: 4 storey
No. of units: 280 units
Estimated population: approx. 500 persons.
Construction Commencement: Q4 2022 (tentative)

Completion and intake: Q1 2024 (tentative)

Thank you for DSD's comment at the feasibility study stage for using this Government land as TH via email dated 5 August 2021. The comments are captured below for your easy reference.
[See attachment "DR.pdf"]

Stormwater
1. We notice a 300mm U-channel present at the slope crest to the northern of the site and its maintenance party is uncertain. The application shall design its stormwater discharge alignment and lay the necessary connection pipe/channel to the nearest public stormwater drainage system at its own cost for effective conveyance of runoff from its site to the satisfaction of DSD.
2. The applicant is required to (i) demonstrate whether the proposed development will induce adverse drainage impact, and (ii) implement all necessary drainage mitigation measures, including the provision of unpaved area within the site as much as possible and the adoption of green roof design, to achieve no adverse drainage impact.

Sewerage
1. Gravity public sewers are located about 200m away from the site. The application shall design its sewerage discharge alignment and lay the necessary connection pipe to the nearest sewer manhole at its own cost to the satisfaction of DSD.
2. The applicant shall demonstrate whether the proposed development will induce adverse sewerage impact and seek comment from EPD and DSD.

As the connection works for drainage and sewerage are outside the site boundary and that our funding scope will not cover such cost, it would be most grateful if DSD could consider to carry out the connection works with THB's Policy Support to facilitate the implementation of this TH project in order to meet CE's recent pledge of providing 20,000 TH units. Many thanks.

Regards,
Stephen
Project Director (2)
Transport and Housing Bureau
Tel 3509 8254

APPENDIX D

RUNOFF CALCULATION

Table D-1. Peak Runoff Estimation from Subject Site

Catchment	Total Area of the Catchment (m^2)	Land Use		Topography [9]		Average Slope, H (m per 100m)	Flow Distance, L (m)	Inlet Time, t_o (min) [1]	Flow Time, t_f (min) [2]	Duration, t_c (min) [3]	50 - year return period				Runoff Coefficient, C [6]	Rainfall Increase due to Climate Change, % [7]	50- year return period	
		Surface Characteristics	Area (m^2)	Inlet invert level (mPD)	Outlet invert level (mPD)						Storm Constant, a [4]	Storm Constant, b [4]	Storm Constant, c [4]	Extreme Mean Intensity, i (mm/hr) [5]			Peak Runoff, Qp (m3/s) [8]	Total Peak Runoff, Qp (m3/s) [8]
Pre-development (Existing Condition)																		
Subject Site	4310	Concrete	2155.0	25	23.8	1.16	103.692	6.31	0	6.31	451.3	2.46	0.337	217.12	0.95	13.8	0.141	0.192
		Grass	2155.0												0.35		0.052	
Post-development																		
Subject Site	4310	Concrete	2675.4	25	24	0.96	103.692	6.54	0	6.54	451.3	2.46	0.337	215.20	0.95	13.8	0.173	0.212
		Grass	1634.6												0.35		0.039	
A	1441	Concrete	1441.0	25	9	7.17	223	10.51	0	10.51	451.3	2.46	0.337	190.29	0.95	13.8	0.082	0.082
		Grass	0.0												0.35		0.000	

Note:

[1] Brandsby William's equation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

$$t_o = \frac{0.1446SL}{H^{0.2}A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)

A = catchment area (m^2)

H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

[2] t_f is assumed to be 0 for conservative estimation.

[3] $t_c = t_o + t_f$

[4] Storm constants are referenced to Table 3a in DSD Stormwater Drainage Manual (Fifth Edition) based on corresponding return periods.

[5] Intensity-Duration-Frequency calculation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

$$i = \frac{a}{(t_d + b)^c}$$

where i = extreme mean intensity in mm/hr,

t_d = duration in minutes ($t_d \leq 240$), and

a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d.

[6] Runoff coefficient is referenced from Section 7.5.2 in DSD Stormwater Drainage Manual (Fifth Edition). For conservative estimation, coefficient of 0.35 is assumed for unpaved area while that of 0.95 for paved area.

[7] Rainfall increase precentage due to climate change is referenced from Table 28 in DSD Stormwater Drainage Manual (Fifth Edition). 13.8% for End of 21st Century is adopted as worst case scenario.

[8] Rational method for peak runoff estimation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

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

where Q_p = peak runoff in m^3/s

C = runoff coefficient (dimensionless)

i = rainfall intensity in mm/hr

A = catchment area in km^2

[9] Based on the best available information, the site formation level shall be ranged from 24 - 25mPD after the development.

Table D-2. Hydraulic Testing of the Stormwater Drainage System

ID	From	ID	To	Diameter, D (m) OR Width, W (m) & Height, H (m) [1]		Cross-section Area, A (m^2) [2]	Wetted Perimeter, P (m) [2]	Hydraulic Radius, R (m) [3]	Length of Pipe, L (m) [1]	Inlet Invert Level (mPD) [1]	Outlet Invert Level (mPD) [1]	Slope, s [4]	Flow Type	Equation [5]	Velocity, V (m/s) [6][12][13]	Full Capacity, Q (m^3/s) [7]	Contributing Catchment Area	Return Periods (Year) [8]	Additional Peak Flow, Q (m^3/s)	Total Flow from All Catchment Area (m^3/s)	Occupancy (%)
Pre-development (Existing Condition)																					
1	D1	2	SCH01	0.300	0.300	0.081	1.200	0.0675	22.4	24.30	24.00	0.013	Open Channel	Manning	1.280	0.104	35% Subject Site [9]	50	0.067	0.067	65.0%
3	D2	2	SCH01	0.300	0.300	0.081	1.200	0.0675	41.5	23.80	23.50	0.007	Open Channel	Manning	0.939	0.076	65% Subject Site [9]	50	0.125	0.125	164.4%
2	SCH01	4	SCH02	0.300	0.300	0.086	1.200	0.0713	9.0	23.50	18.00	0.608	Open Channel	Manning	8.937	0.764	Subject Site	50	0.000	0.192	25.2%
Post-development																					
1	D1	2	SCH03	0.600	0.600	0.324	2.400	0.1350	55.2	24.30	23.60	0.013	Open Channel	Manning	1.976	0.640	100% Subject Site	50	0.212	0.212	33.1%
2	SCH03	3	SCH04	0.300	0.300	0.086	1.200	0.0713	12.1	23.80	21.45	0.194	Open Channel	Manning	5.045	0.431	100% Subject Site	50	0.000	0.212	49.1%
3	SCH04	4	SCH05	0.350	0.350	0.116	1.400	0.0831	139.1	21.45	9.00	0.090	Open Channel	Manning	3.799	0.442	100% Subject Site + Catchment A	50	0.082	0.294	66.6%

Notes

[1] According to the DSD's drainage layout plan (***Appendix B)***

[2] According to Section 9.3 in DSD Stormwater Drainage Manual (Fifth Edition), 5% / 10% reduction in flow area based on channel gradient is taken into account for the effects to flow capacity due to materials deposited on the bed.

[3] Hydraulic Radius = Cross-section Area / Wetted Perimeter

[4] Slope = (Inlet Invert Level - Outlet Invert Level) / Length of Pipe

[5] Colebrook-White Equation is adopted for calculation of pipe capacity; while Manning's Equation for calculation of channel capacity.

[6] Velocity is calculated based on different equations.

By Colebrook-White Equation,

$$\bar{V} = -\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}}\right]$$

By Manning Equation,

$$\bar{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$$

Where

$\bar{V}$ = cross-sectional mean velocity (m/s)
R = hydraulic radius (m)
S_f = friction gradient (dimensionless)
n = Manning coefficient ($s/m^{1/3}$)
k_s = surface roughness (m)
ν = kinematic viscosity (m^2/s)
g = acceleration due to gravity (m/s^2)

Surface roughness is assumed to be 1.5mm with referenced to Table 14 in DSD Stormwater Drainage Manual (Fifth Edition).

Kinematic viscosity is 0.000001306 m/s.

Gravitational acceleration is 9.8m/s^2.

[7] Capacity = Length of Pipe × Velocity

[8] With reference to Section 6.6.1 in DSD Stormwater Drainage Manual (Fifth Edition), the drainage system of Subject Site and its surrounding shall be considered as "Main Rural Drainage Channels". According to Table 10, the recommended design return periods for such system shall be 50 years.

[9] Based on distance ratio of the existing surface channel from D1 to SCH01 and SCH01 to D2, it is estimated that 65% site surface runoff falls from SCH01 to D2 and 35% site surface runoff falls from SCH01 to D1.

[10] The existing SCH01 to SCH02 were constructed by other parties with step gradient to reduce the energy.

[11] For the proposed catchpit SCH03 and SCH04, steps will be provided inside the catchpits with appropriate erosion protection measures to be provided in detail design stage.

APPENDIX E

PROPOSED DRAINAGE SYSTEM

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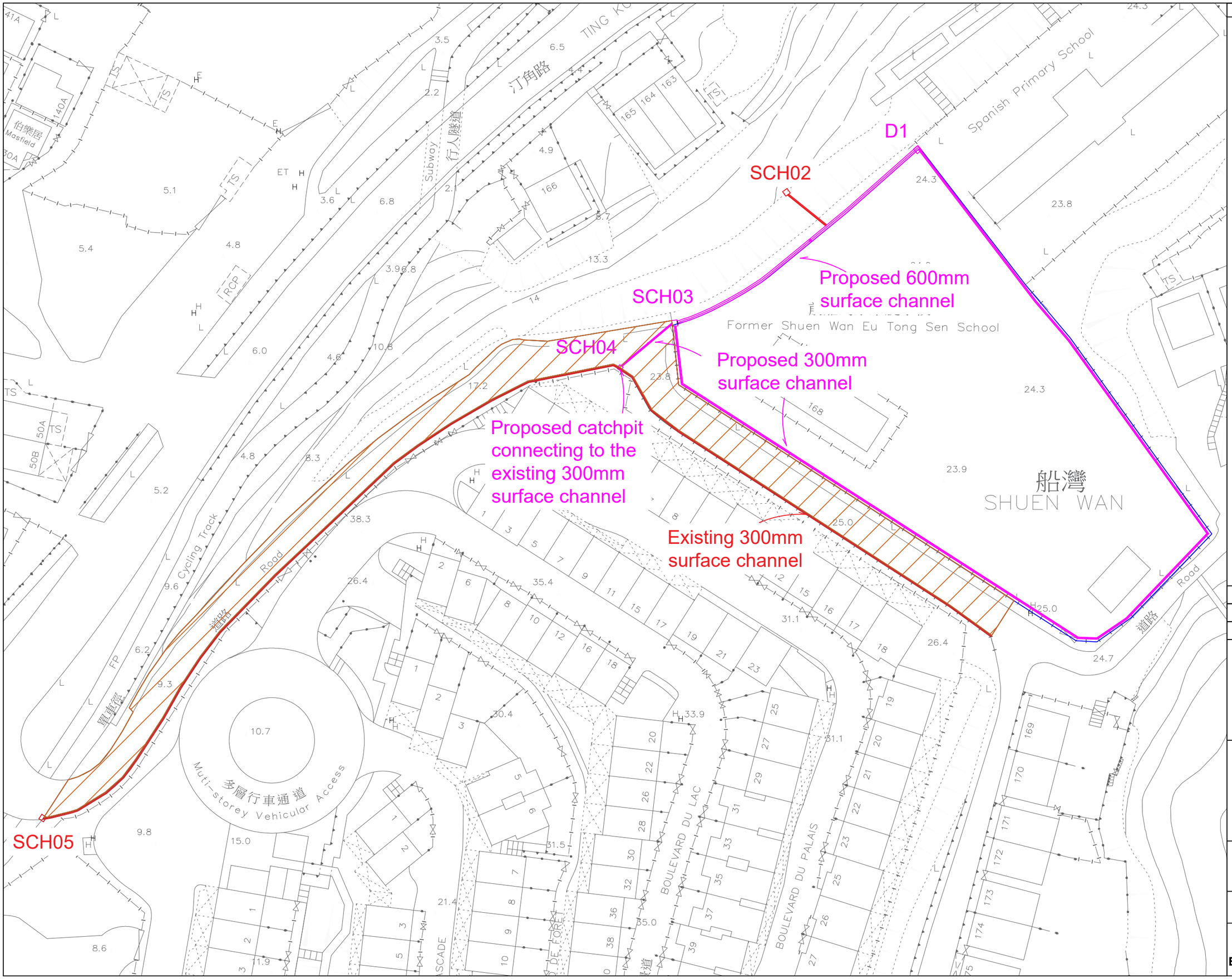


Site Boundary

Existing Stormwater Drainage System

Proposed Stormwater Drainage System

Catchment A

	Prepared	Checked	Approved
Initial	TL	YS	HM
Date			

Project Title

DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Drawing Title

Proposed Stormwater Drainage System

Drawing No.	Rev.
App E	2

Scale: A3

BeeXergy Consulting Limited

APPENDIX G - SEWERAGE IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

SEWERAGE IMPACT ASSESSMENT

30 June 2022

Ref No: RT21466-SIA-02

Prepared By:

BeeXergy Consulting Limited (BXG)
Phone: (852) 3568-4701
Address: Unit 2608-09, Apec Plaza
49 Hoi Yuen Road, Kwun Tong
Kowloon, Hong Kong
Email: info@beexergy.com

Project:	SECTION 16 PLANNING APPLICATION FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO SEWERAGE IMPACT ASSESSMENT
Report No.:	RT21466-SIA-02

Revision	Issue Date	Description	Author	Checker	Approver
01	16/05/2022	Issued for Comment	BL	YS	HM
02	30/06/2022	Issued for Comment	BL	YS	HM

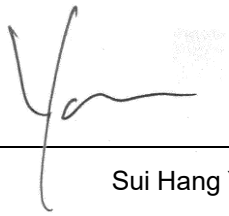
Prepared by:



Bonnie Lam

Assistant Environmental Consultant

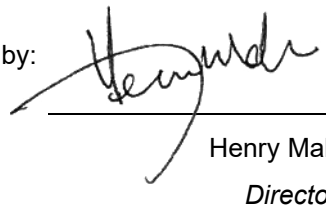
Checked by:



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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2.4 ESTIMATION OF SEWAGE FLOW 9

3 CONCLUSION 9

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was appointed by the Society of Rehabilitation and Crime Prevention, Hong Kong to conduct a sewerage impact assessment for the Section 16 planning application under the Town Planning Ordinance (Cap 131) of the Comprehensive Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School).

1.2 PROJECT LOCATION

The site is located at Tai Po to the south of Ting Kok Road opposite to the Wong Yue Tan Village. The project site is a former school development with concrete paved ground at the north to west of Site while flat soil and greenery at east to south of the Site. There is an unused utility room at the south of the Site. **Figure 1** shows the project site location and its surrounding area.



Figure 1 Site Location Plan of the Project Area

1.3 PROPOSED TRANSITIONAL HOUSING

The site is proposed for residential use and the master layout plan is provided in **Appendix A**. The site area, of approximately 4,310m^2, is expected to comprise of a 4-storey residential building, management office and shared space for residents. The proposed site is currently zoned as “Government, Institution or Community ("GIC") under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 (“the OZP”). The anticipated year of construction completion and occupation is in the first quarter of 2024.

2 SEWERAGE IMPACT ASSESSMENT

2.1 SCOPE OF WORKS

The objectives of this Sewerage Impact Assessment (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewage flow arising from the Proposed Development during its operation stage and to recommend appropriate mitigation measures to alleviate unacceptable sewerage impact, if any.

Existing drainage record plan from the Drainage Services Department (DSD) is obtained for this SIA and attached in **Appendix B**.

2.2 EXISTING AND PROPOSED SEWERAGE ARRANGEMENT

According to the drainage record plan provided from DSD, the nearest public sewerage system is located about 200m away from the site, where are the sewers connected from Sha Lan Sewerage Pumping Station (Sha Lan SPS) and a rising main along Ting Kok Road operated mainly by Ting Kok Road Sewage Pumping Stations No. 6 (TSRSPS No. 6).

The existing capacity of TKRSPS No.6 and Sha Lan SPS would be 6,330 m^3/day and 730 m^3/day respectively. The details are attached in **Appendix F**.

As advised by EPD, Ting Kok Road Trunk Sewerage System upgrading works (under DSD Contract No. DC/2018/02) are in progress and tentatively completed by late 2023 since the existing capacity of TKRSPS No.6 is nearly used up.

For the future sewerage system, the sewage generated from the Proposed Site is expected to be discharged to the nearest proposed sewerage terminal manhole (FTMH1) located to the south of the site via the proposed sewage pipeline consisting of a minimum size of 225mm diameter. All connecting manholes will be positioned along the access road and / or buried under the pavement to collect sewage discharged from the proposed development. The proposed sewerage works within the site boundary would be constructed, operated and maintained by the management agent of the future developer.

As advised by DSD, the last section of the sewer extended up to the southern boundary will be constructed in one of the current active DSD contracts (DC 2018/02), which is shown in **Appendix G**. Details of the sewer and manhole constructed by DSD for sewerage connection between the Proposed Site and proposed sewerage facilities are attached in **Appendix C**. The following assessment will be based on the scenario of the proposed drainage plan.

2.3 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS

In order to assess the acceptability of the sewerage impact arising from the operation of the Proposed Development, the sewage generation has been estimated based on the assumptions shown in ***Table 2.1***.

Table 2.1: Parameters for Estimating Wastewater Generation and Hydraulic Capacity

Parameter	Value	Justification
Population		
Number of Residents	608 persons	Information provided by the project applicant.
Number of Employees in Management Office & Multi-purpose Room	5 persons	Information provided by the project applicant.
Number of Employees in Convenience Store	2 persons	Information provided by the project applicant.
Unit Flow Factors		
Residents	0.19 m^3/day	'Public rental' based on EPD's GESF Table T-1.
Employees in Management Office & Multi-purpose Room	0.28 m^3/day	'Commercial Employee + J11 Community, Social & Personal Services' based on EPD's GESF Table T-2.
Employees in Convenience Store	0.28 m^3/day	'Commercial Employee + J4 Wholesale & Retail' based on EPD's GESF Table T-2.
Catchment Inflow Factor		
It is not applicable due to new catchments which is free from misconnections and pipe defects.		
Peaking Factor		
P	6(Sewers)	Peaking factor = 6 for contributing population <1,000 for sewer (excluding stormwater allowance) based on EPD's GESF Table T-5.

Roughness Values (k_s)		
Proposed New Pipes	0.6mm	The value of 'slimed clayware sewers in a normal condition' was adopted based on the Sewerage Manual (Part 1) Table 5

With reference to Sewerage Manual (Part 1) issued by the DSD in May 2013, the Colebrook-White Equation will be used to analyse the flow conditions. Equation (i) for circular pipes flowing full will be adopted to estimate the sewage flow for the proposed development. The Colebrook-White Equation is shown in ***Figure 2*** below.

(i) for circular pipes flowing full,

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

(ii) for partially full pipes or pipes with non-circular cross-sections,

$$V = -\sqrt{(32\,gRs)}\,\log\left(\frac{ks}{14.8R} + \frac{1.255\,v}{R\sqrt{(32\,gRs)}}\right)$$

where
V = mean velocity (m/s)
g = gravitational acceleration (m/s2)
R = hydraulic radius (m)
D = internal pipe diameter (m)
ks = hydraulic pipeline roughness (m)
v = kinematic viscosity of fluid (m2/s)
s = hydraulic gradient (energy loss per unit length due to friction)

Figure 2 Colebrook – White Equation

2.4 ESTIMATION OF SEWAGE FLOW

The estimated peak sewage flow generated from the Proposed Development was calculated to be 0.0082 m^3/sec for sewer. Detailed sewage generation calculations are provided in ***Appendix D***. The hydraulic capacity of the proposed 225mm dia. Sewer connected between proposed terminal manhole (FTMH-01) and FMH (by DSD) has been checked and shown in ***Table 3*** of ***Appendix D***. Peak flow from the proposed development contributes to 32% of the sewer capacity.

In order to assess the impact on the proposed sewerage system due to proposed development, the capacity of downstream sewers has been quantitively assessed and is shown in ***Table 1*** of ***Appendix E***. The percentage of the used capacity contributed by the proposed development and the vicinity catchments range from 2% to 34%.

The future required capacity of sewerage pumping stations due to proposed development has also been checked and presented in ***Table 2*** of ***Appendix E***. The percentage of the used capacity contributed by the proposed development is less than 90%.

Therefore, surcharged is not expected. Hence, no adverse impact on the proposed sewerage system is anticipated after the development.

Since there is no nearby existing public sewerage network serving the project site, sewage from the project site is proposed to be discharged to the nearest proposed sewerage terminal manhole FTMH1 of the site via a proposed 225mm sewer in the Site which will then be connected to the proposed sewers constructed by DSD under Contract (DC 2018/02) as shown in ***Appendix C***. Detailed alignment and design of the connecting sewer will be subject to the detailed design of the Project, which will ensure all sewage generated from the Site to be collected and conveyed to the existing sewerage facilities.

The Applicant shall be responsible for appointing a qualified engineer for the design of the connecting sewers, likely at the later design stage of Project. The project proponent shall also be responsible for the sewerage works arisen from the proposed development. Agreement and approval from relevant government departments, including DSD, shall be obtained in due course.

3 CONCLUSION

The potential sewerage impact due to the application site has been quantitatively addressed. Based on the estimated sewage flow for the Project Site presented in ***Appendix D***, the total peak sewage flow projected for the proposed development is about 0.00082 m^3/sec (for sewer).

Since the Ting Kok Road Trunk Sewerage System upgrading works (under DSD Contract No.

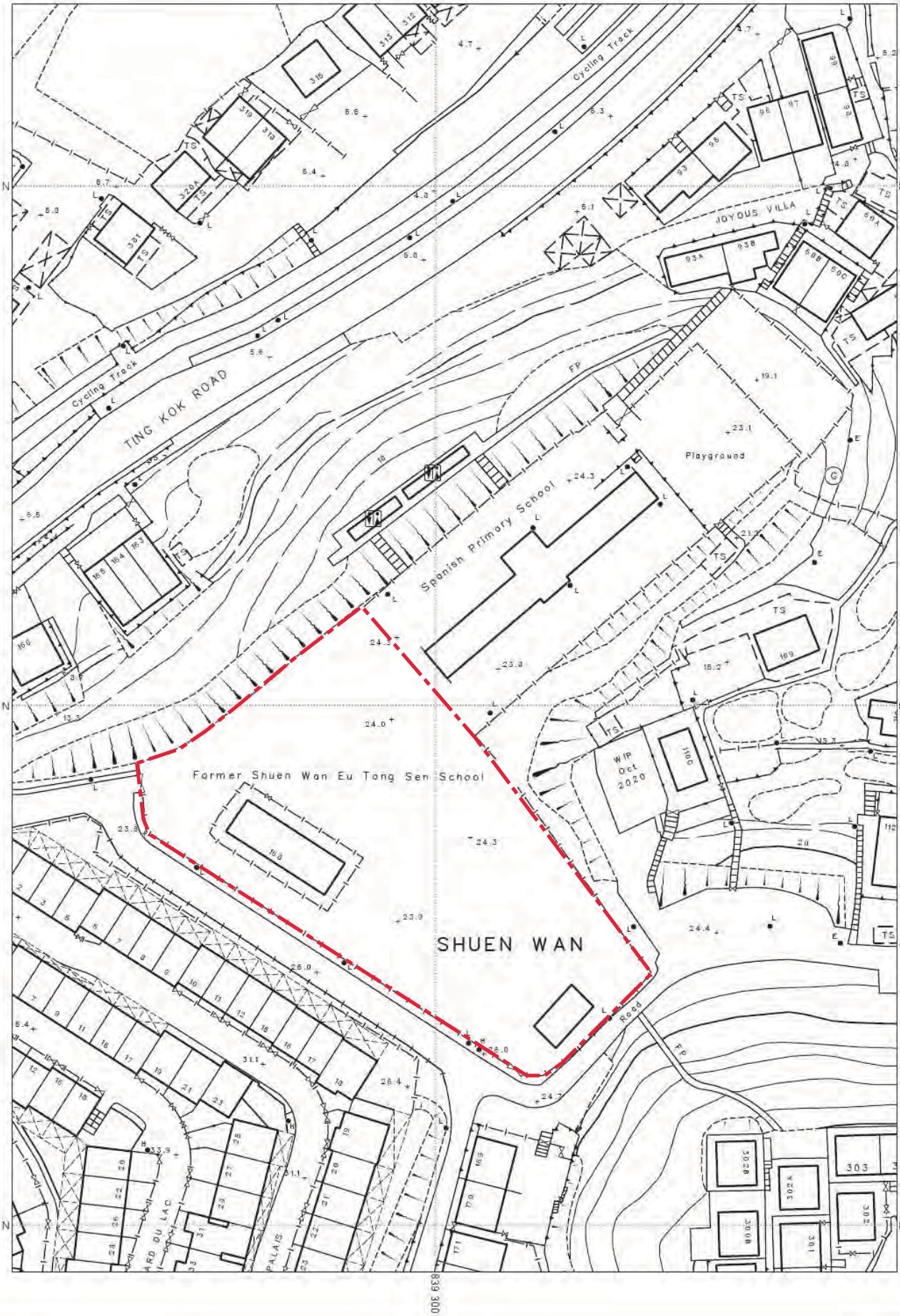
DC/2018/02) will be completed by 2023, no adverse sewerage impact arising from the Proposed Development will be anticipated with the occupation date after the upgrading works.

The estimated sewage generation calculations on the proposed sewerage system have indicated that the proposed sewer via the terminal manholes (FTMH01) in the Proposed Site and downstream sewers will have sufficient capacity to cater for effluent generated from the Proposed Site.

The resultant sewage flow including the Proposed Site will account for less than 90% of the flow capacity of the existing pumping sewerage stations (TKRSPSNo.6 & Sha Lan SPS). Hence, it is concluded that no sewerage impacts arising from the development is anticipated.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

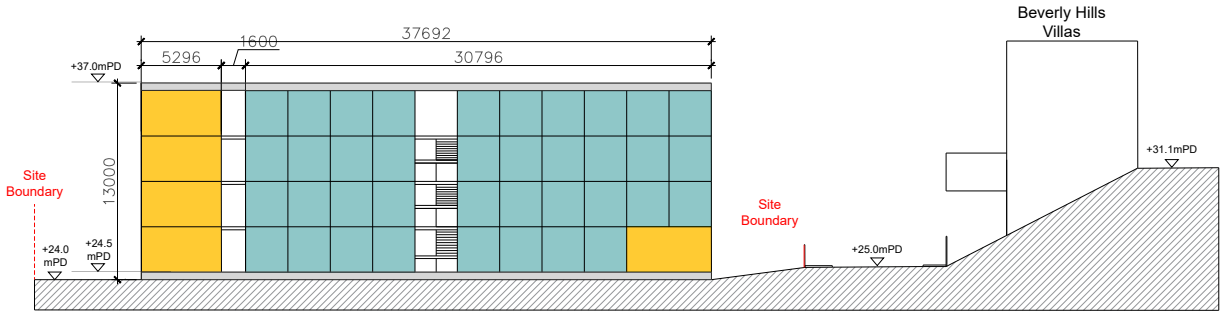
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN



TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



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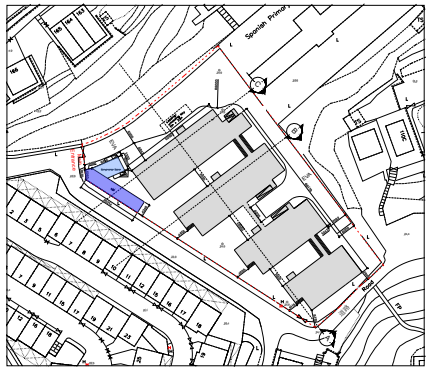
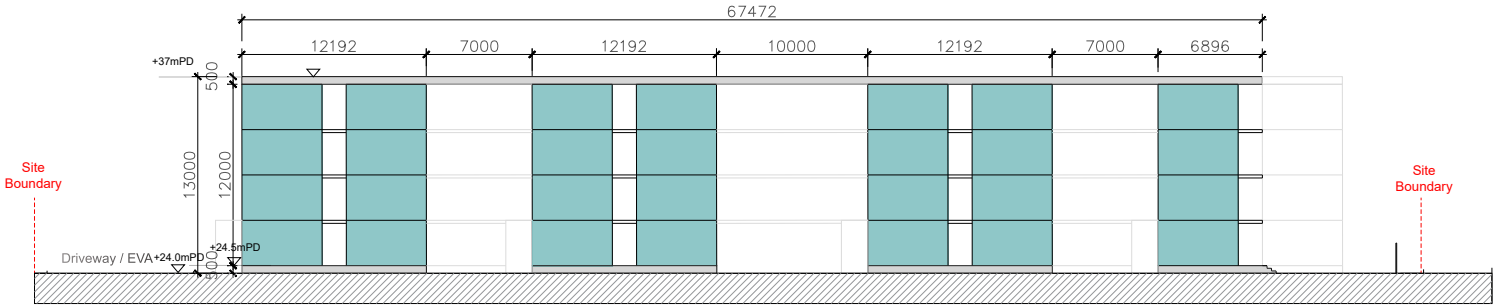


KEY PLAN 1:4000



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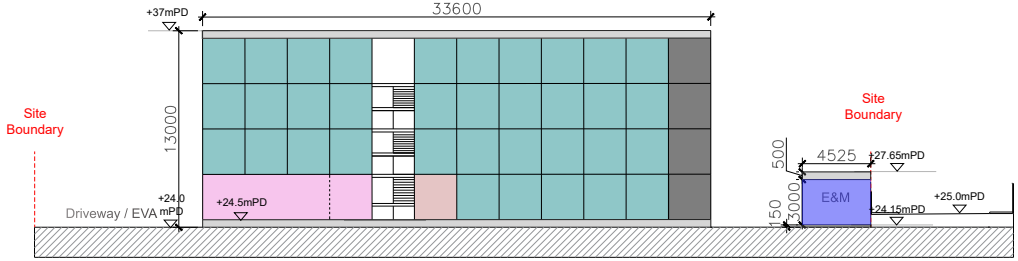
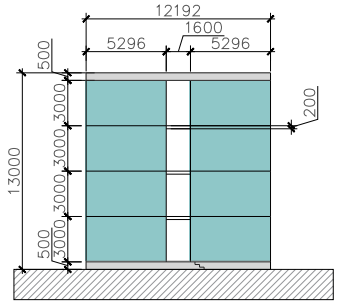


SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

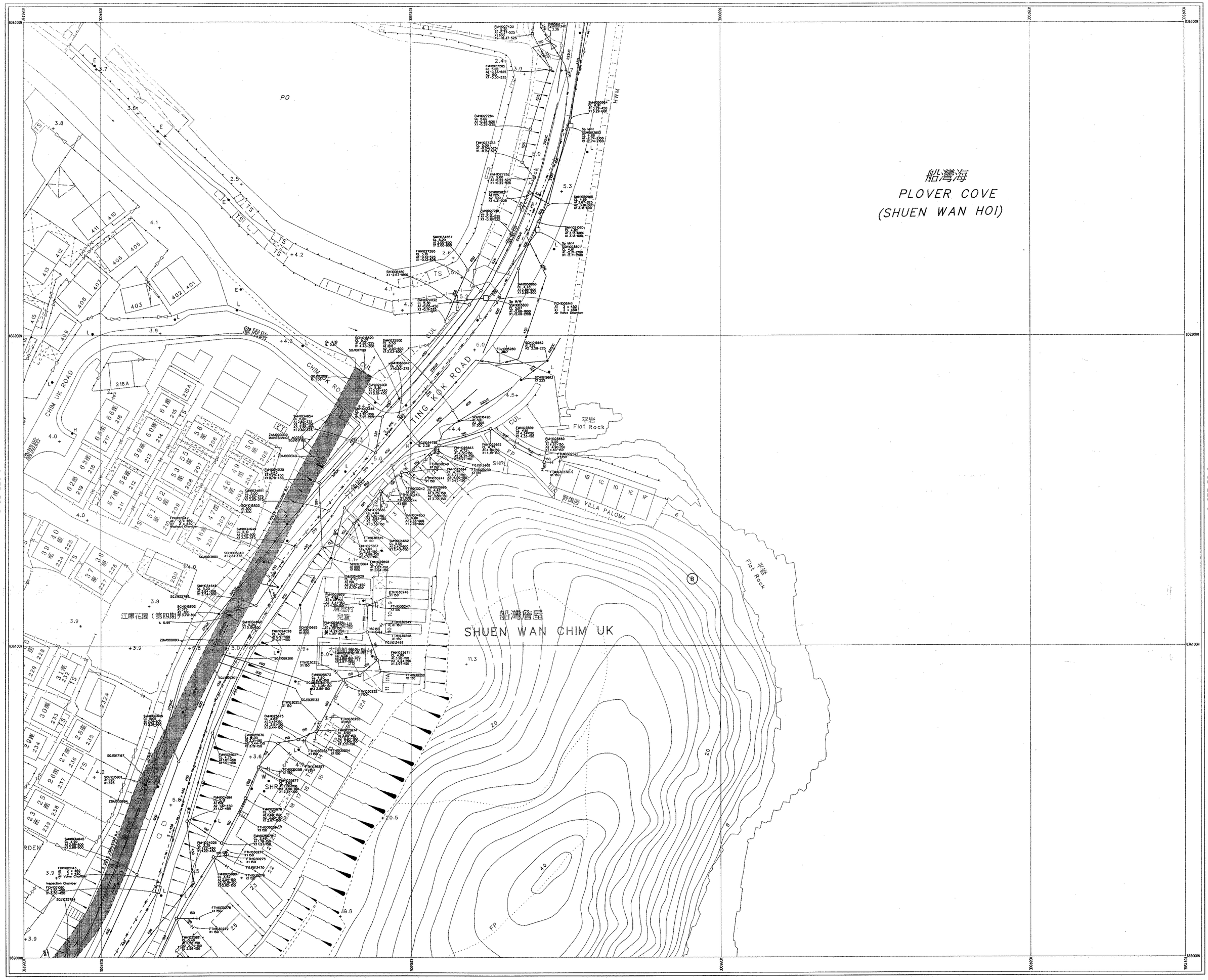
- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX B
EXISTING SEWERAGE LAYOUT RECORD
FROM DRAINGE SERVICE DEPARTMENT



7-NE-2A-2

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Mainland North Division
Drainage Services Department

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Drainage Record Sheet Number

3-SE-22C-4

Last Updating : 30/11/2021

Map data renewed on January 2021

-6 APR 2022

7-NE-1B-3

7-NE-2A-3



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For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

7-NE-1D-2

Metres SCALE 1 : 500 Metres

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Drainage Services Department

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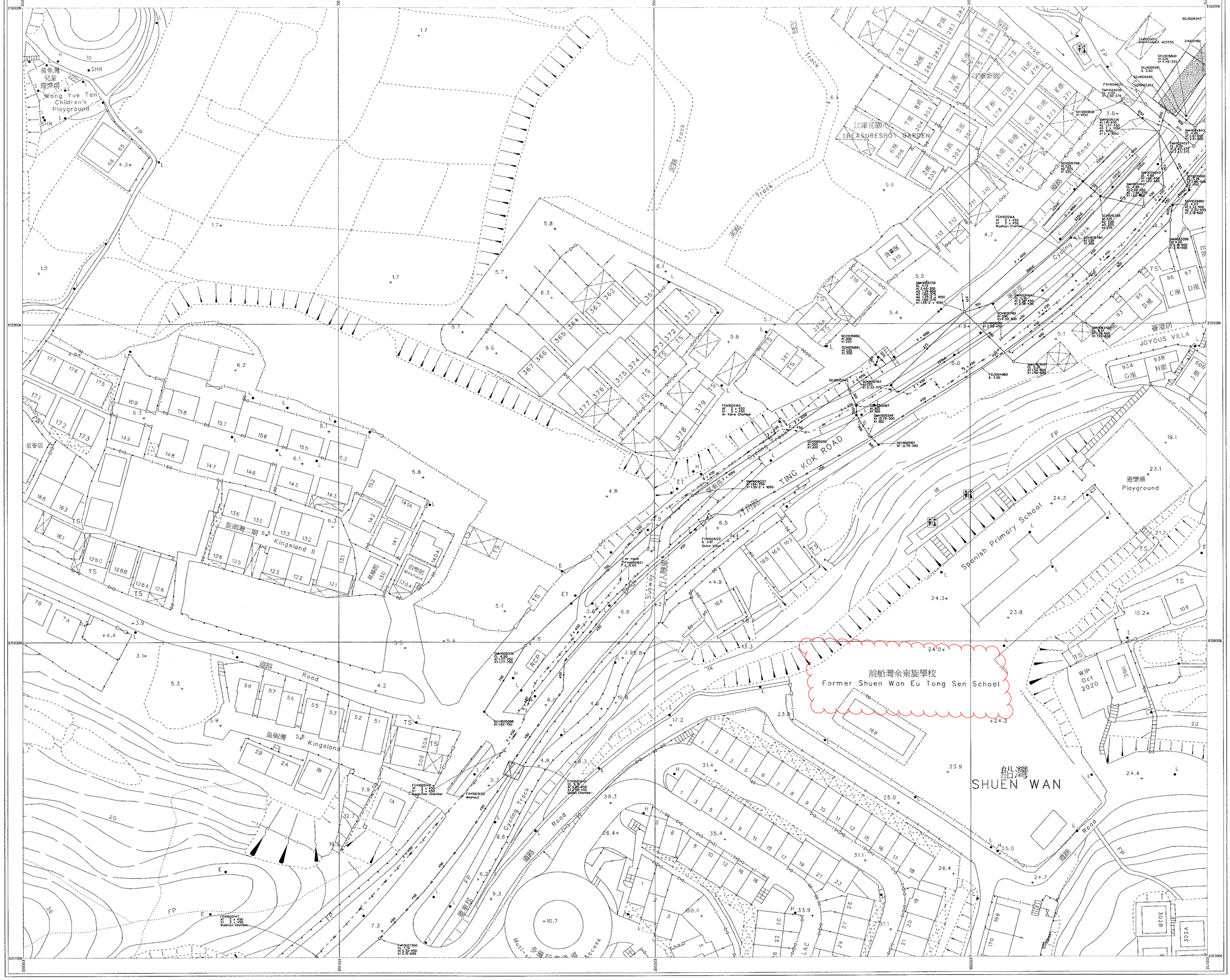
Drainage Record Sheet Number

7-NE-1B-4

Last Updating : 16-06-2021

Map data renewed on January 2021

- 6 APR 2022



7-NE-2A-3

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres

SCALE 1 : 500

Metres

20 10 0 20 40 60 80 100

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Drainage Services Department

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Drainage Record Sheet Number

7-NE-2A-1

Last Updating : 16-06-2021

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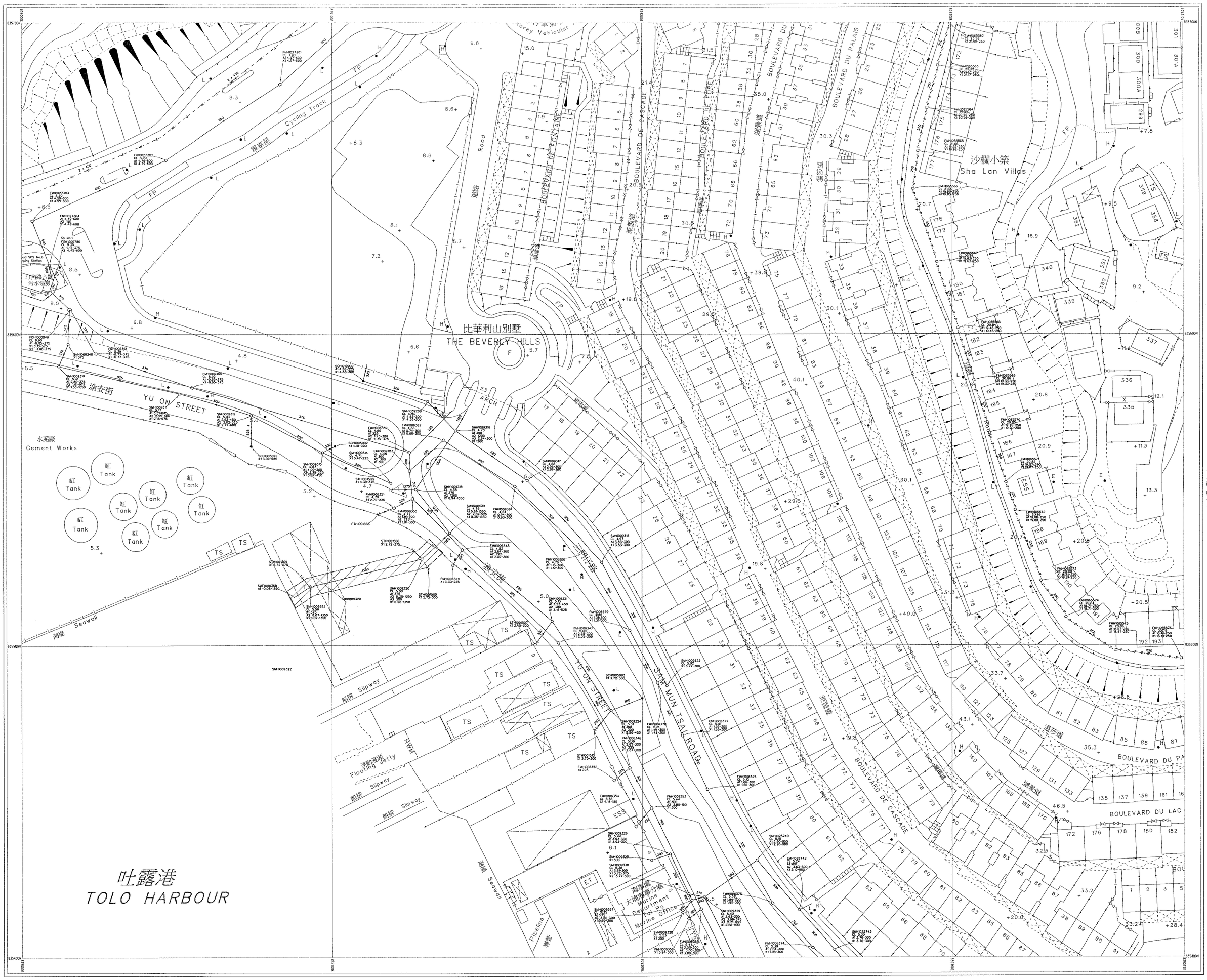

7-NE-1B-4

7-NE-2A-4

7-NE-2C-1

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

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Drainage Services Department

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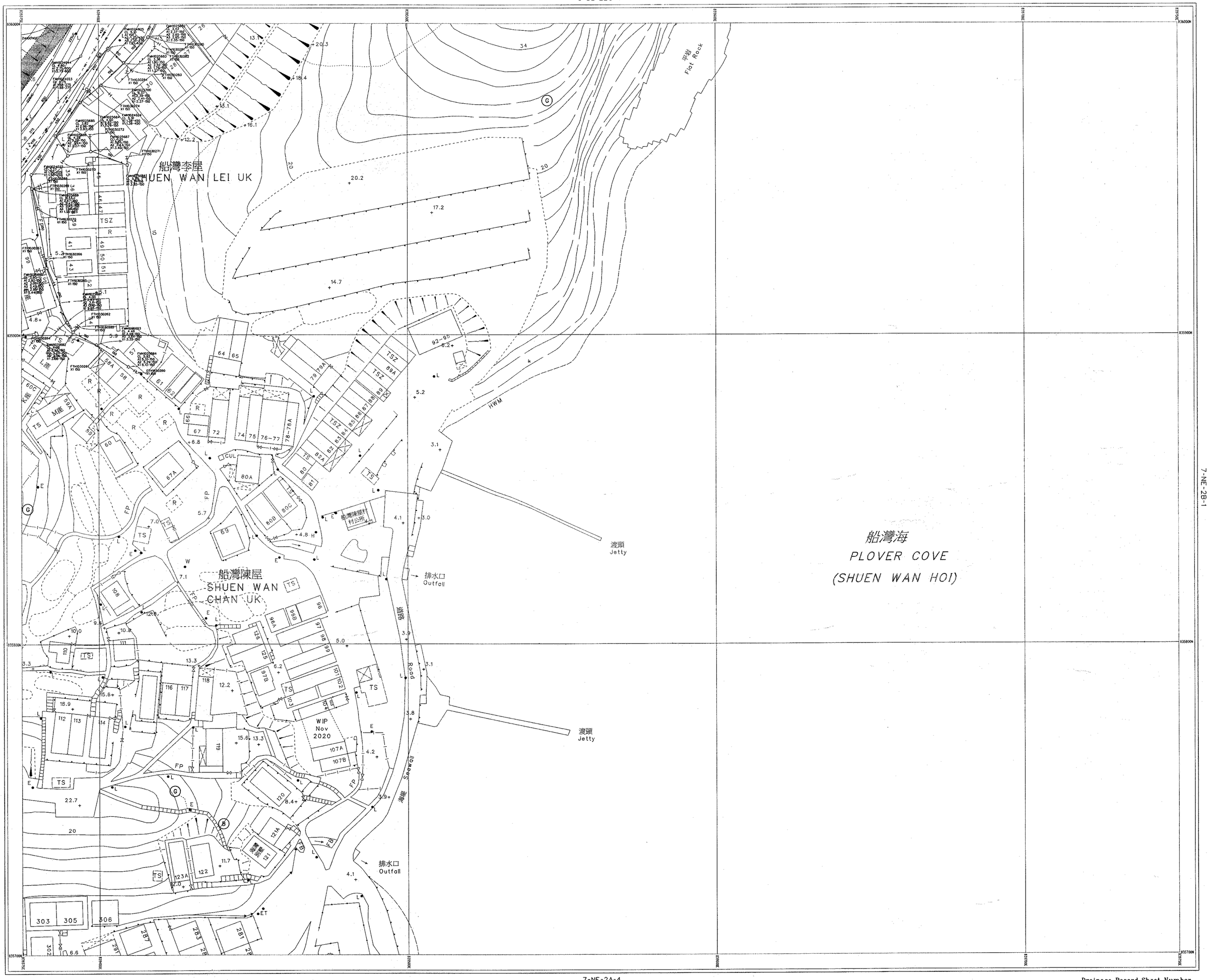
Drainage Record Sheet Number

7-NE-2A-3

Last Updating : 16-06-2021

Map data renewed on January 2021

-6 APR 2022



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Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

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Drainage Services Department

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Drainage Record Sheet Number

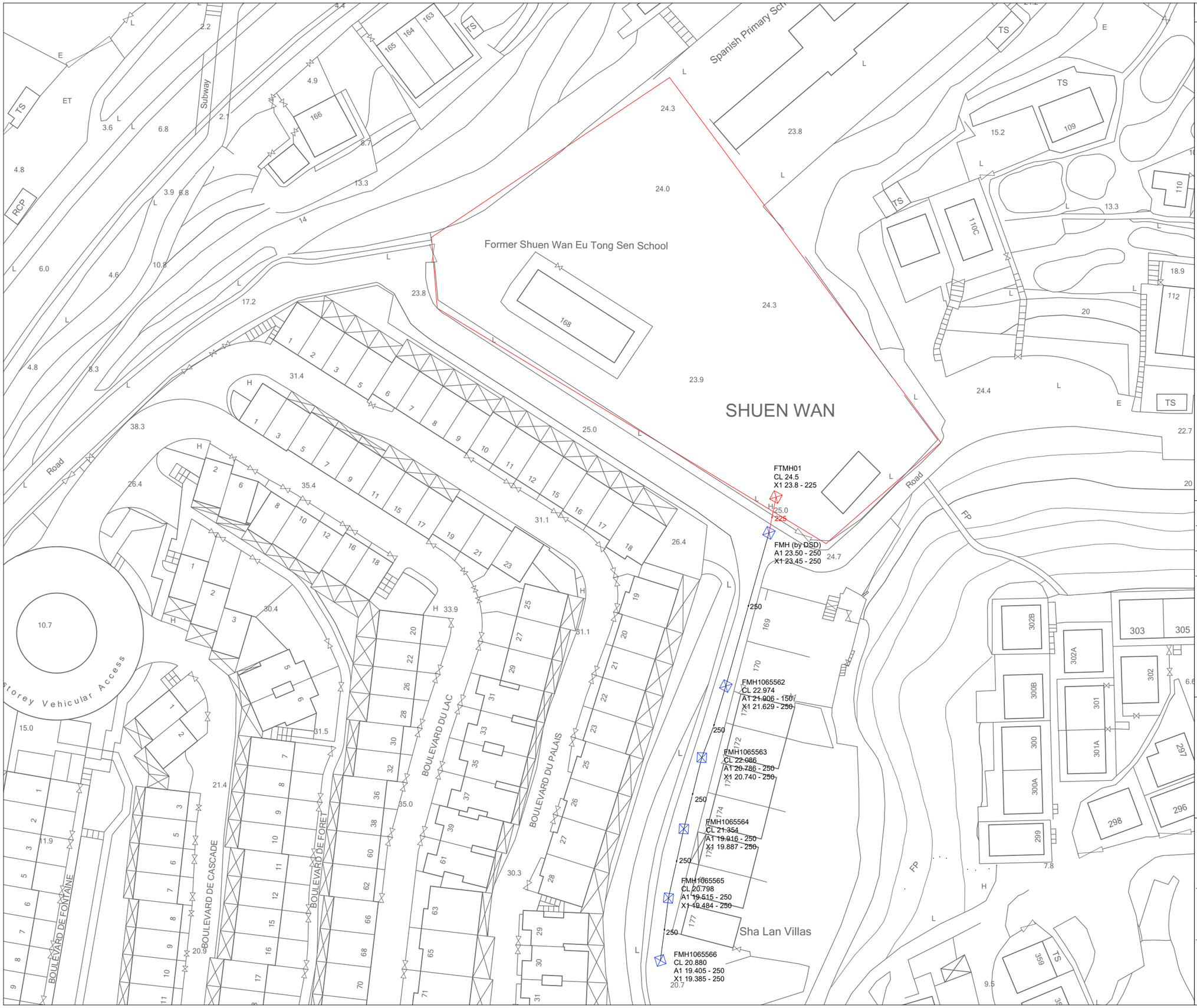
7-NE-2A-2

Last Updating : 16-06-2021

Map data renewed on January 2021

-6 APR 2022

APPENDIX C
PROPOSED SEWERAGE PLAN



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LEGEND:

- PROPOSED SITE
- PROPOSED TERMINAL MANHOLE (FTMH-01)
- PROPOSED FOUL MANHOLE (UNDER DSD CONTRACT NO. DC/2018/02)
- PROPOSED SEWERAGE SYSTEM (UNDER DSD CONTRACT NO. DC/2018/02)
- PROPOSED SEWER BY APPLICANT
- 250 PROPOSED PIPE DIAMTER (UNDER DSD CONTRACT NO. DC/2018/02)
- 225 PROPOSED PIPE DIAMTER BY APPLICANT

	Prepared	Checked	Approved
Initial	BL	CC	YS
Date	06/ 2022	06/ 2022	06/ 2022

Project Title

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

SEWERAGE IMPACT ASSESSMENT

DrawingTitle

INDICATIVE SEWERAGE PLAN

Drawing No.

SIA - 1001

Rev.

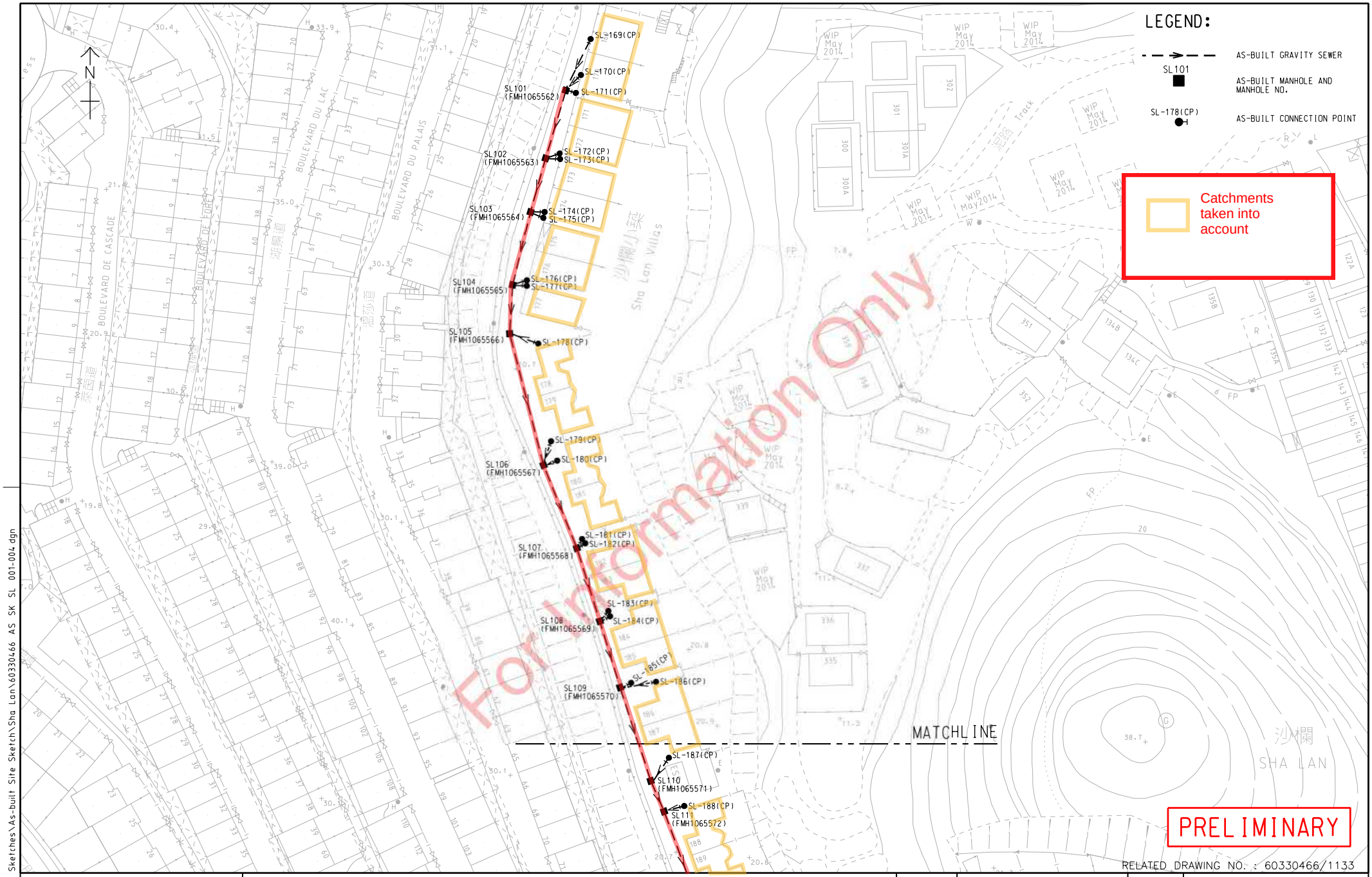
0

Scale:

A3 - 1:1000

BXG

BeeXergy Consulting Limited



AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 1 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/001
		REV	–

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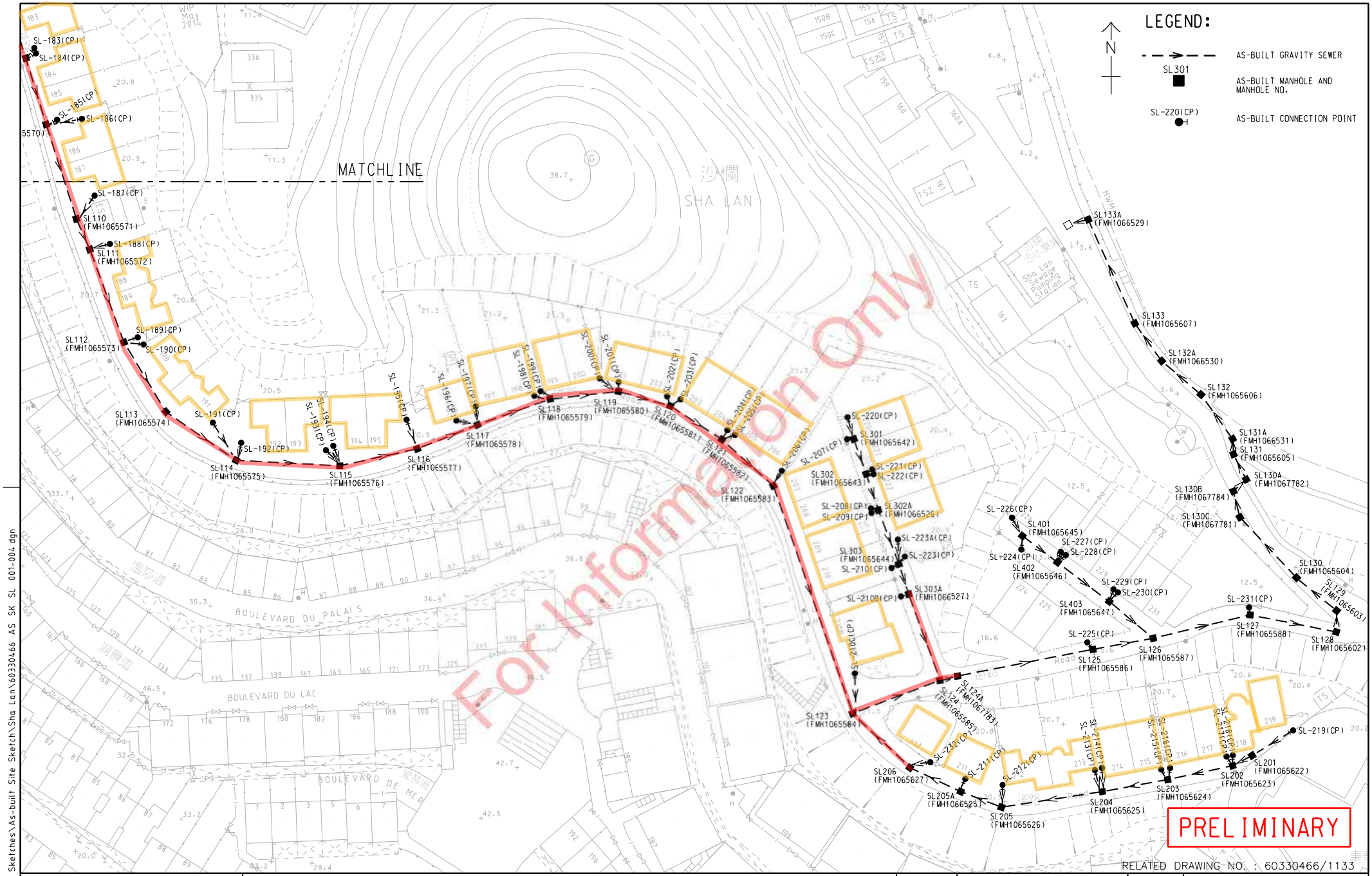

RELATED DRAWING NO. : 60330466/1133

AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 2 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/002
		REV	–

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APPENDIX D

CALCULATION OF SEWAGE FLOW FOR THE PROPOSED DEVELOPMENT

Appendix D Calculation of Sewage Peak Flow

Table D-1 Calculation for Sewage Generation Rate of the Proposed Development

Development	GFA (m2)	Occupancy Density (person/m2)	Estimated Population	Unit Flow Factor (m3/day)	Estimated Average Dry Weather Flow (m3/day)	Cumulative Average Flow (m3/day) [1]	Contributing Population	Peaking Factor [2]	Estimated Peak Flow (L/sec)	Estimated Peak Flow (m3/sec)	Remarks
A) Residenatial (Domestic Use)											
Residential Unit	5910.9	-	608	0.19	115.52	115.52					UFF: 0.19 m3/day for 'Public rental' based on EPD's GESF Table T-1 Population: Information from project applicant Size of household is 248 units for 1-2 persons and 28 units for 3-4 persons
B) Commercial (Non-domestic Use)											
Employee in Management Office & Multipurpose Room	74.1	-	5	0.28	1.40	116.9					UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Population: Information from project applicant
Employee in Convenience Store	38.8	-	2	0.28	0.56	117.5	436	6 (Sewer)	8.16	0.0082	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J4 'Wholesale & Retail' based on EPD's GESF Table T-2 Population: Information from project applicant
								Total (Sewer)	**8.16**	**0.0082**	

Note:

[1] The cumulative average flow has considered the average dry weather flow from both residential and commercial developments for determining the contributing population.

[2] Peaking factor = 6 for contributing population <1,000 for sewer (excluding stormwater allowance) based on EPD's GESF Table T-5.

Remark: Catchment Inflow Factor is not applicable due to new catchments which is free from misconnections and pipe defects.

Table D-2 Calculation for Sewage Generation Rate of the surrounding buildings

1	**Sha Lan Villas 169-171**				**Remarks**
	Residential				
a	Total number of units	=	9	units	
b	Total number of residents	=	26	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	7.02	m^3/day…(=1b*1c)	

2	**Sha Lan Villas 172-173**				**Remarks**
	Residential				
a	Total number of units	=	5	units	
b	Total number of residents	=	14	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	3.78	m^3/day…(=2b*2c)	

3	**Sha Lan Villas 174-175**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=3b*3c)	

4	**Sha Lan Villas 176-177**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=4b*4c)	

5	**Sha Lan Villas 178**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=5b*5c)	

6	**Sha Lan Villas 179-180**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=6b*6c)	

7	**Sha Lan Villas 181-182**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=7b*7c)	

8	**Sha Lan Villas 183-184**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=8b*8c)	

9	**Sha Lan Villas 185-186**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=9b*9c)	

10	**Sha Lan Villas 187**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=10b*10c)	

11	**Sha Lan Villas 188**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=11b*11c)	

12	**Sha Lan Villas 189-190**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=12b*12c)	

13	**Sha Lan Villas 191-192**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=13b*13c)	

14	**Sha Lan Villas 193-194**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=14b*14c)	

15	**Sha Lan Villas 195**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=15b*15c)	

16	**Sha Lan Villas 196-197**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=16b*16c)	

17	**Sha Lan Villas 198-199**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=17b*17c)	

18	**Sha Lan Villas 200-201**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=18b*18c)	

19	**Sha Lan Villas 202-203**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=19b*19c)	

20	**Sha Lan Villas 204-205**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=20b*20c)	

21	**Sha Lan Villas 206**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=21b*21c)	

22	**Sha Lan Villas 210c**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=22b*22c)	

22	**Sha Lan Villas 207-210, 210B, 220-223**				**Remarks**
	Residential				
a	Total number of units	=	27	units	
b	Total number of residents	=	76	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	20.52	m^3/day…(=23b*23c)	

24	**Sha Lan Villas 211-219, 232**				**Remarks**
	Residential				
a	Total number of units	=	30	units	
b	Total number of residents	=	84	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	22.68	m^3/day…(=24b*24c)	

Table D-3 Hydraulic Capacity Check of Proposed Sewers at Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po

Manhole Reference	Pipe Dia.	Pipe Length	US IL	DS IL	g	k_s	s	v	R	V	Area	Estimated Capacity	Estimated Flow, Q_{PEAK} (m^3/s)	Contribution to the pipe capacity (%)	Status (OK/Spill)
	mm	m	mPD	mPD	m/s^2	m		m^2/s	m	m/s	m^2	m^3/s			
Proposed Sewer TM FTMH-01	225	7.1	23.8	23.5	9.81	0.00060	0.042	0.000001	0.056	2.69	0.04	0.11	0.0082	8%	OK
FMH (by DSD)	250	35.0	23.50	23.45	9.81	0.00060	0.001	0.000001	0.063	0.52	0.05	0.03	0.0082	32%	OK

Remarks: (1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity; R=hydraulic radius

(2) The value of k_s = 0.6 mm is used for slimed polyethylene sewer in normal condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(4) Equation used:

$$V = -\sqrt{(32gRs)}\log\left(\frac{ks}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}}\right)$$

APPENDIX E

ASSESSMENT OF PROPOSED SEWERS

Appendix E Assessment of Proposed Sewers

Table E-1 Hydraulic Capacity Check of Proposed Sewers With the Proposed Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po

Manhole Reference	Pipe Dia.	Pipe Length	US IL	DS IL	g	k_s	s	v	R	V	Area	Estimated Capacity	Estimated Flow, Q_{PEAK} (m^3/s)	Contribution to the pipe capacity (%)	Status (OK/Spill)
	mm	m	mPD	mPD	m/s^2	m		m^2/s	m	m/s	m^2	m^3/s			
FMH1065562 to FMH1065563	250	14.7	21.63	20.786	9.81	0.00060	0.058	0.000001	0.063	3.37	0.05	0.17	0.0086	5%	OK
FMH1065563 to FMH1065564	250	11.2	20.7	19.916	9.81	0.00060	0.073	0.000001	0.063	3.81	0.05	0.19	0.0089	5%	OK
FMH1065564 to FMH1065565	250	15.3	19.89	19.515	9.81	0.00060	0.024	0.000001	0.063	2.19	0.05	0.11	0.0092	9%	OK
FMH1065565 to FMH1065566	250	9.8	19.5	19.405	9.81	0.00060	0.008	0.000001	0.063	1.25	0.05	0.06	0.0095	16%	OK
FMH1065566 to FMH1065567	250	28.7	19.39	19.31	9.81	0.00060	0.003	0.000001	0.063	0.71	0.05	0.03	0.0097	28%	OK
FMH1065567 to FMH1065568	250	18.6	19.3	19.248	9.81	0.00060	0.003	0.000001	0.063	0.73	0.05	0.04	0.0100	28%	OK
FMH1065568 to FMH1065569	250	15.6	19.24	19.172	9.81	0.00060	0.004	0.000001	0.063	0.89	0.05	0.04	0.0102	23%	OK
FMH1065569 to FMH1065570	250	13.8	19.2	19.123	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0105	27%	OK
FMH1065570 to FMH1065571	250	20.3	19.12	19.051	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0108	27%	OK
FMH1065571 to FMH1065572	250	5.9	19.0	19.03	9.81	0.00060	0.003	0.000001	0.063	0.76	0.05	0.04	0.0110	29%	OK
FMH1065572 to FMH1065573	250	20.2	19.03	18.925	9.81	0.00060	0.005	0.000001	0.063	0.99	0.05	0.05	0.0112	23%	OK
FMH1065573 to FMH1065574	250	16.4	18.9	18.82	9.81	0.00060	0.005	0.000001	0.063	0.99	0.05	0.05	0.0115	24%	OK
FMH1065574 to FMH1065575	250	17.3	18.82	18.759	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0115	29%	OK
FMH1065575 to FMH1065576	250	21.3	18.7	18.641	9.81	0.00060	0.005	0.000001	0.063	0.98	0.05	0.05	0.0118	25%	OK
FMH1065576 to FMH1065577	250	16.1	18.63	18.563	9.81	0.00060	0.004	0.000001	0.063	0.91	0.05	0.04	0.0121	27%	OK
FMH1065577 to FMH1065578	250	13.0	18.6	18.483	9.81	0.00060	0.005	0.000001	0.063	1.01	0.05	0.05	0.0123	25%	OK
FMH1065578 to FMH1065579	250	15.4	18.48	18.431	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0126	32%	OK
FMH1065579 to FMH1065580	250	13.6	18.4	18.25	9.81	0.00060	0.013	0.000001	0.063	1.61	0.05	0.08	0.0129	16%	OK
FMH1065580 to FMH1065581	250	10.3	18.24	18.185	9.81	0.00060	0.005	0.000001	0.063	1.01	0.05	0.05	0.0133	27%	OK
FMH1065581 to FMH1065582	250	12.8	18.2	18.141	9.81	0.00060	0.003	0.000001	0.063	0.81	0.05	0.04	0.0136	34%	OK
FMH1065582 to FMH1065583	250	13.8	18.13	18.071	9.81	0.00060	0.004	0.000001	0.063	0.88	0.05	0.04	0.0139	32%	OK
FMH1065583 to FMH1065584	250	51.2	18.0	17.785	9.81	0.00060	0.005	0.000001	0.063	1.00	0.05	0.05	0.0141	29%	OK
FMH1065584 to FMH1065585	250	19.2	17.78	17.502	9.81	0.00060	0.014	0.000001	0.063	1.68	0.05	0.08	0.0158	19%	OK
FMH1065585 to FMH1067783	280	2.7	17.5	14.438	9.81	0.00060	1.150	0.000001	0.070	16.26	0.06	1.00	0.0172	2%	OK

Remarks:

(1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity; R=hydraulic radius

(2) The value of k_s = 0.6 mm is used for slimed polyethylene sewer in normal condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(4) Equation used:

$$V = -\sqrt{(32gRs)}\log\left(\frac{ks}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}}\right)$$

Table 1 Breakdown Table 1 Breakdown of concerned sewers

Manhole Reference	Subcatchment	Approx. Population	Sewage generation rate (m3/day)	Cumulative Average flow (m3/day)	Contributing Population [1]	Peak Factor [2]	Q_{PEAK} (m3/day)	Total Q_{PEAK} (m3/s)
FMH1065562	Sha Lan Villas 169-171	26	7.02	124.50	462	6	747.0	0.0086
	Proposed Development	619	117.48					
FMH1065563	Sha Lan Villas 172-173	14	3.78	128.28	476	6	769.7	0.0089
FMH1065564	Sha Lan Villas 174-175	17	4.59	132.87	493	6	797.2	0.0092
FMH1065565	Sha Lan Villas 176-177	17	4.59	137.46	510	6	824.8	0.0095
FMH1065566	Sha Lan Villas 178	9	2.43	139.89	519	6	839.3	0.0097
FMH1065567	Sha Lan Villas 179-180	17	4.59	144.48	536	6	866.9	0.0100
FMH1065568	Sha Lan Villas 181-182	9	2.43	146.91	545	6	881.5	0.0102
FMH1065569	Sha Lan Villas 183-184	17	4.59	151.50	562	6	909.0	0.0105
FMH1065570	Sha Lan Villas 185-186	17	4.59	156.09	579	6	936.5	0.0108
FMH1065571	Sha Lan Villas 187	9	2.43	158.52	588	6	951.1	0.0110
FMH1065572	Sha Lan Villas 188	9	2.43	160.95	597	6	965.7	0.0112
FMH1065573	Sha Lan Villas 189-190	17	4.59	165.54	614	6	993.2	0.0115
FMH1065574	Including all above catchments	-	-	165.54	614	6	993.2	0.0115
FMH1065575	Sha Lan Villas 191-192	17	4.59	170.13	631	6	1020.8	0.0118
FMH1065576	Sha Lan Villas 193-194	17	4.59	174.72	648	6	1048.3	0.012
FMH1065577	Sha Lan Villas 195	9	2.43	177.15	657	6	1062.9	0.012
FMH1065578	Sha Lan Villas 196-197	17	4.59	181.74	674	6	1090.4	0.0126
FMH1065579	Sha Lan Villas 198-199	17	4.59	186.33	691	6	1118.0	0.0129
FMH1065580	Sha Lan Villas 200-201	17	4.59	190.92	708	6	1145.5	0.0133
FMH1065581	Sha Lan Villas 202-203	17	4.59	195.51	725	6	1173.1	0.014
FMH1065582	Sha Lan Villas 204-205	17	4.59	200.10	742	6	1200.6	0.014
FMH1065583	Sha Lan Villas 206	9	2.43	202.53	751	6	1215.2	0.0141
FMH1065584	Including all above catchments	-	-	227.64	844	6	1365.8	0.0158
	Sha Lan Villas 210c	9	2.43					
	Sha Lan Villas 211-219, 232	84	22.68					
FMH1065585	Including all above catchments	-	-	248.16	920	6	1488.96	0.0172
	Sha Lan Villas 207-210, 210B, 220-223	76	20.52					

Remarks:

[1] Refer to Section 12 of GESFfor calculation of contributing population, average UFF of 0.27

[2] Refer to Table-5 of GESF for population excluding stormwater allowance.

Table E2 - Existing and Future Required Capacity of Sewerage Pumping Station

Existing				
Capacity of TKRSPSNo.6	=	6330	m3/day	From EPD
Average daily flow of TKRSPSNo.6 in 2020	=	5503	m3/day	From EPD
Capacity of Sha Lan SPS	=	730	m3/day	From EPD
Average daily flow of Sha Lan SPS in 2020	=	269	m3/day	From EPD
Future				
Average daily flow of Subject Site	=	117.48	m3/day	From App D
Total daily flow of TKRSPSNo.6	=	5620.48	m3/day	<6330 m3/day
Contribution to the capacity of TKRSPSNo.6 (%)	=	**89%**		
Total daily flow of Sha Lan SPS	=	386.48	m3/day	<730 m3/day
Contribution to the capacity of Sha Lan SPS (%)	=	**53%**		

APPENDIX F

INFORMATION OF TING KOK ROAD SEWAGE PUMPING STATION NO.6 AND SHA LAN PUMPING STATION FROM EPD

BXG

Bonnie Lam <bonnie.lam@beexergy.com>

Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

rebeccaystsui@epd.gov.hk <rebeccaystsui@epd.gov.hk> 3 May 2022 at 15:19
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, rickyliu@epd.gov.hk

Dear Bonnie,

The design capacity for Ting Kok Road Sewage Pumping Station No.6 (TKRSPSNo.6) and San Lan Sewerage Pumping Station (Sha Lan SPS) is 6,330 m3/day and 730 m3/day respectively. For information, the average daily flow in 2020 for TKRSPSNo. 6 and Sha Lan SPS is 5,503 m3/day and 269 m3/day respectively. If you wish to obtain the latest flow for the two SPSs, please liaise with DSD.

Please note that the design capacity of TKRSPSNo.6 will remain unchanged after the Ting Kok Road Trunk Sewerage System upgrading work (Contract No. DC/2018/02) which is scheduled for completion in late 2023/ early 2024. Nevertheless, the remaining capacity of TKR No.6 SPS would be further released due to the sewage diversion after upgrading work.

On the other hand, would you please advise how to come up with the flow rate of 125.28 m3/day for the 280 units?

•

Thank you.

Regards,
Rebecca TSUI
E(SI)61
SIG/EPD
Tel: 3107 8248/ 6236 7197

From: Bonnie Lam <bonnie.lam@beexergy.com>
To: rebeccaystsui@epd.gov.hk
Cc: Ka Ming WAI <kmwai@beexergy.com>, Henry Mak <henry.mak@beexergy.com>
Date: 27/04/2022 16:22
Subject: Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Ms Tsui,

We are the appointed environmental consultant responsible for the Sewage Impact Assessment for the Section 16 planning application under the Town Planning Ordinance (Cap 131) of the captioned project. The project is tentatively having 280 units, with a sewage generation rate of 125.28m3/day and peak flow of 8.7L/s. Please find the attached plan for the location of the Proposed Site.

As we are currently studying the feasibility to connect with existing sewers, we are writing to seek EPD's advice. As informed by DSD, there are upgrading works currently ongoing for Ting Kok Road, grateful if you could provide the existing and future capacity for San Lan Pumping Station and Ting Kok Road Sewage Pumping Station No.6 and if any surplus capacity for our assessment.

Should there be any queries, please do not hesitate to contact the undersigned or our K.M. Wai at 35684703. Thank you.

Best regards,

Bonnie Lam

BeeXergy Consulting Limited | *Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong*

M: 6800-3056| **O**: 3709-9221 | **F**: 3568-4704 | **E**: bonnie.lam@beexergy.com | **W**: www.beexergy.com

:: BEAM Pro/Faculty (NB,ND,BI,EB), LEED AP (BD+C,O+M,ID+C), WELL AP/Faculty, GBL Manager, Envision AP, CEEQUAL Assessor
:: RPE, REA, CAP, CEM, BEMP, CMVP, Energy Analyst, BMS & Control Expert, MIOA
:: IAQ, Acoustic, Micro-climate, Building Physics & Environmental Scientist
:: Wind Tunnel & Low-level Wind Specialist, AVA and CFD Expert, Fire Engineering Professional

ISO 50001 | ISO 9001 | IAQwi$e | Energywi$e | Wastewi$e | Hong Kong Green Organization | BEAM Plus Interiors Platinum Award HKAEE Outstanding Green Leader Award 2018, Outstanding Green Leadership Award 2017 | Green Council Green Management Award (Bronze) 2017
HKAEE Gold Award 2018, Silver Award + 2017 - 2015, Bronze Award 2014 | HKMA Sustainability Award 2017 (Certificate of Excellence)
HSBC Living Business Green Achievement Award 2015 & 2016 & 2017 (Certificate of Excellence)[attachment "Site Plan_TP.pdf" deleted by Rebecca YS TSUI/EPD/HKSARG]

APPENDIX G
INFORMATION OF UPGRADING WORKS UNDER CONTRACT NO. DC/2018/02 FROM DSD

BXG

Bonnie Lam <bonnie.lam@beexergy.com>

Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

ckyip@dsd.gov.hk <ckyip@dsd.gov.hk> 10 May 2022 at 18:16
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>

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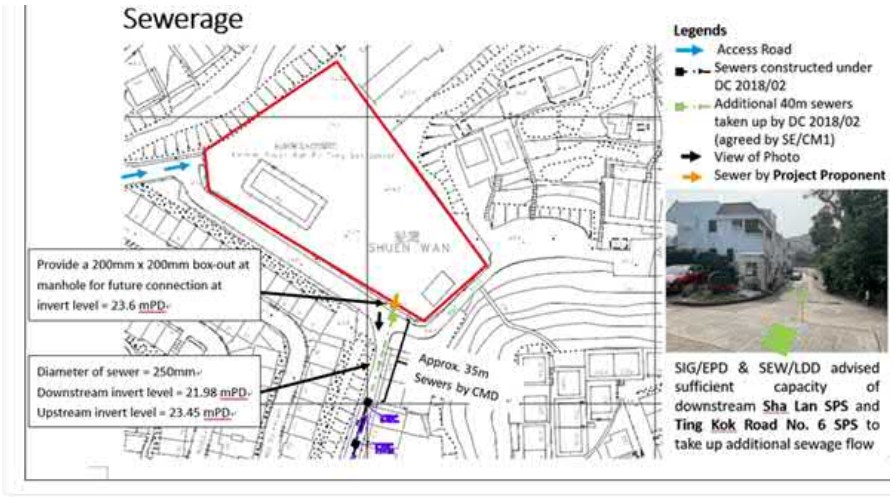
Dear Bonnie,

Attached please find the drainage records for the sewerage for sewerage connection to the proposed transitional housing. The red solid line as well as the pale purple dash line with "P" are the sewers.

The last section of the sewer extended up to the boundary of the proposed site will be constructed in one of the current active DSD contract. Details of the last section of the sewer and the manhole to be constructed for sewerage connection are shown below.



The sewage will be delivered via Sha Lan SPS and Ting Kok Road No. 6 SPS.

Thank.

Regards
Michael C K Yip
Engineer/Tai Po 4
Mainland North Division
Drainage Services Department
2300 1258/ 6056 5685

Zero "O" 意外 ACCIDENT
地盤零意外 關懷建未來
Zero Accident, we Build, we Care

From: Bonnie Lam <bonnie.lam@beexergy.com>
To: ckyip@dsd.gov.hk
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>
Date: 27/04/2022 16:26
Subject: [Internet] Re: [Internet] Fwd: Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Serial No.:

Bonnie Lam <bonnie.lam@beexergy.com>

[Internet] Fw: [Internet] RE: [Internet] A proposed transitional housing at Shuen Wan Eu Tong Sen School

ckyip@dsd.gov.hk <ckyip@dsd.gov.hk>
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>

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==========

Dear Bonnie,

The invert level of concerned pipe is 23.50 mPD is also acceptable.

Regards
Michael C K Yip
Engineer/Tai Po 4
Mainland North Division
Drainage Services Department
2300 1258/ 6056 5685



From: Bonnie Lam <bonnie.lam@beexergy.com>
To: ckyip@dsd.gov.hk
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>
Date: 27/06/2022 17:47
Subject: [Internet] Re: [Internet] Fw: [Internet] RE: [Internet] A proposed transitional housing at Shuen Wan Eu Tong Sen School
Serial No.:

==========
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Do not click the URLs or open the attachment unless you know it is safe to do so.
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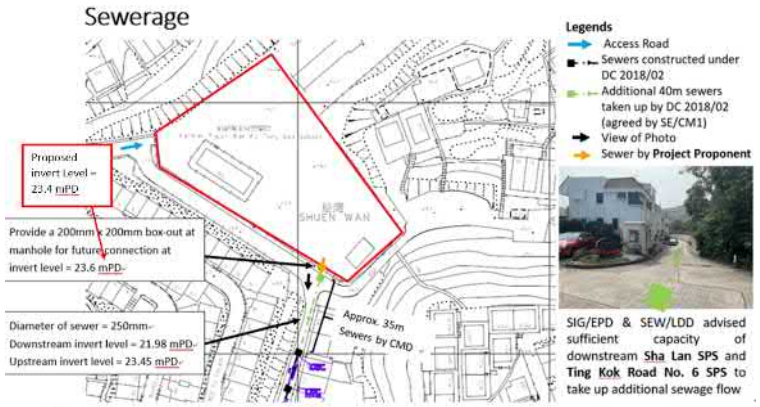
Dear Michael,

As discussed, could we propose the invert level of the 200mm x 200mm manhole as the following for ensuring the smooth flow of sewage from the pr
Kindly let us know if you have any questions? Thank you.



Best regards,

Bonnie Lam
BeeXergy Consulting Limited | *Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong*
M: 6800-3056| **O**: 3568-4703 | **F**: 3568-4704 | **E**: bonnie.lam@beexergy.com | **W**: www.beexergy.com

:: BEAM Pro/Faculty (NB,ND,BI,EB), LEED AP (BD+C,O+M,ID+C), WELL AP/Faculty, GBL Manager, Envision AP, CEEQUAL Assessor
:: RPE, REA, CAP, CEM, BEMP, CMVP, Energy Analyst, BMS & Control Expert, MIOA
:: IAQ, Acoustic, Micro-climate, Building Physics & Environmental Scientist
:: Wind Tunnel & Low-level Wind Specialist, AVA and CFD Expert, Fire Engineering Professional

ISO 50001 | ISO 9001 | IAQwi$e | Energywi$e | Wastewi$e | Hong Kong Green Organization | BEAM Plus Interiors Platinum Award
HKAEE Outstanding Green Leader Award 2018, Outstanding Green Leadership Award 2017 | Green Council Green Management Award (Bronze) 2017
HKAEE Gold Award 2018, Silver Award + 2017 - 2015, Bronze Award 2014 | HKMA Sustainability Award 2017 (Certificate of Excellence)
HSBC Living Business Green Achievement Award 2015 & 2016 & 2017 (Certificate of Excellence)

On Fri, 13 May 2022 at 15:03, Bonnie Lam <bonnie.lam@beexergy.com> wrote:

PRELIMINARY

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS REFER TO P.D.H.K. AND ARE IN METRES.

MANHOLE SCHEDULE

PIPE LABEL	MANHOLE U/S	MANHOLE D/S	U/S MANHOLE TYPE	PIPE DIAMETER (mm)	PIPE LENGTH (m)	U/S GL (mPD)	INVERT LEVEL (mPD) U/S	INVERT LEVEL (mPD) D/S	PIPE GRADIENT (1 IN)	PIPE MATERIAL	BEDDING TYPE	REMARKS
SP1.169	SL-169(CP)	SL101 (FMH1065562)	-	150	12.196	23.800	22.345	21.906	28	uPVC	CS1	
SP1.170	SL-170(CP)	SL101 (FMH1065562)	-	150	4.440	23.210	22.154	21.904	18	uPVC	CS1	
SP1.171	SL-171(CP)	SL101 (FMH1065562)	-	150	1.969	22.940	21.709	21.696	152	uPVC	CS1	
SL1.01	SL101 (FMH1065562)	SL102 (FMH1065563)	D1	NS250	14.660	22.974	21.629	20.786	17	PE	B	
SP1.172	SL-172(CP)	SL102 (FMH1065563)	-	150	2.845	22.170	21.048	20.959	32	uPVC	CS1	
SP1.173	SL-173(CP)	SL102 (FMH1065563)	-	150	2.839	22.120	21.041	20.961	36	uPVC	CS1	
SL1.02	SL102 (FMH1065563)	SL103 (FMH1065564)	D1	NS250	11.248	22.086	20.740	19.916	14	PE	B	
SP1.174	SL-174(CP)	SL103 (FMH1065564)	-	150	2.790	21.390	19.917	19.899	155	uPVC	CS1	
SP1.175	SL-175(CP)	SL103 (FMH1065564)	-	150	2.799	21.340	19.937	19.914	122	uPVC	CS1	
SL1.03	SL103 (FMH1065564)	SL104 (FMH1065565)	D1	NS250	15.356	21.354	19.887	19.515	41	PE	B	
SP1.176	SL-176(CP)	SL104 (FMH1065565)	-	150	2.950	20.810	19.753	19.703	59	uPVC	CS1	
SP1.177	SL-177(CP)	SL104 (FMH1065565)	-	150	2.854	20.810	19.766	19.731	82	uPVC	CS1	
SL1.04	SL104 (FMH1065565)	SL105 (FMH1065566)	D1	NS250	9.845	20.798	19.484	19.405	125	PE	B	
SP1.178	SL-178(CP)	SL105 (FMH1065566)	-	150	6.164	20.780	19.692	19.545	42	uPVC	CS1	
SL1.05	SL105 (FMH1065566)	SL106 (FMH1065567)	D1	NS250	28.730	20.880	19.385	19.310	383	PE	B	
SP1.179	SL-179(CP)	SL106 (FMH1065567)	-	150	5.171	20.800	19.719	19.587	39	uPVC	CS1	
SP1.180	SL-180(CP)	SL106 (FMH1065567)	-	150	2.698	20.800	19.668	19.595	37	uPVC	CS1	
SL1.06	SL106 (FMH1065567)	SL107 (FMH1065568)	D1	NS250	18.622	20.770	19.300	19.248	358	PE	B	
SP1.181	SL-181(CP)	SL107 (FMH1065568)	-	150	1.748	20.800	19.641	19.592	36	uPVC	CS1	
SP1.182	SL-182(CP)	SL107 (FMH1065568)	-	150	1.675	20.800	19.678	19.603	22	uPVC	CS1	
SL1.07	SL107 (FMH1065568)	SL108 (FMH1065569)	D1	NS250	15.567	20.732	19.236	19.172	243	PE	B	
SP1.183	SL-183(CP)	SL108 (FMH1065569)	-	150	2.391	20.750	19.592	19.523	35	uPVC	CS1	
SP1.184	SL-184(CP)	SL108 (FMH1065569)	-	150	2.014	20.800	19.618	19.493	16	uPVC	CS1	
SL1.08	SL108 (FMH1065569)	SL109 (FMH1065570)	E1	NS250	13.750	20.748	19.168	19.123	306	PE	B	
SP1.185	SL-185(CP)	SL109 (FMH1065570)	-	150	2.129	20.800	19.666	19.541	17	uPVC	CS1	
SP1.186	SL-186(CP)	SL109 (FMH1065570)	-	150	7.372	20.800	19.674	19.438	31	uPVC	CS1	
SL1.09	SL109 (FMH1065570)	SL110 (FMH1065571)	E1	NS250	20.290	20.753	19.119	19.051	298	PE	B	
SP1.187	SL-187(CP)	SL110 (FMH1065571)	-	150	6.571	20.800	19.676	19.401	24	uPVC	CS1	
SL1.10	SL110 (FMH1065571)	SL111 (FMH1065572)	E1	NS250	5.939	20.771	19.048	19.030	330	PE	B	
SP1.188	SL-188(CP)	SL111 (FMH1065572)	-	150	4.034	20.710	19.577	19.416	25	uPVC	CS1	
SL1.11	SL111 (FMH1065572)	SL112 (FMH1065573)	E1	NS250	20.243	20.766	19.028	18.925	196	PE	B	
SP1.189	SL-189(CP)	SL112 (FMH1065573)	-	150	2.716	20.770	19.640	19.402	11	uPVC	CS1	
SP1.190	SL-190(CP)	SL112 (FMH1065573)	-	150	3.683	20.720	19.594	19.413	20	uPVC	CS1	
SL1.12	SL112 (FMH1065573)	SL113 (FMH1065574)	E1	NS250	16.396	20.766	18.902	18.820	200	PE	B	
SL1.13	SL113 (FMH1065574)	SL114 (FMH1065575)	E1	NS250	17.303	20.773	18.816	18.759	304	PE	B	
SP1.191	SL-191(CP)	SL114 (FMH1065575)	-	150	9.045	20.710	19.578	19.299	32	uPVC	CS1	
SP1.192	SL-192(CP)	SL114 (FMH1065575)	-	150	3.466	20.760	19.615	19.302	11	uPVC	CS1	
SL1.14	SL114 (FMH1065575)	SL115 (FMH1065576)	E1	NS250	21.347	20.817	18.746	18.641	203	PE	B	
SP1.193	SL-193(CP)	SL115 (FMH1065576)	-	150	3.823	20.720	19.614	19.167	9	uPVC	CS1	
SP1.194	SL-194(CP)	SL115 (FMH1065576)	-	150	3.838	20.720	19.584	19.158	9	uPVC	CS1	
SL1.15	SL115 (FMH1065576)	SL116 (FMH1065577)	E1	NS250	16.058	20.770	18.632	18.563	233	PE	B	
SP1.195	SL-195(CP)	SL116 (FMH1065577)	-	150	6.338	20.795	19.909	19.076	8	uPVC	CS1	
SL1.16	SL116 (FMH1065577)	SL117 (FMH1065578)	E1	NS250	12.963	20.851	18.551	18.483	191	PE	B	
SP1.196	SL-196(CP)	SL117 (FMH1065578)	-	150	3.969	21.240	20.077	19.283	5	uPVC	CS1	
SP1.197	SL-197(CP)	SL117 (FMH1065578)	-	150	3.555	21.380	20.250	19.260	3	uPVC	CS1	
SL1.17	SL117 (FMH1065578)	SL118 (FMH1065579)	E1	NS250	15.447	21.353	18.482	18.431	303	PE	B	
SP1.198	SL-198(CP)	SL118 (FMH1065579)	-	150	2.476	21.390	20.328	19.853	5	uPVC	CS1	
SP1.199	SL-199(CP)	SL118 (FMH1065579)	-	150	2.353	21.390	20.289	19.845	5	uPVC	CS1	
SL1.18	SL118 (FMH1065579)	SL119 (FMH1065580)	E1	NS250	13.563	21.361	18.429	18.250	76	PE	B	

PIPE LABEL	MANHOLE U/S	MANHOLE D/S	U/S MANHOLE TYPE	PIPE DIAMETER (mm)	PIPE LENGTH (m)	U/S GL (mPD)	INVERT LEVEL (mPD) U/S	INVERT LEVEL (mPD) D/S	PIPE GRADIENT (1 IN)	PIPE MATERIAL	BEDDING TYPE	REMARKS
SP1.200	SL-200(CP)	SL119 (FMH1065580)	-	150	3.904	21.370	20.120	19.661	9	uPVC	CS1	
SP1.201	SL-201(CP)	SL119 (FMH1065580)	-	150	1.143	21.360	20.072	19.660	3	uPVC	CS1	
SL1.19	SL119 (FMH1065580)	SL120 (FMH1065581)	F1	NS250	10.347	21.353	18.239	18.185	192	PE	B	
SP1.202	SL-202(CP)	SL120 (FMH1065581)	-	150	1.862	21.380	20.140	19.507	3	uPVC	CS1	
SP1.203	SL-203(CP)	SL120 (FMH1065581)	-	150	2.051	21.370	20.173	19.506	3	uPVC	CS1	
SL1.20	SL120 (FMH1065581)	SL121 (FMH1065582)	F1	NS250	12.081	21.361	18.185	18.141	275	PE	B	
SP1.204	SL-204(CP)	SL121 (FMH1065582)	-	150	2.387	21.355	20.307	19.519	3	uPVC	CS1	
SP1.205	SL-205(CP)	SL121 (FMH1065582)	-	150	2.294	21.355	20.223	19.519	3	uPVC	CS1	
SL1.21	SL121 (FMH1065582)	SL122 (FMH1065583)	F1	NS250	13.768	21.361	18.126	18.071	250	PE	B	
SP1.206	SL-206(CP)	SL122 (FMH1065583)	-	150	3.152	21.405	20.290	19.487	4	uPVC	CS1	
SL1.22	SL122 (FMH1065583)	SL123 (FMH1065584)	F1	NS250	51.179	21.381	18.047	17.785	195	PE	/	TRENCHLESS METHOD
SP1.210C	SL-210C(CP)	SL123 (FMH1065584)	-	150	8.357	21.300	20.285	20.048	35	uPVC	CS1	
SL1.23	SL123 (FMH1065584)	SL124 (FMH1065585)	F1/B03	NS250	19.203	21.342	17.779	17.502	69	PE	/	TRENCHLESS METHOD
SL1.24	SL124 (FMH1065585)	SL124A (FMH1067783)	E1	NS280	2.653	20.218	17.490	14.438	51	PE	B	
SL1.24A	SL124A (FMH1067783)	SL125 (FMH1065586)	E1	NS280	29.162	19.683	17.301	14.005	9	PE	B	
SP1.225	SL-225(CP)	SL125 (FMH1065586)	-	150	1.456	15.310	14.121	13.986	11	uPVC	CS1	
SL1.25	SL125 (FMH1065586)	SL126 (FMH1065587)	D1	NS280	12.408	15.296	13.938	12.017	6	PE	B	
SL1.26	SL126 (FMH1065587)	SL127 (FMH1065588)	E1	NS280	20.498	14.127	11.442	10.889	37	PE	B	
SP1.231	SL-231(CP)	SL127 (FMH1065588)	-	150	2.202	12.797	11.327	11.139	12	uPVC	CS1	
SL1.27	SL127 (FMH1065588)	SL128 (FMH1065602)	E1	NS280	18.228	12.761	10.868	8.487	8	PE	B	
SL1.28	SL128 (FMH1065602)	SL129 (FMH1065603)	D1	NS280	3.918	9.808	8.458	7.847	6	PE	B	
SL1.29	SL129 (FMH1065603)	SL130 (FMH1065604)	D1	NS280	10.271	9.282	7.807	7.329	22	PE	B	
SL1.30	SL130 (FMH1065604)	SL130C (FMH1067781)	D1	NS280	17.092	8.809	7.313	5.565	10	PE	B	
SL1.30C	SL130C (FMH1067781)	SL130B (FMH1067784)	E1	NS280	4.516	6.750	4.998	4.401	8	PE	B	
SL1.30B	SL130B (FMH1067784)	SL130A (FMH1067782)	E1	NS280	2.872	5.891	3.909	3.699	14	PE	B	
SL1.30A	SL130A (FMH1067782)	SL131 (FMH1065605)	E1	NS280	5.038	5.635	3.691	3.262	12	PE	B	
SL1.31	SL131 (FMH1065605)	SL131A (FMH1066531)	D1	NS280	2.560	4.390	3.259	3.248	232	PE	B	
SL1.31A	SL131A (FMH1066531)	SL132 (FMH1065606)	C1	NS280	11.173	4.166	3.241	2.809	26	PE	B	
SL1.32	SL132 (FMH1065606)	SL132A (FMH1066530)	C1	NS280	10.601	3.574	2.809	2.771	279	PE	B	
SL1.32A	SL132A (FMH1066530)	SL133 (FMH1065607)	C1	NS280	9.400	3.544	2.764	2.736	336	PE	B	
SL1.33	SL133 (FMH1065607)	SL133A (FMH1066529)	C1	NS280	24.135	3.536	2.731	2.633	246	PE	B	
SL1.33A	SL133A (FMH1066529)	E.X.MH	C1	NS280	3.820	3.698	2.603	1.846	5	PE	B	
SP2.219	SL-219(CP)	SL201 (FMH1065622)	-	150	10.076	20.670	19.514	19.408	95	uPVC	CS1	
SL2.01	SL201 (FMH1065622)	SL202 (FMH1065623)	D1	NS250	3.656	20.672	19.402	19.376	141	PE	B	
SP2.217	SL-217(CP)	SL202 (FMH1065623)	-	150	2.177	20.697	19.366	19.213	14	uPVC	CS1	
SP2.218	SL-218(CP)	SL202 (FMH1065623)	-	150	1.996	20.697	19.353	19.213	14	uPVC	CS1	
SL2.02	SL202 (FMH1065623)	SL203 (FMH1065624)	E1	NS250	13.149	20.643	18.827	18.714	116	PE	B	
SP2.215	SL-215(CP)	SL203 (FMH1065624)	-	150	2.096	20.691	19.495	19.249	9	uPVC	CS1	
SP2.216	SL-216(CP)	SL203 (FMH1065624)	-	150	2.157	20.691	19.498	19.275	10	uPVC	CS1	
SL2.03	SL203 (FMH1065624)	SL204 (FMH1065625)	E1	NS250	13.140	20.624	18.698	18.654	299	PE	B	
SP2.213	SL-213(CP)	SL204 (FMH1065625)	-	150	4.538	20.650	19.546	19.204	13	uPVC	CS1	
SP2.214	SL-214(CP)	SL204 (FMH1065625)	-	150	4.529	20.650	19.539	19.171	12	uPVC	CS1	
SL2.04	SL204 (FMH1065625)	SL205 (FMH1065626)	E1	NS250	20.967	20.652	18.627	18.526	208	PE	B	
SP2.212	SL-212(CP)	SL205 (FMH1065626)	-	150	4.538	20.730	19.546	19.204	13	uPVC	CS1	
SL2.05	SL205 (FMH1065626)	SL205A (FMH1066525)	E1	NS250	8.144	20.746	18.524	18.498	313	PE	B	
SP2.211	SL-211(CP)	SL205A (FMH1066525)	-	150	4.438	20.860	19.738	19.544	10	uPVC	CS1	
SL2.05A	SL205A (FMH1066525)	SL206 (FMH1065627)	E1	NS250	10.939	20.834	18.497	18.449	228	PE	B	
SP2.232	SL-232(CP)	SL206 (FMH1065627)	-	150	4.545	21.050	19.898	19.509	12	uPVC	CS1	
SL2.06	SL206 (FMH1065627)	SL123 (FMH1065584)	E1	NS250	16.144	21.089	18.444	18.348	168	PE	B	

FOR INFORMATION ONLY

RELATED DRAWING NO. : 60330466/1133

AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 3 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/003
		REV	-

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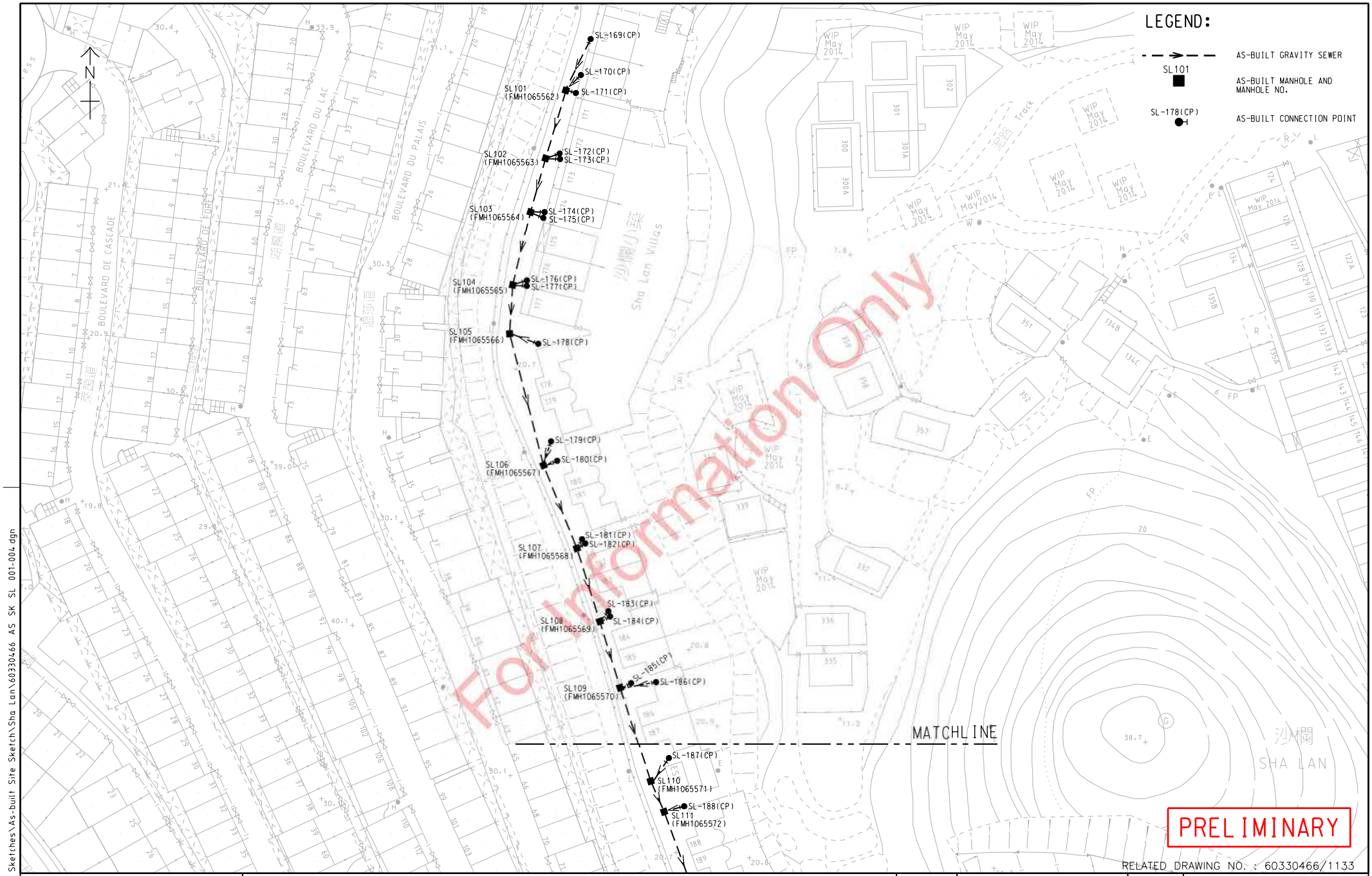

RELATED DRAWING NO. : 60330466/1133

AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 1 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/001
		REV	–

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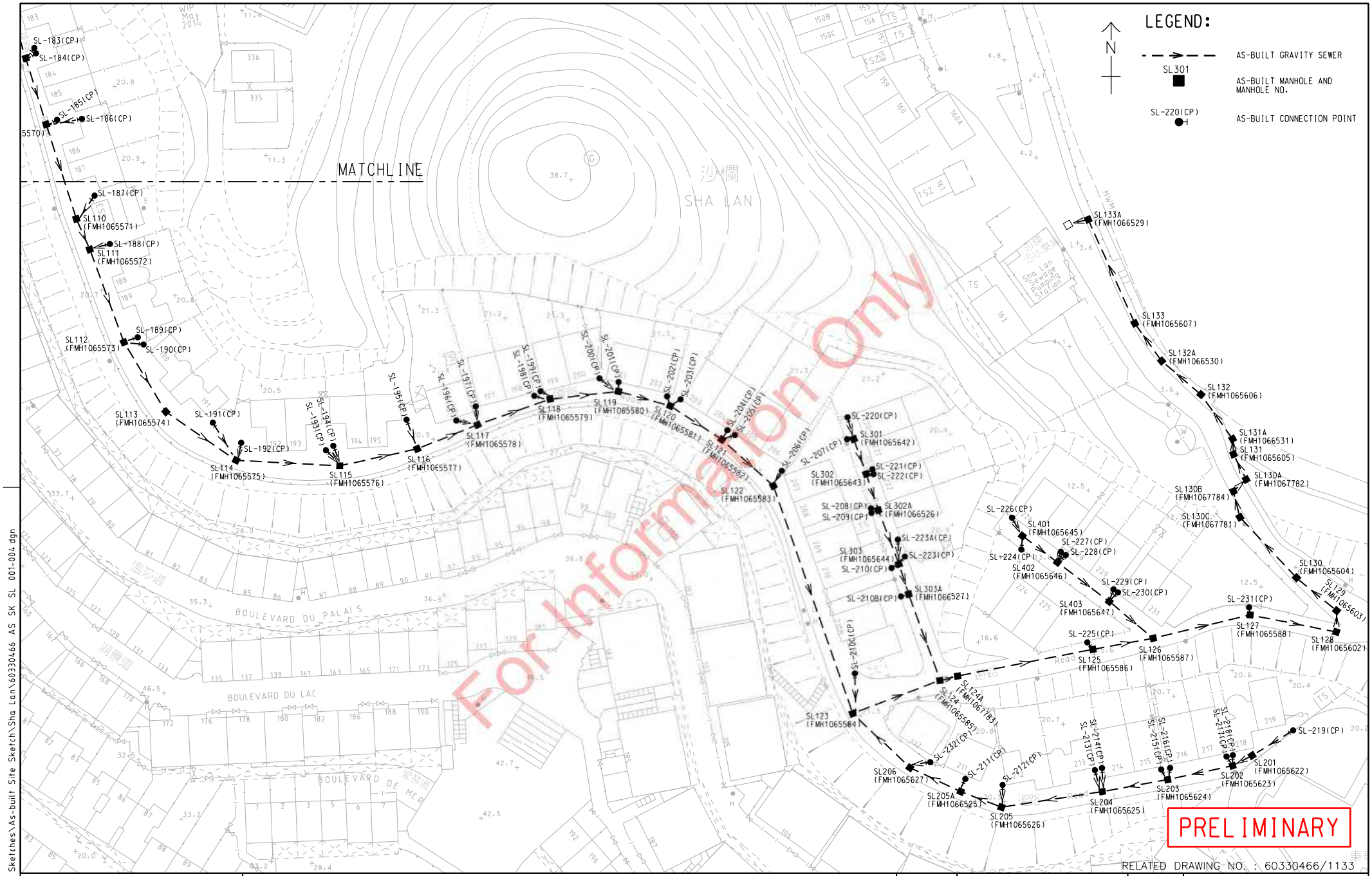

RELATED DRAWING NO. : 60330466/1133

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 2 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/002
		REV	–

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APPENDIX H - WATER SUPPLY IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

WATER SUPPLY IMPACT ASSESSMENT

7 July 2022

Ref No: RT21466-SWIA-02

Prepared By:

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

Project:	SECTION 16 PLANNING APPLICATION WATER SUPPLY IMPACT ASSESSMENT FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO
Report No.:	RT21466-SWIA-02

Revision	Issue Date	Description	Author	Checker	Approver
01	20/05/2022	Issued for Comment	BL	YS	HM
02	07/07/2022	Issued for Comment	BL	YS	HM

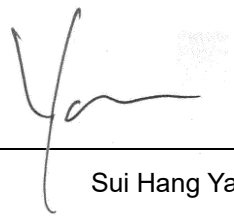
Prepared by:



Bonnie Lam

Assistant Environmental Consultant

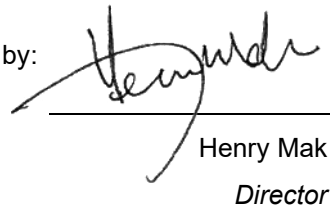
Checked by:



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.

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3 CONCLUSION 4

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited (BeeXergy) was commissioned by the Applicants to conduct a water supply impact assessment (SWIA) for the Comprehensive Transitional Housing Development at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (“the Subject Site” in response to support the Section 16 Planning Application. The Subject Site is located to the south of Ting Kok Road opposite to Wong Yue Tan Village. The Site is currently zoned as “Government, Institution or Community ("GIC") under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 (“the OZP”).

The site is located at Tai Po to the south of Ting Kok Road opposite to the Wong Yue Tan Village. The project site is a former school development with concrete paved ground at the north to west of Site while flat soil and greenery at east to south of the Site. There is an unused utility room at the south of the Site. The site area is approximately 4,310m^2. The Development will provide about 276 residential units.

The Development will be constructed, operated and maintained by a Non-Governmental Organisation. The anticipated year of construction completion and occupation is 2024.

1.2 PROJECT ENVIRONS

The Subject Site is elevated at around 23.8 to 25 mPD. A school was located at the site and is now abandoned. **Figure 1** shows the project site location and its surrounding area.

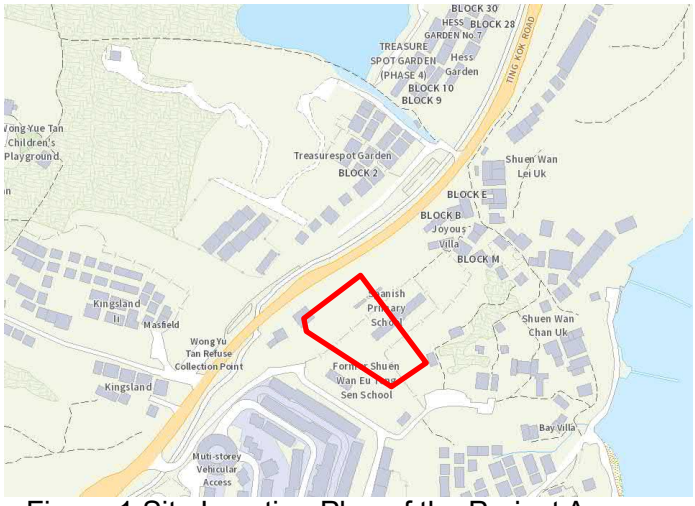


Figure 1 Site Location Plan of the Project Area

1.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Development will be operated by The Society of Rehabilitation and Crime Prevention, Hong Kong.

According to the Planning Statement, the Proposed Development will provide about 276 transitional housing units, with a population of about 608 persons estimated by the operator, based on a combination of 1-2 persons and 3-4 persons units.

However, a conservative approach using the general assumption of average household size of 2.9 for Tai Po District based on the Population and Household Statistics Analysed by District Council District (2018 Edition) published by the Census and Statistics Department has been considered.

Therefore, based on average occupancy of 2.9 persons per flat, there will be 801 residents catered. Apart from a management office, there are ancillary facilities such as a multi-purpose room, a plant room and communal space to provide basic needs for the residents. The master layout plan of the Proposed Development is presented in **Appendix A**.

2 WATER SUPPLY IMPACT ASSESSMENT

2.1 SCOPE OF WORK

The objectives of this Water Supply Impact Assessment (WSIA) is to assess whether the capacity of the existing water supply is sufficient to cope with the water demands arising from the proposed residential development and provide mitigation measures where necessary.

Existing record plan and data from the Water Supplies Department (WSD) is obtained for this WSIA.

2.2 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS

The water supply of the Subject Site will be served by Tai Po East Low Level Fresh Water Service Reservoir (TPELLFWSR). Situated outside the salt water supply zone, the Subject Site has no saltwater supply. The existing water supply network is attached in **Appendix B.**

The capacity and mean daily demand (MDD) of TPELLFWSR is 14,600 m^3 and 15,335 m^3/day respectively.

The design criteria for water supplies in Hong Kong are set in WSD Departmental Instruction (DI) No. 1309 which includes the unit water demands for different categories of population and the maximum peak flow velocity of pipeline and minimum residual head loss at extremity. Calculation for the water demands of the Proposed Development is presented in **Appendix C**.

2.3 ASSESSMENT OF WATER SUPPLY IMPACT

The demand of fresh water (including flushing water) for the Proposed Development is estimated to be 241.1 m^3/d, as presented in **Appendix C**.

Considering the additional water demand from the proposed development, the Mean daily Demand of Tai Po East Low Level FWSR is expected to increase from 15,335 m^3/d to 15,576 m^3/d after development. The existing capacity would still adequate for 75% of Future MDD (11,682 m^3/d).

The estimated water demand calculations on the existing capacity have indicated that the existing FWSR will have sufficient capacity to cater for the increase in daily demand generated from the Proposed Development. Hence, it is concluded that no water supply impact arising from the development is anticipated.

2.4 HYDRAULIC ASSESSMENT OF PROPOSED WATER SUPPLY SYSTEM

According to the information, there is an existing PE100 freshwater main at southern side of the Proposed Development, as shown in **Appendix B**. In this assessment, it is assumed that freshwater and flushing water will be supplied by the freshwater supply system.

Considering the proximity of the existing PE100 freshwater main to the Proposed Development, it is proposed to lay new connections to the 100mm diameter freshwater main at Sam Mun Tsai Road to satisfy the water demand from Proposed Development. **Appendix E** shows the proposed connection to the public water supply system.

Details of the internal water supply system for fresh and flushing water supply and the proposed connection to public water supply system will be further developed in the detailed design stage.

In accordance with Manual of Mainlaying Practice by WSD, the maximum flow velocity under peak flow for distribution mains should be less than 3m/s with pipeline of sufficient size.

To determine the peak flow velocity and the residual head loss at extremity of the proposed water supply system, the hydraulic assessment has been conducted, which is presented in **Appendix D**. The peak flow of the proposed 100mm diameter water main is 0.98m/s, which can comply with the maximum requirement for velocity (3 m/s). The residual head at extremity of the proposed system is 31.6m, which also fulfills the minimum requirement (30m).

Upgrading works of the existing service reservoir and water mains are thus not necessary.

3 CONCLUSION

The Proposed Transitional Housing Development will provide about 276 transitional housing units to expedite the delivery of supply for housing in short-term period. The potential water supply impacts have been quantitatively addressed.

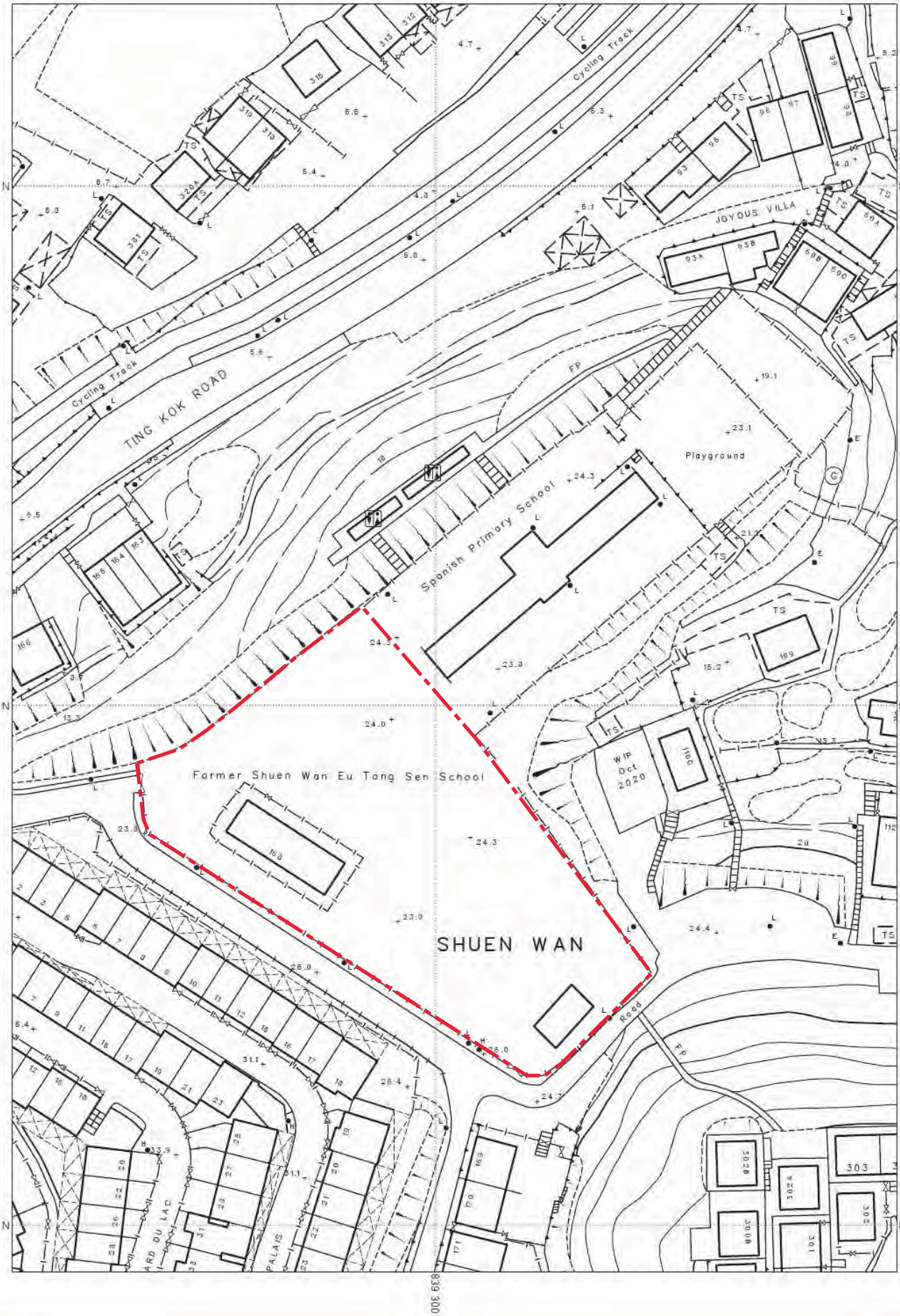
The demand for fresh water and flushing water for the Proposed Development are estimated to be 184.7 m^3/d and 56.3 m^3/d respectively. Due to unavailable flushing water supplies near the subject site, the total fresh water demand for the Proposed Development with the consideration of water demand for flushing water is 241.1 m^3/d. The existing freshwater main could provide sufficient supply of fresh water to cater the water demand of the Proposed Development. No adverse water supply impact is anticipated due to the Proposed Development.

It is proposed to make connection of Fresh and flushing water supply for the Proposed Development to the existing water freshwater watermains along Sam Mun Tsai Road. Based

on the hydraulic assessment, the residual head is adequate for the connection. Thus, no upgrading works of the service reservoirs and water mains are recommended. It is concluded that no adverse water supply impact arising from the Proposed Development is anticipated.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

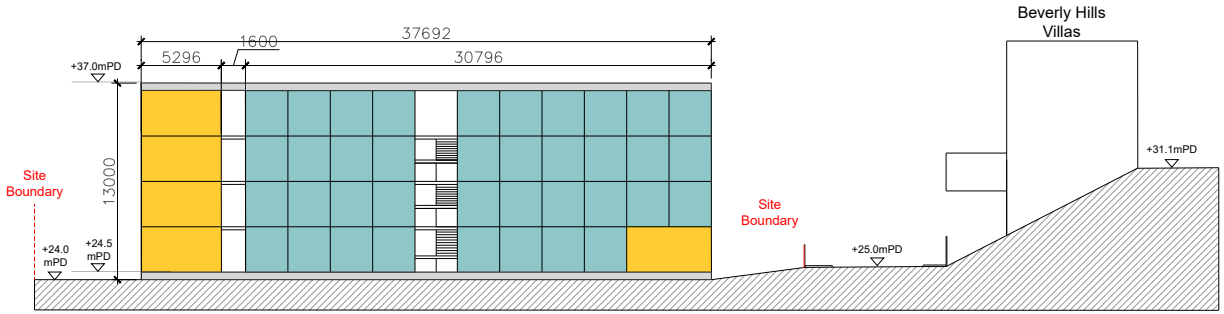
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

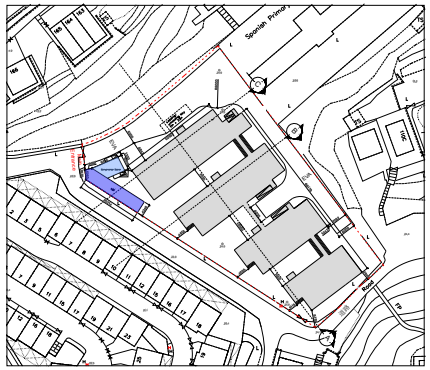


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

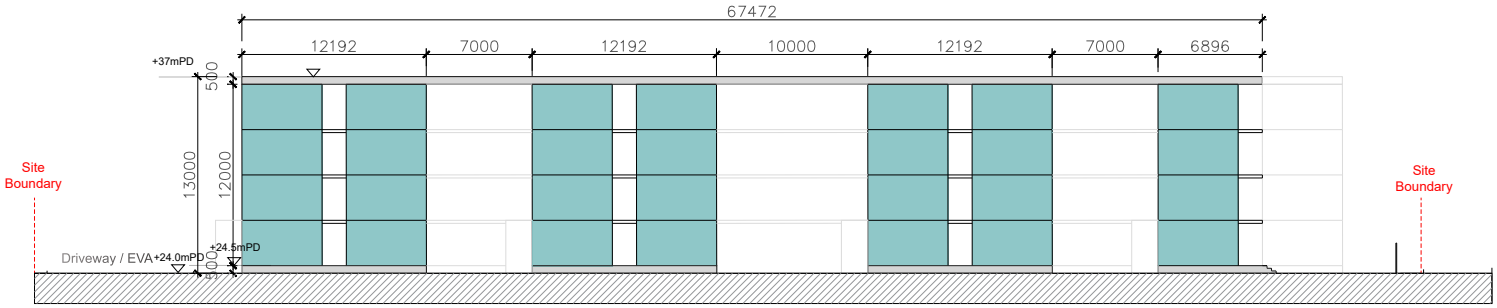

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



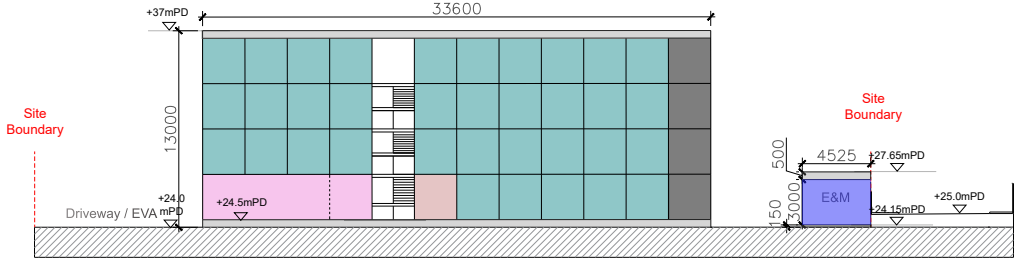
SECTION B



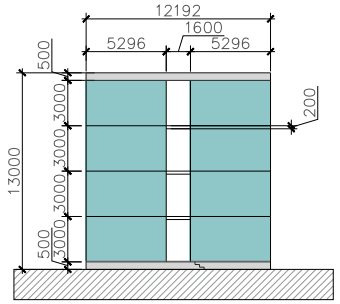
KEY PLAN 1:4000



SECTION A



SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

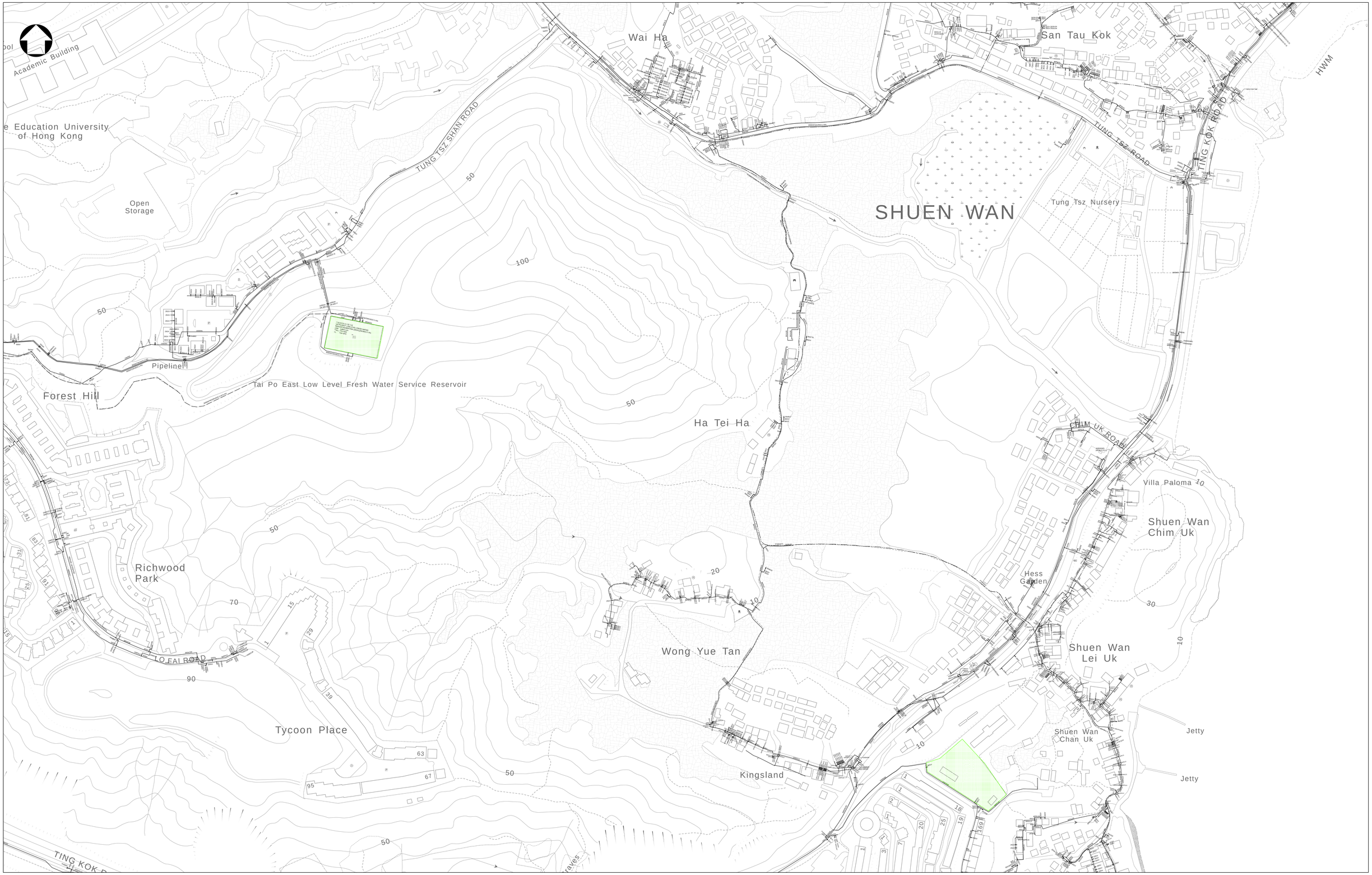
ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX B

RECORD PLAN FROM WATER SUPPLIES DEPARTMENT & WSD CORRESPONDENCE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W6788/3-SE-21A, 21B, 21C, 22A, 22B, 22D, 7-NE-1A, 1B, 2A & 2B

REF. CODE: 20W22M	SHEET 1 OF 1	SCALE 1:1500

水 務 署
Water Supplies Department

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APPENDIX C
CALCULATIONS OF WATER DEMAND

Appendix C1 - Estimation of Daily Water Demand

Future Water Demands of the Subject Site at Former Shuen Wan Eu Tong Sen School, Tai Po

				Freshwater		Flushing Water	
		Type of Use	Population	Daily Unit Demand (m3/head/day) [1]	Daily Demand (m3/day)	Daily Unit Demand (m3/head/day)[1]	Daily Demand (m3/day)
Subject Site	Residential Development	Residential Density Zone R1	801	0.23	184.23	0.07	56.07
	Laundry	Laundry	5	0.05	0.25	-	-
	Management Office	Commercial	5	0.05	0.25	0.05	0.25
					184.7		**56.3**

Total Fresh water Demand (m3/day) = **241.1**

Remarks:
[1] Reference made to DI 1309 Design Criteria in the freshwater and flushing water unit demand.

Appendix C2 - Existing and Future Required Capacity of Tai Po East Low Level Fresh Water Service Reservior (TPELLFWSR)

Existing				
FWSR Capacity	=	14600 m3	From WSD	
FWSR Mean Daily Demand (MDD) in 2019	=	15335 m3/day	From WSD	
Future				
MDD Of Subject Site	=	241.1 m3/day		
Total MDD	=	15576.05 m3/day		
75% of MDD	=	11682.04 m3/day		<14600m3/day

APPENDIX D

HYDRAULIC ASSESSMENT OF PROPOSED WATER SUPPLY SYSTEM

Appeendix D Hydraulic Assessment of the Proposed Water Supply System

Freshwater Supply System

Portion	Diameter (mm)	Material	Main Type	Length (m)	Hazen-Williams Coefficient	Peak Factor	Q (m3/day)	Factored Q(m3/s)	Area (m2)	Velocity (m/s)	Status	HL/Length	HL(m)
400D197	412.8	DI	TKM	1317	110	3	6371.4	0.221	0.134	1.653	OK	0.008	10.720
300D100	412.8	DI	TKM	360.2	110	3	2174.4	0.076	0.134	0.564	OK	0.001	0.401
300D100-300D107	311.6	DI	TKM	488.3	110	3	1218.84	0.042	0.076	0.555	OK	0.002	0.733
300D107 - 400DI91	412.8	DI	TKM	64.62	110	3	845.9	0.029	0.134	0.219	OK	0.000	0.013
400DI91-100PE98	103.1	PE	TKM	211.82	140	3	389.5	0.014	0.008	1.620	OK	0.025	5.389
Proposed Freshwater Main within the Subject Site	103.1	PE	TKM	10	140	3	241.1	0.008	0.008	1.003	OK	0.010	0.105
												Total HL	17.36034

Residual Head Estimation

Head to Tai Po Low level Fresh Water Reservoir	=	74	mPD	
Gorund Level at extremity of proposed system	=	24.5	mPD	
Friction Head Loss from existing and proposed mains	=	17.4	m	
Residual Head at Extremity	=	**32.1**	m	>30m

Note:

1. The exisitng daily demand of TPELLFWSR is 15,335m3/d. The existing water mains supplied by TPELLFWSR branches out into a 600mm (west stream) and a 400mm (east stream) at Tung Tsz Road. It is assumed that 40% of the existing daily demand is conveyed to the east 400mm branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 6371.4 m3/day.

2.The 400DI97 water main branches out into 4 mians in total (two 300mm mains, a 200mm main and a 150mm main) at Tung Tsz Road and Ting Kok Road. It is assumed that about 32% of the existing daily demand of 400DI97 is conveyed to the 300D100 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 2174.4 m3/day.

3. The 300D100 water branches out into two 300mm mains at Ting Kok Road. It is assumed that about 50% of the existing daily demand of 300DI100 is conveyed to the 300DI107 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 1218.84 m3/day.

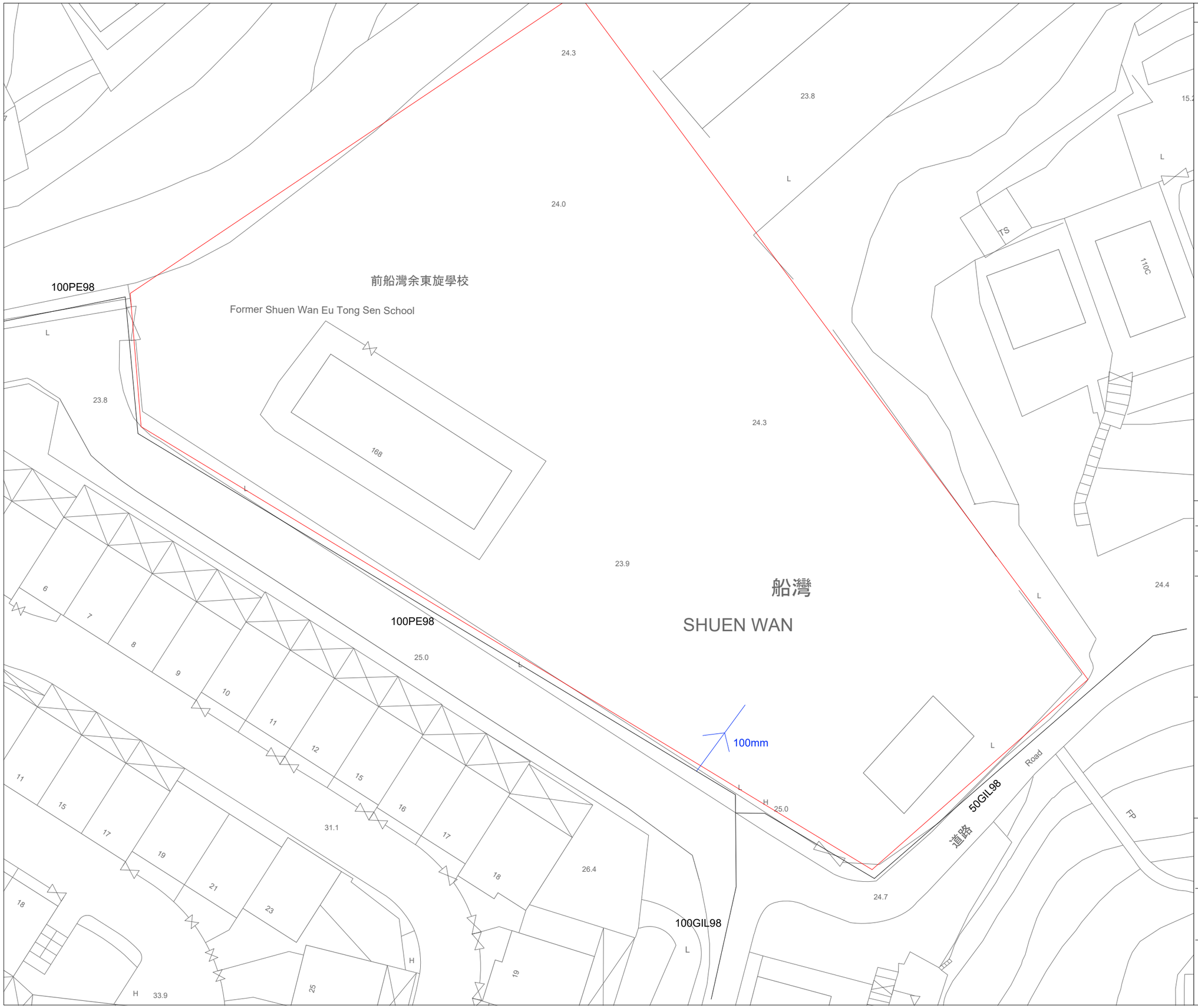
4. The 300DI107 water main branches out into a 150mm main, a 100mm main and a 400mm main. It is assumed that about 62% of the existing daily demand of 300DI107 is conveyed to the 400D197 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 845.9 m3/day.

5. The 400DI97 water main branches out into two 100mm mains and a 200mm main. It is assumed that about 25% of the existing daily demand of 400D197 is conveyed to the 100PE98 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 100mm branch is assumed to have a total demand of 389.5 m3/day.

6. The top water level and invert level of TPELLFWSR is 77 mPD and 71 mPD respectively. The water level is assumed to be the mean, 74mPD.

APPENDIX E

PROPOSED WATER SUPPLY SYSTEM



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LEGEND:

- PROPOSED SITE
- EXISTING FRESHWATER DISTRIBUTION MAIN
- PROPOSED FRESHWATER MAIN

	Prepared	Checked	Approved
Initial	BL	CC	YS
Date	05/ 2022	05/ 2022	05/ 2022

Project Title

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

WATER SUPPLY IMPACT ASSESSMENT

DrawingTitle

PROPOSED WATER SUPPLY SYSTEM

Drawing No.

SWIA - 1001

Rev.

0

Scale:

A3 - 1:500

BXG

BeeXergy Consulting Limited

APPENDIX I - GEOTECHNICAL PLANNING REVIEW

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Good House – Transitional Housing Project at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Geotechnical Planning Review Report

May 2022

Modern Consulting Engineers Limited

Room 2801, Kwai Hung Holdings Center
89 King's Road, North Point, Hong Kong
Tel: (852) 3572 0586 Fax: (852) 3020 3153

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1.2 Objectives of this report 1

2 The site 2

2.1 Site description 2

2.2 Existing structure in the vicinity of the site 3

2.3 Existing geotechnical features in the vicinity of the site 3

3 Ground investigation works 4

3.1 Collection of information 4

3.2 Predicted geological stratum 4

4 Proposed construction works 4

4.1 Relevant information from tender document 4

4.2 Proposed site formation works 4

5 Conclusion 5

Appendices

Appendix A Information retrieved from SIS and SMRIS

Appendix B Excerpt of Final Filedwork Report of Ground Investigation Works near the site

Appendix C Excerpt of tender documents

1 Synopsis

1.1 Introduction

Transitional Housing Project "Good House" is to be carried out at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School). A total number of 276 living units, an account unit, a management office, a multi-purpose room and an area for E&M usage will be formed.

1.2 Objectives of this report

To facilitate the construction activities for the above proposal, planning shall be reviewed from a geotechnical perspective. This report is prepared to cover the following items:

(i) Review on the site condition

(ii) Review on existing structures and geotechnical features located in the vicinity of the site

(iii) Review on the findings of ground investigation works near the site

(iv) Review on the proposed construction works

2 The site

2.1 Site description

The site is located at Shuen Wan, off Ting Kok Road, Tai Po where Shuen Wan Eu Tong Sen School had been operated from year 1950 to 1994. A Site layout plan is shown in **Figure 1**.



Figure 1 – Site Plan

Situated within Hong Kong 1980 Grid Coordinates 839243E to 839341E and 835727N to 835813N, the site has an area around 3956m^2. The ground profile within the site is roughly flat with reduced level at +24mPD. There are a few existing structures and geotechnical features found in the vicinity of the site for which a brief description is given in the following sections.

2.2 Existing structure in the vicinity of the site

Spanish Primary School is located on the North-East of the site. The school has a site area of 743m^2 including three one-storey blocks. The minimum distance between the blocks and the site boundary of this project is around 4m.

2.3 Existing geotechnical features in the vicinity of the site

There are two registered geotechnical features found near the site. Basic information of the features are retrieved from the **Slope Information System (SIS)** under the Geotechnical Engineering Office (GEO) of Civil Engineering and Development Department (CEDD). Also, the maintenance responsibility of the features are obtained from the **Slope Maintenance Responsibility Information System (SMRIS)** under the Lands Department (LandsD). A brief summary of the information retrieved is given in **Table 1** and **Table 2**.

Table 1 – Basic information of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Max. height (m)	Length (m)	Average angle (deg.)
North	7NE-A/F36	5	170	60
East	7NE-A/C141	5	115	40

Table 2 – Maintenance responsibility of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Sub-divisions	Responsible Lot / Party
North	7NE-A/F36	1	Lands Department
		2	DD26 Lot 989
East	7NE-A/C141	1	DD26 Lot 989
		2	DD26 Lot 413B
		3	DD26 Lot 413A
		4	Lands Department

Detailed information retrieved from the **SIS** and **SMRIS** is presented in **Appendix A**.

3 Ground investigation works

3.1 Collection of information

At the time being, a record of ground investigation works near the site is found to be carried out by Vibro (H.K.) Limited in October and November 2011, which include 3 drill holes and 5 trial pits.

3.2 Predicted geological stratum

Based on the results of the ground investigation works, the following stratums are encountered:

Fill – firm, brown (7.5YR 5/4), slightly sandy SILT with occasional angular to sub-angular fine gravel sized highly to moderately decomposed rock fragments.

Colluvium – firm, brown to light brown (7.5YR 5/4), light brown, dappled brown, slightly sandy SILT with occasional sub-angular fine to medium gravel sized highly to moderately decomposed rock fragments.

Residual Soil – Firm, light brown, slightly sandy SILT with occasional angular to sub-angular fine gravel and quartz fragments.

Saprolitic Soil and Weathered Rock – Extremely weak, reddish brown, completely decomposed GRANODIORITE.

Excerpt of the final fieldwork report of the ground investigation works is presented in **Appendix B**.

4 Proposed construction works

4.1 Relevant information from tender document

Some information of the project, including site plan, layout plans and records / arrangement for water and electricity supply are presented in **Appendix C**.

4.2 Proposed site formation works

As the ground level within the site area is generally levelled, no massive site formation works are anticipated. Nevertheless, details of the proposed site formation works, including stability check for surrounding slopes, shall be referred to relevant design reports (to be submitted separately).

5 Conclusion

Review has been made on the site conditions, existing structural and geotechnical features in the vicinity of the site, findings of the ground investigation works near the site and proposed construction works. The following conclusion is drawn:

(i) Based on the readily available information, no massive site formation works will be required for constructing the households and the associated buildings. It is considered that the effects to adjacent structures and geotechnical features will be limited.

(ii) From a long-term perspective, a detailed design for the site formation works shall be carried out to ensure that the current geotechnical standards are met for the proposed development. Assessment on the stability of registered features 7NE-A/F36 and 7NE-A/C141 should be included and effect on the adjacent school shall be discussed.

Appendix A

Information retrieved from SIS and SMRIS

BASIC INFORMATION

Location:	NO.166 TING KOK ROAD, TAI PO
Registration Date:	25-02-1998
Ranking Score (NPRS):	0 (LPMit)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	SIRST
Approximate Coordinates:	Easting : 839289 Northing : 835823

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	School
Distance of Facility from Crest (m):	0
Facility at Toe:	Residential building
Distance of Facility from Toe (m):	3.5
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 170 Average Angle (deg): 60

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 28-09-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 28-09-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 04-08-1997
Data Source: SIRST
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A2
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	Y09679 (1963), Y097800 (1963)
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	04-08-1997
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department):
Date of Recommendation to BD: 13/06/2006 File Reference: N/A
Date Served by BD: N/A Notice No.: N/A
Date of Recommendation to BD: 13/06/2006 File Reference: DH/0044/06/NT
Date Served by BD: 29/01/2008 Notice No.: DH0009/NT/08/C

Advisory Letter (To Be Confirmed with Buildings Department):
None

LPMIS:
Agreement No.: CE56/2009 Report No.: S3R027/2012
Agreement No.: CE12/2004 Report No.: S2R98/2006

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Residential building

Distance from Toe(m): 3.5
Type of Crest Facility: School

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

Action By: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: DD26 LOT989

LPM/LPMit Study
- Agreement No.: CE56/2009
- Study Type: Stage 3 Study Under Schedule of Rates Contract
- Consultant: Fugro (HK) Ltd.
- GEO Managing Section / Engineer: LPM1 / CM22
- Study Status: Study completed
- Design Approach: Conventional (GI + Analysis)
- Option Assessment Accepted: Y
- Study Report No.: S3R027/2012
- Programme / Actual Commencement: 01-12-2010
- Programme / Actual Completion: 03-05-2013
- Report Recommendation (For Stage 2 Study): N/A
- District Check Status: N/A
- Checking Certificate No.: GEO/LPM051/2014
- GEO Engineer's Remarks: 7NE-A/F36 (Sub-division 1)

LPM/LPMit Works
- Works Contract No.: GE/2011/13
- GEO Managing Section / Engineer: LPM1 / CM22
- Contractor: Dix Construction & Transportation Limited
- Progress Status: Maintenance completed
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: 20-11-2012
- Forecast Completion Date: 07-10-2013
- Completion Cert. Issued: 01-11-2013
- Site Handed Over to Maintenance Department on: 27-11-2015
- Estimated Cost for Upgrading (HK$M): 2.4161
- Maintenance Manual No.: MM051/2014
- Actual Works: Others
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: 100
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: T19809, DD26 Lot989

LPM/LPMit Study
- Agreement No.: CE12/2004
- Study Type: Stage 2 Study
- Consultant: C M Wong & Associates Ltd.
- GEO Managing Section / Engineer: SS / SS3
- Study Status: Study completed
- Design Approach: N/A
- Option Assessment Accepted: N/A
- Study Report No.: S2R98/2006
- Programme / Actual Commencement: 06-03-2006
- Programme / Actual Completion: 27-06-2007
- Report Recommendation (For Stage 2 Study): DH Order,Warning letter for STT
- District Check Status: Exempted from checking
- Checking Certificate No.: N/A
- GEO Engineer's Remarks: N/A

LPM/LPMit Works
- Works Contract No.: N/A
- GEO Managing Section / Engineer: N/A / N/A
- Contractor: N/A
- Progress Status: N/A
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: N/A
- Forecast Completion Date: N/A
- Completion Cert. Issued: N/A
- Site Handed Over to Maintenance Department on: N/A
- Estimated Cost for Upgrading (HK$M): N/A
- Maintenance Manual No.: N/A
- Actual Works: N/A
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: N/A
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

PHOTO




Hess Garden
江庫豪園
江庫花園
船灣李屋
Shuen W
Lei Uk
船灣陳屋
Shuen Wan Chan Uk
沙欄小築
沙欄
Sha Lan
BOULEVARD
839 200E
836 000N
839 400E
835 600N
7NE-A/F 49
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
7NE-A/R 37
7NE-A/R 36
7NE-A/C 107
7NE-A/F 36
7NE-A/R 34
7NE-A/CR 90
7NE-A/R 35
7NE-A/C 139
7NE-A/R 18
7NE-A/R 33
7NE-A/C 114
7NE-A/R 42
7NE-A/R 44
7NE-A/R 38
7NE-A/R 17
7NE-A/R 49
7NE-A/C 105
7NE-A/C 155
7NE-A/C 142
7NE-A/CR 157
7NE-A/CR 103
7NE-A/C 101
7NE-A/R 21
7NE-A/R 29
7NE-A/C 170
7NE-A/C 172
7NE-A/R 41
7NE-A/R 48
7NE-A/CR 98
7NE-A/R 45
7NE-A/C 175
7NE-A/C 173
3SE-C/C

Slope Maintenance Responsibility Report (7NE-A/F36)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/F36**		**Sub-Division**	1
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

2	**7NE-A/F36**		**Sub-Division**	2
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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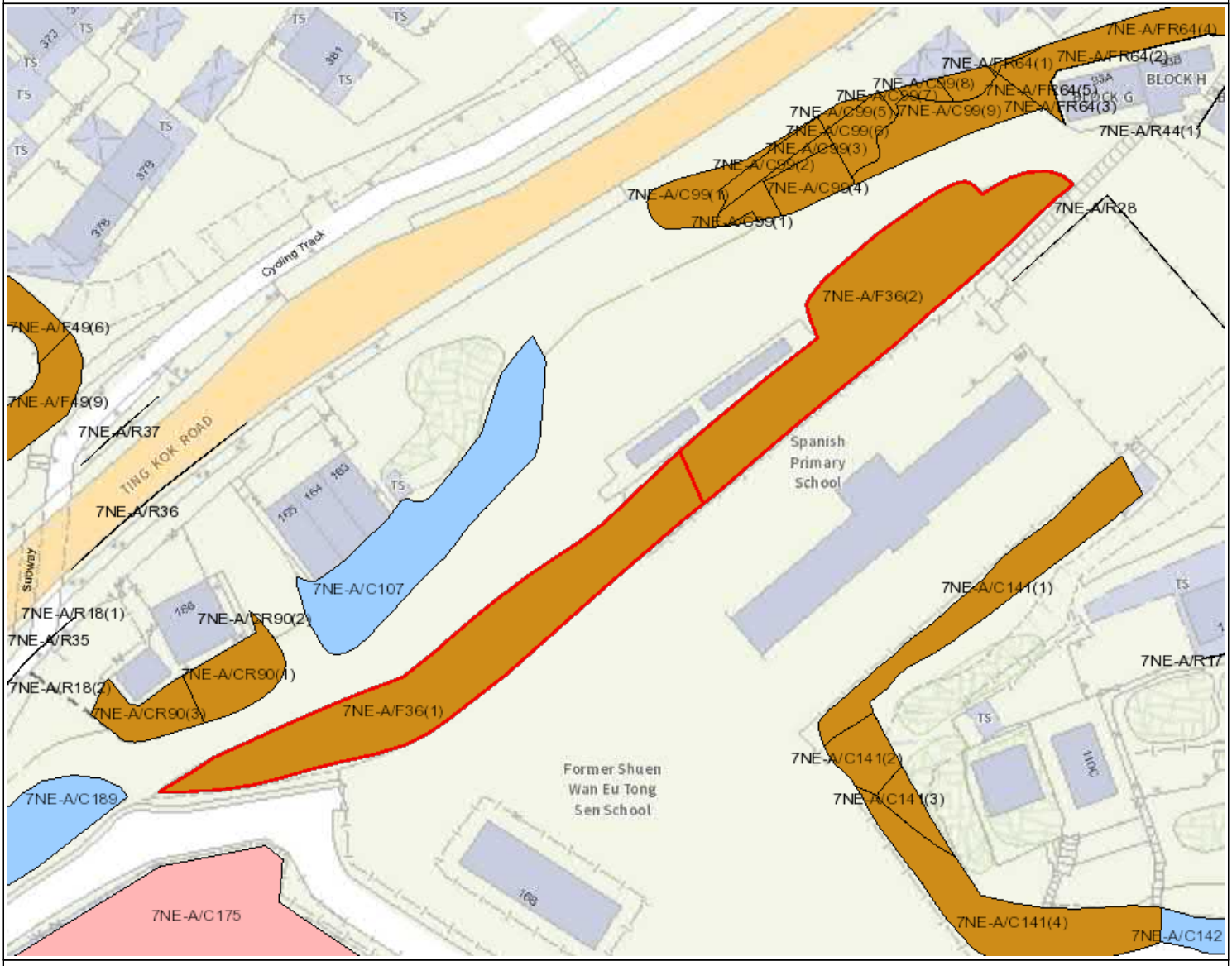
Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

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Printed on: 16/05/2022

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BASIC INFORMATION

Location:	Shuen Wan Chan UK, Tai Po
Registration Date:	24-09-1998
Ranking Score (NPRS):	2 (EI)
Date of Formation:	post-1977
Date of Construction/ Modification:	
Data Source:	EI
Approximate Coordinates:	Easting : 839317 Northing : 835789

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Other non-crowded built-up facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with very low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	2
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 115 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT413 B Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(3) Sub Div.: 3 Mixed Feature Party: DD26 LOT413 A Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(4) Sub Div.: 4 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 26-01-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 17-04-2002
Data Source: EI
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 0 Chunam: 0 Shotcrete: 0 Other Cover: 100
Material Description: Material type: Soil Geology: Colluvium
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

(1) Utilities Type: Water Main Size(mm): 25 Location: On slope Remark: N/A

CHECKING STATUS INFORMATION

Tagmark: 21177_1_4 Part: 1 Checking Status: No checking records Checking Certificate No.: N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A5
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	17-04-2002
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department): None

Advisory Letter (To Be Confirmed with Buildings Department): None

LPMIS: None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Road/footpath with very low traffic density

Distance from Toe(m): 0
Type of Crest Facility: Other non-crowded built-up facilities

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

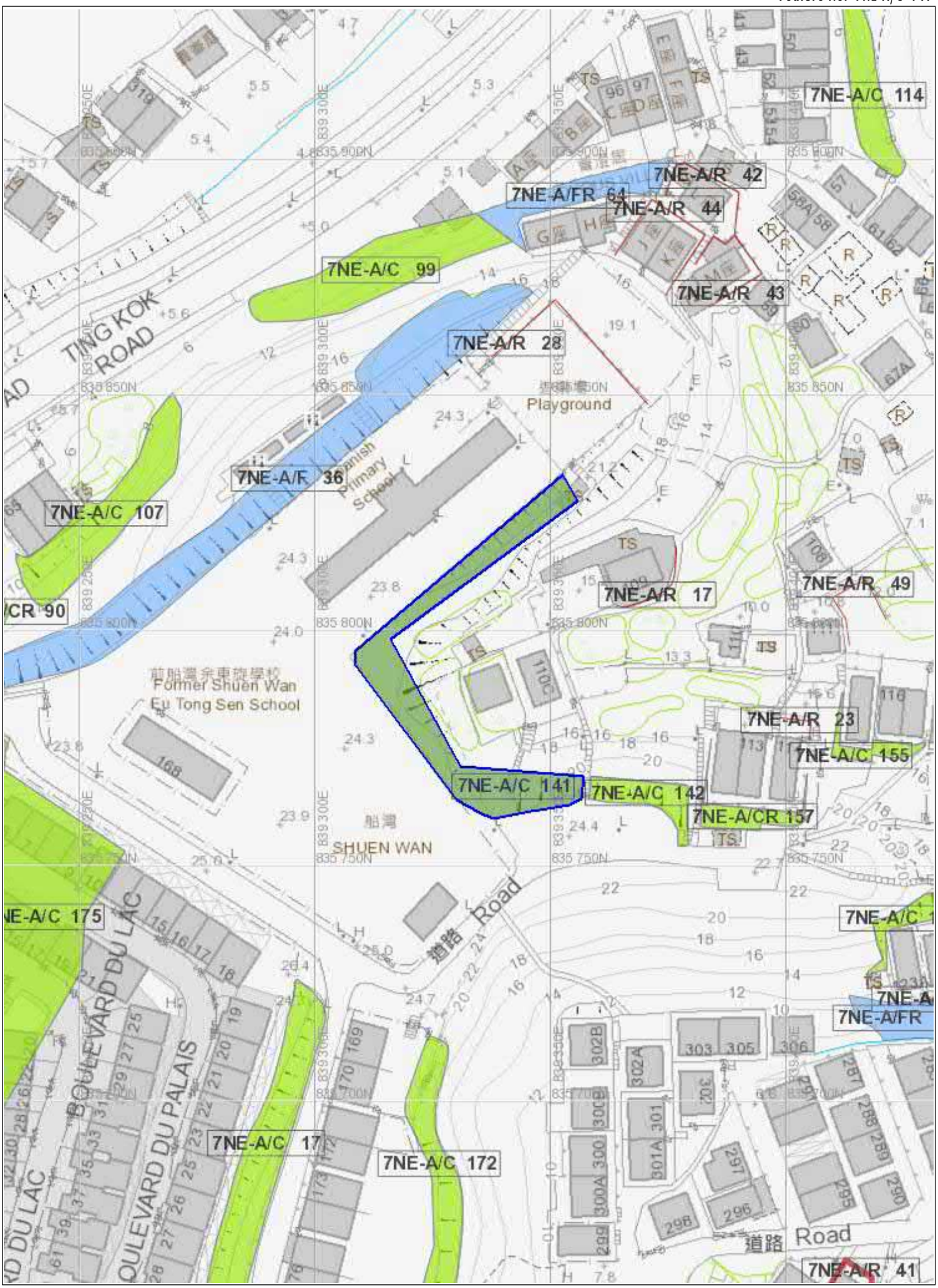
Action By: N/A

PHOTO








7NE-A/C 114
7NE-A/R 42
7NE-A/FR 64
7NE-A/R 44
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
TING KOK ROAD
Playground
Spanish Primary School
7NE-A/F 36
7NE-A/C 107
/CR 90
7NE-A/R 17
7NE-A/R 49
Former Shuen Wan Eu Tong Sen School
7NE-A/R 23
7NE-A/C 155
7NE-A/C 141
7NE-A/C 142
7NE-A/CR 157
SHUEN WAN
Road
NE-A/C 175
BOULEVARD DU LAC
BOULEVARD DU PALAIS
7NE-A/C 17
7NE-A/C 172
7NE-A/FR
7NE-A/R 41

Slope Maintenance Responsibility Report

(7NE-A/C141)

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/C141**		**Sub-Division**	1
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

2	**7NE-A/C141**		**Sub-Division**	2
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 B	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

3	**7NE-A/C141**		**Sub-Division**	3
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 A	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

4	**7NE-A/C141**		**Sub-Division**	4
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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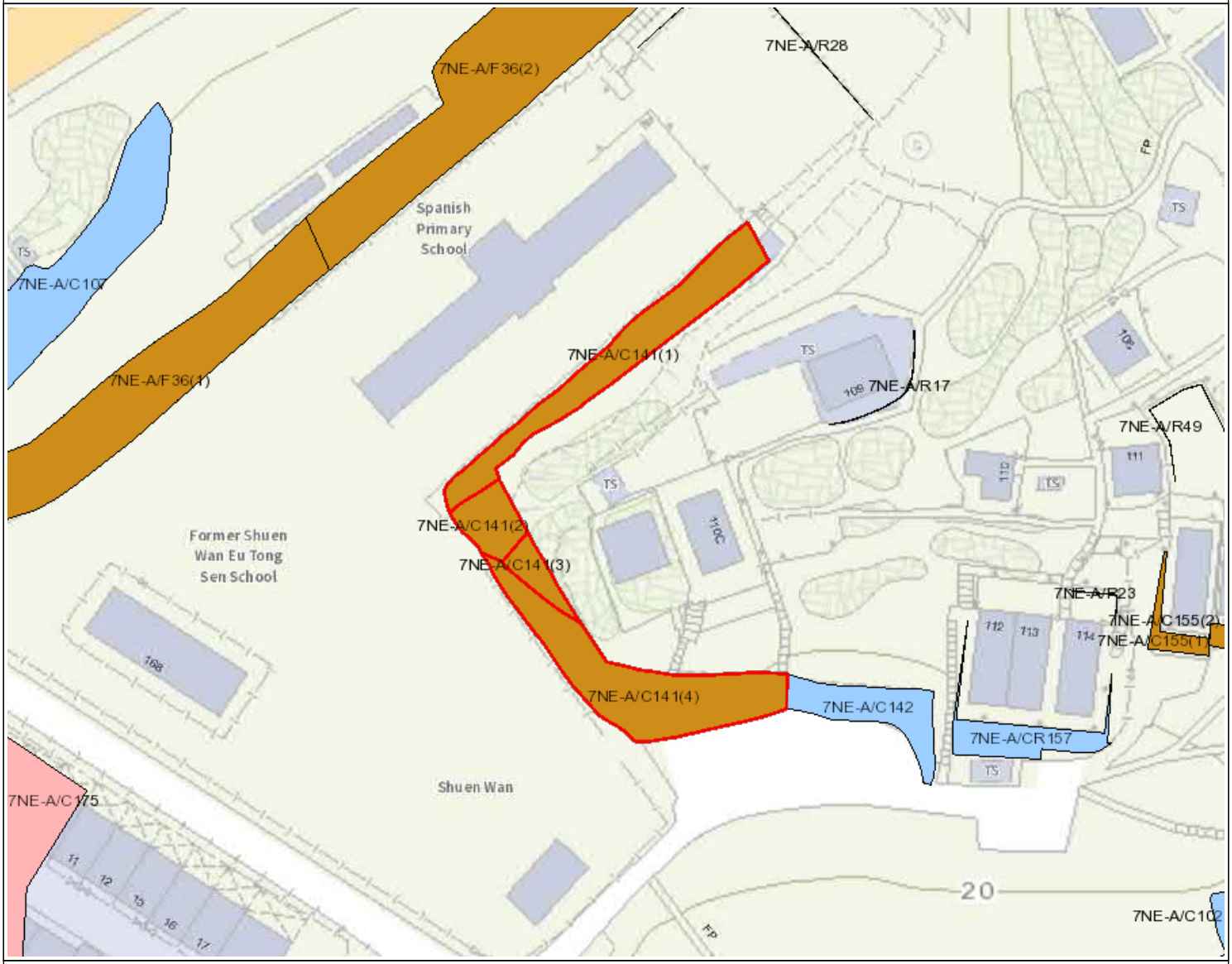
Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

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Appendix B

Excerpt of Final Filedwork Report of Ground Investigation Works near the site

VIBRO

VIBRO (H.K.) LIMITED

SITE INVESTIGATION DEPARTMENT

FINAL FIELDWORK REPORT

CONTRACT No.	GE/2009/15
WORKS ORDER No.	GE/2009/15.211D
PROJECT	Ground Investigation - New Territories East (Term Contract) Location : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po
CLIENT	Civil Engineering and Development Department
DATE	18 November 2011

CHECKED BY		18-11-11
	M. C. Leung Geotechnical Engineer	Date
CERTIFIED BY		18-11-11
	Ngan Chau Nam Contractor's Representative	Date

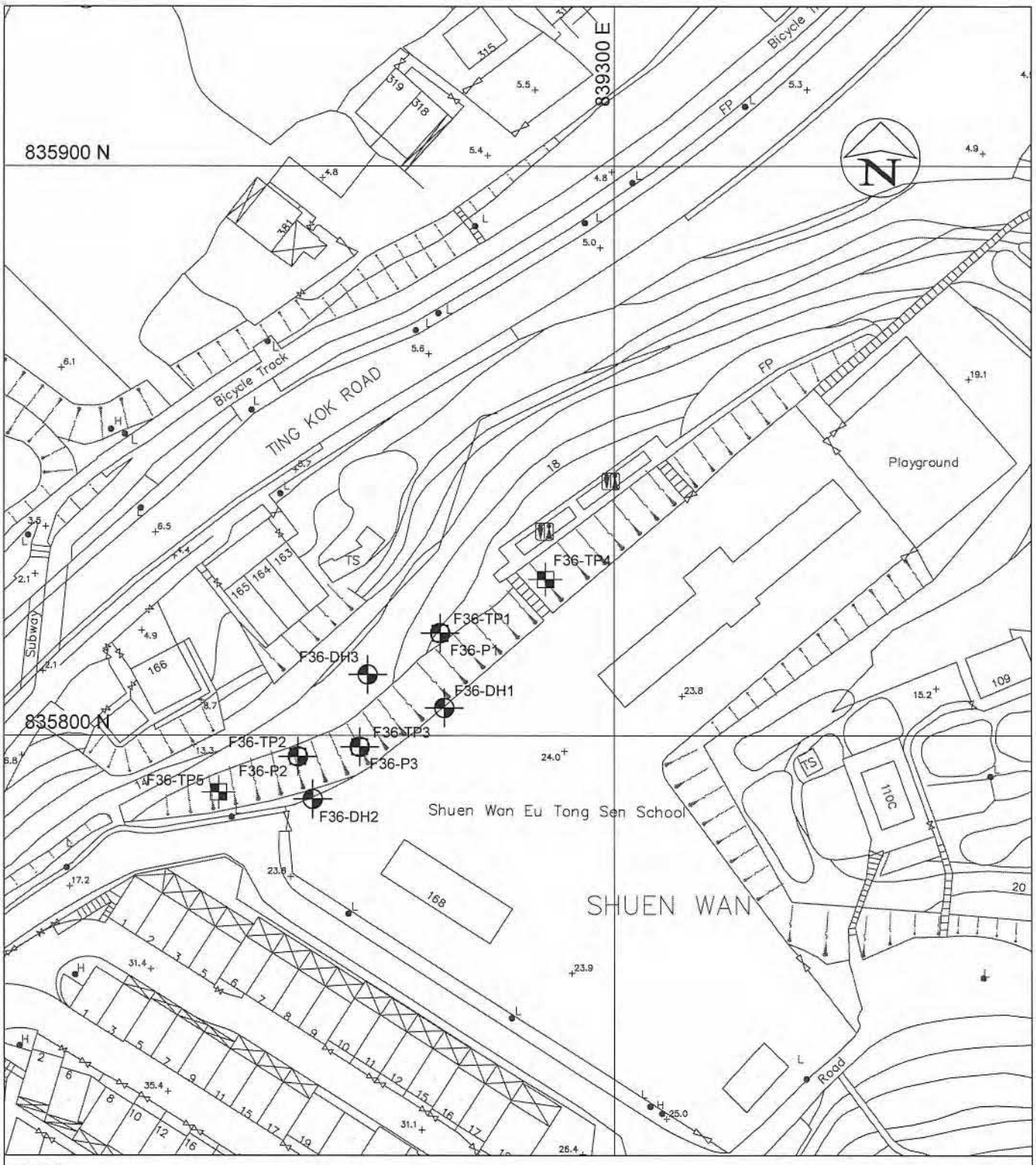
ISO 9001 : 2008
Certificate No. : CC 1046

ISO 14001 : 2004
Certificate No. : CC 2466

OHSAS 18001 : 2007
Certificate No. : CC 2547

CONTRACTOR
Head Office: 4th Floor,
38 Sheung On Street, Chai Wan, Hong Kong.

Tel: 2336 5985 Fax: 2342 3589



LEGEND :

F36-DH1 DRILLHOLE

F36-TP1 TRIAL PIT

F36-P1 DYNAMIC PROBING TEST

DRAWN : RN	CHECKED : E LEUNG	CEDD CONTRACT NO. GE/2009/15 GROUND INVESTIGATION - NT EAST (TERM CONTRACT)	FEATURE NO. : 7NE-A/F36
SCALE : 1 : 1000	DATE : 15-11-2011		LOCATION : Tai Po
DRAWING NO. : J200946e/GIP/211D			WORKS ORDER NO. : GE/2009/15.211D
VIBRO (H.K.) LIMITED	CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT HONG KONG		DRAWING TITLE : GROUND INVESTIGATION LAYOUT PLAN

VIBRO (H.K.) LIMITED
SITE INVESTIGATION DEPARTMENT

CONTRACT NO. GE/2009/15
WORKS ORDER NO. GE/2009/15.211D

PROJECT : Ground Investigation - New Territories East (Term Contract)

LOCATION : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

Table 2 - Summary of Drillhole Result

Stratum	HOLE NO.								
	F36-DH 1	F36-DH 2	F36-DH 3						
Ground Level (mPD)	+24.08	+23.93	+16.83						
Concrete Surface Bottom Level (mPD)	-	-	+16.73						
Bottom Depth (m below Ground Level)	-	-	0.10						
Thickness (m)	-	-	0.10						
Fill Bottom Level (mPD)	+21.48	+22.43	+15.33						
Bottom Depth (m below Ground Level)	2.60	1.50	1.50						
Thickness (m)	2.60	1.50	1.40						
Colluvium Bottom Level (mPD)	+18.58	+20.03	-						
Bottom Depth (m below Ground Level)	5.50	3.90	-						
Thickness (m)	2.90	2.40	-						
Residual Soil Bottom Level (mPD)	+16.58	-	+13.33						
Bottom Depth (m below Ground Level)	7.50	-	3.50						
Thickness (m)	2.00	-	2.00						
Saprolitic Soil and Weathered Rock Bottom Level (mPD)	+9.03	+11.33	+1.83						
Bottom Depth (m below Ground Level)	15.05	12.60	15.00						
Thickness (m)	7.55	8.70	11.50						
Rock Bottom Level (mPD)	-	-	-						
Bottom Depth (m below Ground Level)	-	-	-						
Thickness (m)	-	-	-						
End of Hole Level (mPD)	+9.03	+11.33	+1.83						
End of Hole Depth (m below Ground Level)	15.05	12.60	15.00						
Rock Type	-	-	-						
Bedrock Level (mPD)	-	-	-						

Note : - : Not encountered in the investigation

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 1
	SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	DATE : 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
20/10/2011	PW								A 0.50	+24.08	0.00			Firm, brown (7.5YR 5/4), dappled light brown, spotted light grey, slightly sandy SILT with occasional angular to subangular fine gravel sized highly decomposed and moderately decomposed rock fragments. (FILL)
									B 1.00					
									C 1.50					
			45	100					1 2.50					
									2 2.60	+21.48	2.60			
								1,1, 2,2,2,3 N=9	3 2.70					Firm, light brown (7.5YR 6/4), dappled brown, slightly sandy clayey SILT with occasional subangular fine gravel sized highly decomposed rock fragments. (COLLUVIUM)
									4 3.00 3.05					
									5 3.50					
			45	95					6 4.50 4.60					
	PW 4.50								7 4.70					
	HW							1,1, 2,2,3,3 N=10	8 5.00 5.05					
										+18.58	5.50			
									9 5.50				VI	Firm, light brown, slightly sandy SILT with occasional angular to subangular fine gravel and quartz fragments. (RESIDUAL SOIL)
			45	100					10 6.50 6.60					
								2,3, 3,4,4,5 N=16	11 6.70					
									12 7.00 7.05					
										+16.58	7.50			
									13 7.50				V	Extremely weak, reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with occasional angular fine gravel)
			45	95					14 8.50 8.60					From 8.50m to 8.60m : With firm, light brown, sandy silt infilled relict joints 20mm thick, dipping 20° to 30°.
								2,2, 3,4,6,8 N=21	15 8.70					
									16 9.00 9.05					
										+14.58	9.50			
			45						17 9.50				V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)
10														

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	21/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS
1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 2.30m and 5.20m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 2.00m and b) from 1.50m to 4.50m depth at 0.50m intervals.

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 1
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	**CO-ORDINATES**	**W.O.NO.** GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	**DATE :** 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	**ORIENTATION** Vertical	**GROUND LEVEL** + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	TCR %	SCR %	RQD %	FI	Tests	Samples No.	Type	Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW			100								+14.08	10.00		V	See sheet 1 of 2
		7.80m at 18:00	45						18		10.50 10.60	+13.48	10.60			
20/10/2011 21/10/2011		Dry at 08:00						5,7, 10,13,16,20 N=59	19		10.70				IV	Weak to moderately weak, highly decomposed GRANODIORITE. (Sandy angular fine to coarse GRAVEL)
11									20		11.00 11.05					
												+12.58	11.50			
									21		11.50				V	Extremely weak, brown, dappled light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)
12			45	92												
									22		12.50 12.60	+11.48	12.60			
								4,6, 8,10,14,20 N=52	23		12.70				V	Extremely weak, brown, dappled reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with some angular fine gravel)
13									24		13.00 13.05					
									25		13.50					
14			45	100												
									26		14.50 14.60	+9.48	14.60			
15 21/10/2011	HW 15.05	12.00m at 18:00						7,11, 14,17,19,22 N=72	27		14.70				V	Extremely weak, light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with occasional angular fine gravel)
									28		15.00 15.05	+9.03	15.05			
																End of Investigation Hole at 15.05m.
16																
17																
18																
19																
20																

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	21/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS

DRILLHOLE RECORD

HOLE NO. F36-DH 2

CONTRACT NO. : GE/2009/15

SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	DATE : 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
18/10/2011	PW								A 0.50 INSPECTION PIT; B 1.00; C 1.50	+23.93	0.00			Firm, brown (7.5YR 5/4), slightly sandy SILT with some angular to subangular fine gravel sized moderately decomposed rock fragments. (FILL)
			45	95					1 2.50; 2 2.60	+22.43	1.50			Firm, brown (7.5YR 5/4), dappled light brown, slightly sandy SILT with occasional subangular fine to medium gravel sized highly decomposed and moderately decomposed rock fragments. (COLLUVIUM)
								1,2, 2,3,4,5 N=14	3 2.70; 4 3.00 3.05; 5 3.50					
			45	100						+20.03	3.90		V	Extremely weak, reddish brown, dappled light brown and brown, spotted light grey, completely decomposed GRANODIORITE. (Slightly sandy SILT with some angular to subangular fine gravel)
	PW 5.50 HW							1,1, 2,2,2,3 N=9	6 4.50 4.60; 7 4.70; 8 5.00 5.05; 9 5.50					
			45	100					10 6.50 6.60	+17.33	6.60		V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE with some iron and manganese stained relict joints, dipping 0° to 10° and 10° to 20°. (Slightly sandy SILT with some angular to subangular fine gravel)
								4,5, 7,9,11,13 N=40	11 6.70; 12 7.00 7.05; 13 7.50					
			45	95					14 8.50 8.60; 15 8.70; 16 9.00 9.05					
								3,5, 6,6,10,14 N=36	17 9.50					
			45											

Disturbed sample
Piston sample
U76 undisturbed sample
U100 undisturbed sample
Mazier sample
SPT liner sample
Water sample
En Environmental Sample
Standard penetration test
V In-situ vane shear test
Permeability test
Pressuremeter test
Packer Test
Acoustic or optical televiewer survey
Piezometer tip
Standpipe

LOGGED T. C. Yip
DATE 20/10/2011
CHECKED E. Leung
DATE 24/10/2011

REMARKS
1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 4.50m and 12.10m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 4.00m and b) from 1.50m to 11.50m depth at 0.50m intervals.

J200946e_211D

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 2
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	DATE : 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	TCR %	SCR %	RQD %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW		45	87						+13.93	10.00		V	See sheet 1 of 2
									18 10.50 10.60	+13.33	10.60		V	Extremely weak, brown, dappled pinkish brown, completely decomposed GRANODIORITE. (Slightly sandy SILT with occasional angular to subangular fine gravel)
								3,5, 7,10,13,18 N=48	19 10.70 20 11.00 11.05					
									21 11.50					
			45	90										
18/10/2011	HW 12.60	8.20m at 18:00							22 12.50 12.60	+11.33	12.60			End of Investigation Hole at 12.60m.

Disturbed sample
Piston sample
U76 undisturbed sample
U100 undisturbed sample
Mazier sample
SPT liner sample
Water sample
En Environmental Sample

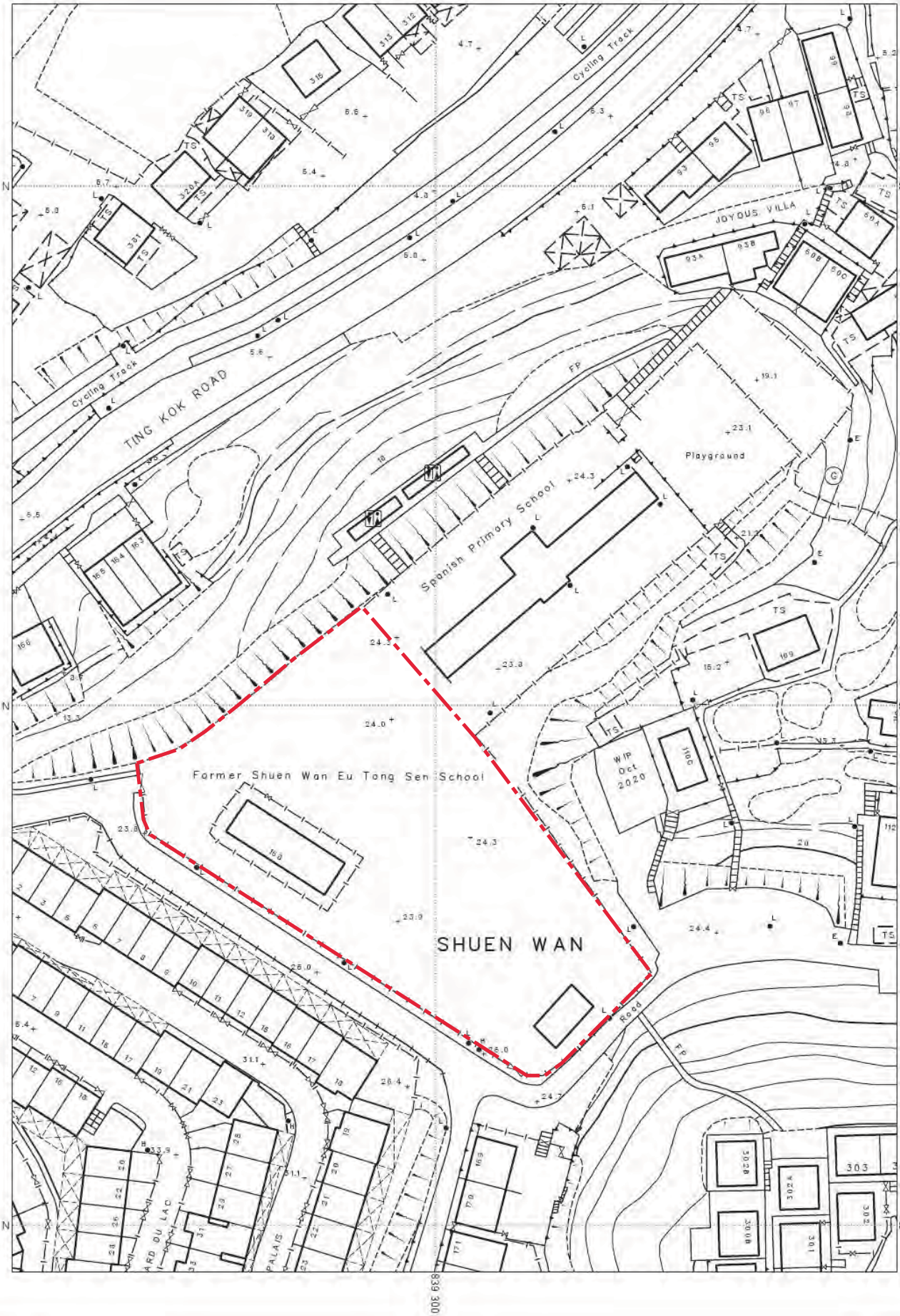
Standard penetration test
V In-situ vane shear test
Permeability test
Pressuremeter test
Packer Test
Acoustic or optical televiewer survey
Piezometer tip
Standpipe

LOGGED T. C. Yip
DATE 20/10/2011
CHECKED E. Leung
DATE 24/10/2011

REMARKS

Appendix C

Excerpt of tender documents



FOR IDENTIFICATION ONLY

只供識別用

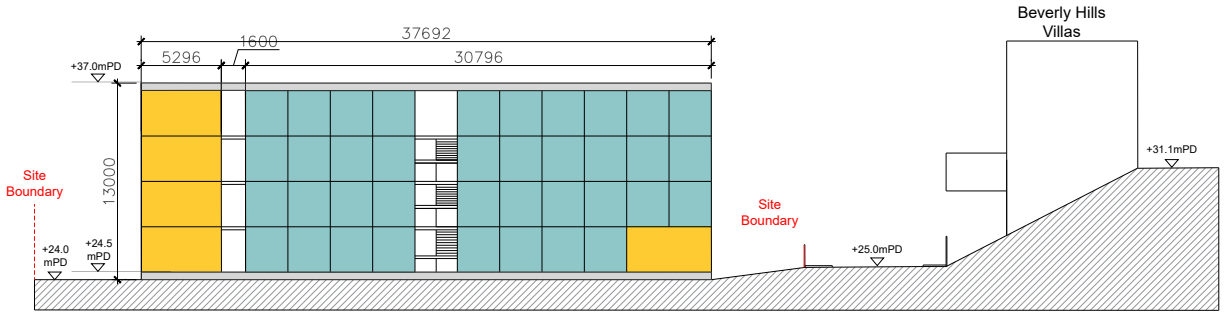
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

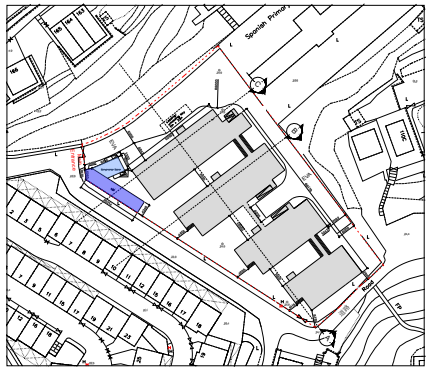


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Yu Ten
Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

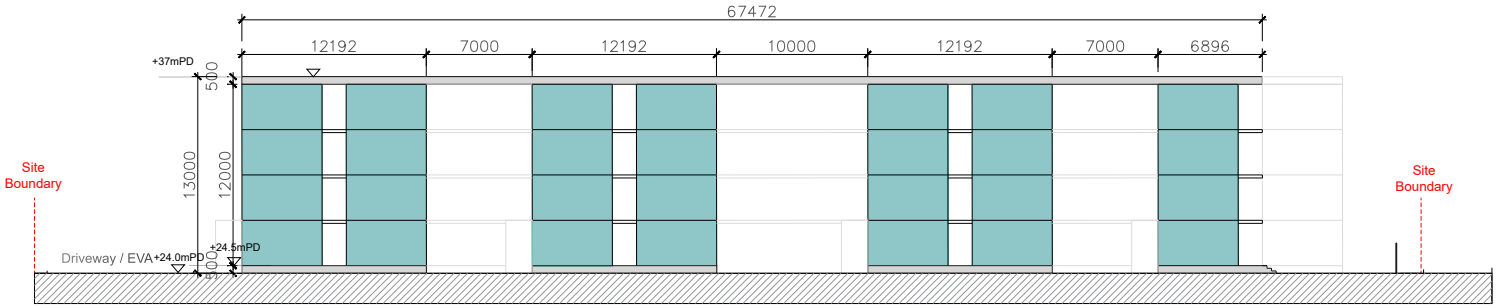

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



SECTION B



KEY PLAN 1:4000



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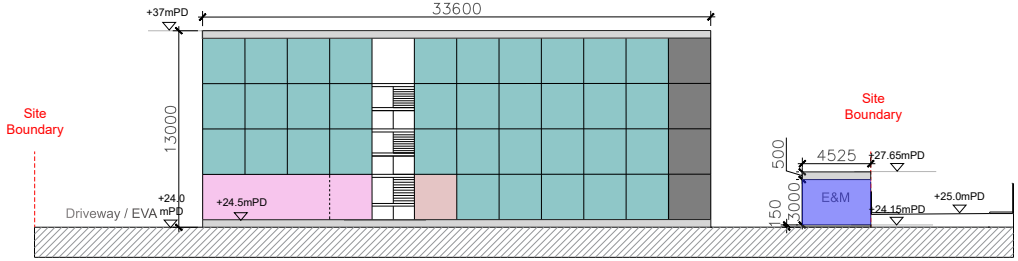
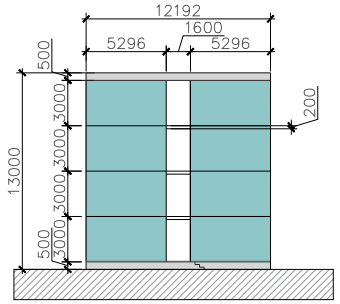


SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

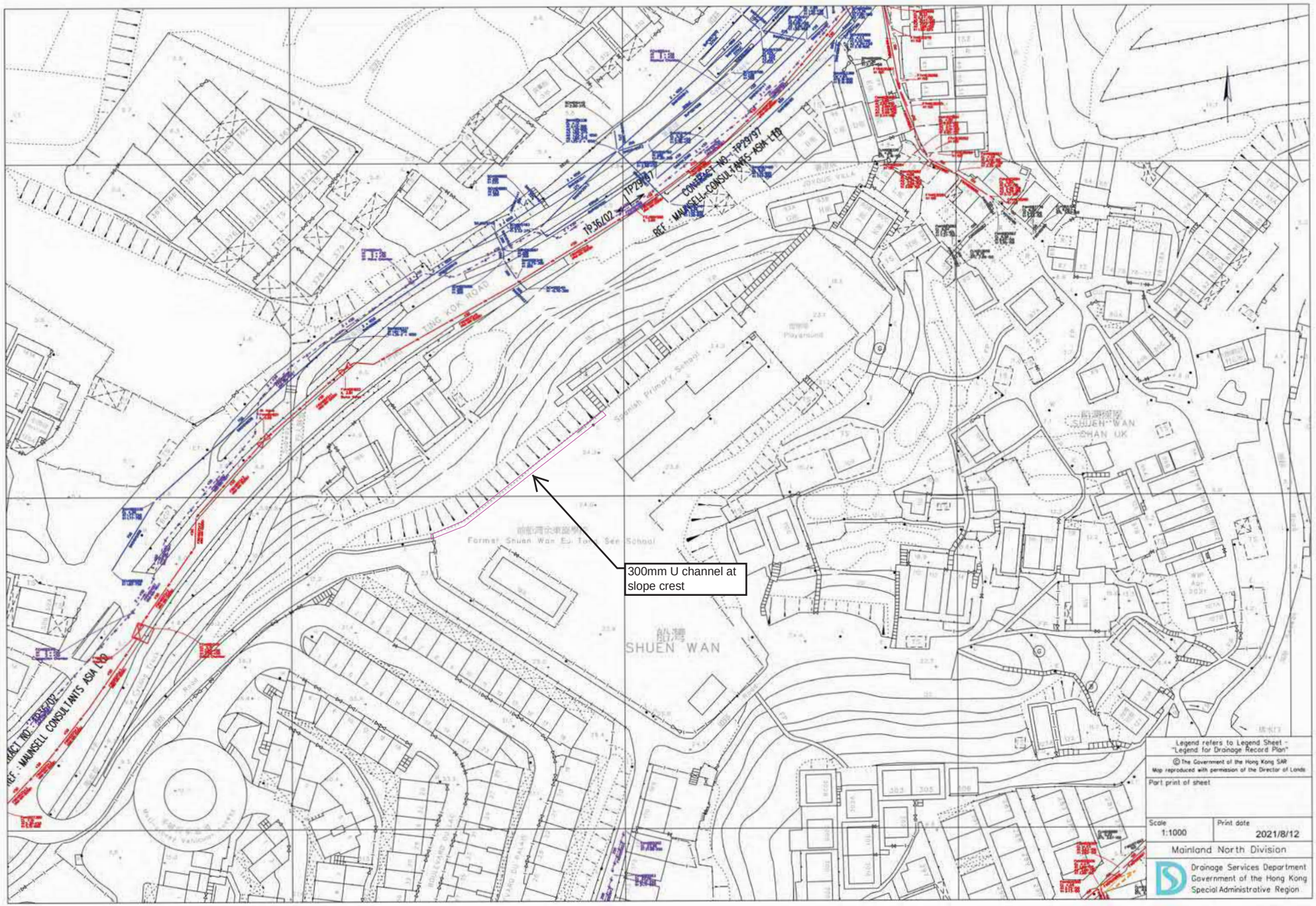
PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

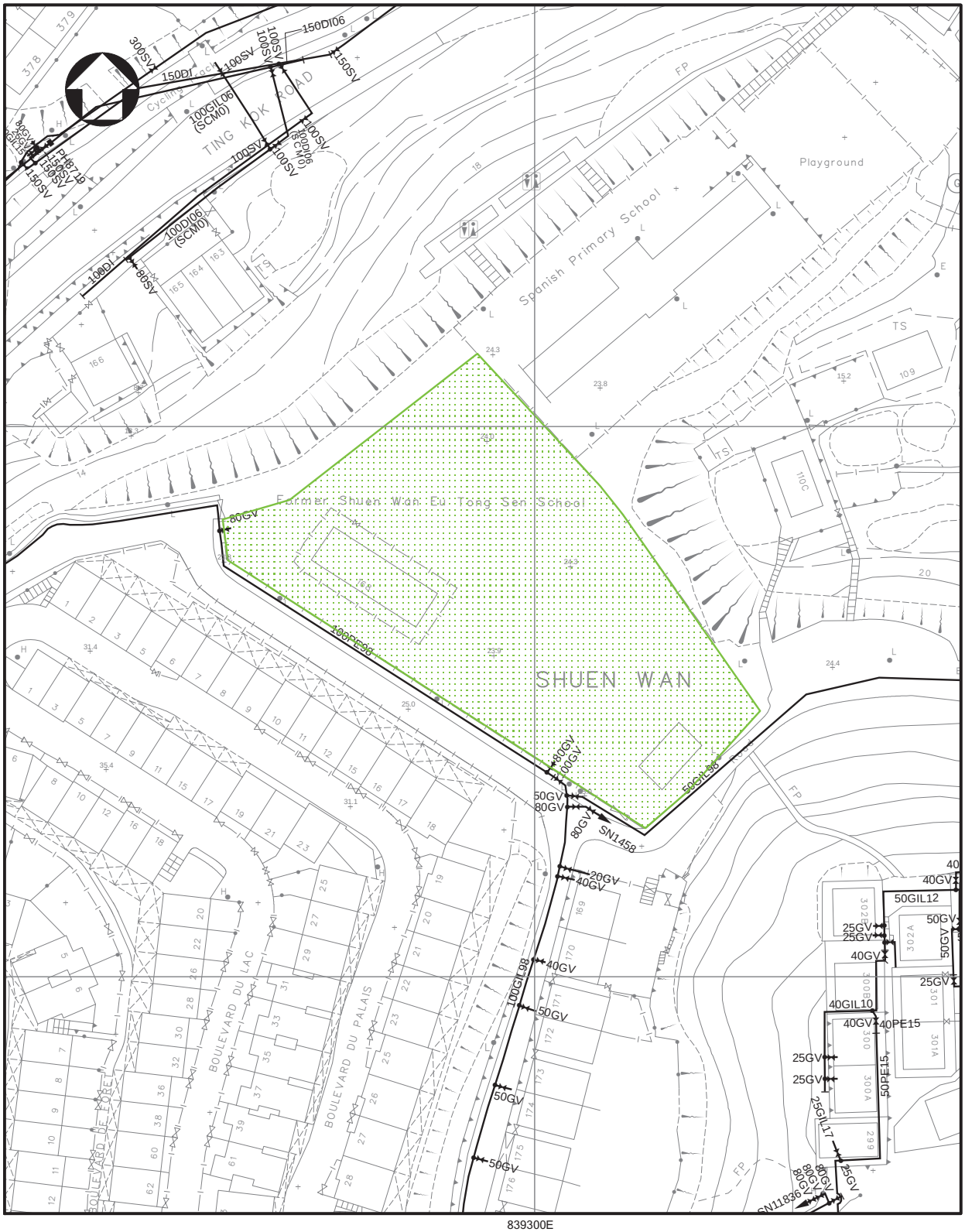
- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada


300mm U channel at slope crest
SHUEN WAN
Legend refers to Legend Sheet - "Legend for Drainage Record Plan"
© The Government of the Hong Kong SAR
Map reproduced with permission of the Director of Lands
Part print of sheet
Scale 1:1000
Print date 2021/8/12
Mainland North Division
Drainage Services Department
Government of the Hong Kong Special Administrative Region



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/7-NE-2A

REF. CODE: 31W21M	SHEET 1 OF 1	SCALE 1:1000

水 務 署
Water Supplies Department

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The Site
Proposed routing of power cable lead-in from Ting Kok Road
船灣
SHUEN WAN
前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School
沙欄小築
Sha Lan Villas
Spanish Primary School
Kingsland
Cycling Track
Map data reproduced with p

Our ref: UDP/HB/THSW/TPB-L01

July 14, 2022

Secretary
Town Planning Board
17/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong
(Attn: Ms. Aileen Cheng)

Dear Sir/ Madam,

Planning Application
Under Section 16 of Town Planning Ordinance

Proposed Transitional Housing Project at Government Land at Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Please see the Planning Application for the proposed transitional housing project at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School), submitted by Urban Design & Planning Consultants Limited (UDP International) to the Town Planning Board under Section 16 of the Town Planning Ordinance (Cap. 131) on behalf of the Applicant, The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP). The Application Site falls within the area zoned "Government, Institution or Community" under the Approved Outline Zoning Plan No. S/NE-TK/19, for a proposed temporary residential institution (transitional housing) for a period of 5 years.

Enclosed please find the updated documents of Application Form, 4 hard copies of the Planning Statement including an executive summary and appendices including Landscape Masterplan and Tree Preservation and Removal Proposal (p.8-9), and Geotechnical Planning Review. A soft copy of the updated Planning Statement in pdf format (with a content page having hyperlinks to appendices and chapters) is also submitted in support of this application for your kind consideration.

Please feel free to contact the undersigned or Ms. Queenie Huang if you need any clarification or further information. We look forward to your favourable consideration on this planning application so that there is no further delay of this much-needed transitional housing project for needy households.

Yours sincerely,
For and on behalf of
Urban Design & Planning Consultants Limited (UDP International)

Dr. Sujata S. Govada
CEO and Managing Director
SG/AL

Encl.
cc.
Client (Ms. Anthea Lee) (By Hardcopy x1 and Softcopy x1)

RECEIVED
2022 JUL 14 P 4:31
TOWN PLANNING BOARD

UDP International (Urban Design & Planning Consultants Limited) | Hong Kong
17/F, Tesbury Centre, 28 Queens Road East, Wan Chai
Suite 1100, 201 Spear Street, San Francisco, CA 94105 | United States
6-3-609/10/4, Anand Nagar, Khairatabad, Hyderabad,Telangana 500004 | India
t +852 2129 0169 (hk) | t +852 [redacted] (hk) | f +852 3586 9771 (hk) | e inq@udpcltd.com | www.udpcltd.com

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

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

☐	Plot ratio restriction 地積比率限制	From 由 …… to 至 ……
☐	Gross floor area restriction 總樓面面積限制	From 由 ……sq. m 平方米 to 至 ……sq. m 平方米
☐	Site coverage restriction 上蓋面積限制	From 由 ……% to 至 …… %
☐	Building height restriction 建築物高度限制	From 由 ……m 米 to 至 …… m 米 From 由 …… mPD 米 (主水平基準上) to 至 ……mPD 米 (主水平基準上) From 由 …… 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 Temporary Residential Institution (Transitional Housing) for a Period of 5 Years (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	6195.3 sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	1.44	☑About 約
Proposed site coverage 擬議上蓋面積	40 %	☑About 約
Proposed no. of blocks 擬議座數	2 (including 1 domestic block and 1 non-domestic block)	
Proposed no. of storeys of each block 每座建築物的擬議層數	Domestic Block: not more than 4 storeys 不多於4層 Non-Domestic Block: not more than 1 storey 不多於1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	Domestic Block: About 37mPD 約 37mPD 米（主水平基準上） Non-Domestic Block: About 27.65mPD 約 27.65mPD 米（主水平基準上） Domestic Block: About 13m 約13 米 Non-Domestic Block: About 3.65m 約3.65米	

☑ Domestic part 住用部分

GFA 總樓面面積	6082.4 sq. m 平方米	☑About 約
number of Units 單位數目	About 276	
average unit size 單位平均面積	22.0 sq. m 平方米	☑About 約
estimated number of residents 估計住客數目	About 608	

☑ Non-domestic part 非住用部分

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

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

.....

.....

.....

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

Non-domestic part with Multipurpose Hall (with play area), Management Office, and Convenience Store: about 112.9 sq. m

.....

.....

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

☑ private open space 私人休憩用地	608 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]
Domestic Block	G/F	Units, Corridor and Stairs, Refuse Area, Plant Room, Management Office, Multipurpose Hall, Mail Collection
.....	1/F-3/F	Units, Corridor and Stairs, Refuse Area, Plant Room
Non - Domestic Block	G/F	Convenience Store and E&M Plant Room
.....	.....	.....
.....	.....	.....

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

Local Landscape Area, Internal Roads including Emergency Vehicular Access

.....

.....

.....

.....

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)

Q2 2024

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)) .....Access road off Ting Kok Road ..... ☐ 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 _____ 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) _____ Bicycle Parking Spaces (8) 8 _____ _____
	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 _____ Medium Goods Vehicle Spaces 中型貨車車位 _____ Heavy Goods Vehicle Spaces 重型貨車車位 1(11m x3.5m) Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐

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 Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Site area 地盤面積	4310 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 4310 sq. m 平方米 ☑ About 約)
Plan 圖則	Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19
Zoning 地帶	"Government, Institution or Community"
Applied use/ development 申請用途/發展	Proposed Temporary Residential Institution (Transitional Housing) for a Period of 5 Years

		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	6082.4 ☑ About 約 ☐ Not more than 不多於	1.41 ☑About 約 ☐Not more than 不多於
	Non-domestic 非住用	112.9 ☑ About 約 ☐ Not more than 不多於	0.03 ☑About 約 ☐Not more than 不多於
(ii) No. of block 幢數	Domestic 住用	1	
	Non-domestic 非住用	1	
	Composite 綜合用途	0	

(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) Bicycle Parking Spaces (8)	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)	Heavy Goods Vehicle Spaces: 1 (11m x 3.5m)

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）	☐	☑

Landscape Master Plan and Tree Preservation and Removal Proposal,

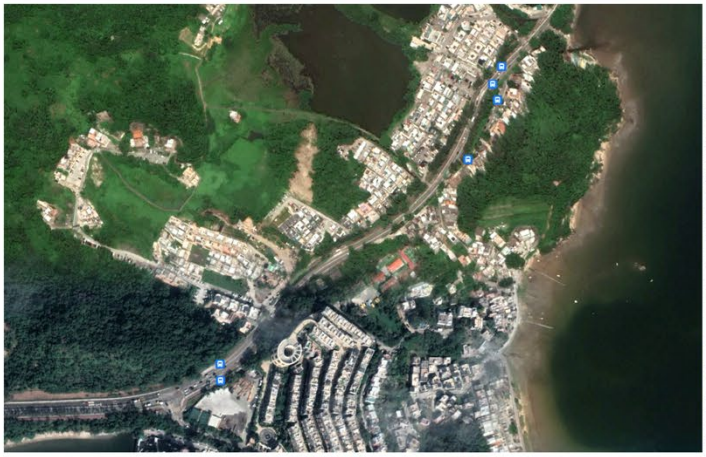
Water Supply Impact Assessment, Geotechnical Planning Review Report

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

香 港 善 導 會
The Society of Rehabilitation and Crime Prevention, Hong Kong

SECTION 16 PLANNING APPLICATION FOR THE GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

PLANNING STATEMENT







JULY 2022

UDP International
Urban Design & Planning Consultants Limited

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EXECUTIVE SUMMARY

The Planning Statement is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek planning permission from the Town Planning Board ("TPB") for a proposed temporary residential institution ("transitional housing") for a period of 5 years at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) under Section 16 ("S.16") of the Town Planning Ordinance ("TPO") (Cap 131). The period of construction is expected to last for around two years and the period of operation for around three years. The Estimated Date of Commencement and Completion of Works will be in the Q2 of 2023 and Q2 of 2024 accordingly.

The Application Site (the Site) is situated in the Eastern part of Tai Po. It falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

The planning approval will enable the proposed transitional housing development to address the shortage of housing supply in Hong Kong and improve the living conditions of households with priority needs. The proposal offers a better scheme to provide social benefits to the residents while satisfying the architectural and technical requirements as per relevant regulations and ordinances with the following additional site-specific benefits:

- The proposed transitional housing development will involve a total site area of about 4,310 m^2, a total Gross Floor Area ("GFA") of about 6,195.3 m^2, and total Plot Ratio ("PR") of about 1.44. The proposed transitional housing development will supply about 276 units in total and will accommodate an approximate of 608 residents using the reusable Modular Integrated Construction ("MiC") construction method.

- The proposed convenience store and the landscaped open space within the Site will provide a much needed amenity and social gathering spot for the residents, improving their quality of life as well as enhancing the Site area.

The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB in light of the planning merits and justifications provided:

- Aligned with Government policy by increasing the supply of transitional housing to relieve the housing shortage problem;
- Better utilisation of underutilised Government land for public good;
- Offering better living conditions and improved quality of life for households in need;
- Improved accessibility and mobility for the households in need and neighbouring community;
- Proposed Site enhancements benefiting the residents and the neighbouring community;
- Design which is conducive to promote social interaction and nurture community building;
- Context sensitive design ensuring the proposed transitional housing development is compatible with the surrounding area

- Efficient modular design with visual and building separation retaining views and ensuring proper wind penetration across the Site with minimal long term impacts;
- There will be insignificant impacts as a result of the proposed transitional housing development due to its temporary nature and the mitigation measures being provided to minimise any related visual, landscape, environmental and infrastructure adverse impacts;
- Improvement of visual, landscape and environmental quality of the Site benefiting the households in need and neighbouring community;
- Effective implementation, operation, and maintenance using MiC technology ensuring sustainable development with minimal environmental impacts; and
- The temporary nature of the proposed transitional housing development will not affect the long-term planning intention of the area.

With the justifications and merits presented above, the Applicant sincerely requests the TPB to give favourable consideration to the S.16 Planning Application so as to lessen the hardships of vulnerable households and provide them with an alternative living accommodation while waiting for public housing vacancies.

行政摘要

（內容如與英文版本有任何差異，應以英文版本為準）

申請人（香港善導會）現根據《城市規劃條例》（第 131 章）第 16 條向城市規劃委員會（城規會）就位於大埔汀角路船灣政府土地（前船灣余東旋學校）（「申請地點」）用作擬議臨時住宿機構（過渡性房屋）（為期 5 年），預計施工及完工日期暫定於 2023 年第二季及 2024 年第二季完成，現呈交規劃申請及綱領：

申請地點位於大埔東面，在現行汀角分區計劃大綱核准圖編號 S/NE-TK/19 （「大綱核准圖」）內的「政府、機構或社區」的地方地帶範圍內。根據大綱核准圖的《註釋》（第 12 段），任何土地或建築物的臨時用途或發展，如為期超過三年，須根據圖則的規定向城規會申請許可。考慮到擬建的「住宿機構」用途在大綱核准圖「政府、機構或社區」地帶中屬第二欄用途，擬議土地用途符合圖則的規定及望得到城規會的通過。

此申請如獲批准，擬議過渡性房屋發展將可舒緩房屋供應短缺問題及提高有需要家庭的生活質素。擬議方案將提供更高的社會效益，同時能夠滿足現行法規和條例下有關建築和技術要求。以下為擬議方案帶來的好處：

- 擬議發展地盤面積約為 4,310 平方米。總樓面面積約 6,195.3 平方米，地積比率約 1.44。 該發展項目採用組裝合成建築法建成 (MiC)。擬議發展項目將提供約 276 個單位，可容納約 608 人。
- 鄰舍休憩用地將形成本地社區活動新的集聚點，改善生活質素以及活化申請地點。

總括而言，規劃綱領中提及本計劃的規劃增益和理由如下：

- 配合政府現行政策，增加過渡性房屋供應的需求以舒緩房屋短缺的問題；
- 為公眾利益出發合理利用空置政府用地；
- 為有需要的家庭提供更好的生活環境和提高生活質素；
- 為有需要的家庭提高社區的可達性和交通便利性；
- 提供有利於居民和社區活動帶來高質素的環境和場地；
- 提供有利於促進社會互動和培育社區建設的設計；
- 環境敏感性設計確保擬議的過渡性房屋發展社區；
- 高效的組裝合成法設計，視覺和通風廊道保留視野並確保整個場地適當通風，將長期影響降至最低；
- 由於擬議過渡性房屋發展屬臨時性質，及其提供的緩解措施將盡量減少任何相關視覺、景觀、環境和基礎設施的不利影響，因此發展的負面影響不顯著；

- 改善場地的視覺、景觀和環境質素，惠及有需要的家庭和社區；
- 使用組裝合成法技術進行有效實施、操作和維護，確保可持續發展，將環境影響降至最低；及
- 擬議過渡性房屋發展屬於臨時性質，不會影響該地區的長遠規劃意圖。

鑒於上述原因及詳細的補充規劃文件，申請人盼城規會可通過是次申請審批，以緩解有需要家庭的苦困及幫助他們渡過輪候公共房屋的這段期間。

1 Introduction/ Background

1.1 Pursuant to Section 16 (“S.16”) of the Town Planning Ordinance (“TPO”), this Planning Application for the implementation of transitional housing at the Government land at Shuen Wan, off Ting Kok Road, Tai Po is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek approval from the Town Planning Board (“TPB”).

1.2 The Application Site (the Site) was formerly the Shuen Wan Eu Tong Sen School and falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to the Notes of the OZP, *“temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*”. Considering that ‘residential institution’, which encompasses temporary residential developments (“transitional housing”), falls within Column 2 uses of “G/IC” zone of the OZP, the applied use conforms to the terms of the Plan.

1.3 With the growing housing crisis in Hong Kong and a shortage of housing availability, the Hong Kong Government has been trying to increase the supply of Public Rental Housing (“PRH”) by identifying suitable land for development. However, due to the time needed to identify and construct sufficient public housing, transitional housing projects have been introduced as a short term solution as a means to alleviate pressure off of families living in sub-standard conditions and for those waiting in line for PRH in Hong Kong. Because of its comparatively remote location to the north of Hong Kong and abundance of Vacant School Premises (“VSP”) sites, Tai Po has become one of the key areas for transitional housing projects and developments within the city. The Housing Bureau (“HB”) (formerly Transport and Housing Bureau) has been facilitating the implementation of transitional housing projects among different community groups in Hong Kong. For this transitional housing project, SRACP is responsible for short-term tenancy, design and construction of the works, and other operational, rental, management and maintenance issues. In order to speed up the construction process, SRACP proposes the use of the MiC Method for the proposed transitional housing development. The MiC units allow for efficiency and flexibility, ensuring that the units can be taken down and moved or re-used in other projects when the allotted Site is to be vacated.

1.4 The Planning Statement provides the TPB with the relevant information and details in consideration of the S.16 Planning Application. The sections below will detail information as follows: Section 2 provides details on the Site and surrounding context and accessibility. Section 3 details the planning context of the Site and overall land use. Section 4 provides an overview of the proposed transitional housing development scheme. Section 5 provides justifications supporting why the Planning Application should be considered. Section 6 provides the conclusion supporting the Planning Statement submitted as part of the overall Planning Application.

2 Site and Development Context

2.1 Site Location

2.1.1 The Site has an area of about 4,310 m^2 and is located at Shuen Wan, off Ting Kok Road, Tai Po. The Site is located atop a hill and is adjacent to the Spanish Primary School to the North-East, Beverly Hills Villas to the South-West and Shuen Wan Chan Uk Village to the East at the base of the hill. The Site is located in a primarily residential area at the eastern part of Tai Po. Please refer to **Figure 2.1** for location of the Site.

2.2 Land Status

2.2.1 The Site is an unleased Government land, as such there is no site boundary fixed as per the information obtained from Lands Department ("LandsD"). The site boundary for the adjacent Spanish Primary School cuts through the school building and may not be appropriate as a reference boundary for the transitional housing Site, as part of the school building will fall within the proposed development area. Please refer to **Figure 2.2** for the Lot Index Plan defining the adjacent leased site. Given the situation, we have asked LandsD to consider the site boundary as outlined in **Figure 2.1**, and it measures about 4,310 m^2. We have received confirmation regarding the same from the LandsD.

2.3 The Application Site and Existing Use

2.3.1 The Site has been underutilised for a long time and is currently listed as a demolished old school and has been retained for "G/IC" use. However, the Site was previously occupied by the Shuen Wan Eu Tong Sen School. Please refer to **Figure 2.3** for the current existing conditions of the Site.

2.4 Surrounding Area Context

2.4.1 The Site area surrounding context is rural in character and mainly occupied by low-density, low-rise private residential developments, village clusters, underutilised/unused land and vehicle parking areas.

2.4.2 To the immediate north of the Site is the Spanish Primary School zoned "G/IC". This is a low-rise one-storey development with small open spaces in front. Further north is a village cluster of Lee Uk Tsuen falling within the Village Type Development ("V") zone of the OZP.

2.4.3 To the immediate south of the Site is the low-rise residential development, namely the Beverly Hills Villas and village houses of Sha Lan which fall within the "V" zone in the OZP. These villas range between 3-4 storeys tall and are placed atop a hill overlooking the Site.

2.4.4 To the east of the Site is a Green Belt ("GB") zone and further east are village clusters of Shuen Wan Chan Uk and Lee Uk Tsuen, which fall within the "V" zone. These buildings are low-rise 1-2 storey private residential buildings spread mostly along the bottom of the hill.

2.4.5 To the immediate west of the Site the hill drops steeply leading to small village developments at road level adjacent to Ting Kok Road. The hill is vegetated with trees and is categorised within the “GB” zone in the OZP. Further west across the road is the Wong Yue Tan Village Houses with “V” and more “GB” zones.

2.4.6 Site visits were carried out by the project team on 8th March, 17th March and 12th April 2022. **Figure 2.4** illustrates relevant observations and the Site details.

2.5 Accessibility

2.5.1 The area is mainly accessible through Ting Kok Road which allows for public and private vehicular access as well as pedestrian access. The Site itself is located atop a hill and can be accessed via a local track connecting to Ting Kok Road. The current access road is around 5 m wide with an adjacent 1.2 m footpath, which makes it sufficient for vehicular and pedestrian traffic into the area.

2.5.2 In terms of the accessibility to public transport, the Site is about 200-300 meters away from an existing public transport stop on Ting Kok Road near Sam Mun Tsai Road. Residents can get access to the public transport services conveniently.

2.5.3 On a larger scale, the Site is located away from the Tai Po Town Centre and other major connections to the city such as the MTR. Public transportation such as Franchised Buses, Green Minibus and Taxis are the major connecting link from the Site to Tai Po Market Station and other areas in the New Territories, which can be reached through the Tolo Highway. Distributor roads are also connected from the highway to give access to the town centre, the Tai Po Industrial Estate, Shuen Wan and other residential neighbourhoods. An extensive biking network is also provided along the main road starting from Sha tin and passing through Tai Po until the end at Tai Mei Tuk, which makes the Site convenient to access for bikers as well.

3 Planning Context

3.1 Land Use Zoning

3.1.1 The Site falls within "G/IC" zone on the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 ("the OZP") was gazetted on 27th October 2015 [**Figure 3.1**].

3.1.2 According to the schedule of notes of the OZP, the "G/IC" zone "*is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments*" [**Figure 3.1**]. The explanatory statement of the "G/IC" zone supplements that this zone "*is intended primarily for the provision of "G/IC" facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area*" [**Figure 3.2**].

3.1.3 According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

3.2 Addressing the Severe Housing Shortage in Hong Kong

3.2.1 On its current trajectory for housing development, Hong Kong currently experiences a severe situation regarding the housing supply which will only become worse unless there is more provision of housing supply in the short and longer term. As at end-March 2022, the average waiting time for PRH was 6.1 years[1]. Meanwhile, the public housing supply in the next four years is expected to lag behind the Long Term Housing Strategy target by 28%[2]. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units with inadequate and poor living conditions[3]. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Rents of subdivided units are also remarkably high, which took up 41% of household income, according to a study by the Subdivided Flats Concerning Platform (Chiu, 2019). In view of the public's concern

[1] https://www.housingauthority.gov.hk/en/about-us/publications-and-statistics/prh-applications-average-waiting-time/index.html

[2] https://www.ourhkfoundation.org.hk/en/report/31/housing/hong-kong%E2%80%99s-housing-crisis-fewer-and-smaller-flats-quality-life-will-only-worsen#:~:text=According%20to%20the%20latest%20report,come%20a%20decrease%20in%20quality.

[3] https://www.legco.gov.hk/research-publications/english/1920issh28-transitional-housing-for-the-inadequately-housed-20200618-e.pdf

regarding the supply-demand imbalance and unsatisfactory living conditions, a multi-pronged approach is adopted by the Government to increase the housing supply. Transitional housing is one of the short-term initiatives to assist designated groups with priority needs as a transition into long-term housing.

3.2.2 Since 2017, the Government has facilitated various transitional housing initiatives to provide timely and flexible housing assistance to families on the PRH waiting lists and inadequately-housed households. For instance, it plans to construct 16,000 transitional homes by mid-2023 to meet the housing supply target projection in Hong Kong.

3.3 Administrative Measures to Support Transitional Housing Projects

3.3.1 The Government implemented different schemes to offer various types of transitional housing through better use of underutilised land and premises. For instance, a Task Force on Transitional Housing ("Task Force") has been established under the HB as one of the six new housing initiatives announced by the Chief Executive ("CE") on 29th June 2018. As stated in the 2020 Policy Address, the Government is committed to promoting the development of transitional housing. It has been actively spearheading the policy and closely collaborating with Non-Government Organisations ("NGOs"). Short-term initiatives such as funding schemes have been implemented by the Task Force to facilitate and support transitional housing projects conducted by NGOs. Regarding the latest figures as of April 2022, the funding scheme has approved a total of 35 projects and the progress is generally smooth. This prevailing collaboration model allows a flexible provision of transitional housing units in accordance with the unique characteristics of each project.

3.3.2 To further support the transitional housing development, the CE has announced an additional injection of $3.3 billion into the funding scheme, increasing the total Government commitment to $8.3 billion in the 2020 Policy Address. Subsequently, in the 2021 Policy Address, the CE proposed a further increase of the overall supply of transitional housing from 15,000 to 20,000 units in the next few years by offering 5,000 units additionally and an increase in funding to $11.6 billion. It highlighted that the Government has been striving to enrich and enlarge the housing provided by means of transitional housing.

3.3.3 In addition, adopting innovative construction methods such as the MiC method has been encouraged by the CE, initially in the 2018 Policy Address, and then recurringly in the 2019, 2020 and 2021 Policy Addresses. The proposed transitional housing development is to be constructed by the MiC method to speed up the construction process and minimise the impacts during the construction period as well as impacts in the long term. The Planning Application is therefore echoing the Government's prevailing policy to assist households in need.

4 Proposed Transitional Housing Development at the Site

4.1 Developing Transitional Housing to Address Housing Demand

4.1.1 Hong Kong has been suffering from prolonged housing problems, and there is an increasing need for transitional housing as residents struggle to attain public housing in the city due to the lack of public housing supply, paired with the increasingly unaffordable housing prices due to the rising demand. Recently, short-term accommodations, namely transitional housing initiatives have been launched in the community to lessen the hardships of vulnerable households before moving into longer-term public housing. The 2021 planning policy proposed the provision of at least 20,000 transitional housing units by the end of 2023 as a means to curb this severe housing demand and provide people with a temporary alternative while waiting for public housing vacancies.

4.1.2 In recent years, the queuing time for PRH has repeatedly hit high records. According to the Hong Kong Housing Authority, there were about 156,400 general applications for PRH, with an average waiting time of 6.1 years as at end-March 2022. Besides, approximately 119,100 households are inadequately housed. However, the process of producing new land for housing is lengthy, and the annual average of PRH units' allocation decreased by around 12% in 2018-2019, as compared with the past five-year period. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Given the above conditions, there is surging demand for a constant supply of transitional housing for the inadequately housed. Nevertheless, there are only three transitional housing projects in operation in Tai Po illustrating the unmatched level of supply and demand.

4.1.3 This transformation of existing “G/IC” land into a transitional housing facility will ensure effective use of underutilised land and maximise efficiency of land use to mitigate housing shortage issues in the short term. This project is one of many upcoming transitional housing projects within the city, working towards meeting the Government’s target as mentioned in the planning policy mentioned above. The proposed transitional housing development will provide about 276 transitional housing units for those inadequately housed households waiting in line for PRH.

4.1.4 The proposed design not only addresses the demand for housing but also aims to ensure that the building design and surroundings come together to create a pleasant environment with a conducive atmosphere for residents and as far as possible minimise any adverse impacts on the surrounding developments and for neighbouring villagers.

4.1.5 As stated in Section 3 above, the transitional housing development will be constructed using MiC for a more time-efficient, flexible and sustainable method of development to meet the demand for about 276 transitional housing units within the Site. The proposed transitional housing development will be in a period of 5 years, with the period of construction expected to last for around two years (until Q2 of 2024) and the period of operation for around three years. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

4.2 General Planning and Design Principles

4.2.1 The planning and design of the proposed transitional housing development aims to be compatible with its immediate surroundings and work harmoniously with the environment while also providing a quick short-term solution for those households with inadequate housing. The slightly secluded location from major public areas allows residents to form their own community culture and create a harmonious environment with the adjacent Beverly Hills development, neighbouring villages and the Spanish Primary School.

Engaging and benefitting the local community with context sensitive design

4.2.2 Similar to the recently approved transitional housing project in Wong Yue Tan nearby, the proposed transitional housing development faced initial hesitance from organisations such as the villagers of Wong Yue Tan Village, residents of the Beverly Hills Villas, Ting Kok Road public concern group, the Tai Po Rural Committee and attendees of the Spanish Primary School. The design has been revised to be more context sensitive and improve the overall form and disposition of the proposed transitional housing development, retaining some view corridors towards the surrounding areas and introducing landscaped open space and community facilities including a convenience store for residents. By improving accessibility with the proposed improvements to the footpath along the access road to enhance the overall quality of the development on the Site benefiting the neighbouring community as well. The inclusion of better landscaping will improve the direct view from street level for neighbours. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for not only future residents of the development but also those in neighbouring communities such as the Beverly Hills Villas. HB and SRACP have also continued to engage with the local community to gain their support with the aim of creating a harmonious community within the area. More recently, the adjacent Spanish Primary School has indicated support for the proposed transitional housing development. Please refer to **Figure 4.1** for a copy of the letter received from the Spanish Primary School. HB is liaising with LandsD with a view that the Spanish Primary School will be relocated to another site tentatively in Q2 of 2023, for the whole period during the construction and operation of the proposed transitional housing development. The School is expected to return to the site after cessation of operation of the proposed transitional housing development.

MiC construction as an effective and efficient building method

4.2.3 MiC is the primary construction method for this development and will allow for fast and effective inception of the project, making it ideal for short-term temporary developments. MiC units are freestanding modules which are prefabricated and completed with finishes and fixtures before being transported and assembled on site. This prefabrication method allows for speeding up the construction, saving up to 30% of overall construction time[4]. This increase in overall efficiency is extremely valuable in the quest for increasing transitional housing quantity in the next few years and providing quick short-term solutions. Additionally, MiC prefabrication also minimises construction errors and inaccuracies due to higher quality control prior to construction.

[4] https://mic.cic.hk/en/AdvantagesOfMiC

Sustainable and environmentally friendly design with efficient use of resources and materials

4.2.4 The modular nature of the building means that the development can be dismantled and transported to other sites as necessary when land needs to be allocated for a different purpose, hence reducing construction waste and allowing for sustainable reuse of materials and building elements. Prefabrication of the building modules in a factory prior to the construction and assembly phase also means that there is less noise and dust pollution affecting the surrounding environment during building construction. Regarding the overall building layout, the multiple view corridors integrated into the building design also reduces the dependence on air conditioning for ventilation, thus reducing energy usage as well.

Compatibility with surrounding context through sensitive design

4.2.5 The building is low-rise and lower in height than the surrounding villas without being over imposing or distracting and can barely be seen from major public areas. The natural green tones used for the building also allow it to blend harmoniously with the surroundings while creating a calming and pleasant environment for the occupants of the building. The building form of the transitional housing consists of one block with four extending wings. The wings are separated with adequate gaps between wings not only providing linear open space in between but also retaining views to the surrounding area as well as wind penetration across the Site. The staggered length of each wing helps maintain a respectful distance between the building and the Site boundary retaining trees around the periphery. The building form and nature is also compatible with the typical village type developments in the area.

Creation of spaces that enhance community and increase quality of life

4.2.6 Community experiences and social interaction are two primary factors that aid in improving overall quality of life and living experience, especially for those who have previously suffered from poor substandard living conditions and are looking to rebuild connections and relationships with people. Communal and recreational facilities such as Multipurpose Hall, exercise/play spaces and leisure areas will help enhance social interaction and create a close-knit community that is typical to village type developments.

Landscape design to minimise impact on surroundings and improve user experience

4.2.7 Landscape is used as a mechanism to mitigate any impacts of the building on its surrounding, for example, in order to compensate for the land used by the building, green areas have been curated to fit in and enhance the experience for users by creating open spaces between wings for residents. Landscape corridors are formed through the building to connect people within the Site and preserve connection to green areas in the periphery. Many trees are also preserved and invasive/unhealthy trees are proposed to be felled and replanted with healthier trees to improve overall environmental quality, increase shaded areas within the Site and maintain a green environment within and around the area.

4.3 Architectural Design of the Proposed Development

4.3.1 The proposed transitional housing development is a 4-storey one block development which is connected through internal walkways. The proposed building consists of a total of about 276 units, of which about 248 (about 90%) are single units for 1-2 people and about 28 units

(about 10%) are double units for use by 3-4 people. For 1-2P units, the main target will be small households. Various community services leveraging on SRACP's extensive service experiences on ex-offender and mental health persons in recovery will be provided to the tenants. According to the experience of other NGOs operating transitional housing projects, flat units for small households (1-2P) and large households (5P or above) are particularly popular. The proposed unit mix has taken into account market needs as well as the fact that the Applicant has profound experience in serving singleton households. As per these parameters the maximum population of the development would be around 608 people. The built facility will also include a Multipurpose Hall at the ground floor of the wing closest to the driveway for residents to enjoy, along with Management Office for administration purposes, a Mail Collection on ground floor and Refuse Area on each floor to meet the overall need, building code and safety regulations. A Barrier Free Access ("BFA") ramp has also been provided at the north-west of the building near the EVA, while a stair core is incorporated in the middle of each wing as the main method of access and circulation. According to the building code and fire safety requirements, it is mandatory that there is no more than 25 m distance between the main circulation core and any housing unit, and this proposed design adheres to this requirement. In addition to the domestic transitional housing block, one non-domestic block is also proposed near the Site entrance to house the E&M Plant Room and a convenience store appropriate for the proposed transitional housing development and use by the residents.

4.3.2 The building is situated at the centre of the Site, with a buffer zone on all sides such as the Emergency Vehicular Access ("EVA") access and internal driveway to the building west, and trees which have been retained all around the building north, east and south peripheries to reduce visual impact of the built structure on its surroundings. From the masterplan as seen in ***Appendix A***, it can be seen that the EVA access from the entrance of the Site takes up the periphery of the NW and NE areas of the Site. This driveway will act as the main entrance into the Site for both pedestrians and vehicles, and there is a hammer head located between the second and third wings of the building at the centre of the Site. The driveway also has a loading/unloading area which will primarily be used by heavy goods vehicles. For the proposed transitional housing development, there is no parking space provision as residents will mainly use public transport rather than private cars to access the Site. However, 8 nos. of bike parking spaces will be provided for them instead.

4.3.3 Since the Site is situated right next to the Beverly Hills Villas (a low-density residential estate), it is of concern to existing residents that the proposed 4-storey development may block their views and natural wind penetration or sunlight. In consideration of this, the disposition of the building has been refined through context sensitive design and urban design considerations providing adequate separation between the wings considering the visual, ventilation and construction viability aspects as well. The landscape is further enhanced through planting and retention of trees along the periphery to act as a visual barrier. Additional design considerations, such as utilising a natural shade of green for the building facade to blend in better with the natural context and reduce the visual impact further.

4.3.4 There is a provision of a 10 m gap separating the building wings in the middle and 7 m separation between the wings at the ends, which is beyond the mandatory 4.5 m distance

between each wing as required by the building code. This ensures that a sufficient visual quality is maintained for residents with access to good natural lighting and wind penetration but also makes it viable to construct using the MiC method. The units located in the 4 wings are also rotated to face the east-west orientations within the building so that residents of the Beverly Hills Villas do not see directly into the units of the proposed transitional housing development, thus increasing living quality and increasing privacy for residents and the neighbouring community as well. This configuration also allows for more efficient land use as it allows for inclusion of more units and also works in favour of the natural wind direction in Hong Kong which flows from the south and east throughout majority of the year. Additionally, operable windows are all oriented so that there are no openings towards the Beverly Hills Villas and road, and rather the units look towards the open spaces within the Site or outwards towards the mountains at the north and east.

4.3.5 Gaps have also been incorporated into the design at the north part of the building in-between double units so that continuous visual corridors can be formed through the Site, reducing the visual impact of the development on residents of the nearby villas, retaining views while also improving overall visual quality and natural wind penetration within the development. The porous nature of the building mass also allows for birds and natural species in the area to fly through without as much obstruction, and creates a viewing window towards the trees, mountains and sea beyond the Site.

4.3.2 Please refer to ***Appendix A*** for detailed drawings of the proposed transitional housing development.

4.4 Development Parameters

4.4.1 The information in the table below summarises the key development parameters of the proposed transitional housing project. Further details and dimensions can be seen within ***Appendix A.***

Table 4.1: Key Development Parameters of the Comprehensive Transitional Housing Development

Key Development Parameters	Comprehensive Transitional Housing Development
Site Area	About 4,310 m^2
Total Gross Floor Area (GFA)* ● Domestic GFA	About 6,195.3 m^2 ● About 6,082.4 m^2 ○ Units = 4,508.3 m^2 ○ Corridor and Stairs = 1,402.6 m^2 ○ Refuse Area = 59.3 m^2 ○ Plant Room = 97.4 m^2 ○ Mail Collection = 14.8 m^2

• Non-domestic GFA	• About 112.9 m^2
	  ○ Multipurpose Hall (with play area) = 59.3 m^2
	  ○ Management Office = 14.8 m^2
	  ○ Convenience Store = 38.8 m^2

Total Plot Ratio (PR)* • Domestic PR • Non-domestic PR	About 1.44 • About 1.41 • About 0.03
Total Site Coverage	About 40%
Total No. of Blocks • Domestic Blocks • Non-domestic Block	2 blocks • 1 • 1
No. of Storeys/ Building Height (BH) • Domestic Blocks • Non-domestic Block	• 4 storeys (About 13.0m / About +37mPD) • 1 storey (About 3.65m / About +27.65mPD)
No. of Units	Total Units: About 276 1-2P Units: About 248 (about 90%) 3-4P Units: About 28 (about 10%)
Typical Unit Size	1-2P Units: About 14.8 m^2 3-4P Units: About 29.6 m^2
Maximum Estimated Population	Around 608
Local Open Space	Not less than 608 m^2 (Not less than 1 m^2 local open space per person)
Green Coverage	Not less than 20% of total Site Area

* Excluding E&M Plant Room within the external block which is exempted from overall GFA calculations according to PNAP APP-151. The External block includes a convenience store which is a total GFA of about 38.8 m^2 and the E&M Plant Room has a GFA of about 90.4 m^2.

4.5 Landscape Design and Tree Survey of the Proposed Development

4.5.1 The Landscape Design of the development aims to create a natural and comfortable environment for residents which will work in harmony with the surrounding Site context and increase the quality of life for those within the proposed transitional housing development. Existing greenery within the Site will be preserved as much as possible. According to the

preliminary broad-brush Tree Survey conducted, many existing trees within the Site can be considered as invasive species, which may be a detriment to the overall quality of the space. Some undesirable aspects from the existing Site, such as clusters of invasive tree species are proposed to be removed and replaced with healthy trees to create a high-quality landscaped environment which does not infringe on any future developments. A total of 12 no. of compensatory trees are proposed considering the site constraints and temporary nature of the proposed development, which includes limited space for compensatory tree planting, limited growth potential, and overcrowding if there is over-provision of compensatory trees. This will also minimise unnecessary constraints for future permanent development of the Site.

4.5.2 According to the Hong Kong Planning Standards and Guidelines ("HKPSG"), *"In rural villages and small residential developments in the rural areas, the standard of provision is a minimum of 1 m² per person for Local Open Space"*[5]. The proposed design adheres to these guidelines and ensures that there is a sufficient amount of open space per person. Since the maximum estimated population is around 608, not less than 608 m^2 of open space is provided within approximately 4,310 m^2. The green coverage of the Site is over 20%, maintaining a respectable amount of green coverage within the Site without sacrificing valuable living space.

4.5.3 The greening within the Site including the addition of shrubs, foliage and additional trees as well as the preservation of existing trees along the Site periphery will help mitigate and minimise the overall visual impact of the proposed transitional housing development for those in the surrounding areas and provide a landscaped edge between the proposed transitional housing development and neighbouring villas.

4.5.4 Open areas are provided in between each wing of the of the proposed transitional housing development block as well to the north and south of the Site. These areas will be enhanced through the provision of seating, open plazas, play areas and outdoor exercise equipment to create a high-quality living environment for residents that can be used by multiple generations of users and encourages a healthy and active lifestyle. These facilities and local open space will also act as gathering and recreational spaces for residents, therefore assisting in building a stronger sense of community between residents.

4.5.5 Further analysis on the landscape and tree conditions including the overall Landscape Masterplan ("LMP") and broad-brush Tree Survey can be found within the landscape proposal appended as ***Appendix B.***

4.6 Visual Impact Assessment of the Proposed Development

4.6.1 The Visual Impact Assessment ("VIA") assesses the visual impact of the proposed transitional housing development as seen from five public viewing points in order to understand the effect of the proposed transitional housing development within the surrounding context and ensure that no major and undesirable impacts are anticipated to the surrounding landscape character during the construction phases.

[5] https://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/pdf/ch4.pdf

4.6.2 According to the VIA conducted, the proposed transitional housing development is only visible at the entrance of the Site at VP3 , while it is barely visible from VP4 and is not visible at all from any of the public viewpoints of VP1 and VP2 on Ting Kok Road or from VP5 near the Sha Lan Coast. The VIA reveals that the proposed transitional housing development will have an insignificant impact on its surroundings and there are no adverse residual impacts which are anticipated to affect either landscape character or resources during both the construction and operation stage of the project. Also with the proposed transitional housing development being temporary in nature, the visual impact is considered to be not significant. Therefore conclusion was drawn that the proposed transitional housing development with the proposed mitigation measures of greening around the periphery is considered to be fully acceptable in terms of visual impact.

4.6.3 For details regarding the viewpoints and overall visual assessment for the proposed transitional housing development, please refer to the VIA appended as ***Appendix C.***

4.7 Traffic Assessment of the Proposed Development

4.7.1 The Site is currently accessible through a steep road with an adjacent narrow footpath. This sloped pathway connects to Ting Kok main road allowing pedestrian and private vehicle connection to public areas. The Traffic Impact Assessment ("TIA") indicates the additional traffic to be generated by the proposed transitional housing development would be insignificant as the target population is for low-income households who do not own private cars and hence no parking spaces are provided within the development. In terms of the accessibility to public transport, the Site is about 200-300 metres away from existing public transport stops on Ting Kok Road near Sam Mun Tsai Road, it is identified that spare capacities of the existing bus services would be sufficient to cater for the additional traffic demand, ensuring convenient accessibility to surrounding areas for residents.

4.7.2 In any event, the Applicant will liaise with the NGO operating nearby transitional housing projects at Wong Yue Tan (i.e. The Lok Sin Tong Benevolent Society, Kowloon) and liaise with relevant Government departments on the possible public transport enhancement measures in due course.

4.7.3 During the TIA, it was noted that the current pedestrian access was dilapidated, and the footpath is still fragmented appended as ***Appendix D***. An improvement scheme is proposed within the TIA to connect the footpath to Ting Kok Road. The footpath can be further enhanced through better paving to improve the experience of pedestrians in the future.

4.7.4 Similar to the nearby transitional housing projects, it was initially assumed that this proposed transitional housing development might be constrained by the limited traffic capacity at Ting Kok Road. There are over 20,000 existing residents living in the villages and low-rise residential estates in the Shuen Wan Constituency area. Additionally, the Lung Mei Beach attracts a lot of visitors during the weekend. With the only main road Ting Kok Road connecting to the Centre of Tai Po and the two railway stations, there were initial concerns that traffic capacity may be overloaded because of the proposed transitional housing development and other substandard roads and informal village tracks may not be able to handle the daily traffic volume in the future. This was analysed within the TIA which

concluded that the proposed transitional housing development would not generate adverse traffic impact as the amount of vehicular traffic to be generated is insignificant.

4.7.5 According to fire safety standards, the EVA access needs to cover at least 25% of the building façade perimeter. The proposed driveway meets this requirement and resultantly it utilises much of the west area within the Site, with a roundabout and the road extending across the north of the Site. This swept path assessment results reveal that this driveway has enough turning radius allowance to allow for vehicles of up to 10 m in length.

4.7.6 Further analysis of overall accessibility to the Site, existing conditions and future traffic conditions can be seen within the TIA appended as ***Appendix D.***

4.8 Environmental, Engineering and Infrastructure Assessments of the Proposed Development

4.8.1 As the Site is situated next to the Beverly Hills Villas and Spanish Primary School, issues regarding noise nuisance and air pollution during the construction process and during the building operation period are of local concern. Moreover, the noise generated by the increased population can possibly affect the daily operations of the Spanish Primary School. Hence, the Government Departments have recommended that close liaison with the school should be undertaken during the overall planning and design process.

4.8.2 In addition to noise and air which are considered under the Environment Assessment ("EA"), a Drainage Impact Assessment ("DIA"), Sewerage Impact Assessment ("SIA"), Water Supply Impact Assessment ("WSIA") and Geotechnical Planning Review ("GPR") will also be conducted to determine which aspects of the Site can be maintained versus improved during the development and construction process and how to reduce impact to the surroundings as much as possible.

Environmental Assessment ("EA")

4.8.3 The EA assesses the potential impacts of the proposed transitional housing development on the immediate surroundings and the impacts arising from the construction and operation of the development, as well as ensures that the proposed transitional housing development maintains overall environmental sustainability. Overall air quality, vehicular emissions, industrial emissions, odour impact, construction noise and traffic noise are addressed in the EA, along with the impact of these on water quality. Recommended mitigation measures are also proposed to reduce the impacts of these elements on the environment and neighbourhood. Further details are included within the EA appended as ***Appendix E***.

Drainage Impact Assessment ("DIA")

4.8.4 As the Site is located on higher ground, flooding and drainage maintenance is important as it will have an impact on the immediate surrounding area. The DIA assesses the potential impacts of the proposed transitional housing development on the existing drainage and flooding system within the Site and identifies potential mitigation measures as required to ensure that the development will not increase flooding risk or impose any issues to the

drainage system within or around the Site. Further details are included within the DIA appended as ***Appendix F.***

Sewerage Impact Assessment ("SIA")

4.8.5 According to the drainage record plan as retrieved from the Drainage Services Department ("DSD"), the nearest public sewerage system from the Site is around 200 m away. The SIA assesses the potential impacts of the proposed transitional housing development on the sewage network and determines whether it is sufficient for the increased capacity of sewage flow during building operation. Through the investigation it was concluded that there would be no adverse impacts on the existing sewage system in the area. Further details are included within the SIA appended as ***Appendix G.***

Water Supply Impact Assessment ("WSIA")

4.8.6 Water supply within the Site is currently retrieved from the Tai Po East Low Level Fresh Water Service Reservoir ("TPELLFWSR"). The WSIA assesses whether the existing water supply capacity is sufficient for the increased water demand for freshwater and flushing water as a result of the proposed transitional housing development. The assessment revealed that there would be no adverse impacts to the overall water supply. However, it is also proposed to connect the Site to an existing freshwater main closer to the proposed transitional housing development along Sam Mun Tsai Road which will be analysed further in the detailed design stage. Further details on the water supply are included within the WSIA appended as ***Appendix H.***

Geotechnical Planning Review ("GPR")

4.8.7 Because of the Site location atop a hill, the Site is surrounded by slopes and the existing ground and structural condition needs to be taken into consideration. The GPR assesses the existing site condition and reviews the existing structures, slopes and other geotechnical features within the Site and its vicinity. A review on the ground investigation works findings and proposed construction is also conducted. While it is determined that the proposed development is geotechnically feasible, a detailed design for the site formation works and slope stability assessment will need to be carried out later on in the detailed design stage. Further details are included within the GPR appended as ***Appendix I***.

4.9 Tentative Development Programme

4.9.1 The tentative construction of this project expected to commence in Q2 of 2023 with plans for completion anticipated until Q2 of 2024. The proposed development programme is expedited through the use of MiC construction methods.

5 Justifications and Planning Gains

5.1 Aligning with Government Policy to increase the supply of Transitional Housing

5.1.1 Housing supply shortage has long been a major challenge for Hong Kong due to insufficient land provision. Although the Long Term Housing Strategy ("LTHS") has been introduced to alleviate arising housing problems, the shortage has still aggravated persistently in recent years. For example, the PRH supply is still expected to lag behind the Long Term Housing Target by 28% with approximately 21,800 units. As discussed in Section 3, the proposed transitional housing development echoes the Government's policy to address the skyrocketing housing demand. Being one of the six major new housing initiatives announced by the CE in 2018, transitional housing will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place.

5.1.2 In recent years, the role of transitional housing in alleviating the housing shortage problem in the short-term has been repeatedly strengthened in various policy addresses affirming that: (a) the supply of transitional housing units will be increasing constantly in responding to the housing shortage (2017-18, 2021), (b) qualified NGOs will play a critical role in the transitional housing development (2018). To directly echo the words of the Government in stressing the importance of transitional housing development, the proposed transitional housing development managed by SRACP, a non-profit making organisation (i.e. the Applicant) will be able to accommodate approximately 608 residents with about 276 transitional housing units flexibly installed by the MiC method. With the innovative and efficient construction method suggested by the Government, the estimated operation date could be brought forward after the completion of work in Q2 of 2024, securing a timely supply of transitional housing units.

5.2 Offering better Living Conditions and Improved Quality of Life for Households in need

5.2.1 Households in needs have long suffered from inferior quality living conditions in Hong Kong. The implementation of transitional housing projects would be able to relieve the pressure on families living in poor and sub-standard conditions, and those waiting for PRH for a long time. Since the proposed transitional housing development could provide about 276 transitional housing units to people in urgent need of community support, their livelihood can be improved and alleviated in the long run with adequate PRH supply.

5.2.2 The units will also come equipped with the basic necessary facilities such as toilets, beds, air-conditioning and natural wind penetration. For those who were previously in sub-standard living conditions such as in cramped sub-divided flats, the upgraded living conditions allow each unit to include individual necessities so that they can enjoy a much better overall quality of life.

5.2.3 Around 2.61 m^2 of local open space per person is provided, which fulfils the minimum requirement of 1 m^2 per person for residential developments in the rural areas. The total

open space provision will be around 1586.8 m^2. This encourages passive and active recreational use and enhances the overall spatial quality of the development. The above design features and elements showcase the Applicant's approach to striking a balance between addressing the housing shortage issue and enhancing the living quality in the proposed transitional housing development.

5.3 Design which Promotes Social Interaction and Community Building

5.3.1 Other than providing transitional housing units, the proposed transitional housing development at its core focuses on improving the livelihood of the tenants and promoting community building and social interaction. The proposed layout is planned in a way that facilitates communication between residents and assists them in developing strong social support networks. To actively engage the residents in community dialogue, a playground, plaza, leisure sitting-out area, fitness area with exercise equipment, Multipurpose Hall and community garden are appropriately located on the Site. Activities such as volunteer programmes, family activities, career development workshops and health talks will be regularly arranged in the Multipurpose Hall and other communal areas. The design of the proposed transitional housing development ensures that all residents could have facilitated access to a comprehensive array of community facilities and services to improve their social capital.

5.3.2 The improved facilities and living conditions and increased overall quality of life allows residents to focus more on other aspects of life such as building valuable relationships and focusing on self-development. Moreover, the convenience store will be accessible for the residents within the Site. The proposed transitional housing development also offers possible opportunities for residents to be employed within the community store or upkeep of the site landscape could give livelihood and income source for some and also create a sense of community ownership and belonging.

5.3.3 The flexible tenancy arrangement shall allow people to climb up the social ladder and continue developing in life even after tenancy period in the development. The tenancy period shall normally be no more than two years in view of the nature of transitional housing project being temporary uses (expected to be 5 years or less). An option to renew/extend the lease for one year will be provided for tenants subject to the genuine need as assessed by the Applicant, rental review and adjustment, and availability. The proposed rental level will range from $2,515 to $6,005, depending on the number of residents of the household. Further details will be finalised and given at a later stage.

5.4 Sensitive and Compatible Design respecting the Surrounding Context

5.4.1 The proposed transitional housing is compatible with the surrounding low-rise residential developments, including the nearby Shuen Wan Chan Uk village, which consists of small houses with maximum building heights of 3 stories; the 1-storey Spanish Primary school; and the Beverly Hills Villlas with a maximum BH of 4 storeys. The proposed 4-storey development with a PR of 1.41 is in line with the general planning intention of the OZP and blends in well with the surrounding context.

5.4.2 The proposed transitional housing development is designed with building separation which not only helps wind penetration across the Site and helps retain existing views from the neighbouring villas. Please refer to **Figure 5.1** for Wind Penetration and Views within Proposed Design. By this more porous and context-sensitive building design, views toward the mountain, sea and beyond are maintained and the unappealing unkempt state of the existing Site is significantly enhanced and improved through increased landscaping. The green colour of the building also makes it work harmoniously with the surroundings rather than sticking out as a distraction within its surroundings.

5.5 Proposed Enhancements Benefiting Neighbouring Community

5.5.1 The existing quality of the Site is subpar, with numerous plants of invasive species and other minor trash, along with dilapidated buildings. The view from neighbouring areas is therefore currently unappealing with a low visual quality. The proposed transitional housing development with landscape enhancements, such as creation of more appealing plazas, green fences and replacement of invasive tree species with healthier trees, helps improve the overall visual quality of the Site creating a pleasant landscaped environment. The inclusion of better landscaping will improve the direct view from street level for neighbours. The addition of a convenience store within the development premises will serve the residents, so they can have access to daily necessities and food much more conveniently without having to leave the Site.

5.6 Improved Accessibility and Mobility for Neighbouring Community

5.6.1 The existing footpath is currently is dilapidated, not continuous, inadequate and inconvenient for pedestrians making it unsafe to access. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for future residents of the proposed transitional housing development.

5.6.2 The improved footpath continuity from nearby bus stops to the Site and the Beverly Hills Villas will ensure that people have a safer pedestrian experience as they will no longer need to walk up along the internal road, and this will make the overall pedestrian journey safer and much more enjoyable. SRACP will liaise with relevant Government departments in taking forward the proposed enhancement works.

5.7 Provision of Mitigation Measures to Minimise Adverse Impacts

5.7.1 To minimise the potential visual impact resulting from the proposed transitional housing development, corresponding mitigation measures will be introduced, for instance, planting/replanting schemes are provided between the Site and the vicinity, serving as physical and visual separation to screen off any disturbance to neighbouring developments. Moreover, a green colour for the building facade helps to smoothen the edge of the proposed transitional housing development.

5.7.2 Meanwhile, the disposition and layout of the buildings has been revised to better maintain the external quality and visual connectivity of nearby developments. Building separation

between the wings of the proposed building not only allows ventilation and wind penetration but also retain views beyond the Site. The proposed transitional housing development will not result in an adverse impact on the accessibility given that an EVA will be provided in situ with a hammerhead to enhance accessibility within the Site and connect with the existing road network beyond. Technical assessments have also been conducted to investigate the visual and landscape, traffic and transport, water supply, drainage and sewerage impacts of the Application at various stages. It was concluded that there will be no insurmountable problems for the implementation of the proposed transitional development within the Site.

5.8 Improvement of Visual and Environmental Quality of the Site

5.8.1 The proposed transitional housing development adopts innovative and sustainable design to optimise the efficient use of energy, material and land resources. With regards to the building design, a 7 m to 10 m building gap between each wing is preserved to ensure the view and wind penetration of lighting and also to make the development viable to construct using MiC method which is efficient and environmentally sustainable as well. Furthermore, each floor contains a semi-open walkway that allows for natural wind penetration to pass through the building for improved air circulation. The proposed transitional housing development incorporates feasible and appropriate green design practices on the ground level. The landscape design and greening strategy helps nourish the existing character of the area and protect biodiversity by compensating the habitat for wildlife. The Health and well-being of residents can be improved with the provisions of linear open spaces between the wings while aesthetic and environmental benefits are generated as well. The above careful consideration through architectural and urban design features help minimise the impact on the surrounding rural environment and natural setting.

5.9 Better Utilisation of Underutilised Government Site for Public Good

5.9.1 Efficient use of land resources had all along been encouraged by the Government. To support and facilitate this objective, different schemes and plans have been formulated to invite stakeholders such as NGOs to make better use of underutilised Government sites for the community, institutional and non-profit making purposes. For instance, the NGOs can apply to rent the surplus Government properties for housing and various uses under certain conditions, demonstrating the Government's decisiveness in taking necessary measures. Nevertheless, the NGO's interest remains tepid even though it would be a great opportunity to utilise the Site which has been left idle for a long period. Taking into account that the Planning Application utilises one of the unleased and underutilised Government sites, the proposed transitional housing development can put the underutilised Site with development potential into a gainful use for public good.

5.10 The Proposed Development will not affect the long term planning intention of the area

5.10.1 The proposed transitional housing development is temporary in nature and will not affect the long-term planning intentions of the "G/IC" zones. SRACP proposes to speed up the

construction process by using the MiC method to develop transitional housing projects. The MiC units can be taken down and reused in other projects when the above sites are subsequently needed for other purposes. Meanwhile, the proposed transitional housing development is also intended to provide support to meet community needs which highly suits the planning intention of the zone. The other measures taken regarding overall landscaping, water supply, drainage, sewage, traffic, environment and geotechnical aspects of the Site will also ensure that the Site is prepared for other uses once the short term tenancy period of the transitional housing is over.

5.11 Modular and Efficient Design with Minimal Impact in the long run

5.11.1 Instead of the conventional construction method, the use of the MiC construction is proposed for the reason of speedy delivery, cost-efficient and environmentally self-sustaining. As the most advanced off-site construction technology, the relocatable prefabricated housing modules used for construction will accelerate the project delivery process since minimal additional work is required in the construction process. Hence, the on-site waste disposal, electricity consumption, and air and noise pollution can be reduced by no less than 10-70% for corresponding measured performance in a project adopting MiC techniques. In the meantime, a tidier and cleaner site environment can be maintained during the construction period due to the greatly reduced wet concrete works on site. The disturbance to the surrounding neighbourhood can be minimised because of the reduced number of material delivery trips to and from the construction site. The Applicant is committed to sustainability, carbon reduction and building a more liveable neighbourhood that creates positive value for the environment and society.

5.12 Effective Implementation, Operation, and Maintenance

5.12.1 The Government actively promotes cross-sector collaboration with NGOs and the community to encourage organisations to showcase their creativity in providing diversified and flexible transitional housing projects, including exercising flexibility in the handling of planning, land lease and building requirements for development plans.

5.12.2 As one of the Hong Kong-based charitable organisations well-recognized by the Government, SRACP has been striving to contribute to the development of an inclusive society by offering diversified community services. Since 1986, SRACP has cooperated with different parties on social housing projects and transitional accommodation services. During the operation of programs such as the “SOUK" scheme and halfway house, SRACP has developed an efficient management approach to offer comprehensive support while assuring the provision of decent housing for transitional use. Moreover, it demonstrated SRACP’s willingness in contributing to addressing the housing issues in Hong Kong. With SRACP’s profound experience in launching various community programs, SRACP is committed to upholding professionalism and providing equitable services with a dedication to groups in need.

5.12.3 SRACP has, since August 2021, been engaging with the local community (including the Chairman of Tai Po Rural Committee, former District Councillors of the relevant

constituencies, representatives of Tai Po South and North Area Committees, representatives of nearby residential developments including the Beverly Hills Villas and villages, Principal of Spanish Primary School, etc.) with a view to explaining the project and listening to their views on the proposed development scheme. In general, there is no objection to the preliminary design, given that there are landscaping and building separation to enhance natural wind penetration and lighting, and the reduced roundabout minimises any potential vehicular traffic that would affect nearby villages. SRACP will continue to engage with the local community throughout the development process to incorporate their views as far as possible.

6 Conclusion

6.1 The Applicant seeks approval from the TPB for the proposed transitional housing for a period of 5 years at the Site falling within "G/IC" zone in the Approved Ting Kok OZP No. S/NE-TK/19 under S.16 of the TPO. The period of construction and operation are expected to last for around two years (until Q2 of 2024) and three years accordingly. Normally, the usual operation period of transitional housing projects is around five years, subject to review towards the end of operation period. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

6.2 The planning approval will enable the proposed transitional housing development to be implemented and provide housing for about 276 inadequately housed households in the short term. The proposal will achieve a better scheme to provide social benefits whilst being able to satisfy the architectural and technical requirements as per relevant regulations and ordinances.

6.3 Whilst the Site was originally intended for the provision of "G/IC" facilities serving the needs of the local residents and supporting the government or organisations to provide relevant social services, the Site has been underutilised with poor condition and lack of social resources for a long time. The proposed transitional housing development thus seeks to address this underutilised Site situation while offering a better quality of life to the households in need and contribute to solving the affordable housing issue in Hong Kong as well.

6.4 According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development is classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

6.5 The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB since it highly aligns with the Government's policy to increase the supply of transitional housing to relieve housing shortage. The proposed

transitional housing development will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place. In addition, the non-intrusive MiC construction method proposed by the Applicant can help speed up the process without affecting the long-term planning intention. Given that the Planning Application utilises unleased and underutilised Government Site, the approval can showcase Government's decisiveness in activating and enhancing the Site area for public good.

6.6 As one of the experienced transitional housing operators in Hong Kong, the Applicant is familiar with the implementation, management and maintenance process. The Applicant is also dedicated in continuously promoting a quality living among people with priority needs by offering abundant open space for social and recreational activities, incorporating sustainable and innovative design for the well-being of the tenants and adjusting disposition and layout of the buildings for connectivity to nearby areas.

6.7 The technical assessments also concluded that no insurmountable issues are observed for the implementation of the proposed transitional housing development and it is compatible with the surrounding environment. With reference to the approved Planning Application A/NE-TK/702 with the same proposed use of land and similar site context, it is believed that the proposed transitional housing development can also achieve the objectives mentioned above and set a desirable precedent to the future transitional housing projects in the area.

6.8 In light of the evidence furnished in the Planning Statement supported by the various technical assessments and the Applicant's strong commitment to provide quality transitional housing to households in need, which is clearly supported by the CE and the society, we trust that the TPB will see fit to approve the Planning Application.

FIGURES

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

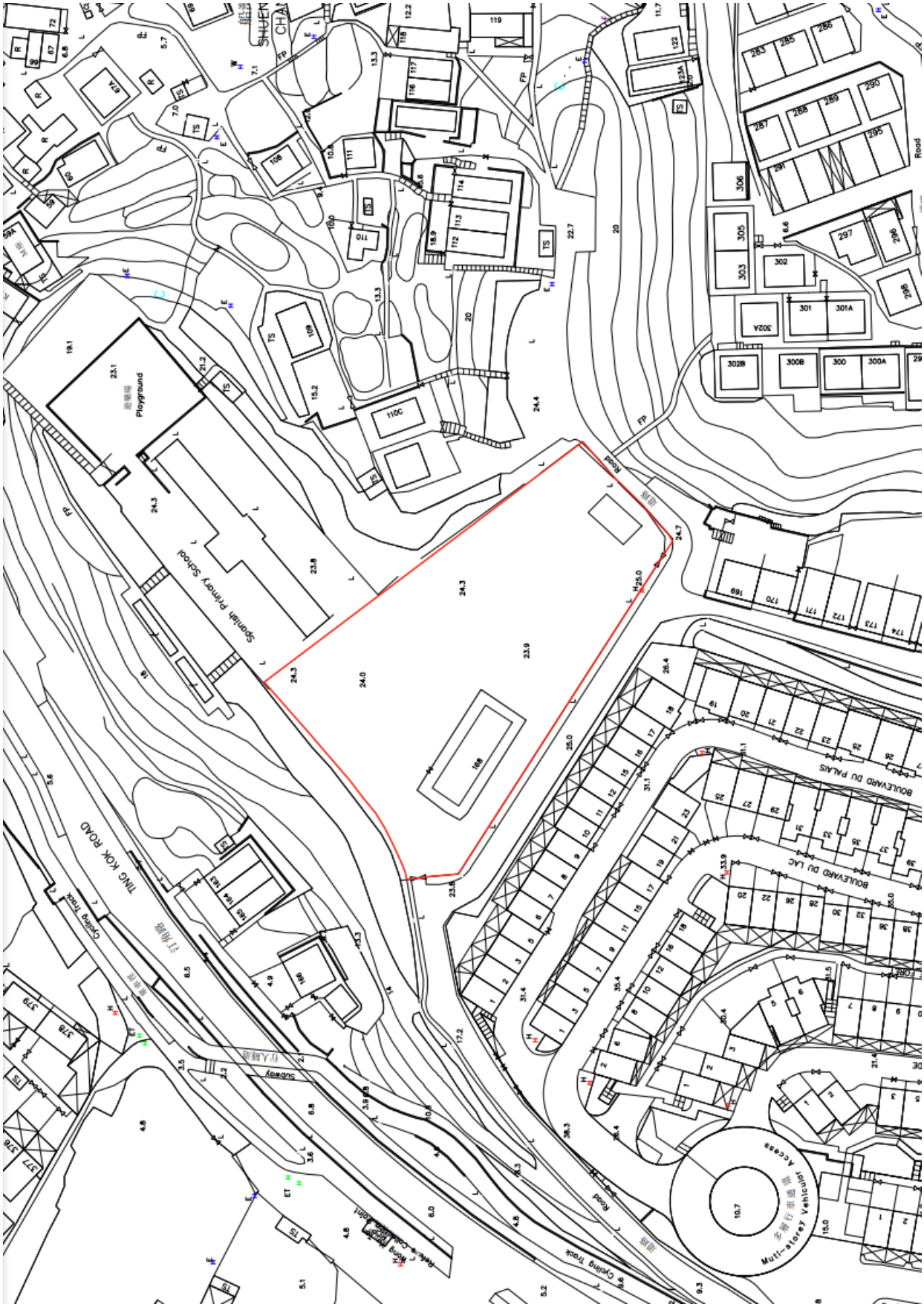

Figure No.	Title
2.1	**Site Location Plan**
Date	Description
06/2022	**Scale 1:1000**

UP International



Figure No.	Title
2.2	**Lot Index Plan**
Date	Description
06/2022	**Lot Index Plan From Lands Department**





Figure No.	Title
2.3	**Current Existing Condition of the Site**
Date	Description
06/2022	**Government-owned vacant land**

Figure No.	Title
2.4	**Site Surrounding Context**
Date	Description
06/2022	**-**

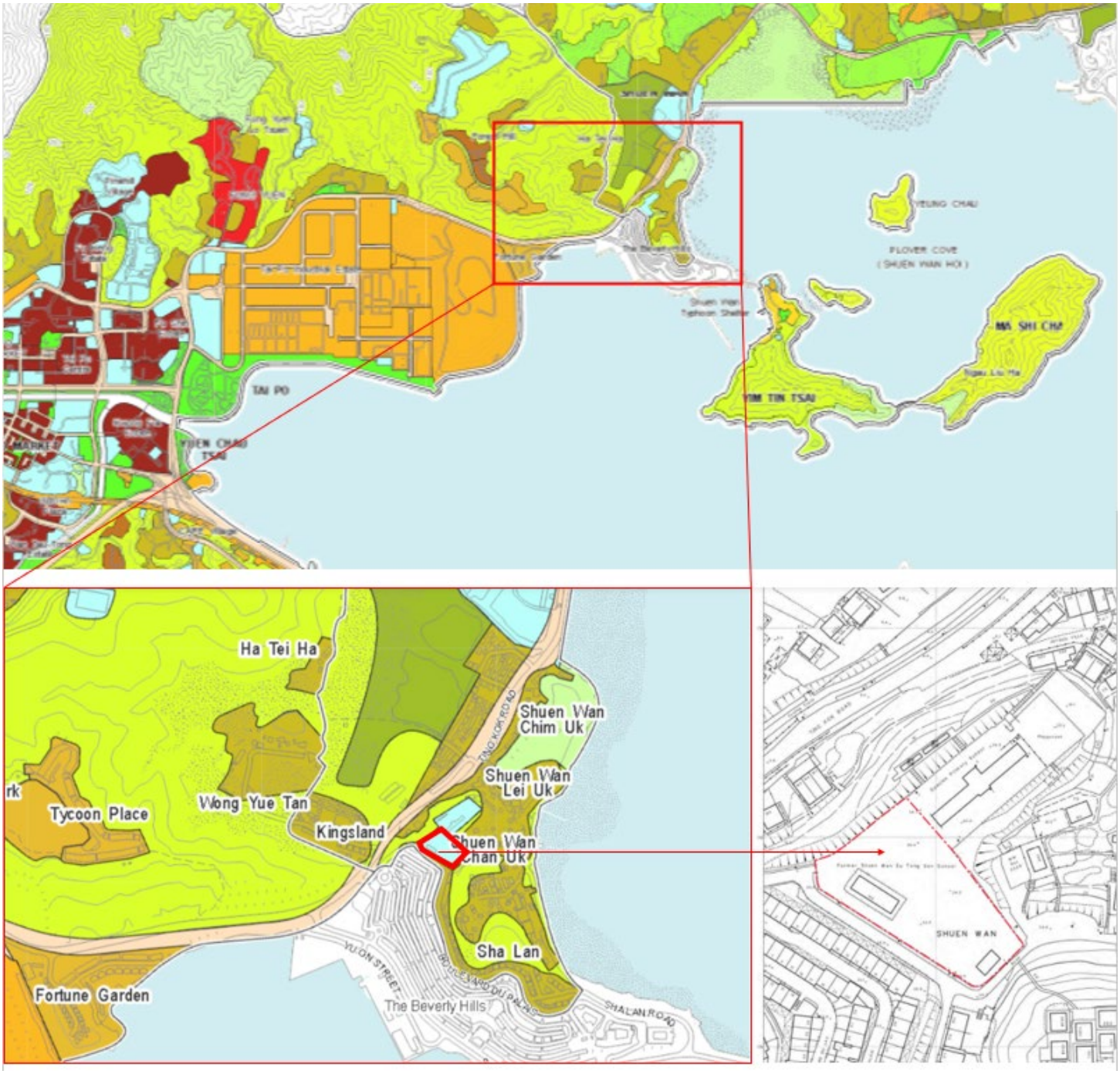

Figure No.	Title
3.1	**Extracted Approved Ting Kok OZP No. S/NE-TK/19**
Date	Description
06/2022	**-**

APPROVED TING KOK OUTLINE ZONING PLAN NO. S/NE-TK/19

(Being an Approved Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

(1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.

(2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.

(3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering any such land or building conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(4) A use or development of any land or building permitted under an earlier draft or approved plan including interim development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the interim development permission area plan without permission from the Town Planning Board.

(6) Except to the extent that paragraph (4) applies, any use or development of land or building falling within the boundaries of the Plan but not within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date when such land or building was first included within the boundaries of the Plan or an earlier draft or approved outline zoning plan published by notice in the Gazette without permission from the Town Planning Board.

(7) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

(8) Road junctions, alignment of roads, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.

(9) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (10) in relation to areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area" :

(a) maintenance, repair or demolition of a building;

(b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;

(c) maintenance or repair of road, watercourse, nullah, sewer and drain;

(d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;

(e) rebuilding of New Territories Exempted House;

(f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering such building, by a New Territories Exempted House; and

(g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.

(10) In areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area",

(a) the following uses or developments are always permitted:

(i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;

(ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and

(iii) provision of amenity planting by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(11) In any area shown as 'Road', all uses or developments except those specified in paragraphs (9)(a) to (9)(d) and (9)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

(12) (a) Except in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

(b) Except as otherwise provided in paragraph (12)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

(c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

(13) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

(14) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

Planning Intention

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

Figure No.	Title
3.3	**Extracted Schedule of Uses of "G/IC" Zone of the approved OZP**
Date	Description
06/2022	**-**

9.2.2 The boundaries of the "V" zones are drawn up having regard to the village 'environs' boundaries, local topography, the existing land-use pattern, the provision of infrastructural facilities, the approved applications for Small House development, the outstanding Small House applications, as well as Small House demand forecast. Areas of difficult terrain, dense vegetation, stream courses and burial grounds had been avoided.

9.2.3 The existing population of the Area is mostly concentrated in the 14 recognized villages in the Area, namely, Tai Mei Tuk Village, Lung Mei Village (including Ng Uk Tsuen and Wong Chuk Tsuen), Lo Tsz Tin Village, Ting Kok Village, Shan Liu Village, Po Sam Pai Village, San Tau Kok Village, Tseng Tau Village, Tung Tsz Village, Wai Ha Village, Sha Lan Village, Shuen Wan Chan Uk Village, Shuen Wan Lei Uk Village and Shuen Wan Chim Uk Village. These villages are concentrated in the flat land and surrounded by agricultural land and mountainous areas.

9.2.4 Most of these villages are accessible by Ting Kok Road while a few of them are away from the main road and linked up by substandard village tracks.

9.2.5 Any village improvement proposals or new village housing development which might affect the historic buildings detailed in paragraph 12 below should be forwarded to the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) for comment well in advance.

9.2.6 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction stated in the Notes may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

9.3 Government, Institution or Community ("G/IC") : Total Area 17.96 ha

9.3.1 The intention of this zone is intended primarily for the provision of Government, institution or community (GIC) facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area.

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(1/2)**

9.3.2 The major existing GIC uses in the Area include the plant nursery run by the LCSD at the southern side of San Tau Kok Village, the Country Park Management Centre run by the Agriculture, Fisheries and Conservation Department at the eastern end of Ting Kok Road, and a cultural and recreational centre run by the Soka Gakkai International of Hong Kong Limited on the western side of Lo Tsz Tin Village.

9.3.3 The intended use of the "G/IC" site situated along the coast of Shuen Wan has yet to be decided. However, a proposed flood pumping station under the project "Drainage Improvement in Sha Tin and Tai Po" will be located at the southern portion of this "G/IC" site.

9.3.4 Apart from the above, there are several "G/IC" sites near Shuen Wan Chan Uk Village, Ting Kok Village and Ng Uk Tsuen which are occupied by some rural schools.

9.4 Government, Institution or Community(1) ("G/IC(1)")

9.4.1 This zone is intended primarily for the development of a proposed religious institution use with an outdoor Guan Yin Statue and ancillary facilities. Any development on land zoned "G/IC(1)" should be compatible and blends in harmoniously with its surrounding environment. In order to preserve the rural character and the natural landscape of the area, with the exception of Area (a) where an outdoor Guan Yin Statue is proposed to serve as a landmark in Ting Kok area, buildings (including structures) at Area (b) where a Great Buddha's Hall is proposed and Area (c) which covers the remaining portion of the proposed religious institution should be low-rise in nature. In view of the local concern, no funeral-related facilities shall be provided at the "G/IC(1)" site.

9.4.2 A site north of the San Tau Kok Village is zoned "G/IC(1)" for a proposed religious institution development. In order to preserve the rural character and landscape of the area, control the building bulk and avoid excessive development overburdening the infrastructure provisions, development within the "G/IC(1)" zone is restricted to a maximum gross floor area of 4,900m^2 and a site coverage of 28% including landscaped deck structure. The development in the "G/IC(1)" zone is also subject to a maximum building height of 132mPD for Area (a) where a Guan Yin Statue is proposed, 18m (one storey) for Area (b) where a Great Buddha's Hall is proposed, and 14m (two storeys (including car park) for Area (c) which covers the remaining portion of the proposed monastery. Open spaces of not less than 13,000m^2 should also be provided in the development.

9.4.3 Since the "G/IC(1)" site occupies a visually prominent location with direct line of sight from a wide coverage area, the compatibility of the proposal, especially the 132mPD height limit for the outdoor Guan Yin Statue at Area (a), should be fully justified by a visual impact assessment (including photomontages). If the absolute maximum height of 132mPD for Guan Yin Statue cannot be justified at the

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(2/2)**

Spanish Primary School
Construimos el futuro

To: Mr Frank Chan Fan, JP
Secretary for Transport and Housing
Transport and Housing Bureau
Secretary for Transport and Housing's Office
22/F, East Wing, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong.

RECEIVED
25 APR 2022
BY:.....

22 April 2022

Dear Mr Chan,

Support letter for the building of transitional housing at Former Eu Tong Sen School site

I am writing on behalf of the school board of Spanish Primary School to render our support to the building of transitional housing at former Eu Tong Sen School site, which is halvely occupied by our school.

After in-depth discussion with Mr. Wong Wing-hung, Stephen, the Project Director of the transitional housing project, we are very satisfied with the remedial measures offered by the THB to address the school needs and parents' concern.

In the future, after the completion of the transitional housing project, our school would like to continue to apply for the STT of the other half of the Former Eu Tong Sen School site for school development purpose and the establishment of sports and recreational facitilites that can be shared with the Shuen Wan resisdents during non-school hours.

We look forward to working closely with the THB to build a harmonious neighbourhood.

Kind regards,

Adriana Chan
School Supervisor
Spanish Primary School

SEO(TFTH) USTH - fi please
Grateful for TFTH's follow-up as appropriate, please. We have not acknowledged receipt.
SEO
25 Apr 2022
cc. PD(2)

Figure No.	Title
4.1	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Spanish Primary School**

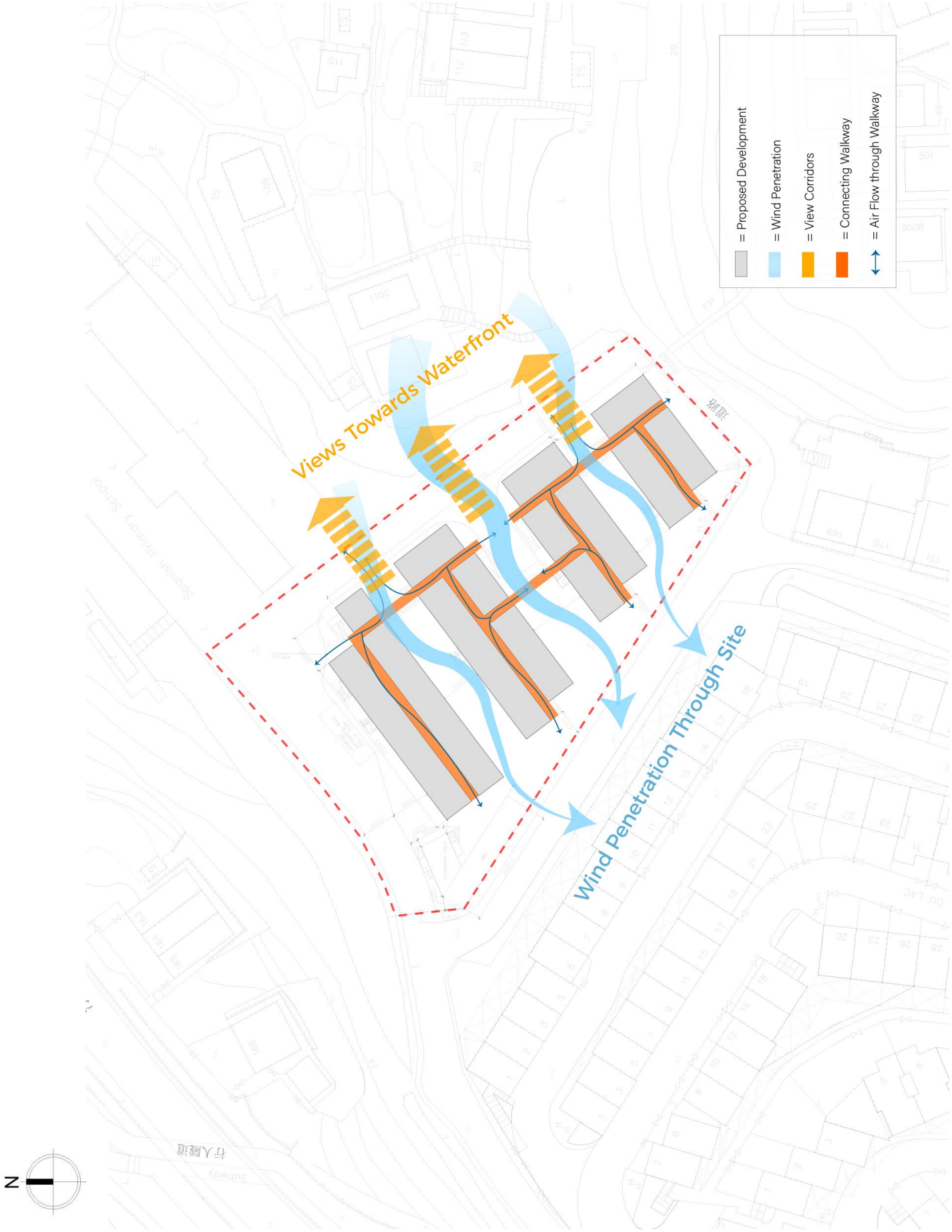

Figure No.	Title
5.1	**Wind Penetration and View Corridors within Proposed Design**
Date	Description
06/2022	**Drawing of Wind Flow and Views through the Site**

UP International

APPENDIX B - LANDSCAPE MASTERPLAN AND TREE PRESERVATION AND REMOVAL PROPOSAL

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

3.4.3 The 12 no. of trees are carefully located in the communal sitting and play areas between the residential blocks, adding ambience, human scale and amenity to these important gathering areas and significantly enhancing overall social value of the development. Due to lack of available space, any additional tree planting would actually reduce visual amenity and result in a lack of usable space for the enjoyment of residents.

3.4.4 The proposed species for new trees, green roof planting, shurbs and groundcovers will be provided. Indicative only at this stage: small, flowering tree species will be selected as appropriate to the temporary domestic residential use. These will include Cassia Speciosa and Bauhinia Blakeana. Flowering shrubs will include Ixora Chinensis, Hibiscus Rosa-Sinensis, Gardenia Jasminoides, Bouganvillea Spp, Allamanda Spp and Russellia Equisetifolia. Ground covers will include Hymenocallis Littoralis, Catharanthus Roseus Ophiopogon Japonicus and other appropriate grass species where possible subject to future detailed design.

3.4.5 All compensatory tree planting will be carried out at G/F, where the residents will gain the greatest benefit in terms of their amenity.

3.4.6 Compensatory trees will be at heavy standard size, at minimum of 4 m intervals and will be provided with a minimum 1.2 m clear soil depth excluding drainage layer.

4 Landscape Master Plan

4.1 Landscape Design Concept

The Landscape master plan (LMP) showing in **Figure 1** incorporates several different key landscaping elements into open space for forming a sustainable, healthy, liveable environment for residents. The concept was created based on this transitional housing core theme of “Good House” with a focus on People, Place and Planet.

4.2 Landscape Design Objective

The objective of the LMP is:

- To consider the existing surrounding landscape context;
- To integrate the proposed transitional housing development into a blue and green context through the use of landscaping elements;
- To form a usable open space network from the landscape and social perspective;
- To arrange different landscape nodes to attract people to utilise the open space for maximizing space and social interaction;
- To provide more green space for the enjoyment of the residents with new trees and shrubs.
- To provide a high-quality healthy and happy living environment with different functional open space and diverse plantings.

4.3 Green Coverage and Open Space

The LMP and Green Coverage Plan at **Figure 1 and 2** detail the layout and configuration of green space throughout the site. At present the green area covers not less than 20% of the overall site

area, i.e. not less than 862 m^2 meeting the government requirement for projects with an area between 1,000 and 20,000 m^2. Private open space and amenity areas of not less than 608 m^2, i.e. not less than 1 m^2 local open space per person, are also provided to create a healthy, safe and alternative environment for residents and their visitors.

4.4 Landscape Design Components

4.4.1 Streetscape Design

Streetscape along the periphery of the site is kept simple and functional, retaining existing trees where possible particularly along the NW boundary, provided much-needed shade and amenity. Wherever possible, access routes are enhanced with tree, shrub and lawn plantings together with bright, patterned yet functional paving.

4.4.2 'Residential' Landscape

Areas between the residential building wings are conceived at the human scale, providing sitting-out areas and gardens for leisure and uniformed social interaction. These areas also act as connectors or communicate corridor through the housing areas. The palette of material, both hard and soft, will be vibrant and attractive, but functional and economical.

Fitness equipment. simple sports and play facilities, seating areas and community gardens are provided flowing between the wings, and activating the green areas around the boundaries of the site.

4.4.3 Soft Landscape

Trees, shrubs, groundcovers and lawn species will be selected for their amenity (flowering color, scent and attractive form or texture). Climbing plants will also be provided against the housing development where feasible.

4.4.4 Soil Depth for Planting Areas

Minimum clear soil depth of 1,200 mm for trees, 600 mm for shrubs and 300 mm for lawn / ground cover will be provided.

4.4.5 Irrigation and Drainage

Simple manual water-point irrigation system will be provided to all planted areas.

Drainage will be provided to all planted areas, including tree pits, to prevent waterlogging. Careful selection of paving materials will also serve to enhance the overall drainage regime.

4.4.6 Hard Landscape

As the essential element in the landscape, the proposed paving will show the key notes of the landscape and walkways within the site for providing the hierarchy for the open space. The playground /plaza and sitting area between the building wings will be paved by warm colours to highlight the location of the landscape zones or nodes, while the walkways will use light colourful paving.

Based on the sustainability principle, the recycled paving block or permeable paving blocks will be selected. The permeable blocks can solve the hardening surface and facilitate the water to penetrate back to the ground soil which can help to create a high quality of living environment.

APPENDIX I - GEOTECHNICAL PLANNING REVIEW

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Good House – Transitional Housing Project at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Geotechnical Planning Review Report

June 2022

Modern Consulting Engineers Limited

Room 2801, Kwai Hung Holdings Center
89 King's Road, North Point, Hong Kong
Tel: (852) 3572 0586 Fax: (852) 3020 3153

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Appendix A Information retrieved from SIS and SMRIS

Appendix B Excerpt of Final Filedwork Report of Ground Investigation Works near the site

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Appendix E SLOPE/W Analysis of Feature No. 7NE-A/C141

1 Synopsis

1.1 Introduction

Transitional Housing Project "Good House" is to be carried out at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School). A total number of 280 living units, an account unit, a management office, a multi-purpose room and an area for E&M usage will be formed.

1.2 Objectives of this report

To facilitate the construction activities for the above proposal, planning shall be reviewed from a geotechnical perspective. This report is prepared to cover the following items:

(i) Review on the site condition

(ii) Review on existing structures and geotechnical features located in the vicinity of the site

(iii) Review on the findings of ground investigation works near the site

(iv) Review on the proposed construction works

2 The site

2.1 Site description

The site is located at Shuen Wan, off Ting Kok Road, Tai Po where Shuen Wan Eu Tong Sen School had been operated from year 1950 to 1994. A Site layout plan is shown in **Figure 1**.



Figure 1 – Site Plan

Situated within Hong Kong 1980 Grid Coordinates 839243E to 839341E and 835727N to 835813N, the site has an area around 3956m^2. The ground profile within the site is roughly flat

with reduced level at +24mPD. There are a few existing structures and geotechnical features found in the vicinity of the site for which a brief description is given in the following sections.

2.2 Existing structure in the vicinity of the site

Spanish Primary School is located on the North-East of the site. The school has a site area of 743m^2 including three one-storey blocks. The minimum distance between the blocks and the site boundary of this project is around 4m.

2.3 Existing geotechnical features in the vicinity of the site

There are two registered geotechnical features found near the site. Basic information of the features are retrieved from the **Slope Information System (SIS)** under the Geotechnical Engineering Office (GEO) of Civil Engineering and Development Department (CEDD). Also, the maintenance responsibility of the features are obtained from the **Slope Maintenance Responsibility Information System (SMRIS)** under the Lands Department (LandsD). A brief summary of the information retrieved is given in **Table 1** and **Table 2**.

Table 1 – Basic information of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Max. height (m)	Length (m)	Average angle (deg.)
North	7NE-A/F36	5	170	60
East	7NE-A/C141	5	115	40

Table 2 – Maintenance responsibility of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Sub-divisions	Responsible Lot / Party
North	7NE-A/F36	1	Lands Department
		2	DD26 Lot 989
East	7NE-A/C141	1	DD26 Lot 989
		2	DD26 Lot 413B
		3	DD26 Lot 413A
		4	Lands Department

Detailed information retrieved from the **SIS** and **SMRIS** is presented in **Appendix A**.

3 Ground investigation works

3.1 Collection of information

At the time being, a record of ground investigation works near the site is found to be carried out by Vibro (H.K.) Limited in October and November 2011, which include 3 drill holes and 5 trial pits.

3.2 Predicted geological stratum

Based on the results of the ground investigation works, the following stratums are encountered:

Fill – firm, brown (7.5YR 5/4), slightly sandy SILT with occasional angular to sub-angular fine gravel sized highly to moderately decomposed rock fragments.

Colluvium – firm, brown to light brown (7.5YR 5/4), light brown, dappled brown, slightly sandy SILT with occasional sub-angular fine to medium gravel sized highly to moderately decomposed rock fragments.

Residual Soil – Firm, light brown, slightly sandy SILT with occasional angular to sub-angular fine gravel and quartz fragments.

Saprolitic Soil and Weathered Rock – Extremely weak, reddish brown, completely decomposed GRANODIORITE.

Excerpt of the final fieldwork report of the ground investigation works is presented in **Appendix B**.

4 Proposed construction works

4.1 Relevant information from tender document

Some information of the project, including site plan, layout plans and records / arrangement for water and electricity supply are presented in **Appendix C**.

4.2 Proposed site formation works

As the ground level within the site area is generally levelled, no massive site formation works are anticipated. Nevertheless, details of the proposed site formation works, including stability check for surrounding slopes, shall be referred to relevant design reports (to be submitted separately).

5 Preliminary slope stability analysis on the registered features

5.1 Feature No. 7NE-A/F36

It is noted that the slope was upgraded under LPM contract GE/2011/13 by replacement of the loose fill by mass concrete. The relevant information including Stage 3 report and design drawings is attached in in **Appendix D**. Having said that, the stability of the slope with the consideration of the future road surcharge according to the tentative future building layout is preliminarily assessed by SLOPE/W with design parameters and geological profiles referred to the previous Stage 3 Report. The analysis results are attached in **Appendix D**. The SLOPE/W analysis results demonstrate the Factor-of-safety of the slope is less than 1.40 and hence slope upgrading works such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

5.2 Feature No. 7NE-A/C141

There is no previous design report can be found and so the slope profile (i.e 5m in high / slope angle = 40 degrees) is referred to the SIS information. The ground conditions are assumed to be Colluvium as referred from adjacent boreholes.

It is noted that the proposed 3-storey proposed building is set back from the slope crest by 6m according to the tentative future building layout.

The stability of the slope with the consideration of the future building surcharge according to the tentative future building layout is preliminary assessed with SLOPE/W with design parameters and geological profiles as mentioned above. The analysis results are attached in **Appendix E**. The SLOPE/W analysis results demonstrate the Factor-of-safety of the slope is less than 1.40 and hence slope upgrading works such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

6 Conclusion

Review has been made on the site conditions, existing structural and geotechnical features in the vicinity of the site, findings of the ground investigation works near the site and proposed construction works. Although the proposed development is geotechnically feasible, the following points are to be noted:

(i) Based on the readily available information, no massive site formation works will be required for constructing the households and the associated buildings. It is considered that the effects to adjacent structures and geotechnical features will be limited.

(ii) Preliminary SLOPE/W analysis suggests that slope upgrading works of the registered features 7NE-A/F36 and 7NE-A/C141 such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

Appendix A

Information retrieved from SIS and SMRIS

BASIC INFORMATION

Location:	NO.166 TING KOK ROAD, TAI PO
Registration Date:	25-02-1998
Ranking Score (NPRS):	0 (LPMit)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	SIRST
Approximate Coordinates:	Easting : 839289 Northing : 835823

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	School
Distance of Facility from Crest (m):	0
Facility at Toe:	Residential building
Distance of Facility from Toe (m):	3.5
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 170 Average Angle (deg): 60

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 28-09-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 28-09-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 04-08-1997
Data Source: SIRST
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A2
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	Y09679 (1963), Y097800 (1963)
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	04-08-1997
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department):
Date of Recommendation to BD: 13/06/2006 File Reference: N/A
Date Served by BD: N/A Notice No.: N/A
Date of Recommendation to BD: 13/06/2006 File Reference: DH/0044/06/NT
Date Served by BD: 29/01/2008 Notice No.: DH0009/NT/08/C

Advisory Letter (To Be Confirmed with Buildings Department): None

LPMIS:
Agreement No.: CE56/2009 Report No.: S3R027/2012
Agreement No.: CE12/2004 Report No.: S2R98/2006

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Residential building

Distance from Toe(m): 3.5
Type of Crest Facility: School

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

Action By: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: DD26 LOT989

LPM/LPMit Study
- Agreement No.: CE56/2009
- Study Type: Stage 3 Study Under Schedule of Rates Contract
- Consultant: Fugro (HK) Ltd.
- GEO Managing Section / Engineer: LPM1 / CM22
- Study Status: Study completed
- Design Approach: Conventional (GI + Analysis)
- Option Assessment Accepted: Y
- Study Report No.: S3R027/2012
- Programme / Actual Commencement: 01-12-2010
- Programme / Actual Completion: 03-05-2013
- Report Recommendation (For Stage 2 Study): N/A
- District Check Status: N/A
- Checking Certificate No.: GEO/LPM051/2014
- GEO Engineer's Remarks: 7NE-A/F36 (Sub-division 1)

LPM/LPMit Works
- Works Contract No.: GE/2011/13
- GEO Managing Section / Engineer: LPM1 / CM22
- Contractor: Dix Construction & Transportation Limited
- Progress Status: Maintenance completed
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: 20-11-2012
- Forecast Completion Date: 07-10-2013
- Completion Cert. Issued: 01-11-2013
- Site Handed Over to Maintenance Department on: 27-11-2015
- Estimated Cost for Upgrading (HK$M): 2.4161
- Maintenance Manual No.: MM051/2014
- Actual Works: Others
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: 100
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: T19809, DD26 Lot989

LPM/LPMit Study
- Agreement No.: CE12/2004
- Study Type: Stage 2 Study
- Consultant: C M Wong & Associates Ltd.
- GEO Managing Section / Engineer: SS / SS3
- Study Status: Study completed
- Design Approach: N/A
- Option Assessment Accepted: N/A
- Study Report No.: S2R98/2006
- Programme / Actual Commencement: 06-03-2006
- Programme / Actual Completion: 27-06-2007
- Report Recommendation (For Stage 2 Study): DH Order,Warning letter for STT
- District Check Status: Exempted from checking
- Checking Certificate No.: N/A
- GEO Engineer's Remarks: N/A

LPM/LPMit Works
- Works Contract No.: N/A
- GEO Managing Section / Engineer: N/A / N/A
- Contractor: N/A
- Progress Status: N/A
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: N/A
- Forecast Completion Date: N/A
- Completion Cert. Issued: N/A
- Site Handed Over to Maintenance Department on: N/A
- Estimated Cost for Upgrading (HK$M): N/A
- Maintenance Manual No.: N/A
- Actual Works: N/A
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: N/A
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

PHOTO




Hess Garden
蔷悦
江庫豪園
江庫花園
船灣李屋
Shuen Wan Lei Uk
船灣陳屋
Shuen Wan Chan Uk
沙欄小築
沙欄
Sha Lan
BOULEVARD
839 200E
836 000N
839 400E
835 600N
7NE-A/F 49
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
7NE-A/R 37
7NE-A/R 36
7NE-A/C 107
7NE-A/F 36
7NE-A/R 34
7NE-A/CR 96
7NE-A/R 35
7NE-A/R 18
7NE-A/C 139
7NE-A/R 33
7NE-A/C 172
7NE-A/R 41
7NE-A/R 48
7NE-A/CR 98
7NE-A/R 45
7NE-A/C 175
7NE-A/C 173
7NE-A/C 114
7NE-A/R 42
7NE-A/R 44
7NE-A/R 49
7NE-A/R 17
7NE-A/C 105
7NE-A/C 155
7NE-A/C 142
7NE-A/CR 157
7NE-A/CR 103
7NE-A/C 101
7NE-A/R 21
7NE-A/R 29
7NE-A/R 170
3SE-C/C

Slope Maintenance Responsibility Report (7NE-A/F36)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/F36**		**Sub-Division**	1
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

2	**7NE-A/F36**		**Sub-Division**	2
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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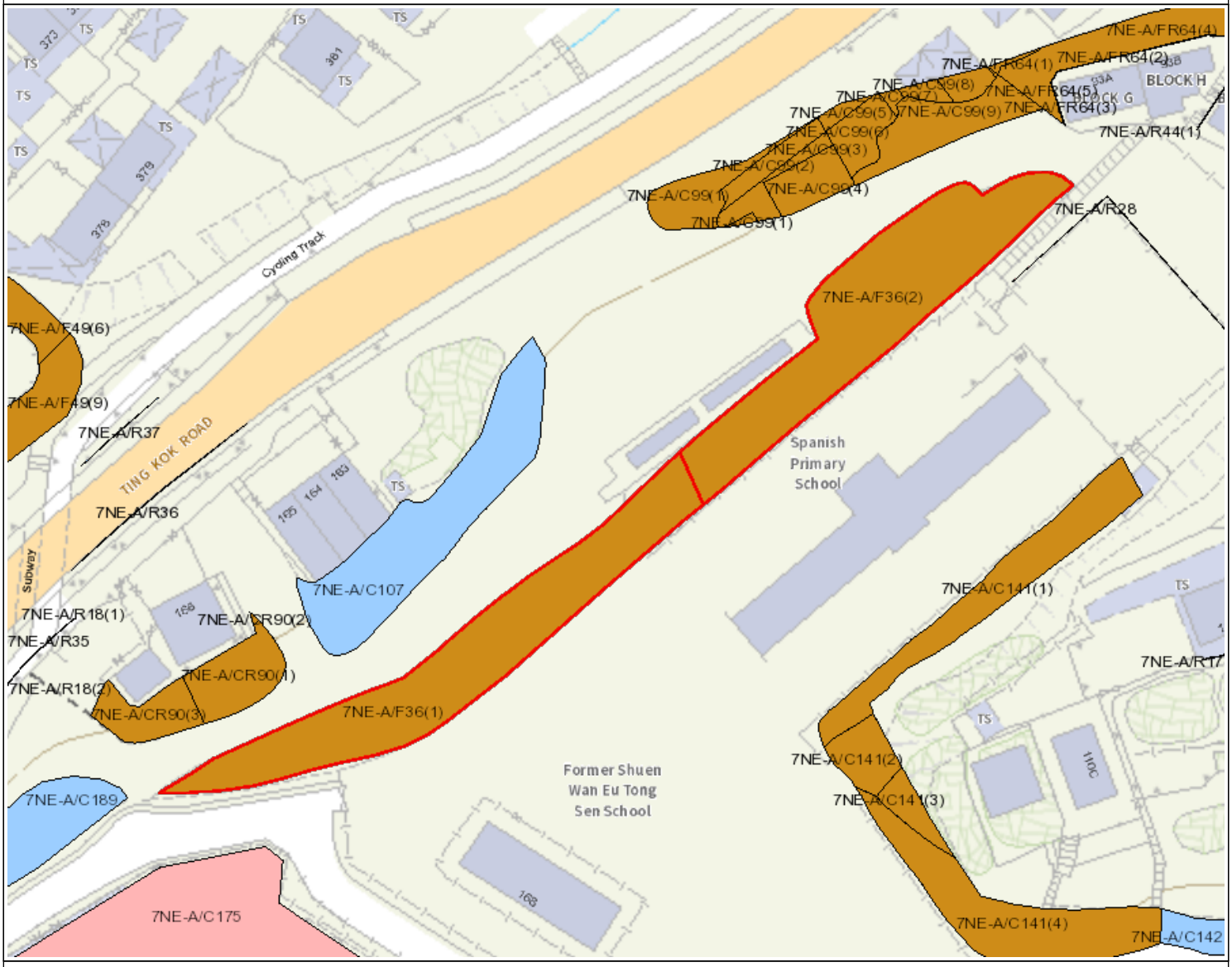
Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 16/05/2022

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BASIC INFORMATION

Location:	Shuen Wan Chan UK, Tai Po
Registration Date:	24-09-1998
Ranking Score (NPRS):	2 (EI)
Date of Formation:	post-1977
Date of Construction/ Modification:	
Data Source:	EI
Approximate Coordinates:	Easting : 839317 Northing : 835789

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Other non-crowded built-up facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with very low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	2
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 115 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT413 B Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(3) Sub Div.: 3 Mixed Feature Party: DD26 LOT413 A Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(4) Sub Div.: 4 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 26-01-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 17-04-2002
Data Source: EI
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 0 Chunam: 0 Shotcrete: 0 Other Cover: 100
Material Description: Material type: Soil Geology: Colluvium
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

(1) Utilities Type: Water Main Size(mm): 25 Location: On slope Remark: N/A

CHECKING STATUS INFORMATION

Tagmark: 21177_1_4 Part: 1 Checking Status: No checking records Checking Certificate No.: N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A5
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	17-04-2002
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department): None

Advisory Letter (To Be Confirmed with Buildings Department): None

LPMIS: None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Road/footpath with very low traffic density

Distance from Toe(m): 0
Type of Crest Facility: Other non-crowded built-up facilities

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

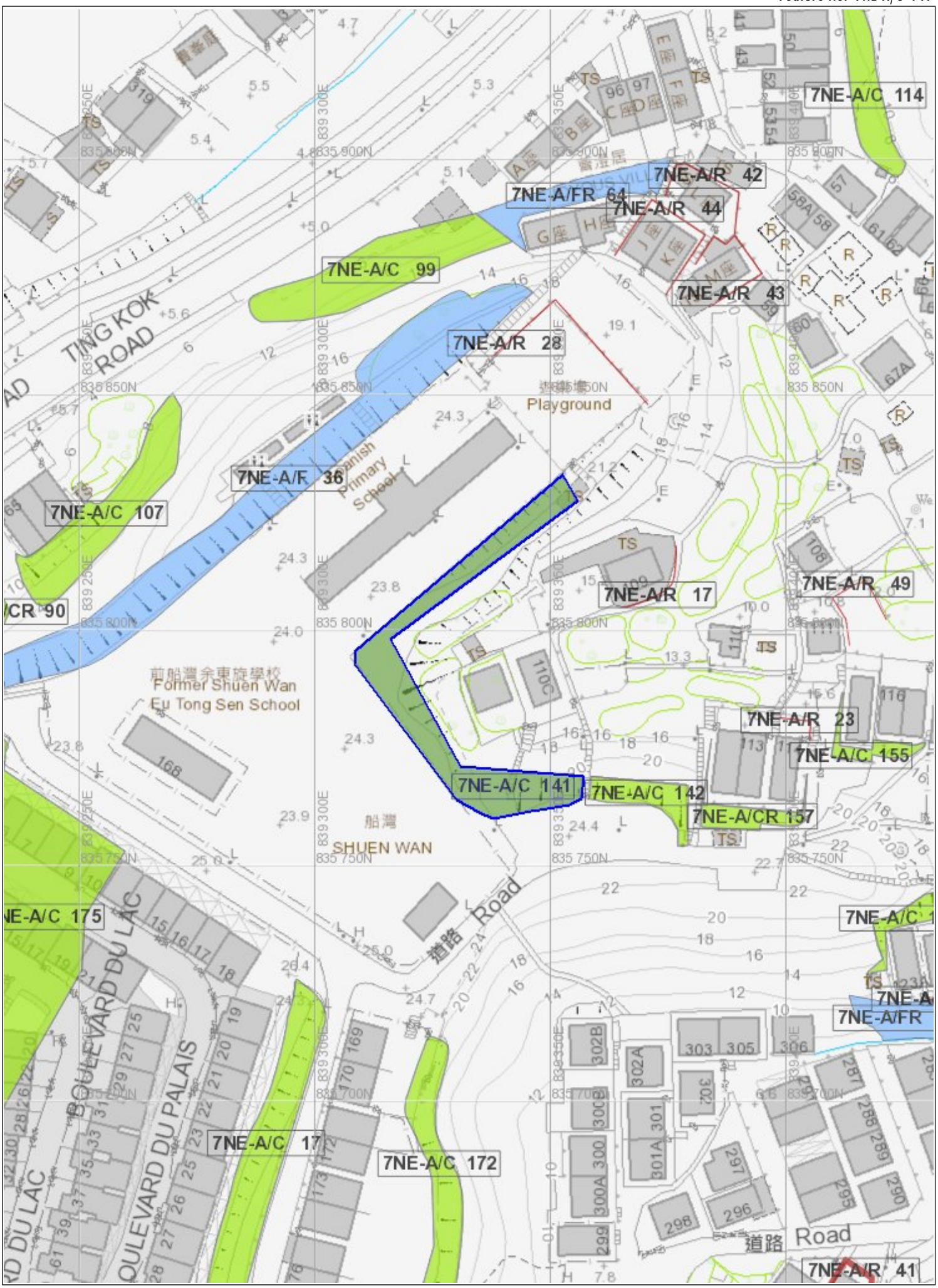
Action By: N/A

PHOTO








7NE-A/C 114
7NE-A/R 42
7NE-A/FR 64
7NE-A/R 44
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
TING KOK ROAD
Playground
7NE-A/F 36
Spanish Primary School
7NE-A/C 107
7NE-A/R 49
7NE-A/R 17
前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School
7NE-A/R 23
7NE-A/C 155
7NE-A/C 141
7NE-A/C 142
7NE-A/CR 157
船灣
SHUEN WAN
道路 Road
BOULEVARD DU LAC
BOULEVARD DU PALAIS
7NE-A/C 17
7NE-A/C 172
7NE-A/FR
道路 Road
7NE-A/R 41

Slope Maintenance Responsibility Report

(7NE-A/C141)

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/C141**		**Sub-Division**	1
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

2	**7NE-A/C141**		**Sub-Division**	2
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 B	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

3	**7NE-A/C141**		**Sub-Division**	3
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 A	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

4	**7NE-A/C141**		**Sub-Division**	4
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 16/05/2022

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Appendix B

Excerpt of Final Filedwork Report of Ground Investigation Works near the site

VIBRO (H.K.) LIMITED
SITE INVESTIGATION DEPARTMENT

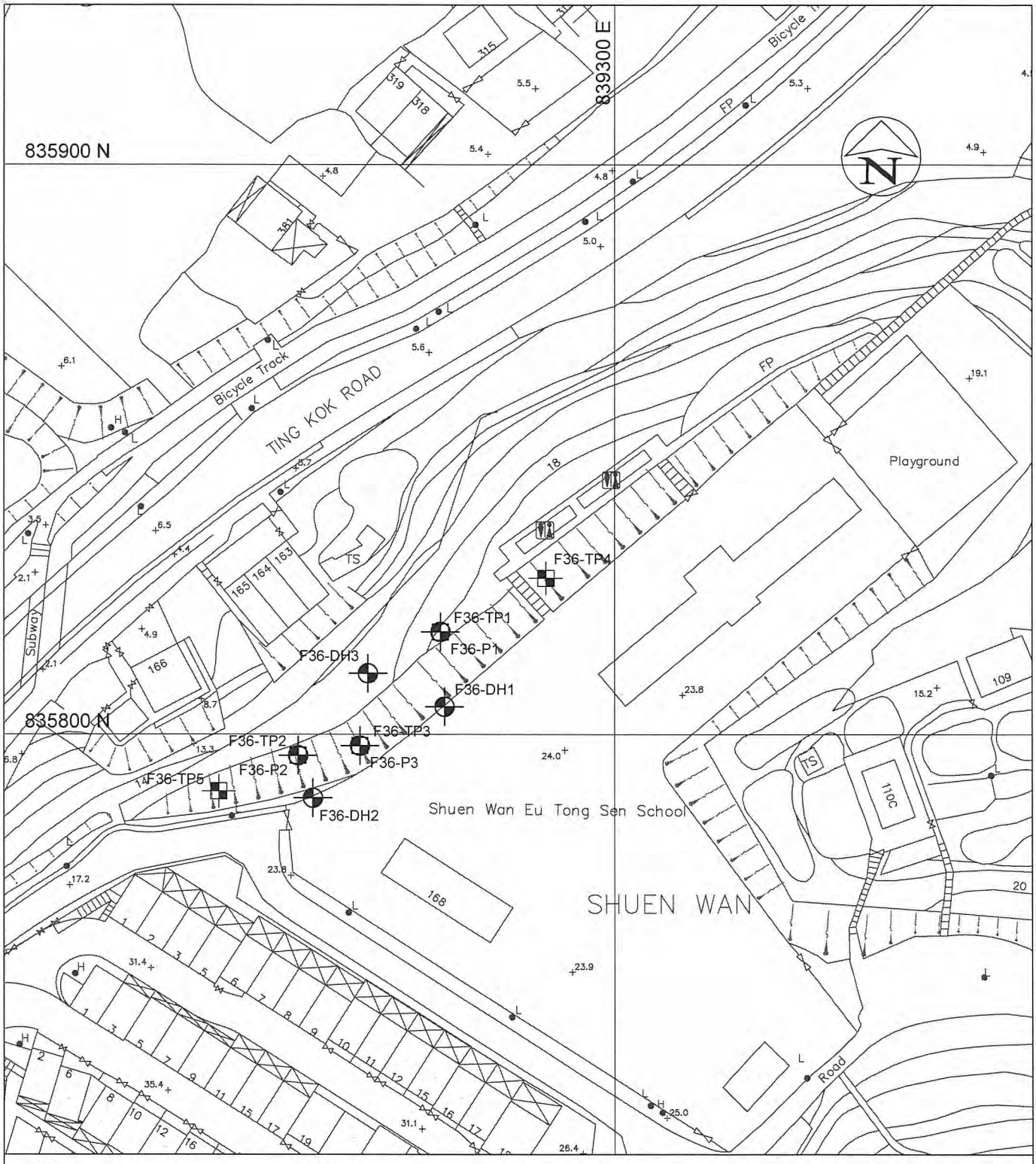
FINAL FIELDWORK REPORT

CONTRACT No.	GE/2009/15
WORKS ORDER No.	GE/2009/15.211D
PROJECT	Ground Investigation - New Territories East (Term Contract) Location : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po
CLIENT	Civil Engineering and Development Department
DATE	18 November 2011

CHECKED BY		18-11-11
	M. C. Leung Geotechnical Engineer	Date
CERTIFIED BY		18-11-11
	Ngan Chau Nam Contractor's Representative	Date

CONTRACTOR
Head Office: 4th Floor,
38 Sheung On Street, Chai Wan, Hong Kong.

Tel: 2336 5985 Fax: 2342 3589



LEGEND :

F36-DH1 DRILLHOLE

F36-TP1 TRIAL PIT

F36-P1 DYNAMIC PROBING TEST

DRAWN : RN	CHECKED : E LEUNG	CEDD CONTRACT NO. GE/2009/15 GROUND INVESTIGATION - NT EAST (TERM CONTRACT)	FEATURE NO. : 7NE-A/F36
SCALE : 1 : 1000	DATE : 15-11-2011		LOCATION : Tai Po
DRAWING NO. : J200946e/GIP/211D			WORKS ORDER NO. : GE/2009/15.211D
VIBRO (H.K.) LIMITED	CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT HONG KONG		DRAWING TITLE : GROUND INVESTIGATION LAYOUT PLAN

VIBRO (H.K.) LIMITED
SITE INVESTIGATION DEPARTMENT

CONTRACT NO. GE/2009/15
WORKS ORDER NO. GE/2009/15.211D

PROJECT : Ground Investigation - New Territories East (Term Contract)

LOCATION : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

Table 2 - Summary of Drillhole Result

Stratum	HOLE NO.								
	F36-DH 1	F36-DH 2	F36-DH 3						
Ground Level (mPD)	+24.08	+23.93	+16.83						
Concrete Surface Bottom Level (mPD)	-	-	+16.73						
Bottom Depth (m below Ground Level)	-	-	0.10						
Thickness (m)	-	-	0.10						
Fill Bottom Level (mPD)	+21.48	+22.43	+15.33						
Bottom Depth (m below Ground Level)	2.60	1.50	1.50						
Thickness (m)	2.60	1.50	1.40						
Colluvium Bottom Level (mPD)	+18.58	+20.03	-						
Bottom Depth (m below Ground Level)	5.50	3.90	-						
Thickness (m)	2.90	2.40	-						
Residual Soil Bottom Level (mPD)	+16.58	-	+13.33						
Bottom Depth (m below Ground Level)	7.50	-	3.50						
Thickness (m)	2.00	-	2.00						
Saprolitic Soil and Weathered Rock Bottom Level (mPD)	+9.03	+11.33	+1.83						
Bottom Depth (m below Ground Level)	15.05	12.60	15.00						
Thickness (m)	7.55	8.70	11.50						
Rock Bottom Level (mPD)	-	-	-						
Bottom Depth (m below Ground Level)	-	-	-						
Thickness (m)	-	-	-						
End of Hole Level (mPD)	+9.03	+11.33	+1.83						
End of Hole Depth (m below Ground Level)	15.05	12.60	15.00						
Rock Type	-	-	-						
Bedrock Level (mPD)	-	-	-						

Note : - : Not encountered in the investigation

DRILLHOLE RECORD

VIBRO

HOLE NO. F36-DH 1

CONTRACT NO. : GE/2009/15

SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	DATE : 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
20/10/2011	PW								A 0.50 INSPECTION PIT; B 1.00; C 1.50	+24.08	0.00			Firm, brown (7.5YR 5/4), dappled light brown, spotted light grey, slightly sandy SILT with occasional angular to subangular fine gravel sized highly decomposed and moderately decomposed rock fragments. (FILL)
			45	100					1 1.50; 2 2.50 2.60	+21.48	2.60			
								1,1, 2,2,2,3 N=9	3 2.70; 4 3.00 3.05					Firm, light brown (7.5YR 6/4), dappled brown, slightly sandy clayey SILT with occasional subangular fine gravel sized highly decomposed rock fragments. (COLLUVIUM)
			45	95					5 3.50; 6 4.50 4.60					
	PW 4.50 HW							1,1, 2,2,3,3 N=10	7 4.70; 8 5.00 5.05	+18.58	5.50		VI	
			45	100					9 5.50; 10 6.50 6.60					Firm, light brown, slightly sandy SILT with occasional angular to subangular fine gravel and quartz fragments. (RESIDUAL SOIL)
								2,3, 3,4,4,5 N=16	11 6.70; 12 7.00 7.05	+16.58	7.50		V	
			45	95					13 7.50; 14 8.50 8.60					Extremely weak, reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with occasional angular fine gravel)
								2,2, 3,4,6,8 N=21	15 8.70; 16 9.00 9.05					From 8.50m to 8.60m : With firm, light brown, sandy silt infilled relict joints 20mm thick, dipping 20° to 30°.
			45						17 9.50	+14.58	9.50		V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED T. C. Yip

DATE 21/10/2011

CHECKED E. Leung

DATE 24/10/2011

REMARKS

1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 2.30m and 5.20m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 2.00m and b) from 1.50m to 4.50m depth at 0.50m intervals.

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 1
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	DATE : 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW			100						+14.08	10.00		V	See sheet 1 of 2
20/10/2011		7.80m at 18:00	45						18 10.50 10.60	+13.48	10.60			
21/10/2011		Dry at 08:00						5,7, 10,13,16,20 N=59	19 10.70 11.00 20 11.05				IV	Weak to moderately weak, highly decomposed GRANODIORITE. (Sandy angular fine to coarse GRAVEL)
11										+12.58	11.50			
									21 11.50				V	Extremely weak, brown, dappled light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)
12			45	92					22 12.50 12.60	+11.48	12.60			
								4,6, 8,10,14,20 N=52	23 12.70 24 13.00 13.05				V	Extremely weak, brown, dappled reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with some angular fine gravel)
13														
									25 13.50					
14			45	100					26 14.50 14.60	+9.48	14.60			
								7,11, 14,17,19,22 N=72	27 14.70 28 15.00 15.05	+9.03	15.05		V	Extremely weak, light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with occasional angular fine gravel)
15 21/10/2011	HW 15.05	12.00m at 18:00												
														End of Investigation Hole at 15.05m.
16														
17														
18														
19														
20														

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	21/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 2
	SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	**CO-ORDINATES**	**W.O.NO.** GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	**DATE :** 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	**ORIENTATION** Vertical	**GROUND LEVEL** + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
18/10/2011	PW								A 0.50	+23.93	0.00			Firm, brown (7.5YR 5/4), slightly sandy SILT with some angular to subangular fine gravel sized moderately decomposed rock fragments. (FILL)
									B INSPECTION PIT 1.00					
									C 1.50	+22.43	1.50			Firm, brown (7.5YR 5/4), dappled light brown, slightly sandy SILT with occasional subangular fine to medium gravel sized highly decomposed and moderately decomposed rock fragments. (COLLUVIUM)
			45	95					1 2.50					
								1,2, 2,3,4,5 N=14	2 2.60					
									3 2.70					
									4 3.00 3.05					
									5 3.50	+20.03	3.90		V	Extremely weak, reddish brown, dappled light brown and brown, spotted light grey, completely decomposed GRANODIORITE. (Slightly sandy SILT with some angular to subangular fine gravel)
			45	100					6 4.50 4.60					
								1,1, 2,2,2,3 N=9	7 4.70					
									8 5.00 5.05					
	PW 5.50								9 5.50					
	HW													
			45	100					10 6.50 6.60	+17.33	6.60		V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE with some iron and manganese stained relict joints, dipping 0° to 10° and 10° to 20°. (Slightly sandy SILT with some angular to subangular fine gravel)
								4,5, 7,9,11,13 N=40	11 6.70					
									12 7.00 7.05					
									13 7.50					
			45	95					14 8.50 8.60					
								3,5, 6,6,10,14 N=36	15 8.70					
									16 9.00 9.05					
			45						17 9.50					

Disturbed sample	Standard penetration test
Piston sample	In-situ vane shear test
U76 undisturbed sample	Permeability test
U100 undisturbed sample	Pressuremeter test
Mazier sample	Packer Test
SPT liner sample	Acoustic or optical televiewer survey
Water sample	Piezometer tip
En Environmental Sample	Standpipe

LOGGED	T. C. Yip
DATE	20/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS
1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 4.50m and 12.10m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 4.00m and b) from 1.50m to 11.50m depth at 0.50m intervals.

J200946e_211D

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 2
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	DATE : 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	TCR %	SCR %	RQD %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW		45	87					18 10.50 10.60	+13.93	10.60		V	See sheet 1 of 2
								3,5, 7,10,13,18 N=48	19 10.70				V	Extremely weak, brown, dappled pinkish brown, completely decomposed GRANODIORITE. (Slightly sandy SILT with occasional angular to subangular fine gravel)
									20 11.00 11.05					
									21 11.50					
			45	80										
18/10/2011	HW 12.60	8.20m at 18:00							22 12.50 12.60	+11.33	12.60			End of Investigation Hole at 12.60m.

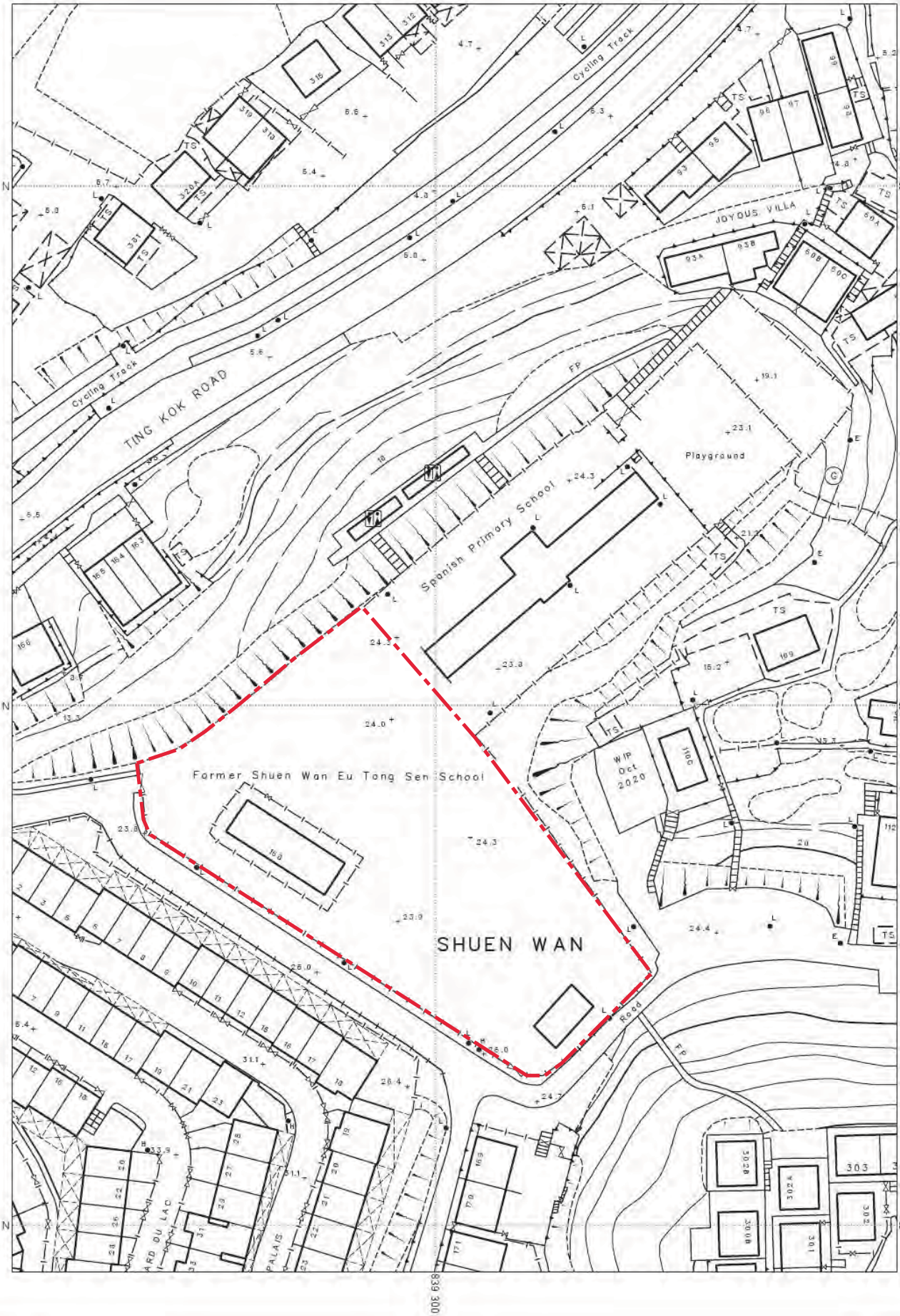
- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	20/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS

Appendix C

Excerpt of tender documents



FOR IDENTIFICATION ONLY

只供識別用

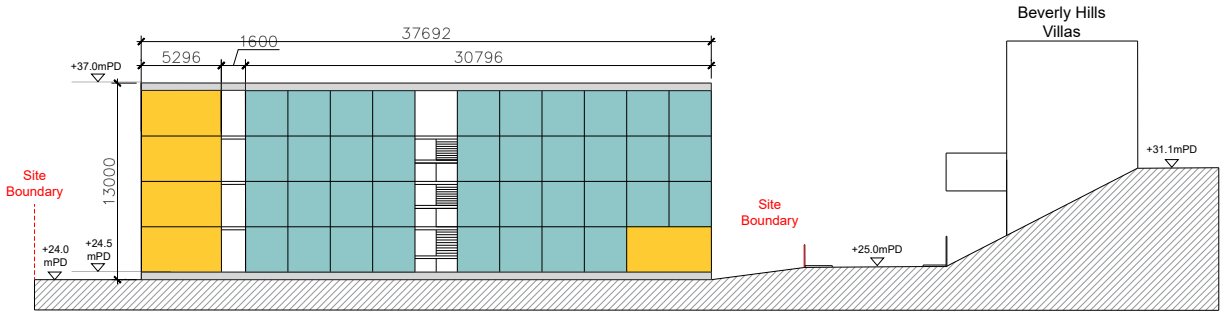
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN



TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Tan Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



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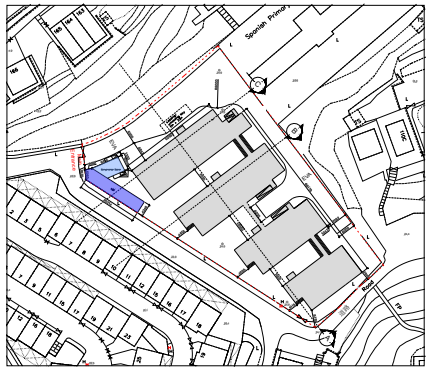
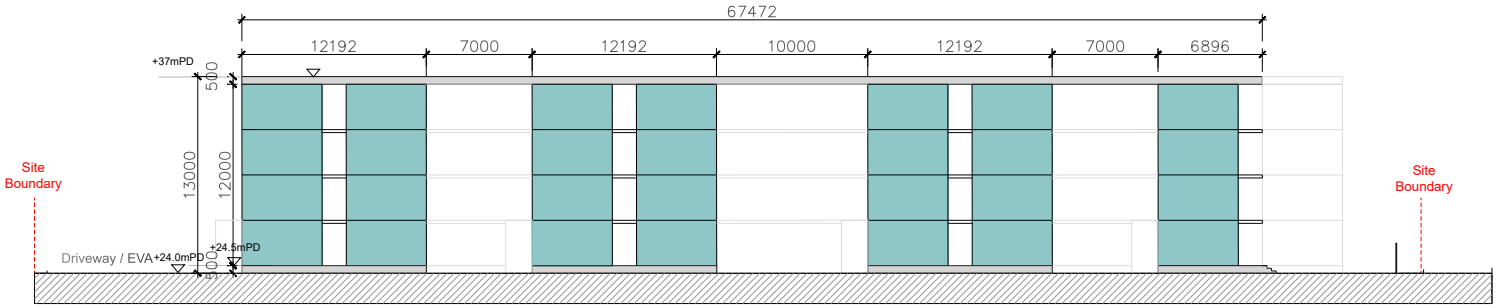


KEY PLAN 1:4000



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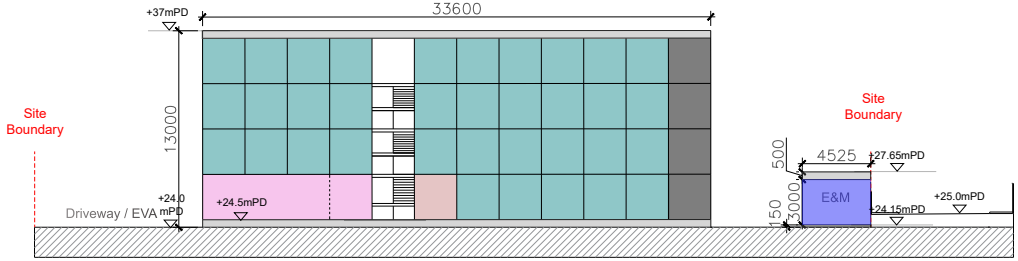

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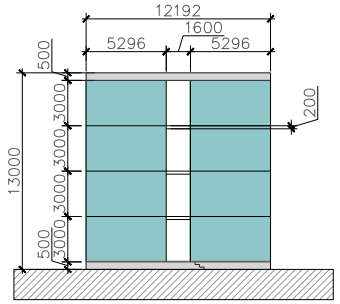


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

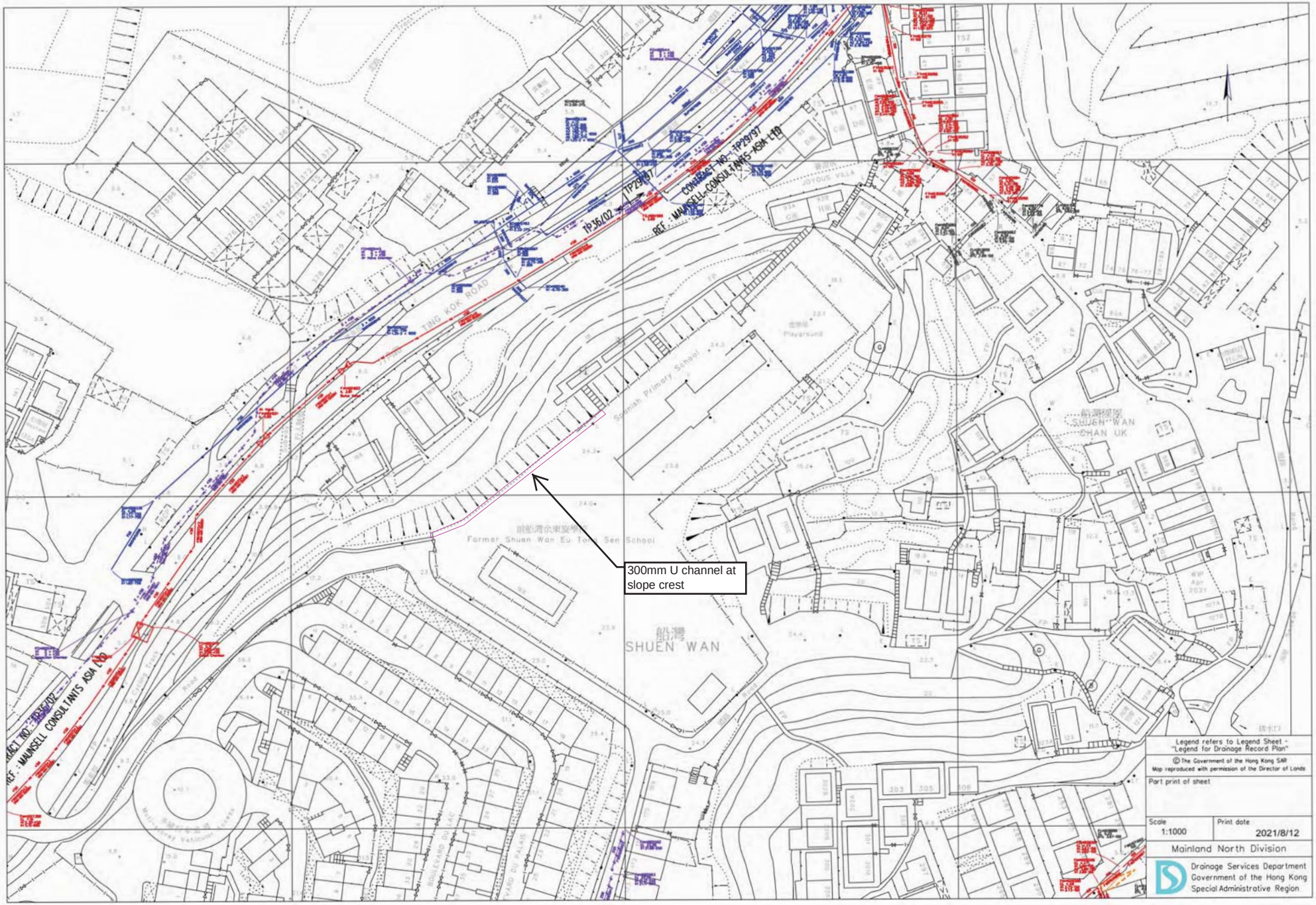
PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

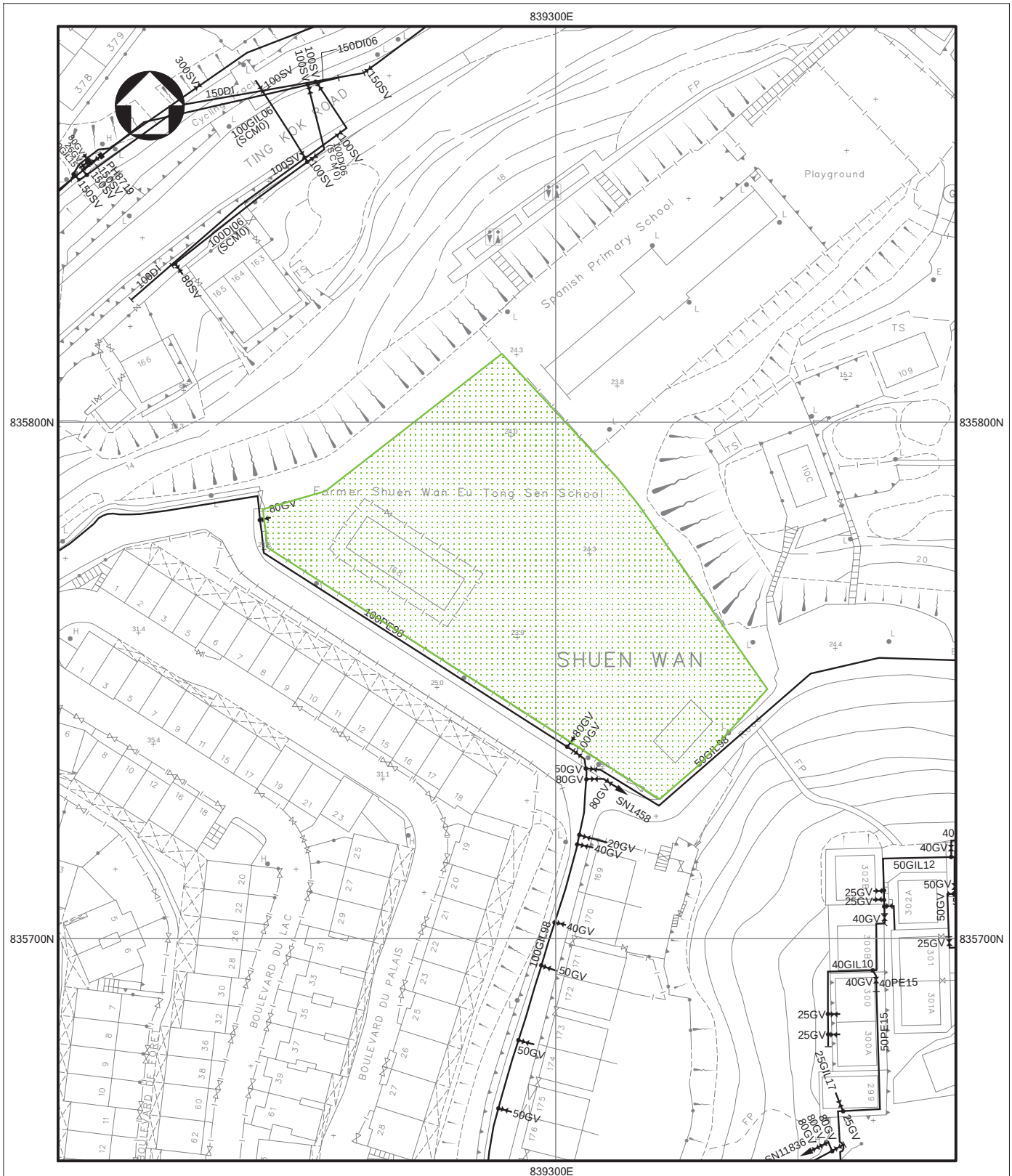
- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada


300mm U channel at slope crest
SHUEN WAN
SHUEN WAN CHAN UK
Spanish Primary School
Former Shuen Wan Eu Tong Sen School
TING KOK ROAD
CONTRACT NO. TP29/97
REF. : MAUNSELL CONSULTANTS ASIA LTD
TP36/02
Legend refers to Legend Sheet - "Legend for Drainage Record Plan"
© The Government of the Hong Kong SAR
Map reproduced with permission of the Director of Lands
Part print of sheet
Scale 1:1000
Print date 2021/8/12
Mainland North Division
Drainage Services Department
Government of the Hong Kong Special Administrative Region



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/7-NE-2A

REF. CODE: 31W21M	SHEET 1 OF 1	SCALE 1:1000

水 務 署
Water Supplies Department

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The Site
Proposed routing of power cable lead-in from Ting Kok Road
船灣
SHUEN WAN
前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School
沙欄小築
Sha Lan Villas
Spanish Primary School
Kingsland
Cycling Track
Map data reproduced with p

Appendix D

SLOPE/W Analysis of Feature No. 7NE-A/F36

STAGE 3 STUDY REPORT S3R 27/2012

FEATURE NO. 7NE-A/F36
(Sub-division No. 1)
No. 166, Ting Kok Road, Tai Po

Fugro (Hong Kong) Limited

This report has been prepared for the sole and specific use of the Government of the Hong Kong Special Administrative Region. Any other persons who use any information contained in it do so at their own risk.

October 2012
LPM Division 1
Geotechnical Engineering Office
Civil Engineering and Development Department

Foreword

This report presents the results of a Stage 3 Study on the government portion of Feature No. 7NE-A/F36 (Sub-division No.1), which is located at No. 166, Ting Kok Road, Tai Po.

The desk study, aerial photograph interpretation, site inspection, ground investigation, supervision, topographical survey, stability assessment, design of landslip preventive works and compilation of this report were carried out by Fugro (Hong Kong) Limited on behalf of the Geotechnical Engineering Office, Civil Engineering and Development Department under Agreement No. CE 56/2009 (GE): Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) – Investigation, Design and Construction.

Based on the Slope Report obtained from the web-based Slope Maintenance Responsibility Information System of the Lands Department (LandsD), the study feature is maintained by the LandsD (Sub-division No.1) and the owners of D.D. 26 LOT989 (Sub-division No.2).

The results of the stability analysis indicate that the stability of the government portion of the existing feature under the maintenance of LandsD possesses a minimum factor of safety below the current safety standards. Hence, landslip preventive works comprising replacement of existing loose fill and provision of new surface drainage system are recommended to the government portion of the feature. To improve the aesthetics of the upgraded government portion of the feature, hydroseeding will be applied to the final slope surface.

Y C Koo
Project Director

Stage 3 Study Report

Design Certificate

Agreement No. & Title :	Agreement No. CE 56/2009 (GE) Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) - Investigation, Design and Construction
Contract No. & Title :	Contract No. GE/2011/13 Landslip Prevention and Mitigation Programme, 2009, Package I – Landslip Prevention and Mitigation Works in Mainland East (North)
Feature No. & Location :	Feature No. 7NE-A/F36 (Sub-division No.1) No. 166, Ting Kok Road, Tai Po
Consulting Engineer :	Fugro (Hong Kong) Limited

We certify that:

(i) Our design complies with the standards set out in the Agreement and with amendments agreed to by the Director's Representative.

(ii) All reasonable and professional skill, care and diligence have been exercised.

(iii) An in-house independent check of the design calculations and contract documents has been undertaken and the design and contract documentation comply with the requirements of the Agreement.

Signed	
Name	Y C Koo
Professional Qualifications	FHKIE, MICE, RPE (Civil & Geotechnical)
Date	17/10/2012

Stage 3 Study Report

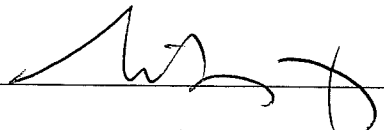
Independent Checking Certificate

Feature No. 7NE-A/F36
(Sub-division No.1)

Agreement No. & Title :	Agreement No. CE 56/2009 (GE) Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) - Investigation, Design and Construction
Feature No. & Location :	Feature No. 7NE-A/F36 (Sub-division No.1) No. 166, Ting Kok Road, Tai Po
Consulting Engineer :	Fugro (Hong Kong) Limited

1. I certify that this Stage 3 Study complies with the standards and requirements set out in the Agreement.

2. I have independently checked this Stage 3 Study Report. All reasonable and professional skill, care and diligence have been exercised.

Signed	
Name	Timothy Wong (Independent Checking Engineer)
Professional Qualifications	MHKIE, RPE (Geotechnical)
Date	16/10/2012

Stage 3 Study Report

Quality Assurance Sheet

Feature No. 7NE-A/F36 (Sub-division No.1)
No. 166, Ting Kok Road, Tai Po

Document Rev: 0
Document Status: Final
Document Ref: 091041.22.S3R.01

Prepared By: _____ Date: 12/10/2012
Candy Kang / Andy Ng
Fugro (Hong Kong) Limited

Approved By: _____ Date: 15/10/2012
K K Pang
Fugro (Hong Kong) Limited

Fugro (Hong Kong) Limited
October 2012

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1 Introduction

1.1 Background

The Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department (CEDD) selected Feature No. 7NE-A/F36 for Stage 3 Study under Agreement No. CE 56/2009 (GE). This Agreement commenced in February 2010 and involves technical and administrative activities related to the investigation, design and construction of landslip prevention works on sub-standard Government man-made slopes and retaining walls and hazard mitigation works for natural hillside catchments.

1.2 Site Description

Feature No. 7NE-A/F36 (Hong Kong Metric Grid Ref. 839289E, 835823N) is located at No. 166, Ting Kok Road, Tai Po. Location plan and site plan of the feature are shown in Figures 1.1 and 1.2 respectively.

The feature is a 160 m long fill slope with the north-eastern portion of the feature located within private Lot No. 989 in DD26. The government portion of the feature is about 90 m long with a maximum height of about 5 m and an average slope angle of 35°. Below the toe of the government portion is a registered cut slope Feature No. 7NE-A/C107 and some cottages. Abandoned washrooms and natural slope are located below the toe of the private portion of the feature. Above the crest of the government portion are an abandoned school playground and an access road. An abandoned playground and school are situated at the crest of the private portion of the feature. General views of the feature are shown in Figures 1.3 to 1.6 and their locations and directions are shown in Figure 1.2.

1.3 Maintenance Responsibility

Based on the Slope Report obtained from the web-based Slope Maintenance Responsibility Information System (SMRIS) of the Lands Department (LandsD), the feature lies partly on unallocated government land and partly within private Lot 989 respectively. The study feature is maintained jointly by the Lands D and the owner of private lot 989 in DD26. A copy of SIMAR Slope Report is presented in Appendix A. Details are summarised as follows:

Feature No.	Sub-division No. in SIMAR report	Maintenance Responsibility
7NE-A/F36	1	LandsD
	2	DD26 LOT989

2 Geotechnical Investigation

2.1 Desk Study

A desk study was carried out to retrieve relevant information from the Geotechnical Information Unit (GIU) and various divisions of the GEO, the Lands D, other government departments and utility undertakers. An aerial photograph interpretation (API) of the site was also undertaken. Results of the desk study are summarized below. A copy of the documents relevant to the study is included in Appendix B.

2.1.1 Geotechnical Engineering Office

A Feature Registration Form (Appendix B1) was obtained from the Slope Information System (SIS) of the GEO. It was stated in the form that the consequence-to-life of the feature is of category '1'.

A "Phase 2 Systematic Inspection of Features in the Territory" report (SIFT Report No. 7NE-2A/S82 (GEO, 1997)) (Appendix B2) on the feature was prepared by the Planning Division of GEO on 14 March 1997. The SIFT report indicates that the feature was formed before 1963 and was classified as a 'Class B1' feature.

A Stage 2 Study Report (S2R 98/2006) was prepared by C M Wong & Associates Limited under Agreement No. CE12/2004 in 2006 with no feature-specified ground investigation (GI) information. Stability analyses were carried out for the slope using shear strength parameters of c'=0kPa, ϕ'=35° for Fill and c'=6kPa, ϕ'=36° for CDG. The results of stability analysis indicated that the slope had a minimum FOS of 0.848 for Sub-division No.1 (at that time this portion was maintained by Land License) and that of 0.694 for Sub-division No.2 (private portion). A DH Order and a warning letter were hence recommended to be issued to the lot owners of DD26 Lot989 and the Licensees of Licence Area T19809 respectively. The proposed issuance of the warning letter to the licensee could not be made because the Shuen Wan Eu Tong Sen School had ceased operation from 1 September 1994. A DH Order DH0009/NT/08/C concerning the north-eastern section of the feature was then served on SHUEN WAN SCHOOL (Owner of D.D. 26 Lot No. 989) on 29 January 2008 by the Buildings Department (BD).

2.1.2 Lands Department

There was no record in the LandsD indicating that Engineer Inspection (EI) had been carried out for the feature.

2.1.3 Utilities Information

The following government departments and utility undertakers were contacted regarding the location of their utilities and plants in relation to the subject feature:

- Drainage Services Department
- Highways Department, Lighting Division
- Transport Department
- Water Supplies Department
- Fire Services Department
- CLP Power Hong Kong Limited
- Towngas Telecommunications Fixed Network Limited
- Hong Kong Broadband Network Limited
- Hong Kong Cable Television Limited
- Hutchison Global Communications Limited
- New World Telecommunications Limited
- PCCW-HKT Telephone Limited
- The Hong Kong and China Gas Company Limited
- Wharf T & T Limited

A review of the information from the above utility undertakers revealed that there is a buried 100 mm diameter water main located along Ting Kok Road at the southwestern end of the government portion of the feature. The approximate locations of the utilities are shown on Drawing No. LPM1113/22/01.

2.1.4 Previous Ground Investigation Information

An information search for previous GI was carried out at the GIU of CEDD. The search did not reveal any record of previous GI work carried out within and in the vicinity of the feature.

2.1.5 Aerial Photograph Interpretation (API)

An API was carried out to identify the topographical / geomorphological and geological setting of the feature, as well as the site development history, past instability and surface hydrology in the vicinity of the feature.

The findings of the API revealed that the feature was formed as a fill slope on or before 1963 probably in association with the construction of the Shuen Wan Eu Tong Sen School at the crest of the feature. Except the change in density of vegetation cover, no significant change to the feature can be observed from API since its formation. A copy of the API report is presented in Appendix C.

2.1.6 Past Instability

No record of past instability relating to the feature was found in the SIS or Enhanced Natural Terrain Landslide Inventory (ENTLI) of the GEO.

2.2 Visual Inspection

Visual inspections to the subject feature were undertaken by Fugro (Hong Kong) Limited (FHK) between March 2010 and November 2011.

The feature is accessible via Ting Kok Road to its crest. At the time of inspections, the slope surface was generally covered with dense vegetation. An abandoned school was situated at the crest of the feature and two abandoned washrooms with stairways were located at the toe of the feature. Below the toe of the government portion of the feature was a 9 m high cut slope with 300 mm wide U-channel and catchpit along its slope crest. Some 2-storey cottages were located at the toe of the cut slope. No signs of seepage and sign of distress were noted during the inspection.

2.3 Ground Investigation

To acquire geological information for the present study, ground investigation (GI) was carried out on the feature by Vibro (H.K.) Limited in November 2011 under CEDD Contract No. GE/2009/15. The GI works consisted of three drillholes (F36-DH1 to F36-DH3) and five trial pits (F36-TP1 to F36-TP5). Two piezometers were installed in drillhole nos. F36-DH1 to F36-DH3. Locations of the GI stations are shown in Figure 2.1. Results of the GI are summarised in Appendix D.

2.4 Laboratory Testing

After completion of the GI works, laboratory tests were carried out on selected soil samples taken from the feature to determine the shear strength parameters and other properties of the slope forming materials. The laboratory tests included the following:

- Multi-stage Consolidated Undrained Triaxial Compression Test
- Atterberg Limits Determination
- Particle Size Distribution Analysis
- Moisture Content Determination
- Chemical Tests

The laboratory tests were carried out by Soils & Materials Engineering Co., Ltd. under CEDD Contract No. GE/2010/30. The laboratory test results are summarised in Appendix D.

3 Geotechnical Assessment

3.1 Topography

A topographical survey for the study feature was carried out by Alliance Professional Surveyors Co. Ltd. in November 2011. A copy of the survey plan is presented in Appendix E. Based on the survey plan, a critical section, Section 1-1, was established for slope stability analyses of the government portion. Location of the section is shown in Figure 2.1.

3.2 Geological Model

The Hong Kong Geological Survey, 1:20,000 scale geological map, Series No. HGM20, Sheet No. 7 – Sha Tin, published by the Geotechnical Control Office (GCO, 1986), indicates that the feature is underlain by sand, gravel, cobbles and boulders in silt matrix (colluvium). No adverse geological feature was identified within and in the vicinity of the feature. A copy of regional geological map is shown in Figure 3.1

Based on the findings of the site-specific GI, the feature mainly comprises maximum 2m thick fill overlying colluvium and residual soil followed by Completely Decomposed Granodiorite (CDGd). Details of sub-surface materials found in the GI are summarised below:

Fill (FILL) Brown, slightly sandy SILT with occasional angular to subangular fine gravel sized highly decomposed and moderately decomposed rock fragments.

Colluvium (COLL) Light brown, slightly sandy clayey SILT with occasional subangular fine gravel sized highly decomposed and moderately decomposed rock fragments.

Residual Soil (RS) Brown, slightly sandy SILT with occasional angular to subangular fine gravel and quartz fragments.

Completely Decomposed Granodiorite (CDGd) Extremely weak, reddish brown, completely decomposed GRANODIORITE (slightly sandy SILT with some angular to subangular fine gravel).

The inferred geological profile of the feature in Sections 1-1 is shown in Figure 3.2.

3.3 Groundwater Conditions

The groundwater monitoring records were taken in late October 2011. No groundwater level was encountered (i.e. dry) in any of the drillholes (i.e. F36-DH1 to F36-DH3). The groundwater monitoring records are presented in Appendix F.

Having considered the potential rise in the groundwater level during the season of heavy rainfall and the effect of possible leakage of buried water pipe located at the southwestern end of the feature, a perched water table at 0.5 m above the bottom of Fill layer and a design groundwater table at one-third of slope height were adopted to cater for 1 in 10-year return period rainfall.

The design groundwater table and perched water table adopted in the stability analyses at Section 1-1 are shown in Figure 3.2. The groundwater monitoring records are presented in Appendix F.

3.4 Parameters for Analysis

The shear strength parameters of Fill, COLL and RS were evaluated from the p'-q plots of results of laboratory triaxial tests. The adopted parameters are summarised in the table below and the p'-q plots are presented in Appendix G.

Material Type	Effective Cohesion c' (kPa)	Effective Friction Angle, ϕ' (°)	Bulk Unit Weight γ (kN/m^3)
FILL	0	33	18
COLL	2	32	19
RS	2	33	19

3.5 Stability Analysis of Existing Feature

It is considered that the cottages at the feature toe would be affected in the event of failure of this feature. Based on Works Bureau Technical Circular No. 13/99 (WB, 1999) and GEO Technical Guidance Note (TGN) No. 15 (GEO, 2007), the consequence-to-life and economic consequence categories of this feature should be classified as category "1" and category "A" according to Tables 3 and 4 of Appendix A of the Circular respectively. Thus, a minimum factor of safety (FOS) of 1.4 under a 10-year return period rainfall is recommended for this feature.

Stability analyses for Sections 1-1 was carried out using computer program SLOPE/W, Version 2007 with the inferred geological model, the assumed groundwater condition and the adopted shear strength parameters as discussed in Sections 3.2 to 3.4. The Morgenstern-Price Method was used to determine the FOS. Results of the slope stability analyses are shown in Figure 3.3. The calculated minimum FOS of overall stability of Sub-division No. 1 of the feature is given in the following table.

Section	Calculated Minimum FOS for 1 in 10- Year Return Period Rainfall	Required FOS
1-1	1.04	1.4

Details of the analyses are presented in Appendix H. Results of the analyses indicate that the stability of the government portion of the feature is below the current safety standards and landslip preventive measures are therefore required.

4 Proposed Upgrading Works

4.1 Design Options

Two design options were proposed for the government portion of the feature as follows:

(i) Option 1 – Installation of Soil Nail with Concrete Grillage Beam

(ii) Option 2 – Replacement of Existing Loose Fill with No-fines Concrete

These options were discussed in the Option Assessment Meeting No. 4 held at the GEO on 20 December 2011 to determine the preferred option. Option 1 was agreed to be the preferred scheme taking into account of its higher cost-effectiveness, shorter construction period and less local and environmental impact on the surrounding area. However, the feasibility of Option 1 shall be further confirmed by result of laboratory tests. Copies of the extracts of the Design Option Report and the minutes of the Option Assessment Meeting are given in Appendix I. Based on the fill compaction test result, the average relative compaction of the existing fill is 73.7% which is less than 75% and hence installation of soil nail in loose fill is not feasible. Option 2 is then adopted as fallback option. The summary of the calculation is shown in Appendix D.

4.2 Proposed Upgrading Works

To upgrade the slope stability of the government portion of the feature, the following upgrading works are recommended:

(i) Replacement existing loose fill with no-fines concrete on pit-by-pit basis;

(ii) Provision of surface drainage channels;

(iii) Provision of maintenance access and staircases; and

(iv) Application of hydroseeding with erosion control mat to the final slope surface.

Detail of the proposed upgrading works are shown in Figure 4.1 and Drawing No. LPM1113/22/02.

4.3 Stability Analysis of Upgraded Feature

The shear strength parameters for proposed no-fines concrete replacement were assumed by reference to typical values of parameters for compacted fill and crushed rock fill given in Table 8 of Geoguide 1. The adopted parameters are summarised in the table below.

Material Type	Effective Cohesion c' (kPa)	Effective Friction Angle, ϕ' (°)	Bulk Unit Weight γ (kN/m^3)
No-fines Concrete	5	45	20

The stability of the government portion of the feature after upgrading has been analysed. The results indicate that the upgraded government portion will have a minimum FOS in excess of 1.4 for 1 in 10-year return period rainfall. Results of the slope stability analyses carried out on the upgraded government portion of the feature are shown in Figure 4.1. The calculated minimum FOS of the upgraded government portion of the feature is given in the following table.

Section	Calculated Minimum FOS for 1 in 10- Year Return Period Rainfall	Required FOS
1-1	1.43	1.4

Result of the stability analyses of the upgraded feature are provided in Appendix J.

4.4 Surface Drainage Measures

Considering that the condition of the existing drainage system is not satisfactory, additional drainage channel along the slope crest and toe of the feature is proposed. The layout of the surface drainage system is shown in Drawing No. LPM1113/22/02.

4.5 Future Maintenance

As there is no proper maintenance access to the feature, it is recommended to provide new maintenance stairways along the slope toe and crest of the government portion of the feature for future maintenance and inspections. The layout of proposed staircase, maintenance access and handrailing is shown on Drawing No. LPM1113/22/02.

4.6 Landscaping Works

In order to ameliorate the final appearance of the upgraded government portion of the feature, it is recommended to provide a 300 mm-thick soil layer on top of the proposed no-fines concrete surface to facilitate the provision of hydroseeding on the final slope surface.

5 Conclusions and Recommendations

Based on the information obtained from the desk study, visual inspection, GI and the results of the stability analysis carried out for the government portion (Sub-division No.1) of the feature, the stability of the existing government portion of the feature is below the current safety standards. Hence, landslip preventive works comprising replacement of existing loose fill with no-fines concrete on pit-by-pit basis are recommended. To improve the aesthetics of the upgraded government portion of the feature, it is recommended to provide hydroseeding with erosion control mat to the final slope surface of the government portion of the feature.

6 References

6.1 Technical References

GEO (1984). *Geotechnical Manual for Slopes (Second Edition)*. Geotechnical Engineering Office, Civil Engineering Department, Hong Kong, 272 p.

GEO (1986). *Hong Kong Geological Survey Series No. HGM20 Sheet 11 – Solid and Superficial Geology of Hong Kong & Kowloon, Scale 1:20,000.* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong

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GEO (2007). *Guidelines for Classification of Consequence-to-Life Category for Slope Features (Technical Guidance Note No. 15).* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong.

GEO (2008). *Guide to Soil Nail Design and Construction (Geoguide 7).* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong, 97 p.

Works Bureau (1999). *Geotechnical Manual for Slope - Guidance on Interpretation and Updating (Works Bureau Technical Circular No. 13/99)* Works Bureau, 2 p.

6.2 References Identified in the Study

GEO (1997). *SIFT Report No. 7NE-2A/S82.* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong.

Vibro (Hong Kong) Limited (2011). *Ground Investigation Final Fieldwork Report – Feature No.7NE-A/F36 – No.166, Ting Kok Road, Tai Po, Contract No. GE/2009/15, Works Order No. GE/2009/15.211D).*

Soils & Materials Engineering Co., Ltd (2011). *Final Laboratory Testing Report – Feature No.7NE-A/F36 – No.166, Ting Kok Road, Tai Po, Contract No. GE/2010/30, GI Works Order No. GE/2009/15.211D).*

C M Wong & Associates Ltd (2006). Stage 2 Study Report (S2R98/2006) – *Feature No. 7NE-A/F36, DD26 Lot989 and Licence Area T19809, No. 166 Ting Kok Road, Tai Po, Agreement No. CE 12/2004 (GE).*

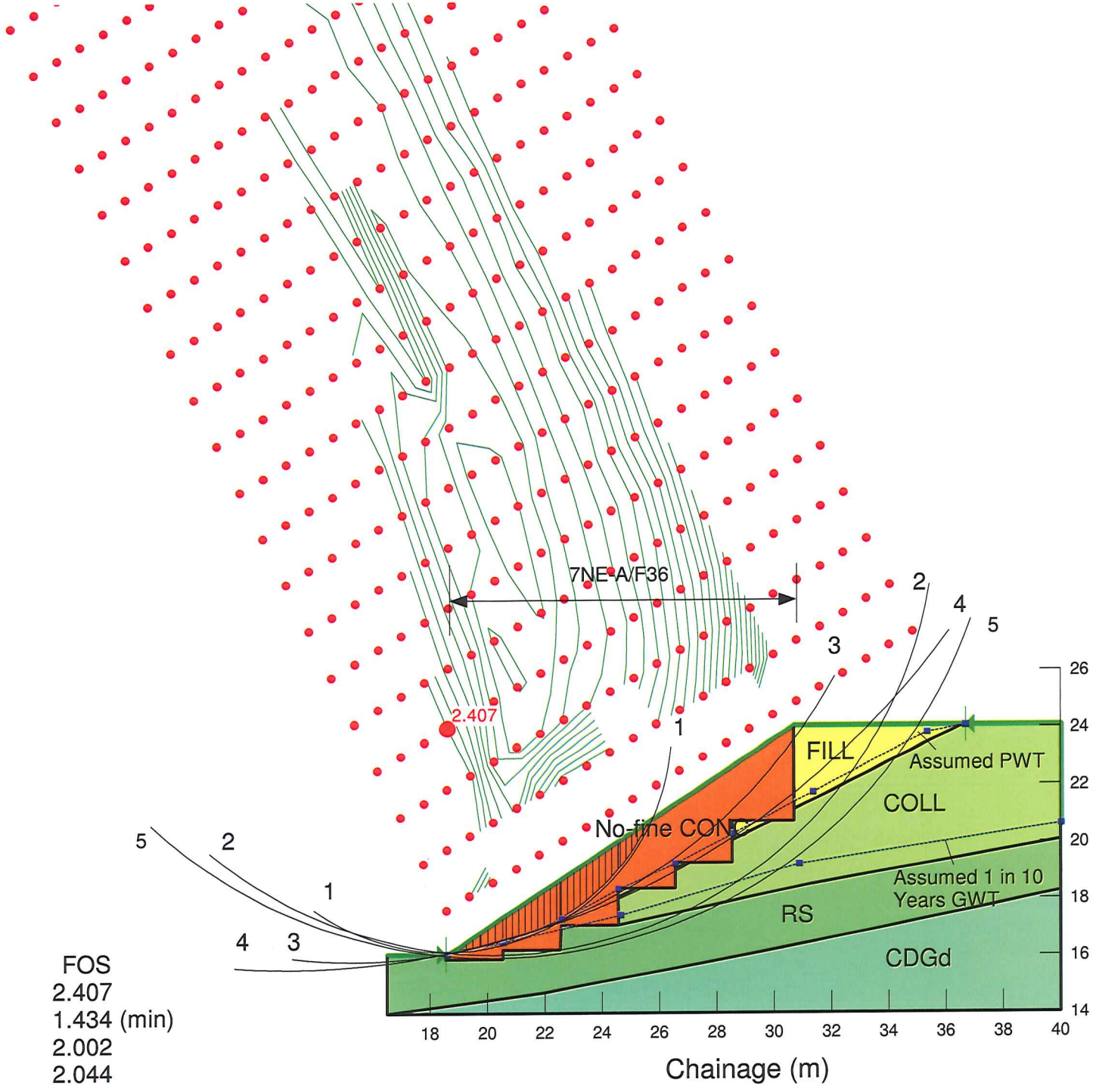
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 1	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

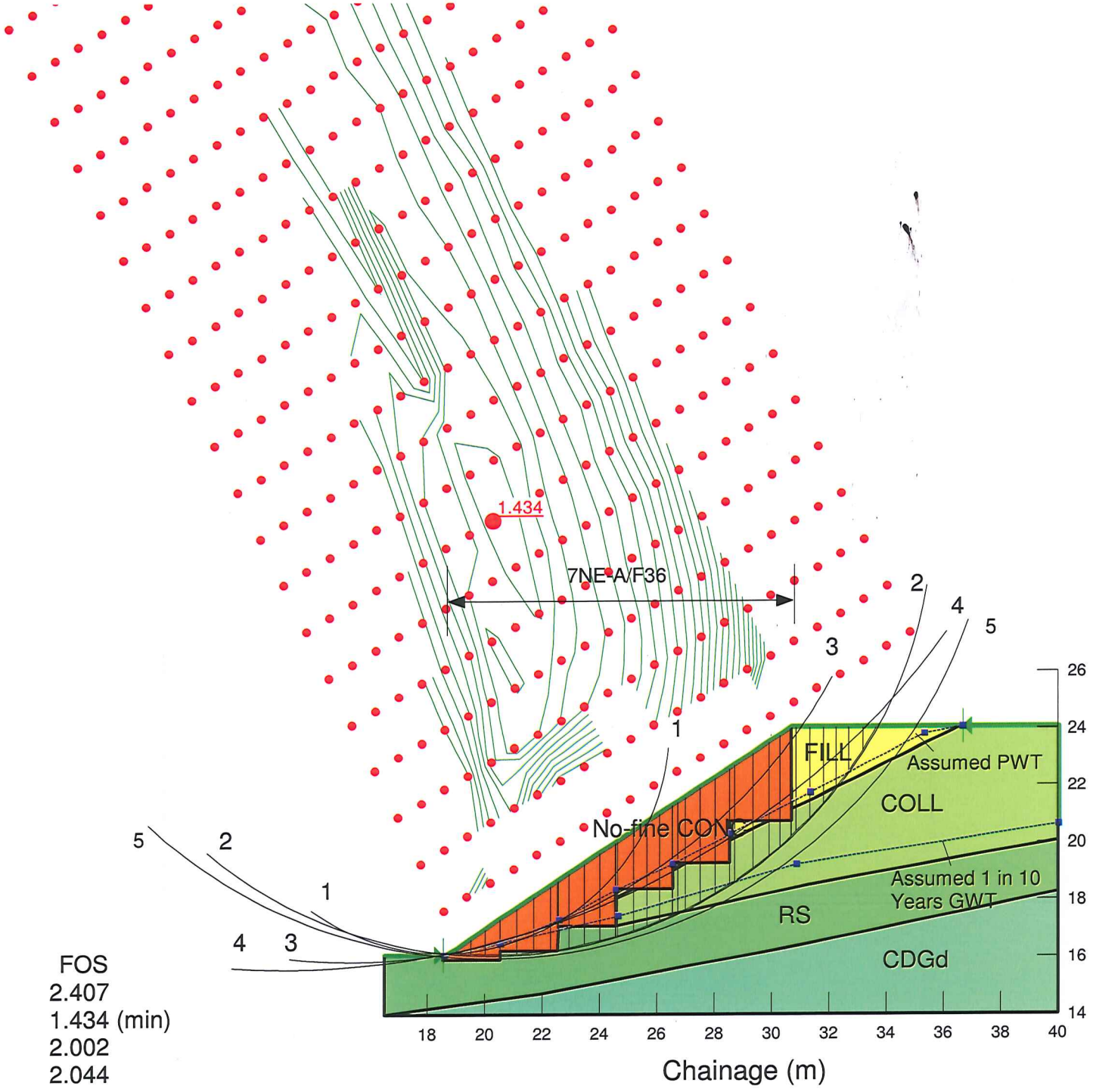
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
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Slip No. 2	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

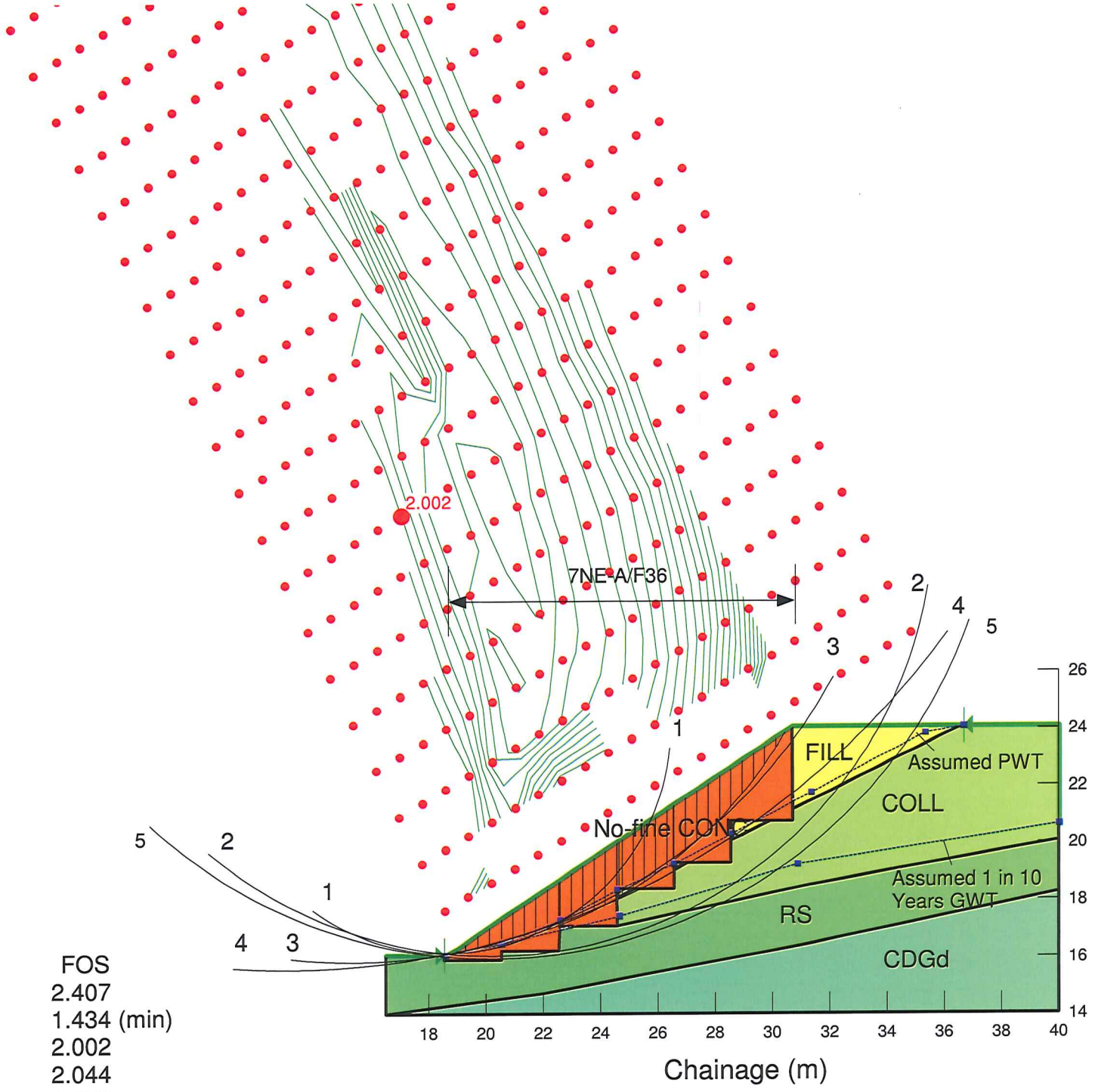
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 3	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

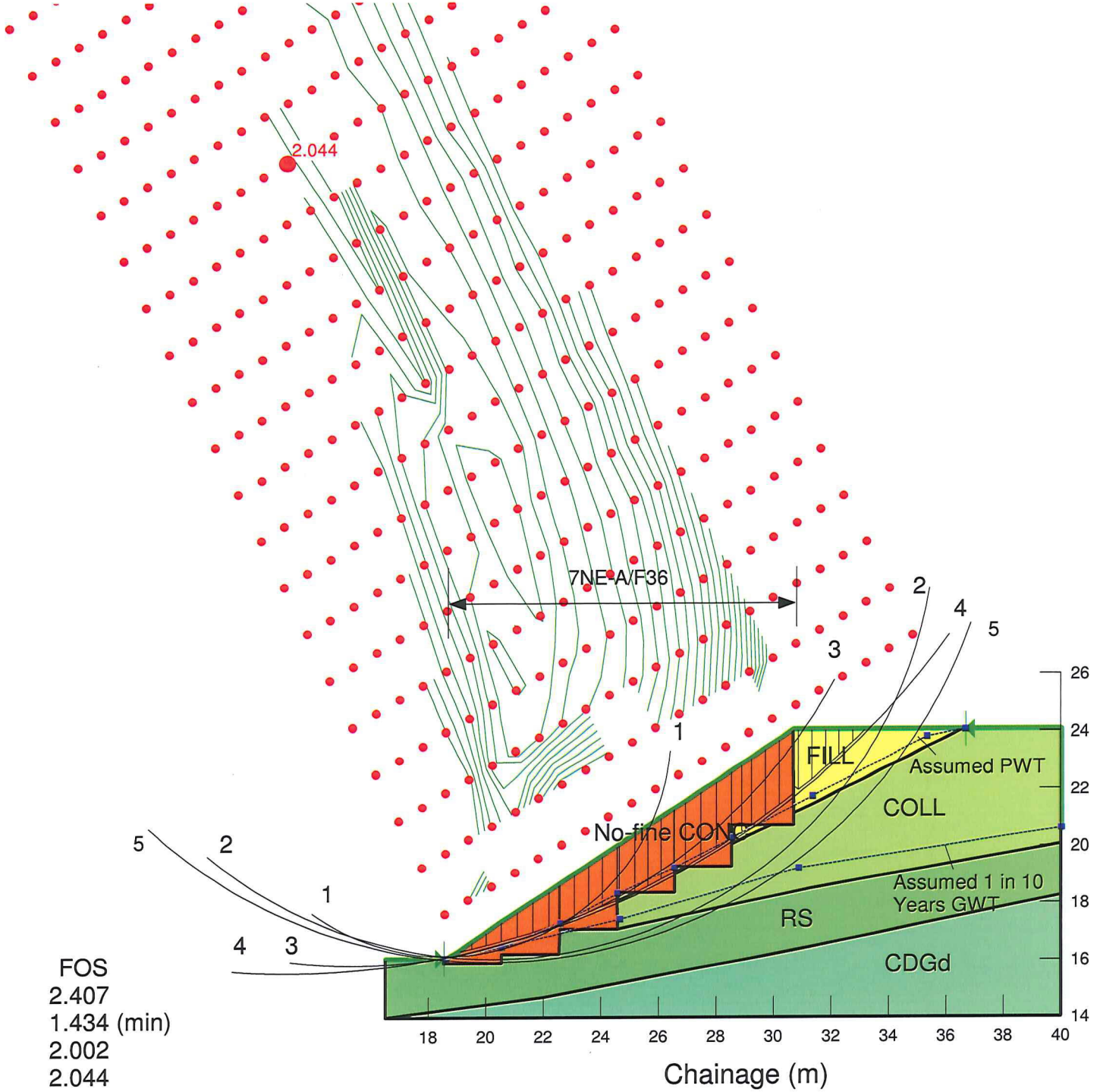
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 4	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

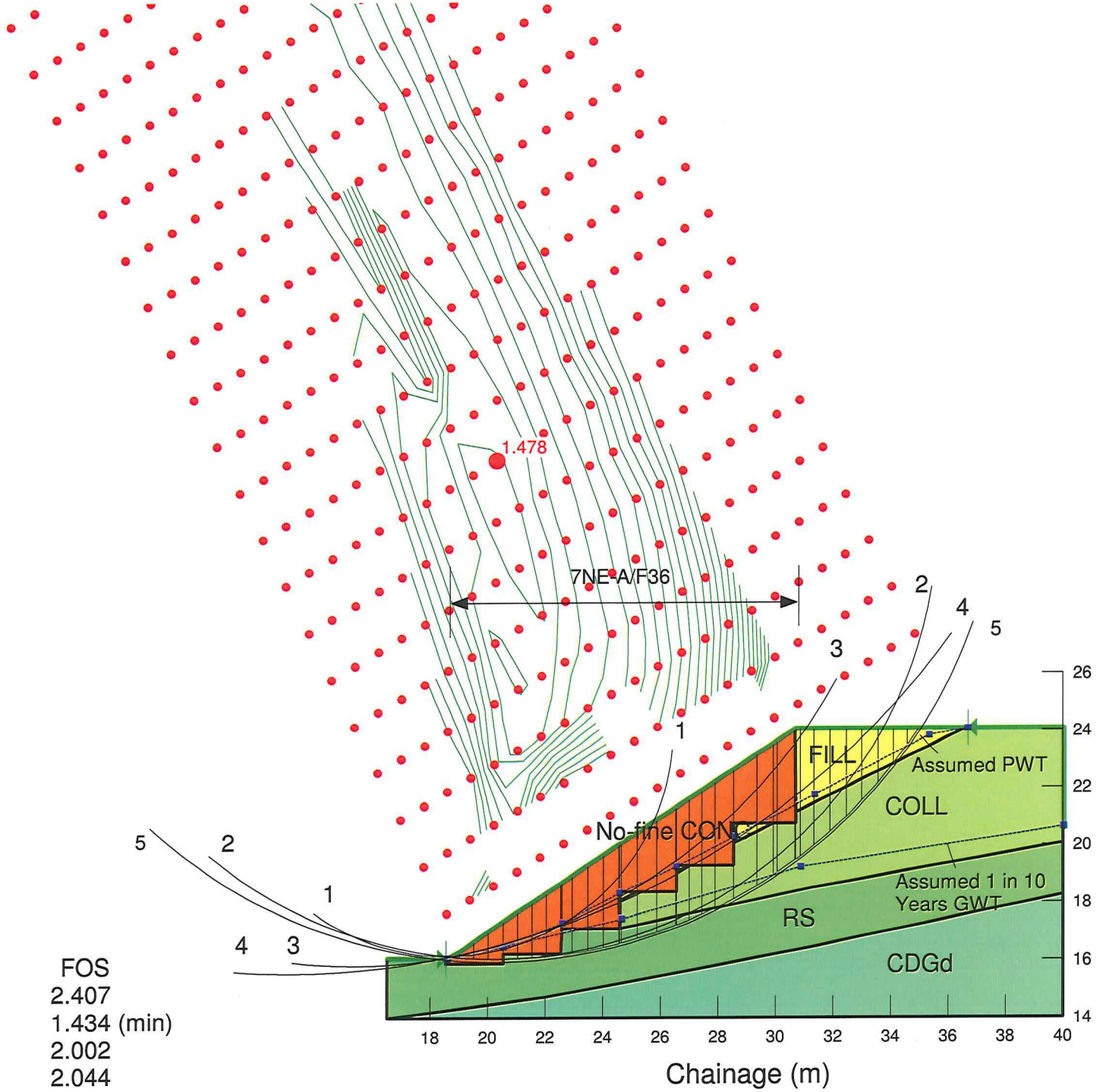
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

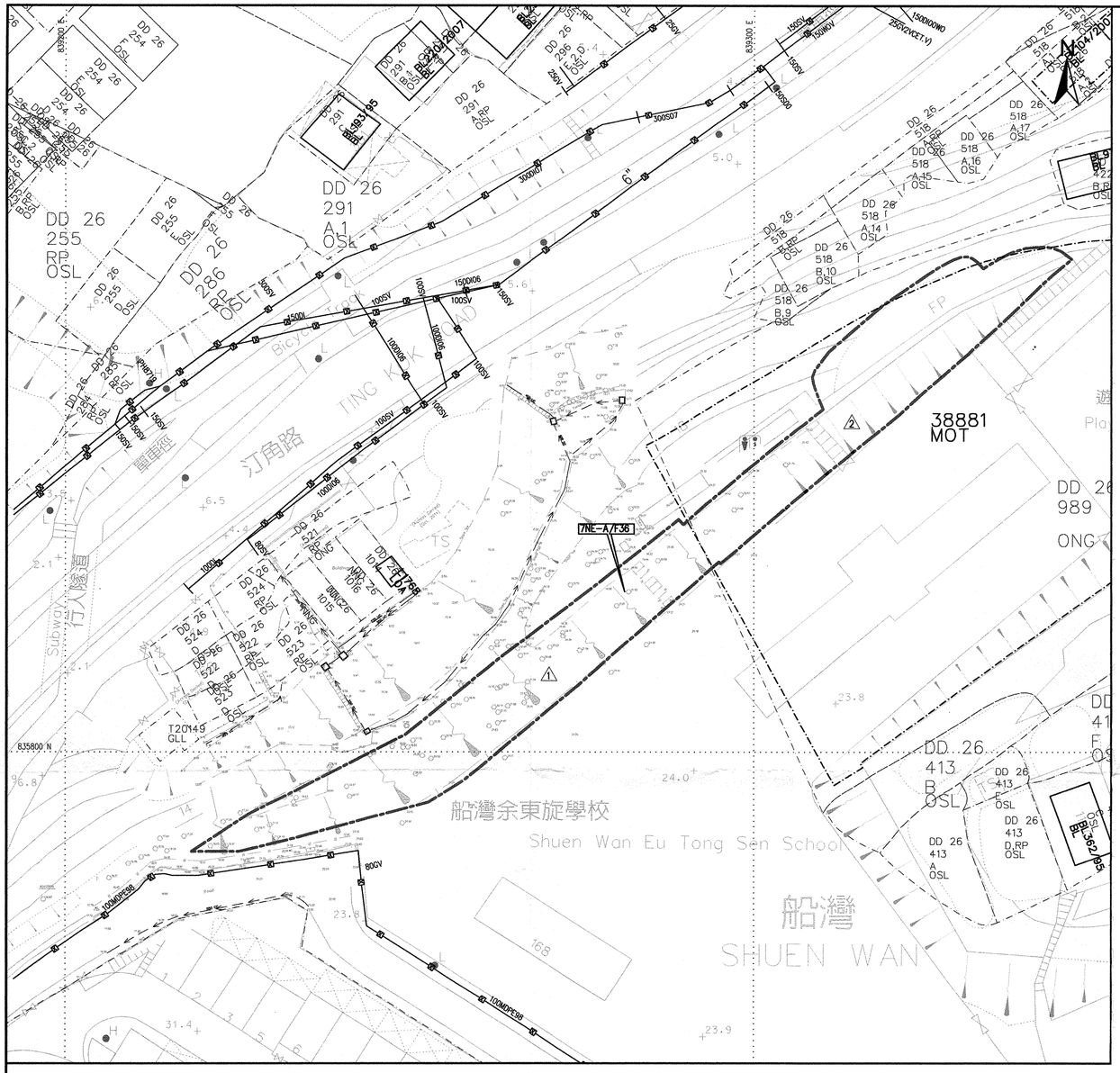
Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

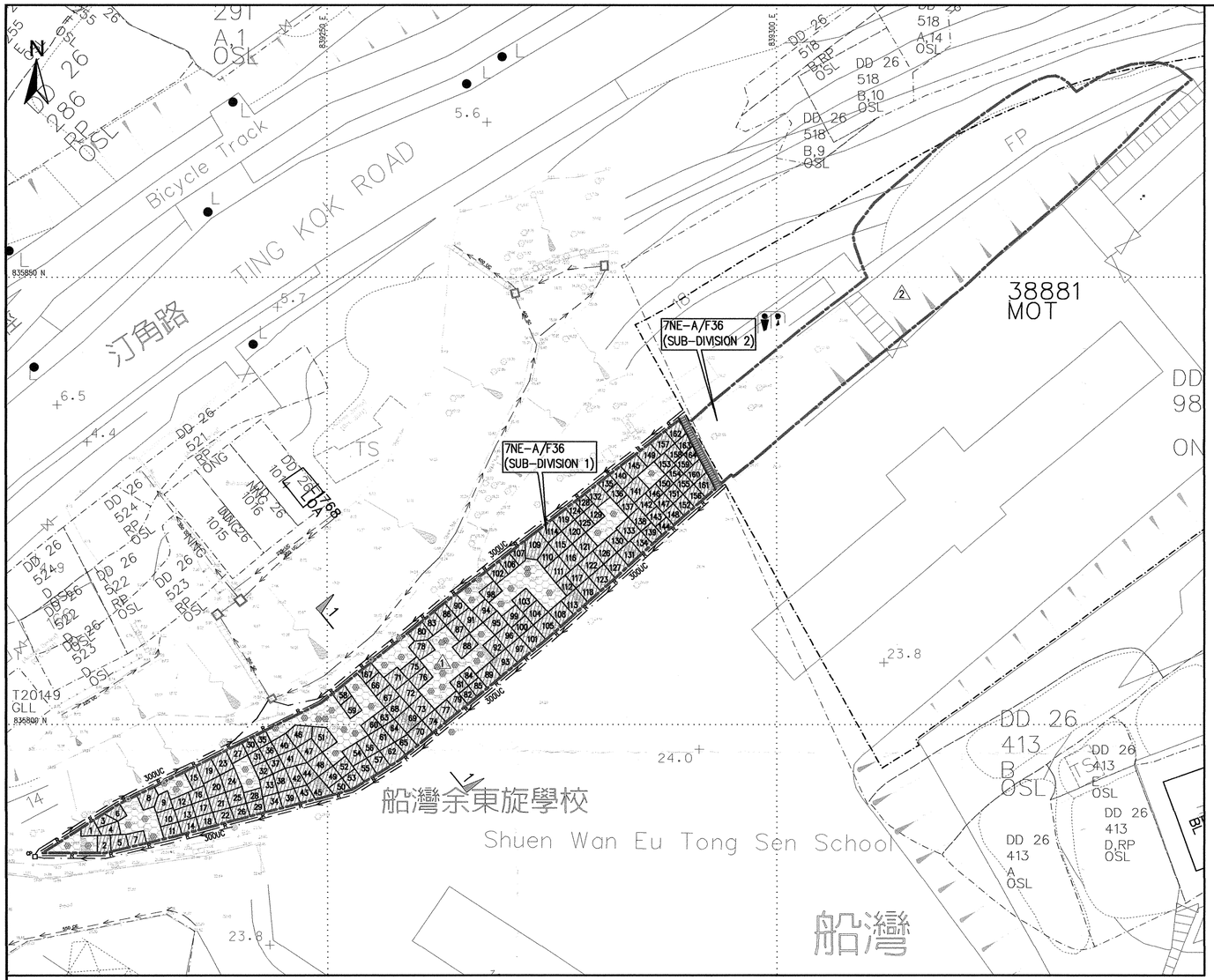
Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



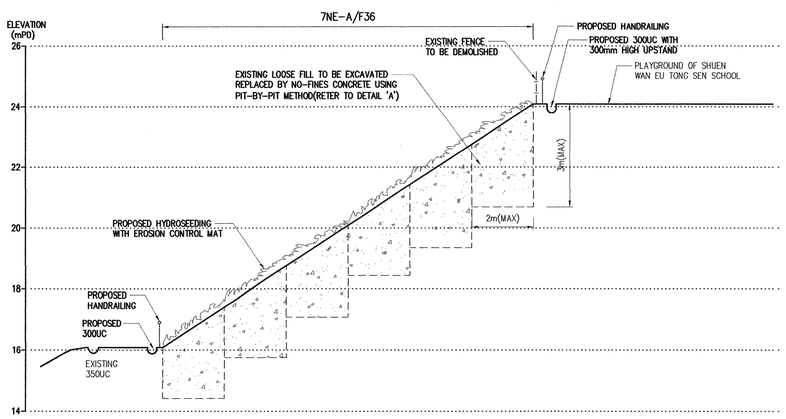
Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 5	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478


38881 MOT
7NE-A/F36
DD 26 989 ONG
DD 26 413 B OSL)
船灣余東旋學校
Shuen Wan Eu Tong Sen School
船灣
SHUEN WAN
TING KOK ROAD
汀角路
行人隧道
Subway
Bicycle Track
835800 N
T20149 GLL
T20145 GLL
80GV
100DW06
150DW06
150DW07
150DW00
150SV(VCE1.V)
100SV
150SV
80SV
100DI
150DI
6"
DD 26 291 A.1 OSL
DD 26 255 RP OSL
DD 26 286 RP OSL
DD 26 518 A.14 OSL
DD 26 518 B.10 OSL
DD 26 518 B.9 OSL
DD 26 518 A.15 OSL
DD 26 518 A.16 OSL
DD 26 518 A.17 OSL
DD 26 413 B OSL
DD 26 413 D.RP OSL
DD 26 413 A OSL
DD 26 413 E OSL
DD 26 413 F OSL
DD 26 521 RP OSL
DD 26 522 RP OSL
DD 26 523 RP OSL
DD 26 524 RP OSL
DD 26 525 RP OSL
DD 26 526 RP OSL
DD 26 527 RP OSL
DD 26 528 RP OSL
DD 26



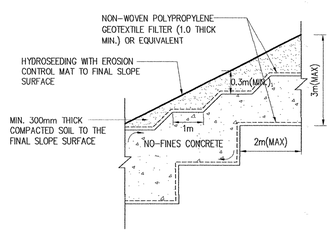
PLAN OF WORKS

SCALE 1 : 300 (A1 SIZE)
1 : 600 (A3 SIZE)



SECTION 1 – 1

SCALE 1 : 100 (A1 SIZE)
1 : 200 (A3 SIZE)



DETAIL 'A': SURFACE TREATMENT OF NO-FINES CONCRETE

N.T.S.

LEGEND:

- FEATURE BOUNDARY
- LOT BOUNDARY
- LOT BOUNDARY (MODIFICATION OF TENANCY)
- LICENCE BOUNDARY
- 38881 MOT (MODIFICATION OF TENANCY)
- UC EXISTING U-CHANNEL
- EXISTING CATCHPIT
- CP PROPOSED CATCHPIT
- UC PROPOSED U-CHANNEL
- R PROPOSED HANDRAILING (SEE STD. DRG. C2103H AND H2135C)
- PROPOSED CONCRETE MAINTENANCE STAIRCASE WITH HANDRAILING (STD. DRG. C2101D AND C2103H)
- PROPOSED HYDROSEEDING AND EROSION CONTROL MAT TO THE FINAL SLOPE SURFACE
- 1 TENTATIVE LAYOUT OF EXCAVATION PITS (EXISTING LOOSE FILL TO BE EXCAVATED AND REPLACED BY NO-FINES CONCRETE USING PIT BY PIT METHOD)
- 1 SUB-DIVISION 1 MAINTAINED BY LANDS D
- 2 SUB-DIVISION 2 MAINTAINED BY DD26 LOT 989 ONG
- EXISTING TREE TO BE PROTECTED

NOTE :

1. THE DRAWING SHALL BE READ IN CONJUNCTION WITH GENERAL NOTES FOR LPM WORKS (GEO SKETCH NO. R1069D), ALL OTHER RELEVANT DRAWINGS, SKETCHES, SPECIFICATIONS AND INSTRUCTIONS ISSUED BY THE ENGINEER.

RE-PLACEMENT OF EXISTING FILL WITH NO-FINES CONCRETE ON PIT-BY-PIT BASIS

1. THE CONTRACTOR SHALL SUBMIT PROGRAMME, METHOD STATEMENT AND TEMPORARY SUPPORT SYSTEM FOR ENGINEER APPROVAL PRIOR TO THE COMMENCEMENT OF WORKS.
2. EXCAVATION OF EXISTING FILL AND PLACEMENT OF NO-FINES CONCRETE SHALL BE CARRIED OUT IN ALTERNATE PIT BY PIT BASIS AND IN STAGGERED AS PER TENTATIVE LAYOUT AS SHOWN ON THIS DRAWING.
3. DIMENSION OF PITS SHALL NOT BE GREATER THAN 2m ON PLAN OR AS AGREED BY ENGINEER ON SITE.
4. PRIOR TO CONCRETING, MATERIAL OF THE PITS SHALL BE INSPECTED BY THE ENGINEER ON SITE. NO NO-FINES CONCRETE SHALL BE PLACED WITHOUT APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION MEASURES TO PREVENT WATER ENTERING INTO THE PIT AND THE DAMAGE OF TREE ROOTS.
6. CARRY OUT THE EXCAVATION IN THE FOLLOWING SEQUENCE.

BATCH	PIT NOS. (TENTATIVE)
1	1,5,8,13,15,21,23,29,35,41,45,47,52,56,58,63,69, 78,83,85,90,94,97,99,105,106,111,119,121,127, 128,136,139,145,146,152,153,160,163
2	2,6,9,14,16,22,24,30,34,37,43,48,53,60,65,66, 70,72,79,86,92,100,107,112,115,122,124,130,132, 138,140,147,154,161,162
3	3,7,10,17,19,25,31,38,46,49,54,62,67,73,76,80, 84,87,93,95,101,108,116,118,125,131,141,144,150, 156,157,164
4	4,11,12,18,20,26,27,32,39,40,44,51,55,61,68,81, 88,92,102,104,109,113,114,123,129,134,137,143, 151,159
5	28,33,36,42,50,57,59,64,71,74,75,77,82,89,91, 96,103,110,117,120,126,133,135,142,148,149,155, 158

i. EXCAVATE THE PITS IN BATCH 1 AND BACKFILL THE PITS WITH NO-FINES CONCRETE

ii. EXCAVATE THE PITS IN BATCH 2 AND REPEAT THE WORKS UNTIL THE COMPLETION OF PLACEMENT OF NO-FINES CONCRETE WORKS BATCH 5.

no.	date	description	designed	checked
A	2.Nov.2012	- MINOR REVISION	SL	Oct 12.

	name	date
designed	CYK	Apr-2012
drawn	HON	Apr-2012
checked	AN	Apr-2012

approved

PROJECT DIRECTOR, FUGRO (HONG KONG) LIMITED

project no.
091041 / 04

agreement no.
CE 56/2009 (GE)

contract
CONTRACT NO. GE/2011/13
LANDSLIP PREVENTION AND MITIGATION PROGRAMME, 2009, PACKAGE I, LANDSLIP PREVENTION AND MITIGATION WORKS IN MAINLAND EAST (NORTH)

feature no. & location
7NE-A/F36 (SUB-DIVISION NO.1)
NO.166, TING KOK ROAD, TAI PO

drawing title
PLAN OF WORKS AND SECTIONS

drawing no.	revision	scale
LPM1113/ 22 / 02	A	AS SHOWN

consulting engineer
FUGRO (HONG KONG) LIMITED

office
LANDSLIP PREVENTIVE MEASURES DIVISION 1 GEOTECHNICAL ENGINEERING OFFICE

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT HONG KONG

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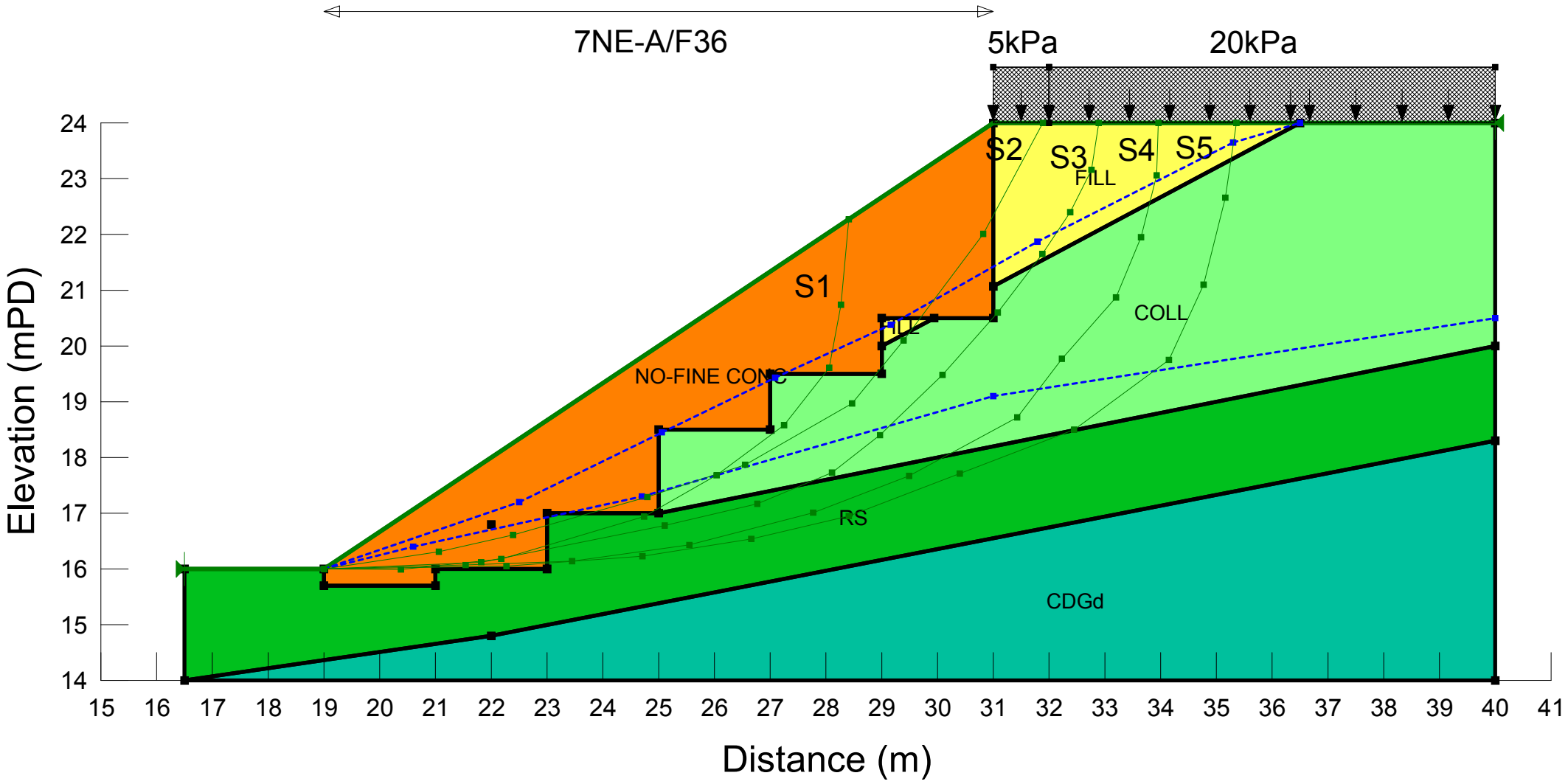
CAD File : P:\091041\Drawing\Control\Stage 2\Report\7NE-A\F36 (SHEET 1 OF 1) 7NE-A-F36 (SHEET 1 OF 1).dwg

Status : P03

ORIGINAL PAPER SIZE: A1

PLOTTED BY : tetem, 02 Nov,2012 - 1:11pm

Name: FILL Unit Weight: 18 kN/m³ Cohesion': 0 kPa Phi': 33 °
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



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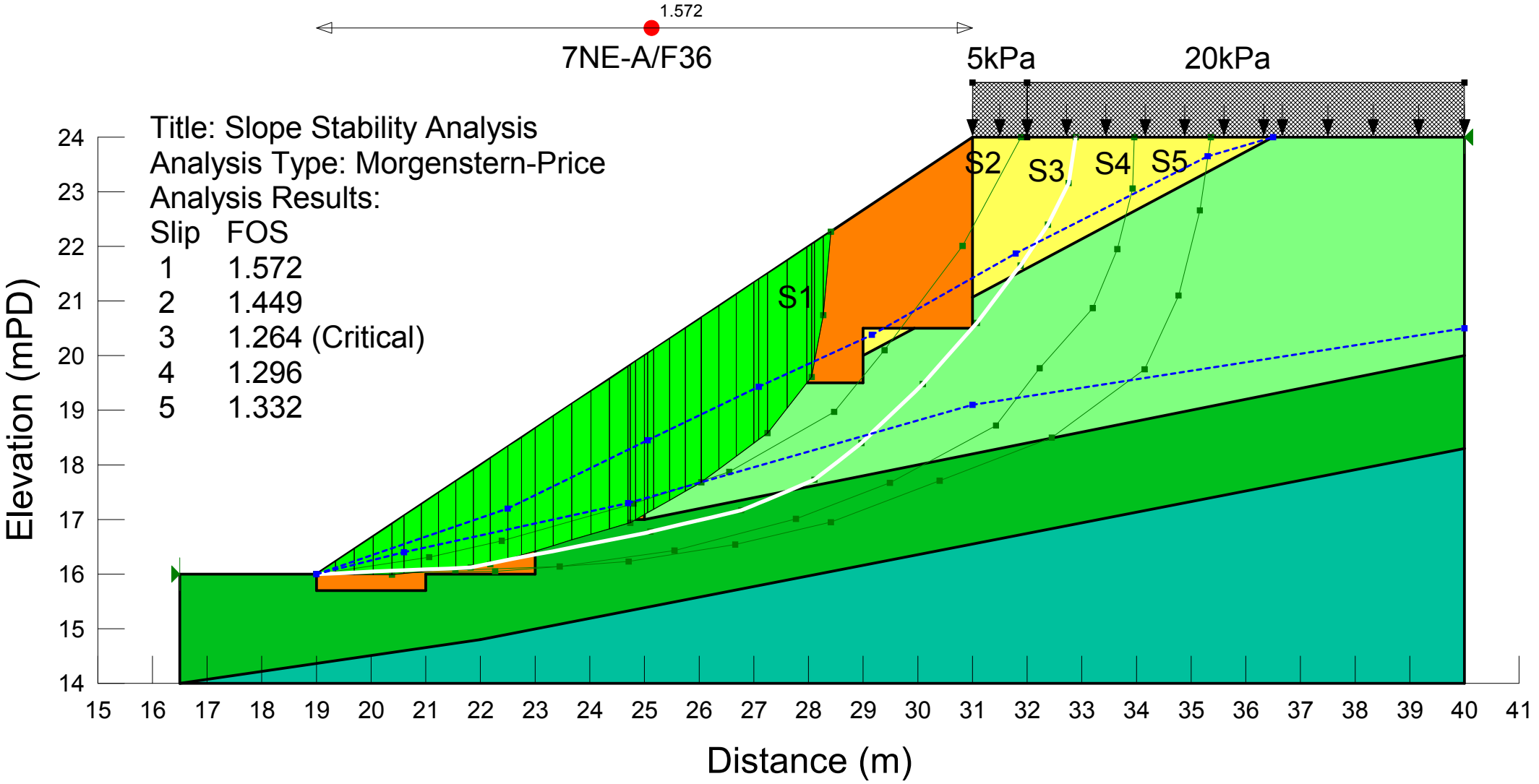
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



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Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
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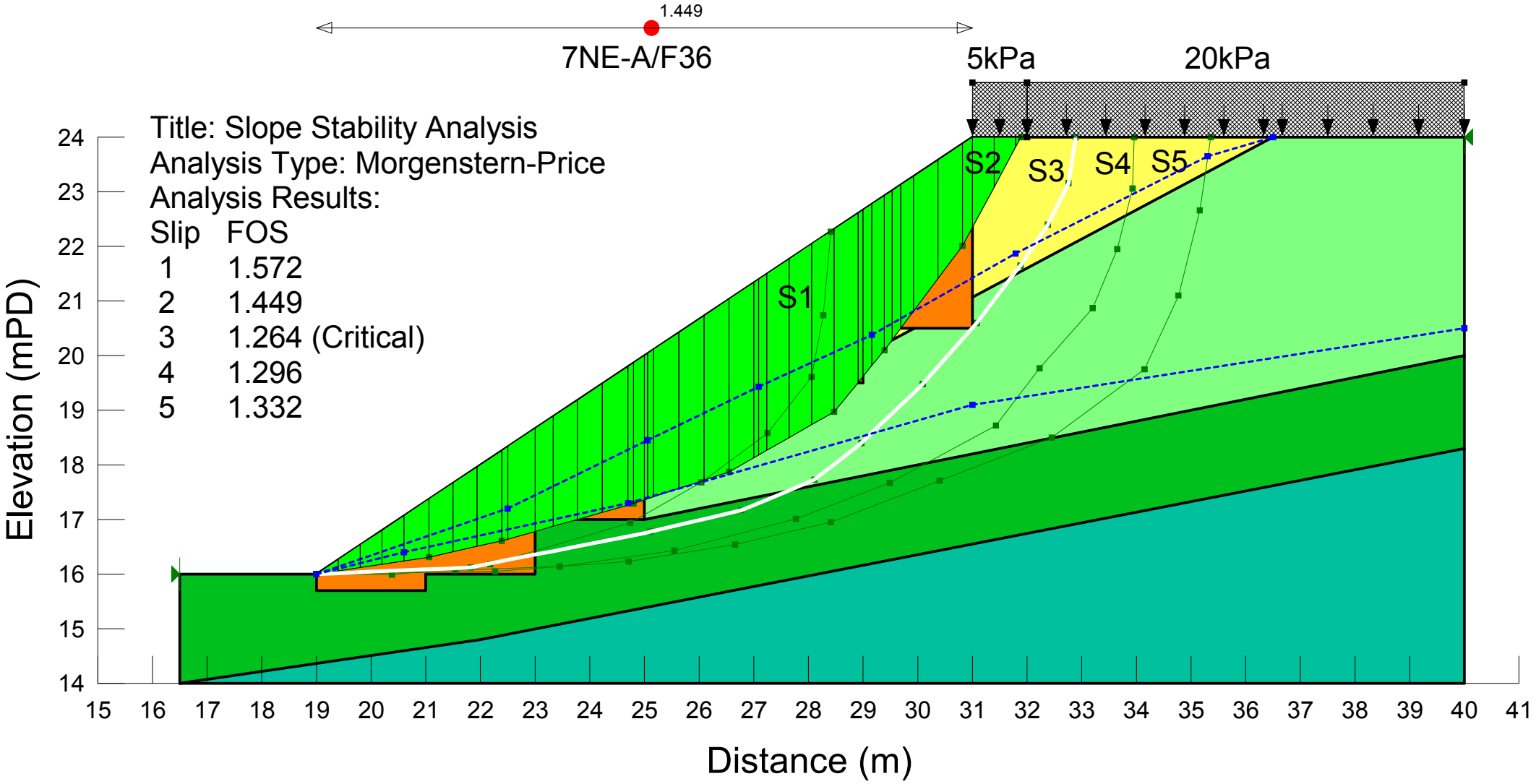
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



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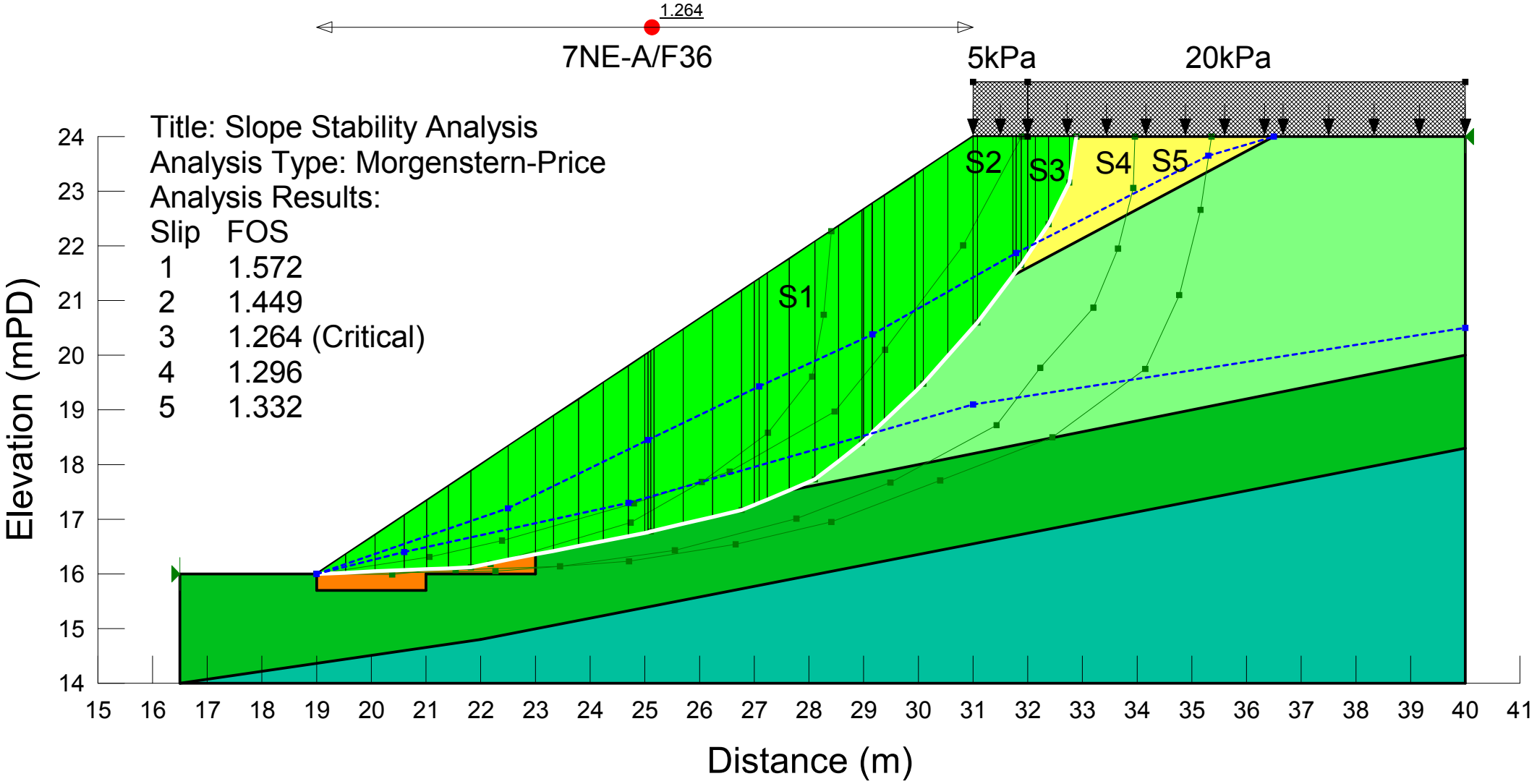
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



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Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
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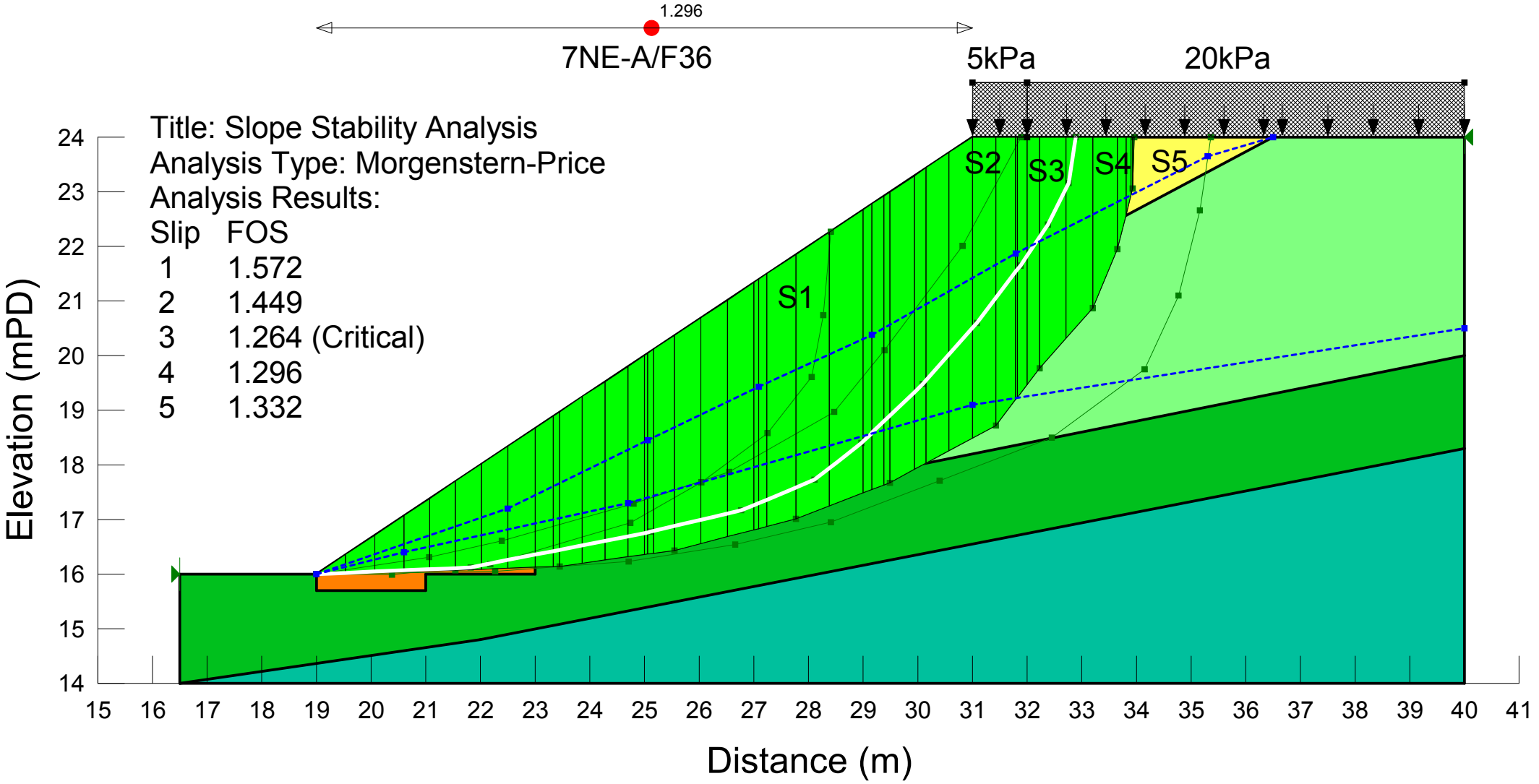

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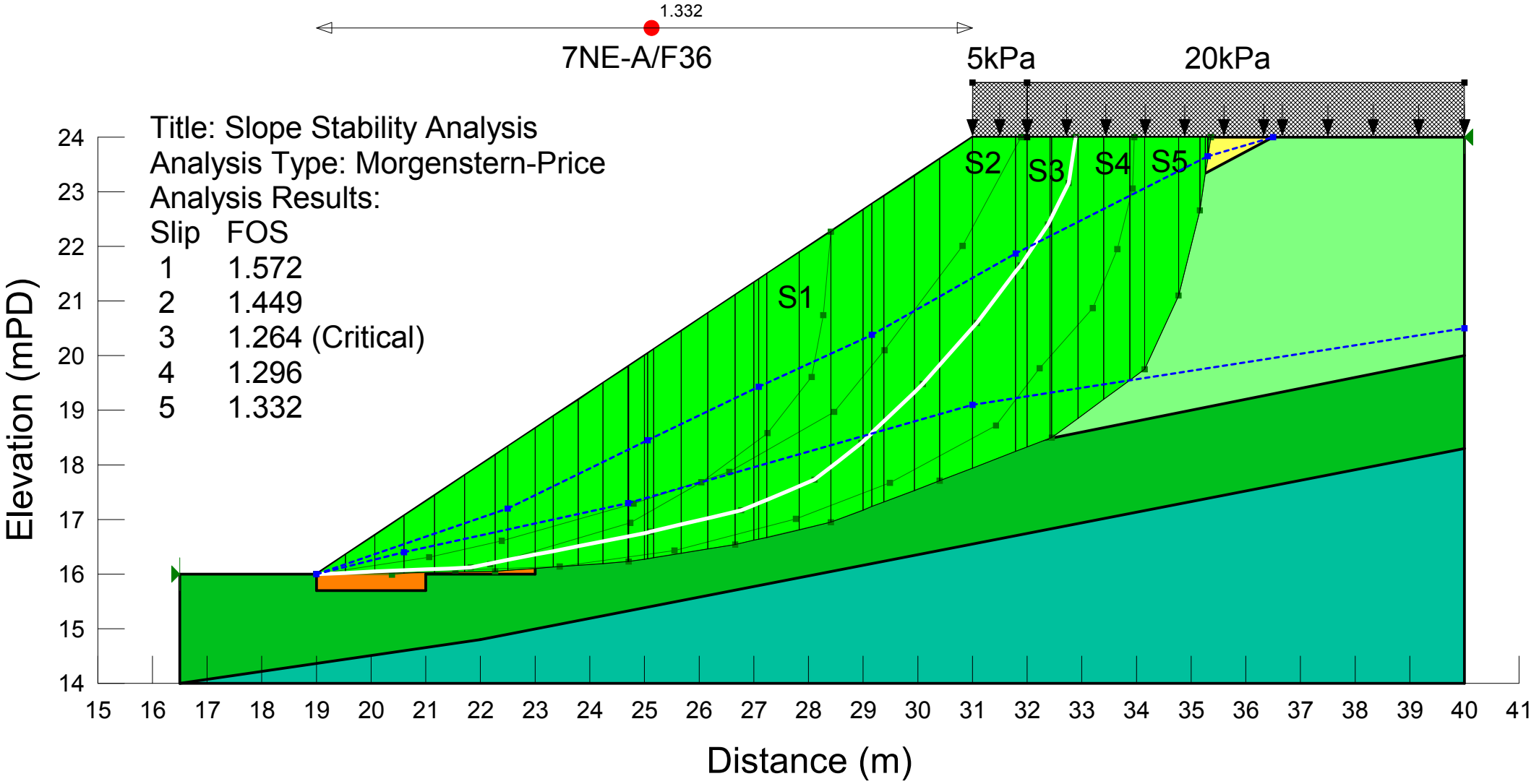
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



SLOPE/W Analysis

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File Information

File Version: 8.15
Revision Number: 71
Date: 11/7/2022
Time: 17:46:57
Tool Version: 8.15.1.11236
File Name: 7NE-A_F63.gsz
Directory: \\MCESERVER\MCE Share Files\server recover\J1079\20220516 Geotechnical Planing Review Report\Slope W\
Last Solved Date: 11/7/2022
Last Solved Time: 17:46:58

Project Settings

Length(L) Units: Meters
Time(t) Units: Seconds
Force(F) Units: Kilonewtons
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D
Element Thickness: 1

Analysis Settings

SLOPE/W Analysis

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
Side Function
Interslice force function option: Half-Sine
PWP Conditions Source: Piezometric Line
Apply Phreatic Correction: No
Use Staged Rapid Drawdown: No
Slip Surface
Direction of movement: Right to Left
Use Passive Mode: No
Slip Surface Option: Fully-Specified
Critical slip surfaces saved: 1
Resisting Side Maximum Convex Angle: 1 °
Driving Side Maximum Convex Angle: 5 °
Optimize Critical Slip Surface Location: No
Tension Crack
Tension Crack Option: (none)
F of S Distribution
F of S Calculation Option: Constant
Advanced
Number of Slices: 30
F of S Tolerance: 0.001
Minimum Slip Surface Depth: 0.1 m
Search Method: Root Finder
Tolerable difference between starting and converged F of S: 3
Maximum iterations to calculate converged lambda: 20
Max Absolute Lambda: 2

Materials

FILL

Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion': 0 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

COLL

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 32 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

RS

Model: Mohr-Coulomb

Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

CDGd

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

NO-FINE CONC

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 5 kPa
Phi': 45 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (16.5, 16) m
Right Coordinate: (40, 24) m

Fully Specified Slip Surfaces

Fully Specified Slip Surface 1

	X (m)	Y (m)
	19	16
	20.380181	15.985933
	22.181416	16.177134
	24.73513	16.940552
	26.037344	17.678733
	27.245745	18.580796
	28.055435	19.60671
	28.267059	20.738436
	28.408551	22.272367

Fully Specified Slip Surface 2

	X (m)	Y (m)
	19	16
	21.062774	16.303194
	22.385066	16.609363
	24.798299	17.290292
	26.553159	17.871136
	28.474976	18.9689
	29.388689	20.09347
	30.81996	22.01035
	31.890422	24

Fully Specified Slip Surface 3

	X (m)	Y (m)
	19	16
	21.819953	16.120294
	25.113218	16.77354
	26.767316	17.163954
	28.111836	17.724256
	28.968209	18.399597
	30.092922	19.474237
	31.077901	20.593814
	31.878211	21.647697
	32.377013	22.402341
	32.759292	23.160921
	32.893519	24

Fully Specified Slip Surface 4

	X (m)	Y (m)
	19	16
	21.540527	16.068001
	23.446894	16.142567
	25.551702	16.432634
	27.765731	17.007293
	29.487728	17.671811

	31.426972	18.719706
	32.228866	19.7676
	33.196891	20.863416
	33.654255	21.944753
	33.930041	23.05868
	33.964038	24

Fully Specified Slip Surface 5

	X (m)	Y (m)
	19	16
	22.266925	16.046945
	24.71202	16.225666
	26.6607	16.535039
	28.405853	16.944917
	30.395285	17.706067
	32.451275	18.496661
	34.146811	19.744704
	34.767135	21.097169
	35.16116	22.654634
	35.359718	24

Piezometric Lines

Piezometric Line 1

Coordinates

	X (m)	Y (m)
Coordinate 1	19	16
Coordinate 2	22.5	17.2
Coordinate 3	25.059602	18.444894
Coordinate 4	27.092404	19.430327
Coordinate 5	29.164649	20.377859
Coordinate 6	31.793309	21.866584
Coordinate 7	35.296641	23.65056
Coordinate 8	36.5	24

Piezometric Line 2

Coordinates

	X (m)	Y (m)
Coordinate 1	19	16
Coordinate 2	20.6	16.4
Coordinate 3	24.7	17.3
Coordinate 4	31	19.1
Coordinate 5	40	20.5

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 20 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	32	24
	32	25
	40	25

Surcharge Load 2

Surcharge (Unit Weight): 5 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	31	25
	32	25

Points

	X (m)	Y (m)
Point 1	16.5	16
Point 2	19	16
Point 3	31	24
Point 4	40	24
Point 5	40	14
Point 6	16.5	14
Point 7	22	14.8
Point 8	40	18.3
Point 9	22	16.8
Point 10	40	20
Point 11	36.5	24
Point 12	19	15.7
Point 13	21	15.7
Point 14	21	16
Point 15	23	16
Point 16	23	17
Point 17	25	17
Point 18	25	18.5
Point 19	27	18.5
Point 20	27	19.5
Point 21	29	19.5
Point 22	29	20.5
Point 23	31	20.5
Point 24	29	20
Point 25	29.938351	20.5
Point 26	30.996801	21.06458

Regions

	Material	Points	Area (m^2)
Region 1	CDGd	6,5,8,7	48.1
Region 2	RS	6,1,2,12,13,14,15,16,17,10,8,7	37.8
Region 3	NO-FINE CONC	2,12,13,14,15,16,17,18,19,20,21,24,22,25,23,26,3	25.594
Region 4	COLL	17,10,4,11,26,23,25,24,21,20,19,18	47.199
Region 5	FILL	24,22,25	0.23459
Region 6	FILL	26,3,11	8.0724

Current Slip Surface

Slip Surface: 3
F of S: 1.264
Volume: 38.206835 m³
Weight: 746.37464 kN
Resisting Moment: 4,290.9639 kN-m
Activating Moment: 3,395.8024 kN-m
Resisting Force: 382.76602 kN
Activating Force: 302.96161 kN
F of S Rank (Analysis): 1 of 5 slip surfaces
F of S Rank (Query): 1 of 5 slip surfaces
Exit: (19, 16) m
Entry: (32.893519, 24) m
Radius: 10.284121 m
Center: (22.491911, 26) m

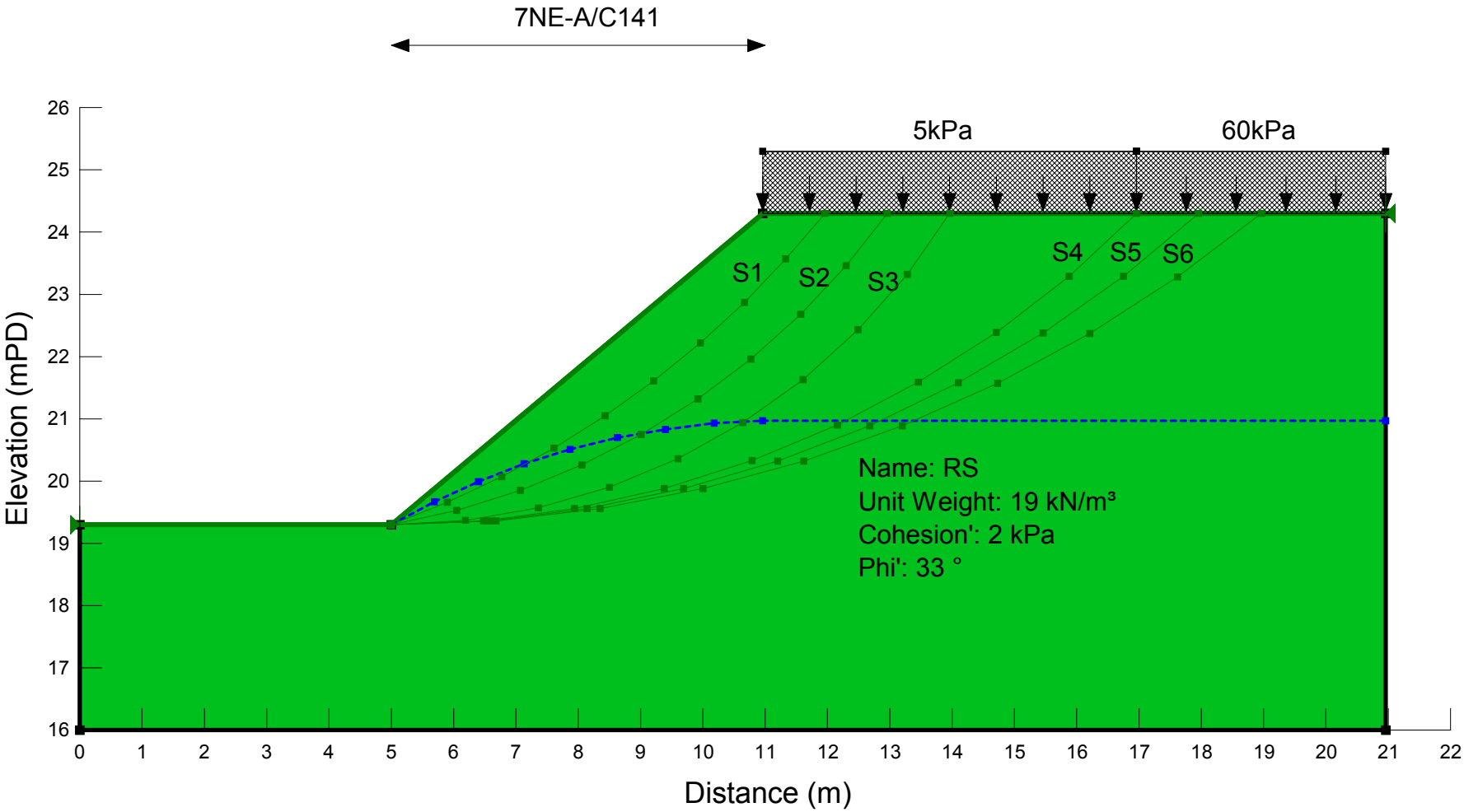
Slip Slices

	X (m)	Y (m)	PWP (kPa)	Base Normal Stress (kPa)	Frictional Strength (kPa)	Cohesive Strength (kPa)
Slice 1	19.266667	16.011376	0.78508039	3.4966903	2.7116099	5
Slice 2	19.8	16.034127	2.3552412	11.457278	9.1020368	5
Slice 3	20.333333	16.056878	3.9254019	20.490362	16.56496	5
Slice 4	20.803326	16.076927	5.309083	29.416021	24.106938	5
Slice 5	21.209977	16.094274	6.5062845	37.943016	31.436731	5
Slice 6	21.616628	16.111621	7.703486	47.193133	39.489647	5
Slice 7	22.159976	16.18774	8.7839345	47.440249	38.656314	5
Slice 8	22.75	16.304776	9.9718965	55.73361	45.761714	5
Slice 9	23.166667	16.387426	11.148754	55.587678	28.858975	2
Slice 10	23.561111	16.465667	12.262845	59.315339	30.556247	2
Slice 11	24.016667	16.55603	13.549542	63.393523	32.36906	2
Slice 12	24.472222	16.646393	14.836239	67.186993	33.996977	2
Slice 13	24.85	16.721329	15.903256	70.102588	35.197458	2
Slice 14	25.029801	16.756994	16.411096	69.776297	34.655767	2
Slice 15	25.08641	16.768222	16.570566	70.174445	34.810766	2
Slice 16	25.143248	16.780628	16.719118	67.761417	33.147257	2
Slice 17	25.438951	16.850422	17.440446	69.41029	33.749611	2
Slice 18	25.970297	16.975835	18.736596	72.133162	34.676136	2
Slice 19	26.501643	17.101248	20.032745	74.533278	35.39306	2
Slice 20	26.883658	17.212437	20.758446	64.179305	28.197835	2
Slice 21	27.046202	17.280174	20.8669	63.537011	27.710294	2
Slice 22	27.168591	17.331177	20.928001	63.714193	27.785678	2
Slice 23	27.443248	17.445635	21.037141	64.140851	27.991876	2
Slice 24	27.876777	17.6263	21.209412	64.806429	27.24244	2
Slice 25	28.325929	17.893091	20.607096	51.050739	19.023299	2
Slice 26	28.754116	18.230762	19.215653	50.584202	19.601245	2
Slice 27	28.984105	18.414785	18.442263	46.351661	17.439727	2
Slice 28	29.073607	18.500303	18.004941	45.294357	17.05232	2

Slice 29	29.155932	18.578962	17.602692	45.149744	17.213308	2
Slice 30	29.272482	18.690323	17.148579	44.976438	17.388776	2
Slice 31	29.659333	19.059952	15.672258	44.499774	18.013431	2
Slice 32	30.015636	19.400392	14.312513	44.127812	18.630667	2
Slice 33	30.318533	19.730678	12.755731	40.182103	17.137899	2
Slice 34	30.772072	20.246193	10.219087	38.967688	17.96412	2
Slice 35	31.03895	20.549541	8.7264347	37.131449	17.749423	2
Slice 36	31.405957	21.025812	6.0940432	30.4199	15.200483	2
Slice 37	31.763661	21.496852	3.4612876	26.684227	15.081153	0
Slice 38	31.83576	21.591796	2.9068471	25.775674	14.85119	0
Slice 39	31.939106	21.739825	1.9712247	22.792135	13.521257	0
Slice 40	32.069684	21.937379	0.68591425	28.814554	18.266953	0
Slice 41	32.258191	22.222573	-1.1695912	26.543361	17.23746	0
Slice 42	32.568152	22.781631	-5.1043389	19.445733	12.628207	0
Slice 43	32.826406	23.580461	-11.648758	6.3833582	4.1454013	0

Appendix E

SLOPE/W Analysis of Feature No. 7NE-A/C141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5kPa
60kPa
S1
S2
S3
S4
S5
S6
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Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
26
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18
17
16
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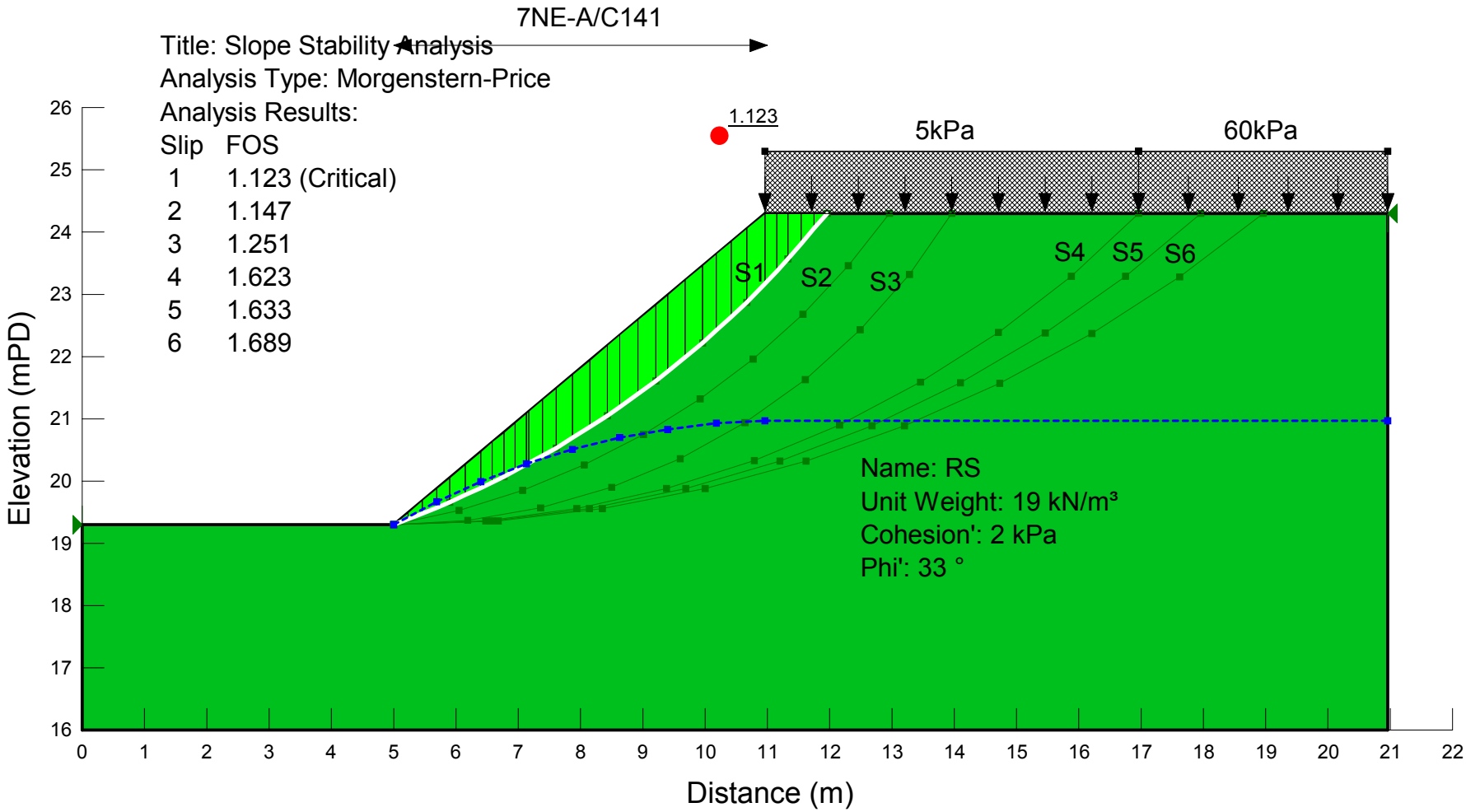
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2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.123
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
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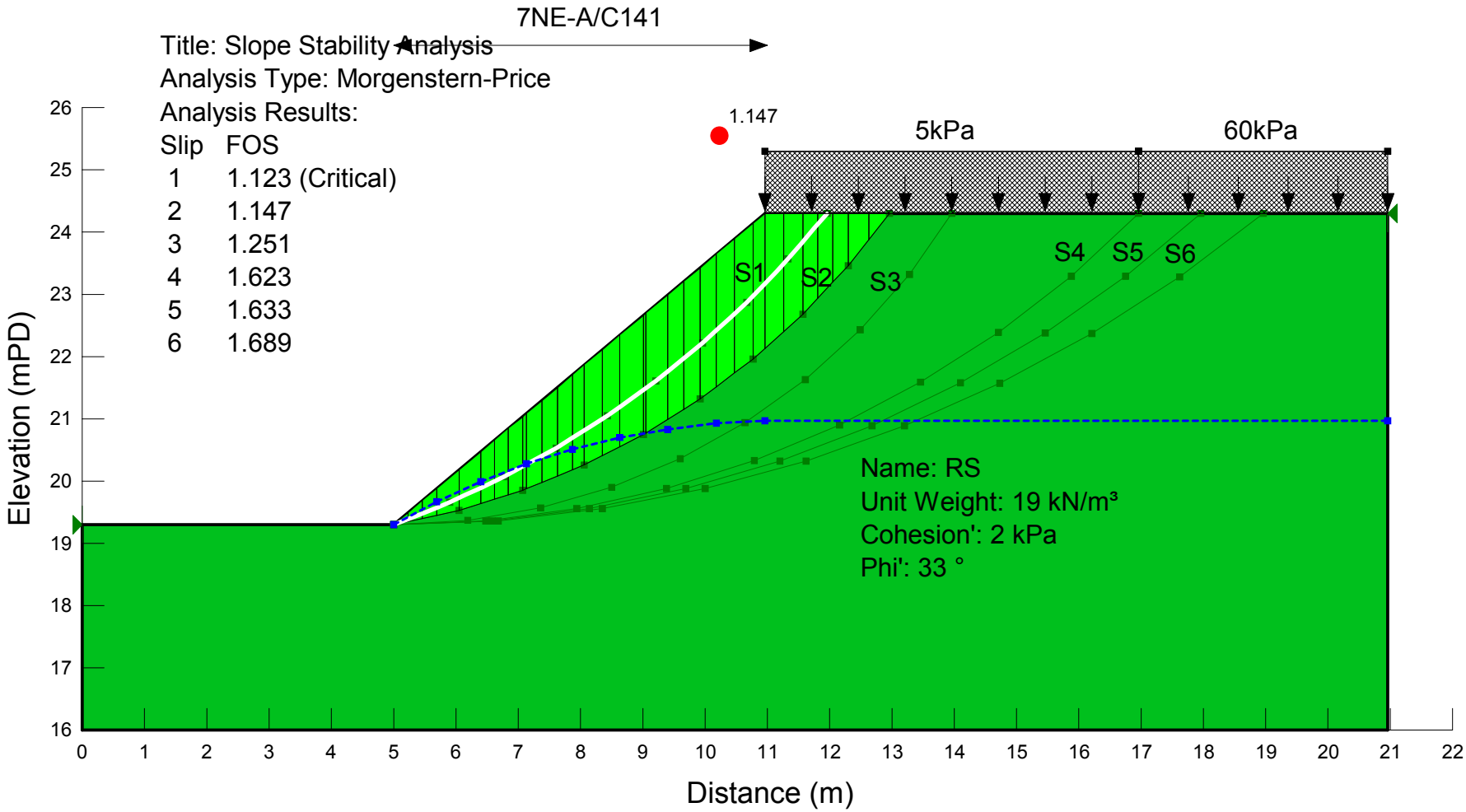
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Analysis Type: Morgenstern-Price
Analysis Results:
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2 1.147
3 1.251
4 1.623
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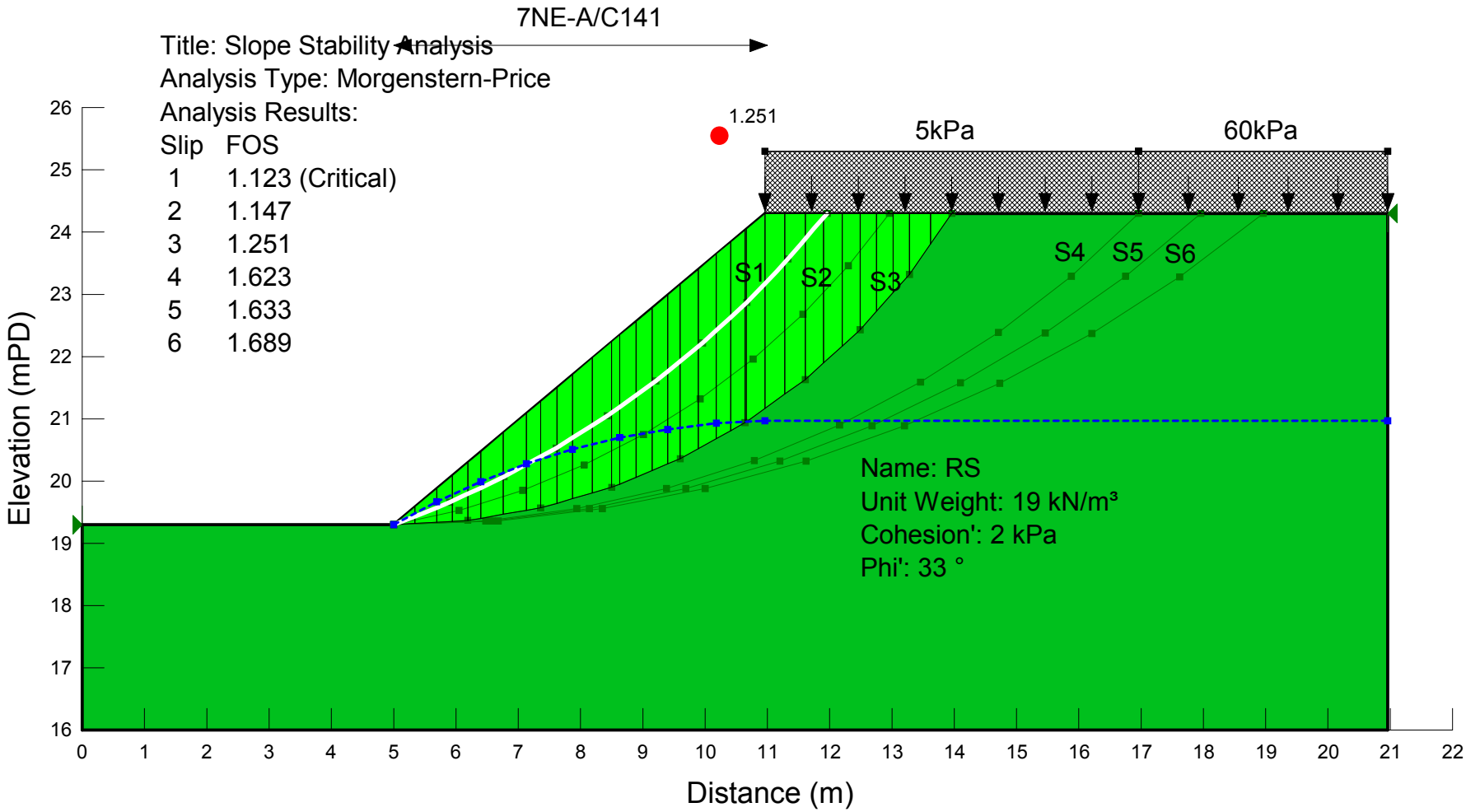
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)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Analysis Results:
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Distance (m)
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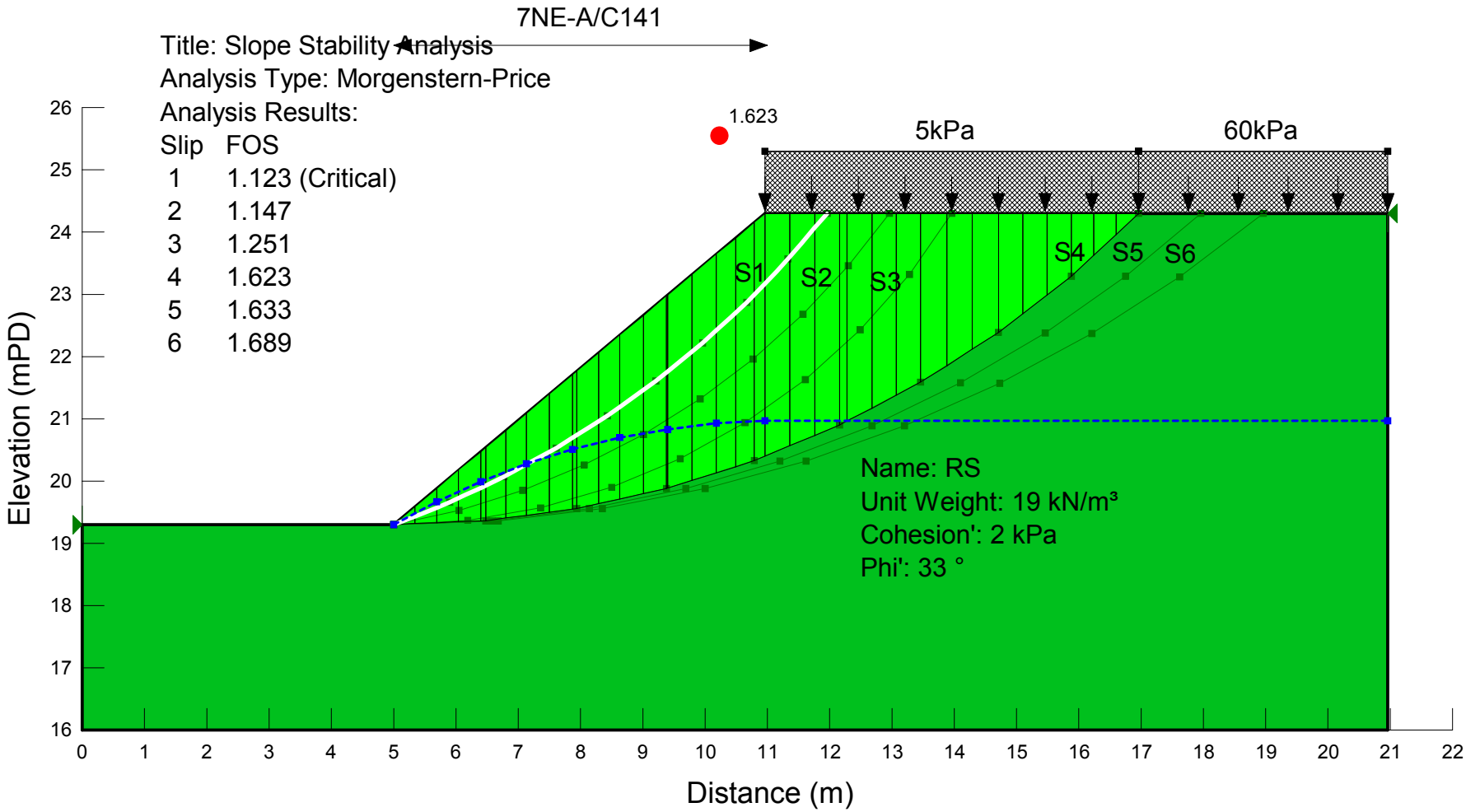
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Analysis Results:
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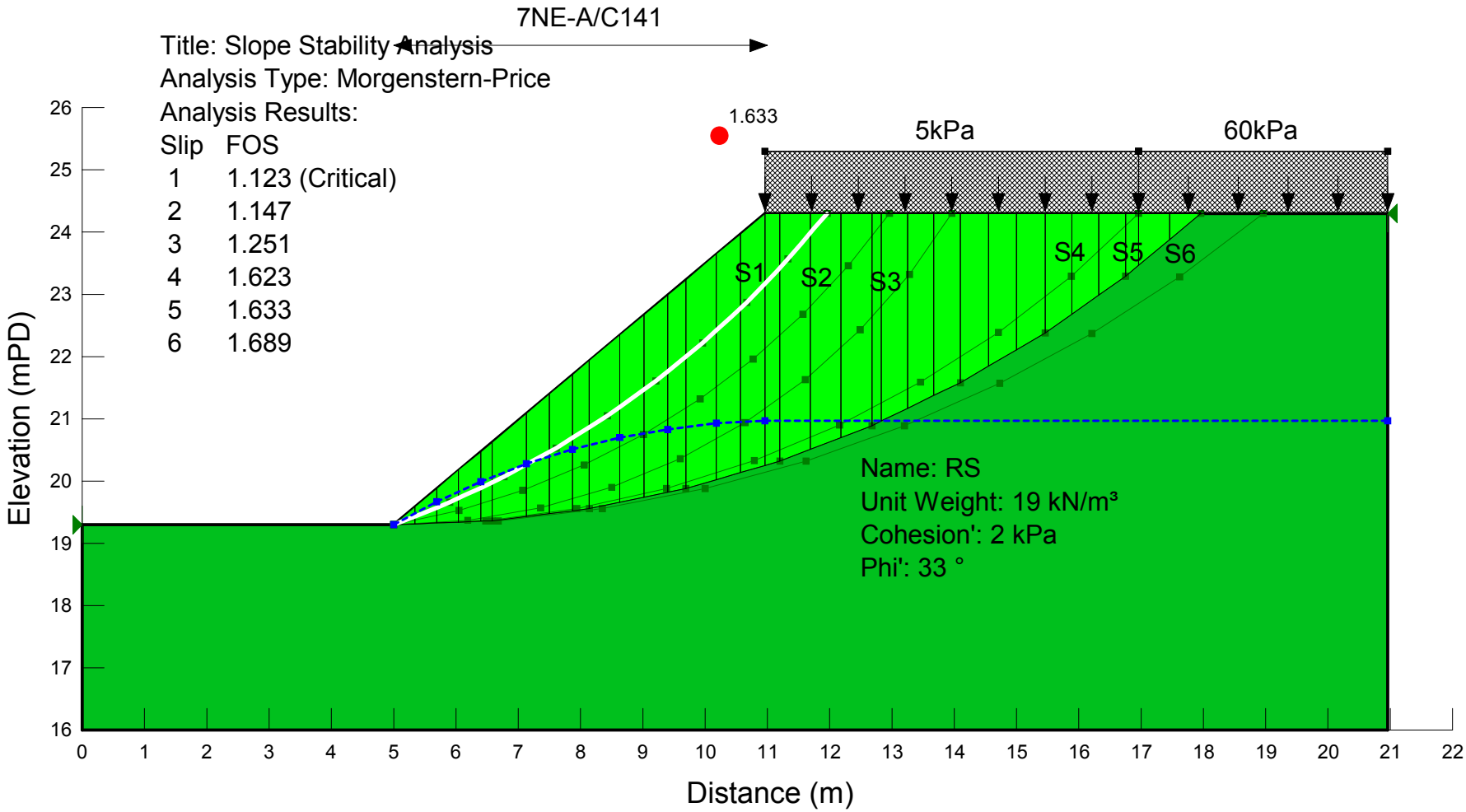
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)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1.633
5kPa
60kPa
S1
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Unit Weight: 19 kN/m³
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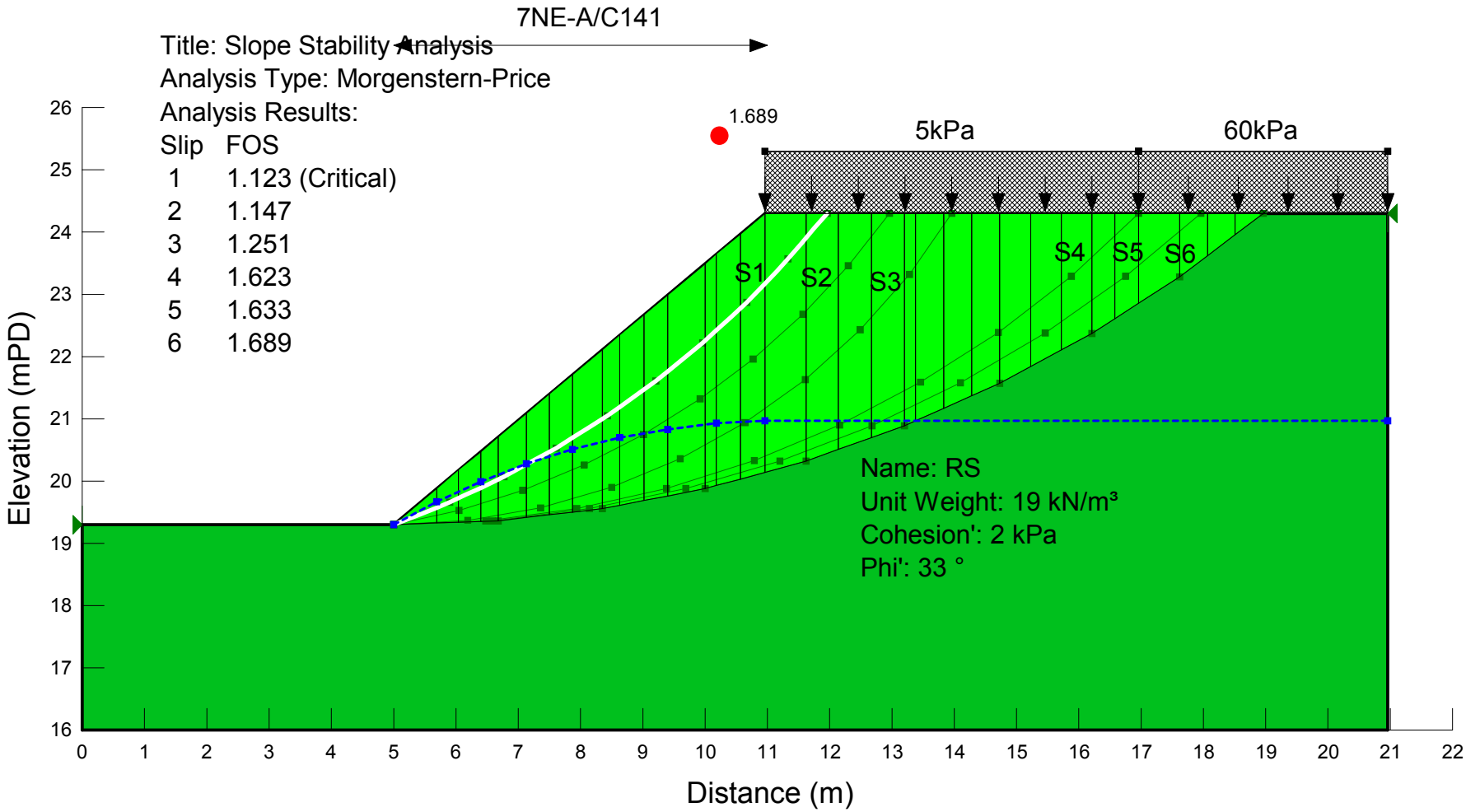
Phi': 33 °
Elevation (mPD)
Distance (m)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SLOPE/W Analysis

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File Information

File Version: 8.15
Revision Number: 13
Date: 11/7/2022
Time: 17:57:15
Tool Version: 8.15.1.11236
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Directory: \\MCESERVER\MCE Share Files\server recover\J1079\20220516 Geotechnical Planing Review Report\Slope W\
Last Solved Date: 11/7/2022
Last Solved Time: 17:57:16

Project Settings

Length(L) Units: Meters
Time(t) Units: Seconds
Force(F) Units: Kilonewtons
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D
Element Thickness: 1

Analysis Settings

SLOPE/W Analysis

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
- Side Function
  - Interslice force function option: Half-Sine
- PWP Conditions Source: Piezometric Line
- Apply Phreatic Correction: No
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Fully-Specified
- Critical slip surfaces saved: 1
- Resisting Side Maximum Convex Angle: 1 °
- Driving Side Maximum Convex Angle: 5 °
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

F of S Distribution
- F of S Calculation Option: Constant

Advanced
- Number of Slices: 30
- F of S Tolerance: 0.001
- Minimum Slip Surface Depth: 0.1 m
- Search Method: Root Finder
- Tolerable difference between starting and converged F of S: 3
- Maximum iterations to calculate converged lambda: 20
- Max Absolute Lambda: 2

Materials

RS

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (0, 19.3) m
Right Coordinate: (20.9588, 24.3) m

Fully Specified Slip Surfaces

Fully Specified Slip Surface 1

	X (m)	Y (m)
	5	19.3
	5.8954	19.6571
	6.7673	20.068
	7.6127	20.5313
	8.4283	21.0451
	9.2112	21.6076
	9.9583	22.2166
	10.667	22.87
	11.3347	23.5653
	11.9588	24.3

Fully Specified Slip Surface 2

	X (m)	Y (m)
	5	19.3
	6.0452	19.531
	7.0668	19.8507
	8.0572	20.2569
	9.0091	20.7465
	9.9156	21.3159
	10.7698	21.961
	11.5656	22.677
	12.297	23.4586
	12.9588	24.3

Fully Specified Slip Surface 3

	X (m)	Y (m)
	5	19.3
	6.1882	19.3673
	7.3612	19.5682
	8.504	19.9003
	9.602	20.3593
	10.6412	20.9393
	11.6083	21.6329
	12.4909	22.4312
	13.2777	23.324
	13.9588	24.3

Fully Specified Slip Surface 4

	X (m)	Y (m)
	5	19.3
	6.4767	19.365
	7.9419	19.5596
	9.3843	19.8821
	10.7929	20.3302
	12.1565	20.9004
	13.4648	21.5882
	14.7076	22.3883
	15.8753	23.2946
	16.9588	24.3

Fully Specified Slip Surface 5

	X (m)	Y (m)
	5	19.3
	6.577	19.3646
	8.1434	19.5578
	9.6889	19.8784
	11.2029	20.3243
	12.6754	20.8925
	14.0965	21.5791
	15.4568	22.3796
	16.7471	23.2886
	17.9588	24.3

Fully Specified Slip Surface 6

	X (m)	Y (m)
	5	19.3
	6.6788	19.3642
	8.3477	19.5564
	9.9972	19.8755
	11.6174	20.3196
	13.199	20.8861
	14.7327	21.5717
	16.2096	22.3725
	17.621	23.2837
	18.9588	24.3

Piezometric Lines

Piezometric Line 1

Coordinates

	X (m)	Y (m)
Coordinate 1	5	19.3
Coordinate 2	5.6887	19.6693
Coordinate 3	6.3992	19.9948
Coordinate 4	7.1287	20.2751
Coordinate 5	7.8743	20.5091
Coordinate 6	8.6331	20.696
Coordinate 7	9.4022	20.8349
Coordinate 8	10.1784	20.9254
Coordinate 9	10.9588	20.967
Coordinate 10	20.9588	20.967

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	10.9588	25.3
	16.9588	25.3

Surcharge Load 2

Surcharge (Unit Weight): 60 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	16.9588	25.3
	20.9588	25.3

Points

	X (m)	Y (m)
Point 1	0	19.3
Point 2	5	19.3
Point 3	10.9588	24.3
Point 4	20.9588	24.3
Point 5	20.9588	16
Point 6	0	16

Regions

	Material	Points	Area (m²)
Region 1	RS	1,2,3,4,5,6	134.06

Current Slip Surface

Slip Surface: 1
F of S: 1.123
Volume: 5.8442511 m³
Weight: 111.04077 kN
Resisting Moment: 411.40978 kN-m
Activating Moment: 366.37539 kN-m
Resisting Force: 62.02723 kN
Activating Force: 55.242811 kN
F of S Rank (Analysis): 1 of 6 slip surfaces
F of S Rank (Query): 1 of 6 slip surfaces
Exit: (5, 19.3) m
Entry: (11.9588, 24.3) m
Radius: 5.938642 m
Center: (5.7849699, 25.55) m

Slip Slices

	X (m)	Y (m)	PWP (kPa)	Base Normal Stress (kPa)	Frictional Strength (kPa)	Cohesive Strength (kPa)
Slice 1	5.1147833	19.345777	0.1546814	0.36033696	0.13355428	2
Slice 2	5.34435	19.437332	0.46404421	2.2558265	1.163597	2
Slice 3	5.5739167	19.528887	0.77340701	4.1784925	2.2112884	2
Slice 4	5.79205	19.615882	0.9882042	6.0222885	3.2691726	2
Slice 5	6.02135	19.716456	1.0320876	7.2987713	4.069632	2
Slice 6	6.27325	19.835169	0.99962295	8.9802899	5.1827058	2
Slice 7	6.491225	19.937894	0.90484348	10.438338	6.1911238	2
Slice 8	6.675275	20.024631	0.74774924	11.672792	7.0948061	2

Slice 9	6.85765	20.117514	0.52407499	11.758185	7.2955166	2
Slice 10	7.03835	20.216542	0.23382074	12.601142	8.0314323	2
Slice 11	7.1480095	20.276638	0.044346804	13.110787	8.4854452	2
Slice 12	7.2786642	20.34824	-0.25571963	13.694448	8.8932785	2
Slice 13	7.5013547	20.47028	-0.76715889	14.65239	9.5153731	2
Slice 14	7.7435	20.6137	-1.4283889	14.106465	9.1608454	2
Slice 15	8.0128	20.783349	-2.3550072	14.719679	9.5590716	2
Slice 16	8.2898	20.95785	-3.3972229	15.315333	9.9458939	2
Slice 17	8.5307	21.118673	-4.3925039	14.27932	9.2730988	2
Slice 18	8.777625	21.296084	-5.6290474	14.471621	9.3979807	2
Slice 19	9.066675	21.503761	-7.1537883	14.707443	9.5511251	2
Slice 20	9.3067	21.685447	-8.5104594	13.514043	8.7761224	2
Slice 21	9.541225	21.876621	-10.057187	13.510324	8.773707	2
Slice 22	9.819275	22.103274	-11.962041	13.542902	8.7948635	2
Slice 23	10.06835	22.318063	-13.783679	12.369517	8.0328581	2
Slice 24	10.30055	22.532144	-15.693483	12.260863	7.9622974	2
Slice 25	10.54485	22.757381	-17.774672	12.180313	7.909988	2
Slice 26	10.8129	23.021931	-20.22898	11.043178	7.1715235	2
Slice 27	11.052775	23.271721	-22.602402	12.813908	8.321449	2
Slice 28	11.240725	23.46744	-24.52182	10.965817	7.1212846	2
Slice 29	11.438717	23.68775	-26.682395	8.1254468	5.2767268	2
Slice 30	11.64675	23.93265	-29.08413	5.7187295	3.7137863	2
Slice 31	11.854783	24.17755	-31.485864	3.1084238	2.018634	2

Our ref: UDP/HB/THSW/TPB-L05

August 15, 2022

Secretary
Town Planning Board
17/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong
(Attn: Ms. Aileen Cheng)

Dear Sir/ Madam,

A/NE-TK/753

Planning Application
Under Section 16 of Town Planning Ordinance

Proposed Transitional Housing Project at Government Land at Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Please see the Planning Application for the proposed transitional housing project at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School), submitted by Urban Design & Planning Consultants Limited (UDP International) to the Town Planning Board under Section 16 of the Town Planning Ordinance (Cap. 131) on behalf of the Applicant, The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP). The Application Site falls within the area zoned "Government, Institution or Community" under the Approved Outline Zoning Plan No. S/NE-TK/19, for a proposed temporary residential institution (transitional housing) for a period of 5 years.

Enclosed please find the consolidated reports with 4 hard copies of the Planning Statement including an executive summary and appendices and soft copy of the Planning Statement in pdf format (with a content page having hyperlinks to appendices and chapters) in support of this application for your kind consideration.

Please feel free to contact the undersigned or Ms. Queenie Huang if you need any clarification or further information. We look forward to your favourable consideration on this planning application so that there is no further delay of this much-needed transitional housing project for needy households.

Yours sincerely,
For and on behalf of
Urban Design & Planning Consultants Limited (UDP International)

Dr. Sujata S. Govada
CEO and Managing Director
SG/AL

Encl.
cc.
Client (Ms. Anthea Lee) (By Hardcopy x1 and Softcopy x1)

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t +852 2129 0169 (hk) | e [redacted](hk) | f +852 3586 9771 (hk) | e inq@udpcltd.com — www.udpcltd.com

香 港 善 導 會
The Society of Rehabilitation and Crime Prevention, Hong Kong

SECTION 16 PLANNING APPLICATION FOR THE GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

PLANNING STATEMENT







AUGUST 2022

UDP International
Urban Design & Planning Consultants Limited

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EXECUTIVE SUMMARY

The Planning Statement is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek planning permission from the Town Planning Board ("TPB") for a proposed temporary residential institution ("transitional housing") for a period of 5 years at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) under Section 16 ("S.16") of the Town Planning Ordinance ("TPO") (Cap 131). The period of construction is expected to last for around two years and the period of operation for around three years. The Estimated Date of Commencement and Completion of Works will be in the Q2 of 2023 and Q2 of 2024 accordingly.

The Application Site (the Site) is situated in the Eastern part of Tai Po. It falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

The planning approval will enable the proposed transitional housing development to address the shortage of housing supply in Hong Kong and improve the living conditions of households with priority needs. The proposal offers a better scheme to provide social benefits to the residents while satisfying the architectural and technical requirements as per relevant regulations and ordinances with the following additional site-specific benefits:

- The proposed transitional housing development will involve a total site area of about 4,310 m^2, a total Gross Floor Area ("GFA") of about 6,195.3 m^2, and total Plot Ratio ("PR") of about 1.44. The proposed transitional housing development will supply about 276 units in total and will accommodate an approximate of 608 residents using the reusable Modular Integrated Construction ("MiC") construction method.

- The proposed convenience store and the landscaped open space within the Site will provide a much needed amenity and social gathering spot for the residents, improving their quality of life as well as enhancing the Site area.

The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB in light of the planning merits and justifications provided:

- Aligned with Government policy by increasing the supply of transitional housing to relieve the housing shortage problem;
- Better utilisation of underutilised Government land for public good;
- Offering better living conditions and improved quality of life for households in need;
- Improved accessibility and mobility for the households in need and neighbouring community;
- Proposed Site enhancements benefiting the residents and the neighbouring community;
- Design which is conducive to promote social interaction and nurture community building;
- Context sensitive design ensuring the proposed transitional housing development is compatible with the surrounding area

- Efficient modular design with visual and building separation retaining views and ensuring proper wind penetration across the Site with minimal long term impacts;
- There will be insignificant impacts as a result of the proposed transitional housing development due to its temporary nature and the mitigation measures being provided to minimise any related visual, landscape, environmental and infrastructure adverse impacts;
- Improvement of visual, landscape and environmental quality of the Site benefiting the households in need and neighbouring community;
- Effective implementation, operation, and maintenance using MiC technology ensuring sustainable development with minimal environmental impacts; and
- The temporary nature of the proposed transitional housing development will not affect the long-term planning intention of the area.

With the justifications and merits presented above, the Applicant sincerely requests the TPB to give favourable consideration to the S.16 Planning Application so as to lessen the hardships of vulnerable households and provide them with an alternative living accommodation while waiting for public housing vacancies.

行政摘要

（內容如與英文版本有任何差異，應以英文版本為準）

申請人（香港善導會）現根據《城市規劃條例》（第 131 章）第 16 條向城市規劃委員會（城規會）就位於大埔汀角路船灣政府土地（前船灣余東旋學校）（「申請地點」）用作擬議臨時住宿機構（過渡性房屋）（為期 5 年），預計施工及完工日期暫定於 2023 年第二季及 2024 年第二季完成，現呈交規劃申請及綱領：

申請地點位於大埔東面，在現行汀角分區計劃大綱核准圖編號 S/NE-TK/19 （「大綱核准圖」）內的「政府、機構或社區」的地方地帶範圍內。根據大綱核准圖的《註釋》（第 12 段），任何土地或建築物的臨時用途或發展，如為期超過三年，須根據圖則的規定向城規會申請許可。考慮到擬建的「住宿機構」用途在大綱核准圖「政府、機構或社區」地帶中屬第二欄用途，擬議土地用途符合圖則的規定及望得到城規會的通過。

此申請如獲批准，擬議過渡性房屋發展將可舒緩房屋供應短缺問題及提高有需要家庭的生活質素。擬議方案將提供更高的社會效益，同時能夠滿足現行法規和條例下有關建築和技術要求。以下為擬議方案帶來的好處：

- 擬議發展地盤面積約為 4,310 平方米。總樓面面積約 6,195.3 平方米，地積比率約 1.44。該發展項目採用組裝合成建築法建成 (MiC)。擬議發展項目將提供約 276 個單位，可容納約 608 人。
- 鄰舍休憩用地將形成本地社區活動新的集聚點，改善生活質素以及活化申請地點。

總括而言，規劃綱領中提及本計劃的規劃增益和理由如下：

- 配合政府現行政策，增加過渡性房屋供應的需求以舒緩房屋短缺的問題；
- 為公眾利益出發合理利用空置政府用地；
- 為有需要的家庭提供更好的生活環境和提高生活質素；
- 為有需要的家庭提高社區的可達性和交通便利性；
- 提供有利於居民和社區活動帶來高質素的環境和場地；
- 提供有利於促進社會互動和培育社區建設的設計；
- 環境敏感性設計確保擬議的過渡性房屋發展社區；
- 高效的組裝合成法設計，視覺和通風廊道保留視野並確保整個場地適當通風，將長期影響降至最低；
- 由於擬議過渡性房屋發展屬臨時性質，及其提供的緩解措施將盡量減少任何相關視覺、景觀、環境和基礎設施的不利影響，因此發展的負面影響不顯著；

- 改善場地的視覺、景觀和環境質素，惠及有需要的家庭和社區；
- 使用組裝合成法技術進行有效實施、操作和維護，確保可持續發展，將環境影響降至最低；及
- 擬議過渡性房屋發展屬於臨時性質，不會影響該地區的長遠規劃意圖。

鑒於上述原因及詳細的補充規劃文件，申請人盼城規會可通過是次申請審批，以緩解有需要家庭的苦困及幫助他們渡過輪候公共房屋的這段期間。

1 Introduction/ Background

1.1 Pursuant to Section 16 (“S.16”) of the Town Planning Ordinance (“TPO”), this Planning Application for the implementation of transitional housing at the Government land at Shuen Wan, off Ting Kok Road, Tai Po is prepared and submitted on behalf of the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP-the Applicant) to seek approval from the Town Planning Board (“TPB”).

1.2 The Application Site (the Site) was formerly the Shuen Wan Eu Tong Sen School and falls within areas zoned "Government, Institution or Community" ("G/IC") on the Approved Ting Kok Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to the Notes of the OZP, *“temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*”. Considering that ‘residential institution’, which encompasses temporary residential developments (“transitional housing”), falls within Column 2 uses of “G/IC” zone of the OZP, the applied use conforms to the terms of the Plan.

1.3 With the growing housing crisis in Hong Kong and a shortage of housing availability, the Hong Kong Government has been trying to increase the supply of Public Rental Housing (“PRH”) by identifying suitable land for development. However, due to the time needed to identify and construct sufficient public housing, transitional housing projects have been introduced as a short term solution as a means to alleviate pressure off of families living in sub-standard conditions and for those waiting in line for PRH in Hong Kong. Because of its comparatively remote location to the north of Hong Kong and abundance of Vacant School Premises (“VSP”) sites, Tai Po has become one of the key areas for transitional housing projects and developments within the city. The Housing Bureau (“HB”) (formerly Transport and Housing Bureau) has been facilitating the implementation of transitional housing projects among different community groups in Hong Kong. For this transitional housing project, SRACP is responsible for short-term tenancy, design and construction of the works, and other operational, rental, management and maintenance issues. In order to speed up the construction process, SRACP proposes the use of the MiC Method for the proposed transitional housing development. The MiC units allow for efficiency and flexibility, ensuring that the units can be taken down and moved or re-used in other projects when the allotted Site is to be vacated.

1.4 The Planning Statement provides the TPB with the relevant information and details in consideration of the S.16 Planning Application. The sections below will detail information as follows: Section 2 provides details on the Site and surrounding context and accessibility. Section 3 details the planning context of the Site and overall land use. Section 4 provides an overview of the proposed transitional housing development scheme. Section 5 provides justifications supporting why the Planning Application should be considered. Section 6 provides the conclusion supporting the Planning Statement submitted as part of the overall Planning Application.

2 Site and Development Context

2.1 Site Location

2.1.1 The Site has an area of about 4,310 m^2 and is located at Shuen Wan, off Ting Kok Road, Tai Po. The Site is located atop a hill and is adjacent to the Spanish Primary School to the North-East, Beverly Hills Villas to the South-West and Shuen Wan Chan Uk Village to the East at the base of the hill. The Site is located in a primarily residential area at the eastern part of Tai Po. Please refer to **Figure 2.1** for location of the Site.

2.2 Land Status

2.2.1 The Site is an unleased Government land, as such there is no site boundary fixed as per the information obtained from Lands Department ("LandsD"). The site boundary for the adjacent Spanish Primary School cuts through the school building and may not be appropriate as a reference boundary for the transitional housing Site, as part of the school building will fall within the proposed development area. Please refer to **Figure 2.2** for the Lot Index Plan defining the adjacent leased site. Given the situation, we have asked LandsD to consider the site boundary as outlined in **Figure 2.1**, and it measures about 4,310 m^2. We have received confirmation regarding the same from the LandsD.

2.3 The Application Site and Existing Use

2.3.1 The Site has been underutilised for a long time and is currently listed as a demolished old school and has been retained for "G/IC" use. However, the Site was previously occupied by the Shuen Wan Eu Tong Sen School. Please refer to **Figure 2.3** for the current existing conditions of the Site.

2.4 Surrounding Area Context

2.4.1 The Site area surrounding context is rural in character and mainly occupied by low-density, low-rise private residential developments, village clusters, underutilised/unused land and vehicle parking areas.

2.4.2 To the immediate north of the Site is the Spanish Primary School zoned "G/IC". This is a low-rise one-storey development with small open spaces in front. Further north is a village cluster of Lee Uk Tsuen falling within the Village Type Development ("V") zone of the OZP.

2.4.3 To the immediate south of the Site is the low-rise residential development, namely the Beverly Hills Villas and village houses of Sha Lan which fall within the "V" zone in the OZP. These villas range between 3-4 storeys tall and are placed atop a hill overlooking the Site.

2.4.4 To the east of the Site is a Green Belt ("GB") zone and further east are village clusters of Shuen Wan Chan Uk and Lee Uk Tsuen, which fall within the "V" zone. These buildings are low-rise 1-2 storey private residential buildings spread mostly along the bottom of the hill.

2.4.5 To the immediate west of the Site the hill drops steeply leading to small village developments at road level adjacent to Ting Kok Road. The hill is vegetated with trees and is categorised within the “GB” zone in the OZP. Further west across the road is the Wong Yue Tan Village Houses with “V” and more “GB” zones.

2.4.6 Site visits were carried out by the project team on 8th March, 17th March and 12th April 2022. **Figure 2.4** illustrates relevant observations and the Site details.

2.5 Accessibility

2.5.1 The area is mainly accessible through Ting Kok Road which allows for public and private vehicular access as well as pedestrian access. The Site itself is located atop a hill and can be accessed via a local track connecting to Ting Kok Road. The current access road is around 5 m wide with an adjacent 1.2 m footpath, which makes it sufficient for vehicular and pedestrian traffic into the area.

2.5.2 In terms of the accessibility to public transport, the Site is about 200-300 meters away from an existing public transport stop on Ting Kok Road near Sam Mun Tsai Road. Residents can get access to the public transport services conveniently.

2.5.3 On a larger scale, the Site is located away from the Tai Po Town Centre and other major connections to the city such as the MTR. Public transportation such as Franchised Buses, Green Minibus and Taxis are the major connecting link from the Site to Tai Po Market Station and other areas in the New Territories, which can be reached through the Tolo Highway. Distributor roads are also connected from the highway to give access to the town centre, the Tai Po Industrial Estate, Shuen Wan and other residential neighbourhoods. An extensive biking network is also provided along the main road starting from Sha tin and passing through Tai Po until the end at Tai Mei Tuk, which makes the Site convenient to access for bikers as well.

3 Planning Context

3.1 Land Use Zoning

3.1.1 The Site falls within "G/IC" zone on the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 ("the OZP") was gazetted on 27th October 2015 [**Figure 3.1**].

3.1.2 According to the schedule of notes of the OZP, the "G/IC" zone "*is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments*" [**Figure 3.1**]. The explanatory statement of the "G/IC" zone supplements that this zone "*is intended primarily for the provision of "G/IC" facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area*" [**Figure 3.2**].

3.1.3 According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development could be classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

3.2 Addressing the Severe Housing Shortage in Hong Kong

3.2.1 On its current trajectory for housing development, Hong Kong currently experiences a severe situation regarding the housing supply which will only become worse unless there is more provision of housing supply in the short and longer term. As at end-March 2022, the average waiting time for PRH was 6.1 years[1]. Meanwhile, the public housing supply in the next four years is expected to lag behind the Long Term Housing Strategy target by 28%[2]. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units with inadequate and poor living conditions[3]. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Rents of subdivided units are also remarkably high, which took up 41% of household income, according to a study by the Subdivided Flats Concerning Platform (Chiu, 2019). In view of the public's concern regarding the supply-

[1] https://www.housingauthority.gov.hk/en/about-us/publications-and-statistics/prh-applications-average-waiting-time/index.html

[2] https://www.ourhkfoundation.org.hk/en/report/31/housing/hong-kong%E2%80%99s-housing-crisis-fewer-and-smaller-flats-quality-life-will-only-worsen#:~:text=According%20to%20the%20latest%20report,come%20a%20decrease%20in%20quality.

[3] https://www.legco.gov.hk/research-publications/english/1920issh28-transitional-housing-for-the-inadequately-housed-20200618-e.pdf

demand imbalance and unsatisfactory living conditions, a multi-pronged approach is adopted by the Government to increase the housing supply. Transitional housing is one of the short-term initiatives to assist designated groups with priority needs as a transition into long-term housing.

3.2.2 Since 2017, the Government has facilitated various transitional housing initiatives to provide timely and flexible housing assistance to families on the PRH waiting lists and inadequately-housed households. For instance, it plans to construct 16,000 transitional homes by mid-2023 to meet the housing supply target projection in Hong Kong.

3.3 Administrative Measures to Support Transitional Housing Projects

3.3.1 The Government implemented different schemes to offer various types of transitional housing through better use of underutilised land and premises. For instance, a Task Force on Transitional Housing ("Task Force") has been established under the HB as one of the six new housing initiatives announced by the Chief Executive ("CE") on 29th June 2018. As stated in the 2020 Policy Address, the Government is committed to promoting the development of transitional housing. It has been actively spearheading the policy and closely collaborating with Non-Government Organisations ("NGOs"). Short-term initiatives such as funding schemes have been implemented by the Task Force to facilitate and support transitional housing projects conducted by NGOs. Regarding the latest figures as of April 2022, the funding scheme has approved a total of 35 projects and the progress is generally smooth. This prevailing collaboration model allows a flexible provision of transitional housing units in accordance with the unique characteristics of each project.

3.3.2 To further support the transitional housing development, the CE has announced an additional injection of $3.3 billion into the funding scheme, increasing the total Government commitment to $8.3 billion in the 2020 Policy Address. Subsequently, in the 2021 Policy Address, the CE proposed a further increase of the overall supply of transitional housing from 15,000 to 20,000 units in the next few years by offering 5,000 units additionally and an increase in funding to $11.6 billion. It highlighted that the Government has been striving to enrich and enlarge the housing provided by means of transitional housing.

3.3.3 In addition, adopting innovative construction methods such as the MiC method has been encouraged by the CE, initially in the 2018 Policy Address, and then recurringly in the 2019, 2020 and 2021 Policy Addresses. The proposed transitional housing development is to be constructed by the MiC method to speed up the construction process and minimise the impacts during the construction period as well as impacts in the long term. The Planning Application is therefore echoing the Government's prevailing policy to assist households in need.

4 Proposed Transitional Housing Development at the Site

4.1 Developing Transitional Housing to Address Housing Demand

4.1.1 Hong Kong has been suffering from prolonged housing problems, and there is an increasing need for transitional housing as residents struggle to attain public housing in the city due to the lack of public housing supply, paired with the increasingly unaffordable housing prices due to the rising demand. Recently, short-term accommodations, namely transitional housing initiatives have been launched in the community to lessen the hardships of vulnerable households before moving into longer-term public housing. The 2021 planning policy proposed the provision of at least 20,000 transitional housing units by the end of 2023 as a means to curb this severe housing demand and provide people with a temporary alternative while waiting for public housing vacancies.

4.1.2 In recent years, the queuing time for PRH has repeatedly hit high records. According to the Hong Kong Housing Authority, there were about 156,400 general applications for PRH, with an average waiting time of 6.1 years as at end-March 2022. Besides, approximately 119,100 households are inadequately housed. However, the process of producing new land for housing is lengthy, and the annual average of PRH units' allocation decreased by around 12% in 2018-2019, as compared with the past five-year period. Among the 119,100 households which are inadequately housed, over 70% are living in subdivided units. Additionally, many units lack ventilation systems, and beds are even placed right above toilets. Given the above conditions, there is surging demand for a constant supply of transitional housing for the inadequately housed. Nevertheless, there are only three transitional housing projects in operation in Tai Po illustrating the unmatched level of supply and demand.

4.1.3 This transformation of existing “G/IC” land into a transitional housing facility will ensure effective use of underutilised land and maximise efficiency of land use to mitigate housing shortage issues in the short term. This project is one of many upcoming transitional housing projects within the city, working towards meeting the Government’s target as mentioned in the planning policy mentioned above. The proposed transitional housing development will provide about 276 transitional housing units for those inadequately housed households waiting in line for PRH.

4.1.4 The proposed design not only addresses the demand for housing but also aims to ensure that the building design and surroundings come together to create a pleasant environment with a conducive atmosphere for residents and as far as possible minimise any adverse impacts on the surrounding developments and for neighbouring villagers.

4.1.5 As stated in Section 3 above, the transitional housing development will be constructed using MiC for a more time-efficient, flexible and sustainable method of development to meet the demand for about 276 transitional housing units within the Site. The proposed transitional housing development will be in a period of 5 years, with the period of construction expected to last for around two years (until Q2 of 2024) and the period of operation for around three years. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

4.2 General Planning and Design Principles

4.2.1 The planning and design of the proposed transitional housing development aims to be compatible with its immediate surroundings and work harmoniously with the environment while also providing a quick short-term solution for those households with inadequate housing. The slightly secluded location from major public areas allows residents to form their own community culture and create a harmonious environment with the adjacent Beverly Hills development, neighbouring villages and the Spanish Primary School.

Engaging and benefitting the local community with context sensitive design

4.2.2 Similar to the recently approved transitional housing project in Wong Yue Tan nearby, the proposed transitional housing development faced initial hesitance from organisations such as the villagers of Wong Yue Tan Village, residents of the Beverly Hills Villas, Ting Kok Road public concern group, the Tai Po Rural Committee and attendees of the Spanish Primary School. The design has been revised to be more context sensitive and improve the overall form and disposition of the proposed transitional housing development, retaining some view corridors towards the surrounding areas and introducing landscaped open space and community facilities including a convenience store for residents. By improving accessibility with the proposed improvements to the footpath along the access road to enhance the overall quality of the development on the Site benefiting the neighbouring community as well. The inclusion of better landscaping will improve the direct view from street level for neighbours. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for not only future residents of the development but also those in neighbouring communities such as the Beverly Hills Villas. HB and SRACP have also continued to engage with the local community to gain their support with the aim of creating a harmonious community within the area. More recently, the adjacent Spanish Primary School has indicated support for the proposed transitional housing development. Please refer to **Figure 4.1** for a copy of the letter received from the Spanish Primary School. HB is liaising with LandsD with a view that the Spanish Primary School will be relocated to another site tentatively in Q2 of 2023, for the whole period during the construction and operation of the proposed transitional housing development. The School is expected to return to the site after cessation of operation of the proposed transitional housing development.

4.2.3 SRACP has been engaging the local community and social services organisations with a view to soliciting support on the proposed transitional housing development project since August 2021. Apart from attending consultation meetings with stakeholders to explain the project and address any concerns from the community, SRACP has also solicited support from stakeholders ranging from district organisations, concern groups on grassroot living, NGOs and local residents. Please refer to Figure 4.2 for the copies of the letters received from different stakeholders. Many stakeholders are deeply concerned about the dire need for decent accommodation especially among the poor families and they appreciate that the project could alleviate the hardships they face.

MiC construction as an effective and efficient building method

4.2.4 MiC is the primary construction method for this development and will allow for fast and effective inception of the project, making it ideal for short-term temporary developments. MiC units are freestanding modules which are prefabricated and completed with finishes and

fixtures before being transported and assembled on site. This prefabrication method allows for speeding up the construction, saving up to 30% of overall construction time[4]. This increase in overall efficiency is extremely valuable in the quest for increasing transitional housing quantity in the next few years and providing quick short-term solutions. Additionally, MiC prefabrication also minimises construction errors and inaccuracies due to higher quality control prior to construction.

Sustainable and environmentally friendly design with efficient use of resources and materials

4.2.5 The modular nature of the building means that the development can be dismantled and transported to other sites as necessary when land needs to be allocated for a different purpose, hence reducing construction waste and allowing for sustainable reuse of materials and building elements. Prefabrication of the building modules in a factory prior to the construction and assembly phase also means that there is less noise and dust pollution affecting the surrounding environment during building construction. Regarding the overall building layout, the multiple view corridors integrated into the building design also reduces the dependence on air conditioning for ventilation, thus reducing energy usage as well.

Compatibility with surrounding context through sensitive design

4.2.6 The building is low-rise and lower in height than the surrounding villas without being over imposing or distracting and can barely be seen from major public areas. The natural green tones used for the building also allow it to blend harmoniously with the surroundings while creating a calming and pleasant environment for the occupants of the building. The building form of the transitional housing consists of one block with four extending wings. The wings are separated with adequate gaps between wings not only providing linear open space in between but also retaining views to the surrounding area as well as wind penetration across the Site. The staggered length of each wing helps maintain a respectful distance between the building and the Site boundary retaining trees around the periphery. The building form and nature is also compatible with the typical village type developments in the area.

Creation of spaces that enhance community and increase quality of life

4.2.7 Community experiences and social interaction are two primary factors that aid in improving overall quality of life and living experience, especially for those who have previously suffered from poor substandard living conditions and are looking to rebuild connections and relationships with people. Communal and recreational facilities such as Multipurpose Hall, exercise/play spaces and leisure areas will help enhance social interaction and create a close-knit community that is typical to village type developments.

Landscape design to minimise impact on surroundings and improve user experience

4.2.8 Landscape is used as a mechanism to mitigate any impacts of the building on its surrounding, for example, in order to compensate for the land used by the building, green areas have been curated to fit in and enhance the experience for users by creating open spaces between wings for residents. Landscape corridors are formed through the building to connect people within the Site and preserve connection to green areas in the periphery. Many trees are also preserved and invasive/unhealthy trees are proposed to be felled and replanted with healthier

[4] https://mic.cic.hk/en/AdvantagesOfMiC

trees to improve overall environmental quality, increase shaded areas within the Site and maintain a green environment within and around the area.

4.3 Architectural Design of the Proposed Development

4.3.1 The proposed transitional housing development is a 4-storey one block development which is connected through internal walkways. The proposed building consists of a total of about 276 units, of which about 248 (about 90%) are single units for 1-2 people and about 28 units (about 10%) are double units for use by 3-4 people. For 1-2P units, the main target will be small households. Various community services leveraging on SRACP's extensive service experiences on ex-offender and mental health persons in recovery will be provided to the tenants. According to the experience of other NGOs operating transitional housing projects, flat units for small households (1-2P) and large households (5P or above) are particularly popular. The proposed unit mix has taken into account market needs as well as the fact that the Applicant has profound experience in serving singleton households. As per these parameters the maximum population of the development would be around 608 people. The built facility will also include a Multipurpose Hall at the ground floor of the wing closest to the driveway for residents to enjoy, along with Management Office for administration purposes, a Mail Collection on ground floor and Refuse Area on each floor to meet the overall need, building code and safety regulations. A Barrier Free Access ("BFA") ramp has also been provided at the north-west of the building near the EVA, while a stair core is incorporated in the middle of each wing as the main method of access and circulation. According to the building code and fire safety requirements, it is mandatory that there is no more than 25 m distance between the main circulation core and any housing unit, and this proposed design adheres to this requirement. In addition to the domestic transitional housing block, one non-domestic block is also proposed near the Site entrance to house the E&M Plant Room and a convenience store appropriate for the proposed transitional housing development and use by the residents.

4.3.2 The building is situated at the centre of the Site, with a buffer zone on all sides such as the Emergency Vehicular Access ("EVA") access and internal driveway to the building west, and trees which have been retained all around the building north, east and south peripheries to reduce visual impact of the built structure on its surroundings. From the masterplan as seen in ***Appendix A***, it can be seen that the EVA access from the entrance of the Site takes up the periphery of the NW and NE areas of the Site. This driveway will act as the main entrance into the Site for both pedestrians and vehicles, and there is a hammer head located between the second and third wings of the building at the centre of the Site. The driveway also has a loading/unloading area which will primarily be used by heavy goods vehicles. For the proposed transitional housing development, there is no parking space provision as residents will mainly use public transport rather than private cars to access the Site. However, 8 nos. of bike parking spaces will be provided for them instead.

4.3.3 Since the Site is situated right next to the Beverly Hills Villas (a low-density residential estate), it is of concern to existing residents that the proposed 4-storey development may block their views and natural wind penetration or sunlight. In consideration of this, the disposition of the building has been refined through context sensitive design and urban design considerations providing adequate separation between the wings considering the visual, ventilation and

construction viability aspects as well. The landscape is further enhanced through planting and retention of trees along the periphery to act as a visual barrier. Additional design considerations, such as utilising a natural shade of green for the building facade to blend in better with the natural context and reduce the visual impact further.

4.3.4 There is a provision of a 10 m gap separating the building wings in the middle and 7 m separation between the wings at the ends, which is beyond the mandatory 4.5 m distance between each wing as required by the building code. This ensures that a sufficient visual quality is maintained for residents with access to good natural lighting and wind penetration but also makes it viable to construct using the MiC method. The units located in the 4 wings are also rotated to face the east-west orientations within the building so that residents of the Beverly Hills Villas do not see directly into the units of the proposed transitional housing development, thus increasing living quality and increasing privacy for residents and the neighbouring community as well. This configuration also allows for more efficient land use as it allows for inclusion of more units and also works in favour of the natural wind direction in Hong Kong which flows from the south and east throughout majority of the year. Additionally, operable windows are all oriented so that there are no openings towards the Beverly Hills Villas and road, and rather the units look towards the open spaces within the Site or outwards towards the mountains at the north and east.

4.3.5 Gaps have also been incorporated into the design at the north part of the building in-between double units so that continuous visual corridors can be formed through the Site, reducing the visual impact of the development on residents of the nearby villas, retaining views while also improving overall visual quality and natural wind penetration within the development. The porous nature of the building mass also allows for birds and natural species in the area to fly through without as much obstruction, and creates a viewing window towards the trees, mountains and sea beyond the Site.

4.3.2 Please refer to ***Appendix A*** for detailed drawings of the proposed transitional housing development.

4.4 Development Parameters

4.4.1 The information in the table below summarises the key development parameters of the proposed transitional housing project. Further details and dimensions can be seen within ***Appendix A.***

Table 4.1: Key Development Parameters of the Comprehensive Transitional Housing Development

Key Development Parameters	Comprehensive Transitional Housing Development
Site Area	About 4,310 m^2

Total Gross Floor Area (GFA)* ● Domestic GFA	About 6,195.3 m^2 ● About 6,082.4 m^2 ○ Units = 4,508.3 m^2 ○ Corridor and Stairs = 1,402.6 m^2 ○ Refuse Area = 59.3 m^2 ○ Plant Room = 97.4 m^2 ○ Mail Collection = 14.8 m^2
● Non-domestic GFA	● About 112.9 m^2 ○ Multipurpose Hall (with play area) = 59.3 m^2 ○ Management Office = 14.8 m^2 ○ Convenience Store = 38.8 m^2
Total Plot Ratio (PR)* ● Domestic PR ● Non-domestic PR	About 1.44 ● About 1.41 ● About 0.03
Total Site Coverage	About 40%
Total No. of Blocks ● Domestic Blocks ● Non-domestic Block	2 blocks ● 1 ● 1
No. of Storeys/ Building Height (BH) ● Domestic Blocks ● Non-domestic Block	● 4 storeys (About 13.0m / About +37mPD) ● 1 storey (About 3.65m / About +27.65mPD)
No. of Units	Total Units: About 276 1-2P Units: About 248 (about 90%) 3-4P Units: About 28 (about 10%)
Typical Unit Size	1-2P Units: About 14.8 m^2 3-4P Units: About 29.6 m^2
Maximum Estimated Population	Around 608
Local Open Space	Not less than 608 m^2 (Not less than 1 m^2 local open space per person)
Green Coverage	Not less than 20% of total Site Area

* Excluding E&M Plant Room within the external block which is exempted from overall GFA calculations according to PNAP APP-151. The External block includes a convenience store which is a total GFA of about 38.8 m^2 and the E&M Plant Room has a GFA of about 90.4 m^2.

4.5 Landscape Design and Tree Survey of the Proposed Development

4.5.1 The Landscape Design of the development aims to create a natural and comfortable environment for residents which will work in harmony with the surrounding Site context and increase the quality of life for those within the proposed transitional housing development. Existing greenery within the Site will be preserved as much as possible. According to the preliminary broad-brush Tree Survey conducted, many existing trees within the Site can be considered as invasive species, which may be a detriment to the overall quality of the space. Some undesirable aspects from the existing Site, such as clusters of invasive tree species are proposed to be removed and replaced with healthy trees to create a high-quality landscaped environment which does not infringe on any future developments. A total of 12 no. of compensatory trees are proposed considering the site constraints and temporary nature of the proposed development, which includes limited space for compensatory tree planting, limited growth potential, and overcrowding if there is over-provision of compensatory trees. This will also minimise unnecessary constraints for future permanent development of the Site.

4.5.2 According to the Hong Kong Planning Standards and Guidelines ("HKPSG"), *"In rural villages and small residential developments in the rural areas, the standard of provision is a minimum of 1 m² per person for Local Open Space"*[5]. The proposed design adheres to these guidelines and ensures that there is a sufficient amount of open space per person. Since the maximum estimated population is around 608, not less than 608 m^2 of open space is provided within approximately 4,310 m^2. The green coverage of the Site is over 20%, maintaining a respectable amount of green coverage within the Site without sacrificing valuable living space.

4.5.3 The greening within the Site including the addition of shrubs, foliage and additional trees as well as the preservation of existing trees along the Site periphery will help mitigate and minimise the overall visual impact of the proposed transitional housing development for those in the surrounding areas and provide a landscaped edge between the proposed transitional housing development and neighbouring villas.

4.5.4 Open areas are provided in between each wing of the of the proposed transitional housing development block as well to the north and south of the Site. These areas will be enhanced through the provision of seating, open plazas, play areas and outdoor exercise equipment to create a high-quality living environment for residents that can be used by multiple generations of users and encourages a healthy and active lifestyle. These facilities and local open space will also act as gathering and recreational spaces for residents, therefore assisting in building a stronger sense of community between residents.

4.5.5 Further analysis on the landscape and tree conditions including the overall Landscape Masterplan ("LMP") and broad-brush Tree Survey can be found within the landscape proposal appended as ***Appendix B.***

[5] https://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/pdf/ch4.pdf

4.6 Visual Impact Assessment of the Proposed Development

4.6.1 The Visual Impact Assessment ("VIA") assesses the visual impact of the proposed transitional housing development as seen from five public viewing points in order to understand the effect of the proposed transitional housing development within the surrounding context and ensure that no major and undesirable impacts are anticipated to the surrounding landscape character during the construction phases.

4.6.2 According to the VIA conducted, the proposed transitional housing development is only visible at the entrance of the Site at VP3 , while it is barely visible from VP4 and is not visible at all from any of the public viewpoints of VP1 and VP2 on Ting Kok Road or from VP5 near the Sha Lan Coast. The VIA reveals that the proposed transitional housing development will have an insignificant impact on its surroundings and there are no adverse residual impacts which are anticipated to affect either landscape character or resources during both the construction and operation stage of the project. Also with the proposed transitional housing development being temporary in nature, the visual impact is considered to be not significant. Therefore conclusion was drawn that the proposed transitional housing development with the proposed mitigation measures of greening around the periphery is considered to be fully acceptable in terms of visual impact.

4.6.3 For details regarding the viewpoints and overall visual assessment for the proposed transitional housing development, please refer to the VIA appended as ***Appendix C.***

4.7 Traffic Assessment of the Proposed Development

4.7.1 The Site is currently accessible through a steep road with an adjacent narrow footpath. This sloped pathway connects to Ting Kok main road allowing pedestrian and private vehicle connection to public areas. The Traffic Impact Assessment ("TIA") indicates the additional traffic to be generated by the proposed transitional housing development would be insignificant as the target population is for low-income households who do not own private cars and hence no parking spaces are provided within the development. In terms of the accessibility to public transport, the Site is about 200-300 metres away from existing public transport stops on Ting Kok Road near Sam Mun Tsai Road, it is identified that spare capacities of the existing bus services would be sufficient to cater for the additional traffic demand, ensuring convenient accessibility to surrounding areas for residents.

4.7.2 In any event, the Applicant will liaise with the NGO operating nearby transitional housing projects at Wong Yue Tan (i.e. The Lok Sin Tong Benevolent Society, Kowloon) and liaise with relevant Government departments on the possible public transport enhancement measures in due course.

4.7.3 During the TIA, it was noted that the current pedestrian access was dilapidated, and the footpath is still fragmented appended as ***Appendix D***. An improvement scheme is proposed within the TIA to connect the footpath to Ting Kok Road. The footpath can be further enhanced through better paving to improve the experience of pedestrians in the future.

4.7.4 Similar to the nearby transitional housing projects, it was initially assumed that this proposed transitional housing development might be constrained by the limited traffic capacity at Ting

Kok Road. There are over 20,000 existing residents living in the villages and low-rise residential estates in the Shuen Wan Constituency area. Additionally, the Lung Mei Beach attracts a lot of visitors during the weekend. With the only main road Ting Kok Road connecting to the Centre of Tai Po and the two railway stations, there were initial concerns that traffic capacity may be overloaded because of the proposed transitional housing development and other substandard roads and informal village tracks may not be able to handle the daily traffic volume in the future. This was analysed within the TIA which concluded that the proposed transitional housing development would not generate adverse traffic impact as the amount of vehicular traffic to be generated is insignificant.

4.7.5 According to fire safety standards, the EVA access needs to cover at least 25% of the building façade perimeter. The proposed driveway meets this requirement and resultantly it utilises much of the west area within the Site, with a roundabout and the road extending across the north of the Site. This swept path assessment results reveal that this driveway has enough turning radius allowance to allow for vehicles of up to 10 m in length.

4.7.6 Further analysis of overall accessibility to the Site, existing conditions and future traffic conditions can be seen within the TIA appended as ***Appendix D.***

4.8 Environmental, Engineering and Infrastructure Assessments of the Proposed Development

4.8.1 As the Site is situated next to the Beverly Hills Villas and Spanish Primary School, issues regarding noise nuisance and air pollution during the construction process and during the building operation period are of local concern. Moreover, the noise generated by the increased population can possibly affect the daily operations of the Spanish Primary School. Hence, the Government Departments have recommended that close liaison with the school should be undertaken during the overall planning and design process.

4.8.2 In addition to noise and air which are considered under the Environment Assessment ("EA"), a Drainage Impact Assessment ("DIA"), Sewerage Impact Assessment ("SIA"), Water Supply Impact Assessment ("WSIA") and Geotechnical Planning Review ("GPR") will also be conducted to determine which aspects of the Site can be maintained versus improved during the development and construction process and how to reduce impact to the surroundings as much as possible.

Environmental Assessment ("EA")

4.8.3 The EA assesses the potential impacts of the proposed transitional housing development on the immediate surroundings and the impacts arising from the construction and operation of the development, as well as ensures that the proposed transitional housing development maintains overall environmental sustainability. Overall air quality, vehicular emissions, industrial emissions, odour impact, construction noise and traffic noise are addressed in the EA, along with the impact of these on water quality. Recommended mitigation measures are also proposed to reduce the impacts of these elements on the environment and neighbourhood. Further details are included within the EA appended as ***Appendix E***.

Drainage Impact Assessment ("DIA")

4.8.4 As the Site is located on higher ground, flooding and drainage maintenance is important as it will have an impact on the immediate surrounding area. The DIA assesses the potential impacts of the proposed transitional housing development on the existing drainage and flooding system within the Site and identifies potential mitigation measures as required to ensure that the development will not increase flooding risk or impose any issues to the drainage system within or around the Site. Further details are included within the DIA appended as ***Appendix F.***

Sewerage Impact Assessment ("SIA")

4.8.5 According to the drainage record plan as retrieved from the Drainage Services Department ("DSD"), the nearest public sewerage system from the Site is around 200 m away. The SIA assesses the potential impacts of the proposed transitional housing development on the sewage network and determines whether it is sufficient for the increased capacity of sewage flow during building operation. Through the investigation it was concluded that there would be no adverse impacts on the existing sewage system in the area. Further details are included within the SIA appended as ***Appendix G.***

Water Supply Impact Assessment ("WSIA")

4.8.6 Water supply within the Site is currently retrieved from the Tai Po East Low Level Fresh Water Service Reservoir ("TPELLFWSR"). The WSIA assesses whether the existing water supply capacity is sufficient for the increased water demand for freshwater and flushing water as a result of the proposed transitional housing development. The assessment revealed that there would be no adverse impacts to the overall water supply. However, it is also proposed to connect the Site to an existing freshwater main closer to the proposed transitional housing development along Sam Mun Tsai Road which will be analysed further in the detailed design stage. Further details on the water supply are included within the WSIA appended as ***Appendix H.***

Geotechnical Planning Review ("GPR")

4.8.7 Because of the Site location atop a hill, the Site is surrounded by slopes and the existing ground and structural condition needs to be taken into consideration. The GPR assesses the existing site condition and reviews the existing structures, slopes and other geotechnical features within the Site and its vicinity. A review on the ground investigation works findings and proposed construction is also conducted. While it is determined that the proposed development is geotechnically feasible, a detailed design for the site formation works and slope stability assessment will need to be carried out later on in the detailed design stage. Further details are included within the GPR appended as ***Appendix I***.

4.9 Tentative Development Programme

4.9.1 The tentative construction of this project expected to commence in Q2 of 2023 with plans for completion anticipated until Q2 of 2024. The proposed development programme is expedited through the use of MiC construction methods.

5 Justifications and Planning Gains

5.1 Aligning with Government Policy to increase the supply of Transitional Housing

5.1.1 Housing supply shortage has long been a major challenge for Hong Kong due to insufficient land provision. Although the Long Term Housing Strategy ("LTHS") has been introduced to alleviate arising housing problems, the shortage has still aggravated persistently in recent years. For example, the PRH supply is still expected to lag behind the Long Term Housing Target by 28% with approximately 21,800 units. As discussed in Section 3, the proposed transitional housing development echoes the Government's policy to address the skyrocketing housing demand. Being one of the six major new housing initiatives announced by the CE in 2018, transitional housing will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place.

5.1.2 In recent years, the role of transitional housing in alleviating the housing shortage problem in the short-term has been repeatedly strengthened in various policy addresses affirming that: (a) the supply of transitional housing units will be increasing constantly in responding to the housing shortage (2017-18, 2021), (b) qualified NGOs will play a critical role in the transitional housing development (2018). To directly echo the words of the Government in stressing the importance of transitional housing development, the proposed transitional housing development managed by SRACP, a non-profit making organisation (i.e. the Applicant) will be able to accommodate approximately 608 residents with about 276 transitional housing units flexibly installed by the MiC method. With the innovative and efficient construction method suggested by the Government, the estimated operation date could be brought forward after the completion of work in Q2 of 2024, securing a timely supply of transitional housing units.

5.2 Offering better Living Conditions and Improved Quality of Life for Households in need

5.2.1 Households in needs have long suffered from inferior quality living conditions in Hong Kong. The implementation of transitional housing projects would be able to relieve the pressure on families living in poor and sub-standard conditions, and those waiting for PRH for a long time. Since the proposed transitional housing development could provide about 276 transitional housing units to people in urgent need of community support, their livelihood can be improved and alleviated in the long run with adequate PRH supply.

5.2.2 The units will also come equipped with the basic necessary facilities such as toilets, beds, air-conditioning and natural wind penetration. For those who were previously in sub-standard living conditions such as in cramped sub-divided flats, the upgraded living conditions allow each unit to include individual necessities so that they can enjoy a much better overall quality of life.

5.2.3 Around 2.61 m^2 of local open space per person is provided, which fulfils the minimum requirement of 1 m^2 per person for residential developments in the rural areas. The total open space provision will be around 1586.8 m^2. This encourages passive and active recreational use and enhances the overall spatial quality of the development. The above design features

and elements showcase the Applicant's approach to striking a balance between addressing the housing shortage issue and enhancing the living quality in the proposed transitional housing development.

5.3 Design which Promotes Social Interaction and Community Building

5.3.1 Other than providing transitional housing units, the proposed transitional housing development at its core focuses on improving the livelihood of the tenants and promoting community building and social interaction. The proposed layout is planned in a way that facilitates communication between residents and assists them in developing strong social support networks. To actively engage the residents in community dialogue, a playground, plaza, leisure sitting-out area, fitness area with exercise equipment, Multipurpose Hall and community garden are appropriately located on the Site. Activities such as volunteer programmes, family activities, career development workshops and health talks will be regularly arranged in the Multipurpose Hall and other communal areas. The design of the proposed transitional housing development ensures that all residents could have facilitated access to a comprehensive array of community facilities and services to improve their social capital.

5.3.2 The improved facilities and living conditions and increased overall quality of life allows residents to focus more on other aspects of life such as building valuable relationships and focusing on self-development. Moreover, the convenience store will be accessible for the residents within the Site. The proposed transitional housing development also offers possible opportunities for residents to be employed within the community store or upkeep of the site landscape could give livelihood and income source for some and also create a sense of community ownership and belonging.

5.3.3 The flexible tenancy arrangement shall allow people to climb up the social ladder and continue developing in life even after tenancy period in the development. The tenancy period shall normally be no more than two years in view of the nature of transitional housing project being temporary uses (expected to be 5 years or less). An option to renew/extend the lease for one year will be provided for tenants subject to the genuine need as assessed by the Applicant, rental review and adjustment, and availability. The proposed rental level will range from $2,515 to $6,005, depending on the number of residents of the household. Further details will be finalised and given at a later stage.

5.4 Sensitive and Compatible Design respecting the Surrounding Context

5.4.1 The proposed transitional housing is compatible with the surrounding low-rise residential developments, including the nearby Shuen Wan Chan Uk village, which consists of small houses with maximum building heights of 3 stories; the 1-storey Spanish Primary school; and the Beverly Hills Villlas with a maximum BH of 4 storeys. The proposed 4-storey development with a PR of 1.41 is in line with the general planning intention of the OZP and blends in well with the surrounding context.

5.4.2 The proposed transitional housing development is designed with building separation which not only helps wind penetration across the Site and helps retain existing views from the neighbouring villas. Please refer to **Figure 5.1** for Wind Penetration and Views within Proposed Design. By this more porous and context-sensitive building design, views toward the mountain, sea and beyond are maintained and the unappealing unkempt state of the existing Site is significantly enhanced and improved through increased landscaping. The green colour of the building also makes it work harmoniously with the surroundings rather than sticking out as a distraction within its surroundings.

5.5 Proposed Enhancements Benefiting Neighbouring Community

5.5.1 The existing quality of the Site is subpar, with numerous plants of invasive species and other minor trash, along with dilapidated buildings. The view from neighbouring areas is therefore currently unappealing with a low visual quality. The proposed transitional housing development with landscape enhancements, such as creation of more appealing plazas, green fences and replacement of invasive tree species with healthier trees, helps improve the overall visual quality of the Site creating a pleasant landscaped environment. The inclusion of better landscaping will improve the direct view from street level for neighbours. The addition of a convenience store within the development premises will serve the residents, so they can have access to daily necessities and food much more conveniently without having to leave the Site.

5.6 Improved Accessibility and Mobility for Neighbouring Community

5.6.1 The existing footpath is currently is dilapidated, not continuous, inadequate and inconvenient for pedestrians making it unsafe to access. The footpath is proposed to be improved and extended towards Ting Kok Road, which will benefit the pedestrian access and experience for future residents of the proposed transitional housing development.

5.6.2 The improved footpath continuity from nearby bus stops to the Site and the Beverly Hills Villas will ensure that people have a safer pedestrian experience as they will no longer need to walk up along the internal road, and this will make the overall pedestrian journey safer and much more enjoyable. SRACP will liaise with relevant Government departments in taking forward the proposed enhancement works.

5.7 Provision of Mitigation Measures to Minimise Adverse Impacts

5.7.1 To minimise the potential visual impact resulting from the proposed transitional housing development, corresponding mitigation measures will be introduced, for instance, planting/replanting schemes are provided between the Site and the vicinity, serving as physical and visual separation to screen off any disturbance to neighbouring developments. Moreover, a green colour for the building facade helps to smoothen the edge of the proposed transitional housing development.

5.7.2 Meanwhile, the disposition and layout of the buildings has been revised to better maintain the external quality and visual connectivity of nearby developments. Building separation between

the wings of the proposed building not only allows ventilation and wind penetration but also retain views beyond the Site. The proposed transitional housing development will not result in an adverse impact on the accessibility given that an EVA will be provided in situ with a hammerhead to enhance accessibility within the Site and connect with the existing road network beyond. Technical assessments have also been conducted to investigate the visual and landscape, traffic and transport, water supply, drainage and sewerage impacts of the Application at various stages. It was concluded that there will be no insurmountable problems for the implementation of the proposed transitional development within the Site.

5.8 Improvement of Visual and Environmental Quality of the Site

5.8.1 The proposed transitional housing development adopts innovative and sustainable design to optimise the efficient use of energy, material and land resources. With regards to the building design, a 7 m to 10 m building gap between each wing is preserved to ensure the view and wind penetration of lighting and also to make the development viable to construct using MiC method which is efficient and environmentally sustainable as well. Furthermore, each floor contains a semi-open walkway that allows for natural wind penetration to pass through the building for improved air circulation. The proposed transitional housing development incorporates feasible and appropriate green design practices on the ground level. The landscape design and greening strategy helps nourish the existing character of the area and protect biodiversity by compensating the habitat for wildlife. The Health and well-being of residents can be improved with the provisions of linear open spaces between the wings while aesthetic and environmental benefits are generated as well. The above careful consideration through architectural and urban design features help minimise the impact on the surrounding rural environment and natural setting.

5.9 Better Utilisation of Underutilised Government Site for Public Good

5.9.1 Efficient use of land resources had all along been encouraged by the Government. To support and facilitate this objective, different schemes and plans have been formulated to invite stakeholders such as NGOs to make better use of underutilised Government sites for the community, institutional and non-profit making purposes. For instance, the NGOs can apply to rent the surplus Government properties for housing and various uses under certain conditions, demonstrating the Government's decisiveness in taking necessary measures. Nevertheless, the NGO's interest remains tepid even though it would be a great opportunity to utilise the Site which has been left idle for a long period. Taking into account that the Planning Application utilises one of the unleased and underutilised Government sites, the proposed transitional housing development can put the underutilised Site with development potential into a gainful use for public good.

5.10 The Proposed Development will not affect the long-term planning intention of the area

5.10.1 The proposed transitional housing development is temporary in nature and will not affect the long-term planning intentions of the "G/IC" zones. SRACP proposes to speed up the

construction process by using the MiC method to develop transitional housing projects. The MiC units can be taken down and reused in other projects when the above sites are subsequently needed for other purposes. Meanwhile, the proposed transitional housing development is also intended to provide support to meet community needs which highly suits the planning intention of the zone. The other measures taken regarding overall landscaping, water supply, drainage, sewage, traffic, environment and geotechnical aspects of the Site will also ensure that the Site is prepared for other uses once the short term tenancy period of the transitional housing is over.

5.11 Modular and Efficient Design with Minimal Impact in the long run

5.11.1 Instead of the conventional construction method, the use of the MiC construction is proposed for the reason of speedy delivery, cost-efficient and environmentally self-sustaining. As the most advanced off-site construction technology, the relocatable prefabricated housing modules used for construction will accelerate the project delivery process since minimal additional work is required in the construction process. Hence, the on-site waste disposal, electricity consumption, and air and noise pollution can be reduced by no less than 10-70% for corresponding measured performance in a project adopting MiC techniques. In the meantime, a tidier and cleaner site environment can be maintained during the construction period due to the greatly reduced wet concrete works on site. The disturbance to the surrounding neighbourhood can be minimised because of the reduced number of material delivery trips to and from the construction site. The Applicant is committed to sustainability, carbon reduction and building a more liveable neighbourhood that creates positive value for the environment and society.

5.12 Effective Implementation, Operation, and Maintenance

5.12.1 The Government actively promotes cross-sector collaboration with NGOs and the community to encourage organisations to showcase their creativity in providing diversified and flexible transitional housing projects, including exercising flexibility in the handling of planning, land lease and building requirements for development plans.

5.12.2 As one of the Hong Kong-based charitable organisations well-recognized by the Government, SRACP has been striving to contribute to the development of an inclusive society by offering diversified community services. Since 1986, SRACP has cooperated with different parties on social housing projects and transitional accommodation services. During the operation of programs such as the “SOUK" scheme and halfway house, SRACP has developed an efficient management approach to offer comprehensive support while assuring the provision of decent housing for transitional use. Moreover, it demonstrated SRACP’s willingness in contributing to addressing the housing issues in Hong Kong. With SRACP’s profound experience in launching various community programs, SRACP is committed to upholding professionalism and providing equitable services with a dedication to groups in need.

5.12.3 SRACP has, since August 2021, been engaging with the local community (including the Chairman of Tai Po Rural Committee, former District Councillors of the relevant constituencies, representatives of Tai Po South and North Area Committees, representatives of nearby

residential developments including the Beverly Hills Villas and villages, Principal of Spanish Primary School, etc.) with a view to explaining the project and listening to their views on the proposed development scheme. In general, there is no objection to the preliminary design, given that there are landscaping and building separation to enhance natural wind penetration and lighting, and the reduced roundabout minimises any potential vehicular traffic that would affect nearby villages. SRACP will continue to engage with the local community throughout the development process to incorporate their views as far as possible.

5.12.4 As suggested by several stakeholders the proposed transitional housing development also provides social services to improve the living experience of tenants. By taking forward the project, SRACP does not only seek to satisfy tenants' basic livelihood needs, but also hopes to foster tenants' upward social mobility through the provision of ancillary social services. During the tenancy period of two to three years, tenants are expected to participate in a wide variety of services and activities offered by SRACP, ranging from talks and workshops on various topics such as health, family, finance and life planning, peer support, volunteer services and district activities, etc. SRACP hopes to enhance the life skills and quality of life of the tenants, reinforcing their social bond to the community and hence enhance their sense of personal achievement while building up the social capital as well. This would eventually facilitate their long-term reintegration into society.

5.12.5 At the wider local community level, through taking forward the project, SRACP wishes also to bring vibrancy to the neighbourhood by introducing the over 600 transitional housing tenants, many of whom are probably residing in other districts currently, to the local community, bringing additional impetus and even workforce to the nearby community. Community services, such as visits to singleton elderlies, volunteer services and health activities, etc., will also be arranged on a regular basis to strengthen bonding between the transitional housing tenants and nearby residents.

5.12.6 To implement the above programmes in achieving the social impact, a dedicated service team will be set up and stationed in the estate to support the daily operation (including estate management, service applications, enquiries and complaints) and providing the above-mentioned social services to tenants.

6 Conclusion

6.1 The Applicant seeks approval from the TPB for the proposed transitional housing for a period of 5 years at the Site falling within "G/IC" zone in the Approved Ting Kok OZP No. S/NE-TK/19 under S.16 of the TPO. The period of construction and operation are expected to last for around two years (until Q2 of 2024) and three years accordingly. Normally, the usual operation period of transitional housing projects is around five years, subject to review towards the end of operation period. Currently, the Applicant has no plan to submit renewal application in future to extend the operation of the proposed transitional housing development.

6.2 The planning approval will enable the proposed transitional housing development to be implemented and provide housing for about 276 inadequately housed households in the short term. The proposal will achieve a better scheme to provide social benefits whilst being able to satisfy the architectural and technical requirements as per relevant regulations and ordinances.

6.3 Whilst the Site was originally intended for the provision of "G/IC" facilities serving the needs of the local residents and supporting the government or organisations to provide relevant social services, the Site has been underutilised with poor condition and lack of social resources for a long time. The proposed transitional housing development thus seeks to address this underutilised Site situation while offering a better quality of life to the households in need and contribute to solving the affordable housing issue in Hong Kong as well.

6.4 According to paragraph (12) of the Notes of the OZP, "*Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan*". Since the proposed transitional housing development is on a temporary basis for a period of five years, the Planning Application is submitted to seek approval from the TPB. The proposed transitional housing development is classified as "Residential Institution" use in Column 2, which is in accordance with the terms of the OZP and may be considered by the TPB.

6.5 The Planning Statement demonstrates that the S.16 Planning Application deserves favourable consideration by the TPB since it highly aligns with the Government's policy to increase the supply of transitional housing to relieve housing shortage. The proposed transitional housing development will act as a new source of affordable housing for Hong Kong and be a more immediate solution for low-income groups before the supply of housing is in place. In addition, the non-intrusive MiC construction method proposed by the Applicant can help speed up the process without affecting the long-term planning intention. Given that the Planning Application utilises unleased and underutilised Government Site, the approval can showcase Government's decisiveness in activating and enhancing the Site area for public good.

6.6 As one of the experienced transitional housing operators in Hong Kong, the Applicant is familiar with the implementation, management and maintenance process. The Applicant is also dedicated in continuously promoting a quality living among people with priority needs by offering abundant open space for social and recreational activities, incorporating sustainable and innovative design for the well-being of the tenants and adjusting disposition and layout of the buildings for connectivity to nearby areas.

6.7 The technical assessments also concluded that no insurmountable issues are observed for the implementation of the proposed transitional housing development and it is compatible with the surrounding environment. With reference to the approved Planning Application A/NE-TK/702 with the same proposed use of land and similar site context, it is believed that the proposed transitional housing development can also achieve the objectives mentioned above and set a desirable precedent to the future transitional housing projects in the area.

6.8 In light of the evidence furnished in the Planning Statement supported by the various technical assessments and the Applicant's strong commitment to provide quality transitional housing to households in need, which is clearly supported by the CE and the society, we trust that the TPB will see fit to approve the Planning Application.

FIGURES

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

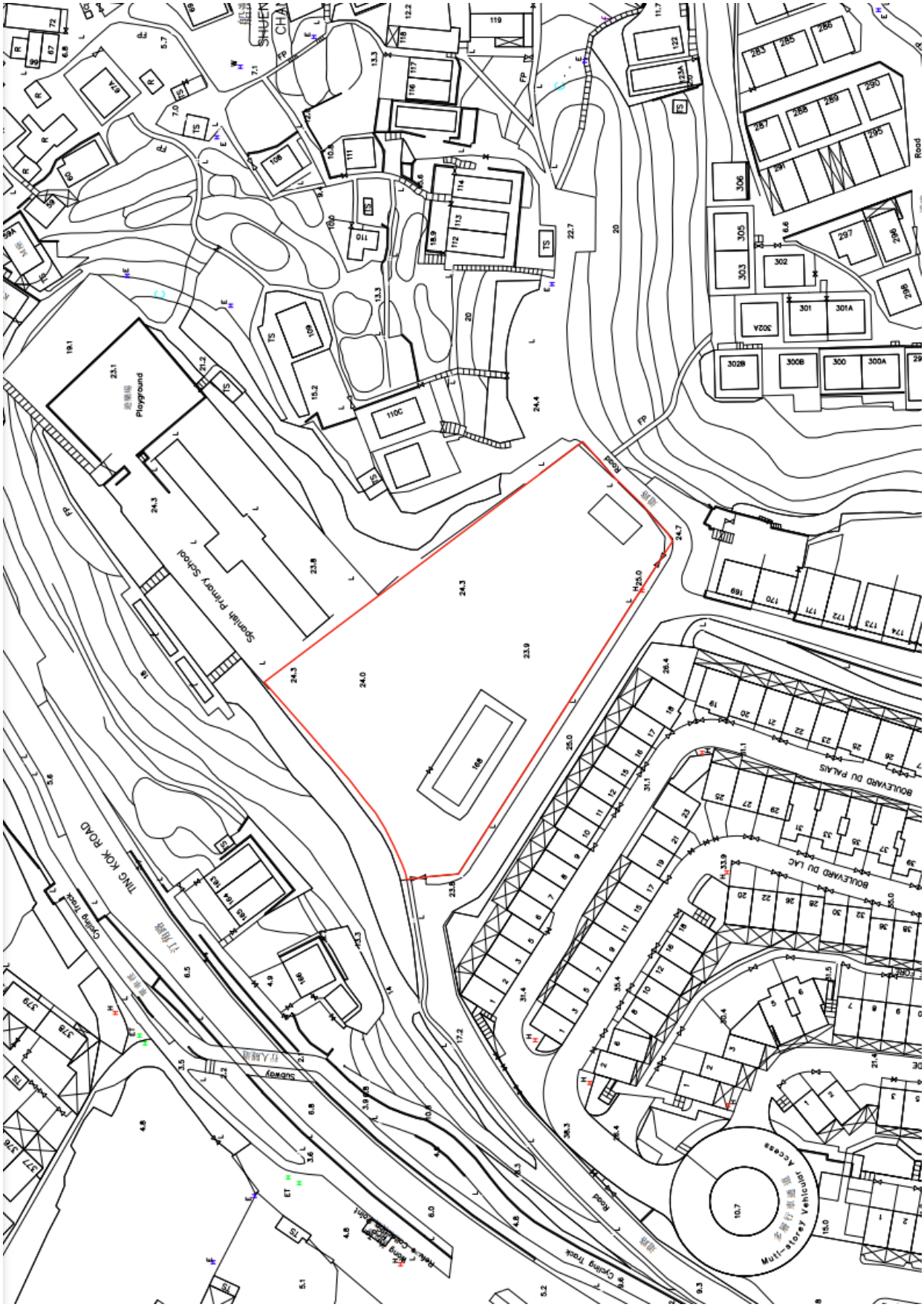

Figure No.	Title
2.1	**Site Location Plan**
Date	Description
06/2022	**Scale 1:1000**

UP International



Figure No.	Title
2.2	**Lot Index Plan**
Date	Description
06/2022	**Lot Index Plan From Lands Department**





Figure No.	Title
2.3	**Current Existing Condition of the Site**
Date	Description
06/2022	**Government-owned vacant land**

Figure No.	Title
2.4	**Site Surrounding Context**
Date	Description
06/2022	**-**

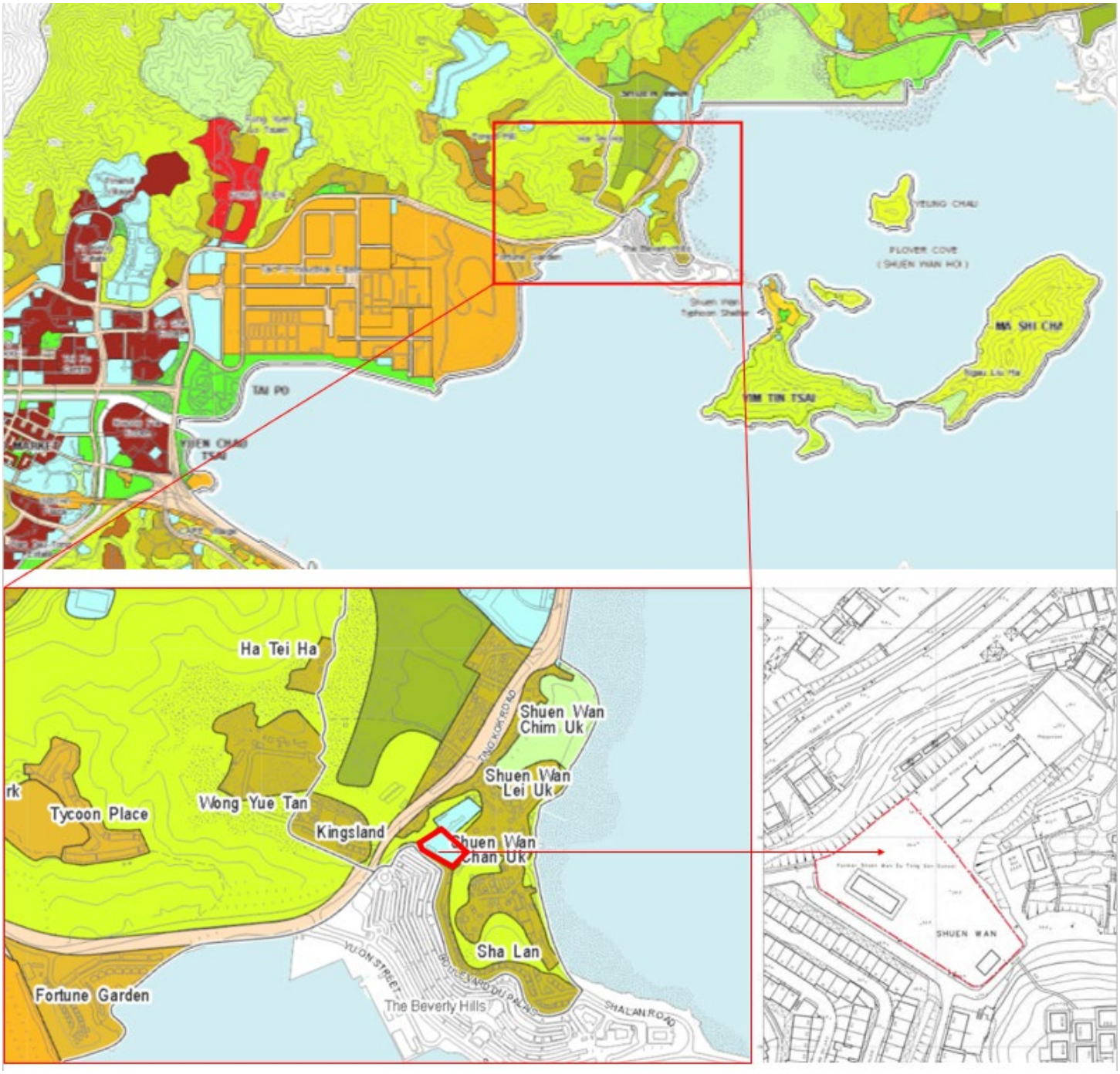

Figure No.	Title
3.1	**Extracted Approved Ting Kok OZP No. S/NE-TK/19**
Date	Description
06/2022	**-**

APPROVED TING KOK OUTLINE ZONING PLAN NO. S/NE-TK/19

(Being an Approved Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

(1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.

(2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.

(3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering any such land or building conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(4) A use or development of any land or building permitted under an earlier draft or approved plan including interim development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.

(5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the interim development permission area plan without permission from the Town Planning Board.

(6) Except to the extent that paragraph (4) applies, any use or development of land or building falling within the boundaries of the Plan but not within the boundaries of the interim development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date when such land or building was first included within the boundaries of the Plan or an earlier draft or approved outline zoning plan published by notice in the Gazette without permission from the Town Planning Board.

(7) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

(8) Road junctions, alignment of roads, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.

(9) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (10) in relation to areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area" :

(a) maintenance, repair or demolition of a building;

(b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;

(c) maintenance or repair of road, watercourse, nullah, sewer and drain;

(d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;

(e) rebuilding of New Territories Exempted House;

(f) replacement of an existing domestic building, i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of a draft plan including interim development permission area plan covering such building, by a New Territories Exempted House; and

(g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.

(10) In areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area",

(a) the following uses or developments are always permitted:

(i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;

(ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and

(iii) provision of amenity planting by Government; and

(b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

(11) In any area shown as 'Road', all uses or developments except those specified in paragraphs (9)(a) to (9)(d) and (9)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

(12) (a) Except in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

(b) Except as otherwise provided in paragraph (12)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Site of Special Scientific Interest" or "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

(c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

(13) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

(14) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

Planning Intention

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

Figure No.	Title
3.3	**Extracted Schedule of Uses of "G/IC" Zone of the approved OZP**
Date	Description
06/2022	**-**

9.2.2 The boundaries of the "V" zones are drawn up having regard to the village 'environs' boundaries, local topography, the existing land-use pattern, the provision of infrastructural facilities, the approved applications for Small House development, the outstanding Small House applications, as well as Small House demand forecast. Areas of difficult terrain, dense vegetation, stream courses and burial grounds had been avoided.

9.2.3 The existing population of the Area is mostly concentrated in the 14 recognized villages in the Area, namely, Tai Mei Tuk Village, Lung Mei Village (including Ng Uk Tsuen and Wong Chuk Tsuen), Lo Tsz Tin Village, Ting Kok Village, Shan Liu Village, Po Sam Pai Village, San Tau Kok Village, Tseng Tau Village, Tung Tsz Village, Wai Ha Village, Sha Lan Village, Shuen Wan Chan Uk Village, Shuen Wan Lei Uk Village and Shuen Wan Chim Uk Village. These villages are concentrated in the flat land and surrounded by agricultural land and mountainous areas.

9.2.4 Most of these villages are accessible by Ting Kok Road while a few of them are away from the main road and linked up by substandard village tracks.

9.2.5 Any village improvement proposals or new village housing development which might affect the historic buildings detailed in paragraph 12 below should be forwarded to the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) for comment well in advance.

9.2.6 To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction stated in the Notes may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

9.3 Government, Institution or Community ("G/IC") : Total Area 17.96 ha

9.3.1 The intention of this zone is intended primarily for the provision of Government, institution or community (GIC) facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. As detailed planning proceeds, land may be rezoned from other uses to this category to meet the envisaged demands of the growing population of the Area.

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(1/2)**

9.3.2 The major existing GIC uses in the Area include the plant nursery run by the LCSD at the southern side of San Tau Kok Village, the Country Park Management Centre run by the Agriculture, Fisheries and Conservation Department at the eastern end of Ting Kok Road, and a cultural and recreational centre run by the Soka Gakkai International of Hong Kong Limited on the western side of Lo Tsz Tin Village.

9.3.3 The intended use of the "G/IC" site situated along the coast of Shuen Wan has yet to be decided. However, a proposed flood pumping station under the project "Drainage Improvement in Sha Tin and Tai Po" will be located at the southern portion of this "G/IC" site.

9.3.4 Apart from the above, there are several "G/IC" sites near Shuen Wan Chan Uk Village, Ting Kok Village and Ng Uk Tsuen which are occupied by some rural schools.

9.4 Government, Institution or Community(1) ("G/IC(1)")

9.4.1 This zone is intended primarily for the development of a proposed religious institution use with an outdoor Guan Yin Statue and ancillary facilities. Any development on land zoned "G/IC(1)" should be compatible and blends in harmoniously with its surrounding environment. In order to preserve the rural character and the natural landscape of the area, with the exception of Area (a) where an outdoor Guan Yin Statue is proposed to serve as a landmark in Ting Kok area, buildings (including structures) at Area (b) where a Great Buddha's Hall is proposed and Area (c) which covers the remaining portion of the proposed religious institution should be low-rise in nature. In view of the local concern, no funeral-related facilities shall be provided at the "G/IC(1)" site.

9.4.2 A site north of the San Tau Kok Village is zoned "G/IC(1)" for a proposed religious institution development. In order to preserve the rural character and landscape of the area, control the building bulk and avoid excessive development overburdening the infrastructure provisions, development within the "G/IC(1)" zone is restricted to a maximum gross floor area of 4,900m^2 and a site coverage of 28% including landscaped deck structure. The development in the "G/IC(1)" zone is also subject to a maximum building height of 132mPD for Area (a) where a Guan Yin Statue is proposed, 18m (one storey) for Area (b) where a Great Buddha's Hall is proposed, and 14m (two storeys (including car park) for Area (c) which covers the remaining portion of the proposed monastery. Open spaces of not less than 13,000m^2 should also be provided in the development.

9.4.3 Since the "G/IC(1)" site occupies a visually prominent location with direct line of sight from a wide coverage area, the compatibility of the proposal, especially the 132mPD height limit for the outdoor Guan Yin Statue at Area (a), should be fully justified by a visual impact assessment (including photomontages). If the absolute maximum height of 132mPD for Guan Yin Statue cannot be justified at the

Figure No.	Title
3.4	**Extracted Explanatory Statement of "G/IC" Zone of the Approved OZP**
Date	Description
06/2022	**(2/2)**

Spanish Primary School
Construimos el futuro

To: Mr Frank Chan Fan, JP
Secretary for Transport and Housing
Transport and Housing Bureau
Secretary for Transport and Housing's Office
22/F, East Wing, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong.

RECEIVED
25 APR 2022
BY:.....

22 April 2022

Dear Mr Chan,

Support letter for the building of transitional housing at Former Eu Tong Sen School site

I am writing on behalf of the school board of Spanish Primary School to render our support to the building of transitional housing at former Eu Tong Sen School site, which is halvely occupied by our school.

After in-depth discussion with Mr. Wong Wing-hung, Stephen, the Project Director of the transitional housing project, we are very satisfied with the remedial measures offered by the THB to address the school needs and parents' concern.

In the future, after the completion of the transitional housing project, our school would like to continue to apply for the STT of the other half of the Former Eu Tong Sen School site for school development purpose and the establishment of sports and recreational facitilites that can be shared with the Shuen Wan resisdents during non-school hours.

We look forward to working closely with the THB to build a harmonious neighbourhood.

Kind regards,

Adriana Chan
School Supervisor
Spanish Primary School

SEO(TFTH) USTH - fi please
Grateful for TFTH's follow-up as appropriate, please. We have not acknowledged receipt.
SEO
25 Apr 2022
cc. PD(2)

Figure No.	Title
4.1	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Spanish Primary School**

保良局
PO LEUNG KUK

於1878年成立的慈善機構
A charity established since 1878

本局檔案　：PLK 69 (SSD-CA)
電話　：2277 8218
圖文傳真　：2890 2097

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

助理社會服務總幹事(安老)

張飛

張飛　謹啟

2021 年 9 月 27 日

香港禮頓道六十六號 66 Leighton Road, Hong Kong
T: 2277 8888　F: 2576 4509　E: plkinfo@poleungkuk.org.hk
www.poleungkuk.org.hk

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Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Pok Leung Kok**

UP International

聖公會聖基道兒童院
S.K.H. St. Christopher's Home
傳愛 傳希望

敬啟者：

有關：香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過25萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

助理總幹事黃素萍 謹啟

2021 年 9 月 20 日

聖公會聖基道兒童院有限公司 Sheng Kung Hui St. Christopher's Home Limited
香港北角百福道21號香港青年協會大廈15樓
15/F., The Hong Kong Federation of Youth Groups Building, 21 Pak Fuk Road, North Point, Hong Kong
電話 Tel：2520 1056 傳真 Fax：2520 1725 網址 Website：www.skhsch.org.hk 電郵 E-mail：admin@skhsch.org.hk
「教養孩童，使他走當行的道，就是到老他也不偏離。」箴言廿二：六

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from S.K.H. St. Christopher's Home**

SOCIETY FOR COMMUNITY ORGANIZATION
香港社區組織協會
九龍何文田公主道五十二號三樓 52 Princess Margaret Rd., 3/Fl., Homantin, Hong Kong. Tel: (852) 2713 9165 Fax: (852) 2761 3326 E-mail: soco@soco.org.hk Website: www.soco.org.hk

敬啟者：

支持香港善導會推行大埔區「過渡性房屋項目」

本會留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，輪候公屋宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會訂立的三年上樓目標相距甚遠。本會欣聞香港善導會已獲得運輸及房屋局，選定使用大埔區政府閒置土地以營運過渡性房屋項目；本會支持上述計劃，認為計劃有助解決當前公營房屋供應嚴重不足，輪候公屋住戶人士生活的燃眉之急，特致函表示支持，呼籲儘快落實上述計劃，以造福基層市民。

現時本港社會上對房屋需求有增無減，在公屋供應持續短缺下，不適切居所數目隨之增加，根據當局統計資料，單是居於惡劣環境住戶的數目估計已逾 11 萬戶，當中近半未能適時獲編配公屋，被迫租住劏房、板間房、天台屋，甚或工廠大廈等不適切居所，再加上私樓租金持續攀升，基層市民面對租金貴、面積細、環境差等問題，生活極度困難。

本會早前得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。為此，本會十分支持上述計劃，認為有助為公屋輪候冊住屋提供適時房屋和生活支援。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，本會支持過渡性房屋政策，並建議於大埔區及本港其他地區興建更多過渡性房屋。本會香港善導會大埔區「過渡性房屋項目」能盡快落實，協助大埔區基層家庭改善居住環境及經濟壓力。若有任何疑問或查詢，煩請致電 2713 9165 與本會聯繫。

敬祝　台安

香港社區組織協會
主任

(何喜華, BBS, JP) 謹上

二零二一年九月十三日

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Society for Community Organization**

UNITED CHRISTIAN NETHERSOLE COMMUNITY HEALTH SERVICE

基督教聯合那打素社康服務

社康

- 家庭醫生 Family Medicine
- 健康檢查 Health Maintenance Programme
- 牙醫 Dental
- 社區營養服務 Community Nutrition
- 物理治療 Physiotherapy
- 外展醫療 Medical Outreach
- 中醫全科 Chinese Medicine
- 長者社區支援服務 Elderly Community Support Service
- 倡健學校計劃（健康校園） Health Promoting Schools Project
- 愛鄰網絡 Good Neighbour Network (Rehabilitation Service)
- 健康教育及推廣 Health Education & Promotion
- 病理檢驗 Pathology Laboratory
- 臨床心理服務 Clinical Psychology
- 診斷影像 Diagnostic Imaging

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

基督教聯合那打素社康服務
副總幹事

UNITED CHRISTIAN NETHERSOLE COMMUNITY HEALTH SERVICE 基督教聯合那打素社康服務

姓名：歐志強
日期：30 SEP 2021

將軍澳坑口寶寧里二號九龍東聯網行政樓一樓
L1, KEC Administrative Building, No. 2 Po Ning Lane, Hang Hau, Tseung Kwan O
Tel: (852) 2717-1989 Fax: (852) 2348-9130 Email: info@ucn.org.hk
www.ucn.org.hk facebook.com/ucnche

香港公益金 THE COMMUNITY CHEST 會員機構 MEMBER AGENCY

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from United Christian Nethersole Community Health Service**

UP International

香港心理衞生會
THE MENTAL HEALTH ASSOCIATION OF HONG KONG

敬啟者：

本機構支持香港善導會籌劃「大埔區過渡性房屋」計劃

本機構得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，本機構同意應該於大埔區興建過渡性房屋，以有效地協助大埔區基層家庭改善居住環境及經濟壓力，同時對於香港善導會籌劃「大埔區過渡性房屋」計劃表示支持，也期望將來的協作，為有需要的房屋居民提供本機構所提供的精神健康服務，以關注居民的身心靈需要。

此致
城市規劃委員會

余健新
總主任(服務)
香港心理衞生會

香港九龍觀塘功樂道2號
2 Kung Lok Road, Kwun Tong, Kowloon, Hong Kong
2528 0196 mhahkho@mhahk.org.hk
2142 6784 www.mhahk.org.hk
Member Association of World Federation for Mental Health
HKCSS 社聯 機構會員 AGENCY MEMBER
香港公益金 THE COMMUNITY CHEST 會員機構 MEMBER AGENCY

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from The Mental Health Association of Hong Kong**

UP International

聖雅各福群會
St. James' Settlement

香港灣仔石水渠街85號
No. 85 Stone Nullah Lane,
Wanchai, Hong Kong.

電話 Tel: (852) 2574 5201
圖文傳真 Fax: (852) 3104 3657
電郵 E-mail: amoffice@sjs.org.hk

敬啟者：

支持香港善導會大埔區「過渡性房屋項目」

本會留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

現時本港社會上對房屋需求有增無減，在公屋供應持續短缺下，不適切居所數目隨之增加，根據當局統計資料，單是居於惡劣環境住戶的數目估計已逾 11 萬戶，當中近半未能適時獲編配公屋，被迫租住劏房、板間房、天台屋，甚或工廠大廈等不適切居所，再加上私樓租金持續攀升，基層市民面對租金貴、面積細、環境差等問題，生活極度困難。

本會得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，本會十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。若有任何查詢，煩請致電 2831 3243 與本人聯繫。

敬祝　台安

聖雅各福群會
家庭及輔導服務
高級經理

黃超文謹上

二零二一年九月十七日

敢創新 行公義
展真誠 信自主

President The Most Revd. Andrew Chan
Chairman Dr. the Hon. Sir David K.P. Li, GBM, GBS, Hon. LL.D. (Cantab), JP
Vice-Chairman Mr. Brian M.B. Li
Hon Secretary Mr. John R. Budge, SBS, JP
Hon Treasurer Mr. Robert E. McBain
Chief Executive Officer Ms. Josephine Y.C. Lee

香港公益金 THE COMMUNITY CHEST 會員機構 MEMBER AGENCY

Recycled Paper 再造紙

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from St. James Settlement**

大埔浸信會社會服務處

電話：2656 6680　　傳真：2656 2220　　電郵：info@tpbcss.org

地址：大埔富亨邨亨昌樓地下　　網址：www.tpbcss.org

大埔浸信會
社會服務委員會委員
(2021 年度)
譚日旭校長(主席)
李淑儀牧師
馬煜東牧師
羅天霖牧師
何明禮傳道
曾家求先生
陳芷茵女士
李德仁博士
張愛娥博士
陸麗珊女士
黃澤文先生
林偉安先生
廖玉儀女士
朱永君先生

大埔浸信會社會服務處
機構顧問團
(2021 年度)
石丹理教授 (BBS, JP)
何建宗教授 (BBS)
邱榮光博士 (JP)
羅明輝博士
許盧萬珍博士
張志強醫生
陳玉真醫生
黃潔蓮校長
周潤琼校長
葉長盛先生
黃妙玲校長

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

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TAI PO BAPTIST CHURCH SOCIAL SERVICE 大埔浸信會社會服務處

總經理：吳健文先生

總經理簽署：

簽署日期：2021年10月7日

Figure No.	Title
4.222	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Tai Po Baptist Church Social Service**

UP International

基督教香港信義會太和青少年綜合服務中心

ELCHK Tai Wo Integrated Youth Service Centre

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

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此致

城市規劃委員會

中心主任

黃新珠

2021 年 10 月 6 日

新界大埔太和邨麗和樓地下
G/F,Lai Wo House, Tai Wo Estate, Tai Po, N.T.
電話:2650 8807　傳真:2650 7308　電郵:twit@elchk.org.hk　網址:www.elchk.org.hk/service

Figure No.	Title
4.222	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from ELCHK Tai Wo Integrated Youth Service Centre**

敬啟者：

支持香港善導會大埔區「過渡性房屋項目」

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敬祝　台安

PROJECT SPACE LIMITED

游嘉樂
間築社有限公司總幹事

二零二一年九月二十三日

Figure No.	Title
4.222	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Project Space Limited**

UP International

南亞路德會家庭網社會服務中心
S.A.L.E.M.– FAMILY NET SOCIAL SERVICE CENTRE
Family Net 家庭網 地址:大埔廣福道 33 號美德大廈 2 樓 H1 室 電話：26640828

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

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此致
運輸及房屋局

南亞路德會家庭網社會服務中心

S.A.L.E.M. FAMILY NET SOCIAL SERVICE CENTRE

簽署及校印
姓名: 郭紀璇姑娘
職位：中心主任
日期：29/10/2021

18 11 2021年 16時50分

Figure No.	Title
4.222	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from S.A.L.E.M. - Family Net Social Service Centre**

2021年至2023年度董事會

顧問：
宗教：鄧立光博士
李焯芬校長, GBS, JP
周景勳神父
醫療：鍾展鴻醫生, KStJ
劉楚劍醫生, GMSM, MH, JP
盧展民教授
教育：徐守滄先生, MBE
李子建教授, JP
姚文禮教授
社服：區炳麟先生, CStJ
黎志棠先生, BBS
李永偉先生
法律：古澤銘大律師
黎錦華大律師
馬豪輝律師, GBS, JP
財務：陳志球博士, SBS, JP
張偉球先生, MH, JP
羅海鴻先生

主席：
馬澤華先生, MH, CStJ

黃大仙祠監院：
李耀輝(義覺)道長, MH

副主席：
梁宇華先生
盧燊河先生
余君慶先生
陳燦輝先生
黎澤森先生

委任董事：
東華三院主席
譚鎮國先生
黃大仙民政事務專員
黃智華先生, JP
華人廟宇委員會秘書
洪明媚女士
陳郁傑教授, MH, JP
馬清煜太平紳士, SBS
柯創盛議員, MH

董事：
郭耀偉先生
梁理中先生
陳拾壹先生
陳錦祥先生
楊魏德先生
茹志昭先生
姚啟文先生
梁延溢先生
羅偉成先生
余大業先生
何志昌先生
梁錦和先生
吳家權先生
陳健生先生
文偉昌先生
黎國俊先生
羅錦雄先生

檔案編號 ： SSY/SS(SCO)/2021/269

敬啟者：

支持:香港善導會營辦大埔區「過渡性房屋項目」

現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標相差甚遠。不適切房屋數目的增加、租金高昂，居住面積愈來愈細，無疑對市民的居住環境構成負面影響。

得悉香港善導會獲運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望項目能協助有住屋需要的基層家庭改善居住環境，並提供不同的支援服務，提升居民的社區生活能力、改善生活質素、建立對社區的互助感及學習對社區的投入和貢獻，從而令他們能順利「過渡」，遷往另一個安穩的「安樂窩」。

我們支持香港善導會營辦大埔區「過渡性房屋項目」，並期待項目能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

嗇色園 社會服務統籌處 Social Services Co-ordination Office SIK SIK YUEN

社會服務秘書 吳少英 謹啟

二零二一年九月十五日

地址 Address :九龍黃大仙竹園村二號 2, Chuk Yuen Village, Wong Tai Sin, Kowloon
電話 Tel :(852) 2327 8141 傳真 Fax :(852) 2351 5640
網址 Website :www.siksikyuen.org.hk 電郵 Email :info@siksikyuen.org.hk

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Sik Sik Yuen**

敬啟者：

支持香港善導會在大埔汀角路船灣政府土地發展「過渡性房屋項目」

現時本港公屋供應量嚴重不足，公屋輪候冊人數屢創新高，截止本年6月，申請人數已超過25萬宗。一般家庭的輪候時間最少為5.8年，與房屋委員會所訂立的三年目標已相差甚遠。

參考「2016 中期人口統計」及2020年「政策二十一」進行劏房租戶調查的數據，「劏房」數目較 2016 年所估計的增加 8.94%，居於「劏房」的人數由約21萬人增加至22萬人。很多基層市民在漫長等待上樓期間，只能租住環境惡劣的劏房、板間房、天台屋，甚或工廠大廈等不適切居所，劏房租戶面對租金昂貴，但卻換來的居住環境惡劣、面積細等問題，生活極度困難。

聯席得悉香港善導會獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

由於現時公屋資源供不應求和關注不適切居所住戶的身心靈健康，聯席十分支持過渡性房屋政策，建議增加過渡性房屋的數量，並且期待香港善導會大埔區過渡性房屋項目「善樓」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。若有任何查詢，有勞致電9442-9882與聯席成員聯繫。

順祝
工作順利！

Concerning Grassroots' Housing Rights Alliance
關注基層住屋聯席

關注基層住屋聯席成員

鍾惠賢 謹啟

二零二一年十月二十八日

Figure No.	Title
4.222	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from Concerning Grassroot Housing Rights Alliance**

UP International

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

→ 沙田 區居民

姓名: 鄭振揚

簽名: 鄭振揚

身份証頭 4 個字號碼: M233

2021-10-5

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (1/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: Pun Milan

簽名:

身份証頭 4 個字號碼: M3068

-7 OCT 2021

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (2/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: 溫志明

簽名: 溫志明

身份証頭 4 個字號碼: C476

-7 OCT 2021

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (3/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: Godwin Fong

簽名:

身份証頭 4 個字號碼: G125XXX(X)

2021-10-6

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (4/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: Queenie Fong

簽名:

身份証頭 4 個字號碼: Y520

2021-10-6

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (5/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: Kinnick Kong

簽名:

身份証頭 4 個字號碼: Y749

2021-10-6

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (6/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

在於社會上對房屋的需求，不適切房屋的衍生亦相對增加，居住在惡劣環境住戶的數目估計在萬六至三萬多之間，未能上樓又無法置業的市民只能投身私人租務市場；然而租金不斷攀升，市民以愈來愈高的租金租住面積愈來愈細、環境愈趨惡劣的單位及劏房。樓價高企，租金昂貴，生活極度困難。

我們得悉香港善導會已獲得運輸及房屋局選定使用大埔區政府閒置土地以營運過渡性房屋項目，期望透過該項目能協助有住屋需要的基層家庭改善居住環境，並且提供不同的支援服務以提升居民的社區生活能力和生活質素、建立對社區的互助感、學習對社區的投入和貢獻，從而令他們遷出後能順利「過渡」，遷往另一個新的社區定居。

鑑於目前公營房屋資源供不應求和不適切居所住戶的身心靈健康，我們十分支持過渡性房屋政策，歡迎於大埔區興建更多過渡性房屋，並且期待香港善導會大埔區「過渡性房屋項目」能盡快落實，以有效地協助大埔區基層家庭改善居住環境及經濟壓力。

此致
城市規劃委員會

大埔居民

姓名: Katharine Chan

簽名:

身份証頭 4 個字號碼: C548

2021-10-6

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (7/8)**

敬啟者：

香港善導會大埔區「過渡性房屋項目」

我們留意到現時香港公營房屋供應長期不足，公屋輪候人數屢創新高，宗數已超過 25 萬宗。一般家庭的輪候時間已經上升至六年，與房屋委員會最初所訂立的三年目標已相差甚遠。

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此致
城市規劃委員會

大埔居民

姓名: 關秀文

簽名:

身份証頭 4 個字號碼: C639

2021-10-5

Figure No.	Title
4.22	**Support Letter for Transitional Housing at Former Eu Tong Sen School Site**
Date	Description
06/2022	**Letter of Support from local residents (8/8)**

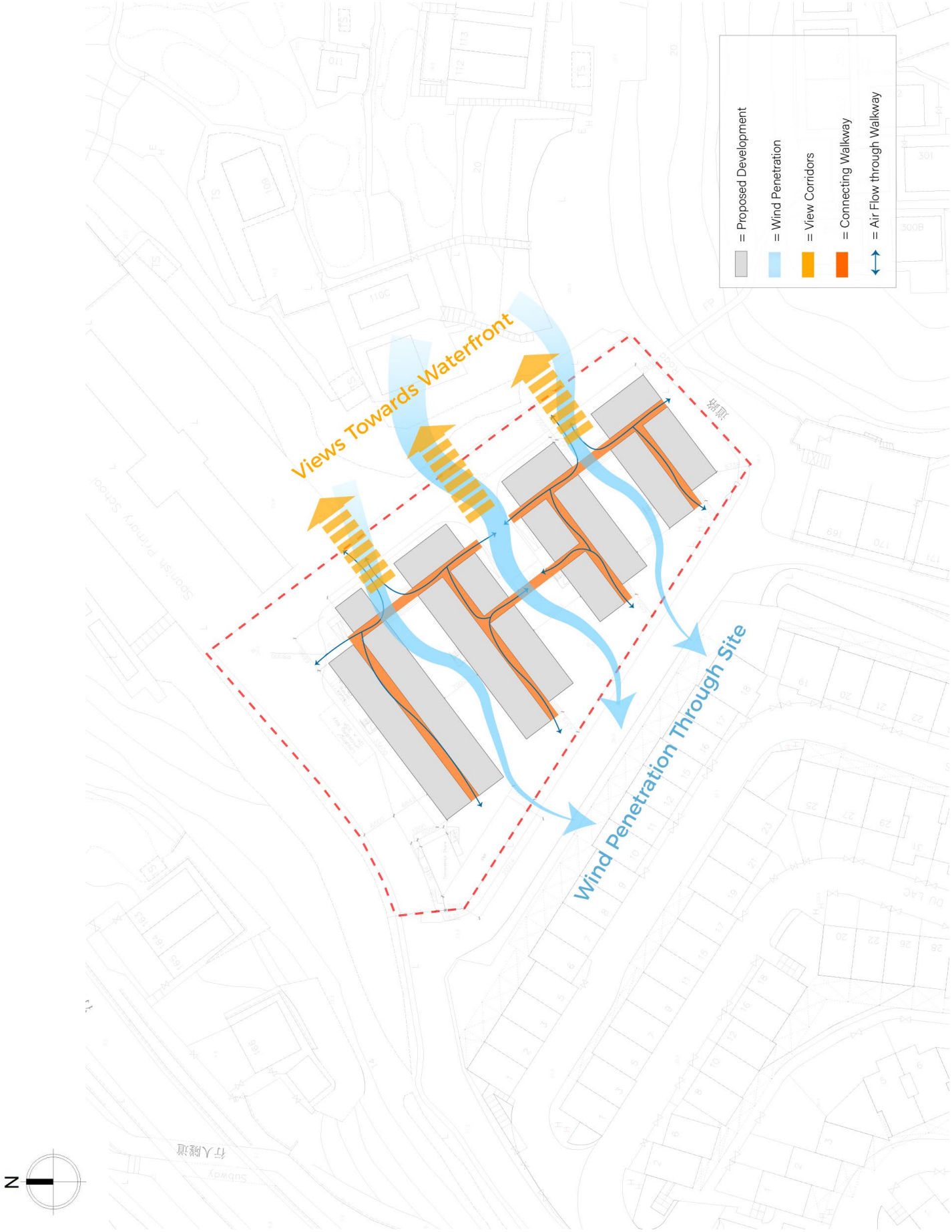


Figure No.	Title
5.1	**Wind Penetration and View Corridors within Proposed Design**
Date	Description
06/2022	**Drawing of Wind Flow and Views through the Site**

UP International

APPENDIX A - ARCHITECTURAL DRAWINGS

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED MASTER PLAN LAYOUT

- Site Boundary
- Paving/ Open Areas
- Green Area
- Proposed Transitional Housing Block
- Convenience Store
- E&M Plant Room

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

Drafted By: Architect	
Designed By: Architect	
Checked By: Queenie Huang	
Approved By: Sujata Govada	

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

GROUND FLOOR PLAN - MASTER LAYOUT

- Site Boundary
- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

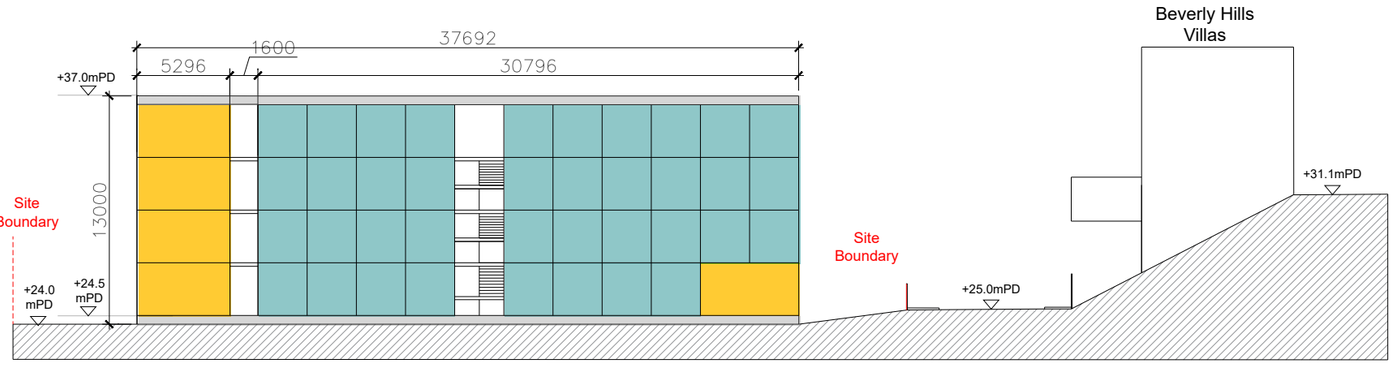
TYPICAL FLOOR PLAN (1/F -3/F) - MASTER LAYOUT

- Site Boundary
- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

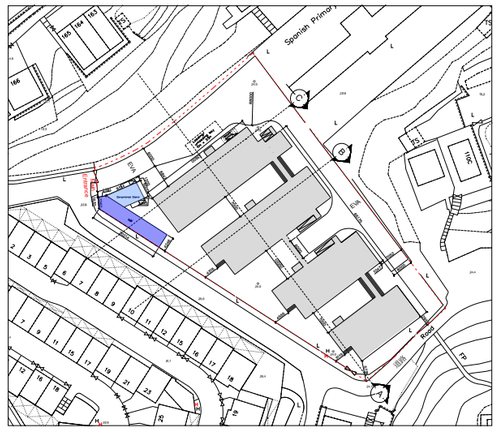
ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A3

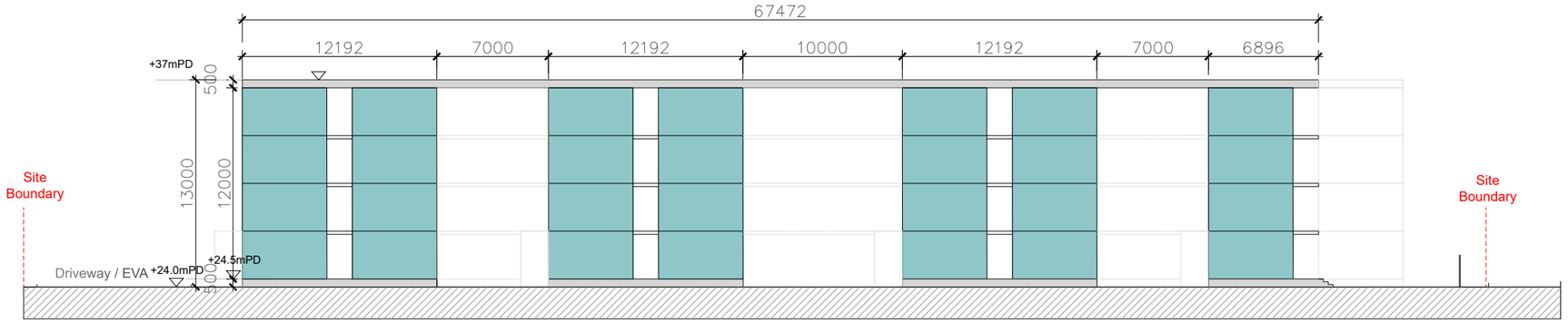
Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada



SECTION B



KEY PLAN 1:2000



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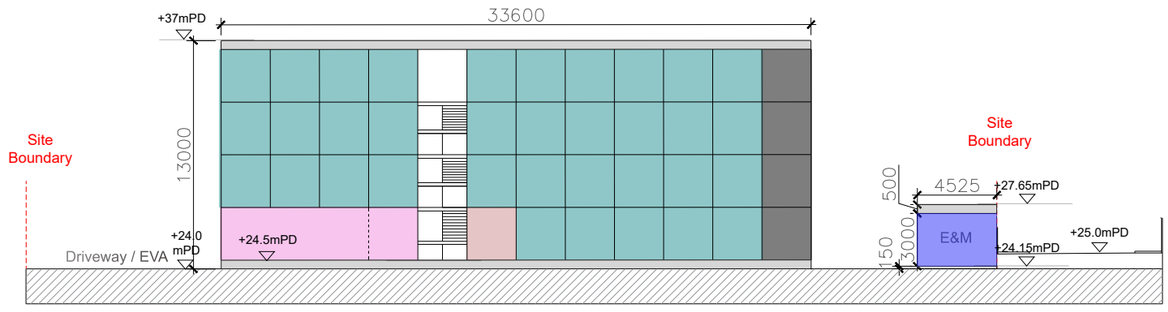

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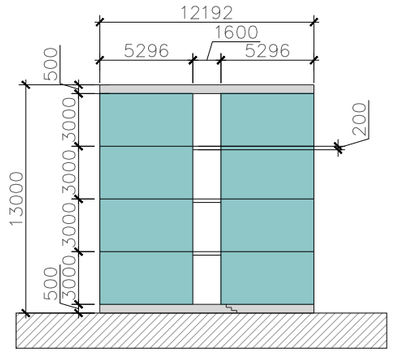


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Roof & Foundation
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:250 @ A3

Drafted By:	Architect
Designed By:	Architect
Checked By:	Queenie Huang
Approved By:	Sujata Govada

GROUND FLOOR PLAN



TYPICAL FLOOR PLAN (1/F -3/F)



PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

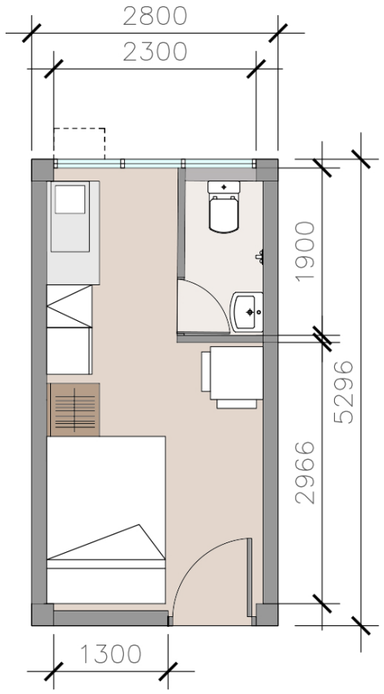
TYPICAL BLOCK LAYOUT

- Single Unit (1-2P)
- Double Unit (3-4P)
- Corridor/Stairs
- Ancillary Facilities (Plant Room, Mail Collection, Refuse Area)
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

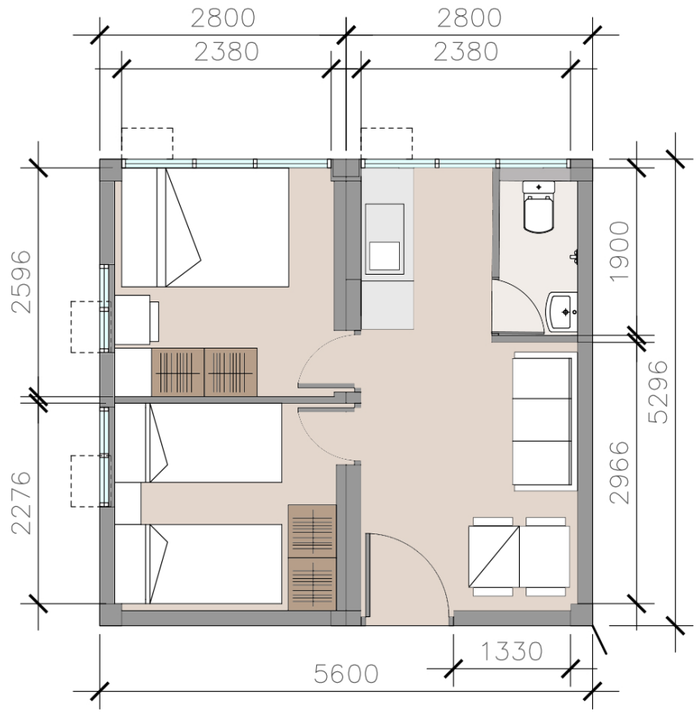
UDP INTERNATIONAL
SCALE 1:250 @ A3

Drafted By: Architect	
Designed By: Architect	
Checked By: Queenie Huang	
Approved By: Sujata Govada	



SINGLE UNIT
(1-2P)

Dim: 5296mm (L) x 2800mm (W)



DOUBLE UNIT
(3-4P)

Dim: 5296mm (L) x 5600mm (W)

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

UNIT LAYOUT

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:50 @ A3

Drafted By: Architect

Designed By: Architect

Checked By: Queenie Huang

Approved By: Sujata Govada

APPENDIX B - LANDSCAPE MASTERPLAN AND TREE PRESERVATION AND REMOVAL PROPOSAL

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Landscape Master Plan

and

Tree Preservation and Removal Proposal

Urban Design & Planning Consultants Limited

(UDP International)

12 August, 2022

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Figure 1 Landscape Master Plan

Figure 2 Open Space Demarcation Plan

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Annex A Broad-Brush Tree Survey and Recommendation Plan

Annex B Tree Assessment Schedule

Annex C Tree Photos

1 Introduction

1.1 Background

The Landscape Master Plan and Tree Preservation Proposal are prepared to support the S16 Application for proposed transitional housing project at Government land at Shuen Wan, off Ting Kok Road, Tai Po (The Application Site) which is for 5 years temporary use. The site was zoned as "Government Institution or Community ("GIC")" under Outline Zoning Plan ("OZP") No. S/NETK/19.

1.2 This document has been prepared in accordance with the following Government regulation and guidelines:

- DevB TC(W) No.4/2020 'Tree Preservation'
- DevB TC(W) No. 3/2012 'Site Coverage of Greening for Government Project'
- Guidelines for Tree Risk Assessment and Management Arrangement (TRAM) 9th edition, section 2.6
- Hong Kong Planning Standards and Guidelines
- PlanD Practice Note for Professional Person No.1/2019 'Processing and Compliance Checking of Landscape Submission relating to Planning Applications'
- BD/ LandsD/ PlanD Joint Practice Note No.3 'Landscape and Site Coverage of Greenery'

2 Site and Development Context

2.1 Description of the Site

The Application site approximately 4310 m^2 is located at Shuen Wan, off Ting Kok Road, Tai Po. The site is close to the shoreline of Tolo Harbour and benefits from mid-distance views of attractive green hillsides. However, the immediate surroundings of the site are mainly occupied by low-density residential development, extensive development, village clusters, underutilised/unused land, vehicle parking sites, including the Beverly Hills Villas and the Spanish Primary School.

2.2 Proposed Development

The proposed design of the transitional housing is 4-storeys and comprises of 1 block with 4 wings which will provide about 276 transitional housing units including about 248 for 1-2P and about 28 for 3-4P. The transitional housing development will be operated and managed by the Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP), a Non-Governmental Organisation ("NGO").

According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) is required for the proposed transitional housing as a temporary use. A total of 4 building wings are proposed in an inter-linked parallel NE-SW alignment across the site. The development design connects the wings at the rear to create clear view corridors which also facilitates the movement of air in-between the wings through the building. This will not only create a more ventilated environment within the site but also be beneficial to the residents of the adjacent Beverly Hills Villas as their waterfront views are preserved. Furthermore, these corridors between the wings create opportunities to introduce community sitting areas and open space is close proximity to the residential units.

3 Broad-Brush Tree Survey

The Broad-Brush Tree Survey was carried out during April - May 2022. All of the technical data, including the photographs, locations, size, species and condition of the existing trees within the survey boundary have been recorded. The location of each tree is shown in **Annex A – Broad-Brush Tree Survey and Recommendation Plan**. The details of each tree, such as Diameter at Breast Height (DBH), tree number, crown spread, etc. is shown in **Annex B - Tree Assessment Schedule**. The photos of all the trees are shown in **Annex C - Tree Photos**.

3.1 Methodology and Assessment Criteria

3.1.1 All living trees at and over 95mm Diameter at Breast Height (DBH) at 1300mm above ground level were included in the Tree Survey. Each tree was identified by species, measurements taken of its trunk diameter, overall height and crown spread, date-stamped photograph taken and its position plotted on topographic plans. The report includes the following information on each Tree Surveyed:

Tree Number	Tree numbers are determined by Topographic Surveyors and are corresponded to the Tree Survey plan.
Species	Tree species are identified with their botanical and Chinese names.
Trunk Diameter	Trunk Diameter in Breast Height (DBH) of trees are measured in millimetres and are taken at 1300mm height above ground level.
Overall Height	Height of trees is measured in metres and are taken from ground level to the top of trees.
Crown Spread	Crown Spread of trees are measured in metres.

3.1.2 The health condition and form of each tree are evaluated according to the following criteria (Webb 1991):

G	Trees of good form, moderate to large size and in good health are classified as *good*;
F	Trees of reasonable form, with few or no visible defects or health problems are classified as being *fair*;
P	Trees that are of poor form, badly damaged or clearly suffering from decay, dying back or the effects of very heavy vine growth are classified as *poor*.

3.1.3 Each tree is also graded and assessed on its amenity value. The factors that are taken into consideration are conservation value, functional value, visual impact and aesthetic value. The assessment of each tree was evaluated according to the following criteria:

H Trees that are rare or protected species, Fung Shui ***significance*** or have high visual impact with good health condition and form are classified as ***high*** in amenity value.

M Trees that are common species with average health condition and acceptable form are classified as ***medium*** in amenity value;

L Trees that are common species with poor health and form are classified as ***low*** in amenity value.

3.1.4 In addition, any trees that are deemed to be classed as Trees of Particular Interest (TPIs) is accordance with TRAM Guidelines and DevB TC(W) 4/2020 must be identified and considered for possible additional sensitivity analysis. TPIs are normally defined as trees of DBH is excess of 750mm.

3.1.5 Based on the above criteria and the site constraints, the trees are considered for the following actions:

R Trees located on unaffected site areas are recommended to be ***retained*** and shall be protected during site formation and construction.

T Trees located on affected site areas but have medium to high health condition, form and amenity value are recommended to be ***transplanted***. Trees that are to be transplanted shall be relocated to a suitable location on site or held in a nursery until site formation and construction is completed.

F Trees located on affected site areas but have poor health condition, form and amenity value are recommended to be ***felled***.

3.1.6 The Conservation Status indicates the tree species rarity and protection status which is under the ordinances as listed below:

- Rare and Precious Plants of Hong Kong
- The Forests and Countryside Ordinance (Cap. 96)

If the tree species are not listed in the above ordinances, then the input for the conservation status in the Tree Assessment Status will be blank.

3.1.7 For the Structural Condition of the individual tree, assessment is rated as Good, Fair or Poor. They are based on the criteria as listed below:

G Trees which meet the following conditions are classified as ***good***:
• Good root condition and stability
• Good trunk and branch soundness
• The absence of critical decay, cavities that can lead to potential tree failure and damage

F Trees which meet the following conditions are classified as *fair*:
- Average root condition and stability
- Basic trunk and branch soundness
- Acceptable condition of critical decay, cavities that can not lead to potential tree failure and damage

P Trees which meet the following conditions are classified as *poor*:
- Poor root condition and stability
- Poor trunk and branch soundness
- The presence of critical decay, cavities that can lead to potential tree failure and damage

3.1.8 The Suitability for Transplant of individual trees are determined by the survival rate of the trees after transplanting. The Suitability is evaluated as High, Medium and Low. The evaluation is assessed according to the criteria listed below:
- The ability of the tree species to survive after transplanting
- The individual tree size, form and health conditions
- Any physical obstruction or barriers that may restrict the lifting of the root ball. This includes retaining walls, utility lines, manholes, catch pits and foundations etc.

3.2 Findings of Broad-Brush Tree Survey

3.2.1 There are a total of 70 trees >95mm dia included in the survey (68 trees are inside the site boundary and 2 trees are outside the site boundary). Many of the trees recorded are considered to be invasive weed species. A total of 12 tree species were identified, including 14 specimens of Leucaena leucocephala which is considered to be an undesirable invasive weeds species and should be removed (in accordance with DevB TC(W) 4/2020).

3.2.2 The trees identified on site are of common species found throughout Hong Kong. Species and quantity of the existing trees recorded in the Broad-Brush Tree Survey are listed below:

Within Site Boundary

Species	Chinese Name	Total Number of Individuals
Acacia confusa	台灣相思	4
Albizia lebbeck	大葉合歡	2
Bombax ceiba	木棉	2
Celtis sinensis	朴樹	1
Ficus hispida	對葉榕	1
Ficus virens	大葉榕	1
Leucaena leucocephala	銀合歡	14
Macaranga tanarius	血桐	16
Terminalya mantaly	小葉欖仁	11
Tetradium glabrifolium	楝葉吳茱萸	1
Trema tomentosa	山黃麻	14
Zanthoxylum avicennae	簕欓花椒	1
Total		68

Outside Site Boundary

Species	Chinese Name	Total Number of Individuals
Bombax ceiba	木棉	1
Celtis sinensis	朴樹	1
Total		2

3.2.3 Condition of Existing Trees

Most of the existing trees are in generally poor to fair health and form and have suffered from lack of maintenance and management.

None of the existing trees are rare or protected tree species, nor are they listed as Old and Valuable Trees. One tree (T011) has a DBH exceeding 750mm and therefore the potential to be listed as a Tree of Particular Interest (TPI). However, this tree is located outside the site boundary and will be retained, therefore further sensitivity analysis will not be required.

3.3 Proposed Treatment of Existing Trees

According to the condition of existing trees, we proposed to fell **37** trees within the site boundary, all as detailed in the Tree Assessment Schedule at Appendix B. Of the 37 trees proposed to be felled, 14 No. are invasive weeds species (T012-016, T018-025 and T052) whereas a further 19 No. are unavoidably impacted by the development proposal and not considered for transplanting due to their poor health or form and common species (these are T27, T31, T036-037, T039-041, T044-45, T47, T53, T59-61, T63-66 and T68). In addition, 4 No. trees (T48-49 and T69-70) are in very poor condition and recommended to be felled/ replaced despite not being in direct conflict with the development. There are **33** trees to be retained, including 31 trees within the site boundary and 2 trees outside site boundary.

Proposed Treatment of Existing Trees	Total Surveyed Tree Nos.	Trees to be Retained	Trees to be Transplanted	Trees to be Felled
Within the site boundary	68	31	0	37
	-	46%	0%	54%
Out of the site boundary	2	2	0	0
	-	100%	0%	0%

3.4 Proposed New Tree Planting

3.4.1 There are 19 no. of trees of common species that will be impacted by the development proposal and are not considered for transplanting due to their poor health or form. Additionally, 14 no. of trees are classed as invasive weed species, and another 4 no. of trees are in very poor condition that will also be felled. Accounting for all invasive species and trees in poor condition, there are totally 37 trees proposed to be felled within the site boundary and a total of 12 new trees will be planted within the site.

3.4.2 The development is only of a temporary nature with an operation period of three years and occupies an extremely tight site. For these reasons, as well as to avoid unnecessary

constraints to future development, minimise overcrowding, and allow sufficient open amenity space for the enjoyment of residents, we propose to plant 12 no. compensatory trees.

3.4.3 The 12 no. of trees are carefully located in the communal sitting and play areas between the residential blocks, adding ambience, human scale and amenity to these important gathering areas and significantly enhancing overall social value of the development. Due to lack of available space, any additional tree planting would actually reduce visual amenity and result in a lack of usable space for the enjoyment of residents.

3.4.4 The proposed species for new trees, green roof planting, shurbs and groundcovers will be provided. Indicative only at this stage: small, flowering tree species will be selected as appropriate to the temporary domestic residential use. These will include Cassia Speciosa and Bauhinia Blakeana. Flowering shrubs will include Ixora Chinensis, Hibiscus Rosa-Sinensis, Gardenia Jasminoides, Bouganvillea Spp, Allamanda Spp and Russellia Equisetifolia. Ground covers will include Hymenocallis Littoralis, Catharanthus Roseus Ophiopogon Japonicus and other appropriate grass species where possible subject to future detailed design.

3.4.5 All compensatory tree planting will be carried out at G/F, where the residents will gain the greatest benefit in terms of their amenity.

3.4.6 Compensatory trees will be at heavy standard size, at minimum of 4 m intervals and will be provided with a minimum 1.2 m clear soil depth excluding drainage layer.

4 Landscape Master Plan

4.1 Landscape Design Concept

The Landscape master plan (LMP) showing in **Figure 1** incorporates several different key landscaping elements into open space for forming a sustainable, healthy, liveable environment for residents. The concept was created based on this transitional housing core theme of “Good House” with a focus on People, Place and Planet.

4.2 Landscape Design Objective

The objective of the LMP is:

- To consider the existing surrounding landscape context;
- To integrate the proposed transitional housing development into a blue and green context through the use of landscaping elements;
- To form a usable open space network from the landscape and social perspective;
- To arrange different landscape nodes to attract people to utilise the open space for maximizing space and social interaction;
- To provide more green space for the enjoyment of the residents with new trees and shrubs.
- To provide a high-quality healthy and happy living environment with different functional open space and diverse plantings.

4.3 Green Coverage and Open Space

The LMP and Green Coverage Plan at **Figure 1 and 2** detail the layout and configuration of green space throughout the site. At present the green area covers not less than 20% of the overall site area, i.e. not less than 862 m^2 meeting the government requirement for projects with an area between 1,000 and 20,000 m^2. Private open space and amenity areas of not less than 608 m^2, i.e. not less than 1 m^2 local open space per person, are also provided to create a healthy, safe and alternative environment for residents and their visitors.

4.4 Landscape Design Components

4.4.1 Streetscape Design

Streetscape along the periphery of the site is kept simple and functional, retaining existing trees where possible particularly along the NW boundary, provided much-needed shade and amenity. Wherever possible, access routes are enhanced with tree, shrub and lawn plantings together with bright, patterned yet functional paving.

4.4.2 'Residential' Landscape

Areas between the residential building wings are conceived at the human scale, providing sitting-out areas and gardens for leisure and uniformed social interaction. These areas also act as connectors or communicate corridor through the housing areas. The palette of material, both hard and soft, will be vibrant and attractive, but functional and economical.

Fitness equipment. simple sports and play facilities, seating areas and community gardens are provided flowing between the wings, and activating the green areas around the boundaries of the site.

4.4.3 Soft Landscape

Trees, shrubs, groundcovers and lawn species will be selected for their amenity (flowering color, scent and attractive form or texture). Climbing plants will also be provided against the housing development where feasible.

4.4.4 Soil Depth for Planting Areas

Minimum clear soil depth of 1,200 mm for trees, 600 mm for shrubs and 300 mm for lawn / ground cover will be provided.

4.4.5 Irrigation and Drainage

Simple manual water-point irrigation system will be provided to all planted areas.

Drainage will be provided to all planted areas, including tree pits, to prevent waterlogging. Careful selection of paving materials will also serve to enhance the overall drainage regime.

4.4.6 Hard Landscape

As the essential element in the landscape, the proposed paving will show the key notes of the landscape and walkways within the site for providing the hierarchy for the open space. The playground /plaza and sitting area between the building wings will be paved by warm colours to highlight the location of the landscape zones or nodes, while the walkways will use light colourful paving.

Based on the sustainability principle, the recycled paving block or permeable paving blocks will be selected. The permeable blocks can solve the hardening surface and facilitate the water

to penetrate back to the ground soil which can help to create a high quality of living environment.

4.5 Landscape Management and Maintenance

Landscape management and maintenance operation will be responsibility of SRACP. All landscape elements are designed and selected with sustainability and ease of maintenance as over-riding principles.

FIGURES

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

FIGURE 1

LANDSCAPE MASTER PLAN



Site Boundary

Pedestrian/Vehicular Entrance

Green Fence

Proposed New Trees (12 nos.)

E&M with Green Roof

EVA

The trees to be retained (33 nos.)

Proposed Shrubs/Groundcovers (Green Area: Not less than 862 sqm)

Pavings

1 Playground/Plaza

2 Leisure Sitting Out Area

3 Fitness Area with Exercise Equipment

4 Community Garden

5 E&M and Convenience store

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE MASTER PLAN

LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

FIGURE 2

OPEN SPACE DEMARCATION PLAN



PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

OPEN SPACE DEMARCATION PLAN

Site Boundary

Local Open Space
(Not less than 608 sqm)

LEAD AND LANDSCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

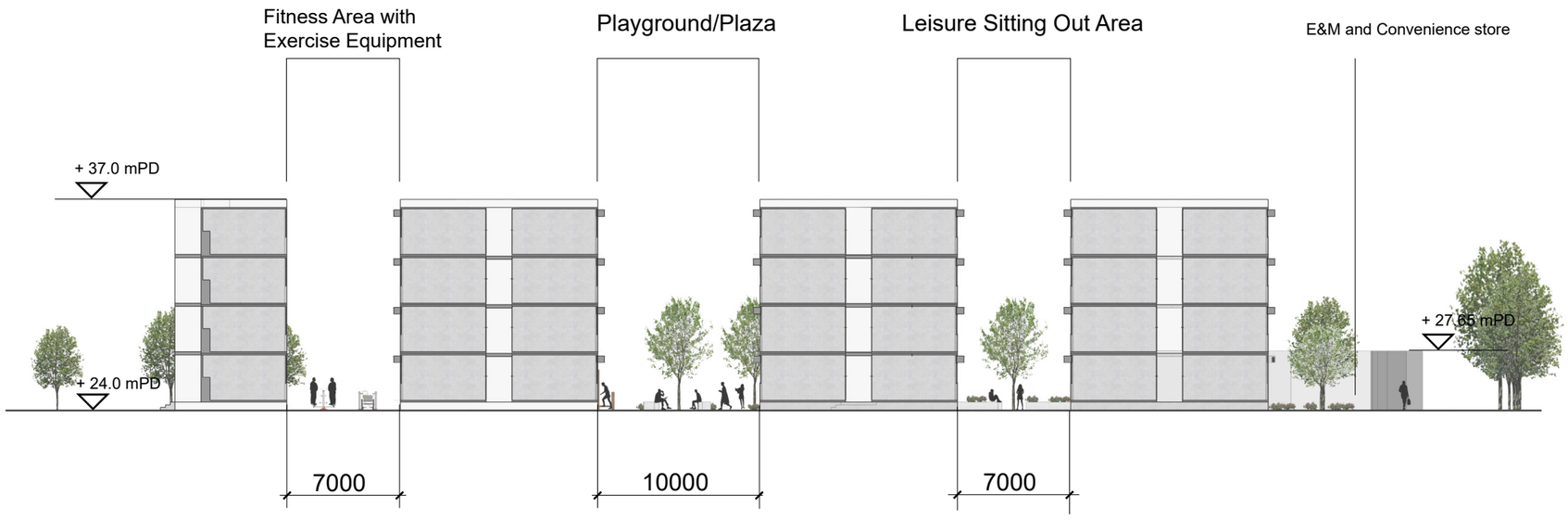
DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

FIGURE 3

LANDSCAPE SECTION



KEY PLAN 1: 2000



SECTION A-A

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE SECTION

LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:250 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

ANNEX A

BROAD-BRUSH TREE SURVEY AND
RECOMMENDATION PLAN

Tree No.	Diameter (mm)	Height (m)	Easting	Northing	RL (mPD)
T001	130	5.0	839245.46	835787.83	23.74
T002	320	4.5	839249.07	835789.94	24.07
T003	110	4.0	839250.71	835789.67	24.02
T004	130	5.0	839255.29	835792.63	24.16
T005	130	5.0	839260.15	835796.42	24.04
T006	520	9.0	839263.78	835799.37	24.10
T007	130	5.0	839268.00	835802.04	24.03
T008	150	4.0	839272.72	835806.35	24.02
T009	160	4.0	839277.88	835810.54	24.02
T010	180	4.0	839286.17	835817.32	24.03
T011	800	18.0	839309.01	835794.61	24.33
T012	200	7.0	839297.41	835782.67	24.43
T013	140	6.0	839303.35	835744.44	24.37
T014	160	6.0	839309.96	835779.12	24.36
T015	110	6.0	839311.30	835775.00	24.27
T016	100	6.0	839311.57	835774.40	24.28
T017	570	9.0	839311.12	835791.31	23.87
T018	160	6.0	839317.65	835779.26	24.12
T019	170	6.0	839319.92	835776.95	24.10
T020	170	6.0	839318.71	835765.86	24.25
T021	140	6.0	839316.13	835774.65	24.21
T022	160	9.0	839321.10	835771.96	24.14
T023	250	6.0	839324.16	835771.14	24.09
T024	150	3.0	839326.88	835761.73	24.28
T025	100	8.0	839319.51	835771.11	24.25
T026	330	6.0	839325.57	835733.88	24.55
T027	170	7.0	839326.55	835736.02	24.46
T028	330	11.0	839337.51	835745.40	24.39
T029	260	6.0	839327.90	835735.40	24.48
T030	160	6.0	839327.20	835735.15	24.51
T031	140	4.0	839317.03	835731.92	24.33
T032	110	4.0	839310.56	835735.07	24.44
T033	140	4.0	839333.15	835741.93	24.22
T034	180	7.0	839326.33	835734.06	24.58
T035	110	4.0	839318.91	835730.18	24.33
T036	120	4.0	839314.80	835739.03	24.33
T037	100	4.0	839315.61	835741.56	24.36
T038	100	4.0	839305.83	835737.36	24.75
T039	400	10.0	839303.97	835744.40	24.43
T040	120	4.0	839302.56	835749.58	24.37
T041	140	5.0	839319.43	835736.56	24.33
T042	180	4.0	839312.20	835733.22	24.68
T043	130	4.0	839309.28	835735.49	24.43
T044	100	5.0	839299.91	835762.71	24.34
T045	120	5.0	839278.66	835757.02	24.39
T046	110	3.0	839276.95	835755.80	24.47
T047	100	4.0	839277.75	835759.06	24.40
T048	100	4.0	839275.74	835761.39	24.27
T049	100	5.0	839274.94	835760.25	24.34
T050	100	5.0	839271.86	835759.34	24.27
T051	350	7.0	839340.85	835748.88	24.49
T052	100	6.0	839319.09	835768.86	24.25
T053	120	4.0	839317.20	835742.46	24.31
T054	100	5.0	839310.27	835734.55	24.55
T055	120	5.5	839265.41	835763.14	24.29
T056	100	6.0	839269.17	835763.17	24.29
T057	100	6.0	839269.58	835762.75	24.32
T058	110	5.0	839269.77	835760.74	24.32
T059	100	5.0	839271.69	835763.76	24.37
T060	100	5.0	839280.08	835756.81	24.41
T061	100	4.0	839329.86	835751.67	24.33
T062	120	5.0	839258.96	835783.39	24.11
T063	130	4.0	839254.74	835780.47	24.15
T064	110	5.0	839248.69	835777.62	23.91
T065	130	5.0	839247.60	835775.54	24.07
T066	170	4.0	839247.43	835774.23	24.39
T067	120	4.0	839256.07	835775.58	24.35
T068	140	5.0	839260.32	835765.91	24.81
T069	380	10.0	839285.84	835748.94	25.21
T070	360	13.0	839293.86	835744.11	25.18



INDEX PLAN

NOTES
1. ALL LEVELS SHOWN ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM.
2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

LOCATION:

SHUEN WAN – TAI PO

DRAWING TITLE:

BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO.
THSW_TSRP_400_001

SHEET NO.	DATE
SHEET 1 OF 1	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:400@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA



INDEX PLAN

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2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

T001 T002 T003 T004 T005 T006 T007 T008
T062 T063 T064 T065 T066 T067
T068 T055 T056 T057 T058 T059 T050 T045 T046 T047 T048 T049 T060
T012

Loading/ unloading bay 11m x 3.5m

Bicycle Parking 4.8m x 1.8m

24.0

23.8

MATCH LINE

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_002

MATCH LINE

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_003

LOCATION:
SHUEN WAN – TAI PO

DRAWING TITLE:
BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO.	THSW_TSRP_200_001
SHEET NO.	SHEET 1 OF 3
DATE	JUNE 2022
SURVEYED BY	YCS & UDP
SCALE	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA



INDEX PLAN

NOTES
1. ALL LEVELS SHOWN ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM.
2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

Spanish

L

T010

T009

T008

T007

24.0

23.8

L

L

T011

T017

24.0

Loading/ unloading bay 11m x 3.5m

Bicycle Parking 4.8m x 1.8m

MATCH LINE

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_001

T012

MATCH LINE

T014

T018

T019

T015

T021

T013

T016

T022

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_003

TS

LOCATION:

SHUEN WAN – TAI PO

DRAWING TITLE:

BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO.	THSW_TSRP_200_002
SHEET NO.	SHEET 2 OF 3
DATE	JUNE 2022
SURVEYED BY	YCS & UDP
SCALE	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

T012

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_002

MATCH LINE

T014

T018

T019

T015

T021

T013

T016

T022

T025

T023

T052

T020

T044

T024

FOR CONTINUATION SEE DWG. NO. THSW_TSRP_200_001

MATCH LINE

060

24.0

T069

T040

T061

T051

T028

T070

T039

T053

T033

T037

T036

Road

T038

T041

T027

T029

T043

T032

T030

T054

T042

T026

T034

T031

T035

FP

道路

26.4



INDEX PLAN

NOTES
1. ALL LEVELS SHOWN ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM.
2. ALL CO-ORDINATES ARE IN ACCORDANCE WITH H.K. (1980) GEODETIC DATUM.

LEGEND:

- Tree
- Spot Level
- Trees within boundary to be retained
- Trees within boundary to be felled
- Trees outside boundary to be retained

LOCATION:

SHUEN WAN – TAI PO

DRAWING TITLE:

BROAD-BRUSH TREE SURVEY & RECOMMENDATION PLAN

DRG. NO. THSW_TSRP_200_003

SHEET NO.	DATE
SHEET 3 OF 3	JUNE 2022
SURVEYED BY	SCALE
YCS & UDP	1:200@A3

DRAFTED BY: TREE SURVEYOR
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

ANNEX B

TREE ASSESSMENT SCHEDULE

Tree Assessment Schedule

Project: Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Tree Survey was conducted/updated on 15th April 2022 to 30th May 2022

Tree ID number	Tree Species		Tree Size			Proposed Treatment	Remarks
	(Botanical Name)	(Chinese Name)	Overall Height (m)	Trunk diameter (mm)	Average crown spread (m)	(Retain/Transplant/Fell)	
Within Site Boundary							
T001	Terminalya mantaly	小葉欖仁	5	130	4.5	Retain	Healthy, no major issues
T002	Albizia lebbeck	大葉合歡	4.5	320	5	Retain	Very poor condition, cavities and structural problems
T003	Terminalya mantaly	小葉欖仁	4	110	3.5	Retain	Healthy, no major issues
T004	Terminalya mantaly	小葉欖仁	5	130	5	Retain	Healthy, no major issues
T005	Terminalya mantaly	小葉欖仁	5	130	4.2	Retain	Healthy, no major issues
T006	Bombax ceiba	木棉	9	520	11	Retain	Healthy, no major issues
T007	Terminalya mantaly	小葉欖仁	5	130	4	Retain	Healthy, no major issues
T008	Terminalya mantaly	小葉欖仁	4	150	4.8	Retain	Healthy, no major issues
T009	Terminalya mantaly	小葉欖仁	4	160	5.5	Retain	Healthy, no major issues
T010	Terminalya mantaly	小葉欖仁	4	180	6.2	Retain	Healthy, no major issues
T012	Leucaena leucocephala	銀合歡	7	200	5	Fell	Self sown invasive species

T013	Leucaena leucocephala	銀合歡	6	140	5	Fell	Self sown invasive species
T014	Leucaena leucocephala	銀合歡	6	160	6	Fell	Self sown invasive species
T015	Leucaena leucocephala	銀合歡	6	110	3.2	Fell	Self sown invasive species
T016	Leucaena leucocephala	銀合歡	6	100	3.5	Fell	Self sown invasive species
T018	Leucaena leucocephala	銀合歡	6	160	7	Fell	Self sown invasive species
T019	Leucaena leucocephala	銀合歡	6	170	7.3	Fell	Self sown invasive species
T020	Leucaena leucocephala	銀合歡	6	170	5	Fell	Self sown invasive species
T021	Leucaena leucocephala	銀合歡	6	140	3.3	Fell	Self sown invasive species
T022	Leucaena leucocephala	銀合歡	9	160	5.1	Fell	Self sown invasive species.Storm damaged broken branch
T023	Leucaena leucocephala	銀合歡	6	250	9	Fell	Self sown invasive species.
T024	Leucaena leucocephala	銀合歡	3	150	3.4	Fell	Self sown invasive species. Crown broken off at 3.0 above ground
T025	Leucaena leucocephala	銀合歡	8	100	2	Fell	Self sown invasive species.Leaning and leggy
T026	Macaranga tanarius	血桐	6	330	6.5	Retain	Multistemmed. Some rot at trunk base, broken decayed branches
T027	Macaranga tanarius	血桐	7	170	7	Fell	Leaning over existing building
T028	Bombax ceiba	木棉	11	330	8.3	Retain	High branching. Some vine attachment. Lowest branch extends 3.7 m into the site
T029	Macaranga tanarius	血桐	6	260	5.2	Retain	In the fence line . Broken branch.Multi stemmed
T030	Macaranga tanarius	血桐	6	160	3.7	Retain	Multistemmed
T031	Trema tomentosa	山黃麻	4	140	6.2	Fell	Inward leaning, adjacent to fence footings, restricted roots
T032	Macaranga tanarius	血桐	4	110	4	Retain	Adjacent to fence footings , restricted rootzone

T033	Ficus virens	大葉榕	4	140	4.1	Retain	Unbalanced crown but healthy. Extends 3.0 m into site from base
T034	Macaranga tanarius	血桐	7	180	4	Retain	Fungal fruiting bodies at base. Conks. Included bark rotten with basal cavity, potential hazard. Remove
T035	Trema tomentosa	山黃麻	4	110	3.5	Retain	Poor form ,leggy, some vines
T036	Trema tomentosa	山黃麻	4	120	5	Fell	Borer trails on trunk, poor form bent trunk, sparse foliage at tips
T037	Trema tomentosa	山黃麻	4	100	2.8	Fell	Unbalanced lopsided crown, some vine cover
T038	Macaranga tanarius	血桐	4	100	3	Retain	Restricted roots adjacent to fence footings, poor form
T039	Acacia confusa	台灣相思	10	400	7	Fell	Trunk cavities, rotten, leaning, almost dead, substantial dieback in crown, vine coverage, hazard tree, potentially dangerous
T040	Macaranga tanarius	血桐	4	120	6	Fell	Twin codominant stems, healthy but future hazard
T041	Trema tomentosa	山黃麻	5	140	6	Fell	Leaning, vine cover, sparse foliage only at branch tips, dead lower branches
T042	Macaranga tanarius	血桐	4	180	5	Retain	Multistemmed,Restricted growth, adjacent to fence footings on boundary
T043	Trema tomentosa	山黃麻	4	130	5	Retain	Restricted roots adjacent to fence footings, poor form
T044	Acacia confusa	台灣相思	5	100	3.5	Fell	Twin codominant stems
T045	Trema tomentosa	山黃麻	5	120	5.5	Fell	Low branching, dense crown
T046	Macaranga tanarius	血桐	3	110	5	Retain	Root integrated with fenceline footings
T047	Trema tomentosa	山黃麻	4	100	6	Fell	Some vines but otherwise no major issues
T048	Trema tomentosa	山黃麻	4	100	3.5	Fell	Poor form, some vines, sparse crown
T049	Trema tomentosa	山黃麻	5	100	4	Fell	Poor form, unbalanced crown, sparse foliage
T050	Macaranga tanarius	血桐	5	100	4	Retain	Restricted roots adjacent to fence footings, poor form
T051	Macaranga tanarius	血桐	7	350	10	Retain	Broken and decayed branches,South east corner location
T052	Leucaena leucocephala	銀合歡	6	100	3.5	Fell	Self sown invasive species.Leaning and leggy

T053	Ficus hispida	對葉榕	4	120	6	Fell	Healthy, no major issues, surrounded by abandoned materials. Crown extends 6.0 m into site from edge of existing building
T054	Macaranga tanarius	血桐	5	100	3	Retain	Restricted roots adjacent to fence footings, poor form, vines attached
T055	Trema tomentosa	山黃麻	5.5	120	3.8	Retain	Restricted roots adjacent to fence footings
T056	Trema tomentosa	山黃麻	6	100	7	Retain	Leaning inwards , leggy
T057	Zanthoxylum avicennae	簕欓花椒	6	100	2.8	Retain	Spiny stem, Tall and leggy, foliage only at very top, otherwise healthy
T058	Trema tomentosa	山黃麻	5	110	3.4	Retain	Foliage sparse, Restricted rootzone near fence footings. Outward lean
T059	Trema tomentosa	山黃麻	5	100	2.7	Fell	Leaning and bent
T060	Macaranga tanarius	血桐	5	100	3	Fell	Lopsided,unbalanced crown
T061	Acacia confusa	台灣相思	4	100	3.2	Fell	Healthy but very common self sown species, does not transplant easily
T062	Terminalya mantaly	小葉欖仁	5	120	5	Retain	Healthy, no major issues
T063	Terminalya mantaly	小葉欖仁	4	130	4	Fell	Healthy, no major issues apart from restricted rootzone adjacent to existing root stump
T064	Terminalya mantaly	小葉欖仁	5	110	5	Fell	Healthy, no major issues
T065	Albizia lebbeck	大葉合歡	5	130	4.5	Fell	Restricted roots adjacent to fence footings, poor form
T066	Macaranga tanarius	血桐	4	170	5	Fell	Multistemmed, on boundary fence line,restricted rootzone
T067	Tetradium glabrifolium	楝葉吳茱萸	4	120	3	Retain	Twin codominant stems,healthy
T068	Macaranga tanarius	血桐	5	140	6	Fell	Restricted roots adjacent to fence footings and large tree stump
T069	Celtis sinensis	朴樹	12	460	11	Fell	Dieback in the crown.Poor form. On the boundary fenceline
T070	Acacia confusa	台灣相思	17	410	6	Fell	Covered in vines ,poor form, on boundary fence line, crown dieback. Unhealthy, restricted root in concrete footings

Out of Site Boundary							
T011	Bombax ceiba	木棉	18	800	19	Retain	Outside site boundary. Canopy extends into the site at a distance of approx 15 m from the base of the trunk
T017	Celtis sinensis	朴樹	9	570	17	Retain	Outside site boundary. Crown extends into site approx 9.0 m from trunk base

Total Number of Existing Trees	70

Trees inside site boundary	68
Tree to be felled	37
Tree to be retained	31
Tree to be transplanted	0

Trees outside site boundary	2
Tree to be felled	0
Tree to be retained	2
Tree to be transplanted	0

ANNEX C

TREE PHOTOS



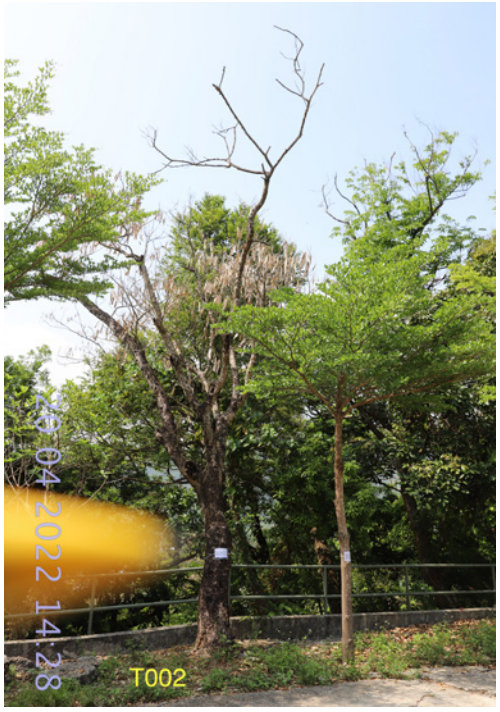
T001- Overview - Retain



T002 - Trunk - Retain



T002 - Crown - Retain



T002 - Overview - Retain



T003 - Trunk - Retain



T003 - Overview - Retain



T004 - Trunk - Retain



T004 - Overview - Retain



T005 - Trunk - Retain



T005 - Overview - Retain



T006 - Trunk - Retain



T006 - Overview - Retain



T007 - Trunk - Retain



T007 - Overview - Retain



T008 - Trunk - Retain



T008 - Overview - Retain



T009 - Trunk - Retain



T009 - Overview - Retain



T010 - Trunk - Retain



T010 - Overview - Retain



T011 - Overview - Retain



T011 - Trunk t - Retain



T012 - Trunk - Fell



T012 - Overview - Fell



T013 - Trunk - Fell



T013 - Overview - Fell



T014 - Trunk - Fell



T014 - Overview - Fell



T015 - Trunk - Fell



T015 - Overview - Fell



T016 - Trunk - Fell



T016 - Overview - Fell



T017 - Trunk - Retain



T017 - Trunk - Retain



T017 - Foliage - Retain



T017 - Foliage - Retain



T017 - Overview - Retain



T018 - Trunk - Fell



T018 - Overview - Fell



T019 - Trunk - Fell



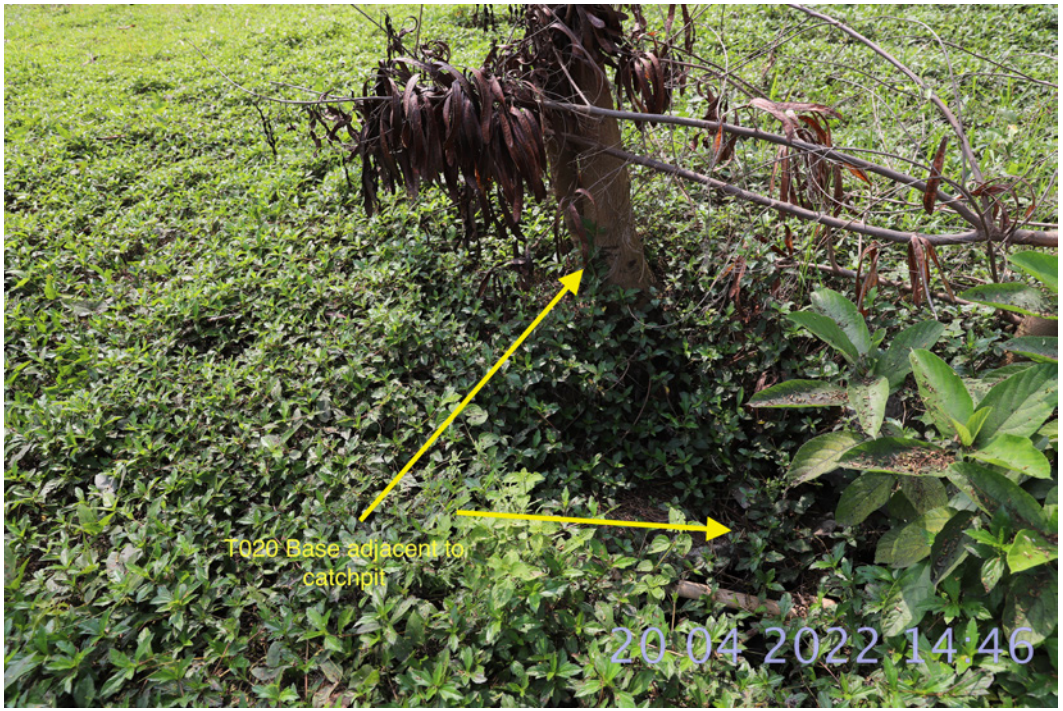
T019 - Trunk - Fell



T019 - Overview - Fell



T020 - Trunk - Fell



T020 - Trunk - Fell



T020 - Overview - Fell



T021 - Trunk - Fell



T021 - Trunk - Fell



T021 - Overview - Fell



T022 - Trunk - Fell



T022 - Overview - Fell



T022 - Crown - Fell



T023 - Trunk - Fell



T023 - Overview - Fell



T024 - Trunk - Fell



T024 - Trunk - Fell



T025 - Trunk - Fell



T025 - Overview - Fell



T026 - Trunk - Retain



T026 - Overview - Retain



T026 - Trunk - Retain



T026 - Crown - Retain



T027 - Trunk - Fell



T027 - Crown - Fell



T028 - Trunk - Retain



T028 - Overview - Retain



T029 - Trunk - Retain



T029 - Branch - Retain



T029 - Crown - Retain



T030 - Trunk - Retain



T030 - Overview - Retain



T031 - Trunk - Fell



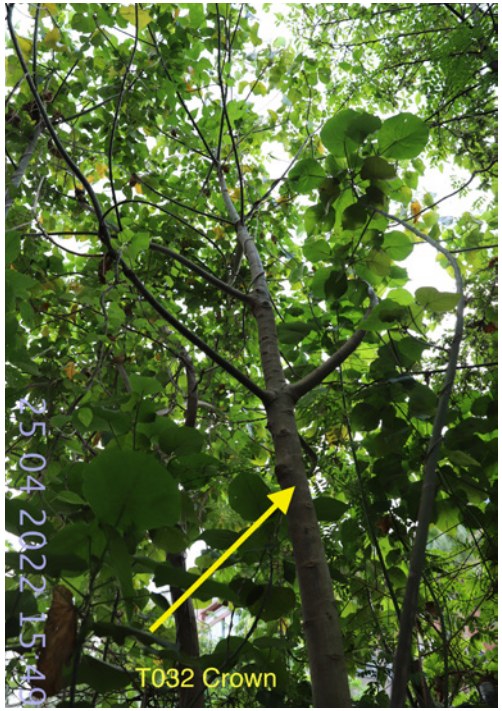
T031 - Overview - Fell



T031 - Overview - Fell



T032 - Trunk - Retain



T032 - Crown - Retain



T031 - Crown - Fell



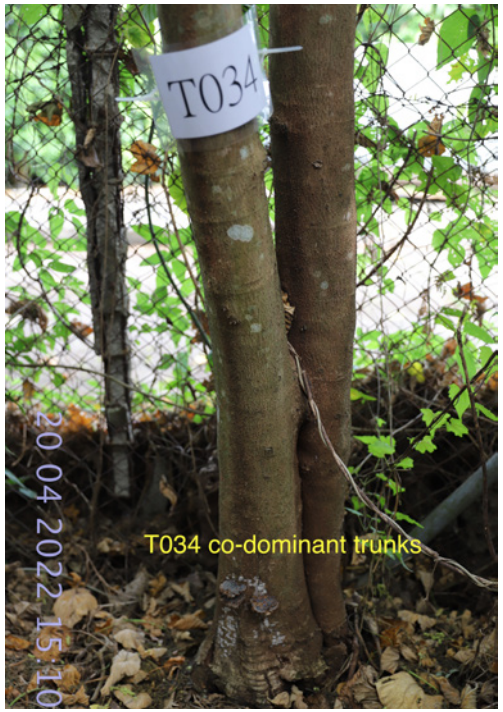
T033 - Foliage - Retain



T033 - Trunk - Retain



T033 - Overview - Retain



T034 - Trunk - Retain



T034 - Trunk - Retain



T034 - Trunk - Retain



T035 - Trunk - Retain



T035 - Overview - Retain



T035 - Crown - Retain



T034 - Trunk - Retain



T035 - Crown - Retain



T036 - Trunk - Fell



T036 - Overview - Fell



T036 - Trunk - Fell



T036 - Trunk - Fell



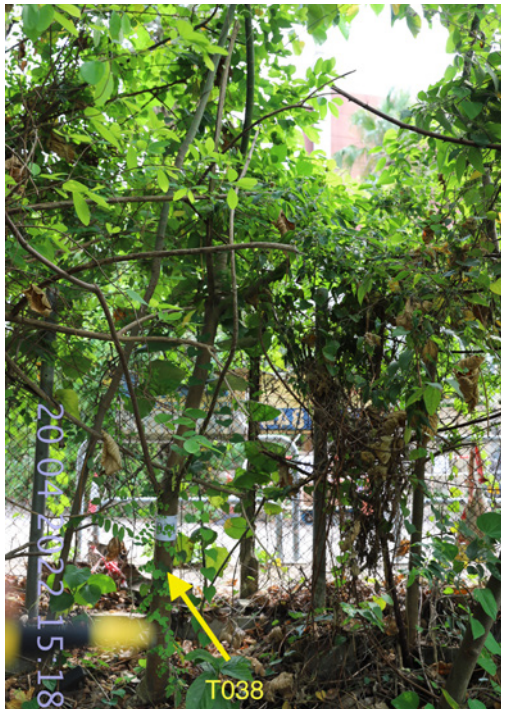
T037 - Trunk - Fell



T037 - Overview - Fell



T038 - Trunk - Retain



T038 - Overview - Retain



T039 - Trunk - Fell



T039 - Trunk - Fell



T039 - Overview - Fell



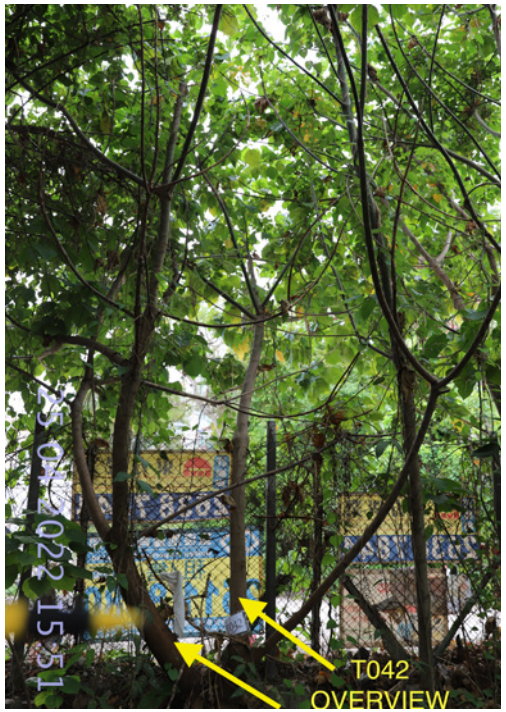
T040 - Overview - Fell



T040 - Trunk - Fell



T041 - Trunk - Fell



T042 - Overview - Retain



T041 - Overview - Fell



T042 - Trunk - Retain



T043 - Trunk - Retain



T043 - Crown - Retain



T044 - Trunk - Fell



T044 - Overview - Fell



T045 - Trunk - Fell



T045 - Trunk and Crown - Fell



T045 - Crown - Fell



T046 - Overview - Retain



T045 - Foliage - Fell



T047 - Foliage - Fell



T046 - Trunk - Retain



T047 - Trunk - Fell



T047 - Overview - Fell



T048 - Trunk - Fell



T048 - Overview - Fell



T049 - Trunk - Fell



T049 - Overview - Fell



T050 - Trunk - Retain



T050 - Overview - Retain



T051 - Trunk - Retain



T051 - Trunk - Retain



T051 - Branch - Retain



T051 - Branch - Retain



T051 - Trunk - Retain



T051 - Overview - Retain



T052 - Trunk - Fell



T052 - Overview - Fell



T053 - Trunk - Fell



T053 - Trunk - Fell



T053 - Overview - Fell



T054 - Trunk - Retain



T054 - Trunk - Retain



T054 - Crown - Retain



T055 - Trunk - Retain



T055 - Trunk - Retain



T055 - Overview - Retain



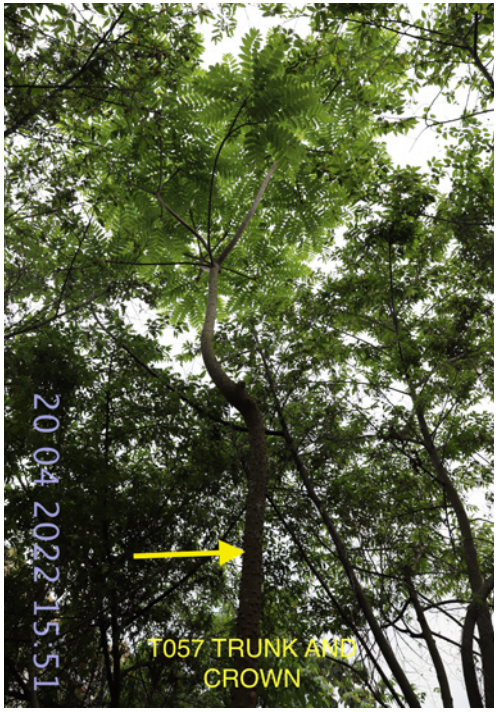
T056 - Crown - Retain



T056 - Trunk - Retain



T057 - Trunk - Retain



T057 - Trunk and Crown - Retain



T058 - Trunk - Retain



T058 - Overview - Retain



T058 - Crown - Retain



T059 - Trunk - Fell



T059 - Overview - Fell



T060 - Trunk - Fell



T060 - Overview - Fell



T061 - Trunk - Fell



T061 - Trunk - Fell



T061 - Overview - Fell



T062 - Trunk - Retain



T062 - Overview - Retain



T063 - Trunk - Fell



T063 - Overview - Fell



T064 - Trunk - Fell



T064 - Overview - Fell



T065 - Trunk - Fell



T066 - Overview - Fell



T065 - Crown - Fell



T066 - Crown - Fell



T066 - Trunk - Fell



T066 - Trunk - Fell



T067 - Trunk - Retain



T067 - Overview - Retain



T068 - Trunk - Fell



T068 - Overview - Fell



T068 - Trunk - Fell



T069 - Trunk - Fell



T069 - Overview - Fell



T069 - Overview - Fell



T070 - Crown - Fell



T070 - Trunk - Fell

APPENDIX C - VISUAL IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Planning & Design Services

3D rendered view



Planning & Design Services

3D rendered view



Planning & Design Services

VIA - View Points



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View Point 1 - Existing



VP1: at Bus Stop along Ting Kok Rd

This is a publicly accessible View Point (VP) from the Wong Yue Tan bus stop which is located along Ting Kok Road, across the main road from the site. VP1 is adjacent to the Cycling Track and Main Road and is easily accessible to the residents nearby and visitors as well. The existing visual quality from VP1 is medium and the view includes the steep slope next to the site which is covered with trees along with one-storey and two storey residential buildings at the base of the slope across the road from the bus stop..



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View Point 1 – With Proposed Development



VP1: at Bus Stop along Ting Kok Rd

The proposed development cannot be seen from this VP is it is hidden by trees along the slope and is higher up that the main road, therefore it can be considered that the development has no impact from VP1.



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View Point 2 - Existing



VP2: at Bus Stop along Ting Kok Rd

This is a publicly accessible View Point (VP) from the Shuen Wan Bus stop, which is located further north from the site along Ting Kok Road. VP2 is easily accessible and is a key point because of the large number of people who gather here to access public transport back into the city. The existing visual quality from VP2 is high and includes the Ting Kok Road lined with trees on both sides forming a rich landscaped backdrop. The hill at the back with the Beverly hills residences adjacent to our site are partially visible from VP2 as the majority of the development is hidden by the trees.



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View Point 2 - With Proposed Development



VP2: at Bus Stop along Ting Kok Rd

The proposed development cannot be seen from this VP as it is much further away from the site and is blocked by trees, therefore the proposed development has no impact as seen from VP2.



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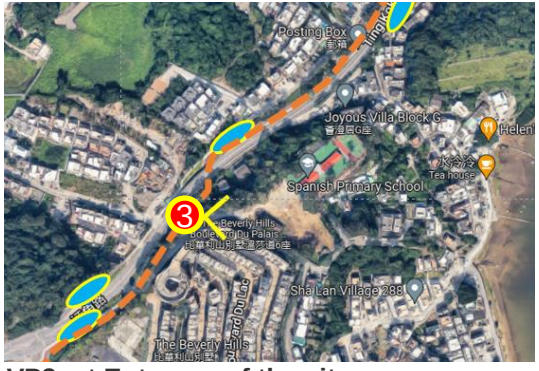
View Point 3 - Existing



VP3: at Entrance of the site

This is a publicly accessible View Point (VP) looking from the perspective of future transitional housing residents going into the site or other residents in the surrounding residential areas, including the Beverly Hill Villas and Sha Lan Villas and the staff and students going to the Spanish School with access from the main sloped road. VP3 is accessible to pedestrians, although it is currently not as frequently visited unless by residents of the adjacent residential developments as well as the school staff and students. The existing visual quality is low to medium from VP3 with the main sloped pathway with the brick gate for the Spanish Primary School and into our site to the left, and car parking and the Beverly Hill Villas to the right. The trees at the periphery of the site can also be seen to the left of the road from this View Point.



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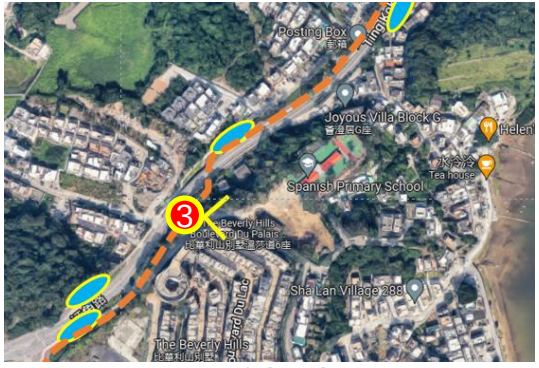
View Point 3 – With Proposed Development



VP3: at Entrance of the site

The proposed development can be seen from this view point as it is at the entrance of the site seen from the access road, and so the visual impact to the area can be considered as medium. The green colour of the building and the landscaping along the site periphery help in reducing the overall impact of the building. Overall, given the temporary nature of the proposed development the impact is considered not significant.



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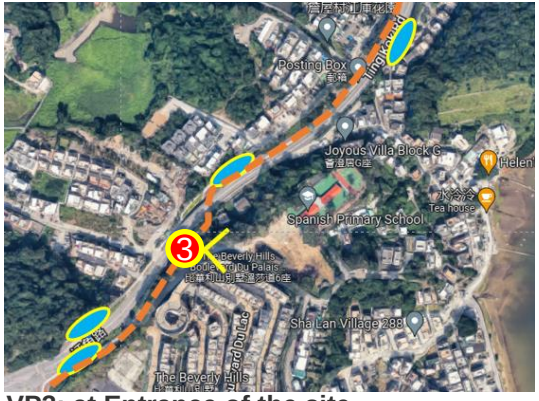
View Point 3 – With Mitigation Measures



VP3: at Entrance of the site

Mitigation measures have to be considered in order to reduce the overall impact as seen from VP3. The convenience store added at the entrance makes the space more vibrant and active, and the entrance gate of the school is removed, which allows the access road to connect with the Driveway within the site and create a more open and seamless transition between spaces. Green spaces and landscaping is also added to the entrance areas and periphery of the site to reduce impact of the built form and create a barrier between the public areas and the site.



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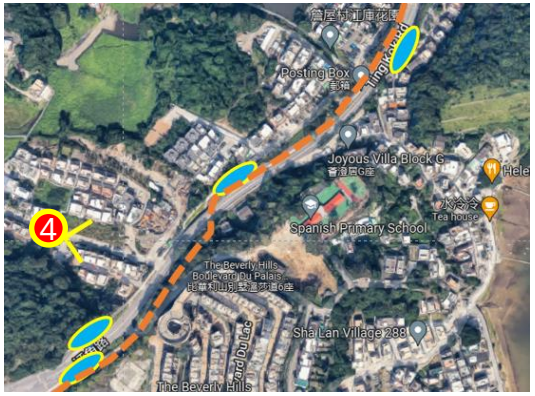
View Point 4 – Existing



VP4: at Entrance of the WYT Residential Area

This is a publicly accessible View Point (VP) looking towards the Site and Ting Kok Road from the Wong Yu residential area. VP4 is more secluded than the other VPs and is utilised more by residents of the area, however it is still easily accessible to the public. The existing visual quality from this view point is low and shows parking spaces in the foreground with residential villas of either side of the internal road. When looking straight ahead, our site along with a partial view of the Beverly Hills Villas can be seen atop the hill with many trees at the side and base of the hill.



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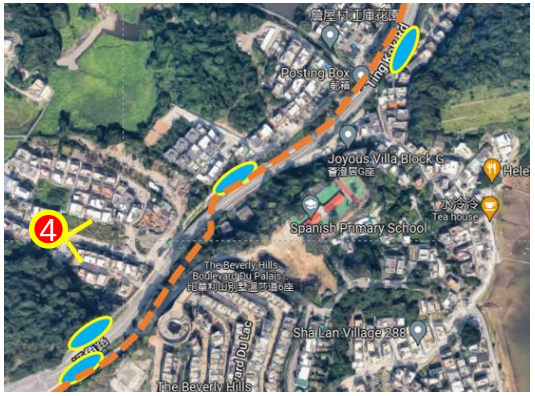
View Point 4 – With Proposed Development



VP4: at Entrance of the WYT Residential Area

The proposed development can only minimally be seen from this VP as it is located atop the hill and blocked by trees along the sloped edge. Therefore the proposed development is considered to have low impact from VP4.



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View Point 5 - Existing



VP5: at coastal Sha Lan Road

VP5 is easily accessible and is the located near the public Jetty area along the coast of Shuen Wan. The existing visual quality from this view point is low, with only nearby residences in view. The site is not visible from this location as it is on lower ground in comparison to the site.

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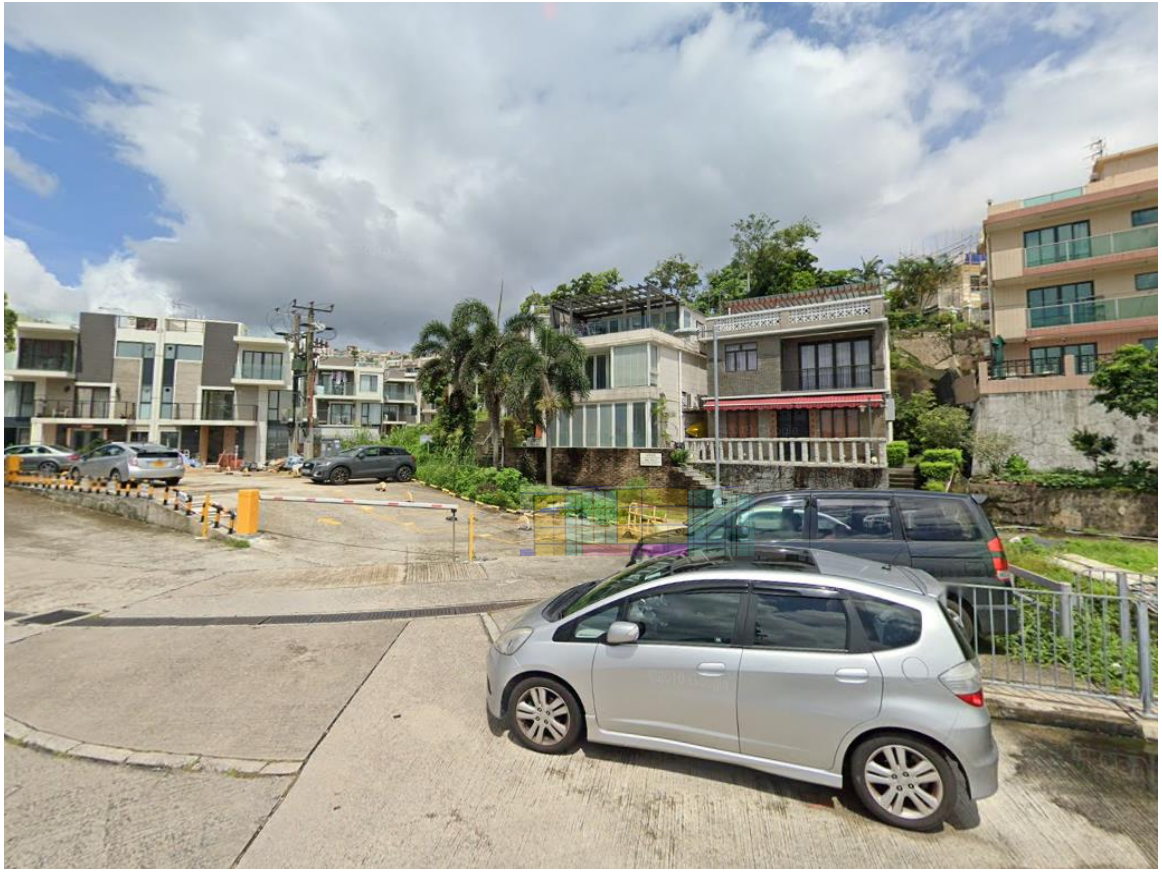

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View Point 5 – With Proposed Development



VP5: at coastal Sha Lan Road

The proposed development cannot be seen from this VP as it is on lower ground and is blocked by nearby residences, therefore the proposed development has no impact as seen from VP5

.



APPENDIX D - TRAFFIC IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Planning Application For Transitional Housing Project At Government Land At Shuen Wan Off Ting Kok Road, Tai Po

Traffic Impact Assessment Study Report

August 2022

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Planning Application For Transitional Housing Project At Government Land At Shuen Wan Off Ting Kok Road, Tai Po

Traffic Impact Assessment
Study Report
August 2022

Contents Amendment Record

This report has been issued and amended as follows:

Revision	Description	Prepared / Date	Checked / Date	Approved / Date
0	Study Report	4/5/2022 ML	6/5/2022 LL	12/5/2022 OC
1	Study Report	15/6/2022 AH	28/6/2022 LL	30/6/2022 OC
2b	Study Report	3/8/2022 AH	4/8/2022 LL	15/8/2022 OC

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1 INTRODUCTION

1.1 Background

1.1.1 The Applicant, The Society of Rehabilitation and Crime Prevention (SRACP), intends to develop the site ("The Application Site") located at Government Land at Shun Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) for transitional housing ("The Proposed Development"). According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) for the proposed transitional housing as a temporary use is required.

1.1.2 Ozzo Technology (HK) Limited are commissioned to undertake a Traffic Impact Assessment (TIA) Study, to assess the traffic impact to be induced by the Proposed Development on the road network in the vicinity of the Application Site.

1.2 Study Objectives

1.2.1 The objectives of the TIA study are as follows:

- To review the existing traffic situation of the surrounding road network;
- To estimate the potential traffic generations/attractions to be induced by the Proposed Development;
- To assess the future traffic situation of the surrounding road network;
- To appraise the potential traffic impact of the Proposed Development on the surrounding road network and to recommend improvement proposals, if required; and
- To advise on the internal transport arrangements.

1.3 Report Structure

1.3.1 Following this introductory chapter, this report is arranged as follow:

- Chapter 2 describes the Proposed Development;
- Chapter 3 summarizes the existing traffic condition in the vicinity of the Application Site;
- Chapter 4 provides traffic forecast in the future design year;
- Chapter 5 presents the traffic impact assessment results; and

  A summary of the findings and conclusion of this TIA study are given in Chapter 6.

2 THE PROPOSED DEVELOPMENT

2.1 Site Location and Study Area

2.1.1 **Figure 2-1** shows the location of the Application Site which is zoned as "Government Institution or Community ("GIC")" under Outline Zoning Plan ("OZP") No. S/NE-TK/19. According to the Notes of the OZP, planning permission from the Town Planning Board (TPB) for the proposed transitional housing as a temporary use for a period of five years is required.

2.1.2 **Figure 2-1** also shows the Area of Influence (AOI) for this TIA Study and which includes the key junctions in the vicinity of the Application Site and along Ting Kok Road.

2.2 The Proposed Development

2.2.1 **Table 2-1** summarizes the proposed development parameters.

Table 2-1 Summary of Proposed Development Parameters

Parameters	Proposed Development
Site Area:	About 4,310 m^2
Transitional Housing Unit	276 nos.
Typical unit size 1-2P units 3-4P units	 about 14.8 m^2 (248 nos.) about 29.6 m^2 (28 nos.)
Maximum population	Around 608

2.2.2 The Proposed Development will provide around 276 nos. of transitional housing units to accommodate around 608 residents in total.

2.3 Access Arrangements and Internal Transport Facilities

2.3.1 **Figure 2-2** shows the proposed vehicular and pedestrian access arrangements for the Proposed Development. The site can be accessed via a local access road off Ting Kok Road. The width of the access road varies between 5m – 5.5m for vehicular traffic with a 1.2m wide footpath adjacent to the northern kerb of the road.

2.3.2 There is no specific requirement for parking and loading/unloading provision in HKPSG for transitional housing type. As the target group of the proposed transitional housing is low-income households who do not own private vehicle, hence, there will be no provision of parking space within the transitional housing development.

2.3.3 One loading/ unloading bay (11m x 3.5m) sufficient for different vehicle types will be provided to meet daily need. Vehicle swept paths are presented in **Appendix A**.

3 EXISTING TRAFFIC CONDITION

3.1 Existing Road Network

3.1.1 **Figure 2-1** shows the existing road network in the vicinity of the Application Site and within the AOI. Ting Kok Road is the major road connecting Tai Po district in the west and Tai Mei Tuk to the east. The section of Ting Kok Road adjacent to the Site is a Rural Road in single-2 lane carriageway standards.

3.1.2 The local access road off Ting Kok Road varies between 5m – 5.5m wide, serving the local developments, including the Proposed Development, along the road.

3.2 Existing Public Transport Services

3.2.1 The area is well served by public transport services including franchised bus and Green Minibus services. **Table 3-1** summarized the public transport services serving the area and **Figure 3-1** shows the locations of the bus/GMB stops in the vicinity of the Site.

Table 3-1 Public Transport Services in the Study Area

Route No.	Termination Points			Frequency (Mins)
Franchised Bus Services				
KMB 72C	One-Bound	From Tai Mei Tuk	To Tai Po Market Station	Weekday service at 06:55
KMB 73P	Both-Bound	Tsuen Wan (Nina Tower)	Tai Mei Tuk	Weekday services at 06:55, 07:10 and 17:50 and 18:10
KMB 74E	Both-Bound	Tai Mei Tuk	Kwun Tong Ferry Pier	Weekday services at 07:00, 07:15, 07:30 and 17:50
KMB 74K	Circular	Tai Po Market Station	Sam Mun Tsai	Daily services every 10-30 mins
KMB 75K	Both-Bound	Tai Mei Tuk	Tai Po Market Station	Daily services every 8-30 mins
KMB 75P	One-Bound	From Tai Mei Tuk	To Tai Po Market Railway Station	Weekday service at 07:20
KMB 275R	Both-Bound	Wu Kau Tang	Tai Po Market Station	Sun and Public Holiday services every 10-20 mins
Green Minibus (GMB) Services				
GMB 20B	Both-Bound	Tai Po Market Station	Tung Tsz	Daily services every 12-20 mins
GMB 20C	Both-Bound	Tai Po Market Station	Tai Mei Tuk	Daily services every 4-10 mins
GMB 20E	Circular	Tai Po Market Station	Shan Liu	Mon to Sat services every 30 mins during specific period only
GMB 20R	Both-Bound	Tai Po Market Station	Wu Kau Tang	Daily services every 60 mins
GMB 20T	Both-Bound	Tai Po Market Station	Tsz Shan Monastery	Weekday services every 30 mins during specific period only
GMB 20K	Both-Bound	Tai Po Market Station	Sam Mun Tsai	Daily services every 3-20 mins

Source: "HKeMobility.gov.hk" as at 8 August, 2022

3.3 Existing Peak Hour Traffic

3.3.1 To understand the existing traffic conditions in the area, traffic and pedestrian count surveys were carried out at the key junctions in the vicinity of the Application Site on 24 April 2022 (Sunday) between 08:00 – 20:00 and on 25 April 2022 (Monday) over the periods of 07:00 – 10:00 and 16:00 – 19:00. Supplementary surveys at key junctions along Ting Kok Road were also undertaken on 19 June 2022 (Sunday) and 21 June 2022 (Tuesday). **Figure 3-2** shows the locations of the surveyed junctions and key links.

3.3.2 All vehicle flows in the subsequent analysis have been converted to passenger car unit (PCU) based on the PCU factors as indicated in Table 2.3.1.1 of Volume 2 of Transport Planning and Design Manual (TPDM) and shown in **Table 3-2**.

Table 3-2 Passenger Car Unit Conversion Factors

Vehicle Type	PCU Conversion Factor	
	Traffic Signal	Priority
Car / Taxi	1.00	1.00
Public Light Bus / Minibus	1.50	1.50
Light Goods Vehicle	1.50	1.50
Medium/ Heavy Goods Vehicle	1.75	2.80
Bus / Coach	2.00	2.80

Source: Table 2.3.1.1, Chapter 2.3, Volume 2, TPDM-2022

3.3.3 By applying the above PCU factors, vehicular traffic flows in PCUs are calculated and the Sunday peak hour is identified to occur at 14:45 – 15:45 and the weekday AM and PM peak hour is 07:30 – 08:30 and 17:00 – 18:00 respectively. The peak hour flows on the road network in the vicinity of the Site are shown in **Figure 3-3**.

3.4 Existing Junction Performance

3.4.1 Based on observed peak hour traffic flows, the performances of the key junctions are assessed and the results are indicated in **Table 3-3**. Detailed junction calculation sheets are given in **Appendix B**.

Table 3-3 2022 Peak Hour Performances at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Weekday AM Peak	Weekday PM Peak	Sunday Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	100%+	84%	96%
J2	Ting Kok Road / Access Road	Priority	DFC	0.06	0.02	0.02
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.10	0.04	0.10
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	42%	56%	51%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	39%	61%	67%
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	17%	28%	39%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	51%	45%	71%
J8	Yuen Shin Road / Dai Fat Street,	Signal	R.C.	22%	43%	85%

Notes: (1) The Capacity Index for Signal controlled junction is the Reserve Capacity (RC);
The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC).

3.4.2 The results of the junction assessments show that all the key junctions in the vicinity of the Site operate within capacity during the weekday and Sunday peak hours in 2022.

3.5 Existing Link Performance

3.5.1 Based on the existing traffic flows, the peak hour performance of the key links in the vicinity of the Application Site are also assessed. The assessment results are indicated in **Table 3-4**.

Table 3-4 2022 Peak Hour Performances of Key Road Links

Link ID.	Section[1]	Direc-tion	Design Capacity (pcu/hr)	Weekday AM Peak		Weekday PM Peak		Sunday Peak	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	598	0.19	812	0.25	841	0.26
		WB	3200	969	0.30	699	0.22	743	0.23
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	417	0.33	654	0.51	733	0.57
		SB	1280	770	0.60	566	0.44	625	0.49
L3	Local Access Off Ting Kok Road	NB	440	25	0.45	7	0.13	9	0.02
		SB	440	31	0.56	13	0.24	9	0.02
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	407	0.32	624	0.49	738	0.58
		SB	1280	775	0.61	571	0.45	635	0.50
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	891	0.28	1046	0.33	1089	0.34
		WB	3200	1207	0.38	887	0.28	892	0.28
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	893	0.28	1009	0.32	1039	0.32
		WB	3200	1098	0.34	834	0.26	804	0.25
L7	Ting Kok Road between Dai Fuk Street and Fung Yuen Road	EB	3200	1371	0.43	1373	0.43	1300	0.41
		WB	3200	1476	0.46	1183	0.37	1097	0.34

Notes: (1) Refer to Figure 3-2 for locations of the key links

3.5.2 The results show that the key road links in the vicinity of the Proposed Development operate within capacity during both the Weekday and Sunday peak hours in 2022.

3.6 2022 Adjusted Peak Hour Flows

3.6.1 To address the potential impact due to the pandemic in 2022, comparisons of the 2022 observed flows at Ting Kok Road are made with the historical traffic flows recorded on the corresponding links at ATC Core Station Nos. 6211 and 5006 as indicated in **Table 3-5**.

Table 3-5 Comparisons of Peak Hour Flows at Ting Kok Road

ATC Station	2018 ATC Flows[1] (veh/hr)	2011-2018 Average Annual Growth[1]	2022 Projected Flows[2] (veh/hr)	2022 Observed Flows (veh/hr)	Difference (2022 Observed / Projected Flows)
AM Peak Hour					
Station No. 6211 (Dai Kwai Street - Tai Mei Tuk	2,530	+3.0%	2,845	2,438	-14.3%
Station No. 5006 (Nam Wan Road - Dai Kwai Street)	2,530	+1.2%	2,652	2,247	-15.3%
PM Peak Hour					
Station No. 6211 (Dai Kwai Street - Tai Mei Tuk	1,990	+3.6%	2,295	1,996	-13.0%
Station No. 5006 (Nam Wan Road - Dai Kwai Street)	2,010	+2.4%	2,212	1,898	-14.2%

Notes: (1) Extracted from Annual Traffic Census (ATC) Reports published by Transport Department
(2) 2022 Projected Flows = 2018 ATC Flows x annual growth rate

3.6.2 With reference to the comparison results in **Table 3-5**, it is noted that the differences between the 2022 Observed Flows are around 13% - 15% less than the 2022 Projected Flows. To reflect the potential impact due to Covid-19, therefore, the 2022 observed traffic flows are increased by +15% to provide the "2022 Adjusted Flows" for subsequent assessments.

4 FUTURE TRAFFIC SITUATION

4.1 Design Year

4.1.1 The planned completion year of the Proposed Development is 2024, hence, the "Design Year" for this TIA study is set as 2027, i.e. 3 years after the completion year.

4.2 Methodology

4.2.1 In forecasting the future traffic flows on the road network in the Study Area, references are made to the following sources of information which include:

- Historical traffic growth in the vicinity of the Study Area.
- The forecast population and employment from the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department; and
- Committed and Planned developments in the vicinity of the Study Area.

4.2.2 The following steps are undertaken to derive the 2027 Peak Hour Reference Flows (i.e. without the Proposed Development) and Design Flows (i.e. with the Proposed Development):

2022 Adjusted Flows =	2022 Observed Flows x adjustment factor (Section 3.6)
2027 Background Flows =	2022 Adjusted Flows x annual growth factors
2027 Reference Flows =	2027 Background Flows + additional traffic generated by planned developments
2027 Design Flows =	2027 Reference Flows + additional traffic generated by the Proposed Development

4.2.3 The traffic impact to be induced by the Proposed Development is assessed by comparing the 2027 Peak Hour Reference Traffic Flows against the 2027 Design Traffic Flows.

4.3 2027 Background Flows

4.3.1 The historical growth over the 5-year period of 2013 – 2018 are shown in **Table 4-1** in which the ATC flows in 2019 and 2020 are excluded due to the occurrence of social events in 2019 and pandemic in 2020. It is noted the traffic growth patterns in both stations fluctuated quite significantly with considerable increase of traffic and stagnant growth in alternate years.

Table 4-1 Historical Traffic Data from Annual Traffic Census (2013-2018)

Station	Road	Between		2013	2014	2015	2016	2017	2018
6211	Ting Kok Road	Dai Kwai Street	Tai Mei Tuk	23620	25370	25240	27230	27110	29580
				-0.84%	7.41%	-0.51%	7.88%	-0.44%	9.11%
5006	Ting Kok Road	Nam Wan Road	Dai Kwai Street	23650	26060	26760	29650	30680	30900
				-2.71%	10.19%	2.69%	10.80%	3.47%	0.72%

Source: 2013-2018 Annual Traffic Census (ATC) Reports published by Transport Department

4.3.2 **Table 4-2** shows the forecast population and employment data in Tai Po District for 2019, 2026 and 2031 with reference to the 2019-based Territorial Population and Employment Data Matrices (TPEDM) planning data published by Planning Department.

Table 4-2 2019-Based TPEDM for Tai Po District

Category	2019	2022*	2026	2027*	2031	% Growth p.a. 2022 - 2027
Population	250,050	265,393	285,850	281,440	263,800	1.18%
Employment Places	86,750	85,443	83,700	82,670	78,550	-0.66%
Total	336,800	350,836	369,550	364,110	342,350	0.75%

Source: 2019, 2026 and 2031 from 2019-based TPEDM published by Planning Department.
**2022 and 2027 data by interpolation*

4.3.3 As shown in the table, the predicted growth of population and employment places in Tai Po District from 2022 to 2027 is approximately +1.18% and -0.66% per annum respectively.

4.3.4 In view of the fluctuated historical growth pattern (Table 4-1), it is proposed therefore to adopt growth factor method with reference to the TPEDM forecast population and employment data (Table 4-2) for estimating the future background flows. To provide conservative estimates, an annual growth rate of +1.2% is applied to the 2022 Adjusted Flows to derive the 2027 Background Flows.

4.4 2027 Reference Traffic Flows

4.4.1 The planned and committed developments within or in the vicinity of the Study Area are summarized in **Table 4-3**. The estimated peak hour traffic flows to be generated by these developments are also indicated in the table.

Table 4-3 Estimated Peak Hour Traffic by Planned/Committed Developments

Location	Use	Traffic Flows (pcu/hour)			
		AM Peak Hour		PM Peak Hour	
		Out	In	Out	In
Various lots in D.D.26, Wong Yue Tan (1)	Transitional Housing (1236 units)	46	36	36	36
Tai Po Town Lot (TPTL) 223 & 229(1)	Private Housing (660 units)	59	34	24	32
Chung Nga Road West(1)	Public Housing (950 units)	64	53	45	32
Chung Nga Road Area 9	Public Housing (6420 units)	278	210	153	194

Reference: (1) Planning Application A/NE-TK/702 Proposed Temporary Residential Institution (Transitional Housing) for a Period of 5 Years with Filling and Excavation of Land. Wong Yue Tan, Tai Po
(2) TPDM Volume 1, Appendix, Annex C, Table 1

4.4.2 The development flows to be generated by the planned/committed developments are added to the 2027 Peak Hour Background Traffic Flows to derive the 2027 Peak Hour Reference Traffic Flows (i.e. without the Proposed Development). To establish conservative estimates, the weekday AM peak hour flows are adopted for Sunday peak hour. The resulting 2027 Reference Flows are shown in **Figure 4-1**.

4.5 Development Traffic

4.5.1 The trip rates for Subsidized Housing: Public Rental in TPDM Volume 1 Chapter 3 Appendix I are adopted to estimate the development trips to be induced by the Proposed Development and the results are summarized below:

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
TPDM Trip Rates (pcu/hr/flat)	0.0046	0.0071	0.0140	0.0112
Development Traffic (pcu/hr)	1	2	3	3

4.5.2 Hence, it is estimated that the Proposed Development would induce total two-way traffic of 3 pcu's (1 in and 2 out) and 6 pcu's (3 in and 3 out) during the AM and PM peak hours respectively. To provide conservative estimates, the higher PM peak hour trips are adopted for the traffic assessment of Sunday peak hour. The distribution of peak hour development flows are shown in **Figure 4-2**.

4.6 2027 Design Traffic Flows

4.6.1 Hence, by adding the peak hour development flows, as shown in **Figure 4-2**, to the forecast 2027 Peak Hour Reference Flows (**Figure 4-1**), the 2027 Peak Hour Design Flows (i.e. with Proposed Development) are derived and shown in **Figure 4-3**.

4.7 Public Transport Demand

4.7.1 The proposed transitional housing development is for low-income groups who rely on public transport services for daily commuting. Reference is made to the "Travel Characteristics Survey (TCS) 2011 Final Report" published by Transport Department for estimating the public transport demand. According to TCS, the total mechanized trip rate is 1.83 trips per person per day and the AM and PM peak hour account for 12% of the daily total each. To provide conservative estimates, it is assumed 90% of the peak hour trips are outbound trips in the AM peak hour and the other direction in the PM peak hour. As a result, a peak hour demand of 120 passengers (i.e. 608 persons x 1.83 x 12% x 90% = 120) in the peak direction is estimated for both weekday AM and PM peak hours.

4.7.2 **Table 4-4** shows the amount of hourly bus trips recorded at both the Ting Kok Road near Sam Mun Tsai Road westbound and eastbound bus stops nearby the Application Site over the survey periods on 24 April 2022 (Sunday) and 25 April 2022 (Monday). The locations of the surveyed bus stops are shown in **Figure 3-2**.

Table 4-4 2022 Observed Hourly Bus Trips at Ting Kok Road near Sam Mun Tsai Road Bus Stops

Hour	No. of Bus Trips	
	Sam Mun Tsai Road Westbound bus-stop (Outbound)	Sam Mun Tsai Road Eastbound bus-stop (Inbound)
Weekday		
07:00 – 08:00	10	3
08:00 – 09:00	3	2
09:00 – 10:00	2	3
10:00 – 11:00	3	2
16:00 – 17:00	3	2
17:00 – 18:00	2	3
18:00 – 19:00	3	3
19:00 – 20:00	3	4
Sunday		
08:00 – 09:00	4	8
09:00 – 10:00	5	11
10:00 – 11:00	7	11
11:00 – 12:00	9	10
12:00 – 13:00	10	10
13:00 – 14:00	9	9
14:00 – 15:00	7	10
15:00 – 16:00	13	9
16:00 – 17:00	11	8
17:00 – 18:00	13	9
18:00 – 19:00	12	6

4.7.3 During weekday, the peak hour for outbound services are 10 bus trips at 07:00 – 08:00 and 4 bus trips at 19:00 – 20:00 for inbound services. On Sunday, higher frequencies for both outbound and inbound services are provided throughout the day to cater for leisure and recreational trips.

4.7.4 **Table 4-5** shows the detailed outbound bus services observed at the Ting Kok Road near Sam Mun Tsai Road westbound bus stop during the weekday AM peak hour (07:00-08:00). The peak hour bus demand by the Proposed Development (i.e. 120 passengers) are then assigned to the various bus routes with reference to the observed occupancies of individual routes to identify if the spare capacities of individual routes could accommodate the anticipated demand. The results are also shown in **Table 4-5**.

Table 4-5 Weekday AM Peak Hour Outbound Bus Services at Ting Kok Road near Sam Mun Tsai Road Westbound Bus-stop

Route	Observed[1] bus trips	Additional bus trips	Passengers / hour				
			Total Capacity	Observed[1] Occupancy on Departure	Wong Yue[2] Tan Demand	Proposed[3] Development Demand	Remaining Capacity
72C	1	-	125	30	28[2],[3]	6	61
75K	4[4]	2[5]	758	305	284[2],[3]	65	104
74E	3	-	410	145	71[2]	31	163
73P	2[6]	-	257	40	71[2]	8	138
75P	1	-	137	45	42[2],[3]	10	40
Total	**11**	**2**	**1687**	**565**	**496**	**120**	**506**

Notes: (1) Bus trips and Occupancy observed on 25 April 2022 (07:00-08:00)
(2) Reference: Table 4.1 Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)
(3) Demand of individual routes is estimated with reference to observed occupancy of individual bus routes
(4) 4-7 bus trips in AM peak hour according to published schedule, 4 bus trips were observed in the AM peak hour
(5) Projected additional services based on the spare capacity from observed bus trips; and assume an additional capacity of 120 passengers per bus
(6) One bus trip was observed on 25/4/2022 and one additional bus trip (with assumed capacity of 120 passengers per bus) is provided after service enhancement starting from 4 July 2022.

4.7.5 As shown in **Table 4-5**, it was observed in the traffic surveys undertaken on 25 April 2022 that total capacities of around 1327 passengers/hour are available from the 10 nos. of outbound bus services in the AM Peak Hour (i.e. without the enhanced service of 73P from 4 July 2022). Compared to the occupancy of 565 passengers, a spare capacity of about 762 passengers would be available based on existing bus services.

4.7.6 According to the planned transitional housing development at Wong Yue Tan, a peak hour demand of around 496 passengers is forecast and the additional passenger demands by individual routes are shown in **Table 4-5**. The additional demand of 120 passengers by the Proposed Development for individual routes are estimated with reference to the existing demand pattern. Taking into account the enhanced service of 73P and based on the spare capacity available from the observed bus trips, it is projected that two additional bus services to Tai Po Market (75K) would be required in the weekday AM peak hour. Sufficient spare capacity for all other routes would be available to cope with the additional demand by the two new developments in general. The additional bus trips are included in the 2027 peak hour traffic flows.

4.7.7 Supplementary traffic survey was undertaken on 8 August 2022 (Monday) in the PM peak period (17:00 – 20:00) for the inbound bus services to review the existing utilization. The amount of bus trips and occupancies in the PM peak hour (18:30 – 19:30) are presented in **Table 4-6**.

Table 4-6 Weekday PM Peak Hour Inbound Bus Services

Route	Bus Stop	Observed(1) bus trips	Additional bus trips	Passengers / hour				
				Total Capacity	Observed(1) Occupancy on Arrival	Wong(2) Yue Tan Demand	Proposed(2) Development Demand	Remaining Capacity
75K	Tai Po East Fire Station	4	2(3)	744	265	354	81	44
74E	Tai Po Centre Phase 5	1	1(3)	256	120	71	31	34
73P	Tai Po Centre Phase 5	2	1(3)	384	210	71	8	95
	Total	**7**	**4**	**1384**	**595**	**496**	**120**	**173**

Notes: (1) Bus trips and Occupancy observed on 8 August 2022 (18:30-19:30)
(2) Demand by proposed development is estimated with reference to observed occupancy of individual bus routes in the AM peak hour in Table 4-5
(3) Projected additional services based on the spare capacity from observed bus trips; and assume an additional capacity of 120 passengers per bus

4.7.8 To establish the worst-case situation, the PM peak hour bus demand for inbound services is assumed the same as the AM peak hour outbound services, i.e. 496 passengers by Wong Yue Tan Development and 120 passengers by the Proposed Development. As indicated in **Table 4-6**, based on the worst-case situation, 4 additional bus trips would be required to accommodate the additional demand by the two new developments. It should be noted that in general the PM peak hour demand for inbound services (i.e. work to home trips) would be less than the AM peak hour demand for outbound services which involve mainly home to work or school trips. The Home-Based Work and Home-Based School trips forming the largest proportion of regular trip with high concentration during peak hours, especially in the AM peak hour. According to Travel Characteristics Survey 2011, 41% of the home-to-work trips occurred in the morning peak hour and only 34% of the work-to-home trips occurred in the evening peak hour as there are other trip purposes such as social and entertainment trips after work.

4.7.9 In general, demand for bus services for residential developments on Sunday is less concentrated than normal weekdays. Furthermore, the demand to be generated by the two new developments would be in opposite direction of the leisure and recreational trips (i.e. AM peak demand for non-peak outbound direction and the PM peak demand for non-peak inbound direction). Hence, the bus occupancies for outbound services in the AM period and inbound services in the PM period during Sunday are reviewed and the results are summarized in **Table 4-7**. As shown in the table, there would be plenty spare capacities by both the inbound and outbound bus services to cope with the anticipated demand and no additional services would be required.

Table 4-7 Sunday Non-Peak Direction Bus Services at Ting Kok Road near Sam Mun Tsai Road Bus-stops

	Route 75K			Route 275R		
	Observed[(1)] bus trips	Total Capacity (pax/hr)	Observed[(1)] Occupancy on Departure (pax/hr)	Observed[(1)] bus trips	Total Capacity	Observed[(1)] Occupancy on Departure
Non Peak Outbound Services in AM period						
08:00-09:00	4	549	135	0	-	-
09:00-10:00	4	557	110	1	81	10
10:00-11:00	4	561	60	3	243	17
11:00-12:00	5	695	98	4	324	45
12:00-13:00	5	690	87	5	405	75
Non Peak Inbound Services in PM period						
13:00-14:00	6	830	125	3	243	60
14:00-15:00	5	694	105	5	405	18
15:00-16:00	6	831	95	3	243	40
16:00-17:00	4	548	50	4	324	13
17:00-18:00	4	548	90	5	405	29

Notes: (1) Bus trips and Occupancy observed on 24 April 2022

4.7.10 It is noted that projection of additional services discussed above are based on spare capacities observed at the concerned bus stops. The exact plan of strengthening the public transport services should be subject to their actual utilization nearer the time.

4.8 Passenger Queueing Area

4.8.1 As indicated in Section 4.7 above, a peak hour demand of 120 passengers by the Proposed Development for outbound bus services at Ting Kok Road near Sam Mun Tsai Road westbound bus-stop during the weekday AM peak hour are anticipated. On the other hand, the peak hour demand for inbound services at the eastbound bus-stop during the weekday PM peak hour are mainly alighting passengers who do not need to queue. Hence, queueing assessment for the queueing area at the westbound bus-stop is undertaken.

4.8.2 With reference to **Table 4-5**, the anticipated amount of queuing passengers for individual routes at the westbound bus-stop during weekday AM peak hour are reviewed based on the arrival times of individual routes observed at the bus stop during the traffic surveys and the proposed addition of bus trips, and a maximum of around 94 queueing passengers is anticipated.

4.8.3 **Figure 4-4** shows the queueing area of around 31m^2 (26m length x 1.2m width) to be available adjacent to the extended bus bay proposed by Wong Yue Tan transitional housing project and also taking into account of the existing bus shelter. Based on a crush capacity of 5 persons per 1.2m square grid (i.e. 0.288 m^2 per person) as indicated in TPDM Volume 9 Chapter 2.7, Clause 2.7.14.16, a queueing area of around 31m^2 would be sufficient for 108 queueing passengers and hence would be sufficient to accommodate the anticipated queues.

5 TRAFFIC IMPACT ASSESSMENT

5.1 Junction Capacity Assessment

5.1.1 Based on the 2027 Reference Flows (i.e. without Proposed Development) and 2027 Design Flows (i.e. with Proposed Development), junction capacity assessments are undertaken and the results are presented in **Table 5-1** with detailed calculation sheets provided in **Appendix C**.

Table 5-1 2027 Peak Hour Performance at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Reference			Design		
				Wkday AM	Wkday PM	Sun Peak	Wkday AM	Wkday PM	Sun Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	92%	81%	55%	92%	80%	55%
J2	Ting Kok Road / Access Road	Priority	DFC	0.08	0.04	0.03	0.09	0.04	0.03
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.26	0.19	0.38	0.26	0.19	0.38
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	11%	18%	17%	11%	18%	17%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	10%	26%	29%	10%	26%	29%
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	-7%	2%	11%	-7%	2%	10%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	15%	13%	34%	15%	13%	34%
J8	Yuen Shin Road / Dai Fat Street	Signal	R.C.	3%	13%	45%	3%	13%	45%

Notes: (1) The Capacity Index for Signal-controlled junction is Reserve Capacity (RC)
The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)

5.1.2 It is indicated in **Table 5-1** that, with the exception of J6, all of the assessed junctions in the vicinity of the Application Site would be operating within capacity during the weekday and Sunday peak hours for both the 2027 Reference (without Proposed Development) and Design (with Proposed Development) scenarios.

5.1.3 The Reserve Capacity of Junction of Ting Kok Road and Fung Yuen Road (J6) could be increased with reference to the proposed junction improvement[1], as shown in **Appendix E**, by modifying the nearside lane of Fung Yuen Road from left turn only to allow both left and right turn movements. With the proposed modifications, the junction performances could be improved as shown in **Table 5-2**.

[1] *Figure 5.5 Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)*

Table 5-2 2027 Peak Hour Performance of J6 with Improvement

Jn. ID.	Location	Type	Capacity Index(1)	Reference Scenario			Design Scenario		
				Wkday AM	Wkday PM	Sunday Peak	Wkday AM	Wkday PM	Sunday Peak
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	5%	8%	22%	5%	8%	21%

5.1.4 As the amount of traffic flows to be generated by the Proposed Development is very small (i.e. around 3 to 6 pcu's per hour), the differences in junction performances between the Reference and Design scenarios are minute. Hence, the traffic impact to be induced by the Proposed Development are insignificant.

5.2 Link Capacity Assessment

5.2.1 **Table 5-3** shows the link capacity assessment for the 2027 Reference and Design scenarios.

Table 5-3 2027 Peak Hour Performances of Key Road Links

Link ID.	Section	Direc-tion	Design Capacity (pcu/hr)	Reference		Design	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
Weekday AM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	761	0.24	763	0.24
		WB	3200	1224	0.38	1225	0.38
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	540	0.42	540	0.42
		SB	1280	981	0.77	981	0.77
L3	Local Access Off Ting Kok Road	NB	440	32	0.07	34	0.08
		SB	440	39	0.09	40	0.09
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	498	0.39	498	0.39
		SB	1280	957	0.75	957	0.75
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	1150	0.36	1152	0.36
		WB	3200	1556	0.49	1557	0.49
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1152	0.36	1154	0.36
		WB	3200	1423	0.44	1424	0.45
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1725	0.54	1727	0.54
		WB	3200	1880	0.59	1881	0.59
Weekday PM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	1022	0.32	1025	0.32
		WB	3200	884	0.28	887	0.28
L2	Ting Kok Road between Sam Mun	NB	1280	829	0.65	829	0.65

	Tsai Road and Wong Yue Tan Village	SB	1280	722	0.56	722	0.56
L3	Local Access Off Ting Kok Road	NB	440	10	0.02	13	0.03
		SB	440	17	0.04	20	0.05
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	763	0.60	763	0.60
		SB	1280	698	0.55	698	0.55
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1331	0.42	1334	0.42
		SB	1280	1145	0.36	1148	0.36
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1286	0.40	1289	0.40
		WB	3200	1081	0.34	1084	0.34
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1732	0.54	1735	0.54
		WB	3200	1508	0.47	1511	0.47
Sunday Peak Hour							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	1057	0.33	1060	0.33
		WB	3200	948	0.30	951	0.30
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	926	0.72	926	0.72
		SB	1280	804	0.63	804	0.63
L3	Local Access Off Ting Kok Road	NB	440	12	0.03	15	0.03
		SB	440	12	0.03	15	0.03
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	939	0.73	939	0.73
		SB	1280	782	0.61	782	0.61
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1391	0.43	1394	0.44
		SB	1280	1172	0.37	1175	0.37
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	NB	1280	1330	0.42	1333	0.42
		SB	1280	1064	0.33	1067	0.33
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1649	0.52	1652	0.52
		WB	3200	1422	0.44	1425	0.45

5.2.2 **Table 5-3** indicates that all the key road links in the vicinity of the Application Site would perform satisfactorily within acceptable levels.

5.2.3 As the amount of traffic flows to be generated by the Proposed Development is very small, it is noted that the differences in link performances between the Reference and Design scenarios are minute. Therefore, it can be concluded that the traffic generated by the proposed Development would not cause adverse traffic impact to the road network in the vicinity of the Application Site and along Ting Kok Road.

5.3 Pedestrian Impact Assessment

5.3.1 Pedestrian count surveys were also undertaken along the key pedestrian links in the vicinity of the Proposed Development, as shown in **Figure 5-1,** over the survey periods on 24/4/2022 (Sunday) and 25/4/2022 (Monday). LOS assessments are undertaken based on the peak-5 min flows recorded at the key pedestrian links and the results are shown in **Table 5-4**.

Table 5-4 Existing Level of Services of Key Footways

Location	Actual Footway Width	Effective Footway Width(1)	Peak 5-Minute Flow	Peak Minute Flow /Metre	Level of Service
Weekday					
P1	1.2m	0.7m	6	1.71	A
P2	2.6m	2.1m	6	0.58	A
P3	1.3m(2)	0.8m	12	3.00	A
Sunday					
P1	1.2m	0.7m	4	1.14	A
P2	2.6m	2.1m	7	0.68	A
P3	1.3m(2)	0.8m	10	2.50	A

Notes: (1) Effective width = Actual width minus 0.5m shy zone
(2) Narrowest width adjacent to bus shelter

5.3.2 In general, the amounts of pedestrians on the footpaths in the vicinity of the development site are not high and a LOS of A can be achieved on all key footpaths.

5.3.3 The peak hour public transport trips discussed in Section 4.7 (i.e. 608 x 1.83 x 12% = 134 persons (2-way) during peak hour) are adopted for assessing the performance of the key pedestrian links. To establish conservative estimates, a peak factor of 20% is applied to derive the peak-5 min flows (i.e. 134 / 60min x 5 min x 120% = 14 pedestrians) for undertaking the LOS assessment. The additional pedestrians are then assigned onto the footpaths in the vicinity of the proposed development taking into the public transport facilities. The LOS of the footpaths with the additional pedestrian flows by the proposed development are assessed and the results are indicated in **Table 5-5**.

Table 5-5 Level of Services of Key Footways With Development

Location	Actual Footway Width	Effective Footway Width(1)	Peak 5-Minute Flow	Peak Minute Flow /Metre	Level of Service
Weekday					
P1	1.2m	0.7m	20	5.71	A
P2	2.6m	2.1m	6	0.58	A
P3	1.3m(2)	0.8m	26	6.50	A
Sunday					
P1	1.2m	0.7m	18	5.14	A
P2	2.6m	2.1m	7	0.68	A
P3	1.3m(2)	0.8m	24	6.00	A

Notes: (1) Effective width = Actual width minus 0.5m shy zone
(2) Narrowest width adjacent to bus shelter

5.3.4 The results indicate that a LOS of A can be achieved on all the key footpaths in the vicinity of the development.

5.4 Proposed Footpath Connection

5.4.1 **Figure 5-2** shows the major pedestrian route between the Proposed Development and Sam Mun Tsai bus stops. The walking distance between the nearest and farthest block of the proposed development and Sam Mun Tsai westbound and eastbound bus stops are summarized in **Table 5-6**.

Table 5-6 Walking Distances between Proposed Development and Nearby Bus-stops

Location	Walking Distance (m)	
	Nearest Block	Farthest Block
Sam Mun Tsai westbound bus stop	~230m	~300m
Sam Mun Tsai eastbound bus stop	~350m	~420m

5.4.2 It is noted that the southern end of the existing footpath along the access road is terminated without connecting to the existing footpath at Ting Kok Road. To improve the existing condition, an improvement scheme is proposed by extending the footpath and connect with the existing footpath network on Ting Kok Road as shown in **Figure 5-3**. The proposed footpath connection will provide a continuous and safe pedestrian link to the existing footpath at Ting Kok Road.

5.4.3 It is noted that, due to the steep gradients of the existing slope, to provide a ramp connection is not feasible as the gradient of the ramp will be above +15% which does not comply with the relevant requirements as stipulated in the Transport Planning and Design Manual. A comparison of the footpath connection options with steps or ramp is presented in **Appendix D** for reference.

5.4.4 Due to the site constraint mentioned above, that the gradient of the footpath extension (>15%) is in excess of the permitted gradient in the Barrier Free Access (BFA) Code, a BFA pedestrian access road for wheelchair users will not be available. Therefore, BFA unit will not be provided within the Proposed Development and it is noted that BFA unit is not required under the current building regulations.

5.4.5 In view of the above site constraint, the nil provision of BFA unit within the development is supported by Housing Bureau. The potential applicants for the transitional housing will be informed that BFA to the development will not be available due to the above site constraints.

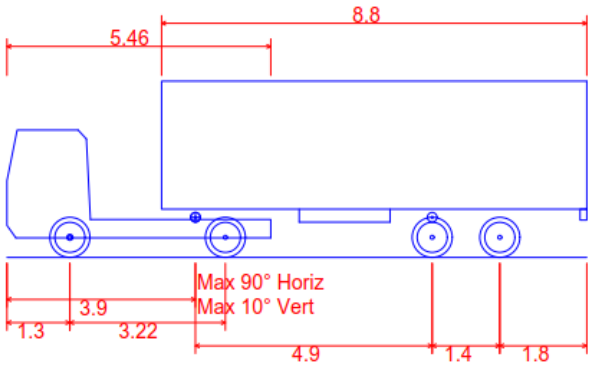
6 CONSTRUCTION ARRANGEMENT

6.1 Modular Integration Construction (MiC) Method

6.1.1 It is proposed to adopt Modular Integration Construction (MiC) method for the construction of the proposed transitional housing development. The maximum size of the MiC units would be around 2.8m (W) x 7m (L). As the width of the MiC units will be in excess of 2.5m, Wide Load Permit will be required from Transport Department for delivery of the units on public roads.

6.1.2 To demonstrate the feasibility of adopting the proposed MiC method, swept path assessment of a 12m articulated vehicle carrying a 2.8m wide load along the local access road and its immediate junction with Ting Kok Road are undertaken and the results are indicated in **Appendix A**. Details of the delivery vehicle (low flatbed trailer) adopted in the swept path assessment study is shown in Exhibit 1 below.

Exhibit 1 Details of 12m Long Delivery Vehicle



12m Articulated Vehicle	
Overall Length	12.000m
Overall Width	2.800m
Overall Body Height	3.652m
Min Body Ground Clearance	0.406m
Track Width	2.376m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	11.650m

6.1.3 For transportation of the MiC units on public roads, escort vehicles to the front and rear of the delivery trailer truck will be required to ensure road safety in particular to alert the general traffic when changing lanes and crossing road junctions. To minimise the potential traffic impact, the operation hours for the delivery of MiC units will be restricted to 10:00 – 16:00. During the application of Wide Load Permit from Transport

Department, which is required for transportation of wide load in excess of 2.5m on public roads, the delivery period restriction can be imposed as an approval condition. In general, the approved operating hours for delivery of wide loads on public road are outside of highway peak hours, i.e. 0700 – 1000 and 1600 - 2000.

6.1.4 The exact delivery routes and corresponding Temporary Traffic Arrangement (TTA) will be determined when more detailed information is available. Detail TTA will be submitted for approval by relevant authorities such as Transport Department, Hong Kong Police Force, Highways Department etc. prior to implementation of the TTA schemes. The contractor needs to provide sufficient manpower resources and appropriate equipment to implement the approved TTA schemes.

6.2 Construction Traffic Impact Assessment

6.2.1 As the detailed haul routes for the delivery of MiC units will be determined at later stage. A construction traffic impact assessment to evaluate the potential traffic impact based on conventional construction method is undertaken for reference.

6.2.2 The proposed redevelopment is anticipated to be completed by Year 2024, to provide conservative estimates, Year 2024 is adopted as the peak construction period for the construction traffic impact assessment.

6.2.3 As the construction site is small, a maximum of 10-15 construction vehicles per day are anticipated with reference to a similar small construction site for Cheung Sha Wan Catholic Primary School. To provide conservative estimates, a maximum amount of 8 construction vehicles per hour (7 nos. of trucks and 1 no. of staff car) is assumed during peak periods.

6.2.4 The same approach in forecasting the 2027 Peak Hour Design Traffic (refers to Chapter 4) is adopted to forecast the 2024 Peak Hour Design Flows.

6.3 Junction and Link Capacity Assessments

6.3.1 Based on the traffic forecasts, results of the junction capacity assessments during the construction year of 2024 are presented in **Table 6-1**. Detailed calculation sheets of the junction assessment are provided in **Appendix E**.

Table 6-1 2024 Peak Hour Performance at Key Junctions

Jn. ID.	Location	Type	Capacity Index(1)	Reference		Design	
				AM Peak	PM Peak	AM Peak	PM Peak
J1	Ting Kok Road / Sam Mun Tsai Road	Signal	R.C.	99%	87%	97%	83%
J2	Ting Kok Road / Access Road	Priority	DFC	0.08	0.03	0.11	0.06
J3	Ting Kok Road / Access Road to Wong Yu Tan Village	Priority	DFC	0.25	0.18	0.25	0.18
J4	Ting Kok Road / Dai Kwai Street	Signal	R.C.	15%	22%	14%	21%
J5	Ting Kok Road / Dai Fat Street	Signal	R.C.	14%	30%	13%	29%
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	-3%	6%	-4%	5%
J7	Ting Kok Road / Dai Fuk Street / Yuen Shin Road	Signal	R.C.	19%	17%	18%	17%
J8	Yuen Shin Road / Dai Fat Street,	Signal	R.C.	7%	17%	7%	17%

Notes: (1) The Capacity Index for Priority Junction and Roundabout is Design Flow to Capacity Ratio (DFC)
The Capacity Index for signalized junction is Reserve Capacity (RC)

6.3.2 It is indicated in **Table 6-1** that, with the exception of Junction of Ting Kok Road and Fung Yuen Road (J6), all of the assessed junctions in the vicinity of the Application Site would be operating within capacity during the weekday AM and PM peak hours for both the 2024 Reference (without construction traffic) and Design (with construction traffic) scenarios.

6.3.3 The Reserve Capacity of (J6) could be increased with reference to the proposed junction improvement as shown in **Appendix E.** With the proposed modifications, the junction performances could be improved as shown in **Table 6-2**. It is noted that the modification works would be required even without the construction traffic by the proposed development.

Table 6-2 2024 Peak Hour Performance of J6 with Improvement

Jn. ID.	Location	Type	Capacity Index(1)	Reference Scenario		Design Scenario	
				Wkday AM	Wkday PM	Wkday AM	Wkday PM
J6	Ting Kok Road / Fung Yuen Road	Signal	R.C.	9%	12%	8%	11%

6.3.4 Road link capacity assessments during the construction year of 2024 are also undertaken and the results are presented in **Table 6-3**.

Table 6-3 2024 Peak Hour Performance at Key Road Links

Link ID.	Section	Direc-tion	Design Capacity (pcu/hr)	Reference		Design	
				Flows (pcu/hr)	P/Df	Flows (pcu/hr)	P/Df
Weekday AM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	735	0.23	752	0.24
		WB	3200	1183	0.37	1199	0.37
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	522	0.41	522	0.41
		SB	1280	948	0.74	948	0.74
L3	Local Access Off Ting Kok Road	NB	440	31	0.07	48	0.11
		SB	440	38	0.09	55	0.13
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	480	0.38	480	0.38
		SB	1280	923	0.72	923	0.72
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	EB	3200	1112	0.35	1128	0.35
		WB	3200	1504	0.47	1521	0.48
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1114	0.35	1130	0.35
		WB	3200	1376	0.43	1393	0.44
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1668	0.52	1684	0.53
		WB	3200	1817	0.57	1834	0.57
Weekday PM Peak							
L1	Ting Kok Road between Fortune Garden and Sam Mun Tsai Road	EB	3200	987	0.31	1004	0.31
		WB	3200	855	0.27	871	0.27
L2	Ting Kok Road between Sam Mun Tsai Road and Wong Yue Tan Village	NB	1280	801	0.63	801	0.63
		SB	1280	698	0.55	698	0.55
L3	Local Access Off Ting Kok Road	NB	440	10	0.02	26	0.06
		SB	440	16	0.04	33	0.08
L4	Ting Kok Road between Wong Yue Tan Village and Hess Garden	NB	1280	736	0.58	736	0.58
		SB	1280	673	0.53	673	0.53
L5	Ting Kok Road between Dai Kwai Street and Lo Fai Road	NB	1280	1287	0.40	1304	0.41
		SB	1280	1107	0.35	1124	0.35
L6	Ting Kok Road between Dai Kwai Street and Dai Fat Street	EB	3200	1244	0.39	1261	0.39
		WB	3200	1045	0.33	1062	0.33
L7	Ting Kok Road between Dai Fat Street and Yuen Shin Road	EB	3200	1672	0.52	1689	0.53
		WB	3200	1456	0.46	1473	0.46

6.3.5 The results indicate that the key road links in the vicinity of the Application Site would operate within capacity during the AM and PM peak hours even with the additional construction traffic during the construction period, i.e. the construction traffic would not create significant traffic impact on the nearby road network.

7 SUMMARY AND CONCLUSIONS

7.1 Summary

7.1.1 The Applicant intends to submit a S16 Planning Application to develop the site ("The Application Site") located at Government Land at Shun Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) for transitional housing for a period of five years. The development will provide 276 housing units for low-income groups.

7.1.2 To reveal the existing traffic conditions, traffic and pedestrian count surveys were carried out at the key junctions in the vicinity of the Application Site in April and June 2022. Junction and link capacity assessments are carried out and the results indicate that all the key junctions and road links perform satisfactorily during the peak hours on a Sunday and weekday in 2022.

7.1.3 It is noted that the traffic conditions in 2022 was affected by the outbreak of Covid-19, hence, the observed traffic flows recorded in 2022 are increased by 15% with reference to the historic ATC flows recorded along Ting Kok Road.

7.1.4 The planned completion year for the Proposed Development is 2024 and hence the "Design Year" for this study is set as 2027, i.e. 3 years after the completion year. Having reviewed the forecast population and employment growth in Tai Po District and the planned developments in the area, to provide conservative estimates, a growth factor of +1.2% per annum is adopted for estimating the 2027 Reference Traffic Flows.

7.1.5 As the housing development is mainly for low-income households, no car parking provision will be provided but one loading/loading bay will be provided within the Proposed Development to meet daily need.

7.1.6 It is forecast that the Proposed Development would generate a demand of 120 bus passengers during the peak hours. The requirements for public transport services are assessed and it is identified that the anticipated demand by the Proposed Development could be met with slight enhancement of existing bus services. The exact plan of strengthening the public transport services should be subject to their actual utilization nearer the time.

7.1.7 It is estimated that total two-way traffic of around 3 pcu's in the weekday AM Peak hour and 6 pcu's in the weekday PM peak hour and Sunday peak hour would be induced by the Proposed Development. The development traffic is then added to the 2027 Peak Hour Reference Traffic Flows (i.e. without Proposed Development) to derive the 2027 Peak Hour Design Traffic Flows (i.e. with Proposed Development).

7.1.8 Traffic impact assessments are undertaken by comparing the peak hour junction performances of the 2027 Reference scenario against the Design scenario. The results of the assessments indicate that, with the exception of the Junction of Ting Kok Road and Fung Yuen Road, all the assessed junctions and road links in the vicinity of the Proposed Development would perform within capacity during the peak hours for both scenarios.

7.1.9 The performance of the Junction of Ting Kok Road and Fung Yuen Road would be improved by modifying the nearside lane of Fung Yuen Road from left turn only to allow both left and right turn movements.

7.1.10 Pedestrian impact assessments are also carried out and the assessment results indicate that all the footpaths along the major pedestrian routes would perform satisfactorily with a Level of Services (LOS) of A even with the additional pedestrian flows by the Proposed Development.

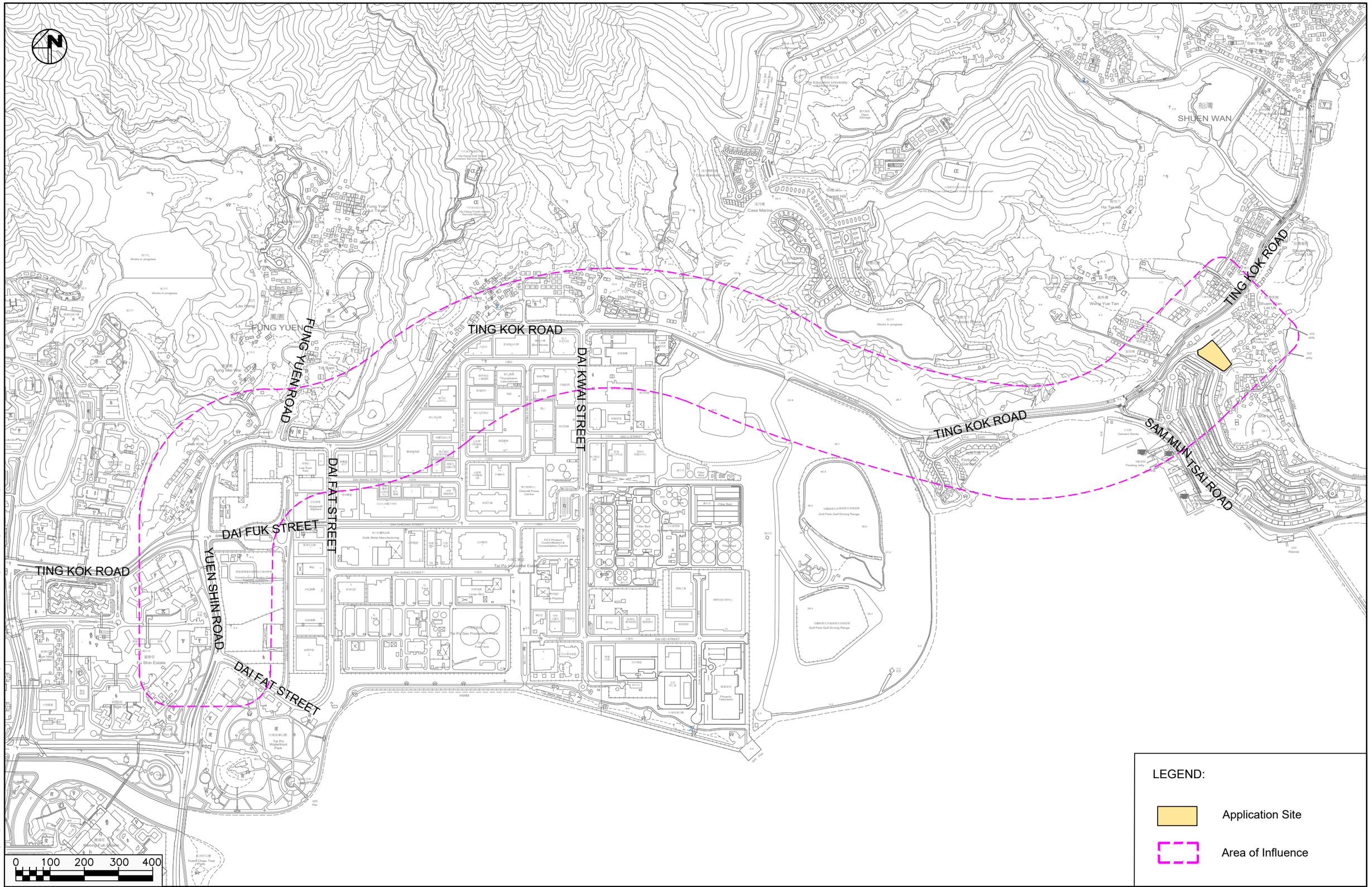
7.1.11 Modular Integrated Construction (MiC) method is proposed for the construction of the proposed transitional housing. Detailed traffic impact assessment will be undertaken once the exact haul route(s) for the delivery of the MiC units are determined at later stage. For reference, construction traffic impact assessment based on conventional construction method is undertaken. To provide conservative estimates, the completion year of the Proposed Redevelopment, i.e. 2024, is adopted as the peak construction period. The assessment results indicate that the construction traffic would not create significant traffic impact on the nearby road network over the construction period.

7.2 Conclusions

7.2.1 As the amount of vehicular traffic to be induced by the Proposed Development is very small, based on the results of the traffic impact assessment, it is concluded that the Proposed Development would not create significant traffic impact on the road network in the vicinity of the Site.

7.2.2 To improve the existing walking condition, an improvement scheme is proposed by connecting the existing footpath along the local access road with the existing footpath at Ting Kok Road.

Figures



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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Site Location and Area of Influence

Date	Scale	Dwg No.	Rev.
22/06/2022	1:10000	Figure 2-1	A

OZZO TECHNOLOGY

Loading / Unloading Bay (11m x 3.5m)

Pedestrian Access

Vehicular Access

Pedestrian Access

3.3m

TING KOK ROAD

Subway 行人隧道

Spanish Primary School

ROAD

Road

道路

FP

Loading/ unloading bay 11m x 3.5m

Multipurpose Hall

Play Area

Office

Convenience Store

Plant Room

E&M

Refuse

Mail Collection

LEGEND:

- Site Boundary
- Footpath
- Pedestrian Access
- Vehicular Access

0 5 10 15 20

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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Proposed Vehicular and Pedestrian Access Arrangements

Date	Scale	Drawing No.	Rev.
28/06/2022	1:500	Figure 2-2	A

OZZO TECHNOLOGY

KMB:275R,73P,74E,75K

GMB:20C,20E,
20R,20T

KMB:275R,73P,
74E,75K

GMB:20B,20C,20E,
20R,20T

KMB:275R,72C,
73P,74E,75K,75P

TING KOK ROAD

SAM MUN TSAI ROAD

KMB:74K

GMB:20K

GMB:20K

KMB:74K

船灣
SHUEN WAN

前船灣余東旅學校
Former Shuen Wan Eu Tong Sen School

船灣陳屋
SHUEN WAN CHAN UK

沙欄小築
Sha Lan Villas

沙欄
SHA LAN

黃魚潭
WONG YUE TAN

TING KOK ROAD

LEGEND:

Application Site

Bus Stops

GMB Stops

0 20 40 60 80

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Existing Public Transport Inventory

Date	Scale
22/06/2022	1:2000

OZZO TECHNOLOGY

Dwg No.	Rev.
Figure 3-1	A

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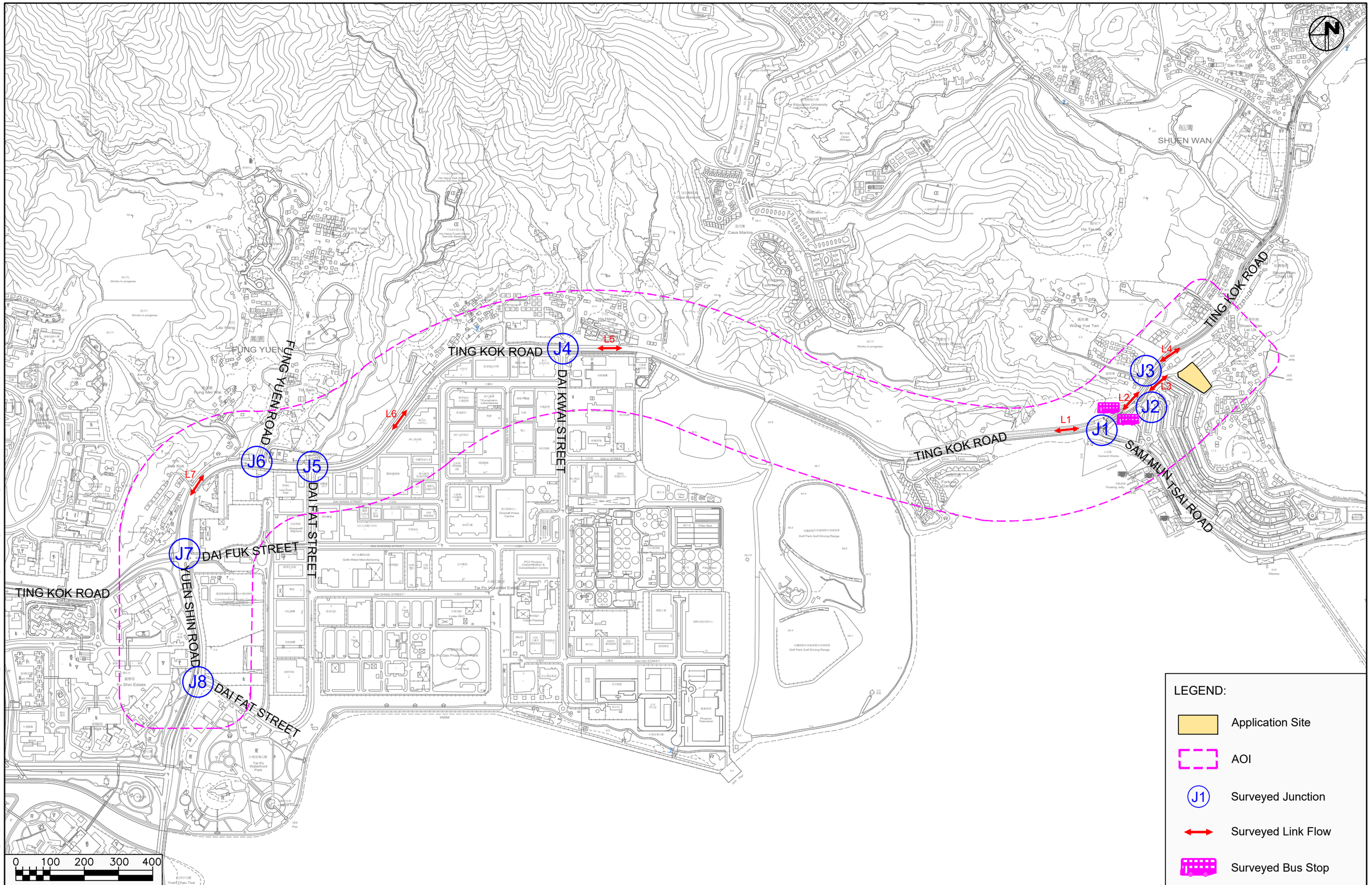

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Locations and Types of Surveys

Date	Scale	Dwg No.	Rev.
24/06/2022	1:10000	Figure 3-2	A

OZZO TECHNOLOGY

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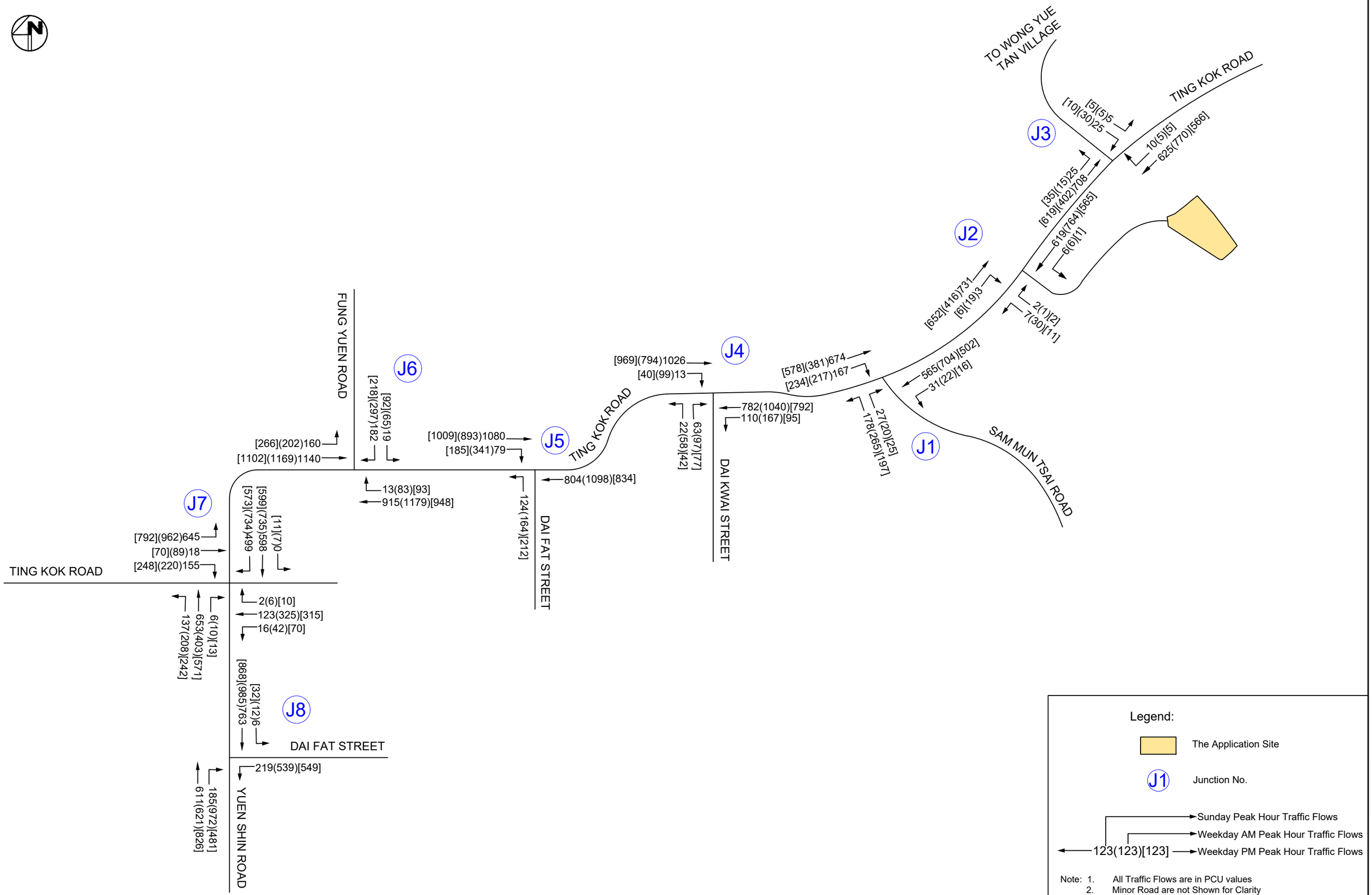

Legend:

The Application Site

J1 Junction No.

Sunday Peak Hour Traffic Flows

Weekday AM Peak Hour Traffic Flows

123(123)[123] Weekday PM Peak Hour Traffic Flows

Note: 1. All Traffic Flows are in PCU values
2. Minor Road are not Shown for Clarity

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2022 Observed Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
30/06/2022	N.T.S	Figure 3-3	A

OZZO TECHNOLOGY

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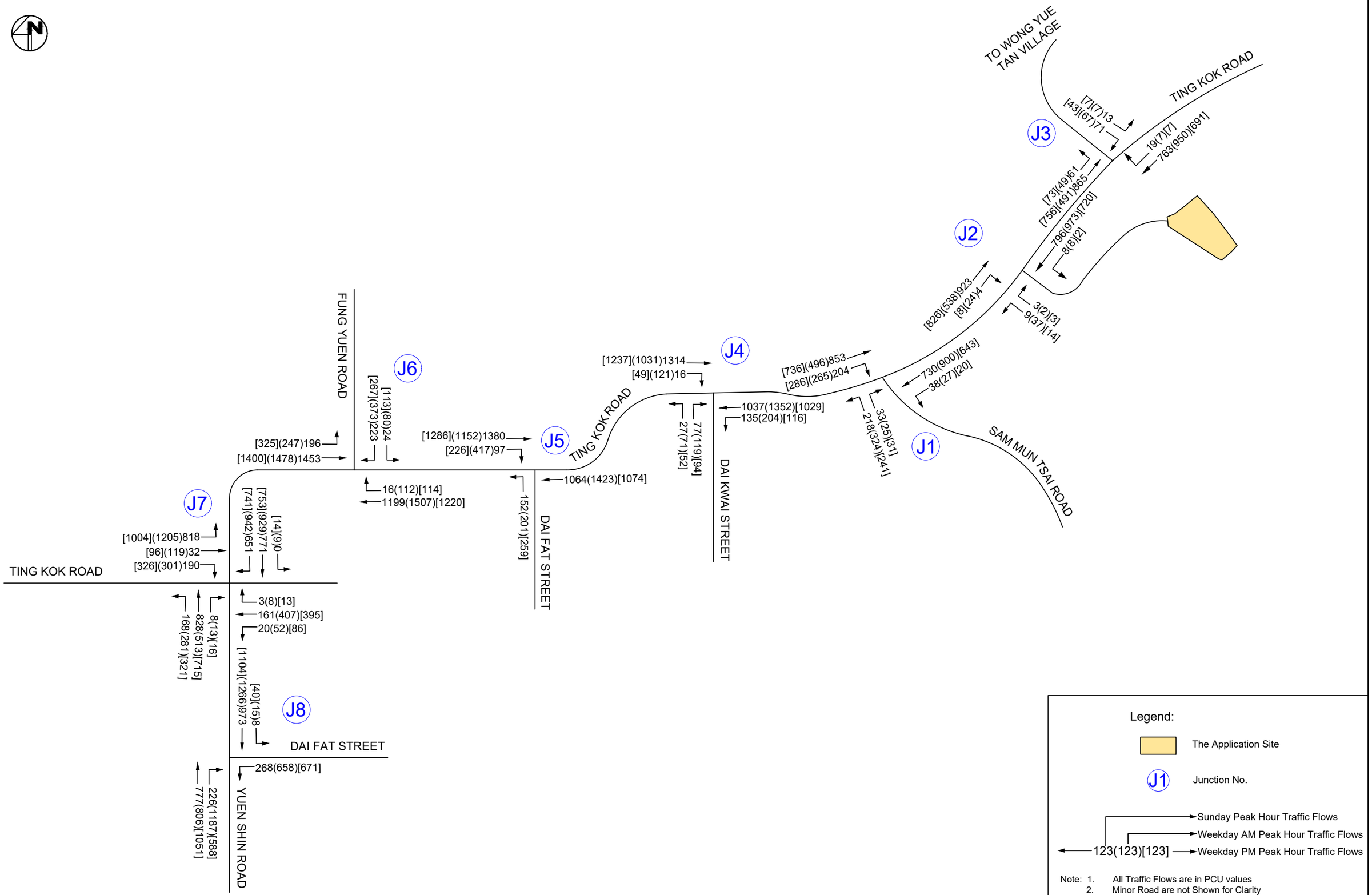

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2027 Reference Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
05/08/2022	N.T.S	Figure 4-1	B

OZZO TECHNOLOGY

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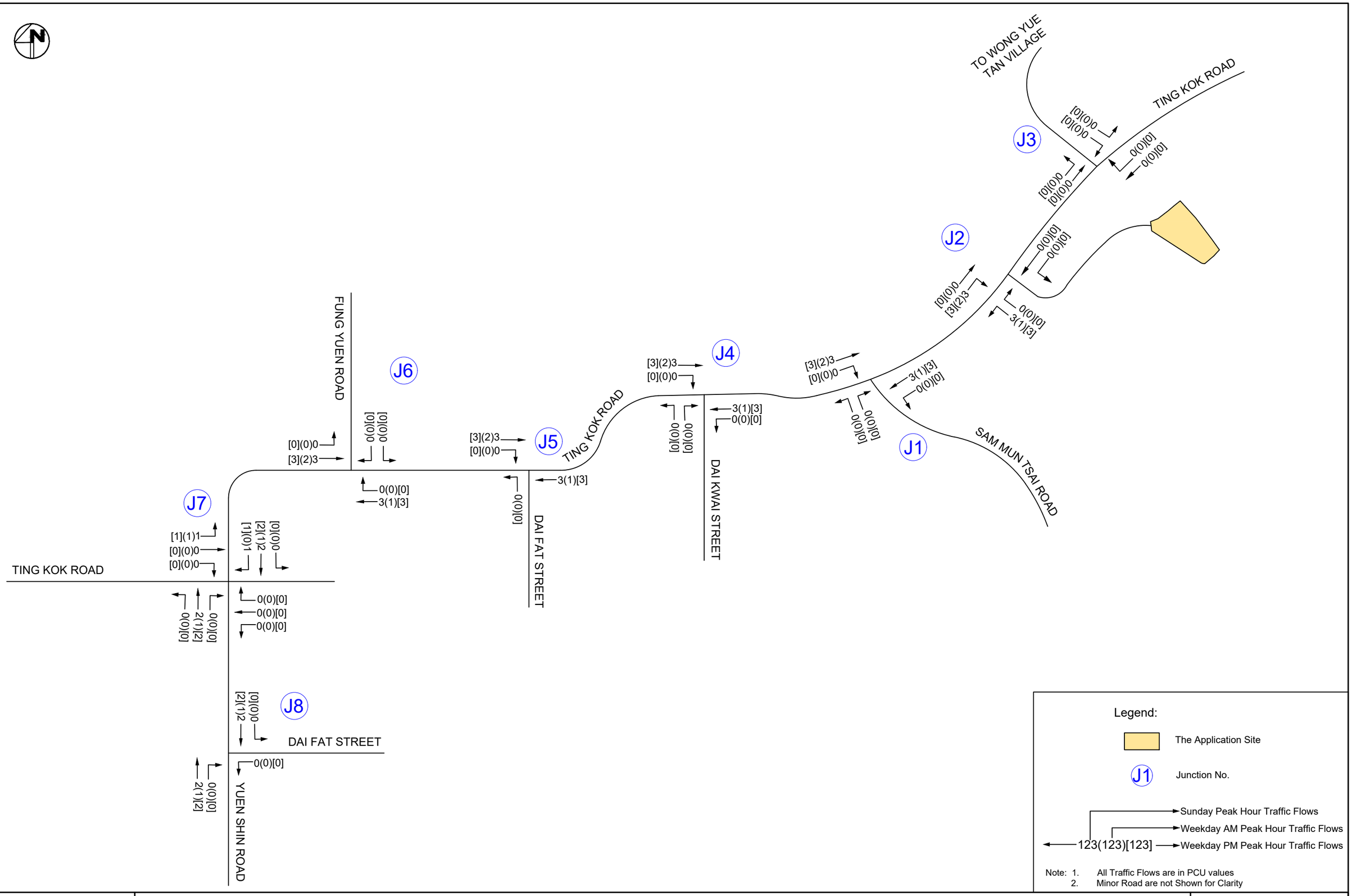


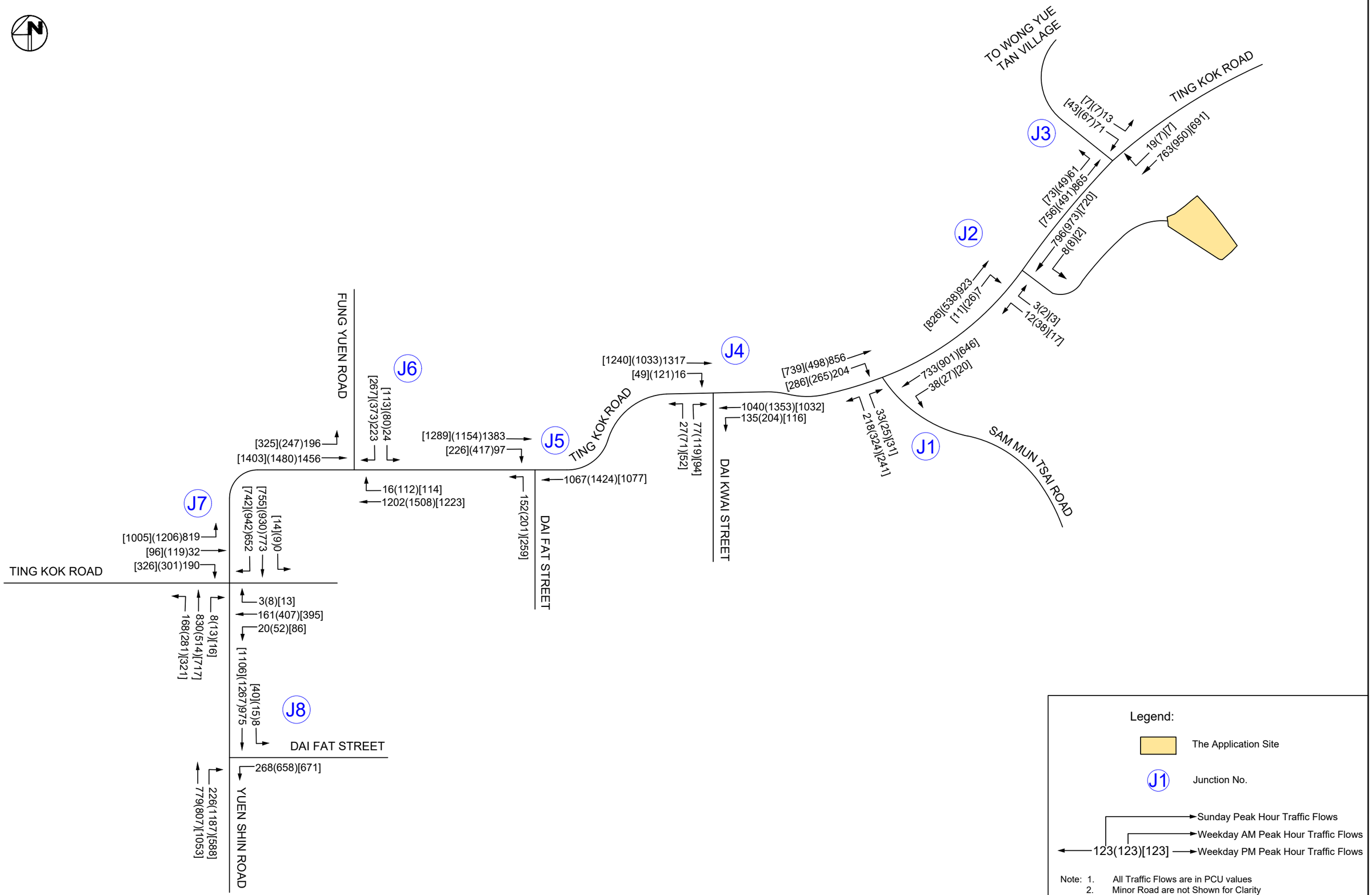
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Peak Hour Development Traffic Flows

Date	Scale	Dwg No.	Rev.
28/06/2022	N.T.S	Figure 4-2	A

OZZO TECHNOLOGY

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 4-2A.dwg 2022/06/28 17:44:50



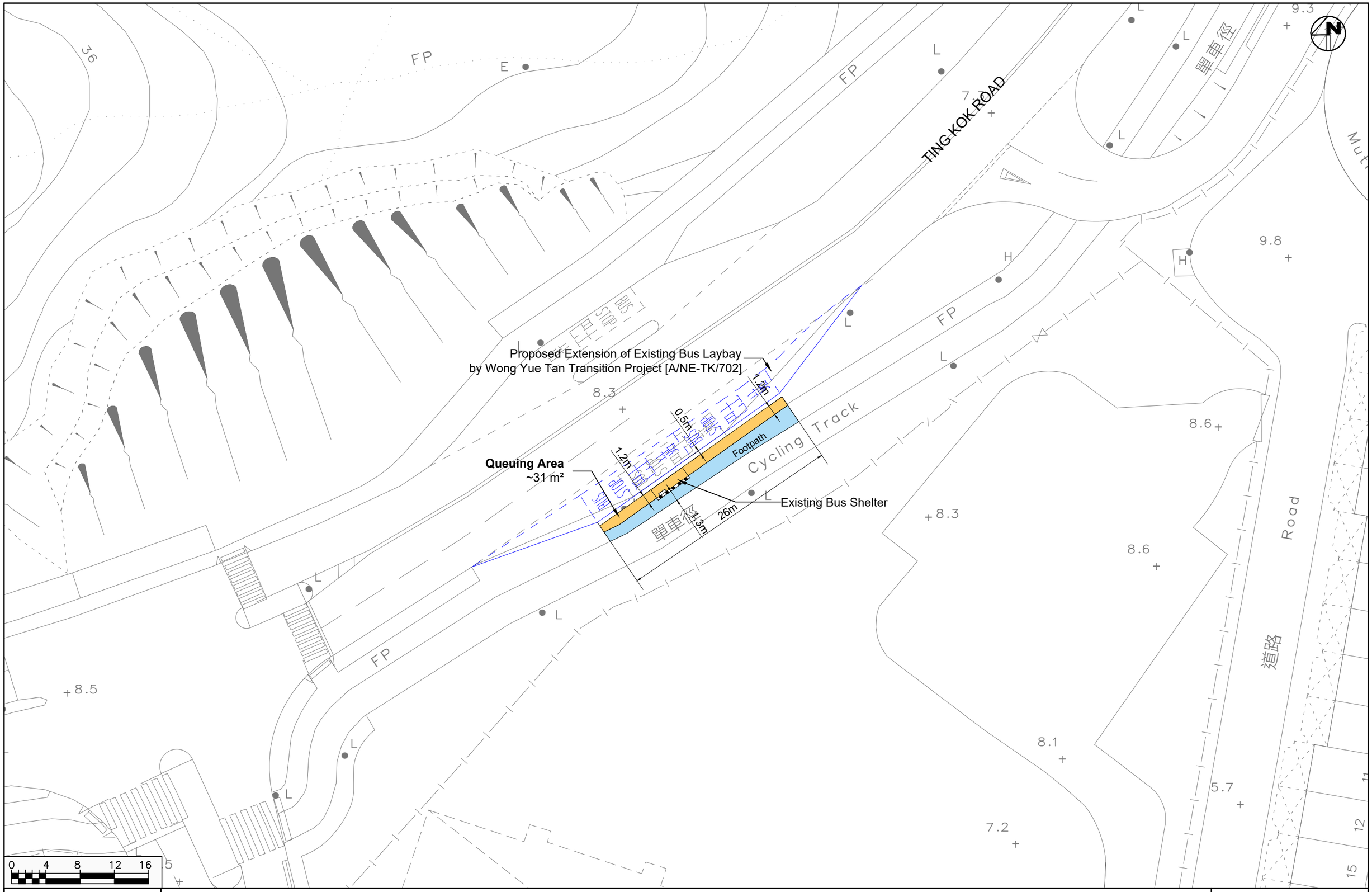
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

2027 Design Peak Hour Traffic Flows

Date	Scale	Dwg No.	Rev.
05/08/2022	N.T.S	Figure 4-3	B

OZZO TECHNOLOGY

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 4-3B.dwg 2022/08/05 15:55:53



Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Maximum Passenger Queueing Area at Ting Kok Road near Sam Mun Tsai Westbound Bus-stop

Date	Scale	Dwg No.	Rev.
05/08/2022	1:400	Figure 4-4	A

OZZO TECHNOLOGY

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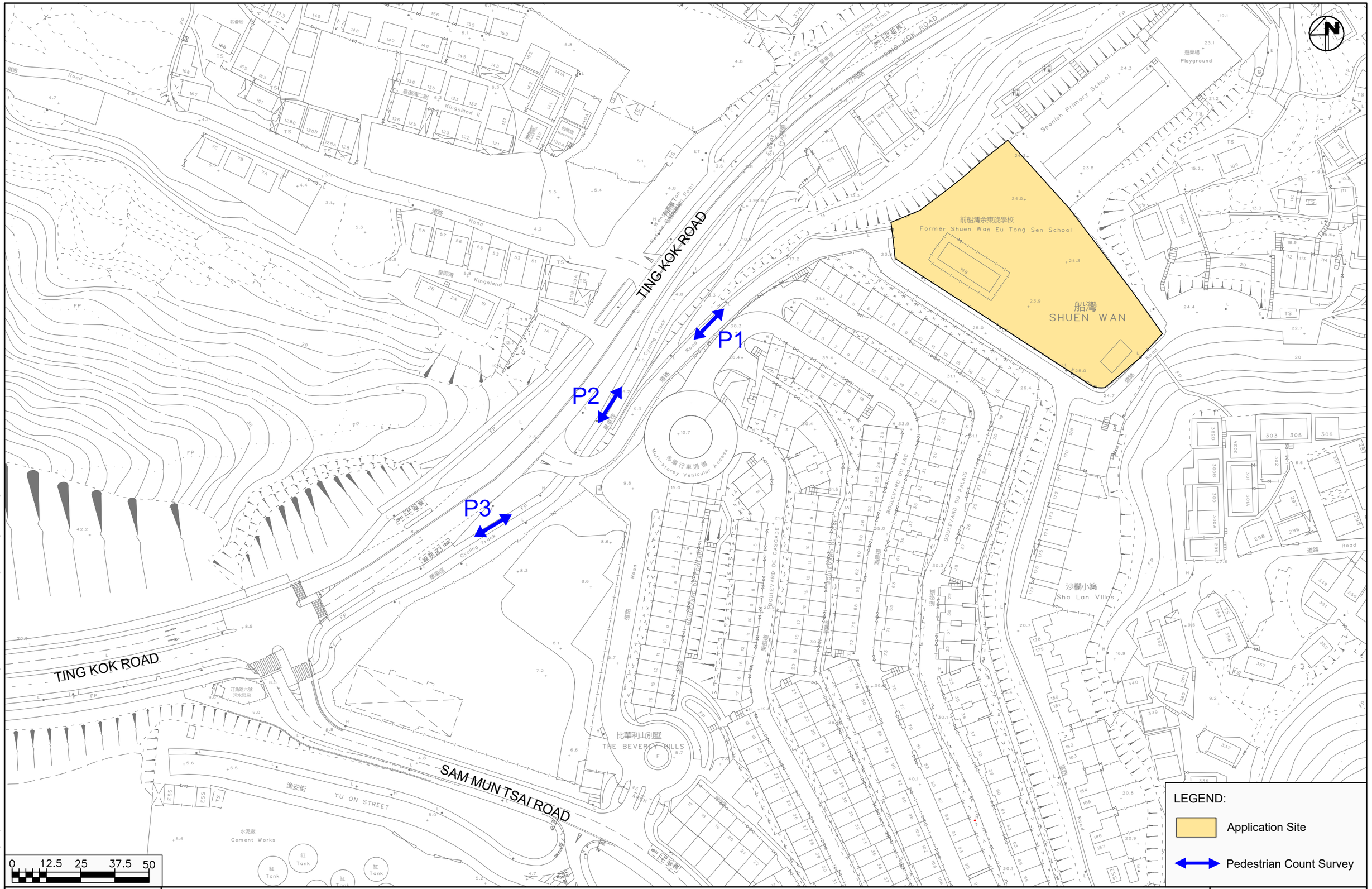


X:\IO:zzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 5-1.dwg 2022/06/28 18:30:09

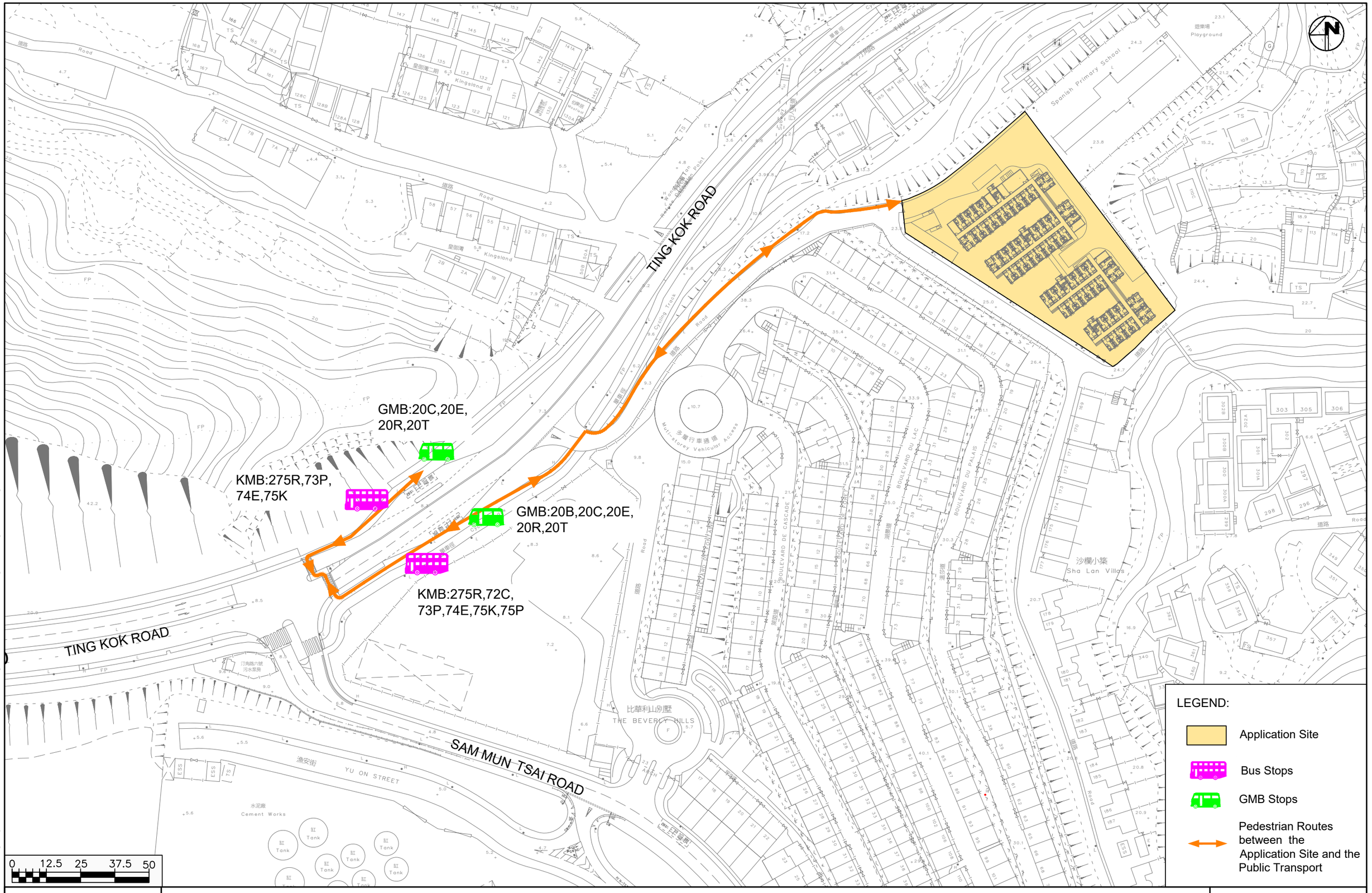
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Survey Locations for Key Pedestrian Links

Date	Scale
10/05/2022	1:1250

OZZO TECHNOLOGY

Dwg No.	Rev.
Figure 5-1	-



Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

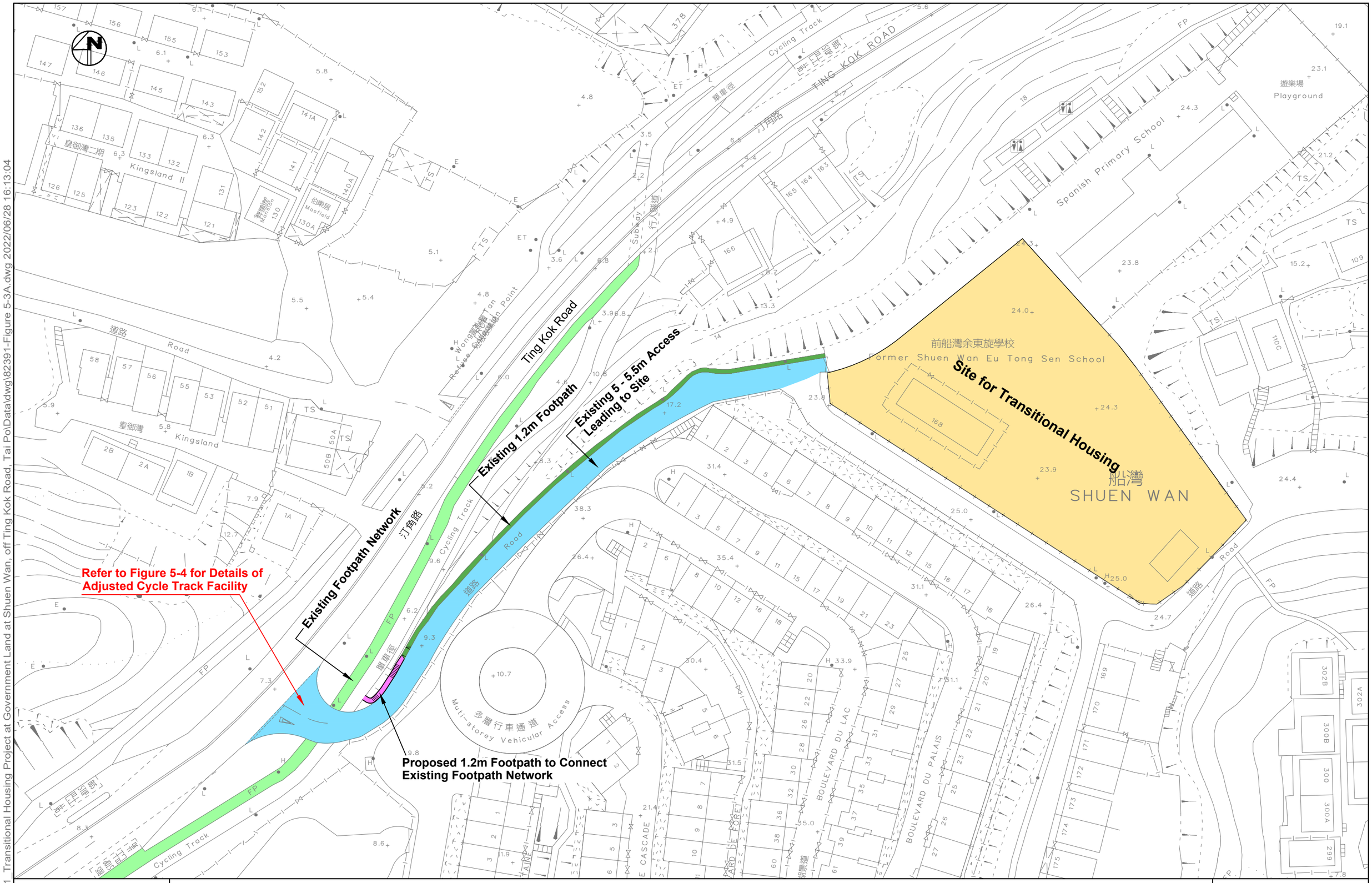
Major Desire Pedestrian Routes

Date	Scale
28/06/2022	1:1250

OZZO TECHNOLOGY

Dwg No.	Rev.
Figure 5-2	A

X:\O:zzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Figure 5-2A.dwg 2022/06/28 18:28:46



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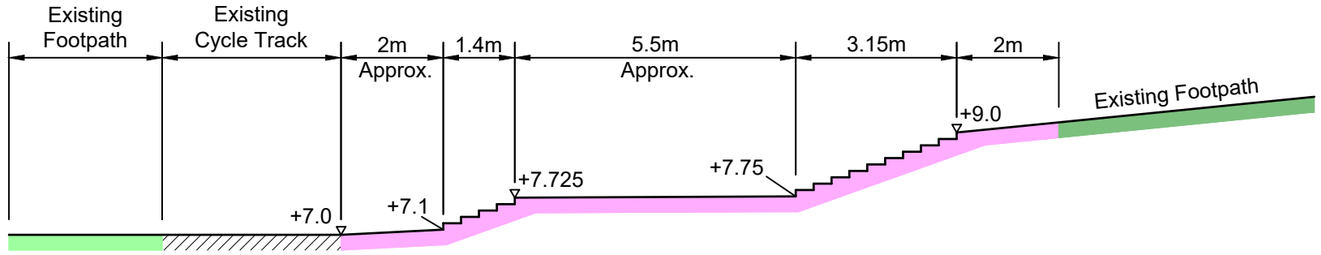
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Proposed Footpath Connection

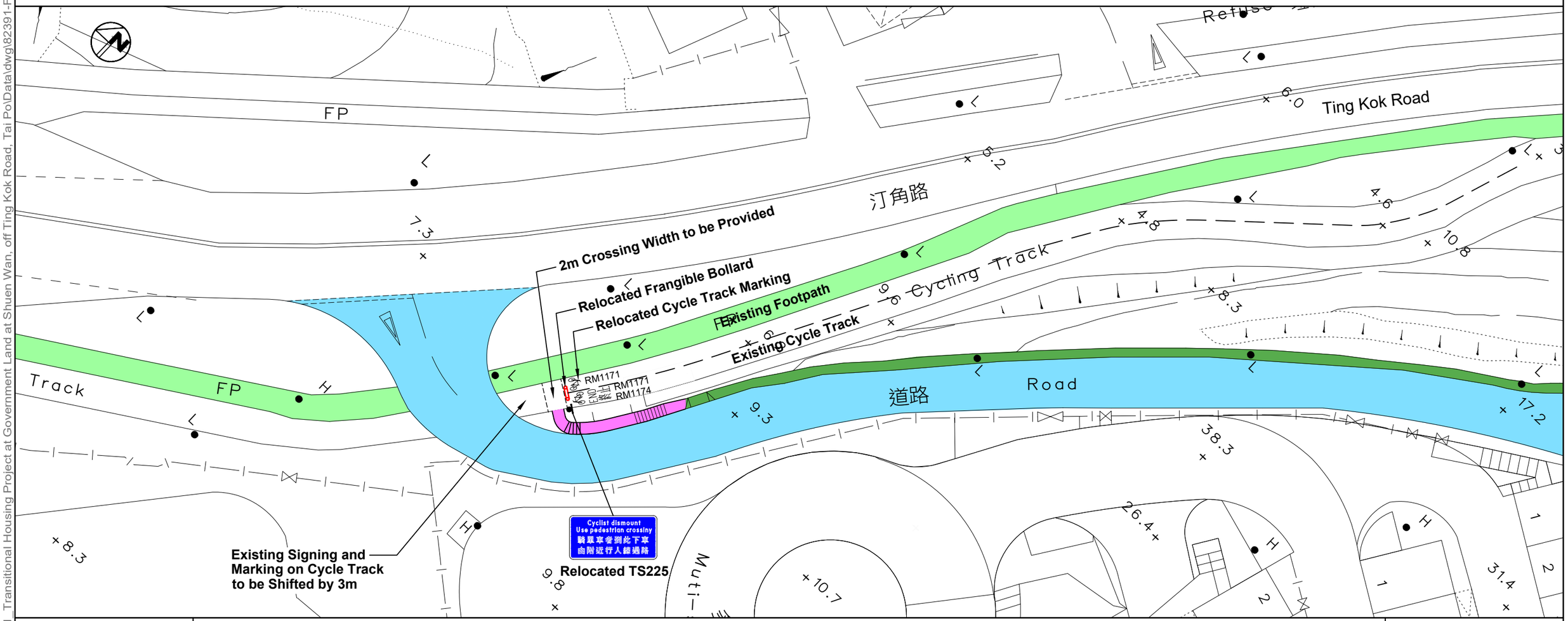
OZZO TECHNOLOGY

Date	Scale	Drawing No.	Rev.
28/06/2022	1:800	Figure 5-3	A



Typical Section of Proposed New Footpath

Scale 1:150



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Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

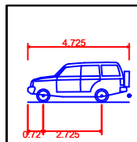
Details of New Footpath and Adjusted Signing and Marking on Cycle Track

OZZO TECHNOLOGY

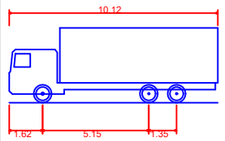
Date	Scale	Drawing No.	Rev.
28/06/2022	1:400	Figure 5-4	-

Appendix A

Swept Path Assessment Results



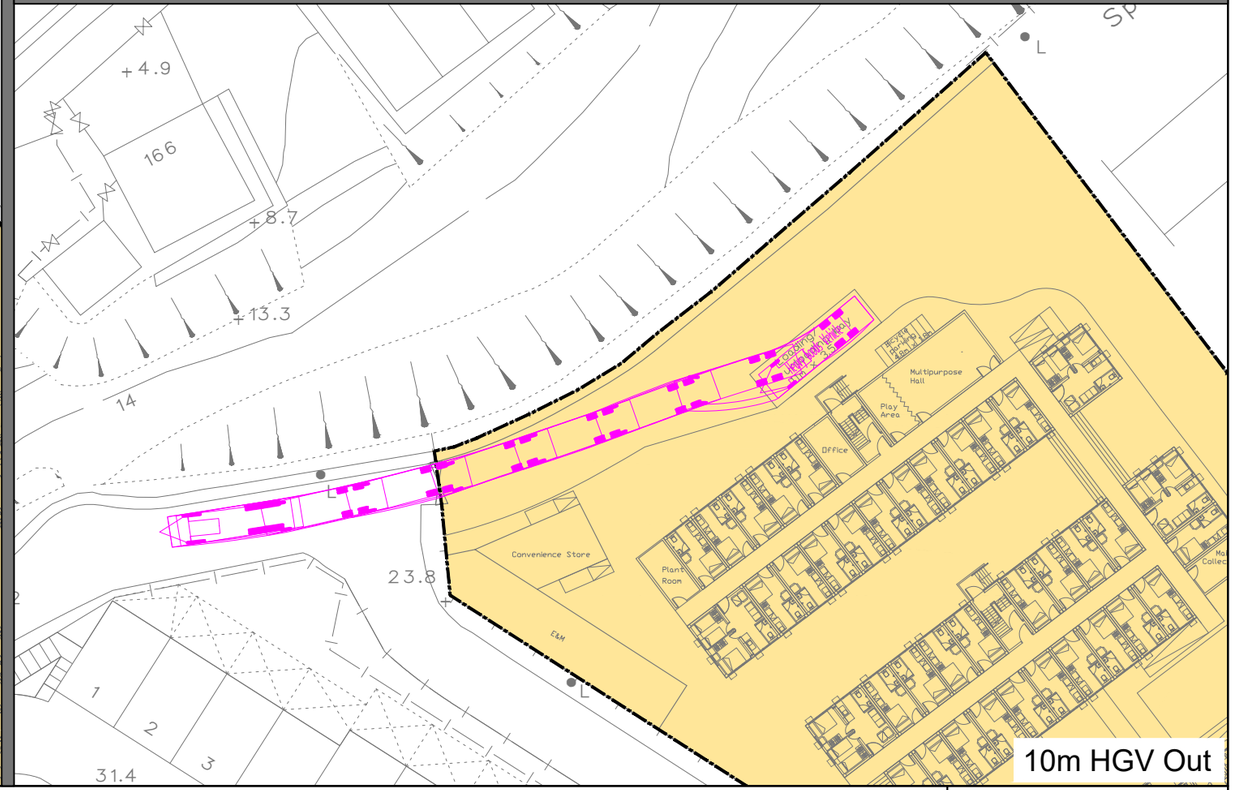
Private Car	
Overall Length	4.725m
Overall Width	1.785m
Overall Body Height	1.860m
Min Body Ground Clearance	0.254m
Max Track Width	1.745m
Lock to Lock Time	2.00 sec
Kerb to Kerb Turning Radius	6.400m



Heavy Goods Vehicle	
Overall Length	10.120m
Overall Width	2.500m
Overall Body Height	3.623m
Min Body Ground Clearance	0.419m
Track Width	2.450m
Lock to Lock Time	4.00 sec
Wall to Wall Turning Radius	10.000m

PV In & Out

10m HGV In



10m HGV Out

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Appendix A-1.dwg 2022/06/28 18:15:59

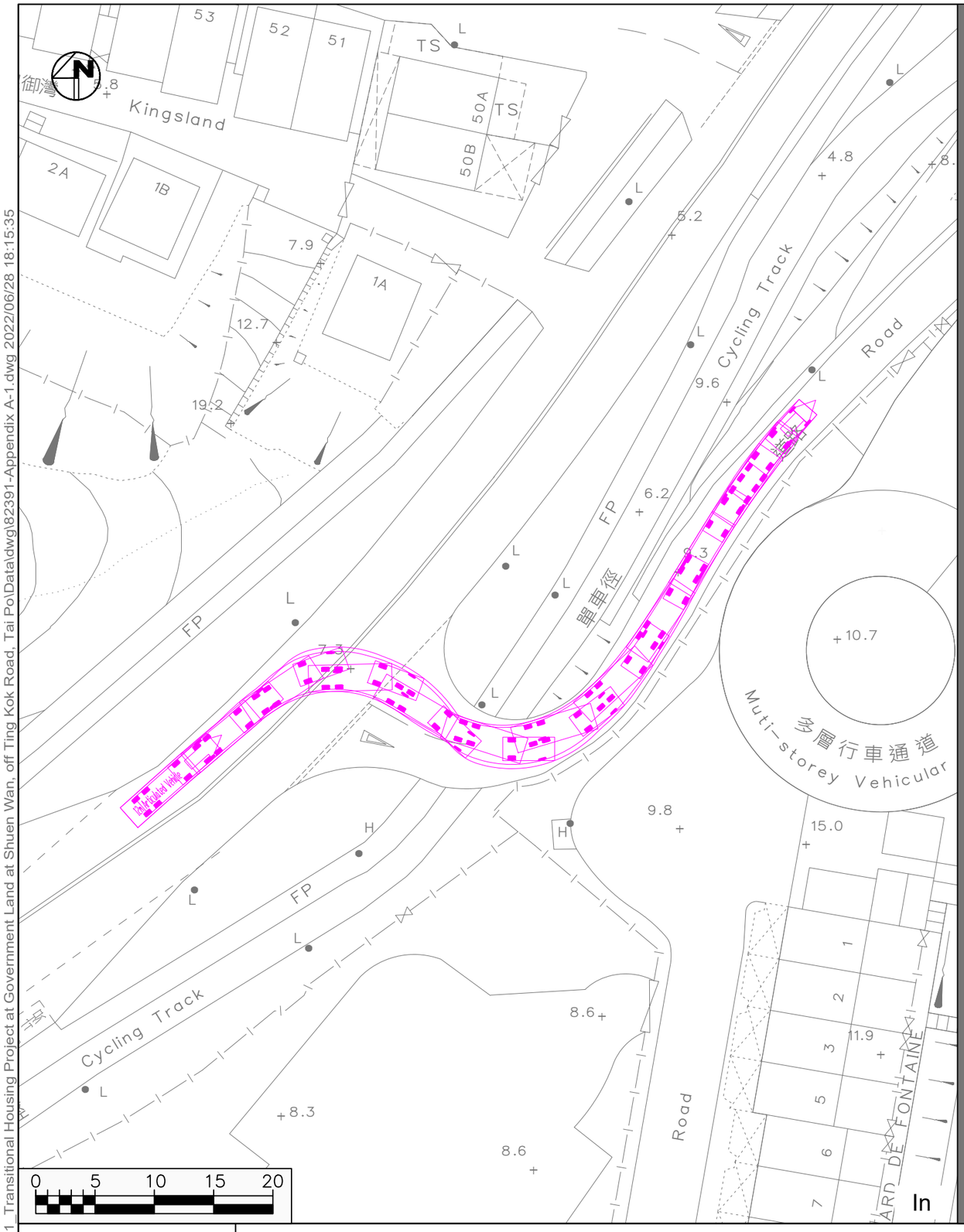
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

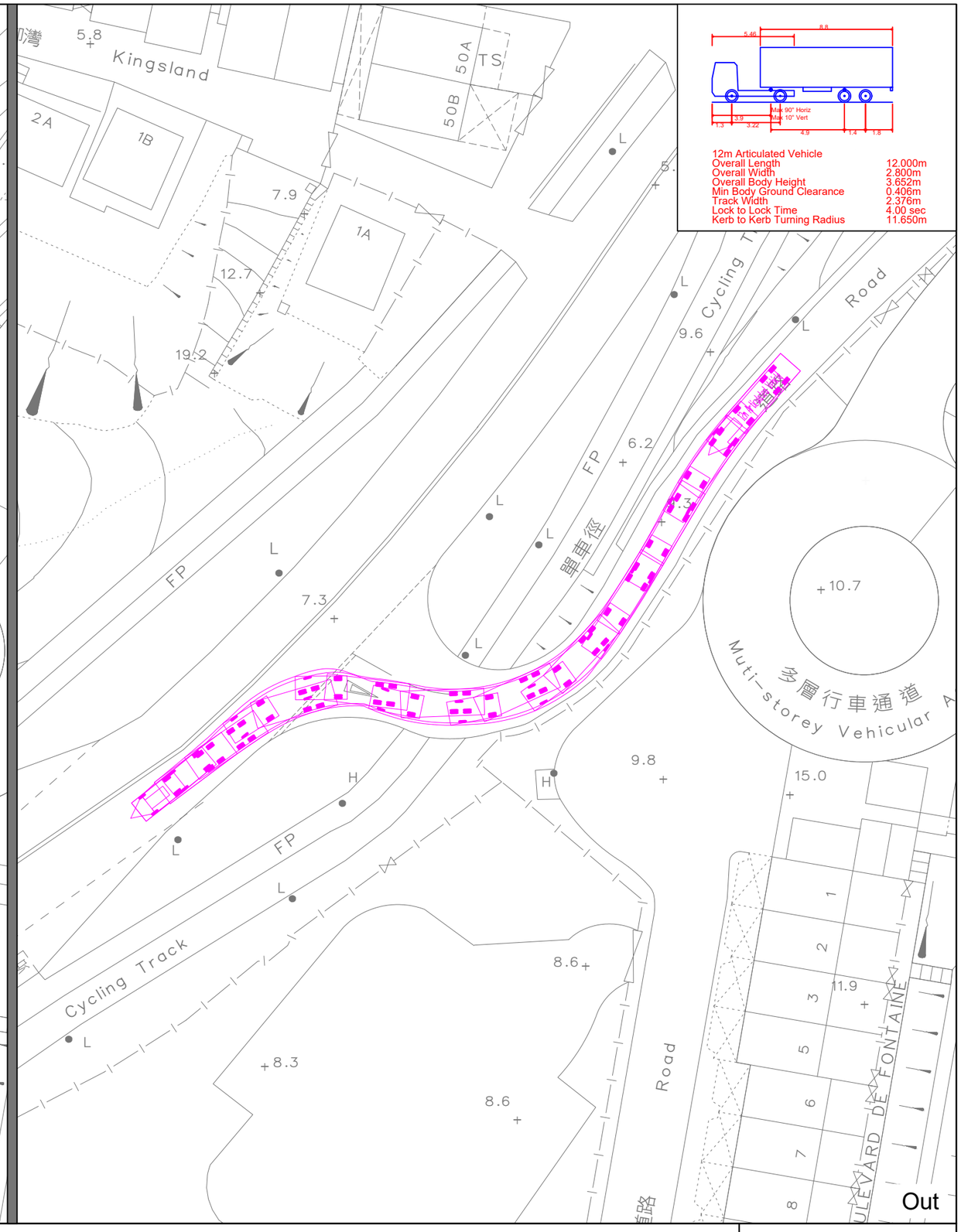
Private Car & Heavy Goods Vehicle Swept Path Assessment

Date	Scale
28/06/2022	1:500

OZZO TECHNOLOGY

Drawing No.	Rev.
Appendix A-1	A





12m Articulated Vehicle

Overall Length	12.000m
Overall Width	2.800m
Overall Body Height	3.652m
Min Body Ground Clearance	0.408m
Track Width	2.376m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	11.650m

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

12m Articulated Vehicle Swept Path for MiC Delivery Assessment

Date	Scale	Drawing No.	Rev.
27/06/2022	1:500	Appendix A-2	A

OZZO TECHNOLOGY

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-Appendix A-1.dwg 2022/06/28 18:15:35

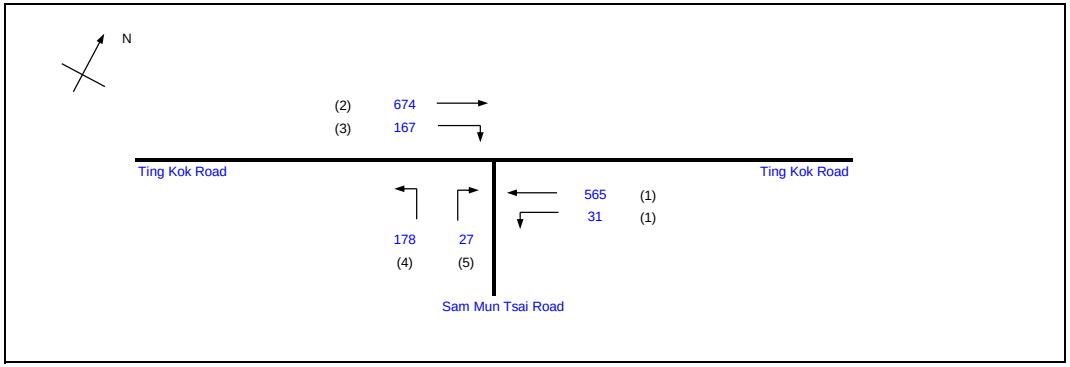
Appendix B

2022 Junction Calculation Sheets

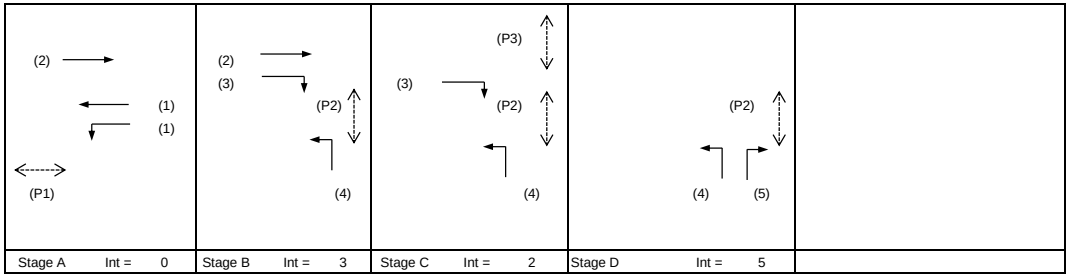
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.361	
Loss time		L =	18	sec
Total Flow		=	1642	pcu
Co	= (1.5*L+5)/(1-Y)	=	50.1	sec
Cm	= L/(1-Y)	=	28.2	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	111.7	%
Cp	= 0.9*L/(0.9-Y)	=	30.1	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	96.4	%



Stage A Int = 0 | Stage B Int = 3 | Stage C Int = 2 | Stage D Int = 5

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

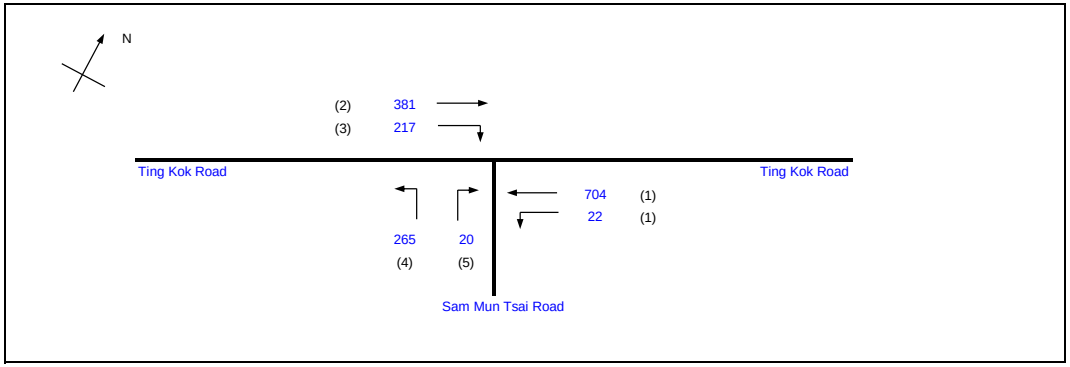
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	31	256		287	0.11	1905			1905	0.151			28	31	0.413	24	20
SA	A	3.00	1	1				2055		309		309	0.00	2055			2055	0.151			28	31	0.413	24	20
SA	A,B	3.30	2	1			N	1945		674		674	0.00	1945			1945	0.347	0.347		64	56	0.526	30	8
RT	B,C	3.50	3	1	10			2105			167	167	1.00	1830			1830	0.091			17	29	0.267	12	19
LT	B,C,D	3.30	4	1	10		N	1945	178			178	1.00	1691			1691	0.105			20	44	0.203	12	10
RT	D	3.50	5	1	10			2105			27	27	1.00	1830			1830	0.015	0.015		3	11	0.114	0	30
Ped	C																			10					

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

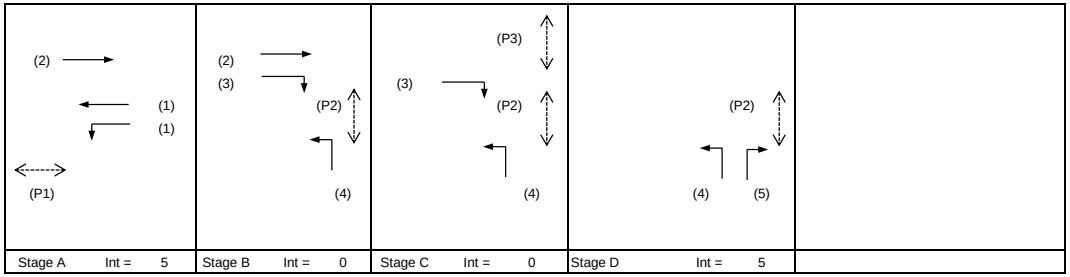
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.340	
Loss time		L =	8	sec
Total Flow		=	1609	pcu
Co	= (1.5*L+5)/(1-Y)	=	25.8	sec
Cm	= L/(1-Y)	=	12.1	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	147.2	%
Cp	= 0.9*L/(0.9-Y)	=	12.9	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	140.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

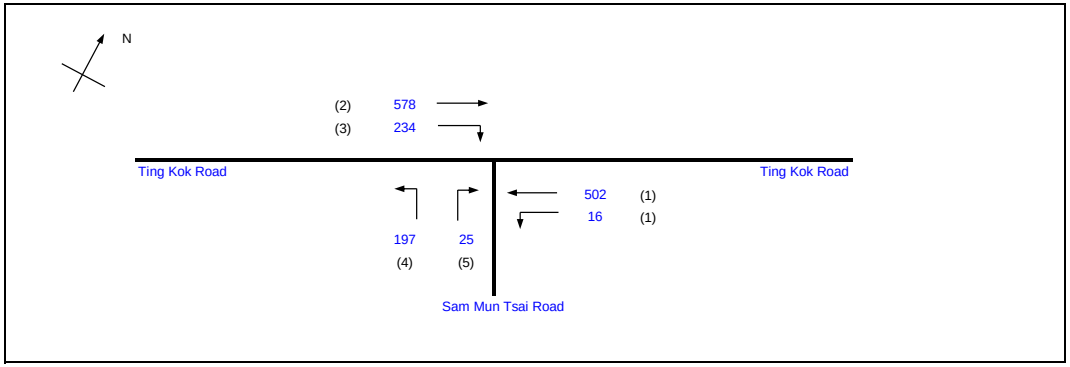
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	22	328		350	0.06	1909			1909	0.183	0.183		43	41	0.393	24	15
SA	A	3.00	1	1				2055		376		376	0.00	2055			2055	0.183			43	41	0.393	24	15
SA	A,B	3.30	2	1			N	1945		381		381	0.00	1945			1945	0.196			46	58	0.297	18	6
RT	B,C	3.50	3	1	10			2105			217	217	1.00	1830			1830	0.119			28	23	0.454	18	27
LT	B,C,D	3.30	4	1	10		N	1945	265			265	1.00	1691			1691	0.157	0.157		37	39	0.354	18	16
RT	D	3.50	5	1	10			2105			20	20	1.00	1830			1830	0.011			3	10	0.096	0	32

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

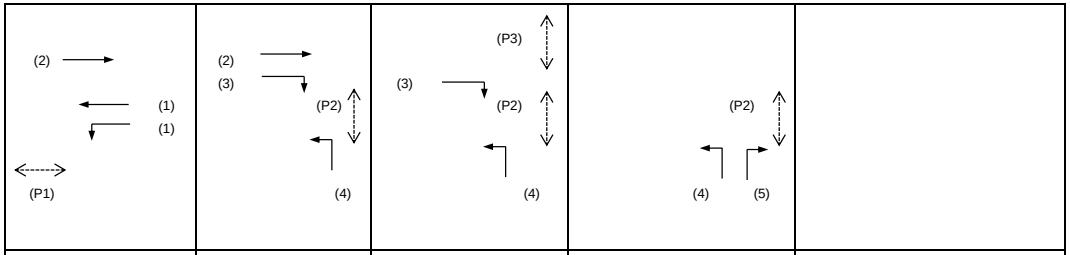
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2022_PM**	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.311	
Loss time		L =	32	sec
Total Flow		=	1552	pcu
Co	= (1.5*L+5)/(1-Y)	=	76.9	sec
Cm	= L/(1-Y)	=	46.4	sec
Yult		=	0.660	
R.C.ult	= (Yult-Y)/Y*100%	=	112.3	%
Cp	= 0.9*L/(0.9-Y)	=	48.9	sec
Ymax	= 1-L/C	=	0.636	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	84.3	%



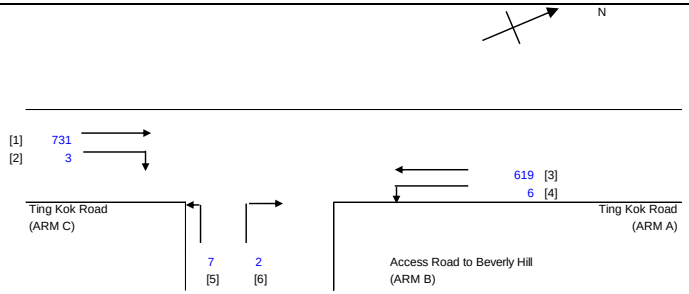
Stage A	Int = 0	Stage B	Int = 3	Stage C	Int = 2	Stage D	Int = 5

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	16	233		249	0.06	1909			1909	0.131			24	37	0.311	18	16
SA	A	3.00	1	1				2055		269		269	0.00	2055			2055	0.131			24	37	0.311	18	16
SA	A,B	3.30	2	1			N	1945		578		578	0.00	1945			1945	0.297	0.297		54	62	0.422	24	6
RT	B,C	3.50	3	1	10			2105			234	234	1.00	1830			1830	0.128			23	29	0.388	18	22
LT	B,C,D	3.30	4	1	10		N	1945	197			197	1.00	1691			1691	0.116			21	45	0.228	12	11
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014	0.014		2	12	0.100	0	31
Ped	C																			24					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	6	(pcu/hr)
q a-c	=	619	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	731	(pcu/hr)
q c-b	=	3	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.777777778

THE CAPACITY OF MOVEMENT :

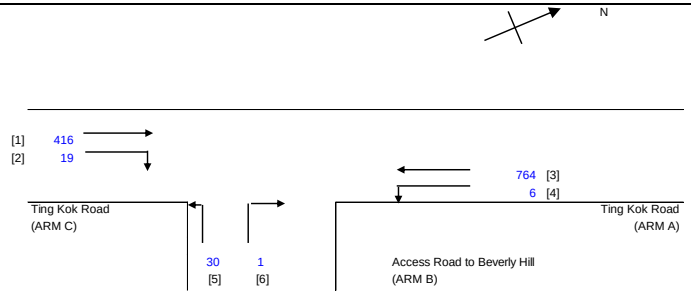
Q b-a	=	343			
Q b-c	=	566	Q b-c (O) =	565.17	
Q c-b	=	708			
Q b-ac	=	494.55			
TOTAL FLOW	=	1368	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0058
DFC b-c	=	0.0124
DFC c-b	=	0.0042
DFC b-ac	=	0.0182

CRITICAL DFC = 0.02

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	6	(pcu/hr)
q a-c	=	764	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	416	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	1	(pcu/hr)
q b-c	=	30	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.967741935

THE CAPACITY OF MOVEMENT :

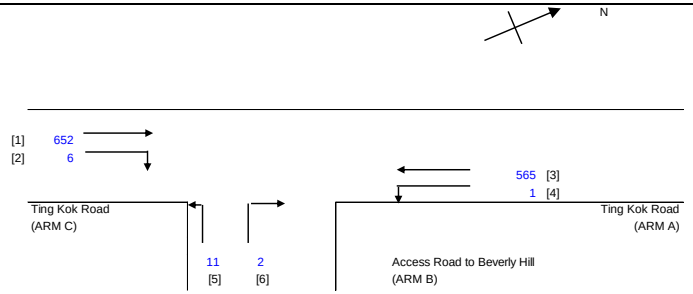
Q b-a	=	350			
Q b-c	=	534	Q b-c (O) =	533.62	
Q c-b	=	668			
Q b-ac	=	525.1			
TOTAL FLOW	=	1236	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0029
DFC b-c	=	0.0562
DFC c-b	=	0.0284
DFC b-ac	=	0.0590

CRITICAL DFC = 0.06

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tong Sen Scho	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	1	(pcu/hr)
q a-c	=	565	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	652	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.61	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	11	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.912897584
E	=	0.940776556
F	=	1.17876256
Y	=	0.6355075
F for (Qb-ac)	=	0.846153846

THE CAPACITY OF MOVEMENT :

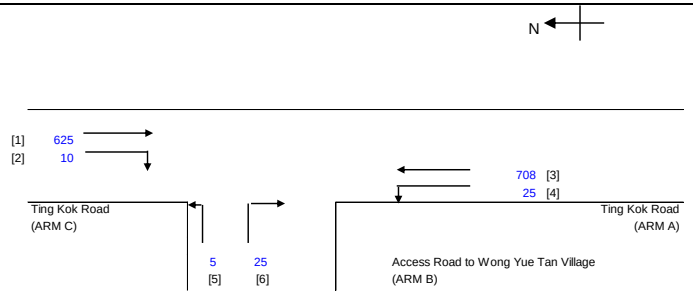
Q b-a	=	365			
Q b-c	=	578	Q b-c (O) =	577.21	
Q c-b	=	724			
Q b-ac	=	530.38			
TOTAL FLOW	=	1237	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0055
DFC b-c	=	0.0190
DFC c-b	=	0.0083
DFC b-ac	=	0.0245

CRITICAL DFC = 0.02

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	708	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	625	(pcu/hr)
q c-b	=	10	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	25	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.166666667

THE CAPACITY OF MOVEMENT :

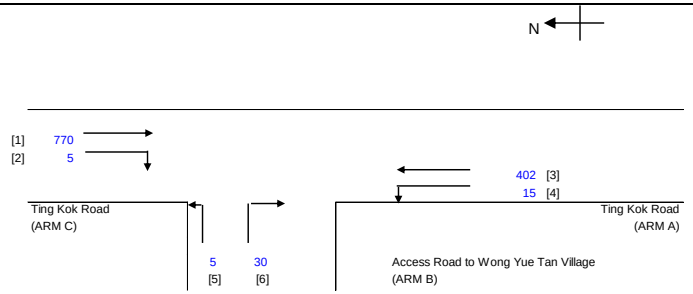
Q b-a	=	267			
Q b-c	=	475	Q b-c (O) =	463.88	
Q c-b	=	509			
Q b-ac	=	288.02			
TOTAL FLOW	=	1398	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0936
DFC b-c	=	0.0105
DFC c-b	=	0.0196
DFC b-ac	=	0.1042

CRITICAL DFC = 0.10

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	402	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	770	(pcu/hr)
q c-b	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.142857143

THE CAPACITY OF MOVEMENT :

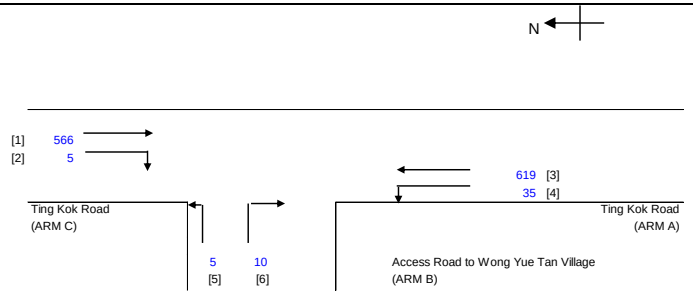
Q b-a	=	320			
Q b-c	=	549	Q b-c (O) =	536.13	
Q c-b	=	591			
Q b-ac	=	340.28			
TOTAL FLOW	=	1227	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0938
DFC b-c	=	0.0091
DFC c-b	=	0.0085
DFC b-ac	=	0.1029

CRITICAL DFC = 0.10

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2022_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	35	(pcu/hr)
q a-c	=	619	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	566	(pcu/hr)
q c-b	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	10	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.845429171
E	=	0.868674912
F	=	0.93881396
Y	=	0.7585
F for (Qb-ac)	=	0.333333333

THE CAPACITY OF MOVEMENT :

Q b-a	=	298			
Q b-c	=	495	Q b-c (O) =	490.85	
Q c-b	=	530			
Q b-ac	=	343.58			
TOTAL FLOW	=	1240	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

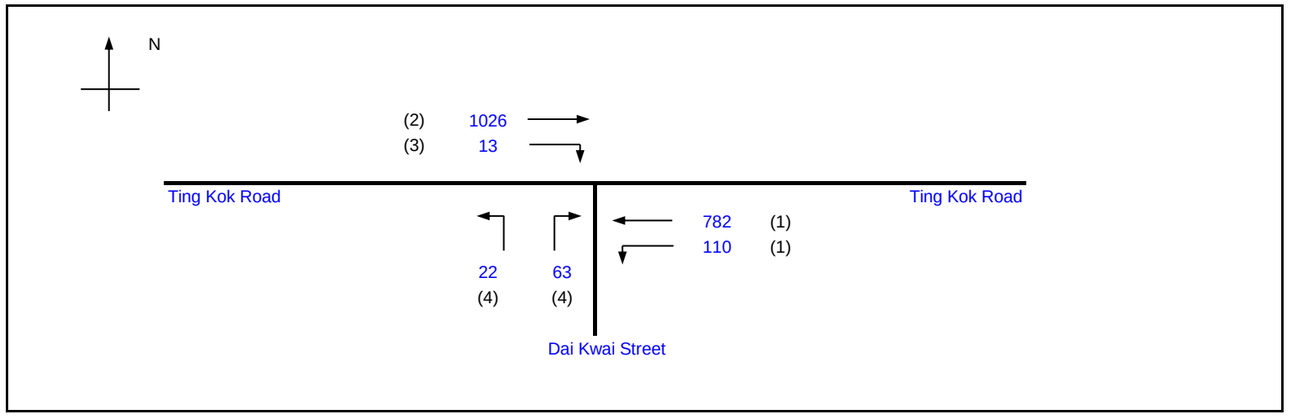
DFC b-a	=	0.0336
DFC b-c	=	0.0101
DFC c-b	=	0.0094
DFC b-ac	=	0.0437

CRITICAL DFC = 0.04

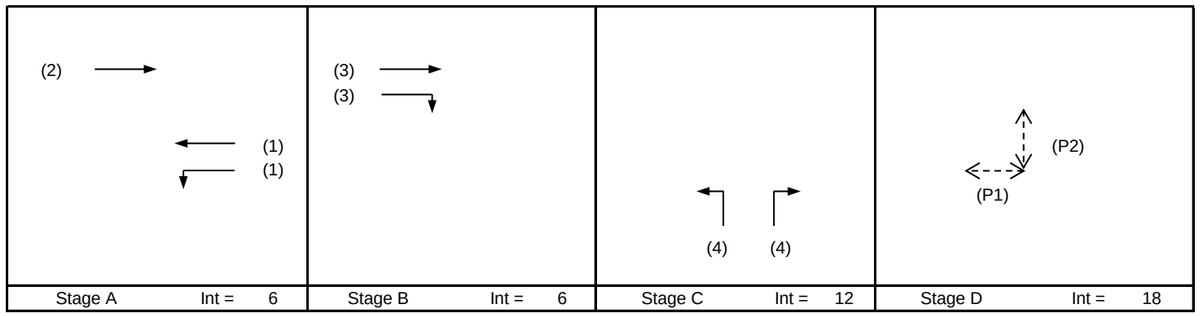
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2022_SUN**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.403	
Loss time		L =	39	sec
Total Flow		=	2016	pcu
Co	= (1.5*L+5)/(1-Y)	=	106.5	sec
Cm	= L/(1-Y)	=	65.4	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	50.6	%
Cp	= 0.9*L/(0.9-Y)	=	70.7	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	50.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

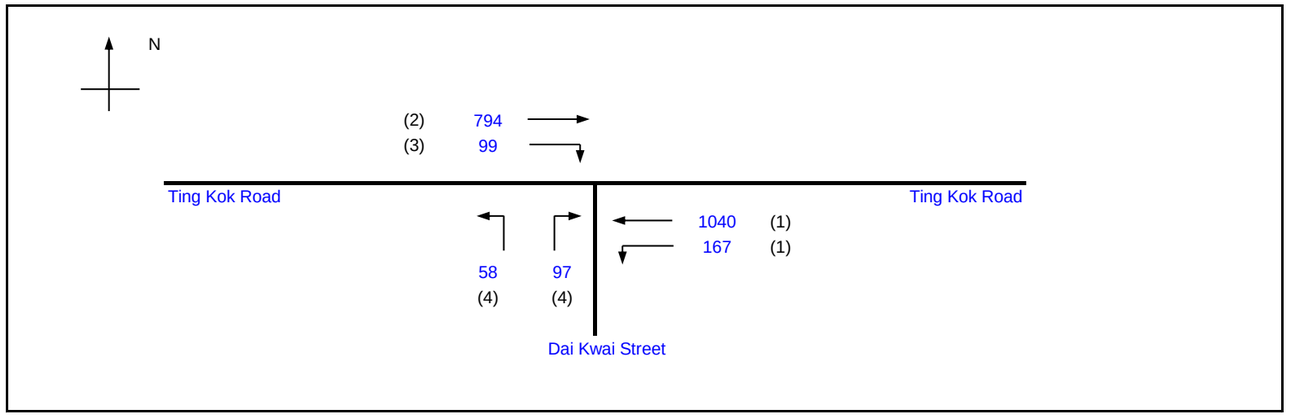
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		429		429	0.00	1953			1953	0.220			44	58	0.598	54	31
LT,SA	A	3.65	1	1	15		N	1980	110	315		425	0.26	1930			1930	0.220	0.220		44	58	0.598	48	31
SA	A	3.65	1	1				2120		467		467	0.00	2120			2120	0.220			44	58	0.598	54	31
SA	B	3.38	3	1			N	1953		295		295	0.00	1953			1953	0.151	0.151		30	13	0.598	42	40
SA,RT	B	3.38	3	1	20			2093		302	13	315	0.04	2086			2086	0.151			30	13	0.598	42	40
LT	C	3.50	4	1	15		N	1965	22			22	1.00	1786			1786	0.012			2	15	0.598	6	118
LT,RT	C	3.50	4	1	20			2105	0		63	63	1.00	1958			1958	0.032	0.032		6	15	0.598	12	73

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

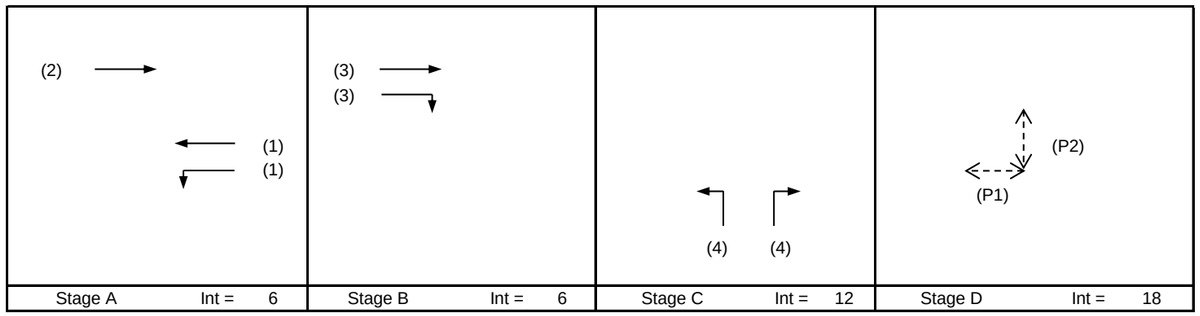
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2022_AM**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.427	
Loss time		L =	39	sec
Total Flow		=	2255	pcu
Co	= (1.5*L+5)/(1-Y)	=	110.7	sec
Cm	= L/(1-Y)	=	68.0	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	42.4	%
Cp	= 0.9*L/(0.9-Y)	=	74.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	42.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

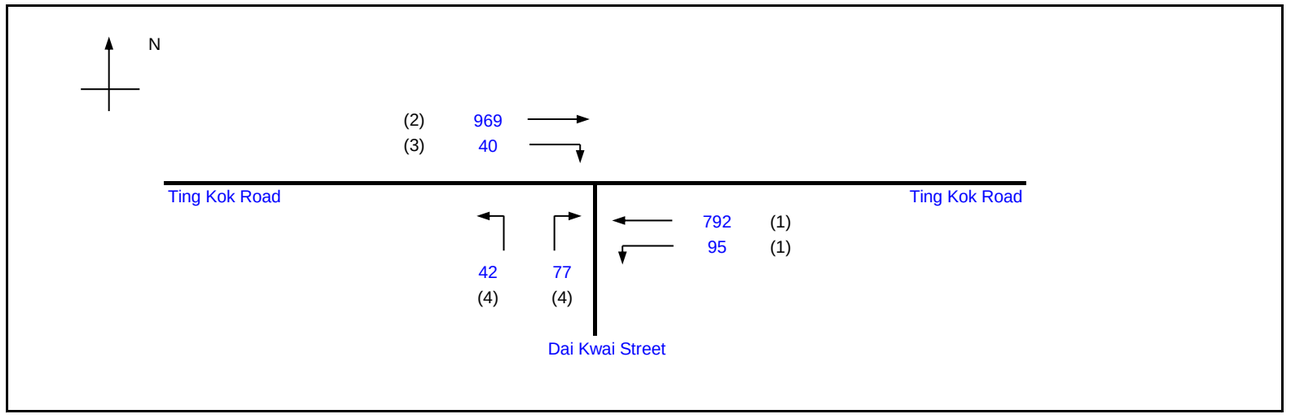
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		583		583	0.00	1953			1953	0.298			57	58	0.618	60	23
LT,SA	A	3.65	1	1	15		N	1980	167	407		574	0.29	1924			1924	0.298	0.298		57	58	0.618	54	23
SA	A	3.65	1	1				2120		633		633	0.00	2120			2120	0.298			57	58	0.618	60	23
SA	B	3.38	3	1			N	1953		153		153	0.00	1953			1953	0.079	0.079		15	13	0.725	30	67
SA,RT	B	3.38	3	1	20			2093		58	99	157	0.63	1998			1998	0.079			15	13	0.725	30	66
LT	C	3.50	4	1	15		N	1965	58			58	1.00	1786			1786	0.032			6	15	0.260	6	45
LT,RT	C	3.50	4	1	20			2105	0		97	97	1.00	1958			1958	0.050	0.050		9	15	0.396	12	48

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

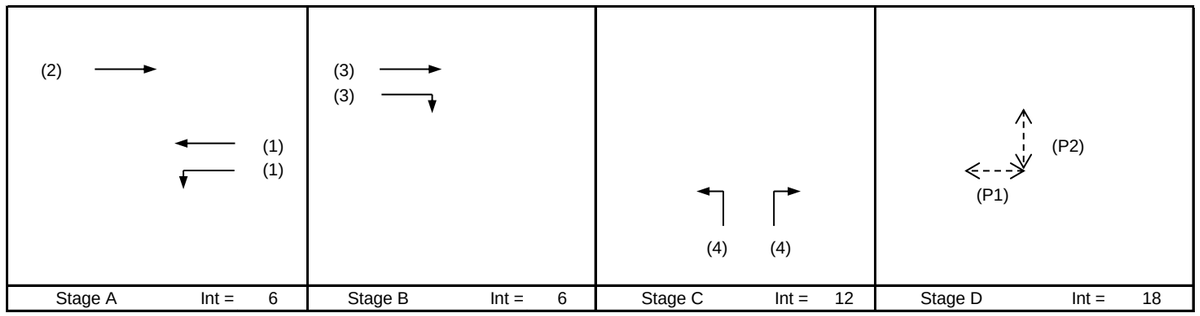
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	FILENAME :		Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM**	J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.390	
Loss time		L =	39	sec
Total Flow		=	1920	pcu
Co	= (1.5*L+5)/(1-Y)	=	104.1	sec
Cm	= L/(1-Y)	=	64.0	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	55.7	%
Cp	= 0.9*L/(0.9-Y)	=	68.9	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

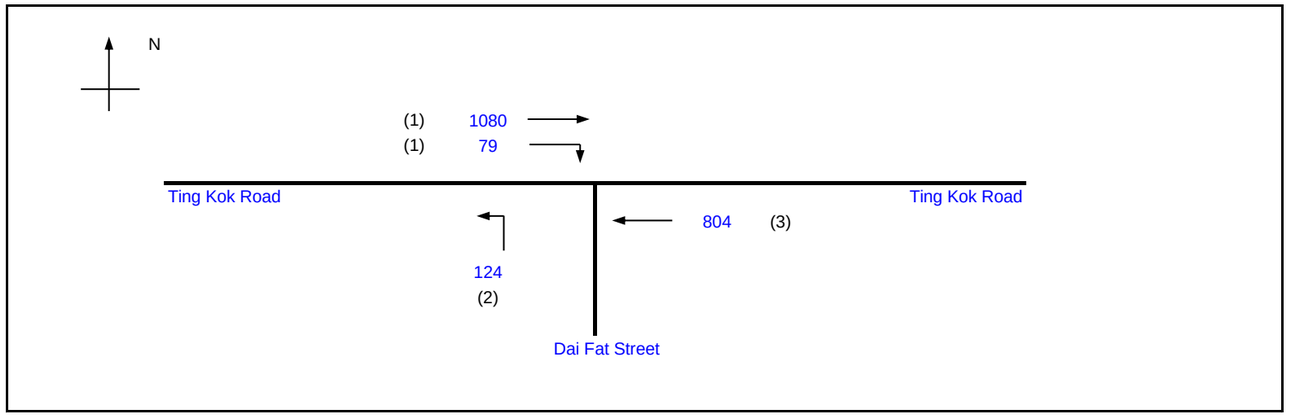
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		374		374	0.00	1953			1953	0.192			40	58	0.578	48	33
LT,SA	A	3.65	1	1	15		N	1980	0	382		382	0.00	1980			1980	0.193	0.193		40	58	0.578	48	33
SA	A	3.65	1	1				2120		410		410	0.00	2120			2120	0.193			40	58	0.578	54	33
SA	B	3.38	3	1			N	1953		308		308	0.00	1953			1953	0.158	0.158		33	13	0.578	42	38
SA,RT	B	3.38	3	1	20			2093		287	40	327	0.12	2073			2073	0.158			33	13	0.578	42	38
LT	C	3.50	4	1	15		N	1965	42			42	1.00	1786			1786	0.024			5	15	0.578	6	81
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		8	15	0.578	12	65

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

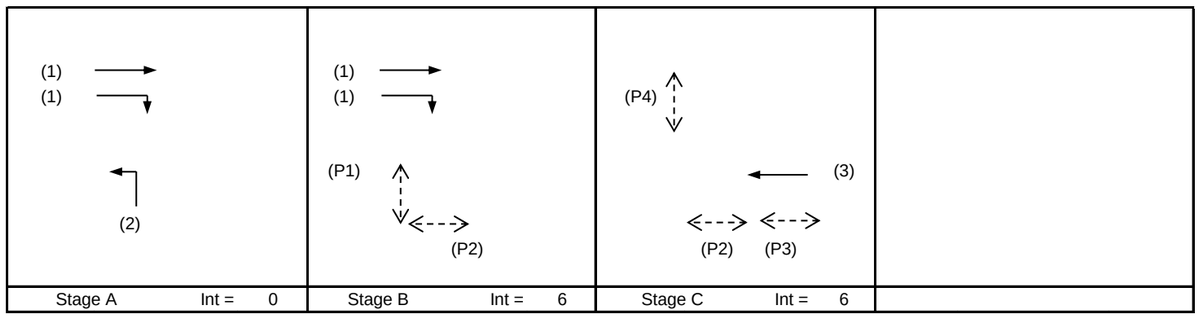
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2022_SUN**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.486	
Loss time		L =	10	sec
Total Flow		=	2087	pcu
Co	= (1.5*L+5)/(1-Y)	=	38.9	sec
Cm	= L/(1-Y)	=	19.4	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	69.9	%
Cp	= 0.9*L/(0.9-Y)	=	21.7	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	66.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

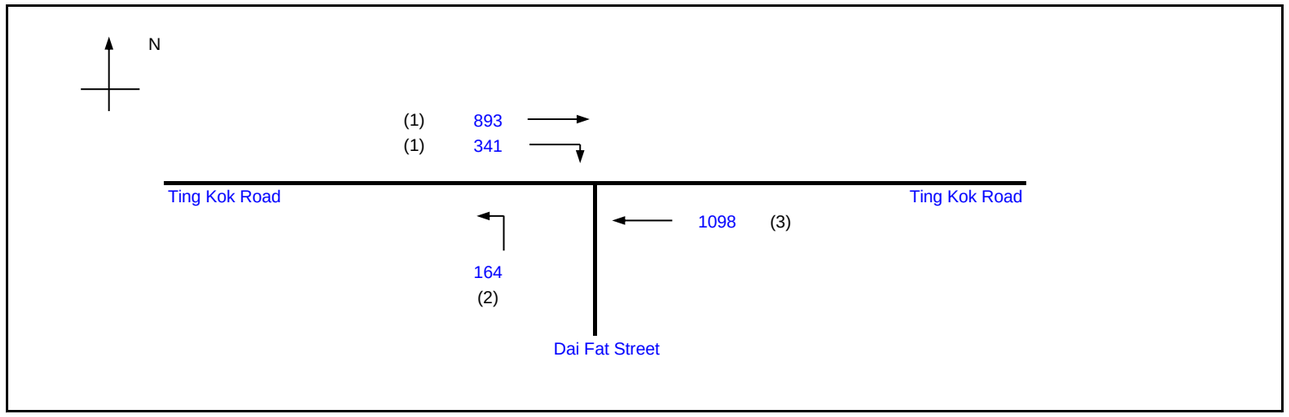
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		563		563	0.00	1945			1945	0.290	0.290		54	50	0.579	42	18
SA, RT	A,B	3.30	1	1	15			2085		517	79	596	0.13	2058			2058	0.290			54	50	0.579	48	18
LT	A	3.65	2	2	20		N	4100	124			124	1.00	3814			3814	0.033			6	20	0.163	6	30
SA	C	3.65	3	2			N	4100		804		804	0.00	4100			4100	0.196	0.196		36	40	0.490	39	21

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

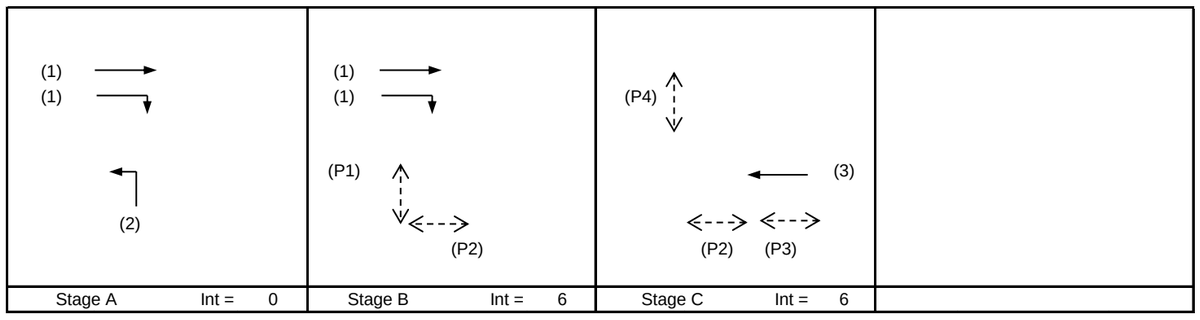
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2022_AM**	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.582	
Loss time		L =	10	sec
Total Flow		=	2496	pcu
Co	= (1.5*L+5)/(1-Y)	=	47.9	sec
Cm	= L/(1-Y)	=	24.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	41.6	%
Cp	= 0.9*L/(0.9-Y)	=	28.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

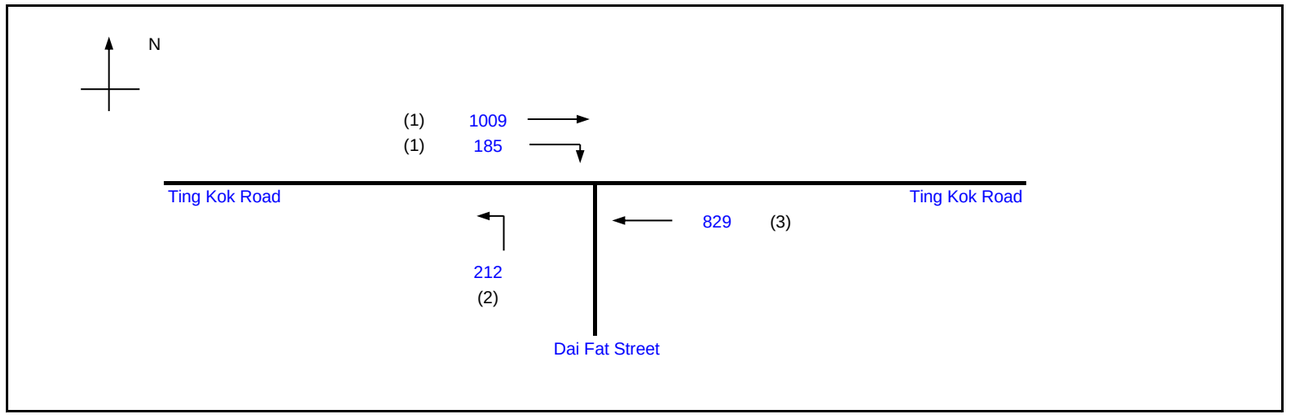
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		612		612	0.00	1945			1945	0.315	0.315		49	50	0.629	48	19
SA, RT	A,B	3.30	1	1	15			2085		281	341	622	0.55	1977			1977	0.315			49	50	0.629	48	19
LT	A	3.65	2	2	20		N	4100	164			164	1.00	3814			3814	0.043			7	20	0.215	9	31
SA	C	3.65	3	2			N	4100		1098		1098	0.00	4100			4100	0.268	0.268		41	40	0.670	54	24

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

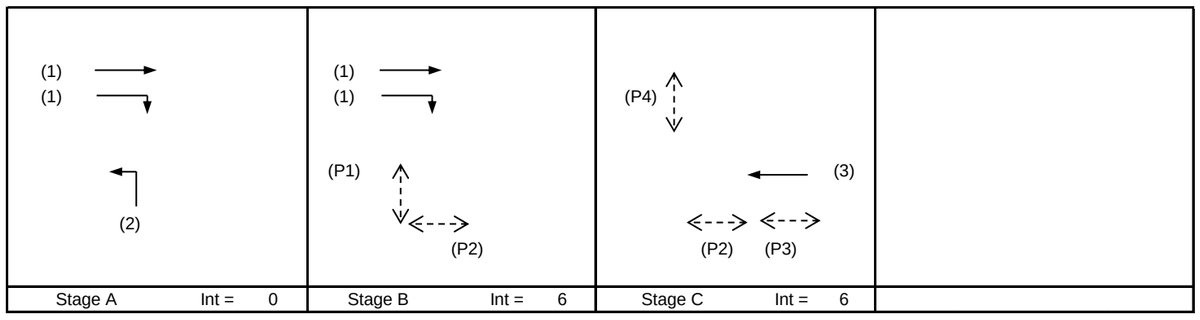
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.503	
Loss time		L =	10	sec
Total Flow		=	2235	pcu
Co	= (1.5*L+5)/(1-Y)	=	40.2	sec
Cm	= L/(1-Y)	=	20.1	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	64.0	%
Cp	= 0.9*L/(0.9-Y)	=	22.7	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

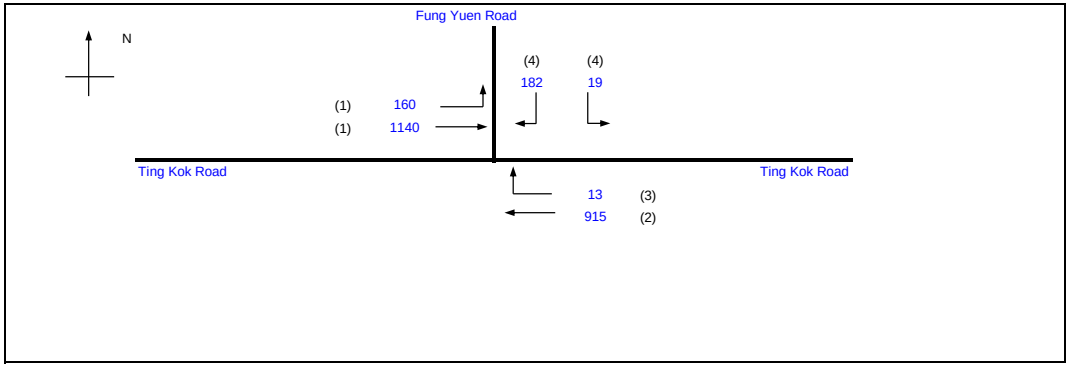
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		585		585	0.00	1945			1945	0.301	0.301		54	50	0.602	48	19
SA, RT	A,B	3.30	1	1	15			2085		424	185	609	0.30	2024			2024	0.301			54	50	0.602	48	19
LT	A	3.65	2	2	20		N	4100	212			212	1.00	3814			3814	0.056			10	20	0.278	12	31
SA	C	3.65	3	2			N	4100		829		829	0.00	4100			4100	0.202	0.202		36	40	0.505	39	21

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

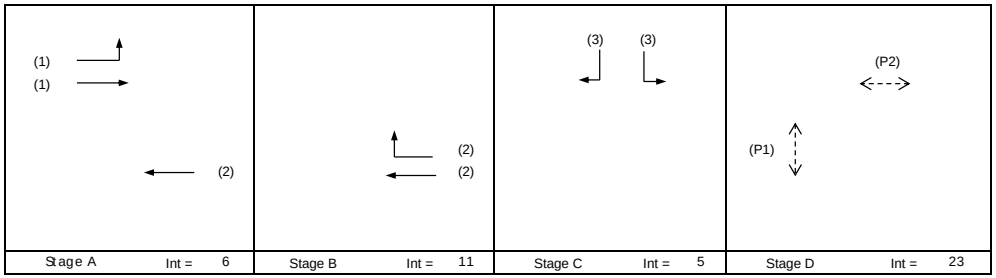
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle	N =		4	
Cycle time	C =		120	sec
Sum(y)	Y =		0.415	
Loss time	L =		43	sec
Total Flow	=		2429	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.8	sec
Cm	= L/(1-Y)	=	73.5	sec
Yult	=		0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	39.2	%
Cp	= 0.9*L/(0.9-Y)	=	79.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

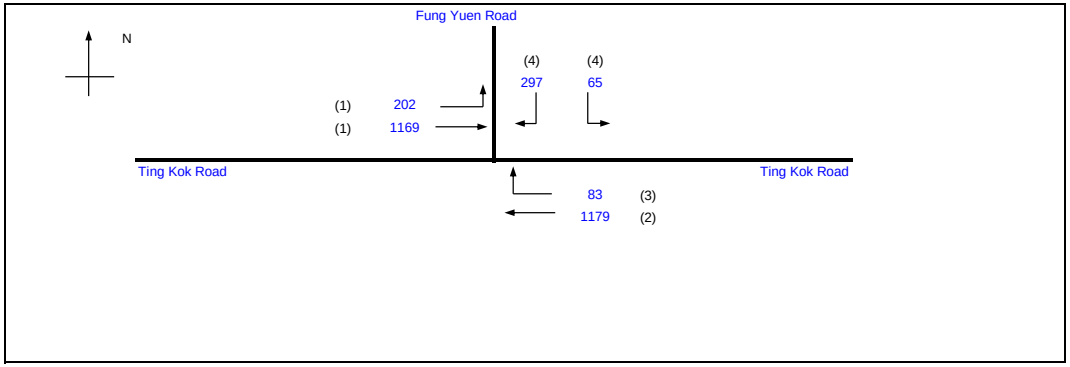
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	160	459		619	0.26	1921			1921	0.322	0.322		60	56	0.690	66	27
SA	A	3.60	1	1				2115		681		681	0.00	2115			2115	0.322			60	56	0.690	72	26
SA	A,B	3.60	2	1			N	1975		487		487	0.00	1975			1975	0.246			46	65	0.455	42	16
SA,RT	A,B	3.60	3	1	19	O		2115		428	13	441	0.03	1881			1881	0.235			44	65	0.433	36	16
LT	C	3.60	4	1	11		N	1975	19			19	1.00	1738			1738	0.011			2	24	0.055	0	35
RT	C	3.80	4	1	17			2135			182	182	1.00	1962			1962	0.093	0.093		17	24	0.464	24	42

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

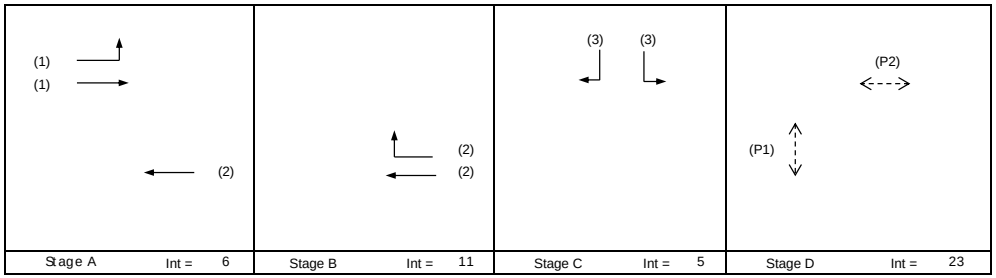
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle	N =		4	
Cycle time	C =		120	sec
Sum(y)	Y =		0.492	
Loss time	L =		43	sec
Total Flow	=		2995	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.8	sec
Cm	= L/(1-Y)	=	84.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	17.4	%
Cp	= 0.9*L/(0.9-Y)	=	94.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

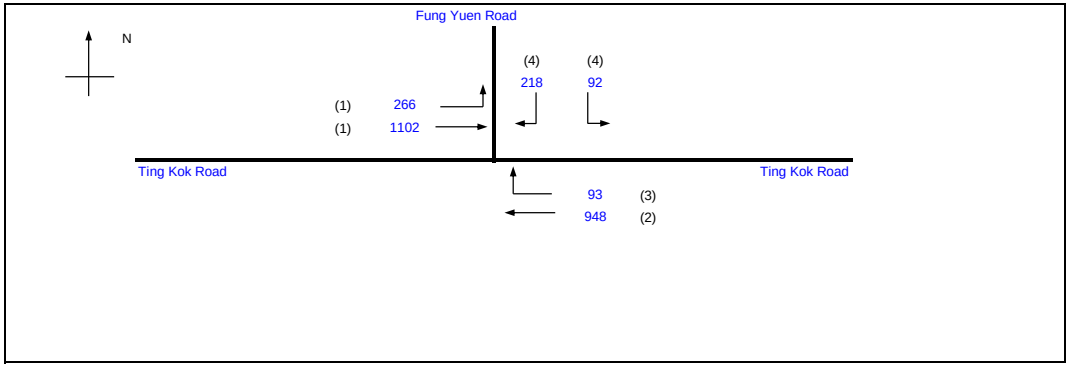
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	202	449		651	0.31	1913			1913	0.340	0.340		53	56	0.729	66	28
SA	A	3.60	1	1				2115		720		720	0.00	2115			2115	0.340			53	56	0.729	72	28
SA	A,B	3.60	2	1			N	1975		651		651	0.00	1975			1975	0.329			52	65	0.608	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		528	83	611	0.14	1865			1865	0.328			51	65	0.605	54	19
LT	C	3.60	4	1	11		N	1975	65			65	1.00	1738			1738	0.037			6	24	0.187	6	37
RT	C	3.80	4	1	17			2135			297	297	1.00	1962			1962	0.151	0.151		24	24	0.757	48	54

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

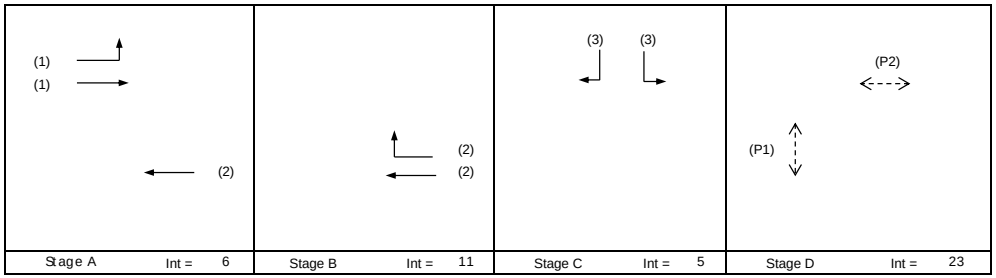
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2022_PM**	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.452	
Loss time		L =	43	sec
Total Flow		=	2719	pcu
Co	= (1.5*L+5)/(1-Y)	=	126.9	sec
Cm	= L/(1-Y)	=	78.5	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	27.7	%
Cp	= 0.9*L/(0.9-Y)	=	86.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	27.7	%



Stage A	Int = 6	Stage B	Int = 11	Stage C	Int = 5	Stage D	Int = 23

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

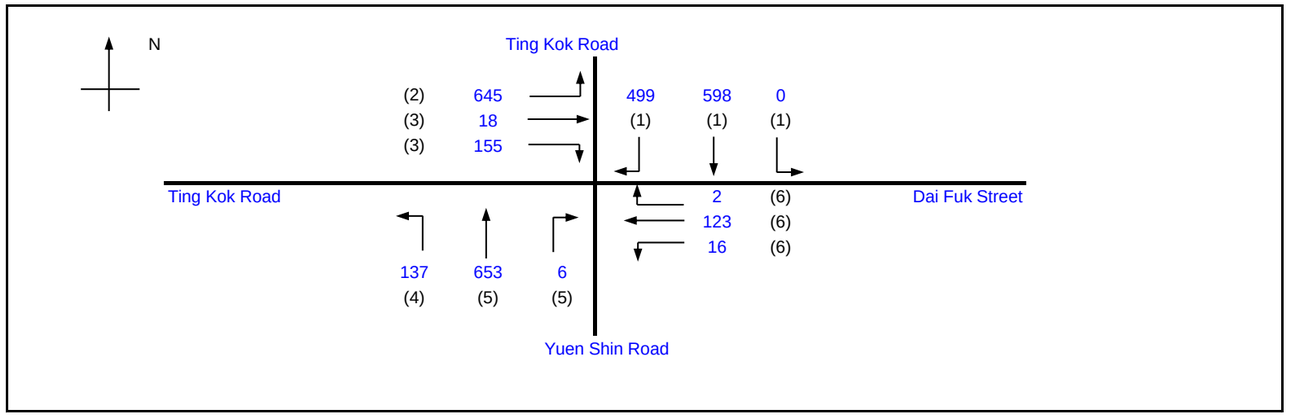
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	266	381		647	0.41	1896			1896	0.341	0.341		58	56	0.731	66	28
SA	A	3.60	1	1				2115		721		721	0.00	2115			2115	0.341			58	56	0.731	72	28
SA	A,B	3.60	2	1			N	1975		544		544	0.00	1975			1975	0.276			47	65	0.509	48	17
SA,RT	A,B	3.60	3	1	19	O		2115		404	93	497	0.19	1858			1858	0.267			46	65	0.494	42	17
LT	C	3.60	4	1	11		N	1975	92			92	1.00	1738			1738	0.053			9	24	0.265	12	38
RT	C	3.80	4	1	17			2135			218	218	1.00	1962			1962	0.111	0.111		19	24	0.556	30	44

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

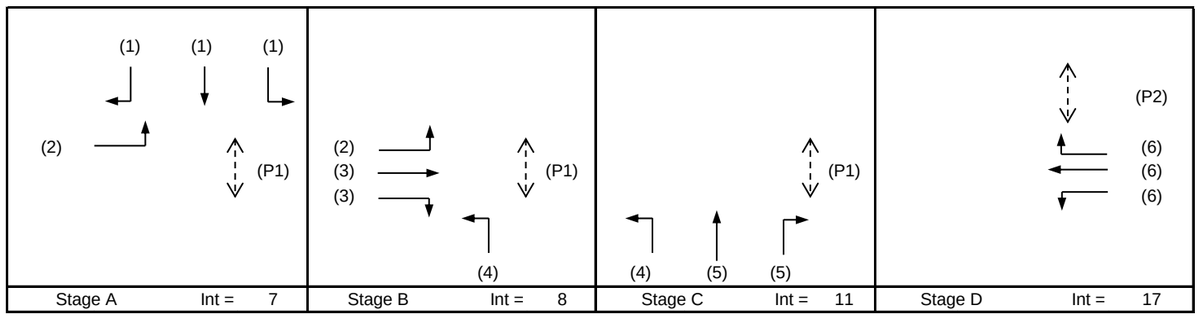
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	**2022_SUN** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.317	
Loss time		L =	40	sec
Total Flow		=	2852	pcu
Co	= (1.5*L+5)/(1-Y)	=	95.1	sec
Cm	= L/(1-Y)	=	58.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	89.6	%
Cp	= 0.9*L/(0.9-Y)	=	61.7	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	70.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

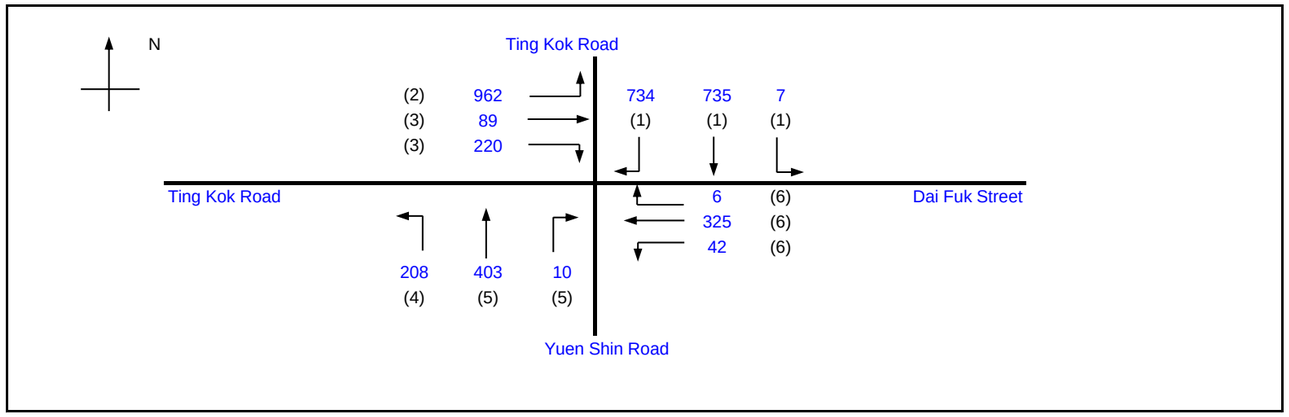
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	268		268	0.00	1980			1980	0.135		40	26	26	0.528	30	32
SA	A	3.65	1	1				2120		286		286	0.00	2120			2120	0.135			26	26	0.528	30	32
RT	A	3.65	1	2	25			4240		44	499	543	0.92	4018			4018	0.135	0.135		26	26	0.528	33	31
LT	A,B	3.65	2	2	20		N	4100	645			645	1.00	3814			3814	0.169			32	32	0.528	36	26
SA	B	3.65	3	1				2120		18		18	0.00	2120			2120	0.008			2	2	0.528	0	97
RT	B	3.65	3	1	25			2120			155	155	1.00	2000			2000	0.078	0.078		15	15	0.528	18	42
LT	B,C	3.40	4	1	15		N	1955	137			137	1.00	1777			1777	0.077			15	15	0.528	18	43
SA	C	3.40	5	3				6285		653		653	0.00	6285			6285	0.104	0.104		20	20	0.528	28	34
RT	C	3.40	5	1	20			2095			6	6	1.00	1949			1949	0.003			1	1	0.528	0	204
LT,SA	D	3.65	6	1	15		N	1980	16	51		67	0.24	1934			1934	0.035			7	7	0.528	6	55
SA,RT	D	3.65	6	1	25			2120		72	2	74	0.03	2117			2117	0.035			7	7	0.528	12	54

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

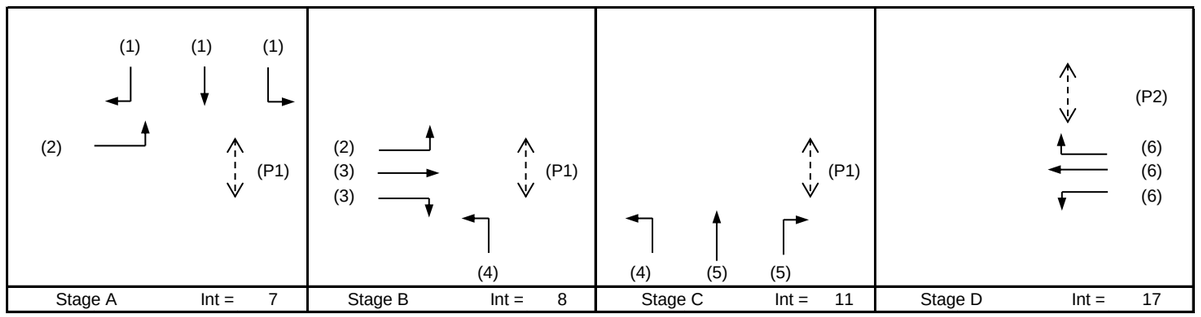
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	**2022_AM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.358	
Loss time		L =	40	sec
Total Flow		=	3741	pcu
Co	= (1.5*L+5)/(1-Y)	=	101.2	sec
Cm	= L/(1-Y)	=	62.3	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	67.8	%
Cp	= 0.9*L/(0.9-Y)	=	66.4	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

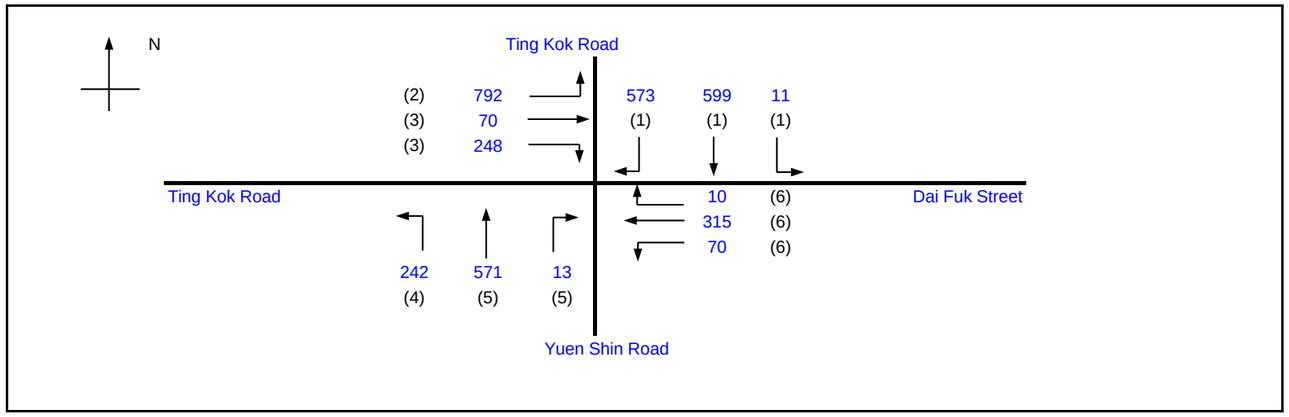
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	7	351		358	0.02	1977			1977	0.181		40	30	30	0.596	36	31
SA	A	3.65	1	1				2120		384		384	0.00	2120			2120	0.181			30	30	0.596	42	30
RT	A	3.65	1	2	25			4240		0	734	734	1.00	4000			4000	0.184	0.184		31	31	0.596	42	28
LT	A,B	3.65	2	2	20		N	4100	962			962	1.00	3814			3814	0.252			42	42	0.596	45	22
SA	B	3.65	3	1				2120		89		89	0.00	2120			2120	0.042			7	7	0.596	12	57
RT	B	3.65	3	1	25			2120			220	220	1.00	2000			2000	0.110	0.110		18	18	0.596	24	40
LT	B,C	3.40	4	1	15		N	1955	208			208	1.00	1777			1777	0.117			20	20	0.596	24	40
SA	C	3.40	5	3				6285		403		403	0.00	6285			6285	0.064	0.064		11	11	0.596	18	42
RT	C	3.40	5	1	20			2095			10	10	1.00	1949			1949	0.005			1	1	0.596	0	187
LT,SA	D	3.65	6	1	15		N	1980	42	136		178	0.24	1934			1934	0.092			15	15	0.596	24	43
SA,RT	D	3.65	6	1	25			2120		189	6	195	0.03	2116			2116	0.092			15	15	0.596	24	43

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

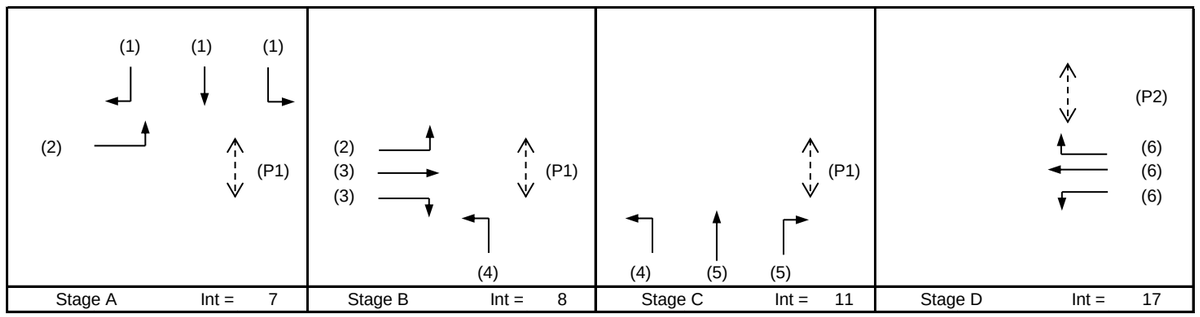
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	FILENAME :	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	**2022_PM** Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.361	
Loss time		L =	40	sec
Total Flow		=	3514	pcu
Co	= (1.5*L+5)/(1-Y)	=	101.7	sec
Cm	= L/(1-Y)	=	62.6	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	66.2	%
Cp	= 0.9*L/(0.9-Y)	=	66.8	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

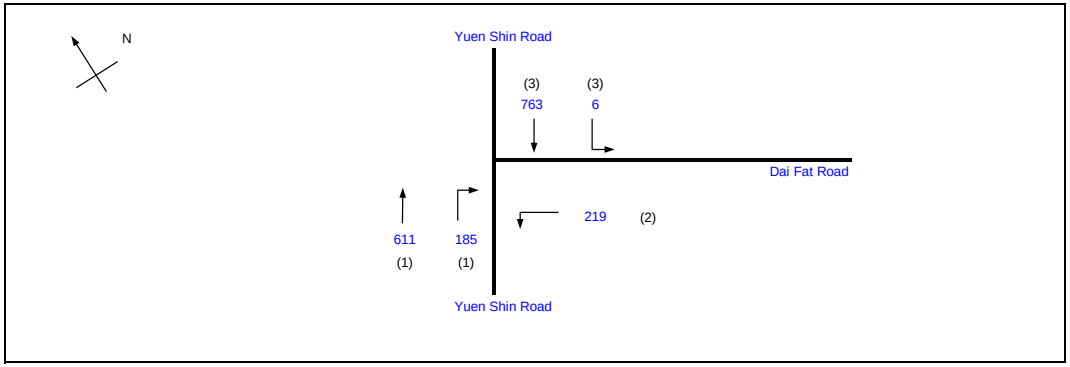
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	11	277		288	0.04	1974			1974	0.146		40	23	23	0.619	30	35
SA	A	3.65	1	1				2120		310		310	0.00	2120			2120	0.146			23	23	0.619	36	35
RT	A	3.65	1	2	25			4240		12	573	585	0.98	4005			4005	0.146	0.146		23	23	0.619	33	32
LT	A,B	3.65	2	2	20		N	4100	792			792	1.00	3814			3814	0.208			32	32	0.619	42	26
SA	B	3.65	3	1				2120		70		70	0.00	2120			2120	0.033			5	5	0.619	12	63
RT	B	3.65	3	1	25			2120			248	248	1.00	2000			2000	0.124	0.124		19	19	0.619	30	38
LT	B,C	3.40	4	1	15		N	1955	242			242	1.00	1777			1777	0.136			21	21	0.619	30	37
SA	C	3.40	5	3				6285		571		571	0.00	6285			6285	0.091	0.091		14	14	0.619	24	37
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.619	0	168
LT,SA	D	3.65	6	1	15		N	1980	70	117		187	0.37	1909			1909	0.098			15	15	0.619	24	43
SA,RT	D	3.65	6	1	25			2120		198	10	208	0.05	2114			2114	0.098			15	15	0.619	24	42

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

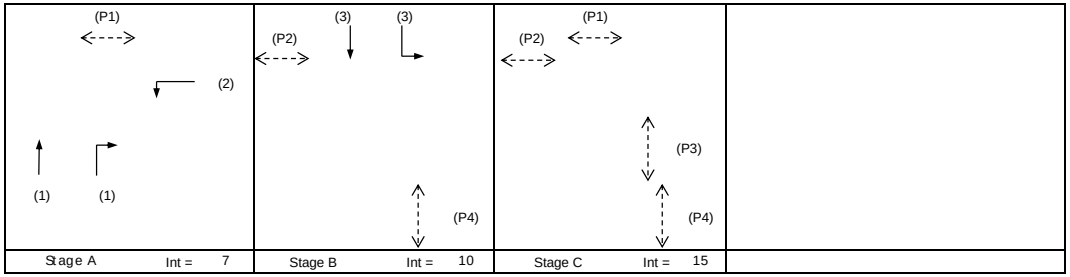
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_SUN**	Checked By:	LL	Jun-22
2022 Observed Sunday Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.341	
Loss time		L =	30	sec
Total Flow		=	1784	pcu
Co	= (1.5*L+5)/(1-Y)	=	75.8	sec
Cm	= L/(1-Y)	=	45.5	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	98.2	%
Cp	= 0.9*L/(0.9-Y)	=	48.3	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	85.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

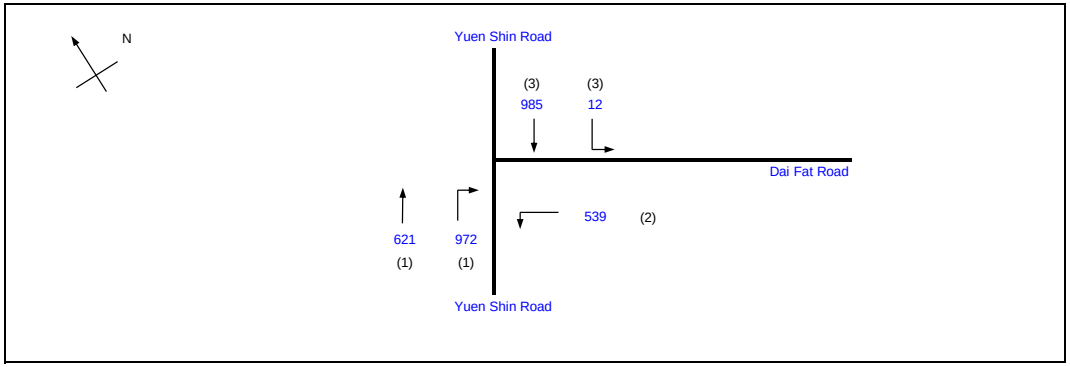
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		295		295	0.00	1965			1965	0.150	0.150	30	31	31	0.487	30	28
SA,RT	A	3.50	1	1	25			2105		316	0	316	0.00	2105			2105	0.150			31	31	0.487	36	28
RT	A	3.50	1	1	23			2105			185	185	1.00	1976			1976	0.094			19	31	0.303	18	25
LT	A	3.80	2	2	19		N	4130	219			219	1.00	3828			3828	0.057			12	12	0.487	15	41
LT,SA	B	3.20	3	1	17		N	1935	6	362		368	0.02	1932			1932	0.190	0.190		39	39	0.487	36	23
SA	B	3.50	3	1				2105		401		401	0.00	2105			2105	0.190			39	39	0.487	36	22

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

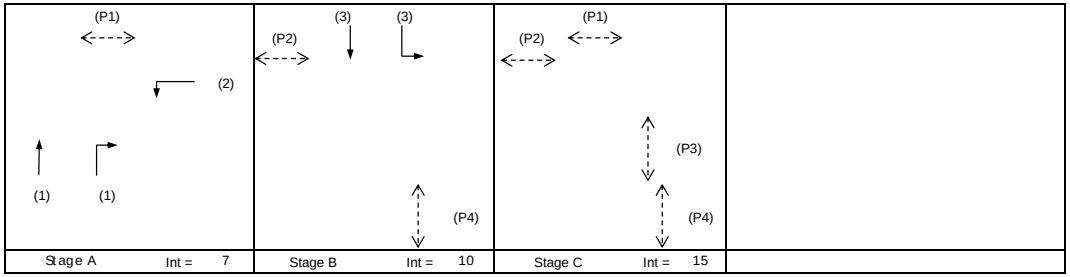
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_AM**	Checked By:	LL	Jun-22
2022 Observed Weekday AM Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.515	
Loss time		L =	30	sec
Total Flow		=	3129	pcu
Co	= (1.5*L+5)/(1-Y)	=	103.1	sec
Cm	= L/(1-Y)	=	61.8	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	31.1	%
Cp	= 0.9*L/(0.9-Y)	=	70.1	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	22.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

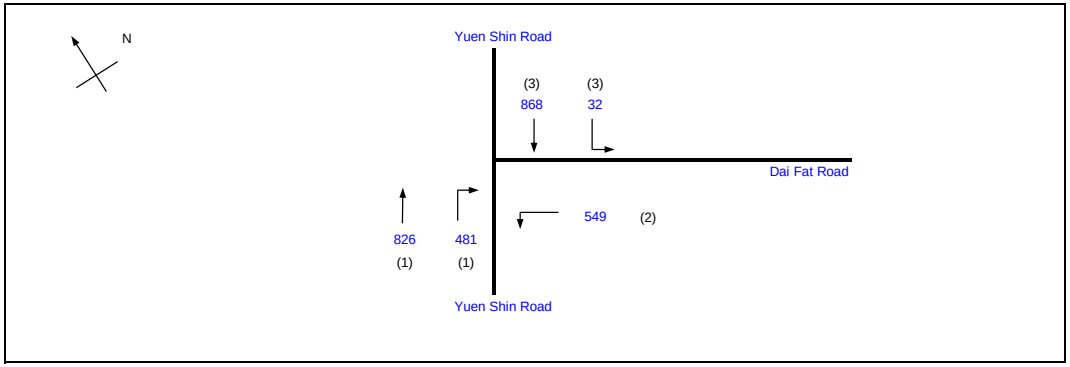
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		526		526	0.00	1965			1965	0.268	0.268	30	36	36	0.736	54	31
SA,RT	A	3.50	1	1	25			2105		95	443	537	0.82	2006			2006	0.268			36	36	0.736	54	31
RT	A	3.50	1	1	23			2105			529	529	1.00	1976			1976	0.268			36	36	0.736	54	31
LT	A	3.80	2	2	19		N	4130	539			539	1.00	3828			3828	0.141			19	19	0.736	36	40
LT,SA	B	3.20	3	1	17		N	1935	12	465		477	0.03	1931			1931	0.247	0.247		34	34	0.736	48	33
SA	B	3.50	3	1				2105		520		520	0.00	2105			2105	0.247			34	34	0.736	54	33

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

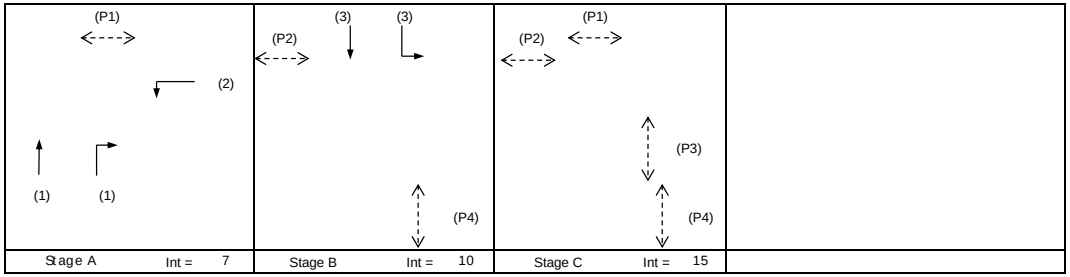
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2022_PM**	Checked By:	LL	Jun-22
2022 Observed Weekday PM Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.440	
Loss time		L =	30	sec
Total Flow		=	2756	pcu
Co	= (1.5*L+5)/(1-Y)	=	89.3	sec
Cm	= L/(1-Y)	=	53.6	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	53.4	%
Cp	= 0.9*L/(0.9-Y)	=	58.7	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	43.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		426		426	0.00	1965			1965	0.217	0.217	30	34	34	0.629	42	29
SA,RT	A	3.50	1	1	25			2105		400	53	453	0.12	2090			2090	0.217			34	34	0.629	48	28
RT	A	3.50	1	1	23			2105			428	428	1.00	1976			1976	0.217			34	34	0.629	42	29
LT	A	3.80	2	2	19		N	4130	549			549	1.00	3828			3828	0.143			23	23	0.629	33	34
LT,SA	B	3.20	3	1	17		N	1935	32	398		430	0.07	1922			1922	0.223	0.223		36	36	0.629	42	28
SA	B	3.50	3	1				2105		470		470	0.00	2105			2105	0.223			36	36	0.629	48	28

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

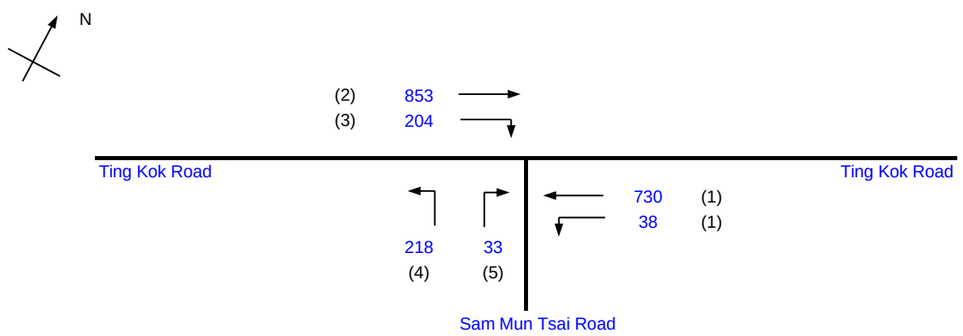
Appendix C

2027 Junction Calculation Sheets

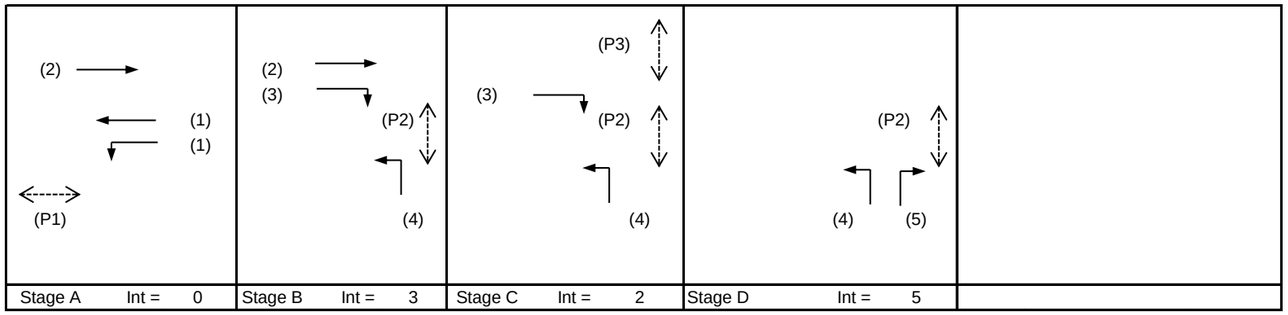
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	**2027Ref_SUN**	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	FILENAME : J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.457	
Loss time		L =	18	sec
Total Flow		=	2076	pcu
Co	= (1.5*L+5)/(1-Y)	=	58.9	sec
Cm	= L/(1-Y)	=	33.1	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	67.5	%
Cp	= 0.9*L/(0.9-Y)	=	36.5	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

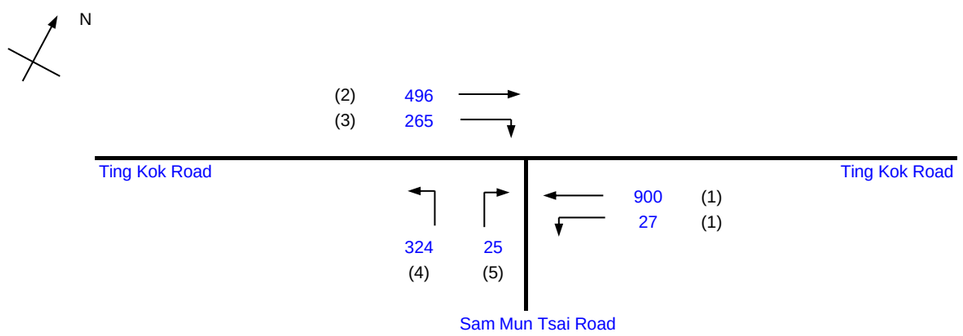
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	38	331		369	0.10	1905			1905	0.194			28	28	0.579	30	24
SA	A	3.00	1	1				2055		399		399	0.00	2055			2055	0.194			28	28	0.579	36	24
SA	A,B	3.30	2	1			N	1945		853		853	0.00	1945			1945	0.439	0.439		64	64	0.579	24	6
RT	B,C	3.50	3	1	10			2105			204	204	1.00	1830			1830	0.111			16	16	0.579	18	34
LT	B,C,D	3.30	4	1	10		N	1945	218			218	1.00	1691			1691	0.129			19	19	0.579	24	32
RT	D	3.50	5	1	10			2105			33	33	1.00	1830			1830	0.018	0.018		3	3	0.579	6	76
Ped	C																			10					

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

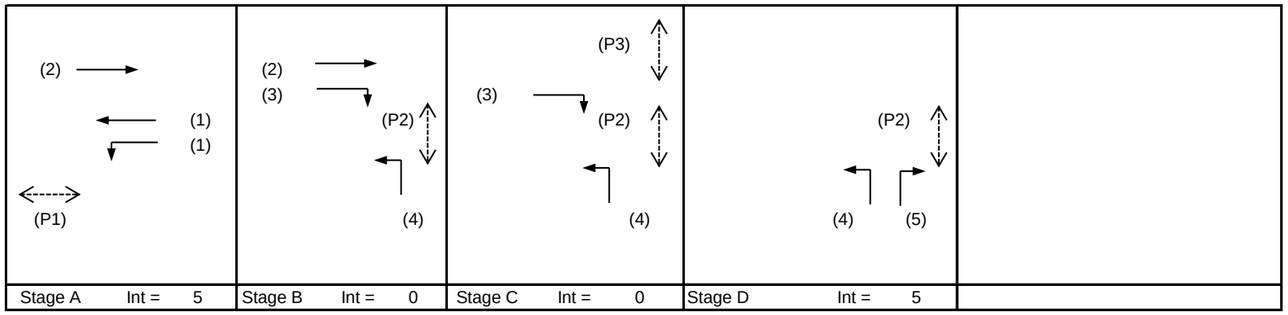
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	**2027Ref_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.425	
Loss time		L =	8	sec
Total Flow		=	2037	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.6	sec
Cm	= L/(1-Y)	=	13.9	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	97.5	%
Cp	= 0.9*L/(0.9-Y)	=	15.2	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	92.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

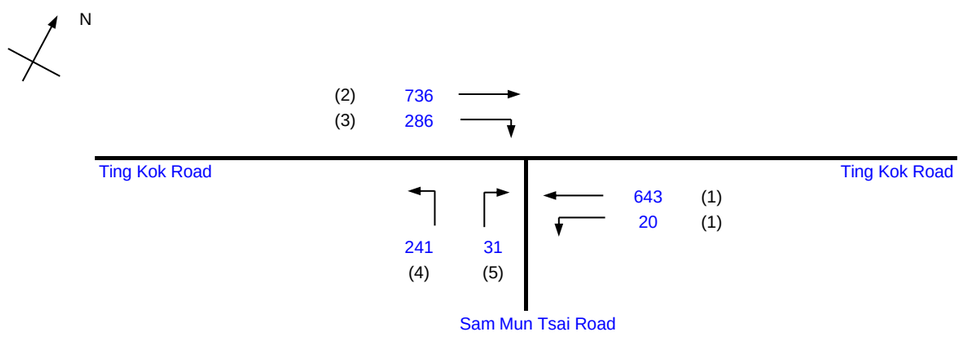
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	27	419		446	0.06	1909			1909	0.234	0.234		44	44	0.468	30	14
SA	A	3.00	1	1				2055		481		481	0.00	2055			2055	0.234			44	44	0.468	30	14
SA	A,B	3.30	2	1			N	1945		496		496	0.00	1945			1945	0.255			48	48	0.468	30	12
RT	B,C	3.50	3	1	10			2105			265	265	1.00	1830			1830	0.145			27	27	0.468	24	25
LT	B,C,D	3.30	4	1	10		N	1945	324			324	1.00	1691			1691	0.192	0.192		36	36	0.468	24	19
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014			3	3	0.468	0	65

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

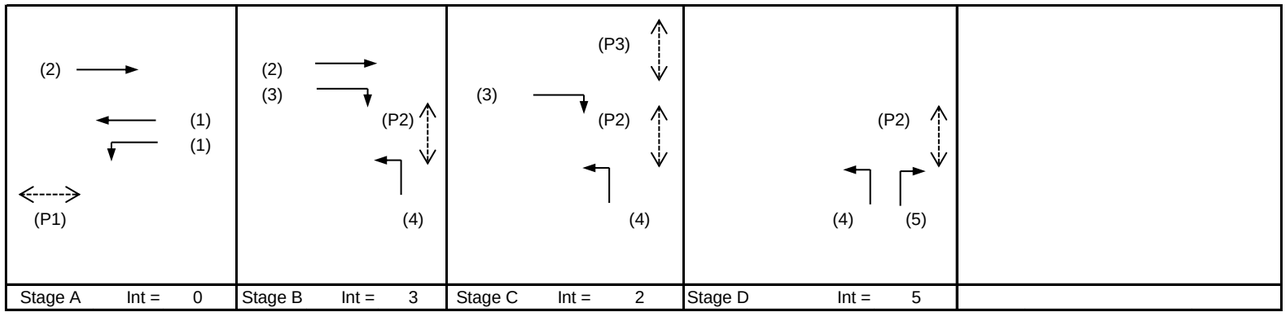
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.395	
Loss time		L =	18	sec
Total Flow		=	1957	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.9	sec
Cm	= L/(1-Y)	=	29.8	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	93.5	%
Cp	= 0.9*L/(0.9-Y)	=	32.1	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	81.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

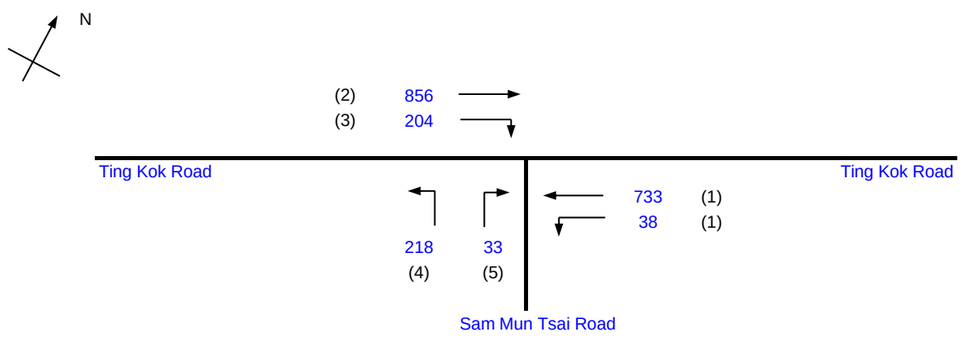
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	20	299		319	0.06	1909			1909	0.167			30	30	0.497	30	23
SA	A	3.00	1	1				2055		344		344	0.00	2055			2055	0.167			30	30	0.497	30	23
SA	A,B	3.30	2	1			N	1945		736		736	0.00	1945			1945	0.378	0.378		67	67	0.497	24	5
RT	B,C	3.50	3	1	10			2105			286	286	1.00	1830			1830	0.156			28	28	0.497	24	25
LT	B,C,D	3.30	4	1	10		N	1945	241			241	1.00	1691			1691	0.142			25	25	0.497	24	27
RT	D	3.50	5	1	10			2105			31	31	1.00	1830			1830	0.017	0.017		3	3	0.497	0	63
Ped	C																			10					

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

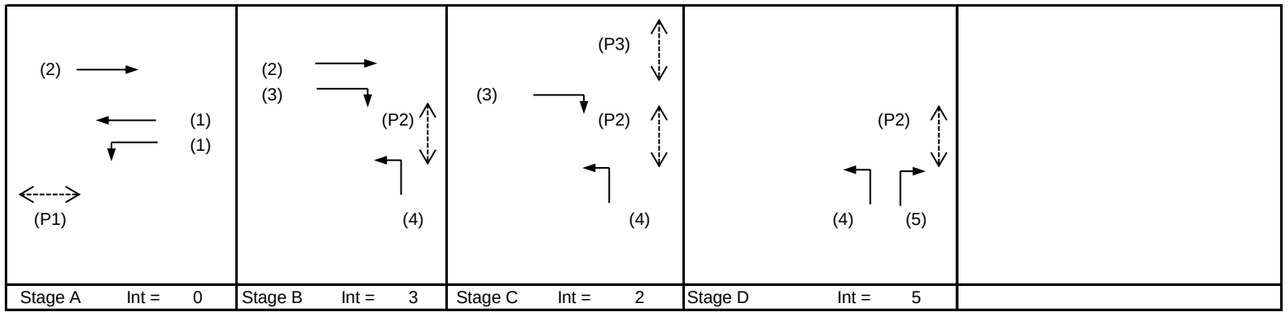
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	85	sec
Sum(y)		Y =	0.458	
Loss time		L =	18	sec
Total Flow		=	2082	pcu
Co	= (1.5*L+5)/(1-Y)	=	59.1	sec
Cm	= L/(1-Y)	=	33.2	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	67.0	%
Cp	= 0.9*L/(0.9-Y)	=	36.7	sec
Ymax	= 1-L/C	=	0.788	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	54.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		29	7
P2	B,C,D	7.3	5	7		42	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

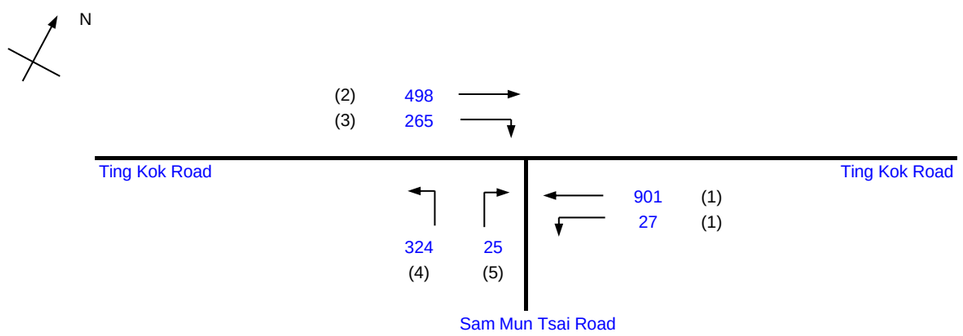
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	38	333		371	0.10	1905			1905	0.195			28	28	0.581	30	25
SA	A	3.00	1	1				2055		400		400	0.00	2055			2055	0.195			28	28	0.581	36	24
SA	A,B	3.30	2	1			N	1945		856		856	0.00	1945			1945	0.440	0.440		64	64	0.581	24	6
RT	B,C	3.50	3	1	10			2105			204	204	1.00	1830			1830	0.111			16	16	0.581	18	35
LT	B,C,D	3.30	4	1	10		N	1945	218			218	1.00	1691			1691	0.129			19	19	0.581	24	33
RT	D	3.50	5	1	10			2105			33	33	1.00	1830			1830	0.018	0.018		3	3	0.581	6	76
Ped	C																			10					

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

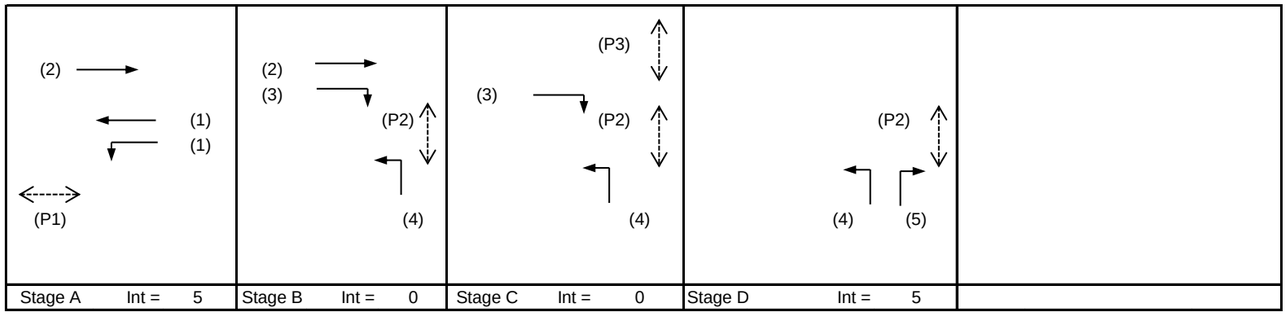
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.426	
Loss time		L =	8	sec
Total Flow		=	2040	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.6	sec
Cm	= L/(1-Y)	=	13.9	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	97.3	%
Cp	= 0.9*L/(0.9-Y)	=	15.2	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	92.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

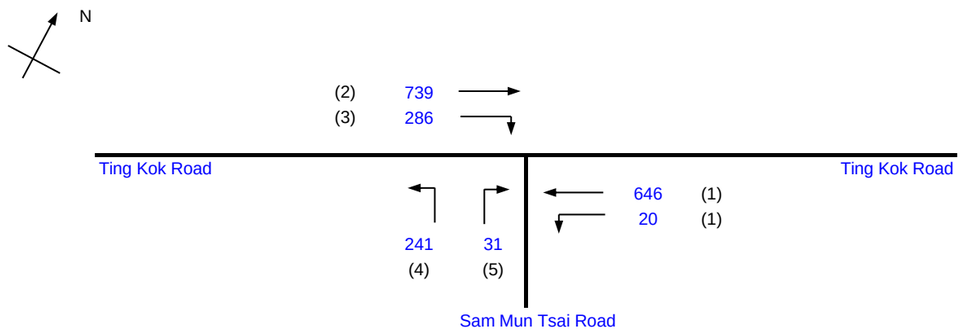
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	27	420		447	0.06	1909			1909	0.234	0.234		44	44	0.468	30	14
SA	A	3.00	1	1				2055		481		481	0.00	2055			2055	0.234			44	44	0.468	30	14
SA	A,B	3.30	2	1			N	1945		498		498	0.00	1945			1945	0.256			48	48	0.468	30	12
RT	B,C	3.50	3	1	10			2105			265	265	1.00	1830			1830	0.145			27	27	0.468	24	25
LT	B,C,D	3.30	4	1	10		N	1945	324			324	1.00	1691			1691	0.192	0.192		36	36	0.468	24	19
RT	D	3.50	5	1	10			2105			25	25	1.00	1830			1830	0.014			3	3	0.468	0	65

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

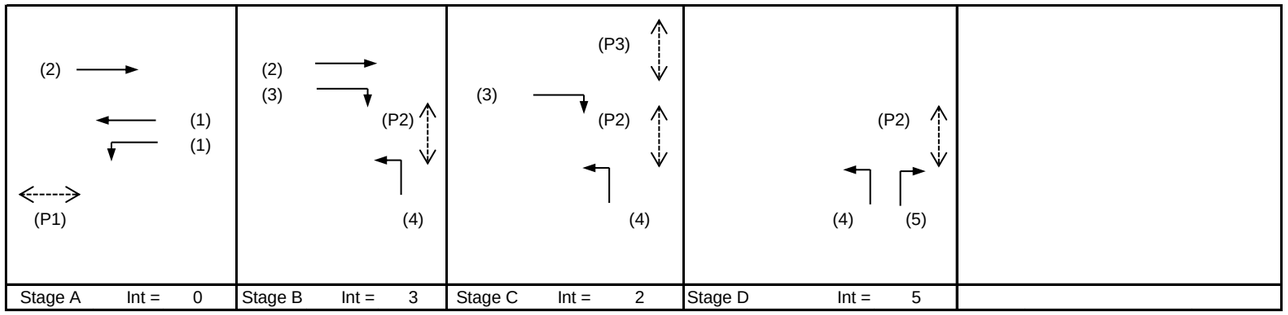
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.397	
Loss time		L =	18	sec
Total Flow		=	1963	pcu
Co	= (1.5*L+5)/(1-Y)	=	53.1	sec
Cm	= L/(1-Y)	=	29.8	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	92.8	%
Cp	= 0.9*L/(0.9-Y)	=	32.2	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	80.4	%

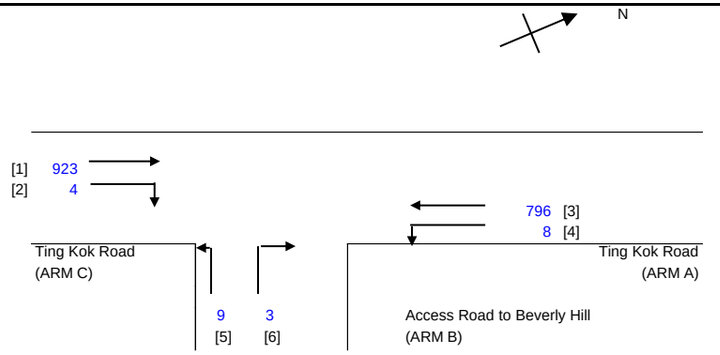


Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	20	301		321	0.06	1909			1909	0.168			30	30	0.499	30	23
SA	A	3.00	1	1				2055		345		345	0.00	2055			2055	0.168			30	30	0.499	30	23
SA	A,B	3.30	2	1			N	1945		739		739	0.00	1945			1945	0.380	0.380		67	67	0.499	24	5
RT	B,C	3.50	3	1	10			2105			286	286	1.00	1830			1830	0.156			28	28	0.499	24	25
LT	B,C,D	3.30	4	1	10		N	1945	241			241	1.00	1691			1691	0.142			25	25	0.499	24	27
RT	D	3.50	5	1	10			2105			31	31	1.00	1830			1830	0.017	0.017		3	3	0.499	0	64
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	796	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	923	(pcu/hr)
q c-b	=	4	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	9	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.75

THE CAPACITY OF MOVEMENT :

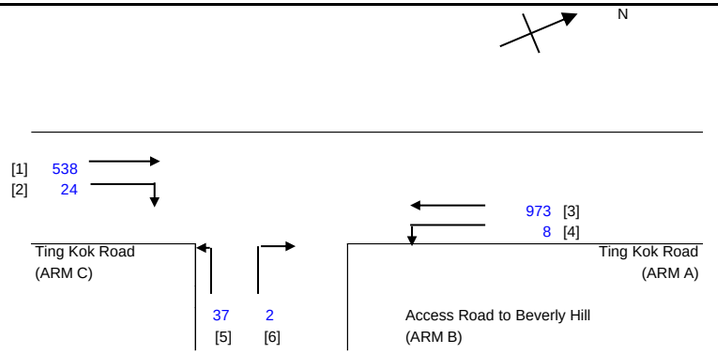
Q b-a	=	280			
Q b-c	=	527	Q b-c (O) =	525.6	
Q c-b	=	659			
Q b-ac	=	431.8			
TOTAL FLOW	=	1743	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0107
DFC b-c	=	0.0171
DFC c-b	=	0.0061
DFC b-ac	=	0.0278

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	973	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	538	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	37	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9487179

THE CAPACITY OF MOVEMENT :

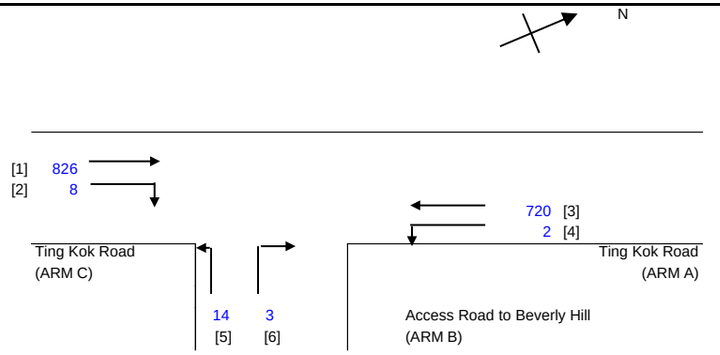
Q b-a	=	288			
Q b-c	=	488	Q b-c (O) =	487.2	
Q c-b	=	611			
Q b-ac	=	471.2			
TOTAL FLOW	=	1582	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0069
DFC b-c	=	0.0758
DFC c-b	=	0.0393
DFC b-ac	=	0.0828

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	720	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	826	(pcu/hr)
q c-b	=	8	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	14	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8235294

THE CAPACITY OF MOVEMENT :

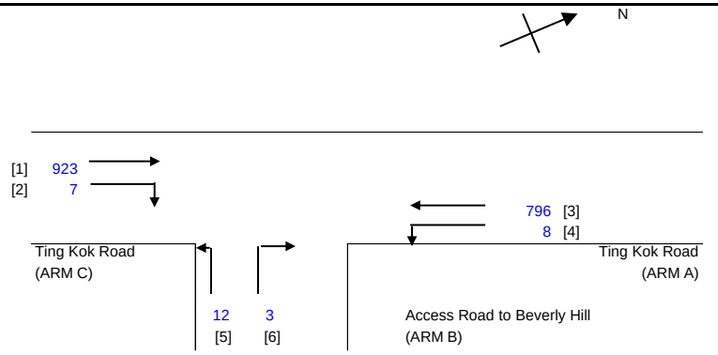
Q b-a	=	308			
Q b-c	=	544	Q b-c (O) =	542.7	
Q c-b	=	681			
Q b-ac	=	479.2			
TOTAL FLOW	=	1573	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0097
DFC b-c	=	0.0257
DFC c-b	=	0.0117
DFC b-ac	=	0.0355

CRITICAL DFC = 0.04

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	796	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	923	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	12	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8

THE CAPACITY OF MOVEMENT :

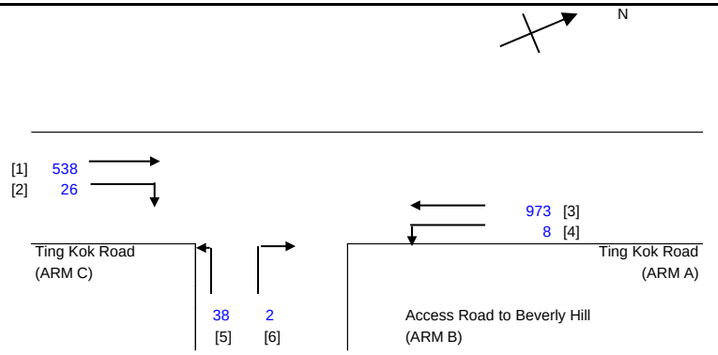
Q b-a	=	279			
Q b-c	=	527	Q b-c (O) =	525.6	
Q c-b	=	659			
Q b-ac	=	447.5			
TOTAL FLOW	=	1749	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0108
DFC b-c	=	0.0228
DFC c-b	=	0.0106
DFC b-ac	=	0.0335

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	973	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	538	(pcu/hr)
q c-b	=	26	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	38	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.95

THE CAPACITY OF MOVEMENT :

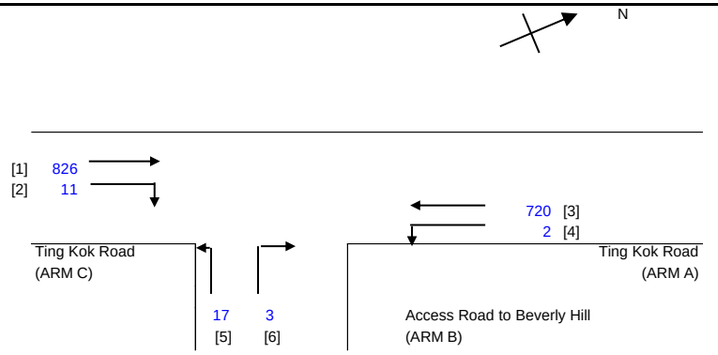
Q b-a	=	287			
Q b-c	=	488	Q b-c (O) =	487.1	
Q c-b	=	611			
Q b-ac	=	471.5			
TOTAL FLOW	=	1585	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0070
DFC b-c	=	0.0779
DFC c-b	=	0.0426
DFC b-ac	=	0.0848

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	720	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	826	(pcu/hr)
q c-b	=	11	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	17	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.85

THE CAPACITY OF MOVEMENT :

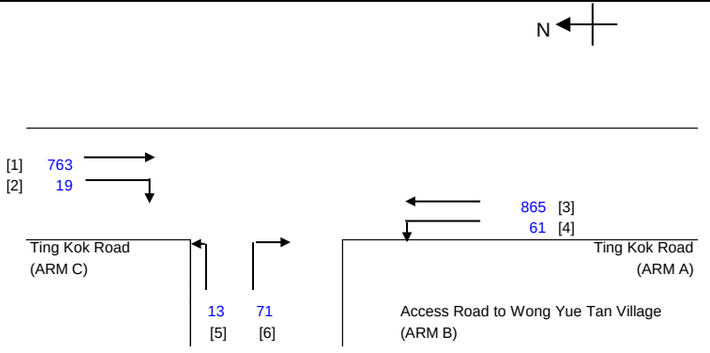
Q b-a	=	307			
Q b-c	=	544	Q b-c (O) =	542.7	
Q c-b	=	681			
Q b-ac	=	487.5			
TOTAL FLOW	=	1579	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0098
DFC b-c	=	0.0313
DFC c-b	=	0.0162
DFC b-ac	=	0.0410

CRITICAL DFC = 0.04

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	61	(pcu/hr)
q a-c	=	865	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	763	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	71	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.1547619

THE CAPACITY OF MOVEMENT :

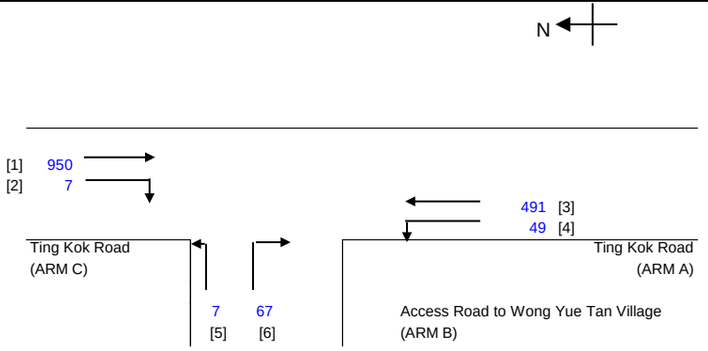
Q b-a	=	204			
Q b-c	=	434	Q b-c (O) =	396.2	
Q c-b	=	459			
Q b-ac	=	222.2			
TOTAL FLOW	=	1792	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3480
DFC b-c	=	0.0300
DFC c-b	=	0.0414
DFC b-ac	=	0.3780

CRITICAL DFC = 0.38

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	49	(pcu/hr)
q a-c	=	491	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	950	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	67	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0945946

THE CAPACITY OF MOVEMENT :

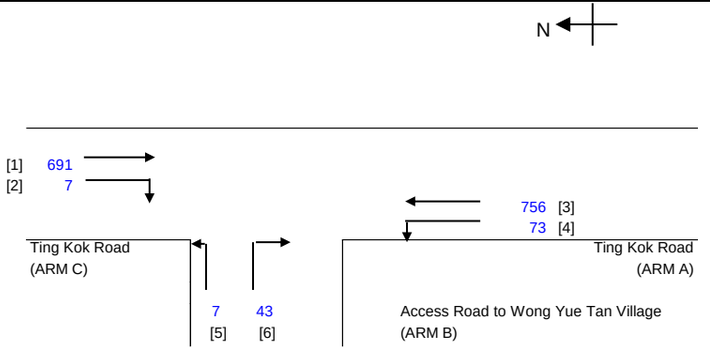
Q b-a	=	269			
Q b-c	=	525	Q b-c (O) =	492.3	
Q c-b	=	559			
Q b-ac	=	282			
TOTAL FLOW	=	1571	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2491
DFC b-c	=	0.0133
DFC c-b	=	0.0125
DFC b-ac	=	0.2624

CRITICAL DFC = 0.26

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	73	(pcu/hr)
q a-c	=	756	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	691	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.14

THE CAPACITY OF MOVEMENT :

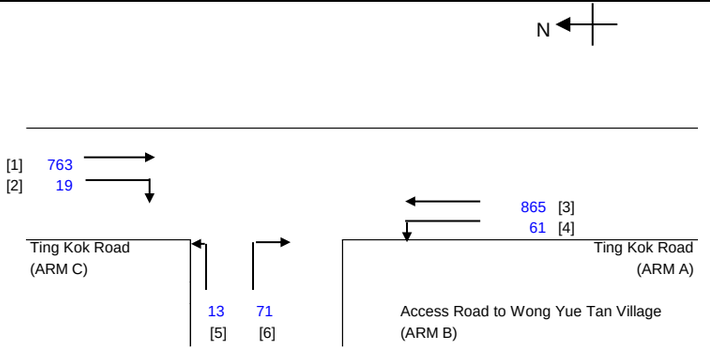
Q b-a	=	243			
Q b-c	=	459	Q b-c (O) =	438.7	
Q c-b	=	485			
Q b-ac	=	260.1			
TOTAL FLOW	=	1577	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1770
DFC b-c	=	0.0153
DFC c-b	=	0.0144
DFC b-ac	=	0.1922

CRITICAL DFC = 0.19

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_SUN**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	61	(pcu/hr)
q a-c	=	865	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	763	(pcu/hr)
q c-b	=	19	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	71	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.1547619

THE CAPACITY OF MOVEMENT :

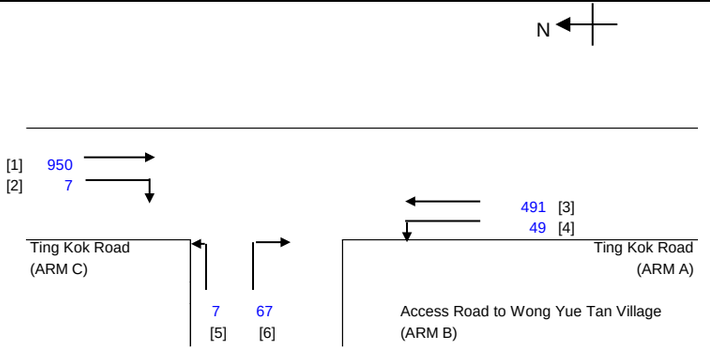
Q b-a	=	204			
Q b-c	=	434	Q b-c (O) =	396.2	
Q c-b	=	459			
Q b-ac	=	222.2			
TOTAL FLOW	=	1792	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3480
DFC b-c	=	0.0300
DFC c-b	=	0.0414
DFC b-ac	=	0.3780

CRITICAL DFC = 0.38

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	49	(pcu/hr)
q a-c	=	491	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	950	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	67	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0945946

THE CAPACITY OF MOVEMENT :

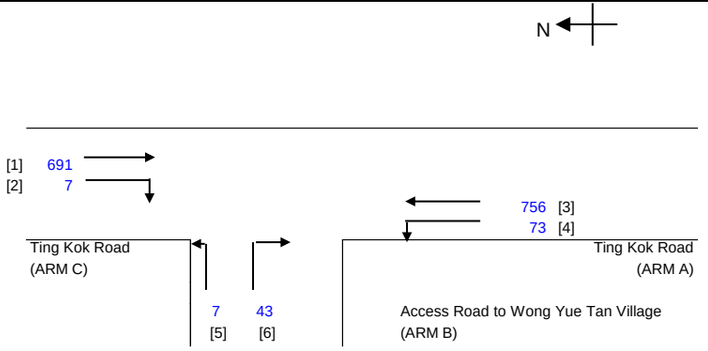
Q b-a	=	269			
Q b-c	=	525	Q b-c (O) =	492.3	
Q c-b	=	559			
Q b-ac	=	282			
TOTAL FLOW	=	1571	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2491
DFC b-c	=	0.0133
DFC c-b	=	0.0125
DFC b-ac	=	0.2624

CRITICAL DFC = 0.26

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2027Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	73	(pcu/hr)
q a-c	=	756	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	691	(pcu/hr)
q c-b	=	7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	7	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.14

THE CAPACITY OF MOVEMENT :

Q b-a	=	243			
Q b-c	=	459	Q b-c (O) =	438.7	
Q c-b	=	485			
Q b-ac	=	260.1			
TOTAL FLOW	=	1577	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

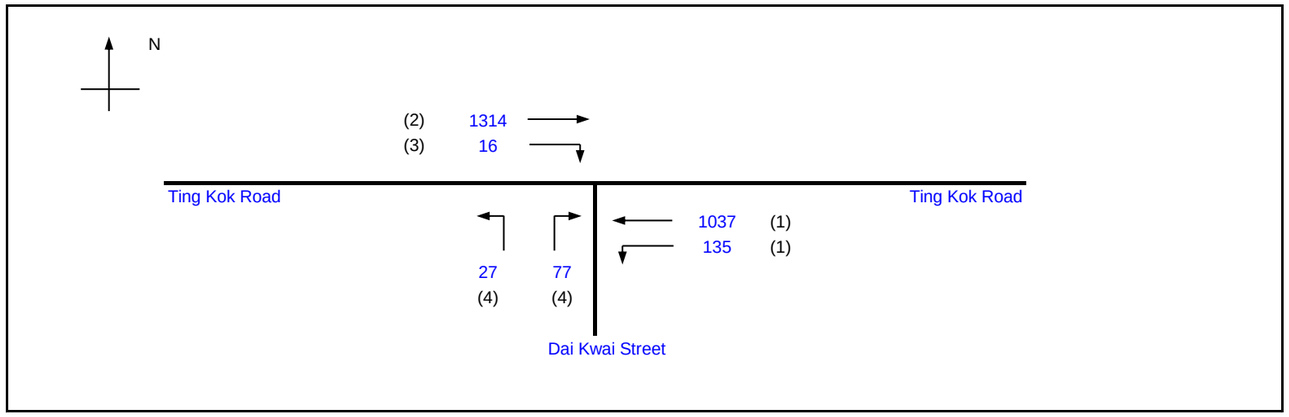
DFC b-a	=	0.1770
DFC b-c	=	0.0153
DFC c-b	=	0.0144
DFC b-ac	=	0.1922

CRITICAL DFC = 0.19

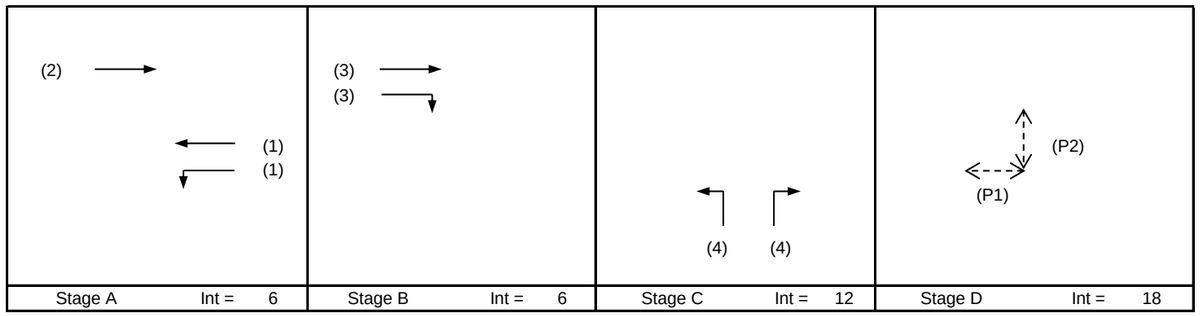
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_SUN**	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	FILENAME : J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.518	
Loss time		L =	39	sec
Total Flow		=	2606	pcu
Co	= (1.5*L+5)/(1-Y)	=	131.7	sec
Cm	= L/(1-Y)	=	80.9	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	17.3	%
Cp	= 0.9*L/(0.9-Y)	=	91.9	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

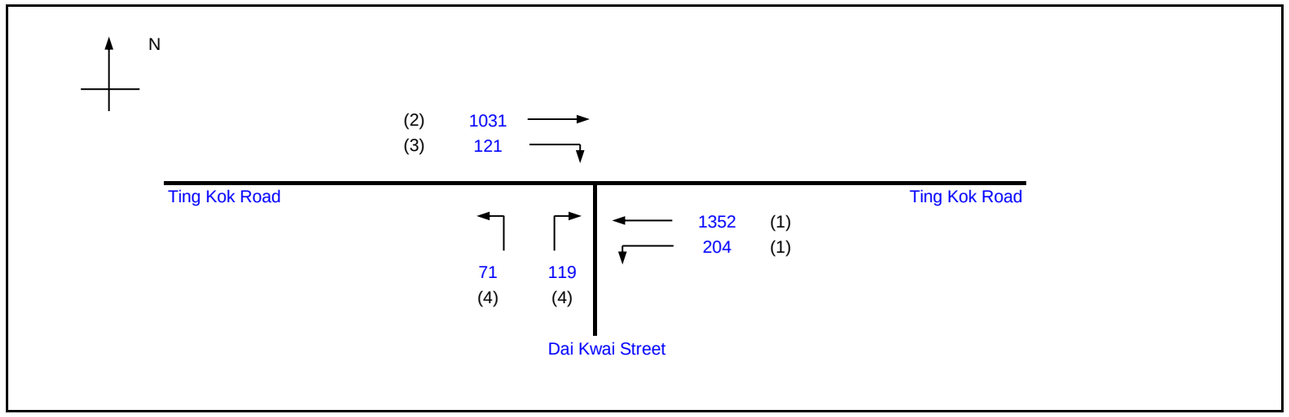
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		565		565	0.00	1953			1953	0.289			45	45	0.768	66	37
LT,SA	A	3.65	1	1	15		N	1980	135	424		559	0.24	1933			1933	0.289	0.289		45	45	0.767	66	37
SA	A	3.65	1	1				2120		613		613	0.00	2120			2120	0.289			45	45	0.767	72	36
SA	B	3.38	3	1			N	1953		370		370	0.00	1953			1953	0.189	0.189		30	30	0.767	54	49
SA,RT	B	3.38	3	1	20			2093		379	16	395	0.04	2086			2086	0.189			30	30	0.767	60	48
LT	C	3.50	4	1	15		N	1965	27			27	1.00	1786			1786	0.015			2	6	0.295	0	57
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		6	6	0.767	18	104

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

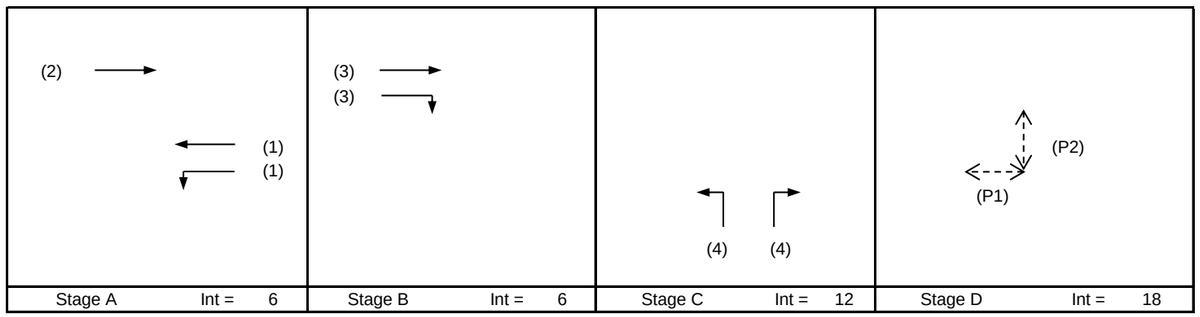
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.547	
Loss time		L =	39	sec
Total Flow		=	2898	pcu
Co	= (1.5*L+5)/(1-Y)	=	140.2	sec
Cm	= L/(1-Y)	=	86.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	11.1	%
Cp	= 0.9*L/(0.9-Y)	=	99.4	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

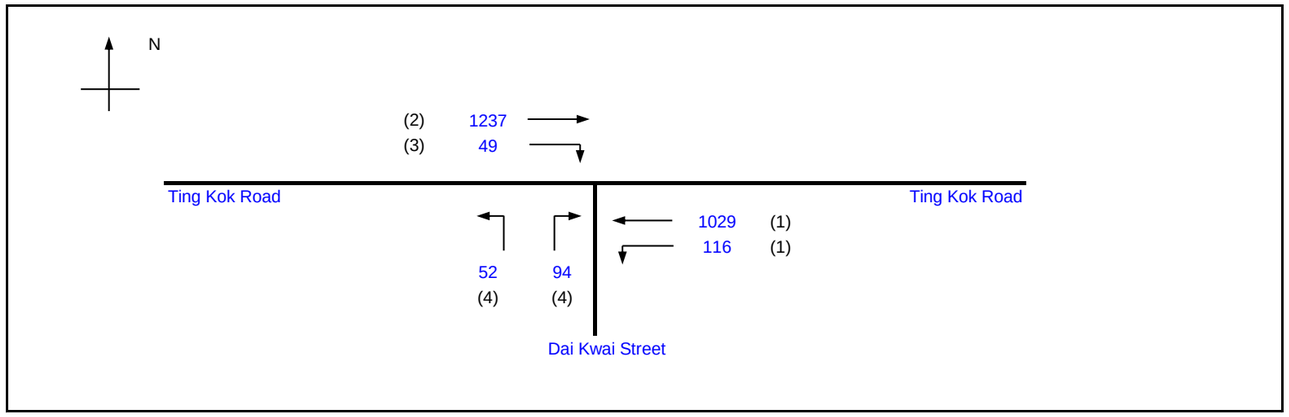
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		750		750	0.00	1953			1953	0.384			57	57	0.809	78	32
LT,SA	A	3.65	1	1	15		N	1980	204	537		741	0.28	1927			1927	0.384	0.384		57	57	0.810	78	32
SA	A	3.65	1	1				2120		815		815	0.00	2120			2120	0.384			57	57	0.810	84	31
SA	B	3.38	3	1			N	1953		199		199	0.00	1953			1953	0.102	0.102		15	15	0.810	36	74
SA,RT	B	3.38	3	1	20			2093		83	121	204	0.59	2003			2003	0.102			15	15	0.810	42	73
LT	C	3.50	4	1	15		N	1965	71			71	1.00	1786			1786	0.040			6	9	0.530	12	62
LT,RT	C	3.50	4	1	20			2105	0		119	119	1.00	1958			1958	0.061	0.061		9	9	0.810	30	96

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

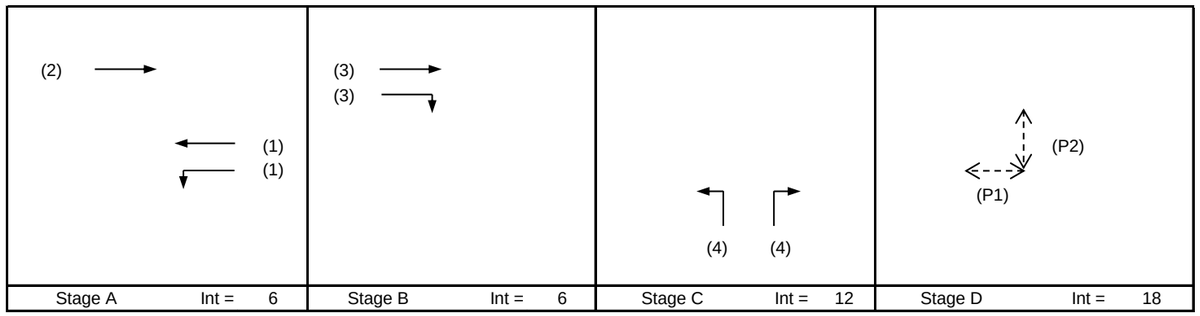
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.513	
Loss time		L =	39	sec
Total Flow		=	2577	pcu
Co	= (1.5*L+5)/(1-Y)	=	130.4	sec
Cm	= L/(1-Y)	=	80.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	18.4	%
Cp	= 0.9*L/(0.9-Y)	=	90.7	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

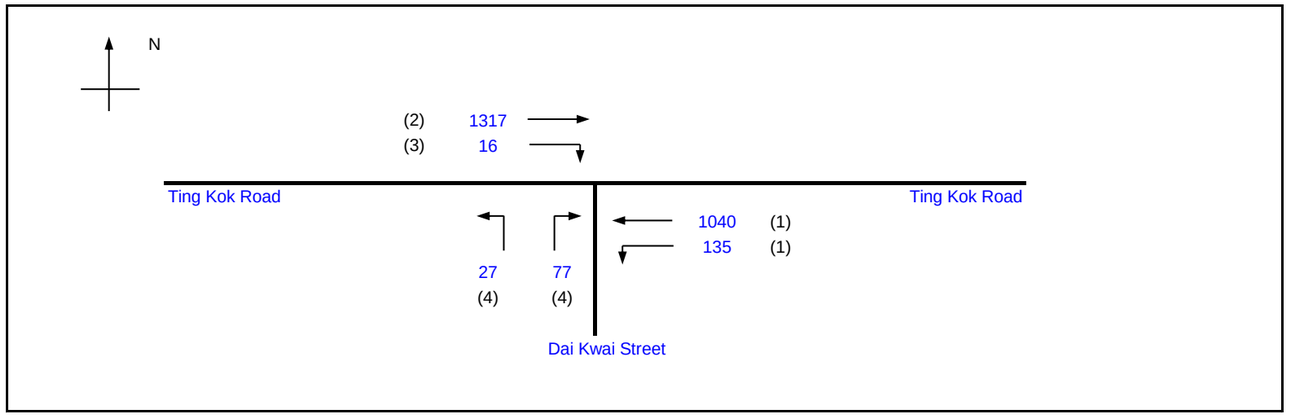
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		549		549	0.00	1953			1953	0.281			44	44	0.760	66	37
LT,SA	A	3.65	1	1	15		N	1980	116	431		547	0.21	1939			1939	0.282	0.282		45	45	0.760	66	37
SA	A	3.65	1	1				2120		598		598	0.00	2120			2120	0.282			45	45	0.760	72	36
SA	B	3.38	3	1			N	1953		357		357	0.00	1953			1953	0.183	0.183		29	29	0.760	54	49
SA,RT	B	3.38	3	1	20			2093		330	49	379	0.13	2072			2072	0.183			29	29	0.760	54	48
LT	C	3.50	4	1	15		N	1965	52			52	1.00	1786			1786	0.029			5	8	0.461	6	61
LT,RT	C	3.50	4	1	20			2105	0		94	94	1.00	1958			1958	0.048	0.048		8	8	0.760	18	91

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

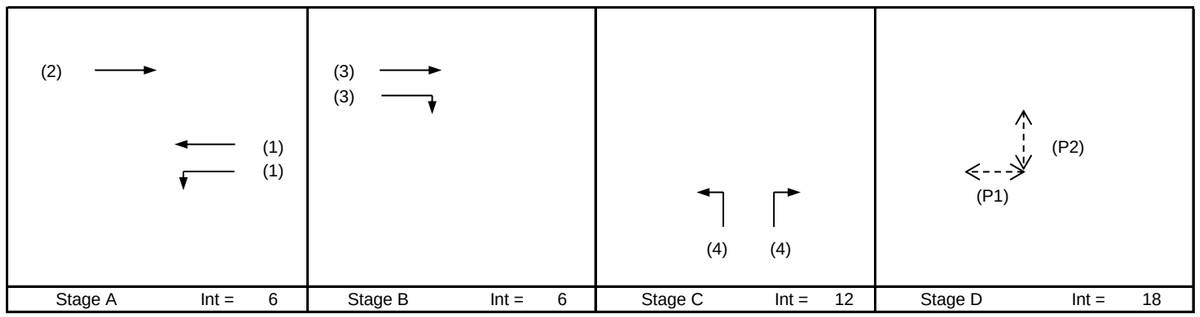
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.519	
Loss time		L =	39	sec
Total Flow		=	2612	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.0	sec
Cm	= L/(1-Y)	=	81.1	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	17.0	%
Cp	= 0.9*L/(0.9-Y)	=	92.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

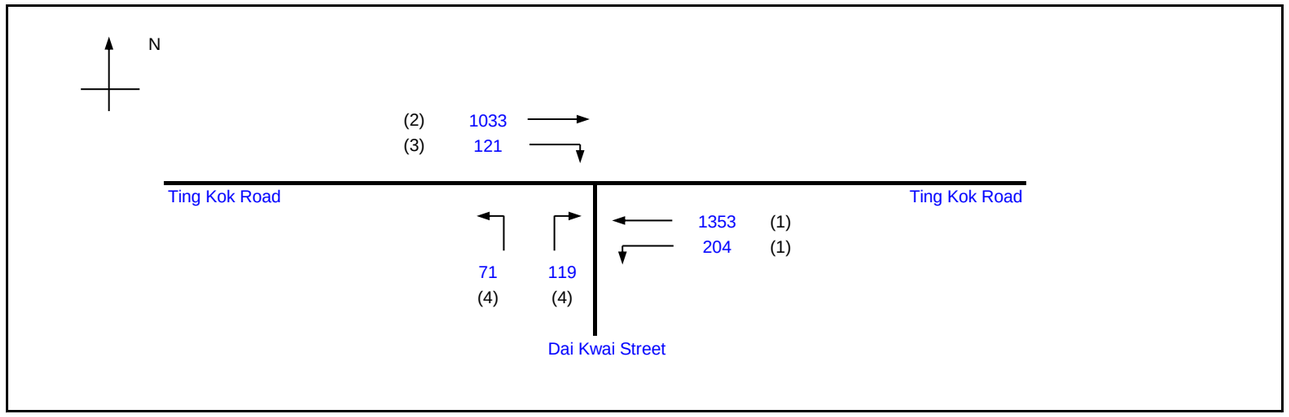
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		566		566	0.00	1953			1953	0.290			45	45	0.769	66	37
LT,SA	A	3.65	1	1	15		N	1980	135	425		560	0.24	1933			1933	0.290	0.290		45	45	0.769	66	37
SA	A	3.65	1	1				2120		615		615	0.00	2120			2120	0.290			45	45	0.769	72	36
SA	B	3.38	3	1			N	1953		371		371	0.00	1953			1953	0.190	0.190		30	30	0.769	54	49
SA,RT	B	3.38	3	1	20			2093		380	16	396	0.04	2086			2086	0.190			30	30	0.769	60	48
LT	C	3.50	4	1	15		N	1965	27			27	1.00	1786			1786	0.015			2	6	0.296	0	57
LT,RT	C	3.50	4	1	20			2105	0		77	77	1.00	1958			1958	0.039	0.039		6	6	0.769	18	104

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

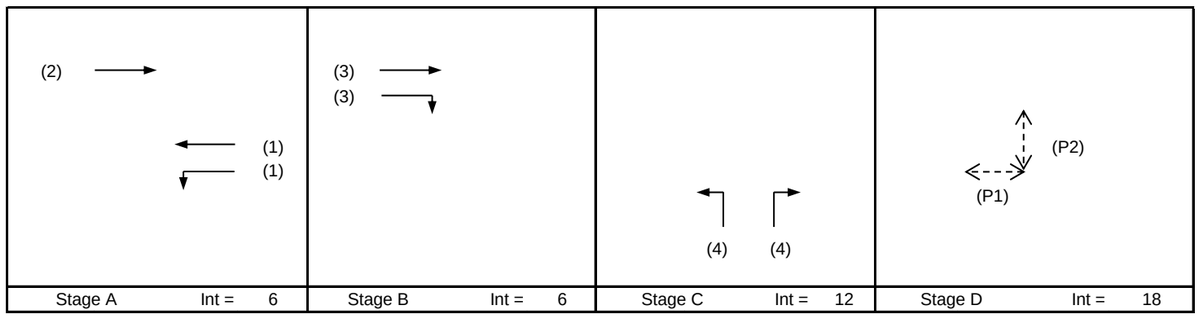
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.547	
Loss time		L =	39	sec
Total Flow		=	2901	pcu
Co	= (1.5*L+5)/(1-Y)	=	140.3	sec
Cm	= L/(1-Y)	=	86.2	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	11.0	%
Cp	= 0.9*L/(0.9-Y)	=	99.5	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

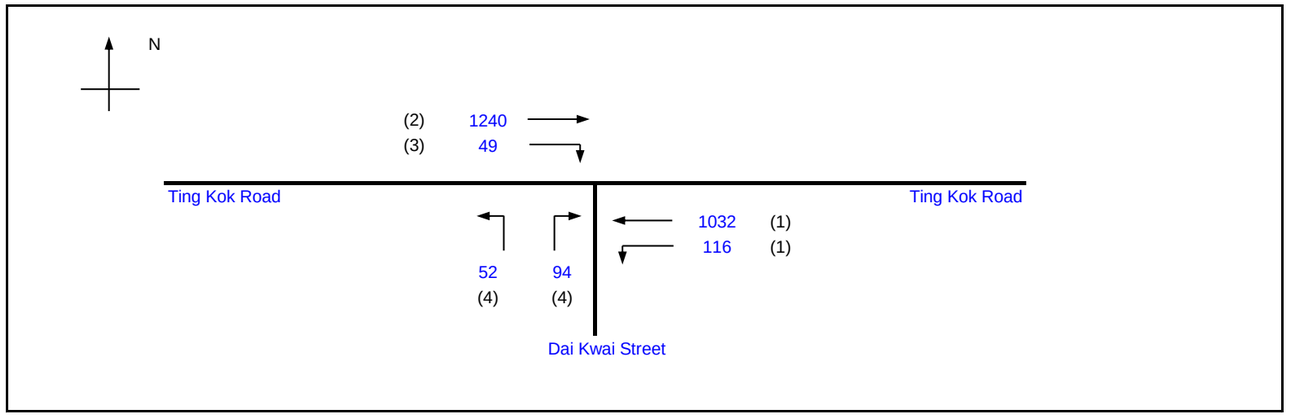
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		751		751	0.00	1953			1953	0.385			57	57	0.811	78	32
LT,SA	A	3.65	1	1	15		N	1980	204	537		741	0.28	1927			1927	0.385	0.385		57	57	0.811	78	32
SA	A	3.65	1	1				2120		816		816	0.00	2120			2120	0.385			57	57	0.811	84	31
SA	B	3.38	3	1			N	1953		199		199	0.00	1953			1953	0.102	0.102		15	15	0.811	42	74
SA,RT	B	3.38	3	1	20			2093		83	121	204	0.59	2003			2003	0.102			15	15	0.811	42	74
LT	C	3.50	4	1	15		N	1965	71			71	1.00	1786			1786	0.040			6	9	0.530	12	62
LT,RT	C	3.50	4	1	20			2105	0		119	119	1.00	1958			1958	0.061	0.061		9	9	0.811	30	97

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

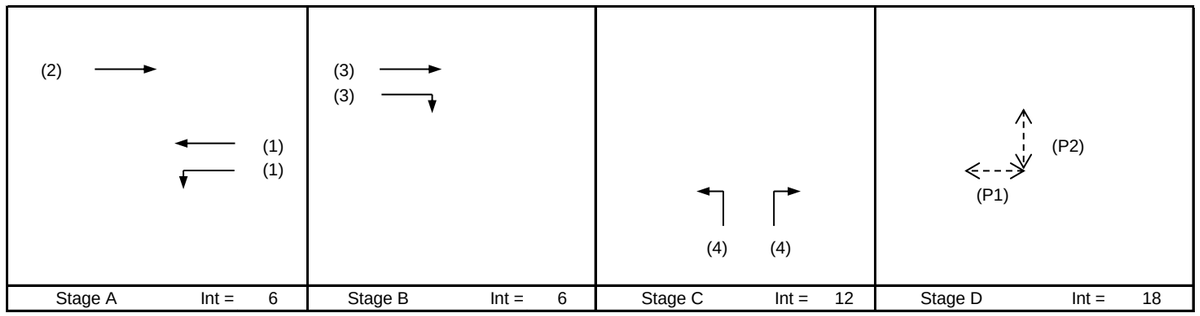
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2027Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.515	
Loss time		L =	39	sec
Total Flow		=	2583	pcu
Co	= (1.5*L+5)/(1-Y)	=	130.8	sec
Cm	= L/(1-Y)	=	80.3	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	18.1	%
Cp	= 0.9*L/(0.9-Y)	=	91.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

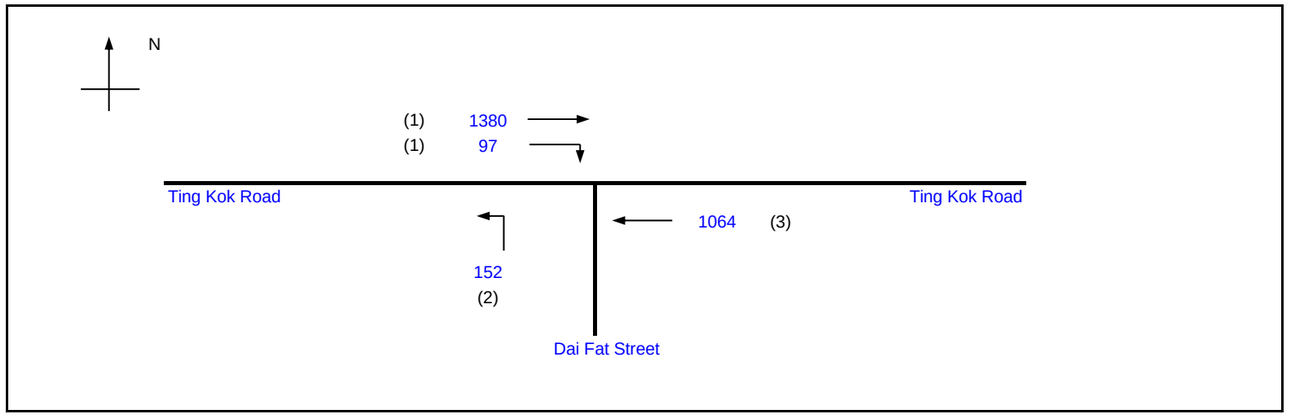
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		549		549	0.00	1953			1953	0.281			44	44	0.762	66	37
LT,SA	A	3.65	1	1	15		N	1980	116	432		548	0.21	1939			1939	0.283	0.283		45	45	0.762	66	37
SA	A	3.65	1	1				2120		600		600	0.00	2120			2120	0.283			45	45	0.762	72	36
SA	B	3.38	3	1			N	1953		359		359	0.00	1953			1953	0.184	0.184		29	29	0.762	54	49
SA,RT	B	3.38	3	1	20			2093		332	49	381	0.13	2073			2073	0.184			29	29	0.762	54	49
LT	C	3.50	4	1	15		N	1965	52			52	1.00	1786			1786	0.029			5	8	0.462	6	61
LT,RT	C	3.50	4	1	20			2105			94	94	1.00	1958			1958	0.048	0.048		8	8	0.762	18	92

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

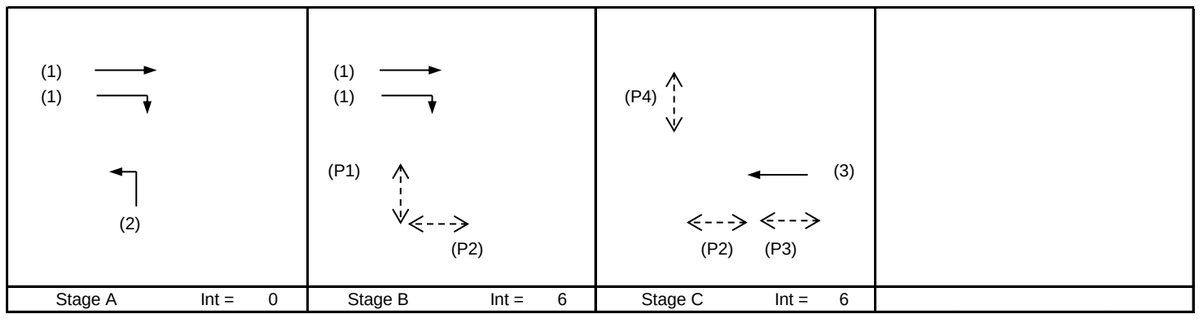
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	**2027Ref_SUN** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.628	
Loss time		L =	10	sec
Total Flow		=	2693	pcu
Co	= (1.5*L+5)/(1-Y)	=	53.8	sec
Cm	= L/(1-Y)	=	26.9	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.3	%
Cp	= 0.9*L/(0.9-Y)	=	33.1	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.9	%



Stage A Int = 0 | Stage B Int = 6 | Stage C Int = 6

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

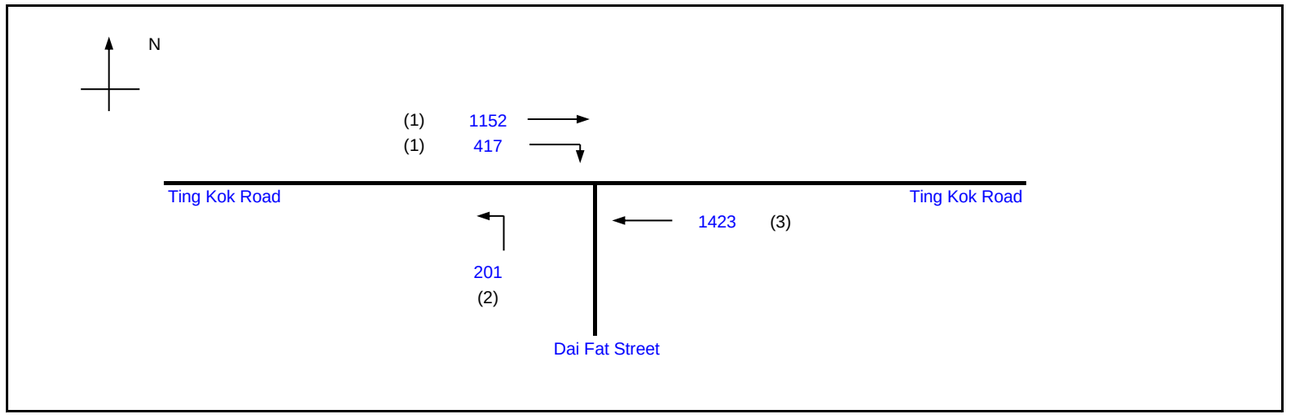
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		718		718	0.00	1945			1945	0.369	0.369		53	53	0.698	54	20
SA, RT	A,B	3.30	1	1	15			2085		662	97	759	0.13	2059			2059	0.369			53	53	0.698	54	19
LT	A	3.65	2	2	20		N	4100	152			152	1.00	3814			3814	0.040			6	6	0.698	12	59
SA	C	3.65	3	2			N	4100		1064		1064	0.00	4100			4100	0.260	0.260		37	37	0.698	54	26

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

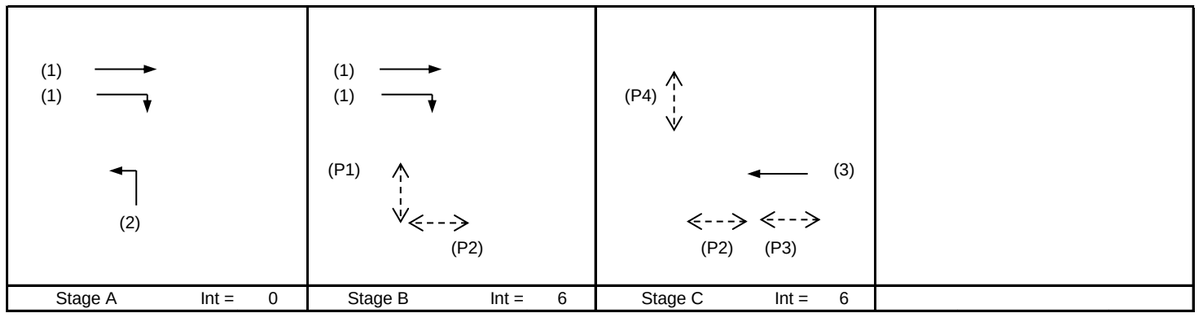
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2027Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.747	
Loss time		L =	10	sec
Total Flow		=	3193	pcu
Co	= (1.5*L+5)/(1-Y)	=	79.0	sec
Cm	= L/(1-Y)	=	39.5	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	10.5	%
Cp	= 0.9*L/(0.9-Y)	=	58.7	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

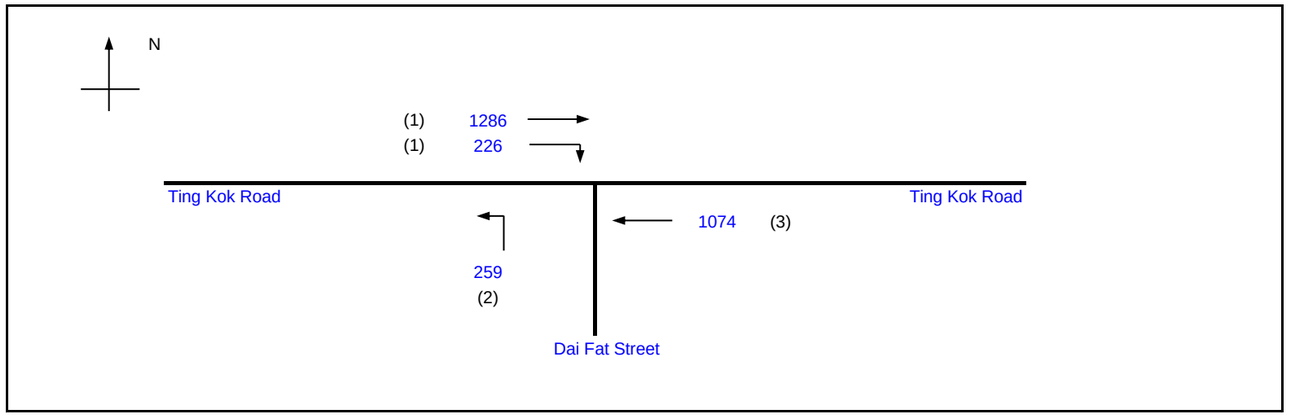
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		777		777	0.00	1945			1945	0.400	0.400		59	59	0.815	78	31
SA, RT	A,B	3.30	1	1	15			2085		375	417	792	0.53	1981			1981	0.400			59	59	0.815	78	31
LT	A	3.65	2	2	20		N	4100	201			201	1.00	3814			3814	0.053			8	8	0.815	21	79
SA	C	3.65	3	2			N	4100		1423		1423	0.00	4100			4100	0.347	0.347		51	51	0.815	81	31

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

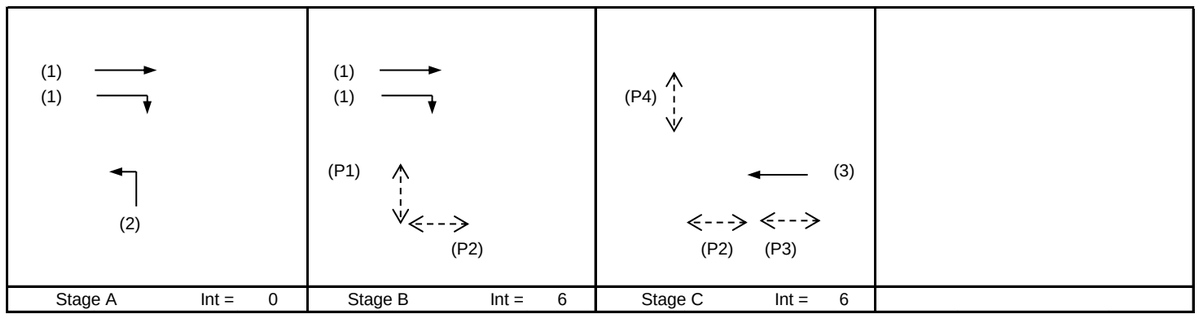
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.643	
Loss time		L =	10	sec
Total Flow		=	2845	pcu
Co	= (1.5*L+5)/(1-Y)	=	56.0	sec
Cm	= L/(1-Y)	=	28.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	28.4	%
Cp	= 0.9*L/(0.9-Y)	=	35.0	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	26.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

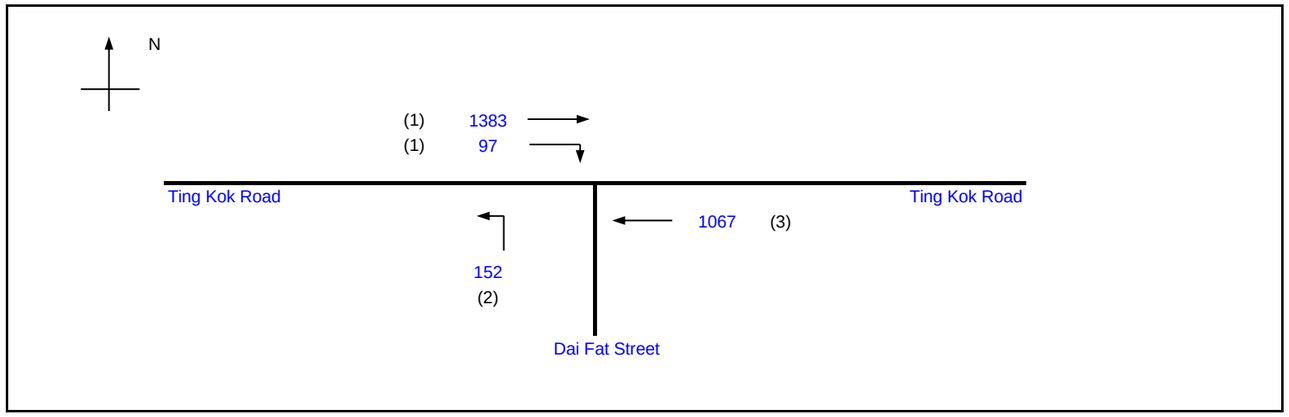
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		741		741	0.00	1945			1945	0.381	0.381		53	53	0.714	54	20
SA, RT	A,B	3.30	1	1	15			2085		545	226	771	0.29	2026			2026	0.381			53	53	0.714	60	20
LT	A	3.65	2	2	20		N	4100	259			259	1.00	3814			3814	0.068			10	10	0.714	18	51
SA	C	3.65	3	2			N	4100		1074		1074	0.00	4100			4100	0.262	0.262		37	37	0.714	54	27

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

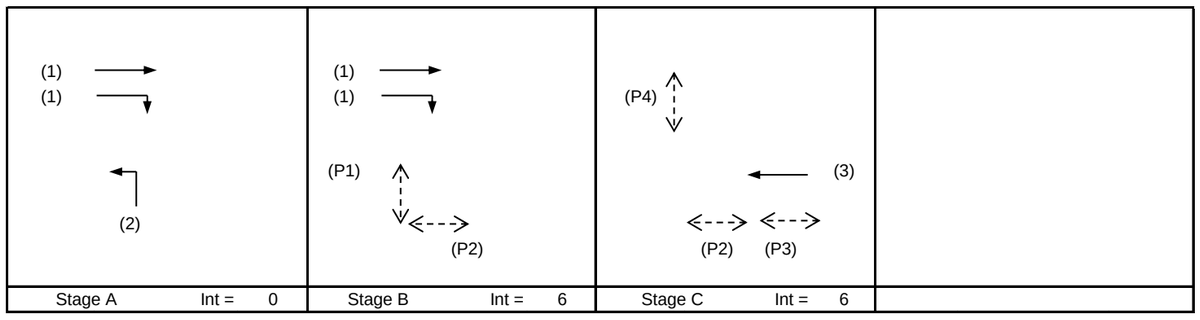
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows	**2027Des_SUN** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.630	
Loss time		L =	10	sec
Total Flow		=	2699	pcu
Co	= (1.5*L+5)/(1-Y)	=	54.0	sec
Cm	= L/(1-Y)	=	27.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.0	%
Cp	= 0.9*L/(0.9-Y)	=	33.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

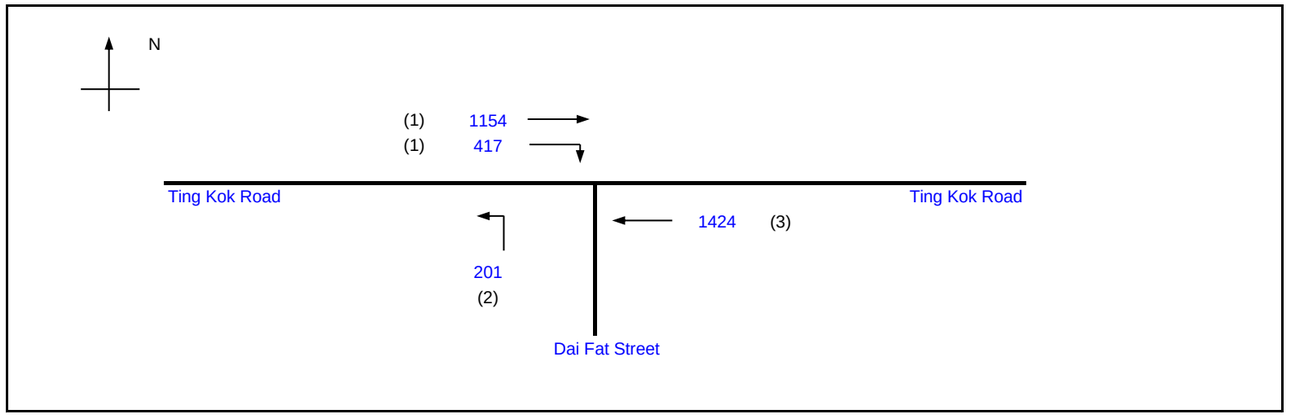
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		719		719	0.00	1945			1945	0.370	0.370		53	53	0.700	54	20
SA, RT	A,B	3.30	1	1	15			2085		664	97	761	0.13	2059			2059	0.370			53	53	0.700	54	19
LT	A	3.65	2	2	20		N	4100	152			152	1.00	3814			3814	0.040			6	6	0.700	12	59
SA	C	3.65	3	2			N	4100		1067		1067	0.00	4100			4100	0.260	0.260		37	37	0.700	54	26

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

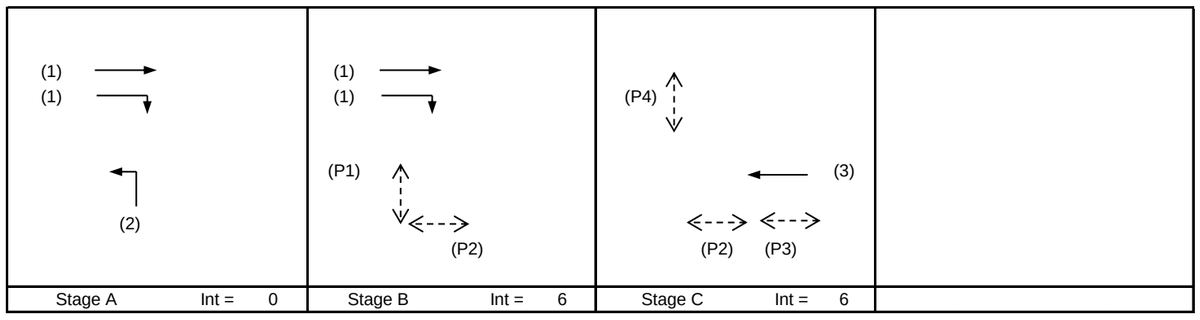
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	**2027Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows		J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.747	
Loss time		L =	10	sec
Total Flow		=	3196	pcu
Co	= (1.5*L+5)/(1-Y)	=	79.2	sec
Cm	= L/(1-Y)	=	39.6	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	10.4	%
Cp	= 0.9*L/(0.9-Y)	=	59.0	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		778		778	0.00	1945			1945	0.400	0.400		59	59	0.815	78	31
SA, RT	A,B	3.30	1	1	15			2085		376	417	793	0.53	1981			1981	0.400			59	59	0.815	78	31
LT	A	3.65	2	2	20		N	4100	201			201	1.00	3814			3814	0.053			8	8	0.815	21	79
SA	C	3.65	3	2			N	4100		1424		1424	0.00	4100			4100	0.347	0.347		51	51	0.815	81	31

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

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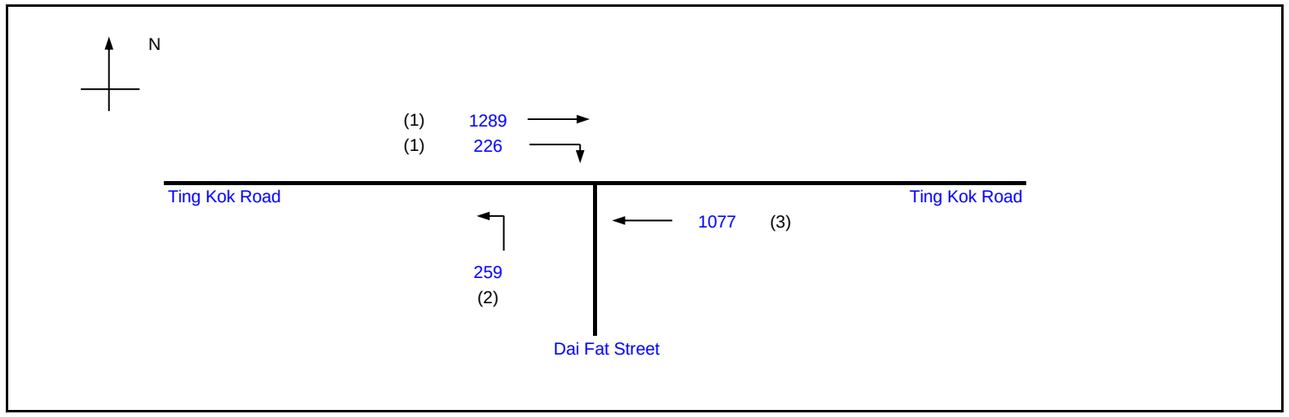
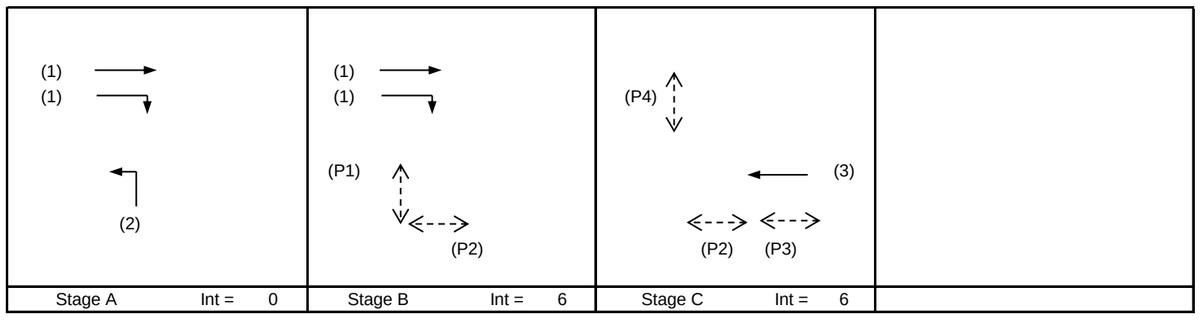
			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.644	
Loss time		L =	10	sec
Total Flow		=	2851	pcu
Co	= (1.5*L+5)/(1-Y)	=	56.2	sec
Cm	= L/(1-Y)	=	28.1	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	28.1	%
Cp	= 0.9*L/(0.9-Y)	=	35.2	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	25.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

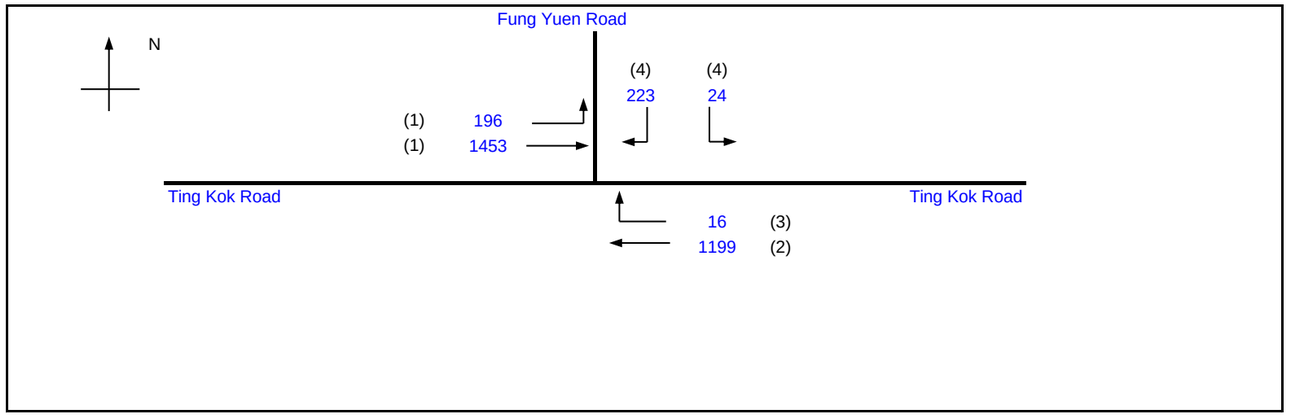
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		742		742	0.00	1945			1945	0.382	0.382		53	53	0.716	54	20
SA, RT	A,B	3.30	1	1	15			2085		547	226	773	0.29	2026			2026	0.382			53	53	0.716	60	20
LT	A	3.65	2	2	20		N	4100	259			259	1.00	3814			3814	0.068			9	9	0.716	18	51
SA	C	3.65	3	2			N	4100		1077		1077	0.00	4100			4100	0.263	0.263		37	37	0.716	54	27

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

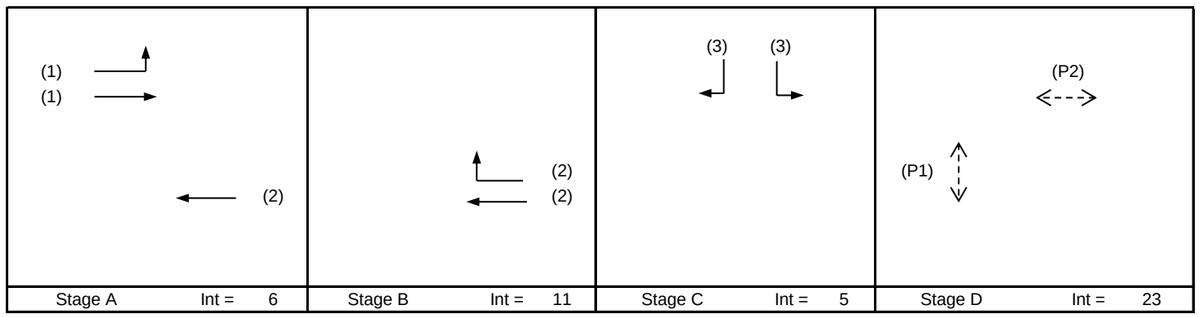
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows	**2027Ref_SUN** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.522	
Loss time		L =	43	sec
Total Flow		=	3111	pcu
Co	= (1.5*L+5)/(1-Y)	=	145.4	sec
Cm	= L/(1-Y)	=	90.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	10.6	%
Cp	= 0.9*L/(0.9-Y)	=	102.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

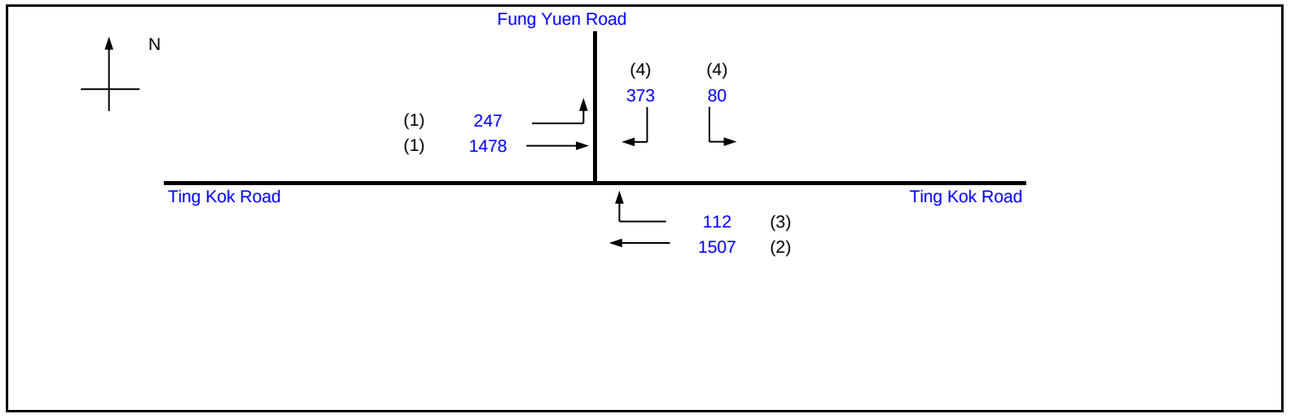
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	589		785	0.25	1923			1923	0.408	0.408		60	56	0.875	90	22
SA	A	3.60	1	1				2115		864		864	0.00	2115			2115	0.408			60	56	0.875	96	22
SA	A,B	3.60	2	1			N	1975		625		625	0.00	1975			1975	0.317			47	65	0.585	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		574	16	590	0.03	1881			1881	0.314			46	65	0.579	54	19
LT	C	3.60	4	1	11		N	1975	24			24	1.00	1738			1738	0.014			2	24	0.069	0	35
RT	C	3.80	4	1	17			2135			223	223	1.00	1962			1962	0.114	0.114		17	24	0.568	30	44

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

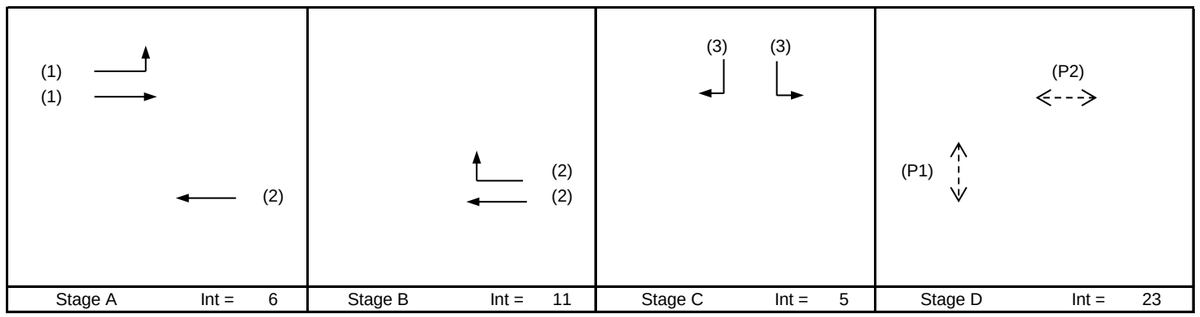
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	**2027Ref_AM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.618	
Loss time		L =	43	sec
Total Flow		=	3797	pcu
Co	= (1.5*L+5)/(1-Y)	=	182.1	sec
Cm	= L/(1-Y)	=	112.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-6.6	%
Cp	= 0.9*L/(0.9-Y)	=	137.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

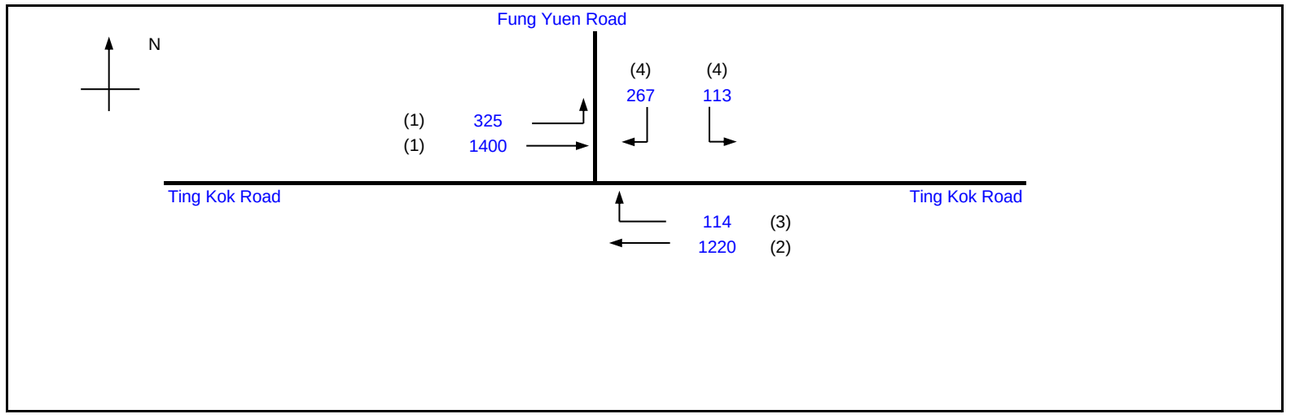
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	572		819	0.30	1914			1914	0.428	0.428		53	53	0.964	150	24
SA	A	3.60	1	1				2115		906		906	0.00	2115			2115	0.428			53	53	0.964	162	25
SA	A,B	3.60	2	1			N	1975		824		824	0.00	1975			1975	0.417			52	53	0.964	156	25
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.426			53	53	0.964	150	24
LT	C	3.60	4	1	11		N	1975	80			80	1.00	1738			1738	0.046			6	24	0.964	78	56
RT	C	3.80	4	1	17			2135			373	373	1.00	1962			1962	0.190	0.190		24	24	0.964	120	43

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

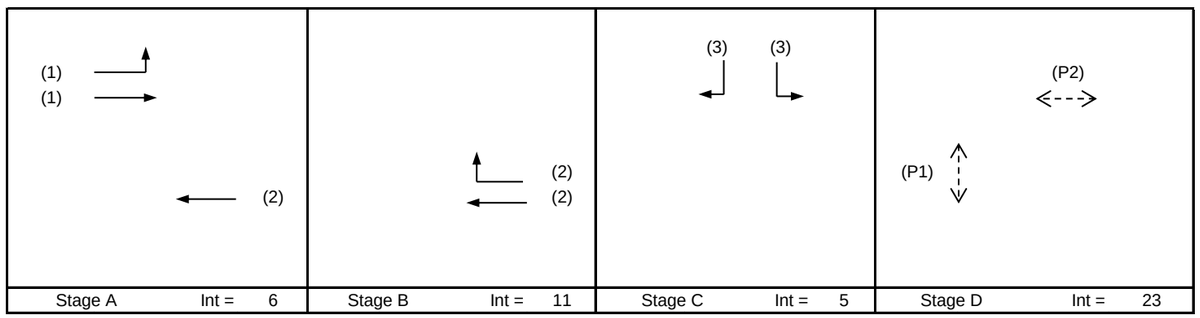
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows	**2027Ref_PM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.566	
Loss time		L =	43	sec
Total Flow		=	3439	pcu
Co	= (1.5*L+5)/(1-Y)	=	160.1	sec
Cm	= L/(1-Y)	=	99.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	2.0	%
Cp	= 0.9*L/(0.9-Y)	=	115.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	2.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

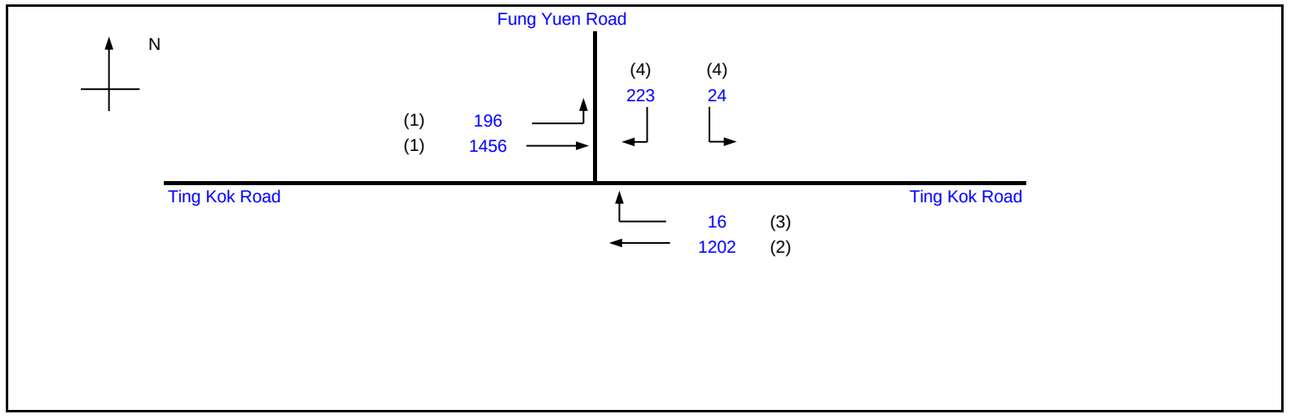
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	491		816	0.40	1898			1898	0.430	0.430		58	58	0.882	90	20
SA	A	3.60	1	1				2115		909		909	0.00	2115			2115	0.430			58	58	0.882	102	21
SA	A,B	3.60	2	1			N	1975		687		687	0.00	1975			1975	0.348			47	47	0.880	90	27
SA,RT	A,B	3.60	3	1	19	O		2115		533	114	647	0.18	1859			1859	0.348			47	47	0.882	84	27
LT	C	3.60	4	1	11		N	1975	113			113	1.00	1738			1738	0.065			9	19	0.421	18	46
RT	C	3.80	4	1	17			2135			267	267	1.00	1962			1962	0.136	0.136		19	19	0.882	60	46

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

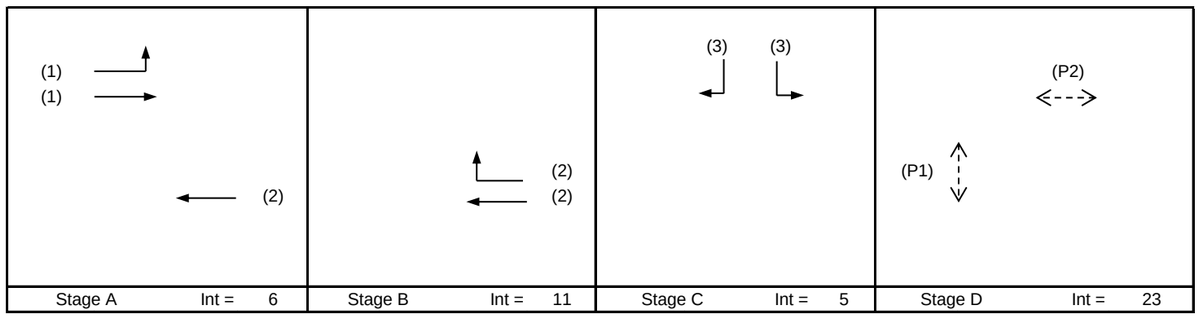
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.523	
Loss time		L =	43	sec
Total Flow		=	3117	pcu
Co	= (1.5*L+5)/(1-Y)	=	145.6	sec
Cm	= L/(1-Y)	=	90.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	10.5	%
Cp	= 0.9*L/(0.9-Y)	=	102.6	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	10.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

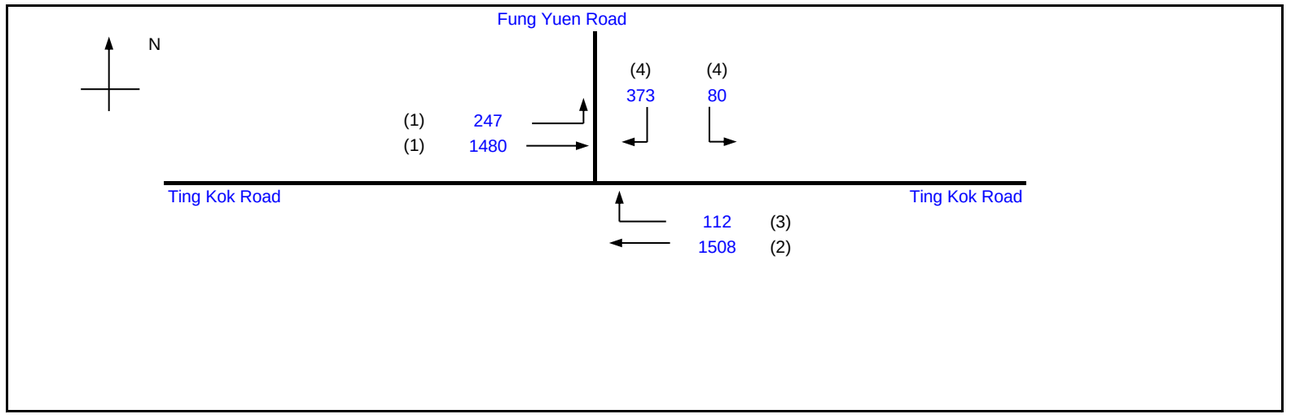
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	591		787	0.25	1923			1923	0.409	0.409		60	56	0.877	90	22
SA	A	3.60	1	1				2115		865		865	0.00	2115			2115	0.409			60	56	0.877	96	22
SA	A,B	3.60	2	1			N	1975		627		627	0.00	1975			1975	0.317			47	65	0.586	54	19
SA,RT	A,B	3.60	3	1	19	O		2115		575	16	591	0.03	1881			1881	0.314			46	65	0.580	54	19
LT	C	3.60	4	1	11		N	1975	24			24	1.00	1738			1738	0.014			2	24	0.069	0	35
RT	C	3.80	4	1	17			2135			223	223	1.00	1962			1962	0.114	0.114		17	24	0.568	30	44

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

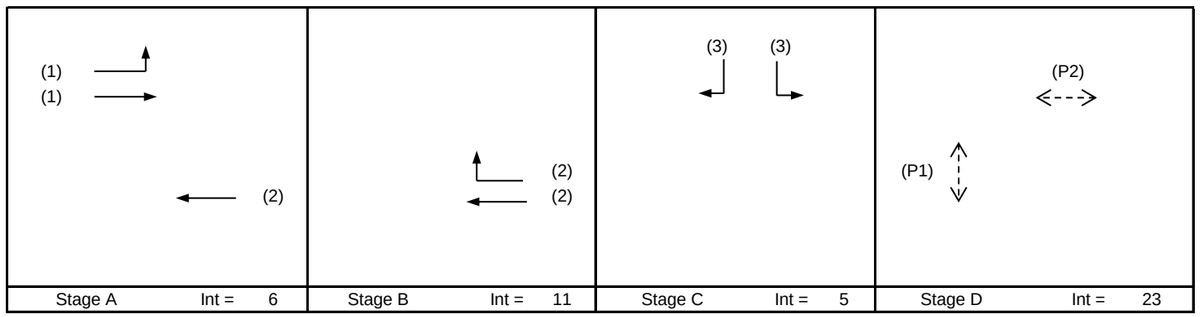
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.619	
Loss time		L =	43	sec
Total Flow		=	3800	pcu
Co	= (1.5*L+5)/(1-Y)	=	182.3	sec
Cm	= L/(1-Y)	=	112.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-6.7	%
Cp	= 0.9*L/(0.9-Y)	=	137.6	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

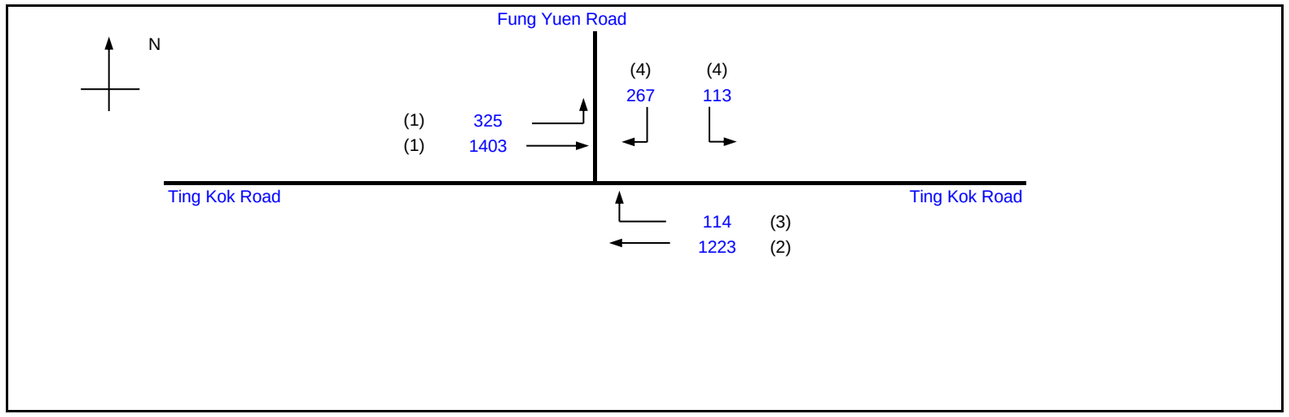
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	573		820	0.30	1914			1914	0.429	0.429		53	53	0.964	150	24
SA	A	3.60	1	1				2115		907		907	0.00	2115			2115	0.429			53	53	0.964	162	25
SA	A,B	3.60	2	1			N	1975		825		825	0.00	1975			1975	0.417			52	53	0.964	156	25
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.427			53	53	0.964	150	24
LT	C	3.60	4	1	11		N	1975	80			80	1.00	1738			1738	0.046			6	24	0.964	84	56
RT	C	3.80	4	1	17			2135			373	373	1.00	1962			1962	0.190	0.190		24	24	0.964	126	43

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

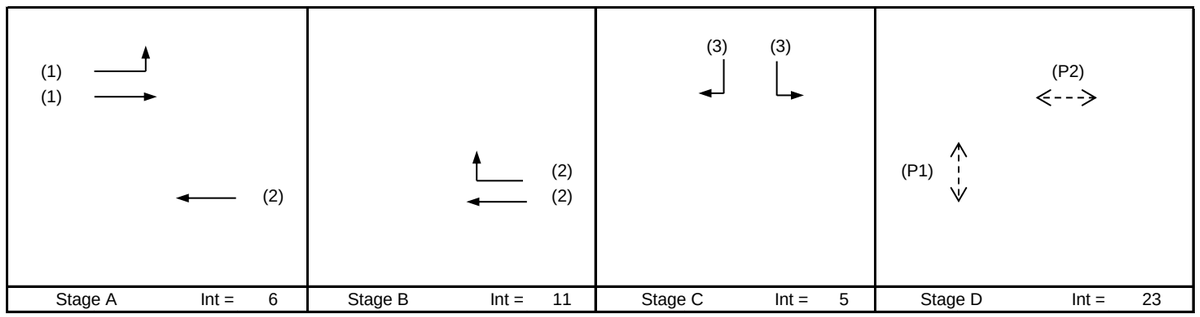
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.567	
Loss time		L =	43	sec
Total Flow		=	3445	pcu
Co	= (1.5*L+5)/(1-Y)	=	160.4	sec
Cm	= L/(1-Y)	=	99.2	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	1.9	%
Cp	= 0.9*L/(0.9-Y)	=	116.1	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	1.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

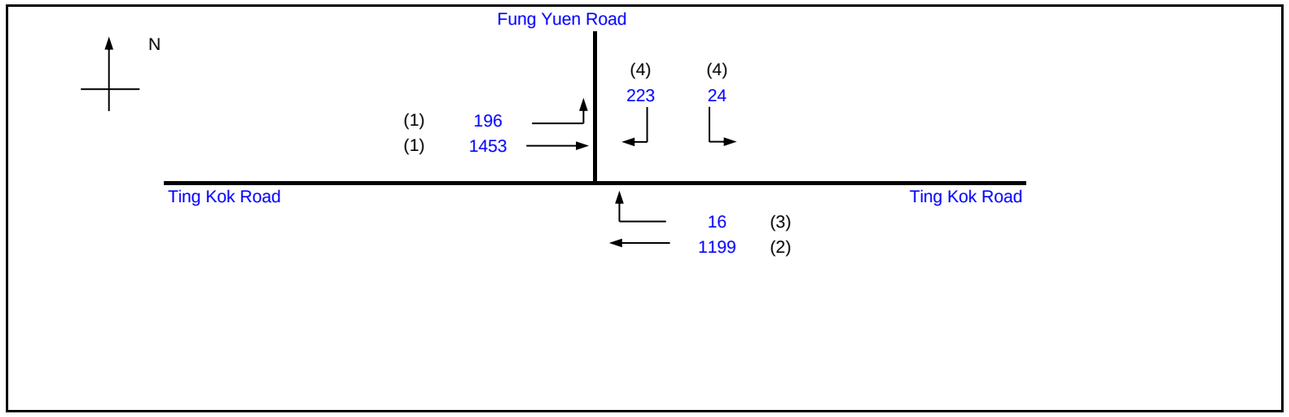
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	492		817	0.40	1898			1898	0.431	0.431		59	59	0.883	90	20
SA	A	3.60	1	1				2115		911		911	0.00	2115			2115	0.431			59	59	0.883	102	21
SA	A,B	3.60	2	1			N	1975		688		688	0.00	1975			1975	0.348			47	47	0.881	90	27
SA,RT	A,B	3.60	3	1	19	O		2115		535	114	649	0.18	1859			1859	0.349			47	47	0.883	90	27
LT	C	3.60	4	1	11		N	1975	113			113	1.00	1738			1738	0.065			9	18	0.422	18	46
RT	C	3.80	4	1	17			2135			267	267	1.00	1962			1962	0.136	0.136		18	18	0.883	60	46

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

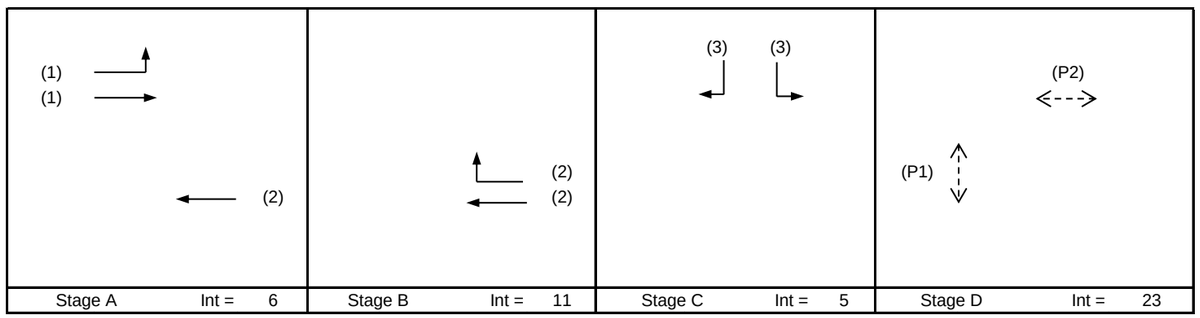
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_SUN (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.475	
Loss time		L =	43	sec
Total Flow		=	3111	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.4	sec
Cm	= L/(1-Y)	=	81.9	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	21.5	%
Cp	= 0.9*L/(0.9-Y)	=	91.1	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	21.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

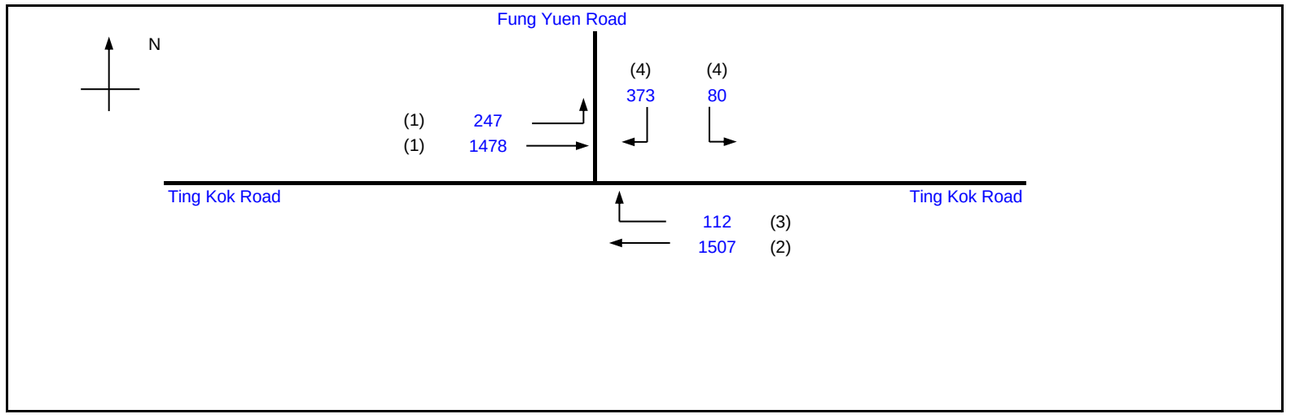
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	589		785	0.25	1923			1923	0.408	0.408		66	66	0.741	66	23
SA	A	3.60	1	1				2115		864		864	0.00	2115			2115	0.408			66	66	0.741	72	22
SA	A,B	3.60	2	1			N	1975		625		625	0.00	1975			1975	0.317			51	51	0.748	72	32
SA,RT	A,B	3.60	3	1	19	O		2115		574	16	590	0.03	1881			1881	0.314			51	51	0.741	66	32
LT,RT	C	3.60	4	1	11		N	1975	24		92	116	1.00	1738			1738	0.067	0.067		11	11	0.741	24	77
RT	C	3.80	4	1	17			2135			131	131	1.00	1962			1962	0.067			11	11	0.741	24	74

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

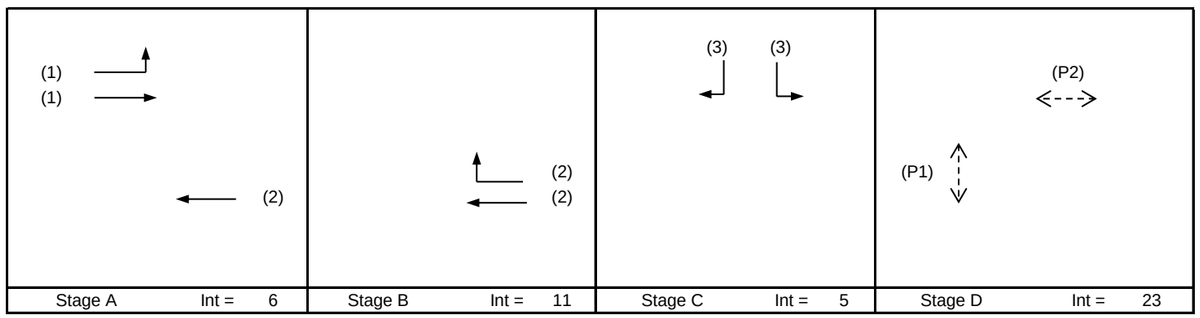
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_AM (Imp)**	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows (with Improvement)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.551	
Loss time		L =	43	sec
Total Flow		=	3797	pcu
Co	= (1.5*L+5)/(1-Y)	=	154.6	sec
Cm	= L/(1-Y)	=	95.7	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	4.9	%
Cp	= 0.9*L/(0.9-Y)	=	110.8	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	4.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

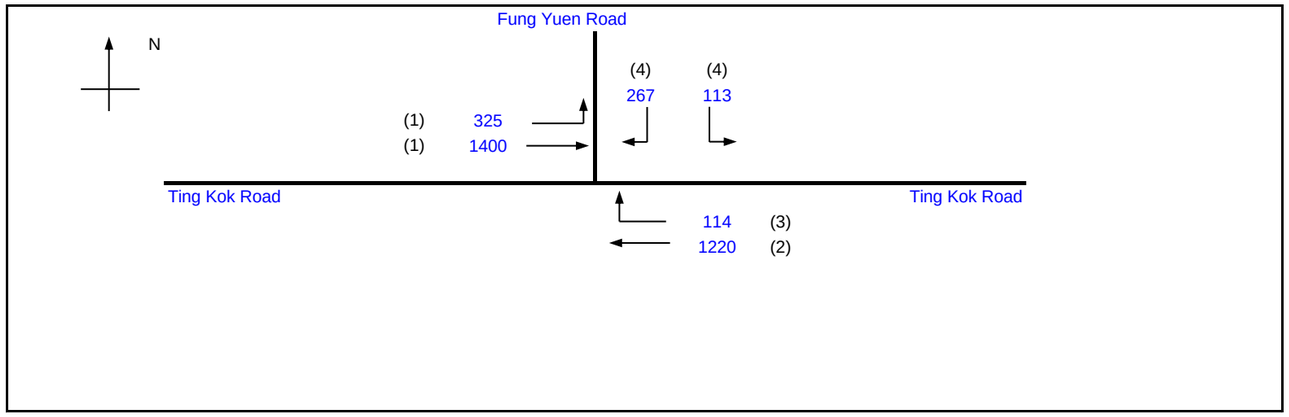
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	572		819	0.30	1914			1914	0.428	0.428		60	60	0.858	84	20
SA	A	3.60	1	1				2115		906		906	0.00	2115			2115	0.428			60	60	0.858	90	20
SA	A,B	3.60	2	1			N	1975		824		824	0.00	1975			1975	0.417			58	60	0.840	84	32
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.426			60	60	0.858	84	19
LT,RT	C	3.60	4	1	11		N	1975	80		133	213	1.00	1738			1738	0.122	0.122		17	17	0.858	48	47
RT	C	3.80	4	1	17			2135			240	240	1.00	1962			1962	0.122			17	17	0.858	48	47

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

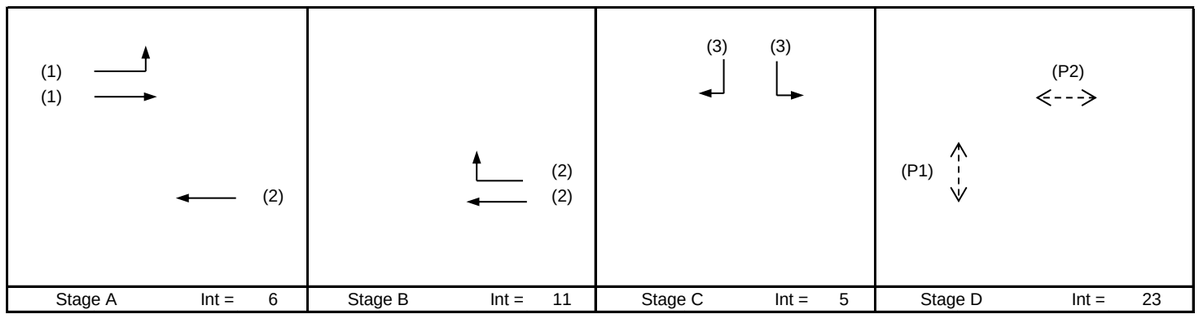
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Ref_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.533	
Loss time		L =	43	sec
Total Flow		=	3439	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.7	sec
Cm	= L/(1-Y)	=	92.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.4	%
Cp	= 0.9*L/(0.9-Y)	=	105.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

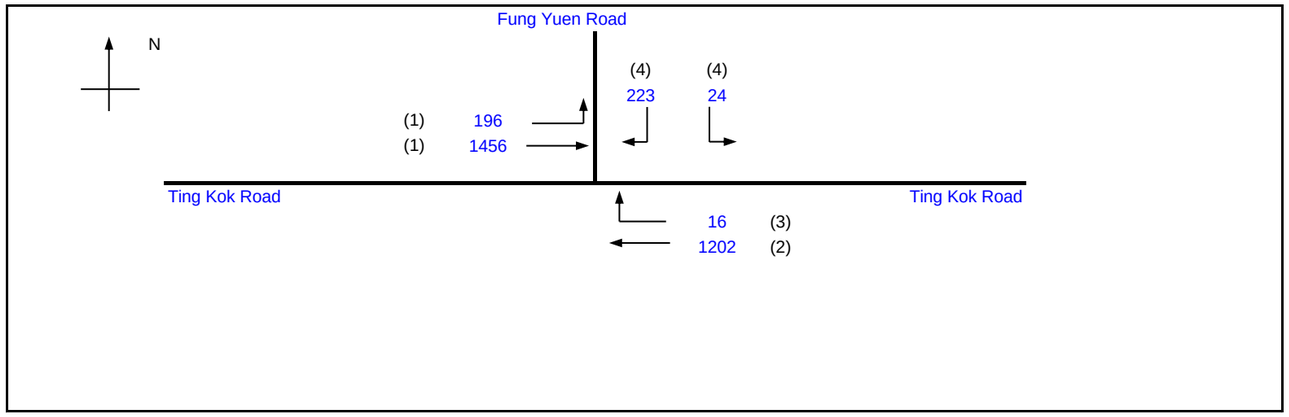
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	491		816	0.40	1898			1898	0.430	0.430		62	62	0.830	78	30
SA	A	3.60	1	1				2115		909		909	0.00	2115			2115	0.430			62	62	0.830	84	29
SA	A,B	3.60	2	1			N	1975		687		687	0.00	1975			1975	0.348			50	50	0.828	78	37
SA,RT	A,B	3.60	3	1	19	O		2115		533	114	647	0.18	1859			1859	0.348			50	50	0.830	78	38
LT,RT	C	3.60	4	1	11		N	1975	113		66	179	1.00	1738			1738	0.103	0.103		15	15	0.830	36	83
RT	C	3.80	4	1	17			2135			201	201	1.00	1962			1962	0.103			15	15	0.830	42	79

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

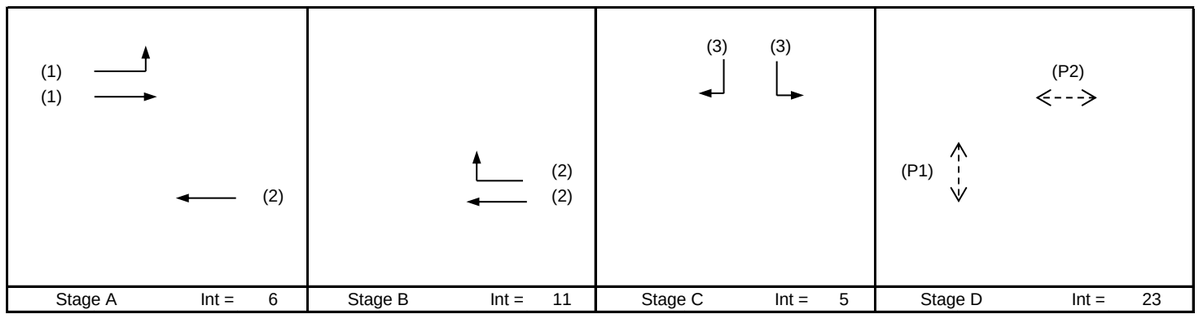
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows (with Improvement)	**2027Des_SUN (Imp)** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.476	
Loss time		L =	43	sec
Total Flow		=	3117	pcu
Co	= (1.5*L+5)/(1-Y)	=	132.6	sec
Cm	= L/(1-Y)	=	82.0	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	21.3	%
Cp	= 0.9*L/(0.9-Y)	=	91.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	21.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

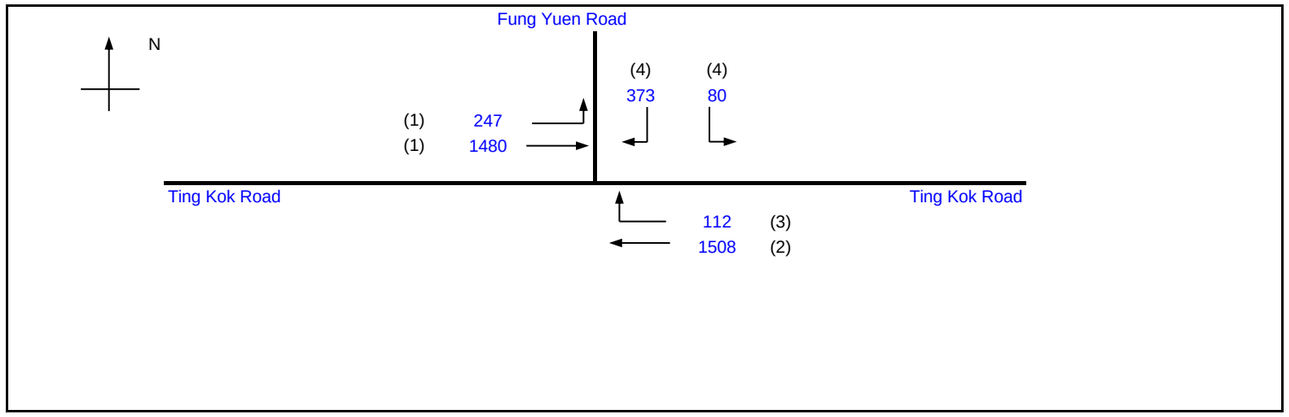
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	196	591		787	0.25	1923			1923	0.409	0.409		66	66	0.742	66	23
SA	A	3.60	1	1				2115		865		865	0.00	2115			2115	0.409			66	66	0.742	72	22
SA	A,B	3.60	2	1			N	1975		627		627	0.00	1975			1975	0.317			51	51	0.749	72	32
SA,RT	A,B	3.60	3	1	19	O		2115		575	16	591	0.03	1881			1881	0.314			51	51	0.742	66	32
LT,RT	C	3.60	4	1	11		N	1975	24		92	116	1.00	1738			1738	0.067	0.067		11	11	0.742	24	78
RT	C	3.80	4	1	17			2135			131	131	1.00	1962			1962	0.067			11	11	0.742	24	74

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

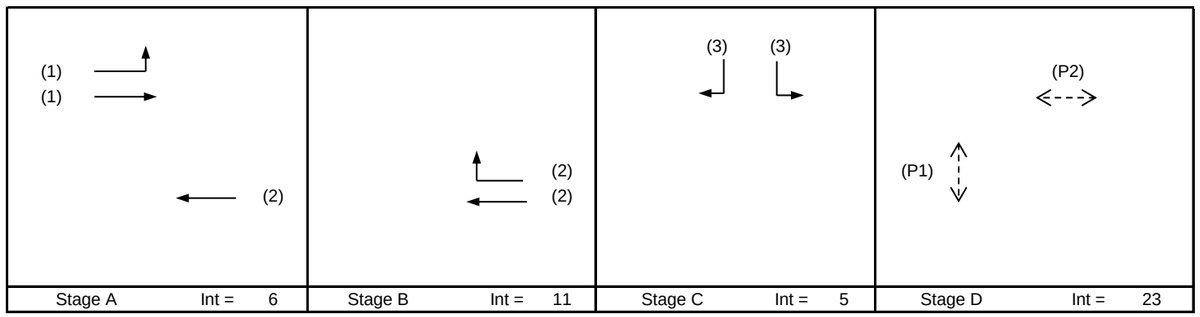
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_AM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.551	
Loss time		L =	43	sec
Total Flow		=	3800	pcu
Co	= (1.5*L+5)/(1-Y)	=	154.8	sec
Cm	= L/(1-Y)	=	95.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	4.8	%
Cp	= 0.9*L/(0.9-Y)	=	110.9	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	4.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

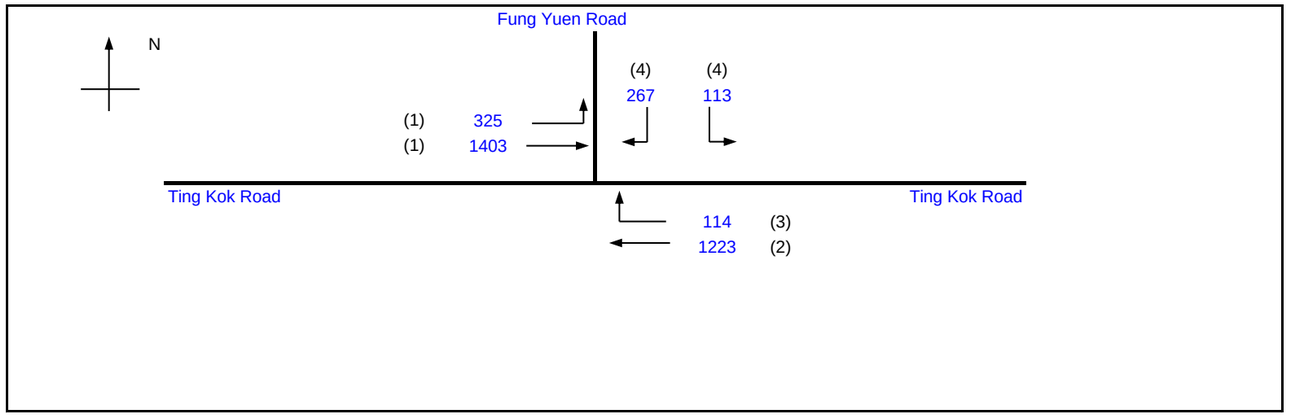
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	247	573		820	0.30	1914			1914	0.429	0.429		60	60	0.859	84	19
SA	A	3.60	1	1				2115		907		907	0.00	2115			2115	0.429			60	60	0.859	90	20
SA	A,B	3.60	2	1			N	1975		825		825	0.00	1975			1975	0.417			58	60	0.840	84	32
SA,RT	A,B	3.60	3	1	19	O		2115		683	112	795	0.14	1864			1864	0.427			60	60	0.859	84	19
LT,RT	C	3.60	4	1	11		N	1975	80		133	213	1.00	1738			1738	0.122	0.122		17	17	0.859	48	47
RT	C	3.80	4	1	17			2135			240	240	1.00	1962			1962	0.122			17	17	0.859	48	47

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

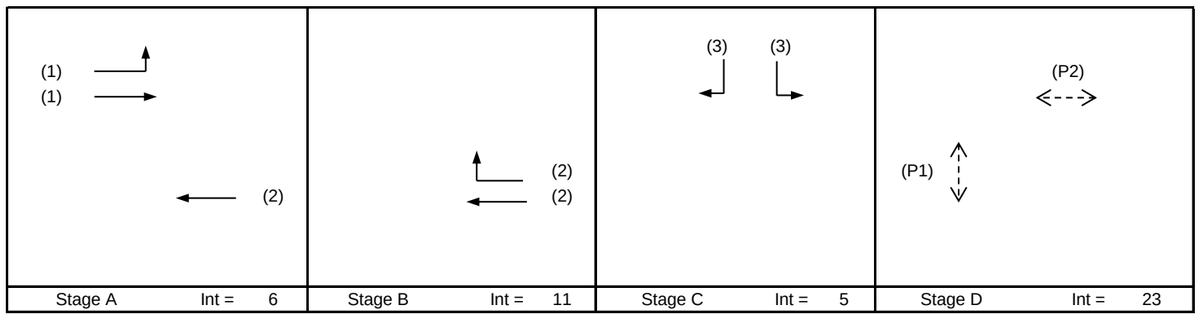
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2027Des_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows (with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.533	
Loss time		L =	43	sec
Total Flow		=	3445	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.9	sec
Cm	= L/(1-Y)	=	92.1	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.3	%
Cp	= 0.9*L/(0.9-Y)	=	105.5	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

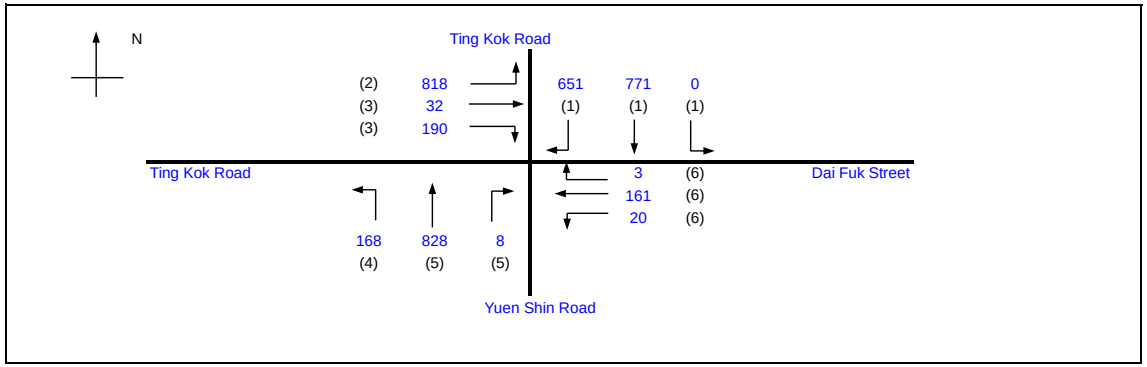
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	325	492		817	0.40	1898			1898	0.431	0.431		62	62	0.831	78	30
SA	A	3.60	1	1				2115		911		911	0.00	2115			2115	0.431			62	62	0.831	84	29
SA	A,B	3.60	2	1			N	1975		688		688	0.00	1975			1975	0.348			50	50	0.829	78	37
SA,RT	A,B	3.60	3	1	19	O		2115		535	114	649	0.18	1859			1859	0.349			50	50	0.831	78	38
LT,RT	C	3.60	4	1	11		N	1975	113		66	179	1.00	1738			1738	0.103	0.103		15	15	0.831	36	83
RT	C	3.80	4	1	17			2135			201	201	1.00	1962			1962	0.103			15	15	0.831	42	79

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

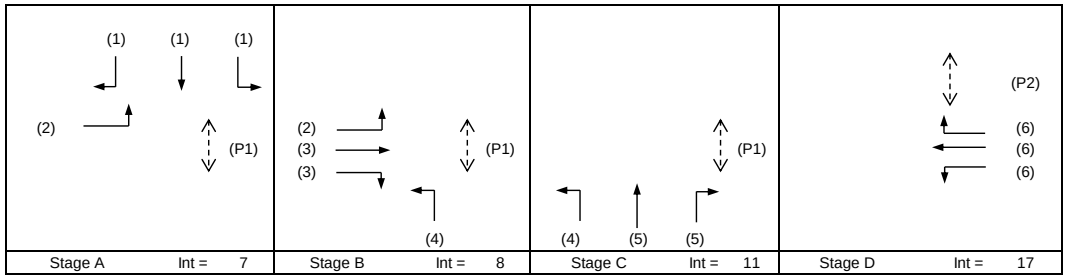
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Ref_SUN**	Checked By:	LL	Aug-22
2027 Reference Sunday Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.402	
Loss time		L =	40	sec
Total Flow		=	3650	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.7	sec
Cm	= L/(1-Y)	=	66.9	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	49.3	%
Cp	= 0.9*L/(0.9-Y)	=	72.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	34.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

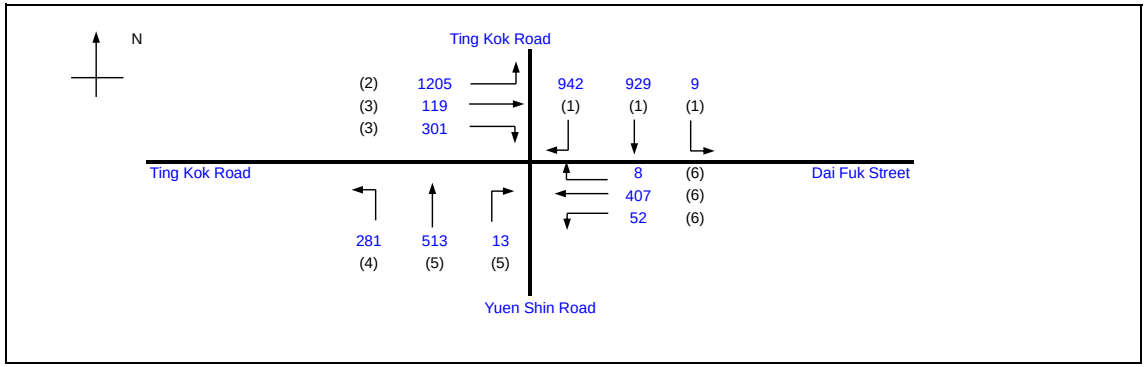
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	347		347	0.00	1980			1980	0.175		40	26	26	0.670	42	36
SA	A	3.65	1	1				2120		371		371	0.00	2120			2120	0.175			26	26	0.670	42	36
RT	A	3.65	1	2	25			4240		53	651	704	0.93	4017			4017	0.175	0.175		26	26	0.670	42	33
LT	A,B	3.65	2	2	20		N	4100	818			818	1.00	3814			3814	0.214			32	32	0.670	45	29
SA	B	3.65	3	1				2120		32		32	0.00	2120			2120	0.015			2	2	0.670	6	112
RT	B	3.65	3	1	25			2120			190	190	1.00	2000			2000	0.095	0.095		14	14	0.670	24	48
LT	B,C	3.40	4	1	15		N	1955	168			168	1.00	1777			1777	0.095			14	14	0.670	24	50
SA	C	3.40	5	3				6285		828		828	0.00	6285			6285	0.132	0.132		20	20	0.670	36	36
RT	C	3.40	5	1	20			2095			8	8	1.00	1949			1949	0.004			1	1	0.670	0	320
LT,SA	D	3.65	6	1	15		N	1980	20	68		88	0.23	1936			1936	0.045			7	7	0.670	12	66
SA,RT	D	3.65	6	1	25			2120		93	3	96	0.03	2116			2116	0.045			7	7	0.670	12	64

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

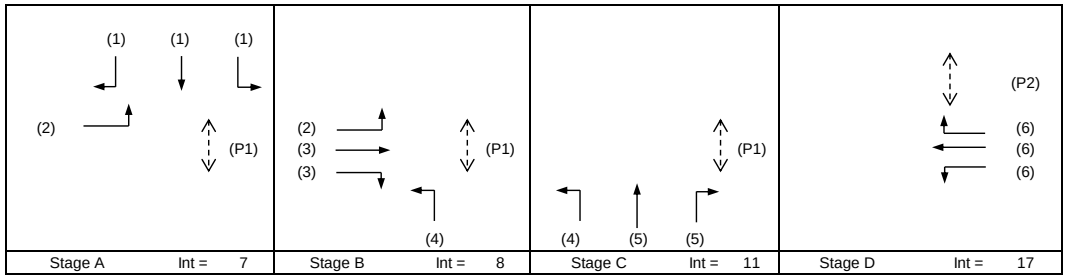
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Ref_AM**	Checked By:	LL	Aug-22
2027 Reference Weekday AM Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.468	
Loss time		L =	40	sec
Total Flow		=	4779	pcu
Co	= (1.5*L+5)/(1-Y)	=	122.1	sec
Cm	= L/(1-Y)	=	75.1	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	28.3	%
Cp	= 0.9*L/(0.9-Y)	=	83.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	15.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

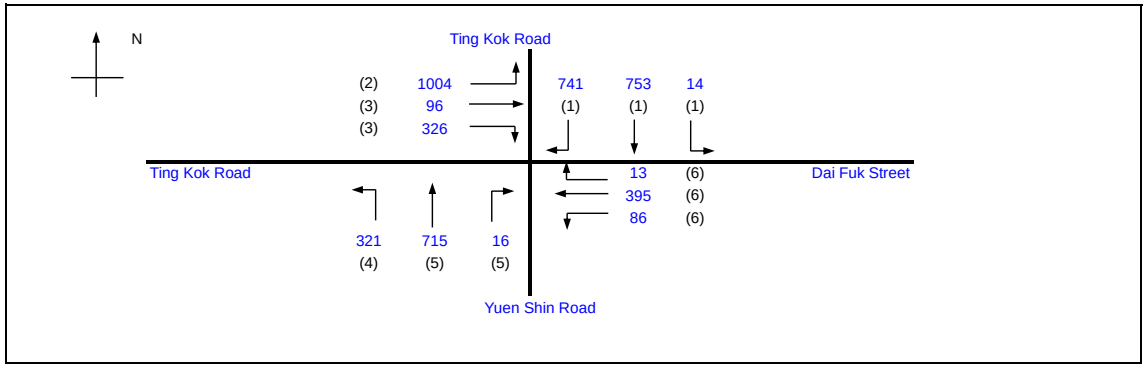
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	444		453	0.02	1977			1977	0.229		40	29	29	0.779	54	39
SA	A	3.65	1	1				2120		485		485	0.00	2120			2120	0.229			29	29	0.779	54	38
RT	A	3.65	1	2	25			4240		0	942	942	1.00	4000			4000	0.236	0.236		30	30	0.779	54	33
LT	A,B	3.65	2	2	20		N	4100	1205			1205	1.00	3814			3814	0.316			41	41	0.779	57	27
SA	B	3.65	3	1				2120		119		119	0.00	2120			2120	0.056			7	7	0.779	24	79
RT	B	3.65	3	1	25			2120			301	301	1.00	2000			2000	0.151	0.151		19	19	0.779	42	49
LT	B,C	3.40	4	1	15		N	1955	281			281	1.00	1777			1777	0.158			20	20	0.779	42	50
SA	C	3.40	5	3				6285		513		513	0.00	6285			6285	0.082	0.082		10	10	0.779	26	48
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.779	6	388
LT,SA	D	3.65	6	1	15		N	1980	52	171		223	0.23	1935			1935	0.115			15	15	0.779	36	57
SA,RT	D	3.65	6	1	25			2120		236	8	244	0.03	2116			2116	0.115			15	15	0.779	36	55

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

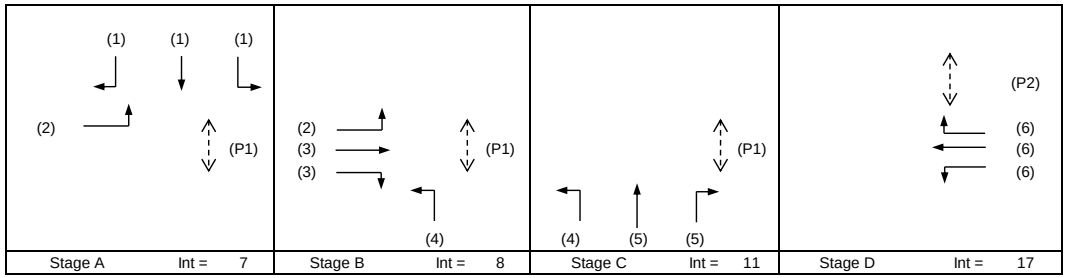
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Ref_PM**	Checked By:	LL	Aug-22
2027 Reference Weekday PM Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.463	
Loss time		L =	40	sec
Total Flow		=	4480	pcu
Co	= (1.5*L+5)/(1-Y)	=	121.1	sec
Cm	= L/(1-Y)	=	74.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	29.6	%
Cp	= 0.9*L/(0.9-Y)	=	82.4	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

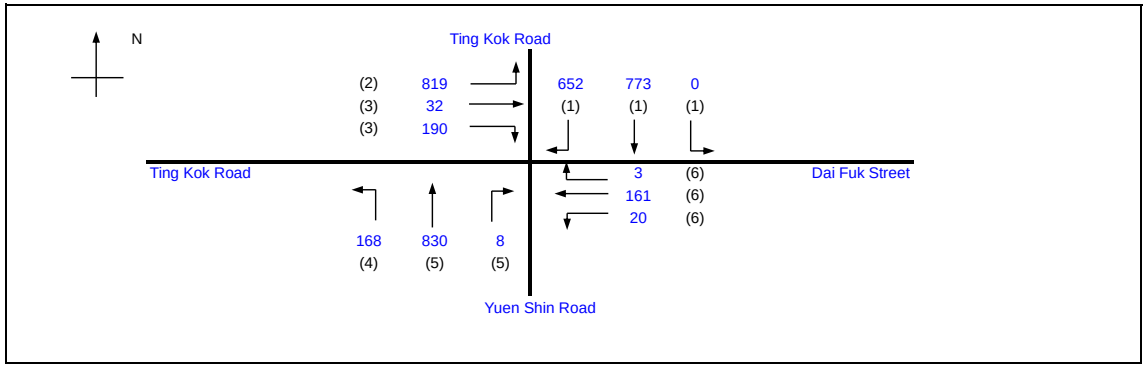
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	14	354		368	0.04	1974			1974	0.186		40	23	23	0.794	48	45
SA	A	3.65	1	1				2120		395		395	0.00	2120			2120	0.186			23	23	0.794	48	44
RT	A	3.65	1	2	25			4240		4	741	745	0.99	4001			4001	0.186	0.186		23	23	0.794	45	38
LT	A,B	3.65	2	2	20		N	4100	1004			1004	1.00	3814			3814	0.263			32	32	0.794	51	31
SA	B	3.65	3	1				2120		96		96	0.00	2120			2120	0.045			5	5	0.794	18	92
RT	B	3.65	3	1	25			2120			326	326	1.00	2000			2000	0.163	0.163		20	20	0.794	42	48
LT	B,C	3.40	4	1	15		N	1955	321			321	1.00	1777			1777	0.181			22	22	0.794	42	47
SA	C	3.40	5	3				6285		715		715	0.00	6285			6285	0.114	0.114		14	14	0.794	32	43
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.794	6	352
LT,SA	D	3.65	6	1	15		N	1980	86	148		234	0.37	1910			1910	0.123			15	15	0.794	36	56
SA,RT	D	3.65	6	1	25			2120		247	13	260	0.05	2114			2114	0.123			15	15	0.794	36	54

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

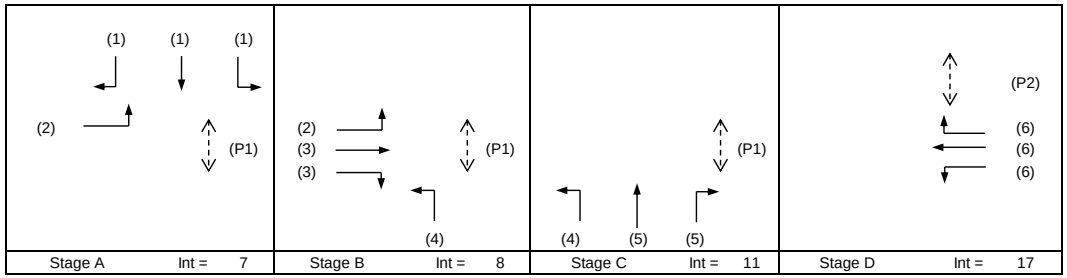
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Des_SUN**	Checked By:	LL	Aug-22
2027 Design Sunday Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.403	
Loss time		L =	40	sec
Total Flow		=	3656	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.8	sec
Cm	= L/(1-Y)	=	67.0	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	49.0	%
Cp	= 0.9*L/(0.9-Y)	=	72.4	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	34.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

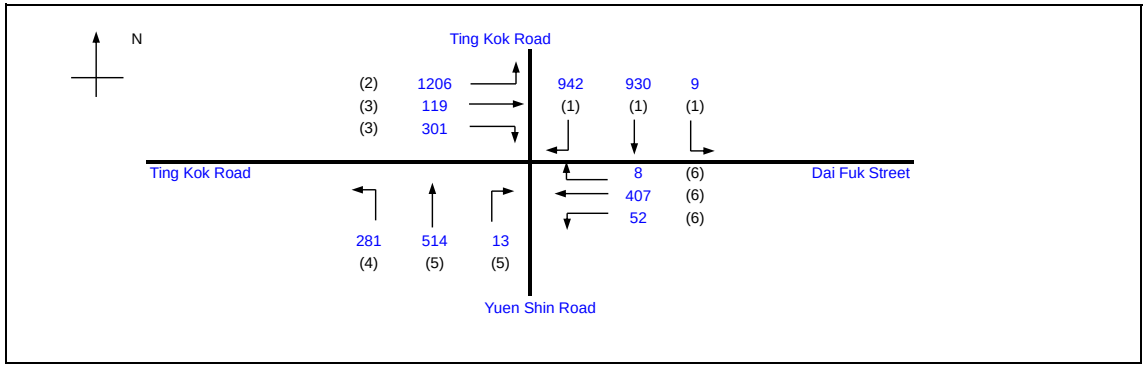
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	0	348		348	0.00	1980			1980	0.176		40	26	26	0.671	42	36
SA	A	3.65	1	1				2120		372		372	0.00	2120			2120	0.176			26	26	0.671	42	36
RT	A	3.65	1	2	25			4240		53	652	705	0.92	4017			4017	0.176	0.176		26	26	0.671	42	33
LT	A,B	3.65	2	2	20		N	4100	819			819	1.00	3814			3814	0.215			32	32	0.671	45	29
SA	B	3.65	3	1				2120		32		32	0.00	2120			2120	0.015			2	2	0.671	6	113
RT	B	3.65	3	1	25			2120			190	190	1.00	2000			2000	0.095	0.095		14	14	0.671	24	48
LT	B,C	3.40	4	1	15		N	1955	168			168	1.00	1777			1777	0.095			14	14	0.671	24	50
SA	C	3.40	5	3				6285		830		830	0.00	6285			6285	0.132	0.132		20	20	0.671	36	36
RT	C	3.40	5	1	20			2095			8	8	1.00	1949			1949	0.004			1	1	0.671	0	322
LT,SA	D	3.65	6	1	15		N	1980	20	68		88	0.23	1936			1936	0.045			7	7	0.671	12	66
SA,RT	D	3.65	6	1	25			2120		93	3	96	0.03	2116			2116	0.045			7	7	0.671	12	64

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

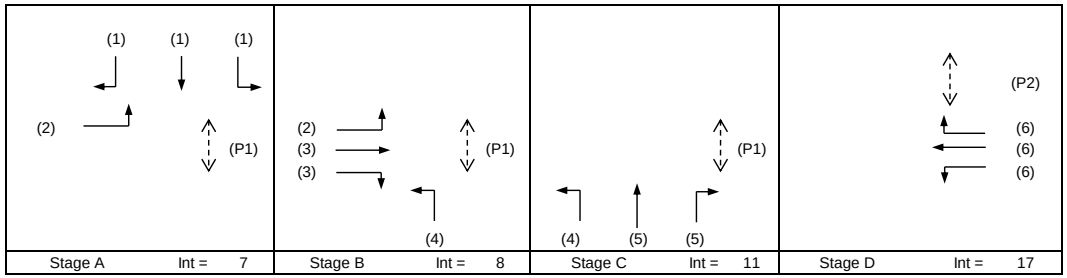
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Des_AM**	Checked By:	LL	Aug-22
2027 Design Weekday AM Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.468	
Loss time		L =	40	sec
Total Flow		=	4782	pcu
Co	= (1.5*L+5)/(1-Y)	=	122.1	sec
Cm	= L/(1-Y)	=	75.2	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	28.3	%
Cp	= 0.9*L/(0.9-Y)	=	83.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	15.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

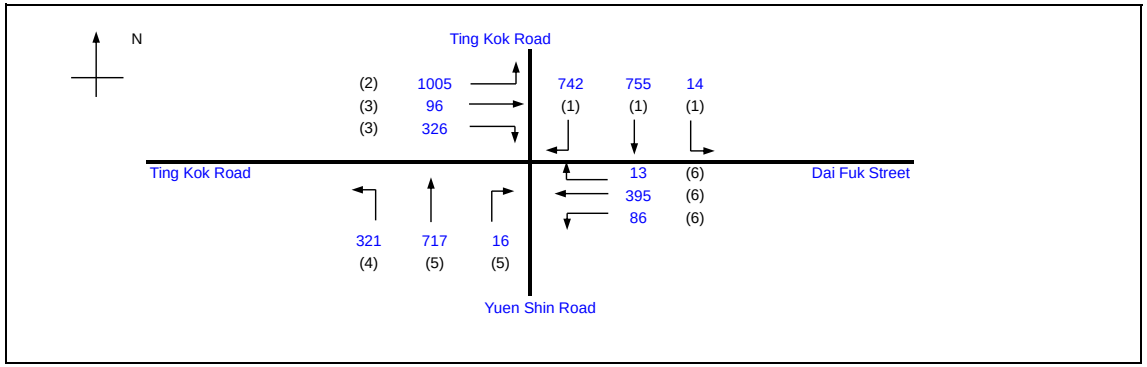
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	444		453	0.02	1977			1977	0.229		40	29	29	0.780	54	39
SA	A	3.65	1	1				2120		486		486	0.00	2120			2120	0.229			29	29	0.780	54	38
RT	A	3.65	1	2	25			4240		0	942	942	1.00	4000			4000	0.236	0.236		30	30	0.780	54	33
LT	A,B	3.65	2	2	20		N	4100	1206			1206	1.00	3814			3814	0.316			41	41	0.780	57	27
SA	B	3.65	3	1				2120		119		119	0.00	2120			2120	0.056			7	7	0.780	24	79
RT	B	3.65	3	1	25			2120			301	301	1.00	2000			2000	0.151	0.151		19	19	0.780	42	49
LT	B,C	3.40	4	1	15		N	1955	281			281	1.00	1777			1777	0.158			20	20	0.780	42	50
SA	C	3.40	5	3				6285		514		514	0.00	6285			6285	0.082	0.082		10	10	0.780	26	48
RT	C	3.40	5	1	20			2095			13	13	1.00	1949			1949	0.007			1	1	0.780	6	388
LT,SA	D	3.65	6	1	15		N	1980	52	171		223	0.23	1935			1935	0.115			15	15	0.780	36	57
SA,RT	D	3.65	6	1	25			2120		236	8	244	0.03	2116			2116	0.115			15	15	0.780	36	55

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

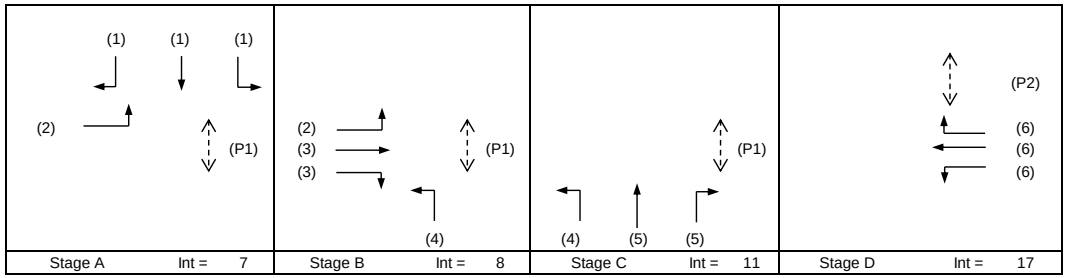
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2027Des_PM**	Checked By:	LL	Aug-22
2027 Design Weekday PM Peak Hour Traffic Flows	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.464	
Loss time		L =	40	sec
Total Flow		=	4486	pcu
Co	= (1.5*L+5)/(1-Y)	=	121.2	sec
Cm	= L/(1-Y)	=	74.6	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	29.4	%
Cp	= 0.9*L/(0.9-Y)	=	82.5	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

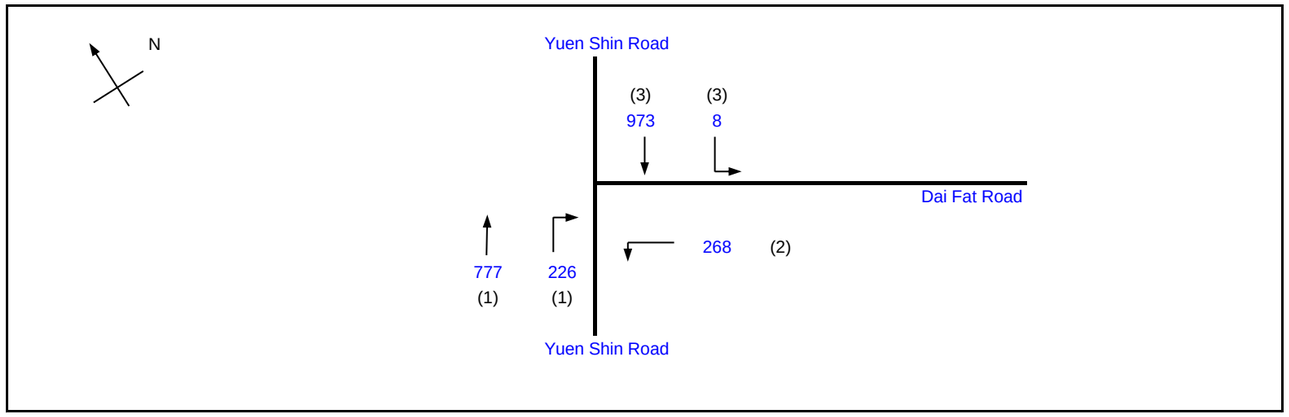
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	14	354		368	0.04	1974			1974	0.187		40	23	23	0.795	48	45
SA	A	3.65	1	1				2120		396		396	0.00	2120			2120	0.187			23	23	0.795	48	44
RT	A	3.65	1	2	25			4240		5	742	747	0.99	4001			4001	0.187	0.187		23	23	0.795	45	38
LT	A,B	3.65	2	2	20		N	4100	1005			1005	1.00	3814			3814	0.264			32	32	0.795	51	31
SA	B	3.65	3	1				2120		96		96	0.00	2120			2120	0.045			5	5	0.795	18	92
RT	B	3.65	3	1	25			2120			326	326	1.00	2000			2000	0.163	0.163		20	20	0.795	42	48
LT	B,C	3.40	4	1	15		N	1955	321			321	1.00	1777			1777	0.181			22	22	0.795	42	47
SA	C	3.40	5	3				6285		717		717	0.00	6285			6285	0.114	0.114		14	14	0.795	32	43
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.795	6	355
LT,SA	D	3.65	6	1	15		N	1980	86	148		234	0.37	1910			1910	0.123			15	15	0.795	36	57
SA,RT	D	3.65	6	1	25			2120		247	13	260	0.05	2114			2114	0.123			15	15	0.795	36	54

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

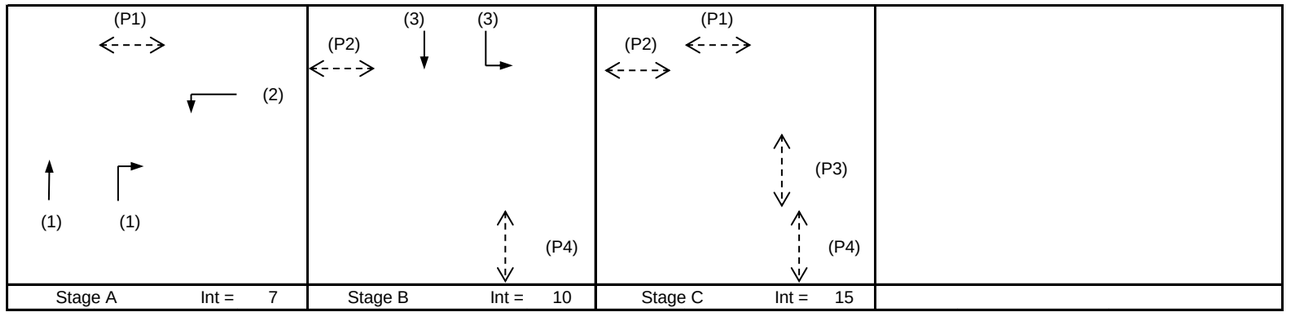
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Sunday Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.434	
Loss time		L =	30	sec
Total Flow		=	2252	pcu
Co	= (1.5*L+5)/(1-Y)	=	88.3	sec
Cm	= L/(1-Y)	=	53.0	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	55.6	%
Cp	= 0.9*L/(0.9-Y)	=	57.9	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	45.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

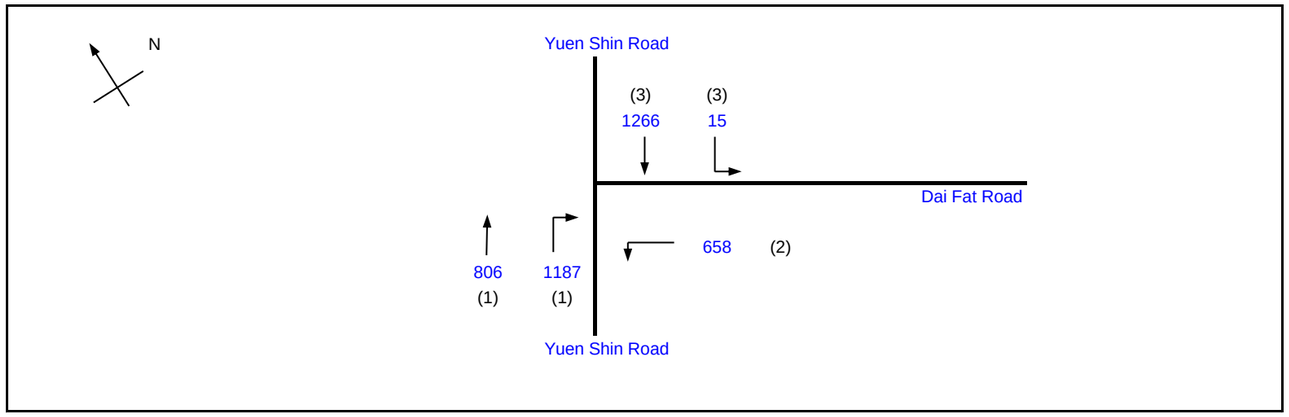
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		375		375	0.00	1965			1965	0.191	0.191	30	31	31	0.620	42	31
SA,RT	A	3.50	1	1	25			2105		402	0	402	0.00	2105			2105	0.191			31	31	0.620	42	31
RT	A	3.50	1	1	23			2105			226	226	1.00	1976			1976	0.114			18	31	0.371	24	26
LT	A	3.80	2	2	19		N	4130	268			268	1.00	3828			3828	0.070			11	11	0.620	18	44
LT,SA	B	3.20	3	1	17		N	1935	8	461		469	0.02	1932			1932	0.243	0.243		39	39	0.620	42	25
SA	B	3.50	3	1				2105		512		512	0.00	2105			2105	0.243			39	39	0.620	48	25

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

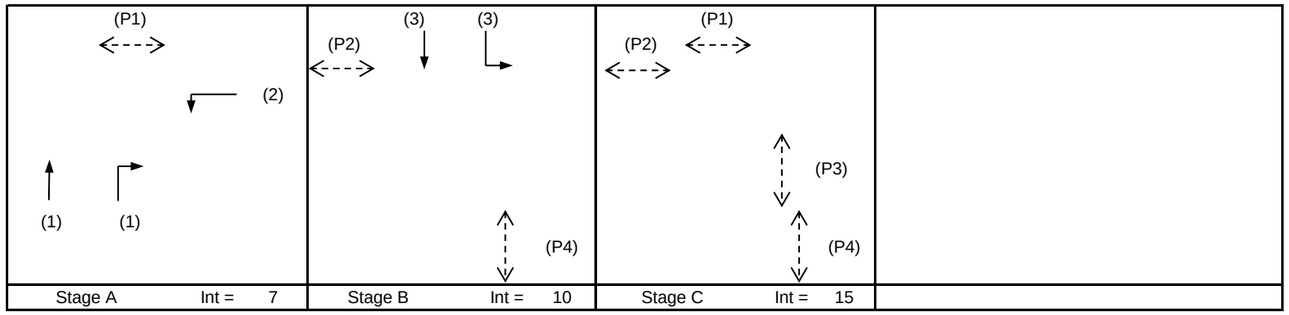
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_AM**	Checked By:	LL	Jun-22
2027 Reference Weekday AM Peak Hour Traffic Flows	FILENAME : J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.652	
Loss time		L =	30	sec
Total Flow		=	3932	pcu
Co	= (1.5*L+5)/(1-Y)	=	143.8	sec
Cm	= L/(1-Y)	=	86.3	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	3.5	%
Cp	= 0.9*L/(0.9-Y)	=	109.0	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

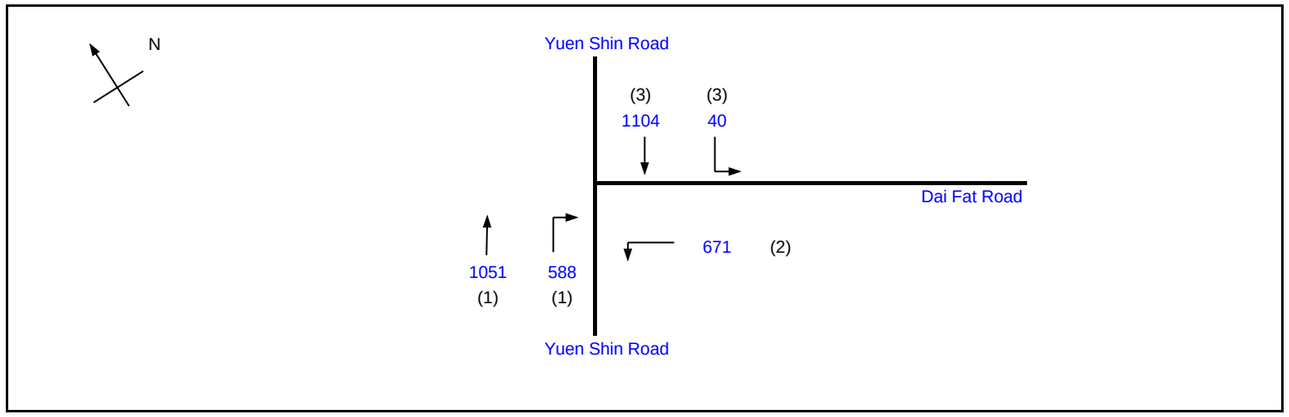
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		658		658	0.00	1965			1965	0.335	0.335	30	46	46	0.870	84	28
SA,RT	A	3.50	1	1	25			2105		148	525	673	0.78	2011			2011	0.335			46	46	0.870	90	28
RT	A	3.50	1	1	23			2105			662	662	1.00	1976			1976	0.335			46	46	0.870	90	28
LT	A	3.80	2	2	19		N	4130	658			658	1.00	3828			3828	0.172			24	24	0.870	57	47
LT,SA	B	3.20	3	1	17		N	1935	15	598		613	0.02	1931			1931	0.317	0.317		44	44	0.870	84	29
SA	B	3.50	3	1				2105		668		668	0.00	2105			2105	0.317			44	44	0.870	90	30

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

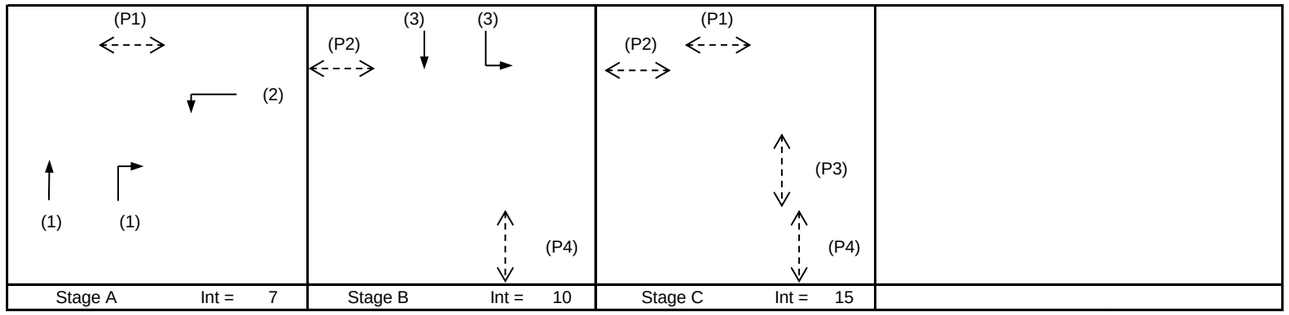
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2027 Reference Weekday PM Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.556	
Loss time		L =	30	sec
Total Flow		=	3454	pcu
Co	= (1.5*L+5)/(1-Y)	=	112.5	sec
Cm	= L/(1-Y)	=	67.5	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	21.5	%
Cp	= 0.9*L/(0.9-Y)	=	78.4	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

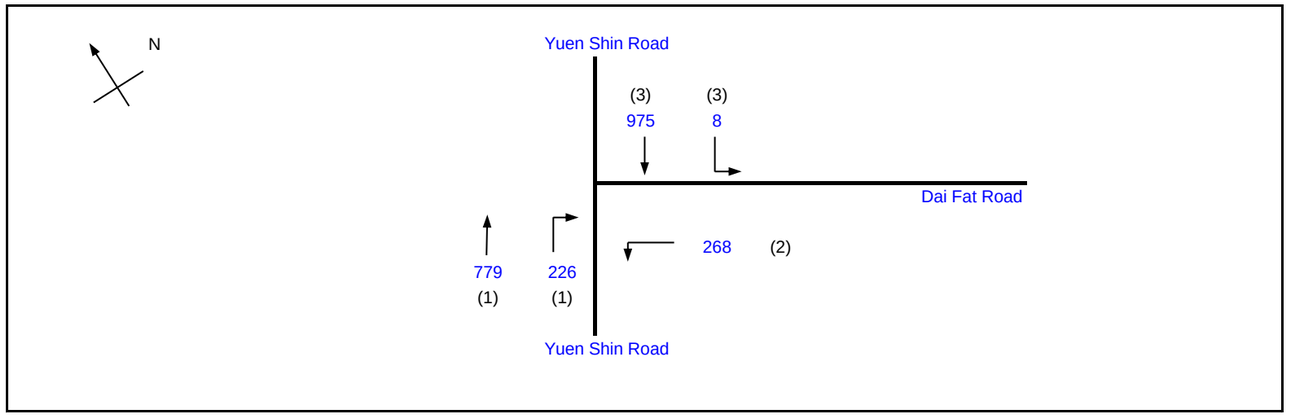
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		534		534	0.00	1965			1965	0.272	0.272	30	34	34	0.794	60	36
SA,RT	A	3.50	1	1	25			2105		517	51	569	0.09	2094			2094	0.272			34	34	0.794	60	35
RT	A	3.50	1	1	23			2105			537	537	1.00	1976			1976	0.272			34	34	0.794	60	36
LT	A	3.80	2	2	19		N	4130	671			671	1.00	3828			3828	0.175			22	22	0.794	42	41
LT,SA	B	3.20	3	1	17		N	1935	40	506		546	0.07	1923			1923	0.284	0.284		36	36	0.794	60	35
SA	B	3.50	3	1				2105		598		598	0.00	2105			2105	0.284			36	36	0.794	66	34

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

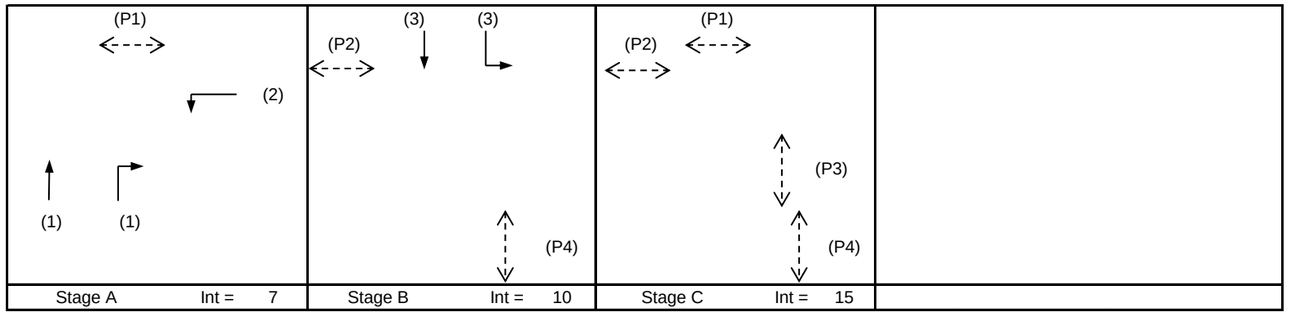
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	**2027Des_SUN**	FILENAME :	Checked By:	LL	Jun-22
2027 Design Sunday Peak Hour Traffic Flows		J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.435	
Loss time		L =	30	sec
Total Flow		=	2256	pcu
Co	= (1.5*L+5)/(1-Y)	=	88.5	sec
Cm	= L/(1-Y)	=	53.1	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	55.2	%
Cp	= 0.9*L/(0.9-Y)	=	58.1	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	44.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

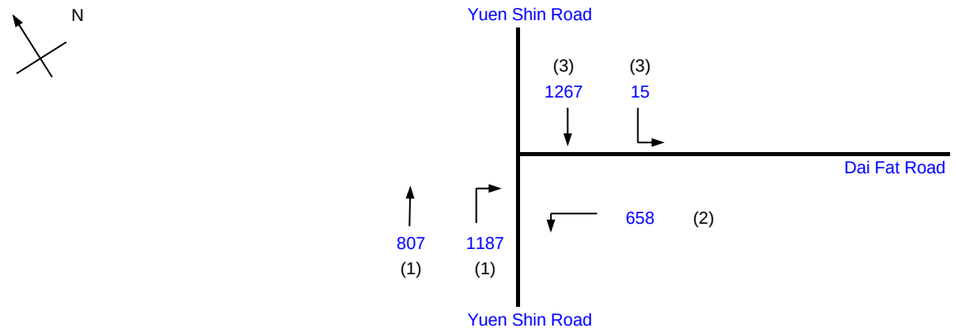
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		376		376	0.00	1965			1965	0.191	0.191	30	31	31	0.621	42	31
SA,RT	A	3.50	1	1	25			2105		403	0	403	0.00	2105			2105	0.191			31	31	0.621	42	31
RT	A	3.50	1	1	23			2105			226	226	1.00	1976			1976	0.114			18	31	0.371	24	26
LT	A	3.80	2	2	19		N	4130	268			268	1.00	3828			3828	0.070			11	11	0.621	18	44
LT,SA	B	3.20	3	1	17		N	1935	8	462		470	0.02	1932			1932	0.243	0.243		39	39	0.621	42	26
SA	B	3.50	3	1				2105		513		513	0.00	2105			2105	0.243			39	39	0.621	48	25

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

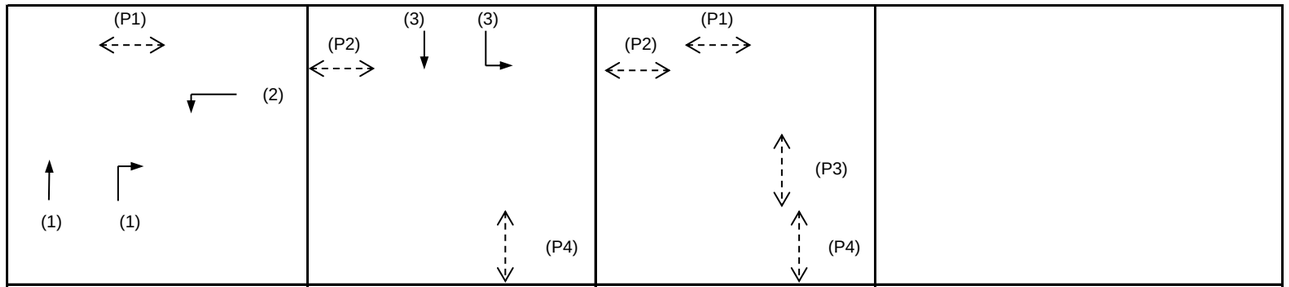
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday AM Peak Hour Traffic Flows	**2027Des_AM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.653	
Loss time		L =	30	sec
Total Flow		=	3934	pcu
Co	= (1.5*L+5)/(1-Y)	=	144.0	sec
Cm	= L/(1-Y)	=	86.4	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	3.4	%
Cp	= 0.9*L/(0.9-Y)	=	109.2	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	3.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

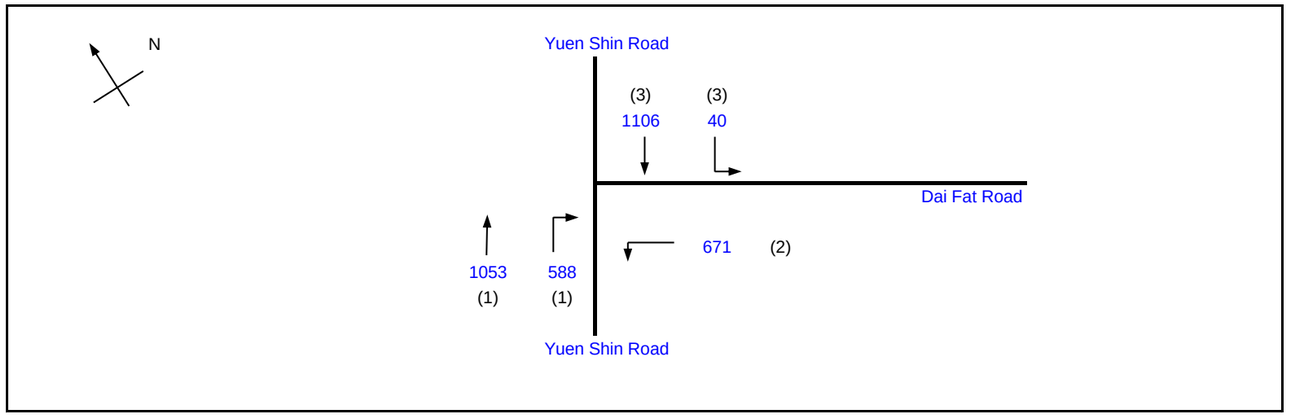
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		658		658	0.00	1965			1965	0.335	0.335	30	46	46	0.870	84	28
SA,RT	A	3.50	1	1	25			2105		149	525	674	0.78	2011			2011	0.335			46	46	0.870	90	28
RT	A	3.50	1	1	23			2105			662	662	1.00	1976			1976	0.335			46	46	0.870	90	28
LT	A	3.80	2	2	19		N	4130	658			658	1.00	3828			3828	0.172			24	24	0.870	57	47
LT,SA	B	3.20	3	1	17		N	1935	15	598		613	0.02	1931			1931	0.318	0.318		44	44	0.870	84	29
SA	B	3.50	3	1				2105		669		669	0.00	2105			2105	0.318			44	44	0.870	90	30

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

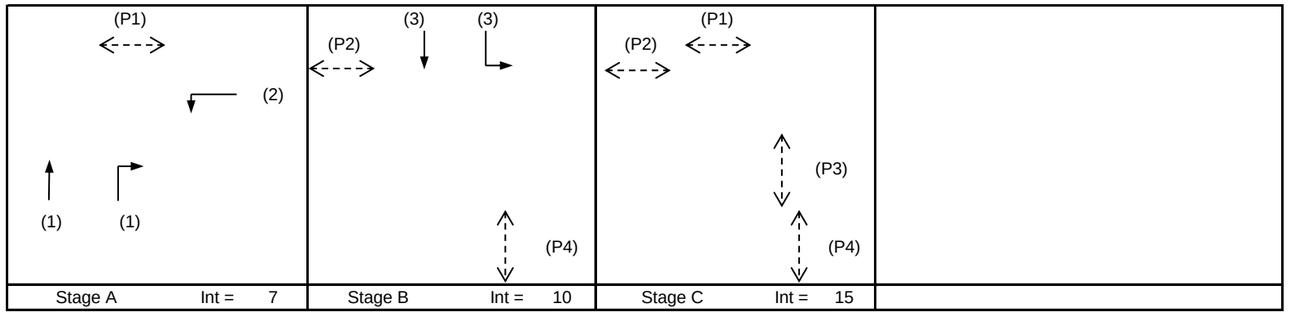
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2027 Design Weekday PM Peak Hour Traffic Flows	**2027Des_PM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.556	
Loss time		L =	30	sec
Total Flow		=	3458	pcu
Co	= (1.5*L+5)/(1-Y)	=	112.7	sec
Cm	= L/(1-Y)	=	67.6	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	21.3	%
Cp	= 0.9*L/(0.9-Y)	=	78.6	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.2	%



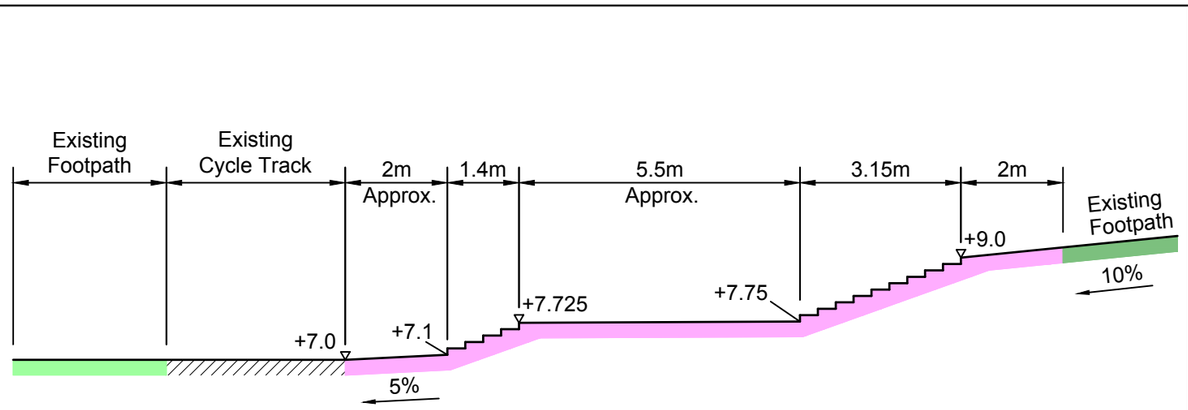
Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		534		534	0.00	1965			1965	0.272	0.272	30	34	34	0.795	60	36
SA,RT	A	3.50	1	1	25			2105		519	51	569	0.09	2094			2094	0.272			34	34	0.795	60	36
RT	A	3.50	1	1	23			2105			537	537	1.00	1976			1976	0.272			34	34	0.795	60	36
LT	A	3.80	2	2	19		N	4130	671			671	1.00	3828			3828	0.175			22	22	0.795	42	41
LT,SA	B	3.20	3	1	17		N	1935	40	507		547	0.07	1923			1923	0.285	0.285		36	36	0.795	60	35
SA	B	3.50	3	1				2105		599		599	0.00	2105			2105	0.285			36	36	0.795	66	34

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

Appendix D

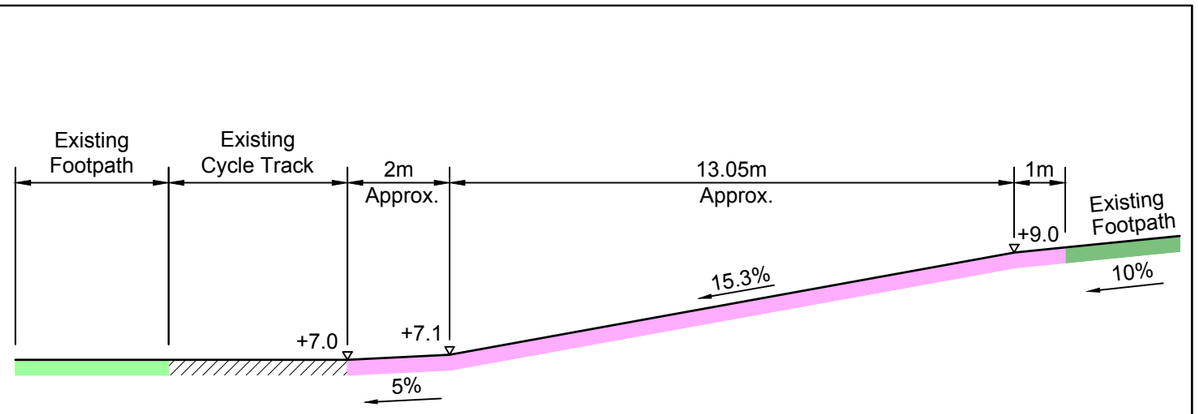
Comparison of Footpath Connection Options



Typical Section of Proposed New Footpath

Option A

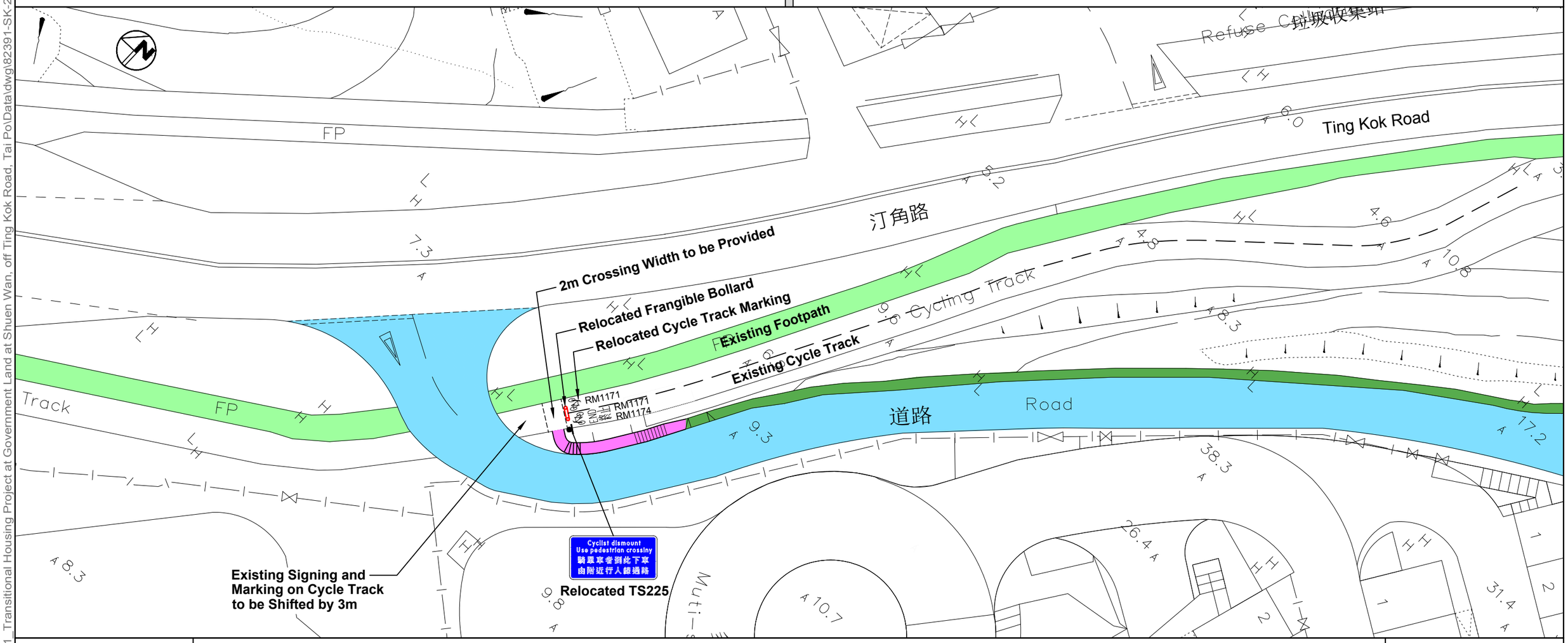
Scale 1:150



Typical Section of Proposed New Footpath

Option B

Scale 1:150



Date	06/04/2022
Scale	1:400

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po

Details of New Footpath and Adjusted Signing and Marking on Cycle Track

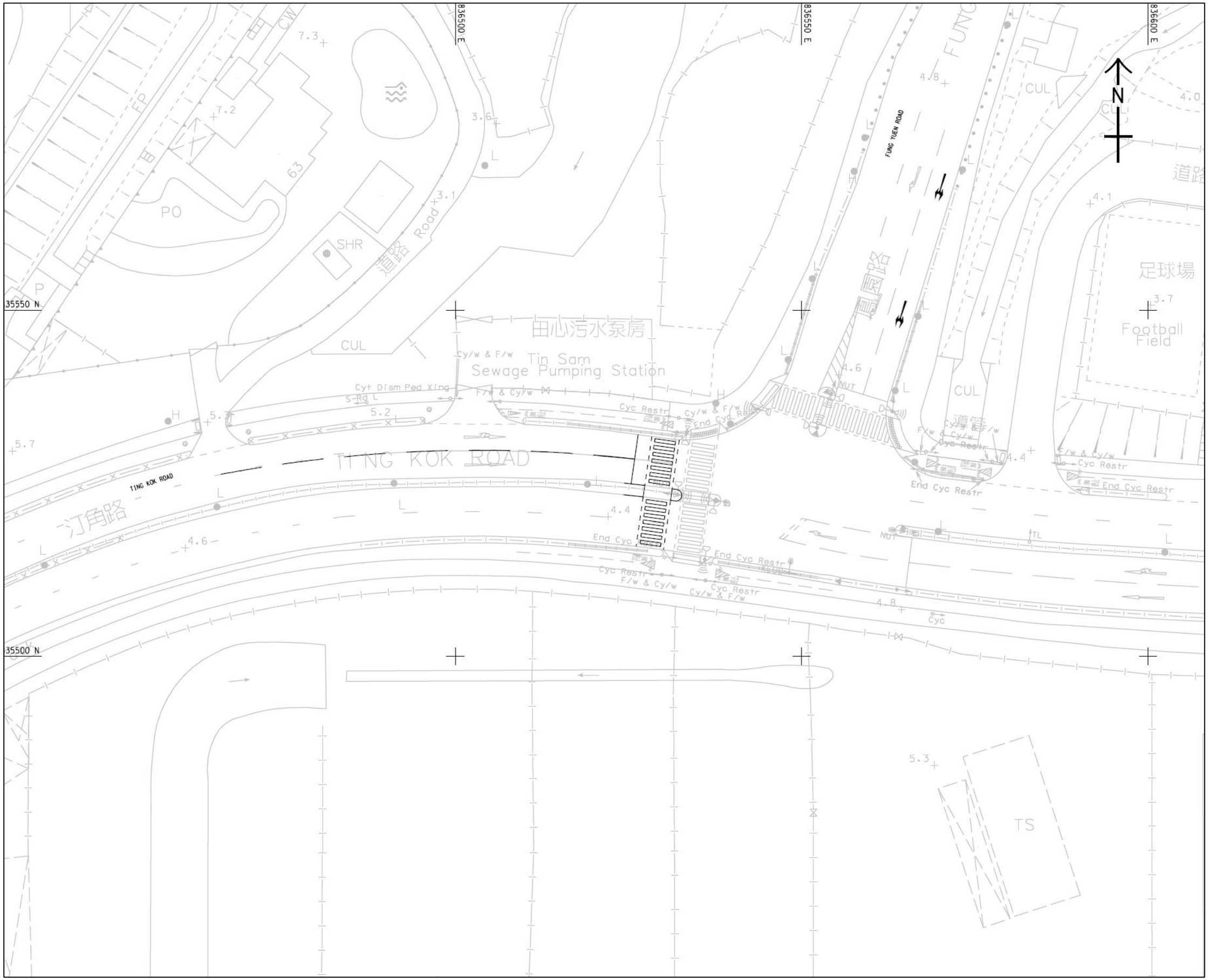
OZZO TECHNOLOGY

Drawing No.	Rev.
Appendix D	-

X:\Ozzo\82391_Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po\Data\dwg\82391-SK-2A(20220512).dwg 2022/05/12 18:51:42

Appendix E

Proposed Improvement to Junction of Ting Kok Road and Fung Yuen Road



Source: Figure 5.5 -- Section 16 Application for Proposed Temporary Institution (Transitional Housing) for a Period of 5 Years in Various Lots in D.D.26, Wong Yue Tan, Tai Po. Traffic Impact Assessment (March 2021)

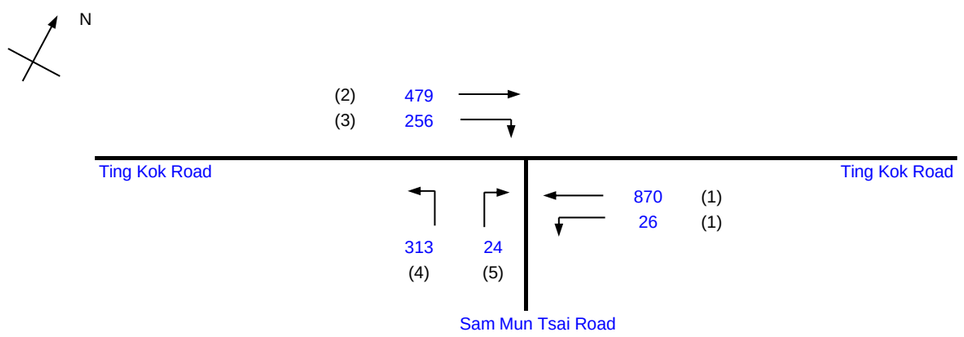
Appendix F

2024 Junction Calculation Sheets

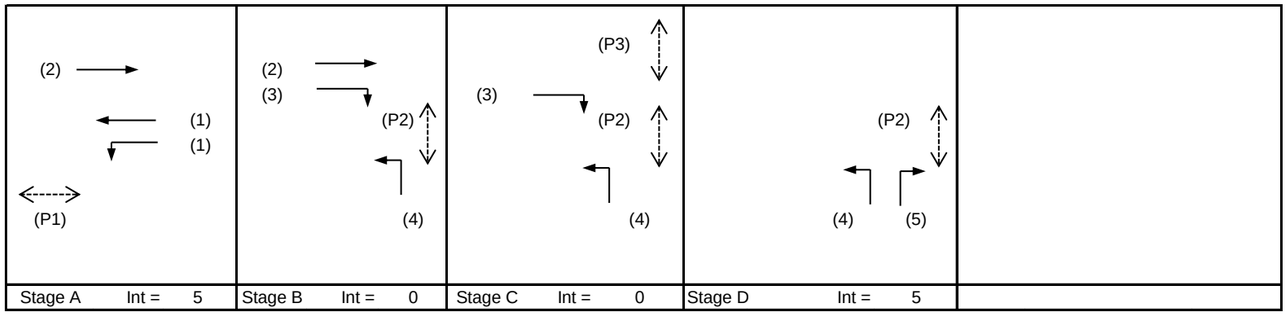
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.411	
Loss time		L =	8	sec
Total Flow		=	1968	pcu
Co	= (1.5*L+5)/(1-Y)	=	28.9	sec
Cm	= L/(1-Y)	=	13.6	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	104.3	%
Cp	= 0.9*L/(0.9-Y)	=	14.7	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	99.0	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

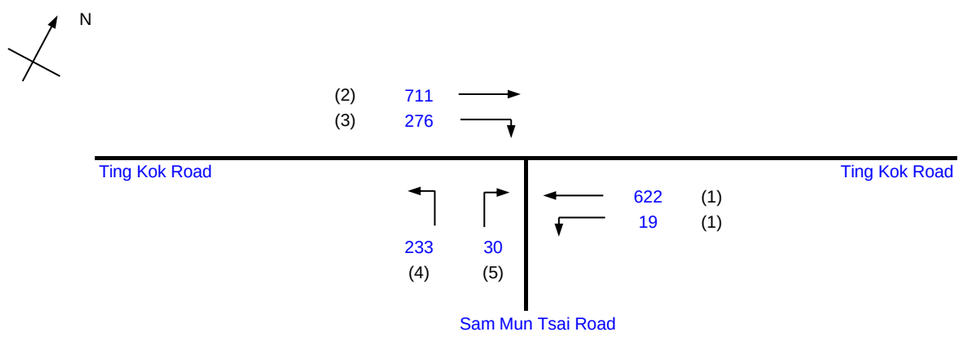
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	26	406		432	0.06	1909			1909	0.226	0.226		44	44	0.452	30	14
SA	A	3.00	1	1				2055		464		464	0.00	2055			2055	0.226			44	44	0.452	30	14
SA	A,B	3.30	2	1			N	1945		479		479	0.00	1945			1945	0.246			48	48	0.452	30	12
RT	B,C	3.50	3	1	10			2105			256	256	1.00	1830			1830	0.140			27	27	0.452	24	24
LT	B,C,D	3.30	4	1	10		N	1945	313			313	1.00	1691			1691	0.185	0.185		36	36	0.452	24	19
RT	D	3.50	5	1	10			2105			24	24	1.00	1830			1830	0.013			3	3	0.452	0	63

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

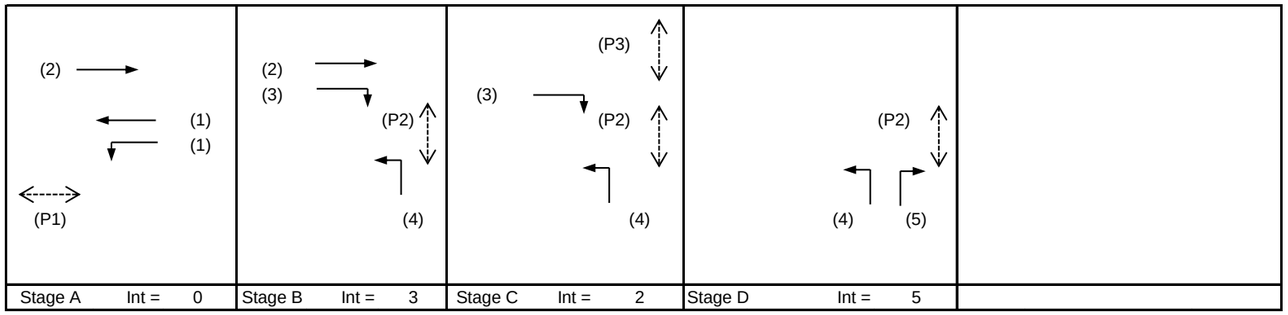
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	ML	Jun-22
J1: Ting Kok Road / Sam Mun Tsai Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)	**2024Ref_PM** J1_Ting Kok Road_Sam Mun Tsai Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.382	
Loss time		L =	18	sec
Total Flow		=	1891	pcu
Co	= (1.5*L+5)/(1-Y)	=	51.8	sec
Cm	= L/(1-Y)	=	29.1	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	100.3	%
Cp	= 0.9*L/(0.9-Y)	=	31.3	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	87.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	19	290		309	0.06	1909			1909	0.162			30	30	0.480	30	23
SA	A	3.00	1	1				2055		332		332	0.00	2055			2055	0.162			30	30	0.480	30	23
SA	A,B	3.30	2	1			N	1945		711		711	0.00	1945			1945	0.366	0.366		67	67	0.480	24	5
RT	B,C	3.50	3	1	10			2105			276	276	1.00	1830			1830	0.151			28	28	0.480	24	25
LT	B,C,D	3.30	4	1	10		N	1945	233			233	1.00	1691			1691	0.138			25	25	0.480	24	26
RT	D	3.50	5	1	10			2105			30	30	1.00	1830			1830	0.016	0.016		3	3	0.480	0	62
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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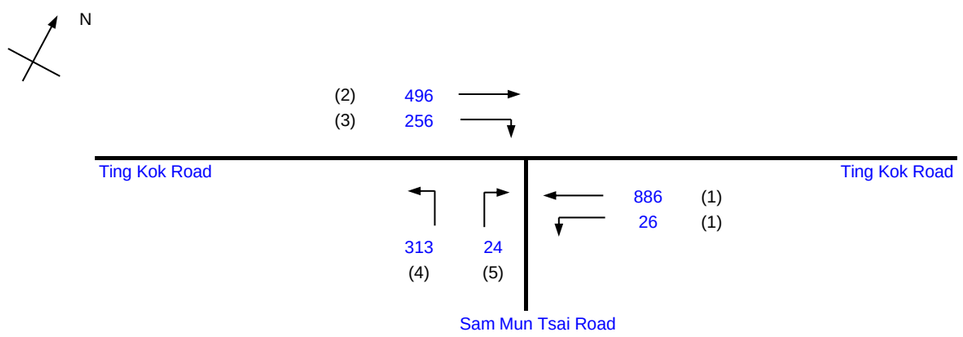
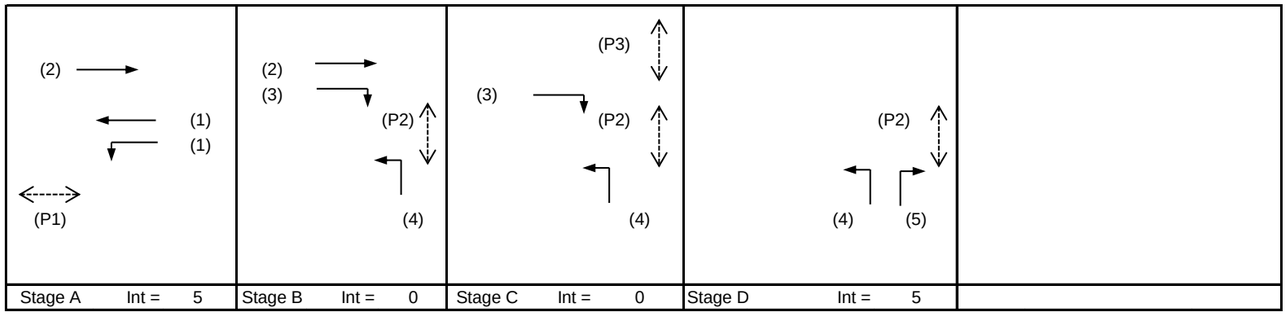


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.415	
Loss time		L =	8	sec
Total Flow		=	2001	pcu
Co	= (1.5*L+5)/(1-Y)	=	29.1	sec
Cm	= L/(1-Y)	=	13.7	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	102.4	%
Cp	= 0.9*L/(0.9-Y)	=	14.8	sec
Ymax	= 1-L/C	=	0.909	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	97.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		38	7
P2	B,C,D	7.3	5	7		36	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		9	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	26	413		439	0.06	1909			1909	0.230	0.230		44	44	0.457	30	14
SA	A	3.00	1	1				2055		473		473	0.00	2055			2055	0.230			44	44	0.457	30	14
SA	A,B	3.30	2	1			N	1945		496		496	0.00	1945			1945	0.255			49	49	0.457	30	12
RT	B,C	3.50	3	1	10			2105			256	256	1.00	1830			1830	0.140			27	27	0.457	24	25
LT	B,C,D	3.30	4	1	10		N	1945	313			313	1.00	1691			1691	0.185	0.185		36	36	0.457	24	19
RT	D	3.50	5	1	10			2105			24	24	1.00	1830			1830	0.013			3	3	0.457	0	64

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
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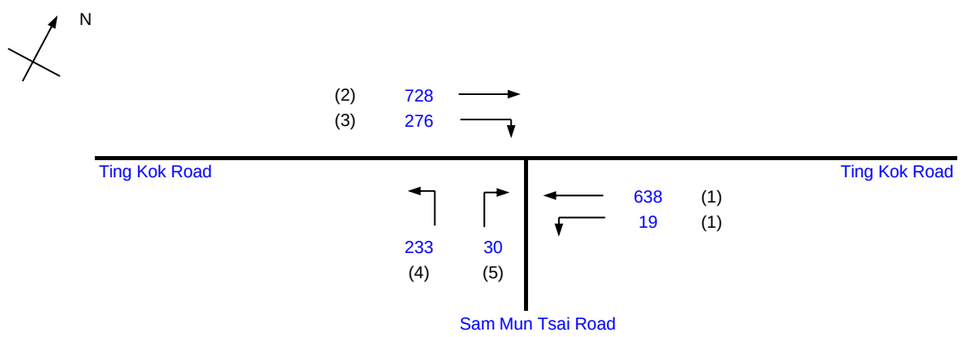
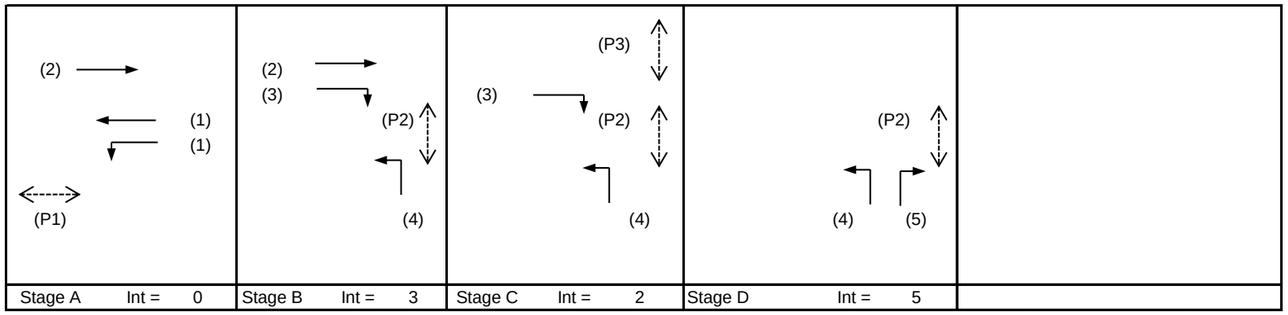


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	88	sec
Sum(y)		Y =	0.391	
Loss time		L =	18	sec
Total Flow		=	1924	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.5	sec
Cm	= L/(1-Y)	=	29.5	sec
Yult		=	0.765	
R.C.ult	= (Yult-Y)/Y*100%	=	95.8	%
Cp	= 0.9*L/(0.9-Y)	=	31.8	sec
Ymax	= 1-L/C	=	0.795	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	83.2	%

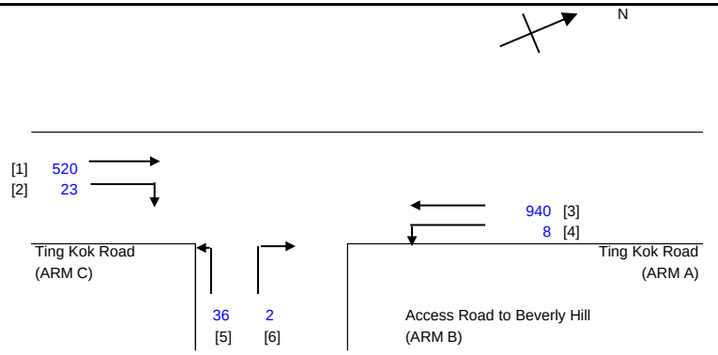


Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A	8.0	5	7		35	7
P2	B,C,D	7.3	5	7		43	7
P3	C	5.8	5	5		5	5
P4	D	6.1	5	6		10	6

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				8					
LT,SA	A	3.00	1	1	30		N	1915	19	297		316	0.06	1909			1909	0.166			30	30	0.491	30	23
SA	A	3.00	1	1				2055		341		341	0.00	2055			2055	0.166			30	30	0.491	30	23
SA	A,B	3.30	2	1			N	1945		728		728	0.00	1945			1945	0.374	0.374		67	67	0.491	24	5
RT	B,C	3.50	3	1	10			2105			276	276	1.00	1830			1830	0.151			27	27	0.491	24	25
LT	B,C,D	3.30	4	1	10		N	1945	233			233	1.00	1691			1691	0.138			25	25	0.491	24	27
RT	D	3.50	5	1	10			2105			30	30	1.00	1830			1830	0.016	0.016		3	3	0.491	0	63
Ped	C																			10					

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

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	940	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	520	(pcu/hr)
q c-b	=	23	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	36	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9473684

THE CAPACITY OF MOVEMENT :

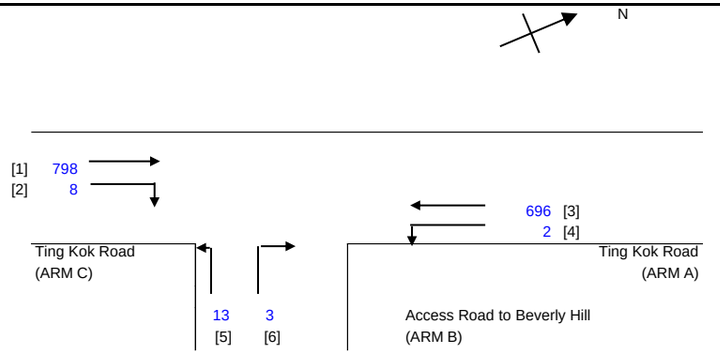
Q b-a	=	297			
Q b-c	=	496	Q b-c (O) =	495.2	
Q c-b	=	620			
Q b-ac	=	479.1			
TOTAL FLOW	=	1529	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0067
DFC b-c	=	0.0726
DFC c-b	=	0.0371
DFC b-ac	=	0.0793

CRITICAL DFC = 0.08

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	696	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	798	(pcu/hr)
q c-b	=	8	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	13	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.8125

THE CAPACITY OF MOVEMENT :

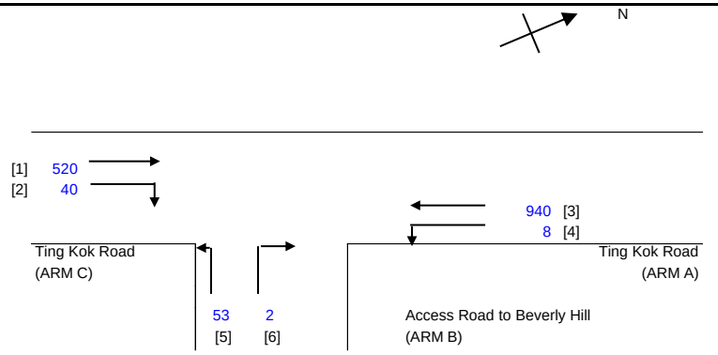
Q b-a	=	317			
Q b-c	=	549	Q b-c (O) =	547.7	
Q c-b	=	688			
Q b-ac	=	482.8			
TOTAL FLOW	=	1520	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0095
DFC b-c	=	0.0237
DFC c-b	=	0.0116
DFC b-ac	=	0.0331

CRITICAL DFC = 0.03

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	8	(pcu/hr)
q a-c	=	940	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	520	(pcu/hr)
q c-b	=	40	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	2	(pcu/hr)
q b-c	=	53	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9636364

THE CAPACITY OF MOVEMENT :

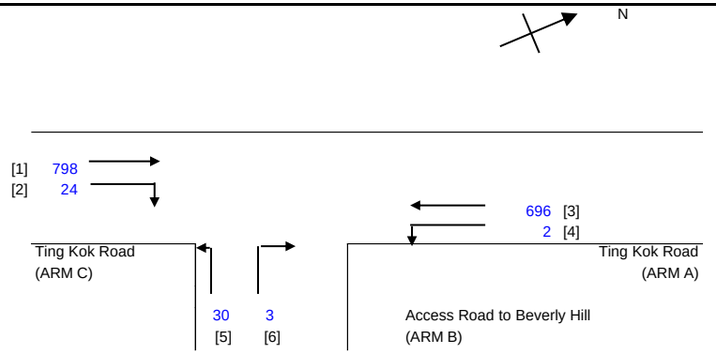
Q b-a	=	292			
Q b-c	=	496	Q b-c (O) =	495.2	
Q c-b	=	620			
Q b-ac	=	483.7			
TOTAL FLOW	=	1563	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0068
DFC b-c	=	0.1069
DFC c-b	=	0.0645
DFC b-ac	=	0.1137

CRITICAL DFC = 0.11

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J2: Ting Kok Road / Access Road to Shuen Wan Eu Tong Sen School		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J2_Ting Kok Road_Access Road to Shuen Wan Ru Tc	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.57	(metres)
W cr	=	0	(metres)
q a-b	=	2	(pcu/hr)
q a-c	=	696	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.33	(metres)
Vr c-b	=	140	(metres)
q c-a	=	798	(pcu/hr)
q c-b	=	24	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.84	(metres)
W b-c	=	2.84	(metres)
Vl b-a	=	100.6	(metres)
Vr b-a	=	140	(metres)
Vr b-c	=	140	(metres)
q b-a	=	3	(pcu/hr)
q b-c	=	30	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.9128976
E	=	0.9407766
F	=	1.1787626
Y	=	0.6355075
F for (Qb-ac)	=	0.9090909

THE CAPACITY OF MOVEMENT :

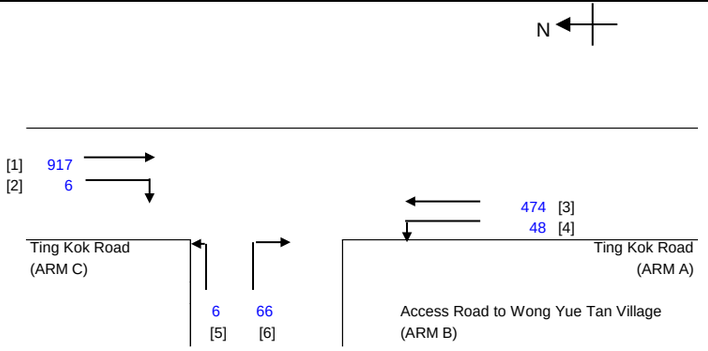
Q b-a	=	312			
Q b-c	=	549	Q b-c (O) =	547.7	
Q c-b	=	688			
Q b-ac	=	513.5			
TOTAL FLOW	=	1553	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0096
DFC b-c	=	0.0546
DFC c-b	=	0.0349
DFC b-ac	=	0.0643

CRITICAL DFC = 0.06

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	48	(pcu/hr)
q a-c	=	474	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	917	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	66	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0833333

THE CAPACITY OF MOVEMENT :

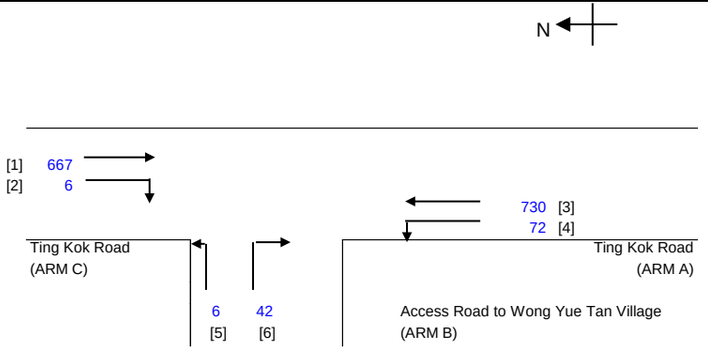
Q b-a	=	278			
Q b-c	=	529	Q b-c (O) =	497.6	
Q c-b	=	564			
Q b-ac	=	289.4			
TOTAL FLOW	=	1517	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2374
DFC b-c	=	0.0113
DFC c-b	=	0.0106
DFC b-ac	=	0.2488

CRITICAL DFC = 0.25

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Ref_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

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W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	72	(pcu/hr)
q a-c	=	730	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	667	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	42	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.125

THE CAPACITY OF MOVEMENT :

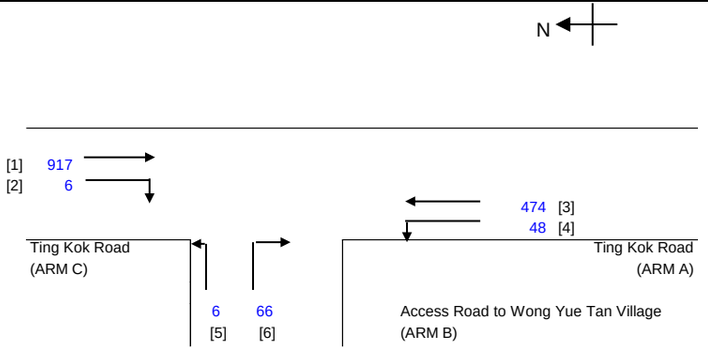
Q b-a	=	253			
Q b-c	=	465	Q b-c (O) =	445.7	
Q c-b	=	492			
Q b-ac	=	268.3			
TOTAL FLOW	=	1523	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1660
DFC b-c	=	0.0129
DFC c-b	=	0.0122
DFC b-ac	=	0.1789

CRITICAL DFC = 0.18

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_AM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

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W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	48	(pcu/hr)
q a-c	=	474	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	917	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	66	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.0833333

THE CAPACITY OF MOVEMENT :

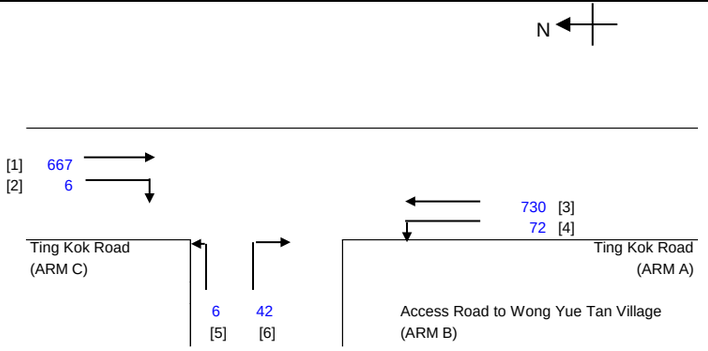
Q b-a	=	278			
Q b-c	=	529	Q b-c (O) =	497.6	
Q c-b	=	564			
Q b-ac	=	289.4			
TOTAL FLOW	=	1517	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2374
DFC b-c	=	0.0113
DFC c-b	=	0.0106
DFC b-ac	=	0.2488

CRITICAL DFC = 0.25

OZZO TECHNOLOGY (HK) LIMITED	PRIORITY JUNCTION CALCULATION			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	**2024Des_PM**	PROJECT NO.: 82391	PREPARED BY:	ML	Jun-22
J3: Ting Kok Road / Access Road to Wong Yue Tan Village		FILENAME :	CHECKED BY:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J3_Ting Kok Road_Wong Yue Tan_P.xls	REVIEWED BY:	OC	Jun-22



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	72	(pcu/hr)
q a-c	=	730	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	2.91	(metres)
Vr c-b	=	130	(metres)
q c-a	=	667	(pcu/hr)
q c-b	=	6	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	105.4	(metres)
Vr b-a	=	126.4	(metres)
Vr b-c	=	126.4	(metres)
q b-a	=	42	(pcu/hr)
q b-c	=	6	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8454292
E	=	0.8686749
F	=	0.938814
Y	=	0.7585
F for (Qb-ac)	=	0.125

THE CAPACITY OF MOVEMENT :

Q b-a	=	253			
Q b-c	=	465	Q b-c (O) =	445.7	
Q c-b	=	492			
Q b-ac	=	268.3			
TOTAL FLOW	=	1523	(PCU/HR)		

COMPARISION OF DESIGN FLOW TO CAPACITY:

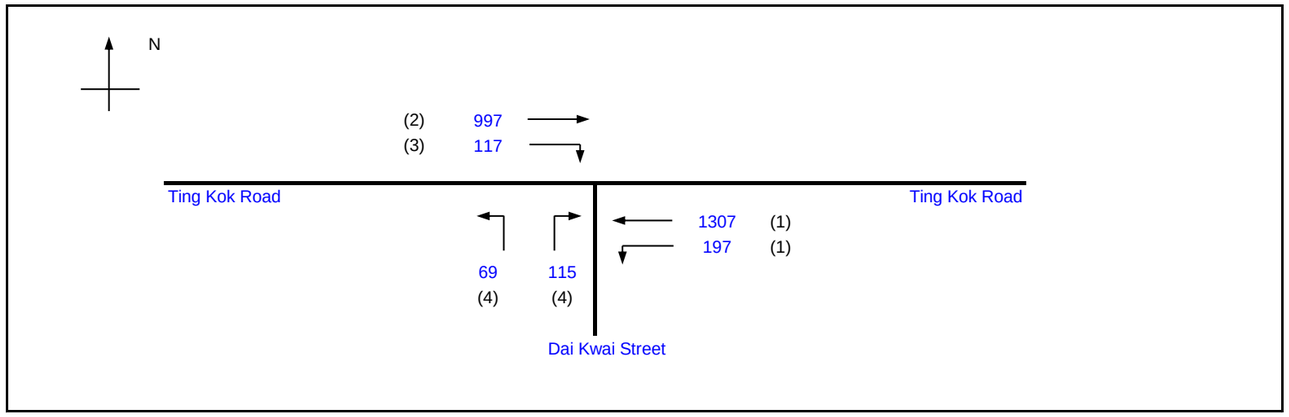
DFC b-a	=	0.1660
DFC b-c	=	0.0129
DFC c-b	=	0.0122
DFC b-ac	=	0.1789

CRITICAL DFC = 0.18

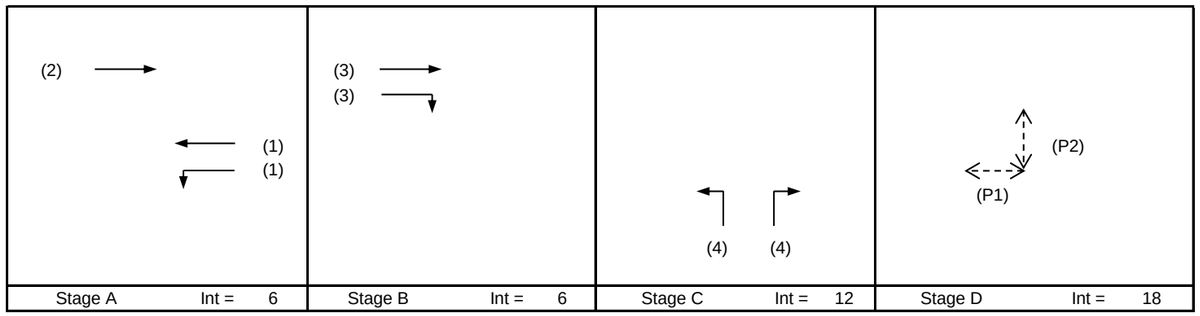
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Ref_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.528	
Loss time		L =	39	sec
Total Flow		=	2802	pcu
Co	= (1.5*L+5)/(1-Y)	=	134.7	sec
Cm	= L/(1-Y)	=	82.7	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	14.9	%
Cp	= 0.9*L/(0.9-Y)	=	94.5	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	14.9	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

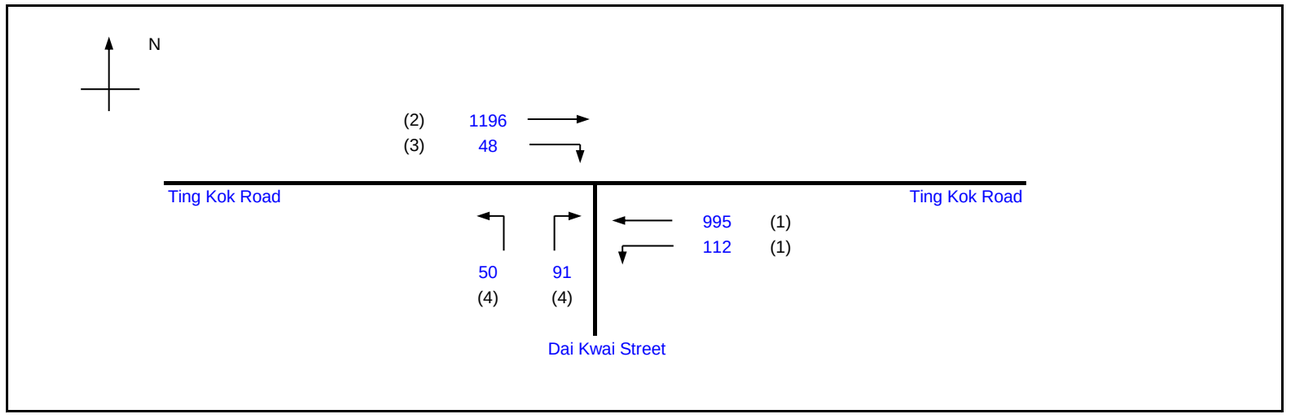
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		726		726	0.00	1953			1953	0.372			57	57	0.783	72	30
LT,SA	A	3.65	1	1	15		N	1980	197	519		716	0.28	1927			1927	0.372	0.372		57	57	0.783	72	30
SA	A	3.65	1	1				2120		788		788	0.00	2120			2120	0.372			57	57	0.783	78	30
SA	B	3.38	3	1			N	1953		192		192	0.00	1953			1953	0.098	0.098		15	15	0.783	36	70
SA,RT	B	3.38	3	1	20			2093		80	117	197	0.60	2003			2003	0.098			15	15	0.783	36	69
LT	C	3.50	4	1	15		N	1965	69			69	1.00	1786			1786	0.039			6	9	0.515	12	61
LT,RT	C	3.50	4	1	20			2105	0		115	115	1.00	1958			1958	0.059	0.059		9	9	0.783	24	89

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

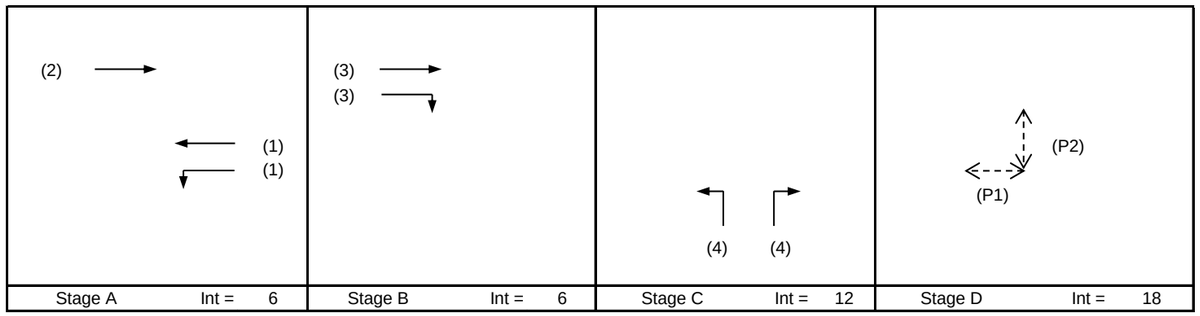
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Ref_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.497	
Loss time		L =	39	sec
Total Flow		=	2492	pcu
Co	= (1.5*L+5)/(1-Y)	=	126.2	sec
Cm	= L/(1-Y)	=	77.5	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	22.2	%
Cp	= 0.9*L/(0.9-Y)	=	87.1	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	22.2	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

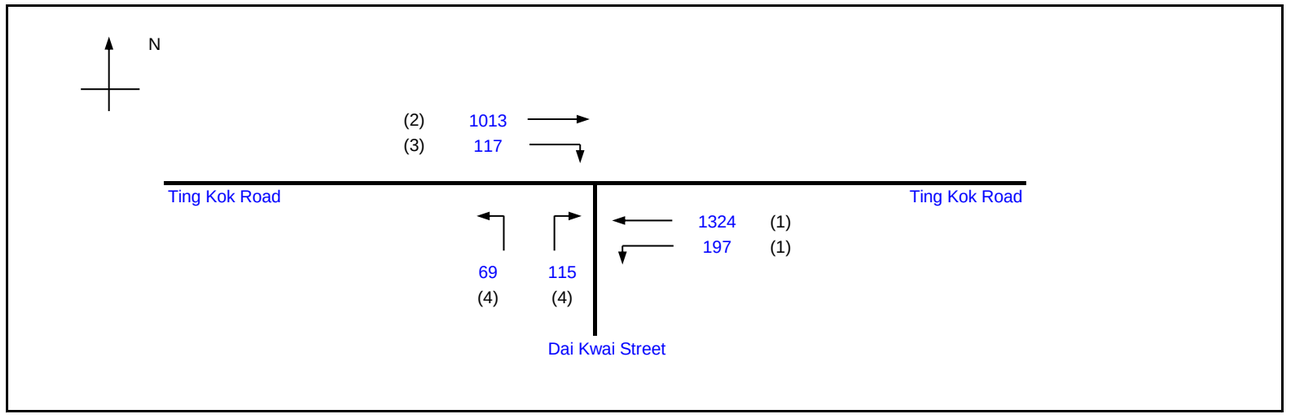
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		529		529	0.00	1953			1953	0.271			44	44	0.736	66	36
LT,SA	A	3.65	1	1	15		N	1980	112	417		529	0.21	1939			1939	0.273	0.273		44	44	0.736	66	36
SA	A	3.65	1	1				2120		578		578	0.00	2120			2120	0.273			44	44	0.736	72	35
SA	B	3.38	3	1			N	1953		347		347	0.00	1953			1953	0.178	0.178		29	29	0.736	48	47
SA,RT	B	3.38	3	1	20			2093		320	48	368	0.13	2072			2072	0.178			29	29	0.736	54	47
LT	C	3.50	4	1	15		N	1965	50			50	1.00	1786			1786	0.028			5	8	0.443	6	60
LT,RT	C	3.50	4	1	20			2105	0		91	91	1.00	1958			1958	0.046	0.046		8	8	0.736	18	86

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

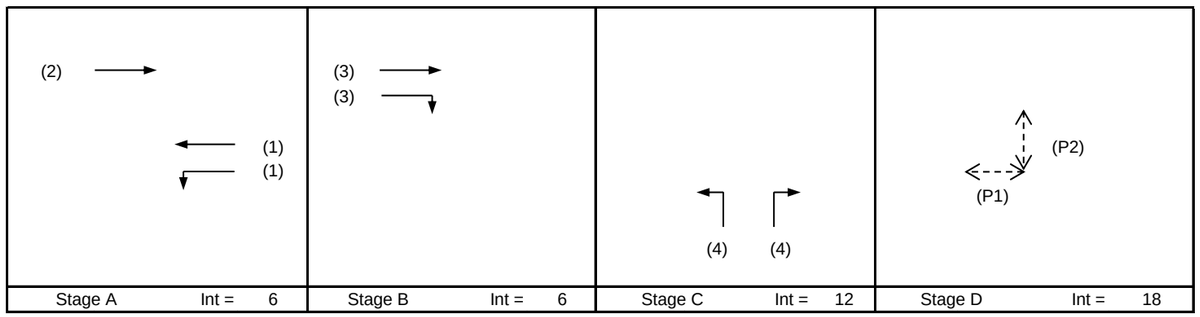
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Des_AM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.535	
Loss time		L =	39	sec
Total Flow		=	2835	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.6	sec
Cm	= L/(1-Y)	=	83.9	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	13.6	%
Cp	= 0.9*L/(0.9-Y)	=	96.2	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		732		732	0.00	1953			1953	0.375			57	57	0.791	72	31
LT,SA	A	3.65	1	1	15		N	1980	197	527		724	0.27	1928			1928	0.376	0.376		57	57	0.793	72	31
SA	A	3.65	1	1				2120		797		797	0.00	2120			2120	0.376			57	57	0.793	78	30
SA	B	3.38	3	1			N	1953		196		196	0.00	1953			1953	0.100	0.100		15	15	0.793	36	71
SA,RT	B	3.38	3	1	20			2093		84	117	201	0.58	2005			2005	0.100			15	15	0.793	36	70
LT	C	3.50	4	1	15		N	1965	69			69	1.00	1786			1786	0.039			6	9	0.521	12	61
LT,RT	C	3.50	4	1	20			2105	0		115	115	1.00	1958			1958	0.059	0.059		9	9	0.793	24	92

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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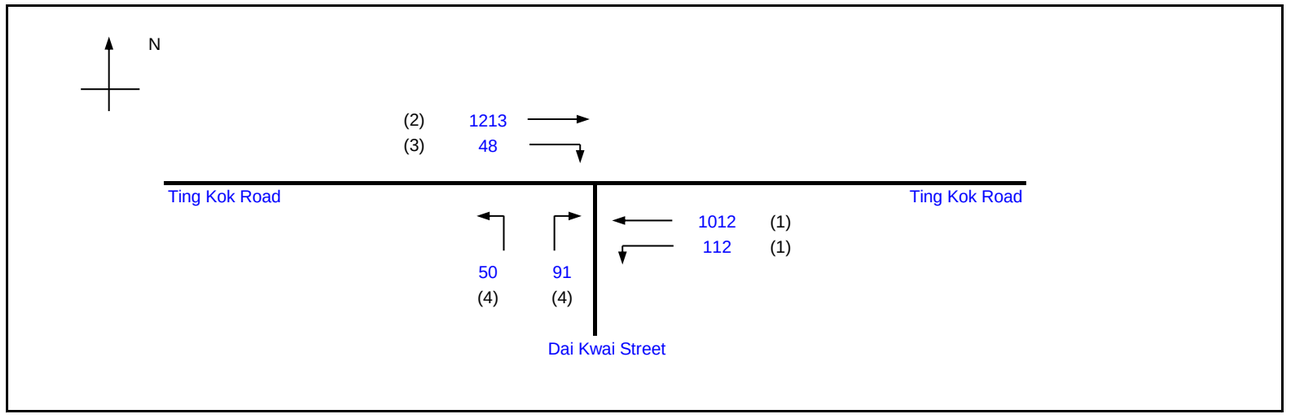
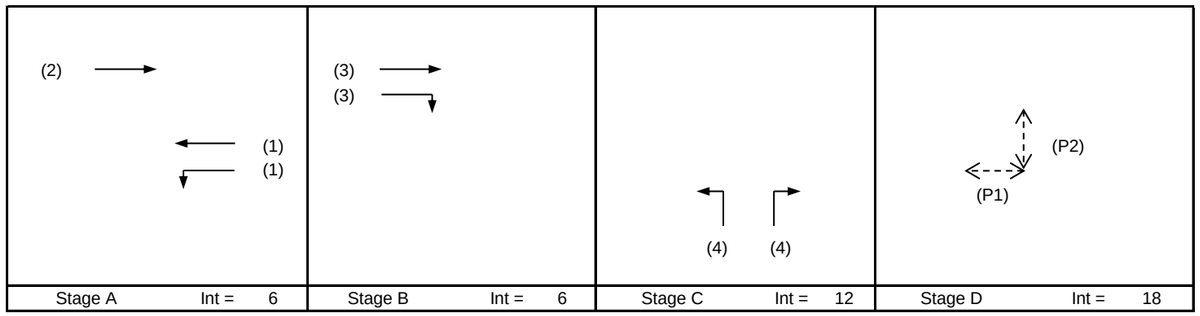
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J4: Ting Kok Road / Dai Kwai Street	**2024Des_PM**	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)		J4_Ting Kok Road_Dai Kwai Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.503	
Loss time		L =	39	sec
Total Flow		=	2526	pcu
Co	= (1.5*L+5)/(1-Y)	=	127.7	sec
Cm	= L/(1-Y)	=	78.4	sec
Yult		=	0.608	
R.C.ult	= (Yult-Y)/Y*100%	=	20.8	%
Cp	= 0.9*L/(0.9-Y)	=	88.4	sec
Ymax	= 1-L/C	=	0.675	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	20.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	18	5	8		12	8
P2	D	18	5	9		5	9

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				39					
SA	A	3.38	2	1			N	1953		539		539	0.00	1953			1953	0.276			44	44	0.745	66	36
LT,SA	A	3.65	1	1	15		N	1980	112	425		537	0.21	1940			1940	0.277	0.277		45	45	0.745	66	36
SA	A	3.65	1	1				2120		587		587	0.00	2120			2120	0.277			45	45	0.745	72	35
SA	B	3.38	3	1			N	1953		350		350	0.00	1953			1953	0.179	0.179		29	29	0.745	54	48
SA,RT	B	3.38	3	1	20			2093		324	48	372	0.13	2072			2072	0.179			29	29	0.745	54	47
LT	C	3.50	4	1	15		N	1965	50			50	1.00	1786			1786	0.028			5	7	0.449	6	61
LT,RT	C	3.50	4	1	20			2105	0		91	91	1.00	1958			1958	0.046	0.046		7	7	0.745	18	89

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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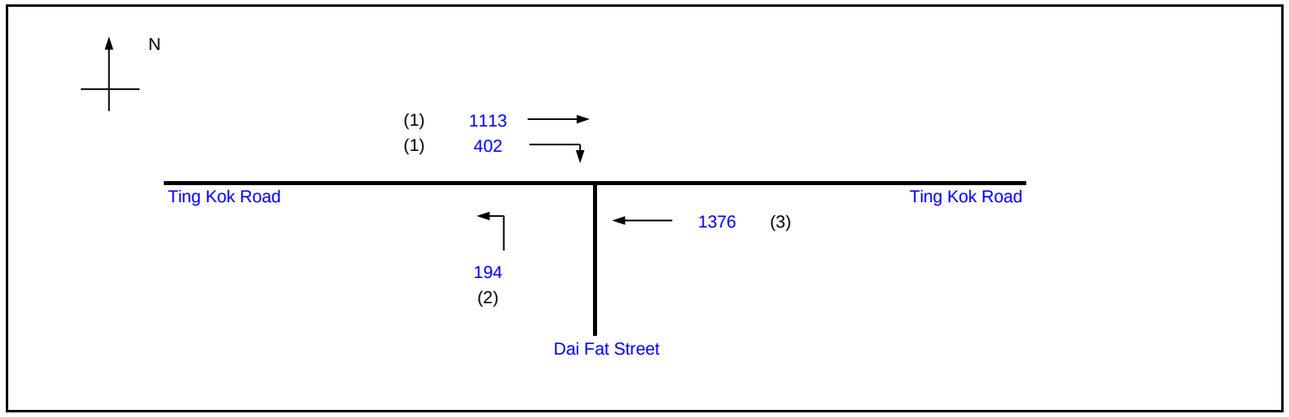
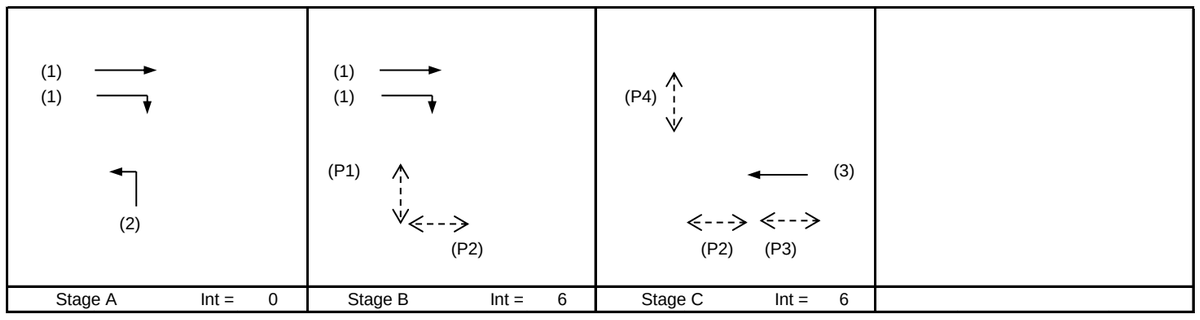
J5: Ting Kok Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J5_Ting Kok Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.722	
Loss time		L =	10	sec
Total Flow		=	3085	pcu
Co	= (1.5*L+5)/(1-Y)	=	71.8	sec
Cm	= L/(1-Y)	=	35.9	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	14.3	%
Cp	= 0.9*L/(0.9-Y)	=	50.4	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	14.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		751		751	0.00	1945			1945	0.386	0.386		59	59	0.787	72	29
SA, RT	A,B	3.30	1	1	15			2085		362	402	764	0.53	1981			1981	0.386			59	59	0.787	72	29
LT	A	3.65	2	2	20		N	4100	194			194	1.00	3814			3814	0.051			8	8	0.787	21	74
SA	C	3.65	3	2			N	4100		1376		1376	0.00	4100			4100	0.336	0.336		51	51	0.787	78	30

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

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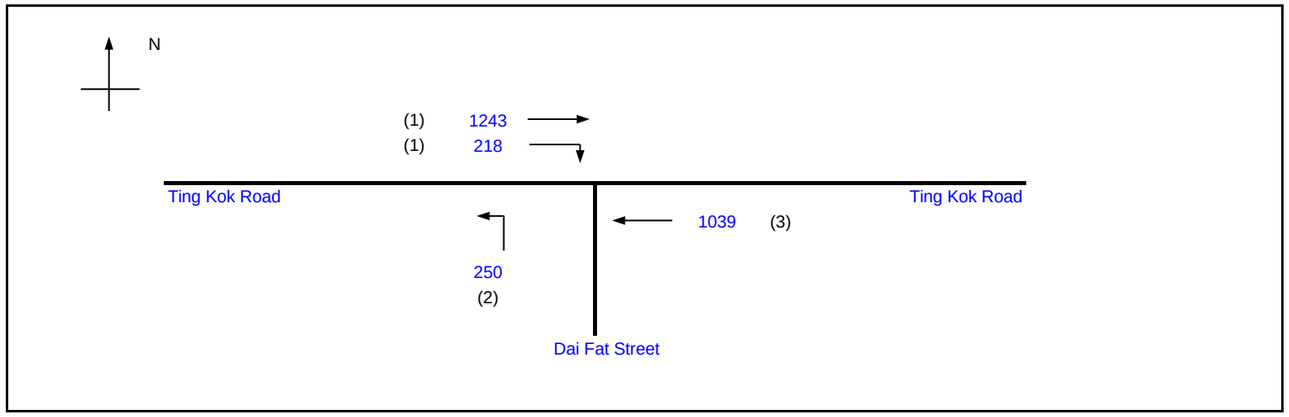
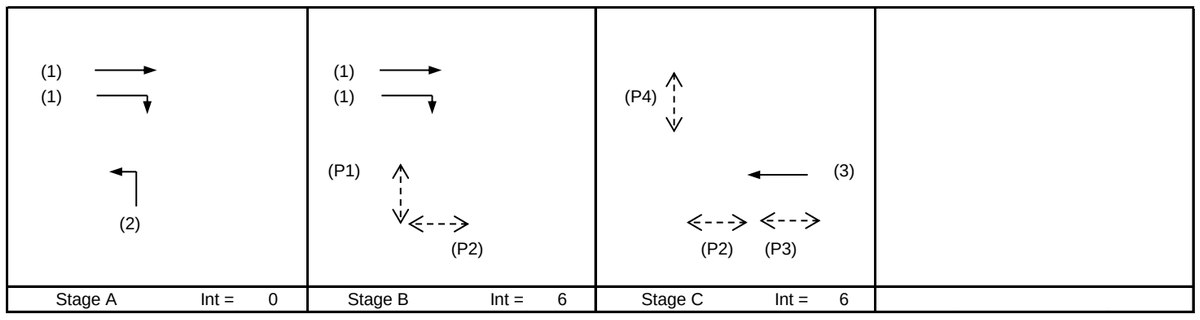
2024 Reference PM Peak Hour Traffic Flows (Construction Period)			Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.621	
Loss time		L =	10	sec
Total Flow		=	2750	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.8	sec
Cm	= L/(1-Y)	=	26.4	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	32.8	%
Cp	= 0.9*L/(0.9-Y)	=	32.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	30.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		716		716	0.00	1945			1945	0.368	0.368		53	53	0.690	54	19
SA, RT	A,B	3.30	1	1	15			2085		527	218	745	0.29	2026			2026	0.368			53	53	0.690	54	19
LT	A	3.65	2	2	20		N	4100	250			250	1.00	3814			3814	0.066			9	9	0.690	18	49
SA	C	3.65	3	2			N	4100		1039		1039	0.00	4100			4100	0.253	0.253		37	37	0.690	54	27

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

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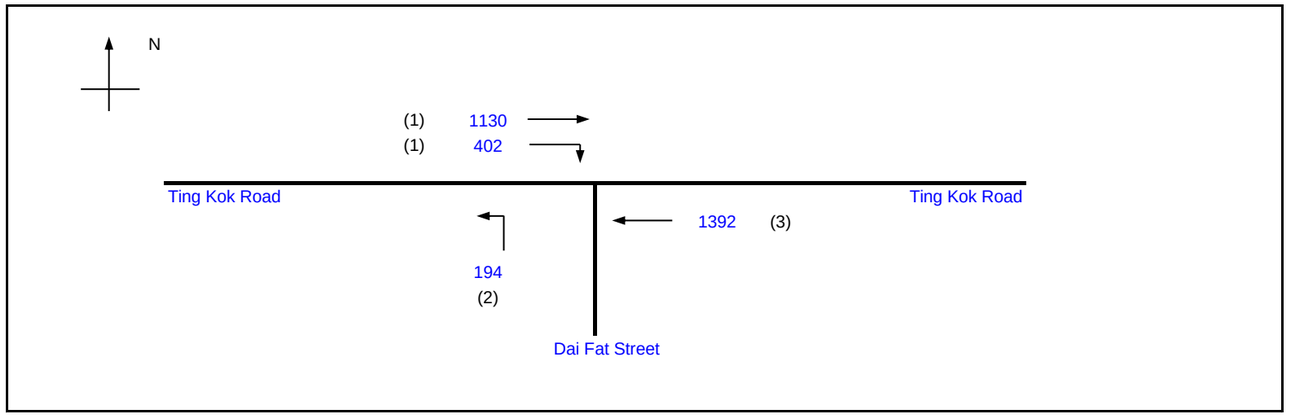
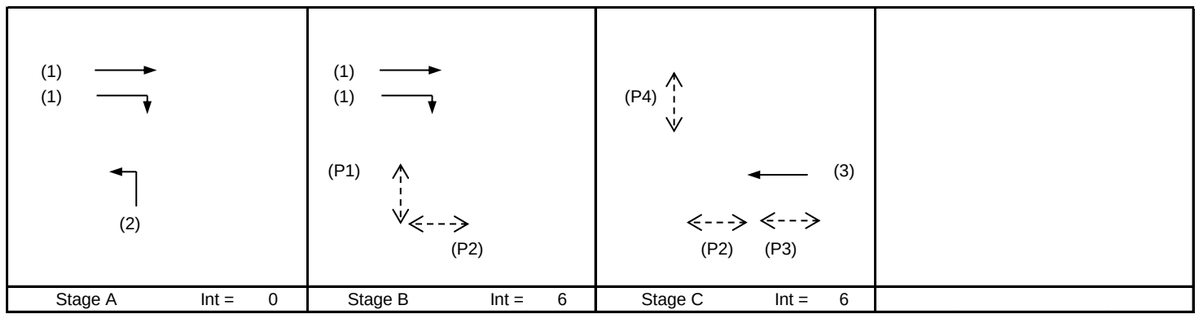


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.730	
Loss time		L =	10	sec
Total Flow		=	3118	pcu
Co	= (1.5*L+5)/(1-Y)	=	74.0	sec
Cm	= L/(1-Y)	=	37.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	13.1	%
Cp	= 0.9*L/(0.9-Y)	=	52.8	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	13.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		759		759	0.00	1945			1945	0.390	0.390		59	59	0.796	72	30
SA, RT	A,B	3.30	1	1	15			2085		371	402	773	0.52	1982			1982	0.390			59	59	0.796	78	30
LT	A	3.65	2	2	20		N	4100	194			194	1.00	3814			3814	0.051			8	8	0.796	21	76
SA	C	3.65	3	2			N	4100		1392		1392	0.00	4100			4100	0.340	0.340		51	51	0.796	78	31

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

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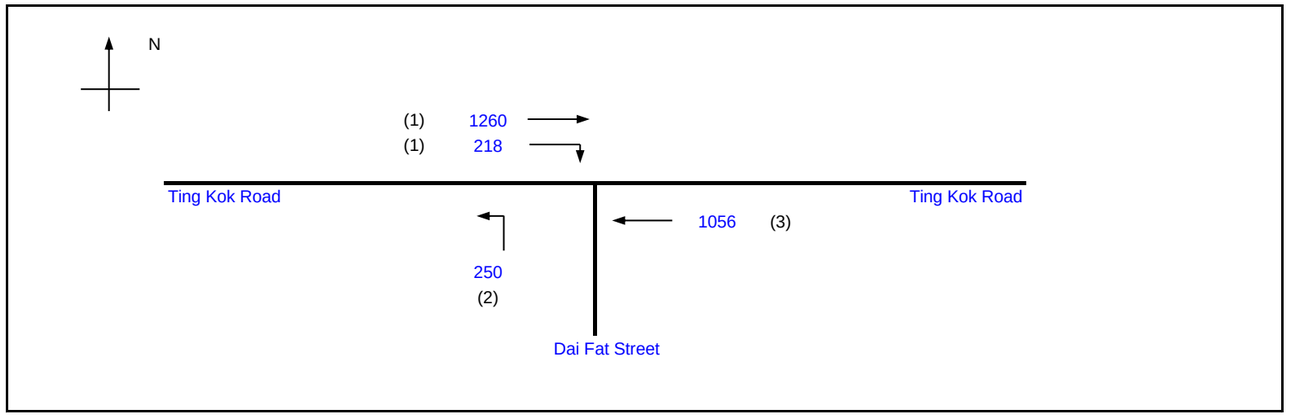
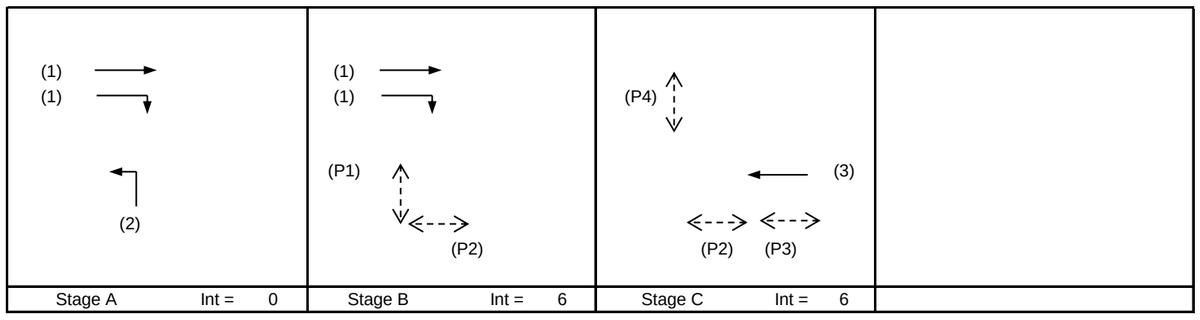


			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.630	
Loss time		L =	10	sec
Total Flow		=	2784	pcu
Co	= (1.5*L+5)/(1-Y)	=	54.0	sec
Cm	= L/(1-Y)	=	27.0	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	31.0	%
Cp	= 0.9*L/(0.9-Y)	=	33.3	sec
Ymax	= 1-L/C	=	0.900	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	28.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	B	7	5	6			
P2	B,C	8	5	7			
P3	C	7	5	7			
P4	C	6	5	6			

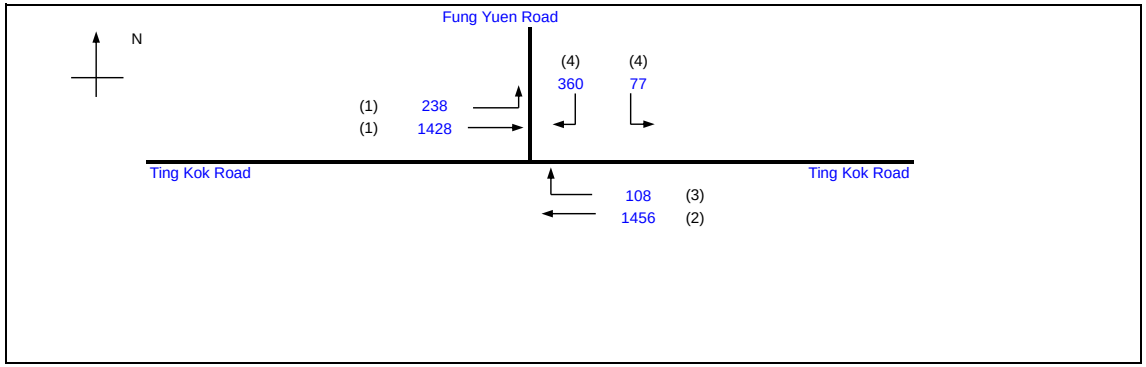
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				10					
SA	A,B	3.30	1	1			N	1945		724		724	0.00	1945			1945	0.372	0.372		53	53	0.700	54	19
SA, RT	A,B	3.30	1	1	15			2085		536	218	754	0.29	2026			2026	0.372			53	53	0.700	54	19
LT	A	3.65	2	2	20		N	4100	250			250	1.00	3814			3814	0.066			9	9	0.700	18	50
SA	C	3.65	3	2			N	4100		1056		1056	0.00	4100			4100	0.258	0.258		37	37	0.700	54	27

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

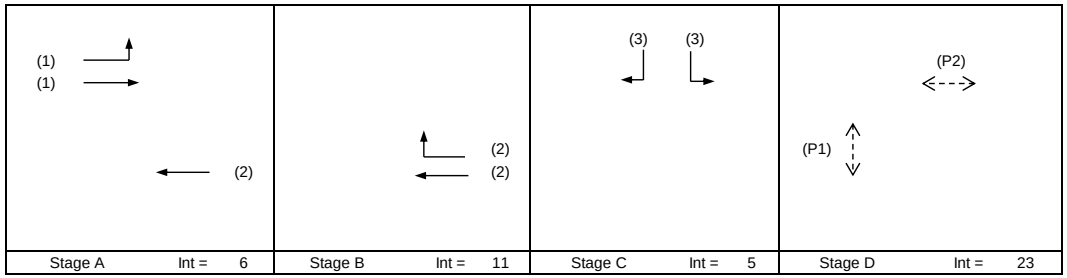
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J6: Ting Kok Road / Fung Yuen Road	**2024Ref_AM**	Checked By:	LL	Aug-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.597	
Loss time		L =	43	sec
Total Flow		=	3667	pcu
Co	= (1.5*L+5)/(1-Y)	=	172.4	sec
Cm	= L/(1-Y)	=	106.7	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-3.3	%
Cp	= 0.9*L/(0.9-Y)	=	127.7	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-3.3	%



Stage A	Int = 6	Stage B	Int = 11	Stage C	Int = 5	Stage D	Int = 23

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	553		791	0.30	1914			1914	0.413	0.413		53	53	0.930	114	24
SA	A	3.60	1	1				2115		875		875	0.00	2115			2115	0.413			53	53	0.930	120	24
SA	A,B	3.60	2	1			N	1975		797		797	0.00	1975			1975	0.404			52	53	0.930	114	25
SA,RT	A,B	3.60	3	1	19	O		2115		659	108	767	0.14	1864			1864	0.411			53	53	0.930	108	24
LT	C	3.60	4	1	11		N	1975	77			77	1.00	1738			1738	0.044			6	24	0.930	42	56
RT	C	3.80	4	1	17			2135			360	360	1.00	1962			1962	0.183	0.183		24	24	0.930	84	43

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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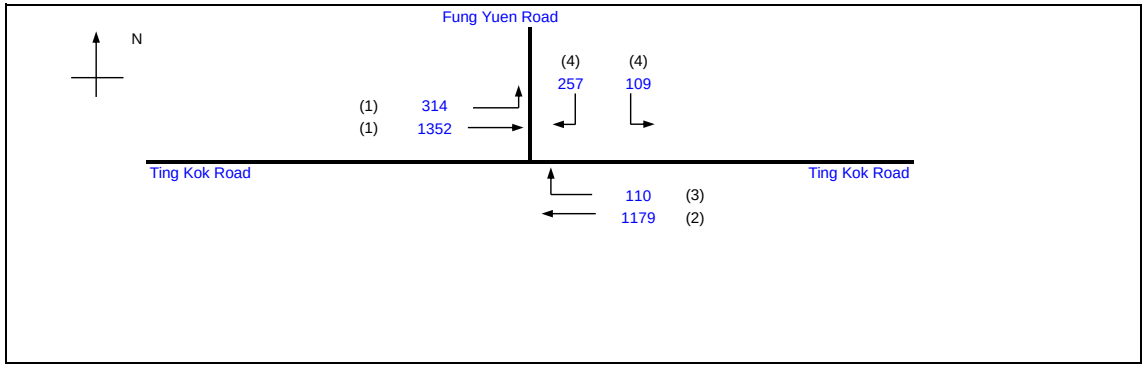
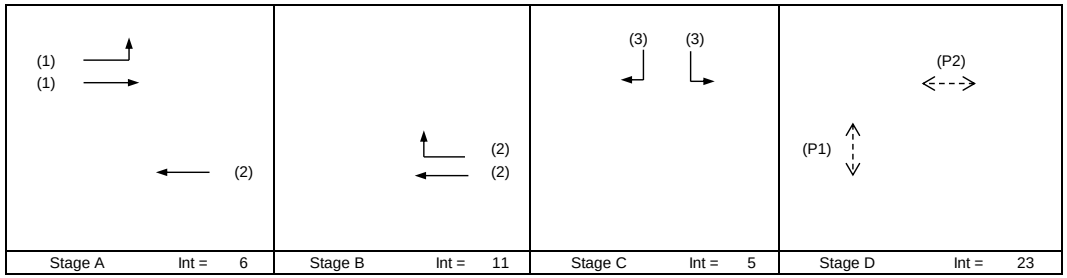
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J6: Ting Kok Road / Fung Yuen Road	**2024Ref_PM**	Checked By:	LL	Aug-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.546	
Loss time		L =	43	sec
Total Flow		=	3321	pcu
Co	= (1.5*L+5)/(1-Y)	=	153.1	sec
Cm	= L/(1-Y)	=	94.7	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	5.7	%
Cp	= 0.9*L/(0.9-Y)	=	109.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	5.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	474		788	0.40	1898			1898	0.415	0.415		59	59	0.851	84	20
SA	A	3.60	1	1				2115		878		878	0.00	2115			2115	0.415			59	59	0.851	90	21
SA	A,B	3.60	2	1			N	1975		665		665	0.00	1975			1975	0.337			47	47	0.853	84	27
SA,RT	A,B	3.60	3	1	19	O		2115		514	110	624	0.18	1859			1859	0.336			47	47	0.851	78	27
LT	C	3.60	4	1	11		N	1975	109			109	1.00	1738			1738	0.063			9	18	0.407	18	45
RT	C	3.80	4	1	17			2135			257	257	1.00	1962			1962	0.131	0.131		18	18	0.851	48	46

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
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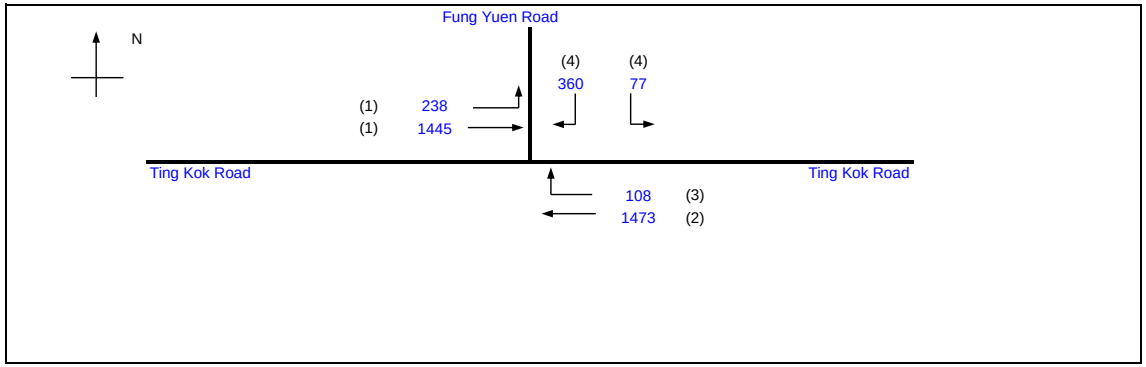
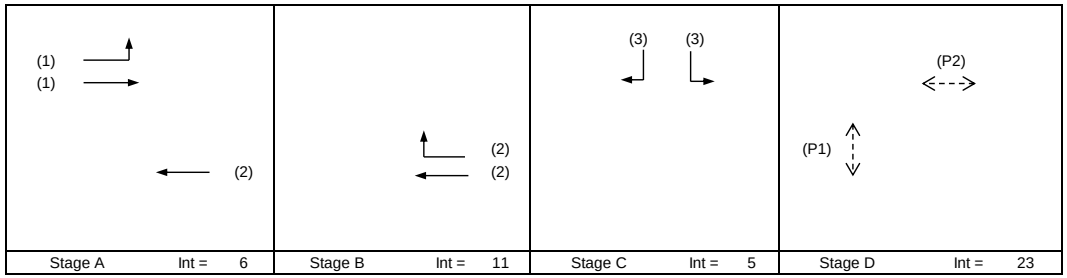
J6: Ting Kok Road / Fung Yuen Road	**2024Des_AM**	Checked By:	LL	Aug-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle	N =		4	
Cycle time	C =		120	sec
Sum(y)	Y =		0.601	
Loss time	L =		43	sec
Total Flow	=		3701	pcu
Co	= (1.5*L+5)/(1-Y)	=	174.2	sec
Cm	= L/(1-Y)	=	107.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	-3.9	%
Cp	= 0.9*L/(0.9-Y)	=	129.5	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-3.9	%



Stage A	Int = 6	Stage B	Int = 11	Stage C	Int = 5	Stage D	Int = 23

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

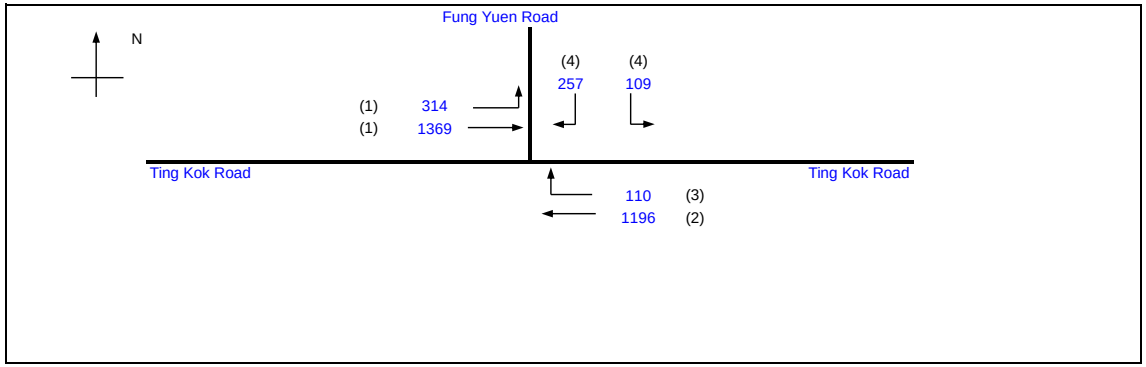
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	562		800	0.30	1915			1915	0.418	0.418		53	53	0.937	114	24
SA	A	3.60	1	1				2115		883		883	0.00	2115			2115	0.418			53	53	0.937	126	24
SA	A,B	3.60	2	1			N	1975		806		806	0.00	1975			1975	0.408			52	53	0.937	120	25
SA,RT	A,B	3.60	3	1	19	O		2115		667	108	775	0.14	1864			1864	0.416			53	53	0.937	114	24
LT	C	3.60	4	1	11		N	1975	77			77	1.00	1738			1738	0.044			6	24	0.937	48	56
RT	C	3.80	4	1	17			2135			360	360	1.00	1962			1962	0.183	0.183		24	24	0.937	90	43

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

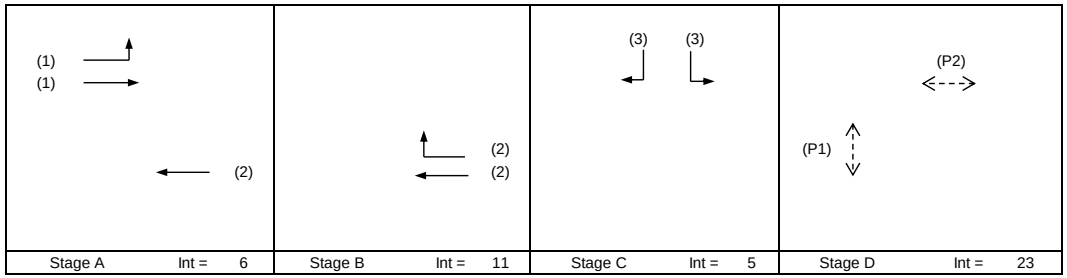
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J6: Ting Kok Road / Fung Yuen Road	**2024Des_PM**	Checked By:	LL	Aug-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)	FILENAME : J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.550	
Loss time		L =	43	sec
Total Flow		=	3355	pcu
Co	= (1.5*L+5)/(1-Y)	=	154.5	sec
Cm	= L/(1-Y)	=	95.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	4.9	%
Cp	= 0.9*L/(0.9-Y)	=	110.7	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	4.9	%



Stage A	Int = 6	Stage B	Int = 11	Stage C	Int = 5	Stage D	Int = 23

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

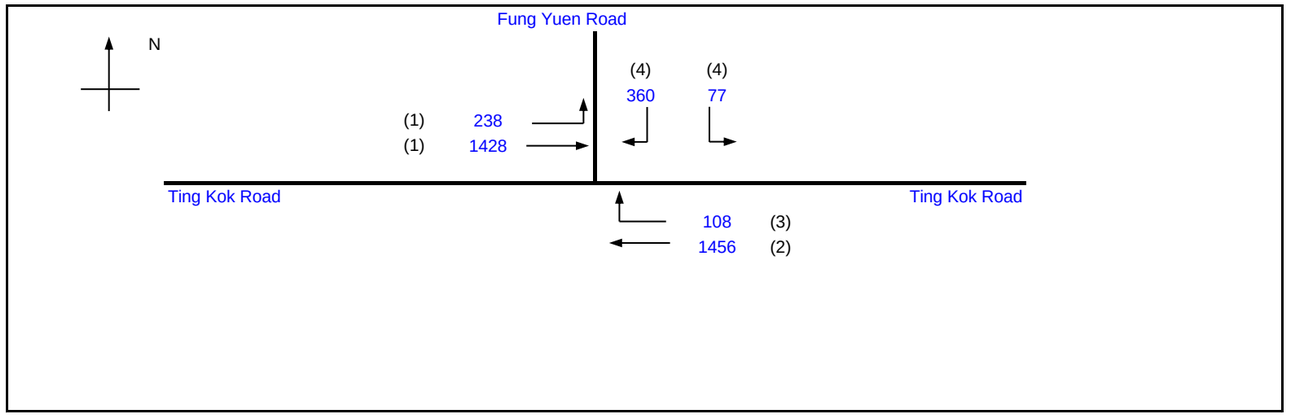
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	482		796	0.39	1899			1899	0.419	0.419		59	59	0.858	84	20
SA	A	3.60	1	1				2115		887		887	0.00	2115			2115	0.419			59	59	0.858	90	21
SA	A,B	3.60	2	1			N	1975		673		673	0.00	1975			1975	0.341			48	48	0.858	84	27
SA,RT	A,B	3.60	3	1	19	O		2115		523	110	633	0.17	1859			1859	0.341			48	48	0.858	78	26
LT	C	3.60	4	1	11		N	1975	109			109	1.00	1738			1738	0.063			9	18	0.411	18	46
RT	C	3.80	4	1	17			2135			257	257	1.00	1962			1962	0.131	0.131		18	18	0.858	54	46

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

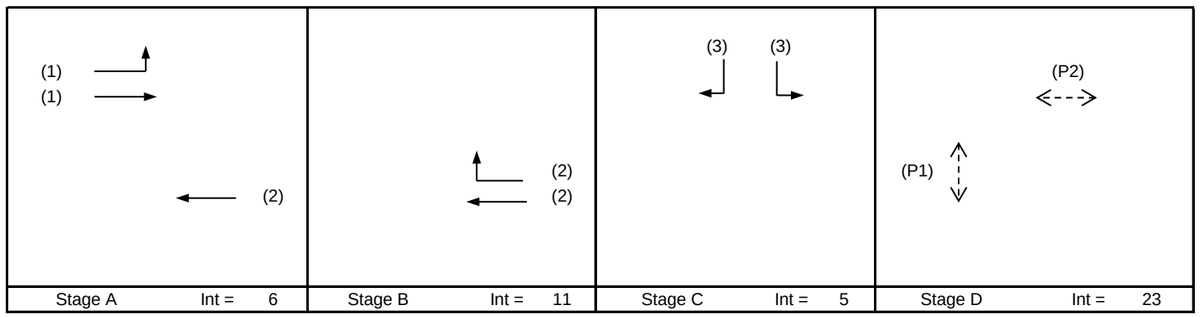
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period with Improvement)	**2024Ref_AM (Imp)** J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.532	
Loss time		L =	43	sec
Total Flow		=	3667	pcu
Co	= (1.5*L+5)/(1-Y)	=	148.4	sec
Cm	= L/(1-Y)	=	91.8	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	8.6	%
Cp	= 0.9*L/(0.9-Y)	=	105.0	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	8.6	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	553		791	0.30	1914			1914	0.413	0.413		60	60	0.828	78	31
SA	A	3.60	1	1				2115		875		875	0.00	2115			2115	0.413			60	60	0.828	84	31
SA	A,B	3.60	2	1			N	1975		797		797	0.00	1975			1975	0.404			58	60	0.813	78	30
SA,RT	A,B	3.60	3	1	19	O		2115		659	108	767	0.14	1864			1864	0.411			60	60	0.828	78	32
LT,RT	C	3.60	4	1	11		N	1975	77		128	205	1.00	1738			1738	0.118	0.118		17	17	0.828	42	77
RT	C	3.80	4	1	17			2135			232	232	1.00	1962			1962	0.118			17	17	0.828	48	73

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

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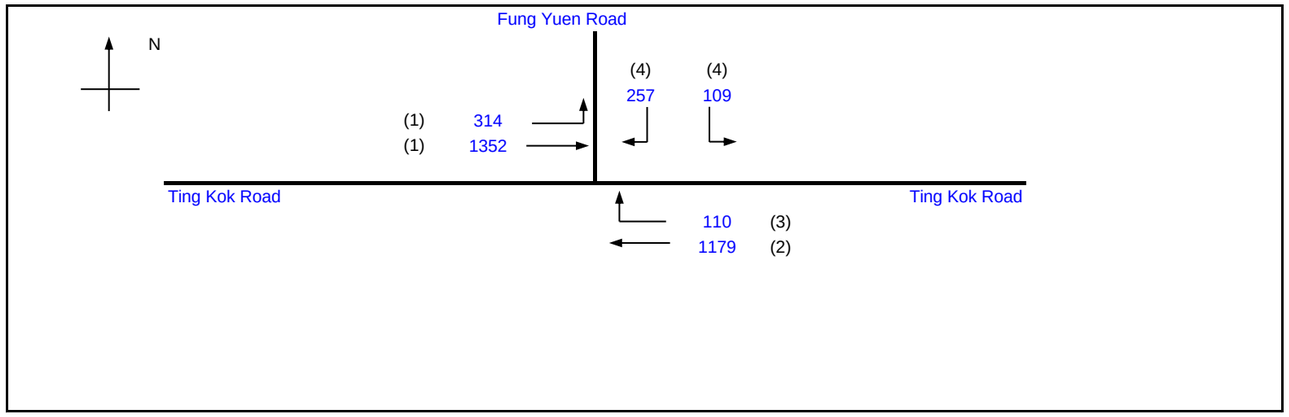
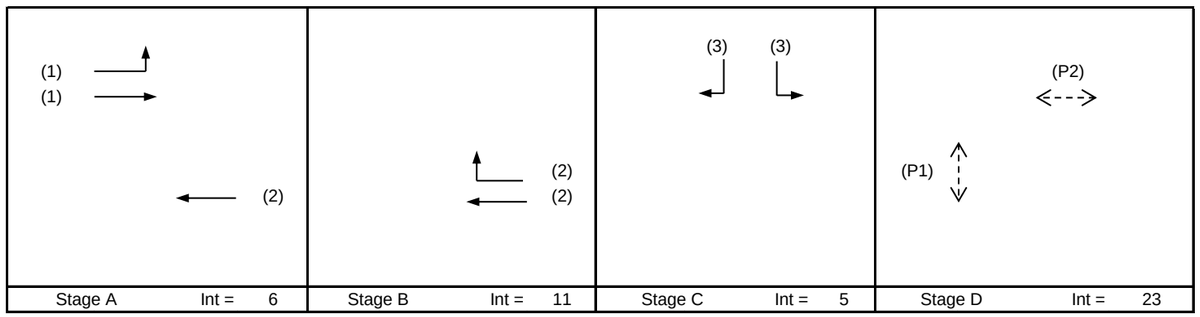
TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Ref_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.514	
Loss time		L =	43	sec
Total Flow		=	3321	pcu
Co	= (1.5*L+5)/(1-Y)	=	143.0	sec
Cm	= L/(1-Y)	=	88.5	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	12.3	%
Cp	= 0.9*L/(0.9-Y)	=	100.3	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	12.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

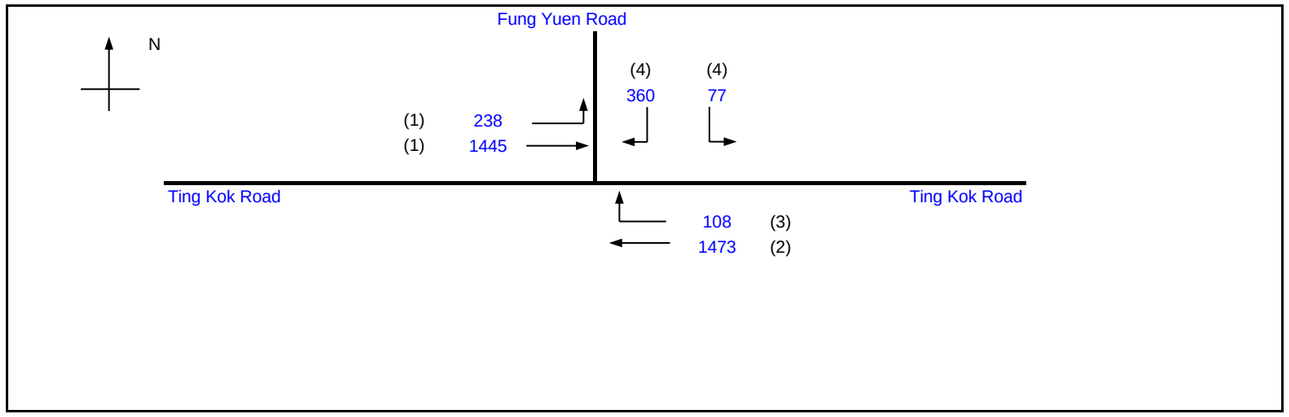
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	474		788	0.40	1898			1898	0.415	0.415		62	62	0.801	72	28
SA	A	3.60	1	1				2115		878		878	0.00	2115			2115	0.415			62	62	0.801	84	27
SA	A,B	3.60	2	1			N	1975		665		665	0.00	1975			1975	0.337			50	50	0.803	72	35
SA,RT	A,B	3.60	3	1	19	O		2115		514	110	624	0.18	1859			1859	0.336			50	50	0.801	72	36
LT,RT	C	3.60	4	1	11		N	1975	109		63	172	1.00	1738			1738	0.099	0.099		15	15	0.801	36	76
RT	C	3.80	4	1	17			2135			194	194	1.00	1962			1962	0.099			15	15	0.801	36	73

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

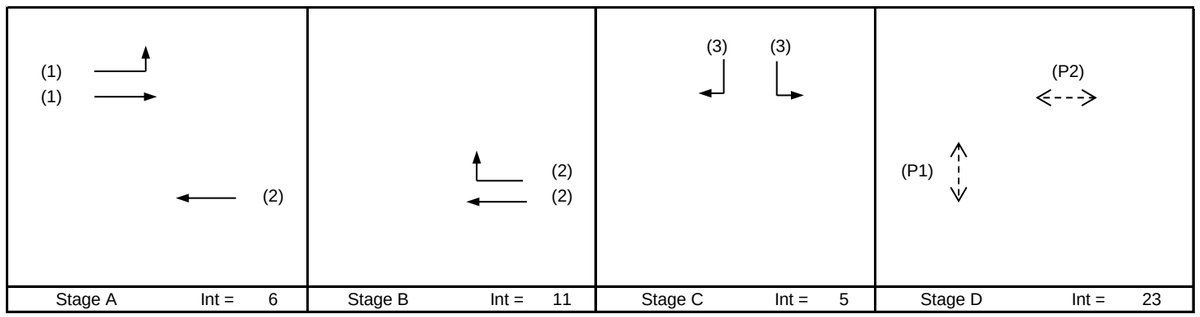
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Des_AM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Design AM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.536	
Loss time		L =	43	sec
Total Flow		=	3701	pcu
Co	= (1.5*L+5)/(1-Y)	=	149.7	sec
Cm	= L/(1-Y)	=	92.6	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	7.8	%
Cp	= 0.9*L/(0.9-Y)	=	106.2	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7.8	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

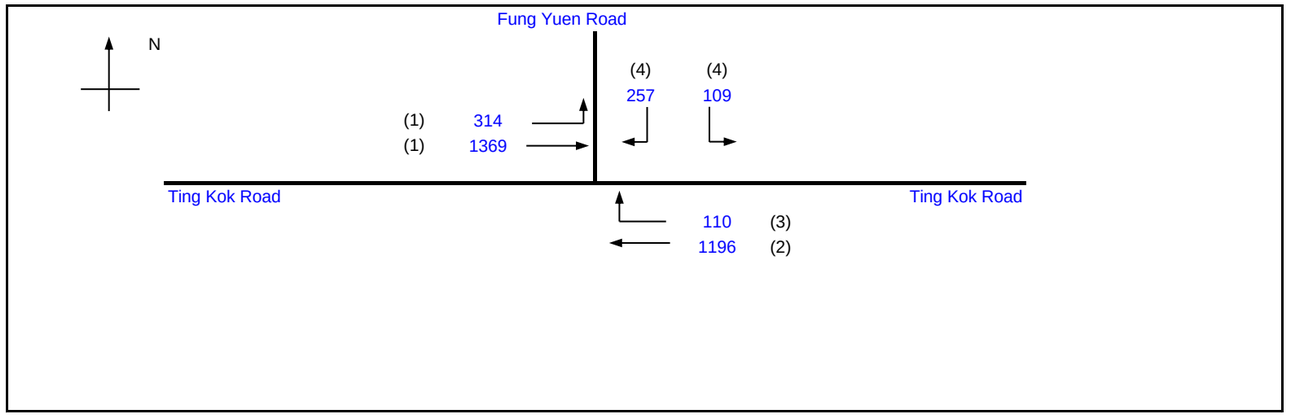
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	238	562		800	0.30	1915			1915	0.418	0.418		60	60	0.835	78	32
SA	A	3.60	1	1				2115		883		883	0.00	2115			2115	0.418			60	60	0.835	84	31
SA	A,B	3.60	2	1			N	1975		806		806	0.00	1975			1975	0.408			59	60	0.819	78	30
SA,RT	A,B	3.60	3	1	19	O		2115		667	108	775	0.14	1864			1864	0.416			60	60	0.835	78	32
LT,RT	C	3.60	4	1	11		N	1975	77		128	205	1.00	1738			1738	0.118	0.118		17	17	0.835	42	78
RT	C	3.80	4	1	17			2135			232	232	1.00	1962			1962	0.118			17	17	0.835	48	75

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

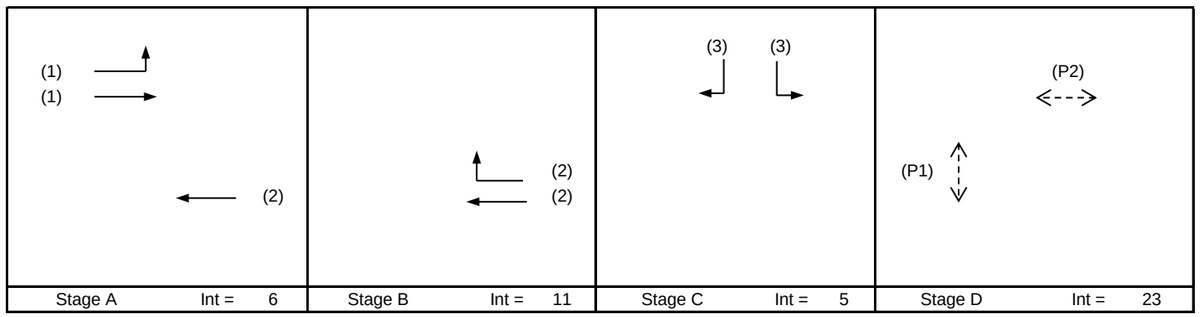
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

				INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391		Prepared By:	TL,AH	Jun-22
J6: Ting Kok Road / Fung Yuen Road	**2024Des_PM (Imp)**	FILENAME :	Checked By:	LL	Jun-22
2024 Design PM Peak Hour Traffic Flows (Construction Period with Improvement)		J6_Ting Kok Road_Fung Yuen Road_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.518	
Loss time		L =	43	sec
Total Flow		=	3355	pcu
Co	= (1.5*L+5)/(1-Y)	=	144.3	sec
Cm	= L/(1-Y)	=	89.3	sec
Yult		=	0.578	
R.C.ult	= (Yult-Y)/Y*100%	=	11.4	%
Cp	= 0.9*L/(0.9-Y)	=	101.4	sec
Ymax	= 1-L/C	=	0.642	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	11.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	D	16	5	14		9	14
P2	D	19	5	17		6	17

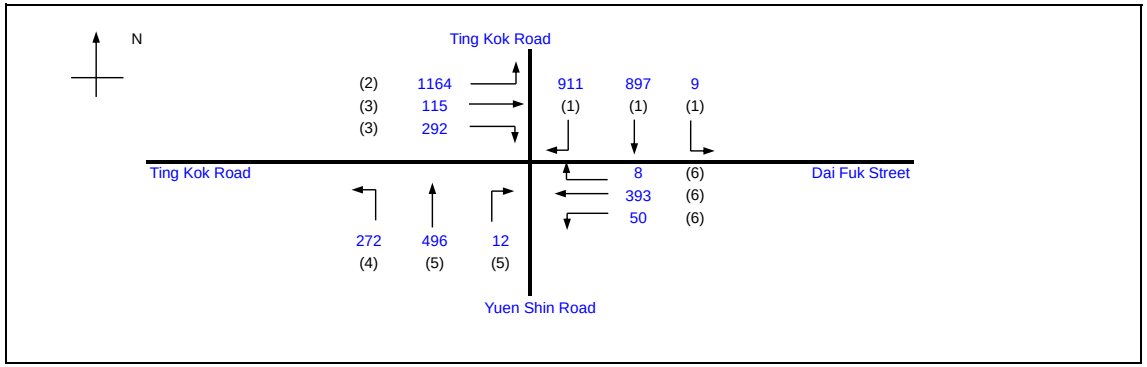
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
																				43					
LT,SA	A	3.50	1	1	17		N	1965	314	482		796	0.39	1899			1899	0.419	0.419		62	62	0.808	72	28
SA	A	3.60	1	1				2115		887		887	0.00	2115			2115	0.419			62	62	0.808	84	28
SA	A,B	3.60	2	1			N	1975		673		673	0.00	1975			1975	0.341			51	51	0.808	78	36
SA,RT	A,B	3.60	3	1	19	O		2115		523	110	633	0.17	1859			1859	0.341			51	51	0.808	72	36
LT,RT	C	3.60	4	1	11		N	1975	109		63	172	1.00	1738			1738	0.099	0.099		15	15	0.808	36	78
RT	C	3.80	4	1	17			2135			194	194	1.00	1962			1962	0.099			15	15	0.808	36	74

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

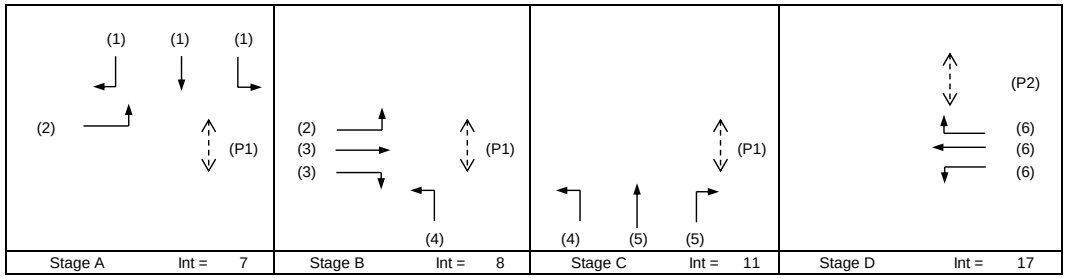
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Ref_AM**	Checked By:	LL	Aug-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.453	
Loss time		L =	40	sec
Total Flow		=	4619	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.8	sec
Cm	= L/(1-Y)	=	73.1	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	32.5	%
Cp	= 0.9*L/(0.9-Y)	=	80.5	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	19.3	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

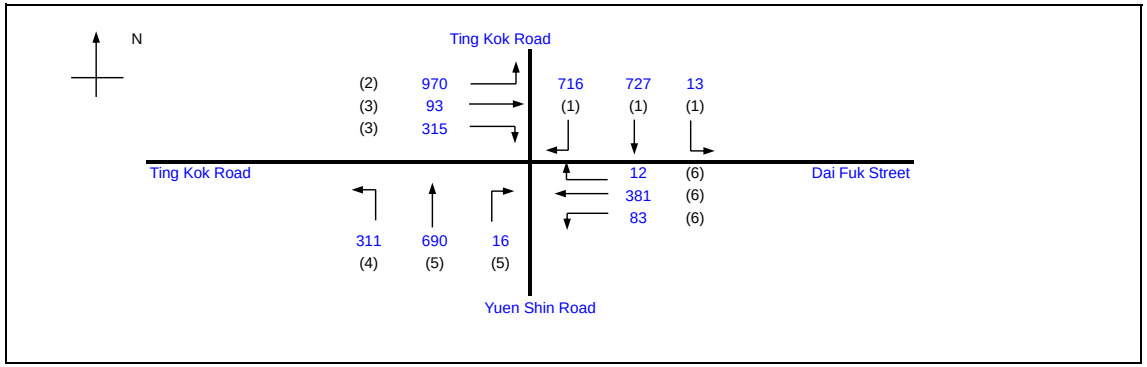
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	428		437	0.02	1977			1977	0.221		40	29	29	0.754	48	37
SA	A	3.65	1	1				2120		469		469	0.00	2120			2120	0.221			29	29	0.754	54	37
RT	A	3.65	1	2	25			4240		0	911	911	1.00	4000			4000	0.228	0.228		30	30	0.754	51	33
LT	A,B	3.65	2	2	20		N	4100	1164			1164	1.00	3814			3814	0.305			40	40	0.754	57	26
SA	B	3.65	3	1				2120		115		115	0.00	2120			2120	0.054			7	7	0.754	18	74
RT	B	3.65	3	1	25			2120			292	292	1.00	2000			2000	0.146	0.146		19	19	0.754	42	47
LT	B,C	3.40	4	1	15		N	1955	272			272	1.00	1777			1777	0.153			20	20	0.754	36	48
SA	C	3.40	5	3				6285		496		496	0.00	6285			6285	0.079	0.079		10	10	0.754	24	47
RT	C	3.40	5	1	20			2095			12	12	1.00	1949			1949	0.006			1	1	0.754	6	357
LT,SA	D	3.65	6	1	15		N	1980	50	165		215	0.23	1935			1935	0.111			15	15	0.754	30	54
SA,RT	D	3.65	6	1	25			2120		228	8	236	0.03	2116			2116	0.111			15	15	0.754	36	53

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

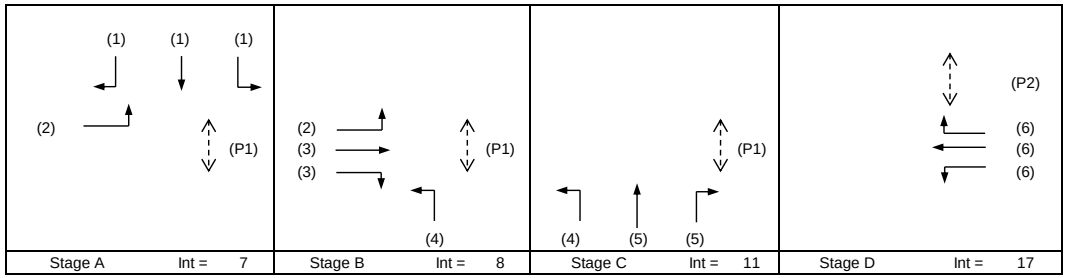
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Ref_PM**	Checked By:	LL	Aug-22
2024 Reference PM Peak Hour Traffic Flows (Construction Period)	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.447	
Loss time		L =	40	sec
Total Flow		=	4327	pcu
Co	= (1.5*L+5)/(1-Y)	=	117.6	sec
Cm	= L/(1-Y)	=	72.4	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	34.2	%
Cp	= 0.9*L/(0.9-Y)	=	79.5	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

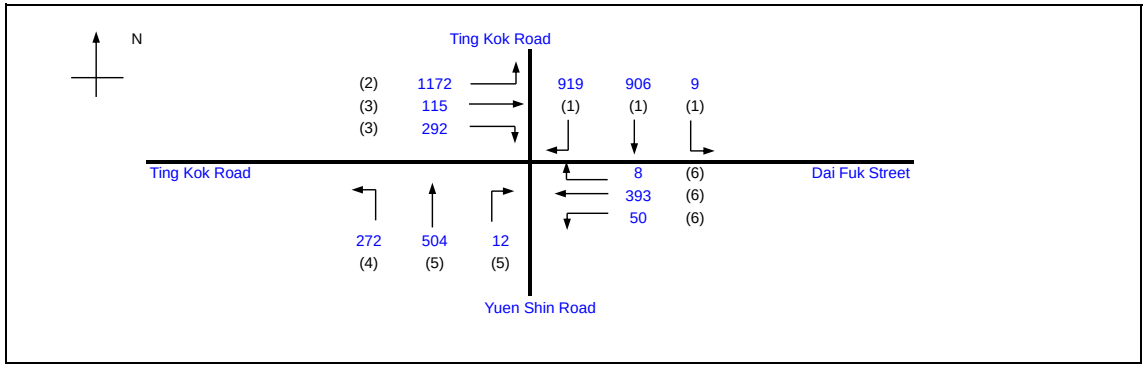
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	13	342		355	0.04	1975			1975	0.180		40	23	23	0.767	42	42
SA	A	3.65	1	1				2120		381		381	0.00	2120			2120	0.180			23	23	0.767	48	42
RT	A	3.65	1	2	25			4240		4	716	720	1.00	4001			4001	0.180	0.180		23	23	0.767	42	37
LT	A,B	3.65	2	2	20		N	4100	970			970	1.00	3814			3814	0.254			32	32	0.767	51	30
SA	B	3.65	3	1				2120		93		93	0.00	2120			2120	0.044			5	5	0.767	18	84
RT	B	3.65	3	1	25			2120			315	315	1.00	2000			2000	0.158	0.158		20	20	0.767	42	45
LT	B,C	3.40	4	1	15		N	1955	311			311	1.00	1777			1777	0.175			22	22	0.767	42	44
SA	C	3.40	5	3				6285		690		690	0.00	6285			6285	0.110	0.110		14	14	0.767	30	42
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.767	6	297
LT,SA	D	3.65	6	1	15		N	1980	83	143		226	0.37	1910			1910	0.118			15	15	0.767	30	53
SA,RT	D	3.65	6	1	25			2120		238	12	250	0.05	2114			2114	0.118			15	15	0.767	36	51

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

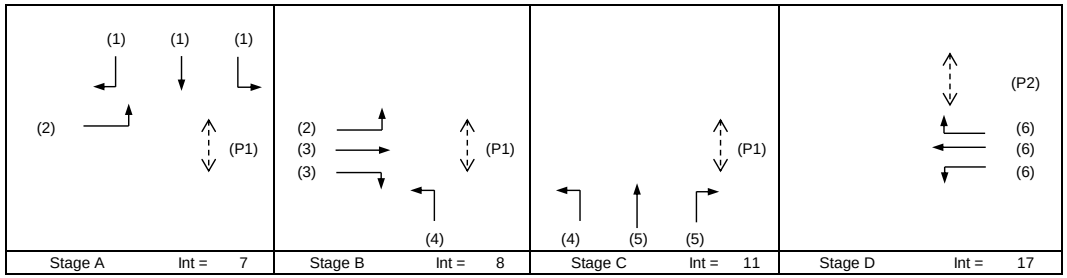
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Des_AM**	Checked By:	LL	Aug-22
2024 Design AM Peak Hour Traffic Flows (Construction Period)	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	100	sec
Sum(y)		Y =	0.456	
Loss time		L =	40	sec
Total Flow		=	4652	pcu
Co	= (1.5*L+5)/(1-Y)	=	119.5	sec
Cm	= L/(1-Y)	=	73.5	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	31.6	%
Cp	= 0.9*L/(0.9-Y)	=	81.1	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

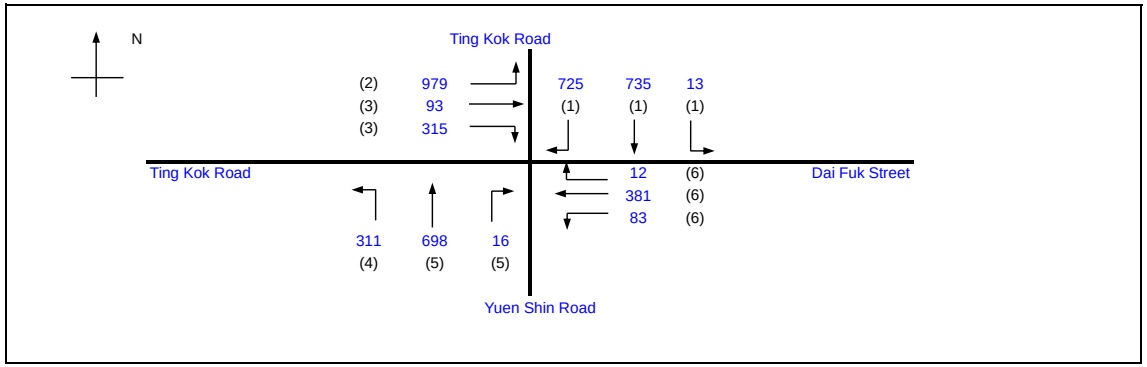
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	9	433		442	0.02	1977			1977	0.223		40	29	29	0.760	48	38
SA	A	3.65	1	1				2120		473		473	0.00	2120			2120	0.223			29	29	0.760	54	37
RT	A	3.65	1	2	25			4240		0	919	919	1.00	4000			4000	0.230	0.230		30	30	0.760	51	33
LT	A,B	3.65	2	2	20		N	4100	1172			1172	1.00	3814			3814	0.307			40	40	0.760	57	26
SA	B	3.65	3	1				2120		115		115	0.00	2120			2120	0.054			7	7	0.760	18	75
RT	B	3.65	3	1	25			2120			292	292	1.00	2000			2000	0.146	0.146		19	19	0.760	42	48
LT	B,C	3.40	4	1	15		N	1955	272			272	1.00	1777			1777	0.153			20	20	0.760	36	48
SA	C	3.40	5	3				6285		504		504	0.00	6285			6285	0.080	0.080		11	11	0.760	24	47
RT	C	3.40	5	1	20			2095			12	12	1.00	1949			1949	0.006			1	1	0.760	6	369
LT,SA	D	3.65	6	1	15		N	1980	50	165		215	0.23	1935			1935	0.111			15	15	0.760	30	55
SA,RT	D	3.65	6	1	25			2120		228	8	236	0.03	2116			2116	0.111			15	15	0.760	36	53

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

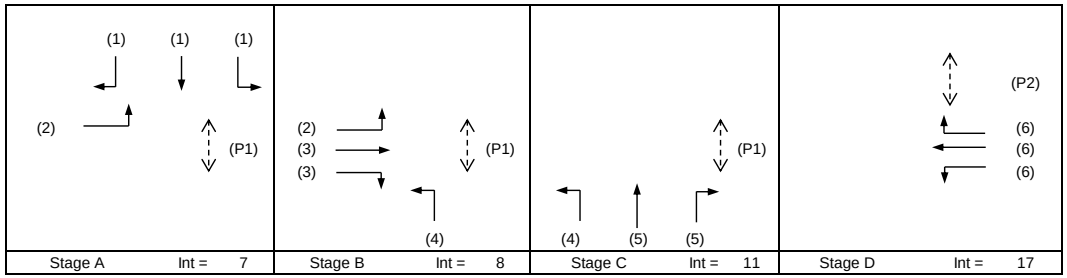
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Aug-22
J7: Yuen Shin Road / Ting Kok Road / Dai Fuk Street	**2024Des_PM**	Checked By:	LL	Aug-22
2024 Design PM Peak Hour Traffic Flows (Construction Period)	FILENAME : Yuen Shin Road_Ting Kok Road_Dai Fuk Street_S.xlsx	Reviewed By:	OC	Aug-22



			Existing Cycle Time	
No. of stages per cycle		N =	4	
Cycle time		C =	96	sec
Sum(y)		Y =	0.451	
Loss time		L =	40	sec
Total Flow		=	4361	pcu
Co	= (1.5*L+5)/(1-Y)	=	118.3	sec
Cm	= L/(1-Y)	=	72.8	sec
Yult		=	0.600	
R.C.ult	= (Yult-Y)/Y*100%	=	33.2	%
Cp	= 0.9*L/(0.9-Y)	=	80.1	sec
Ymax	= 1-L/C	=	0.583	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16.5	%



Stage A	Int = 7	Stage B	Int = 8	Stage C	Int = 11	Stage D	Int = 17

Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,B,C	7	5	6			
P2	D	12	5	10			

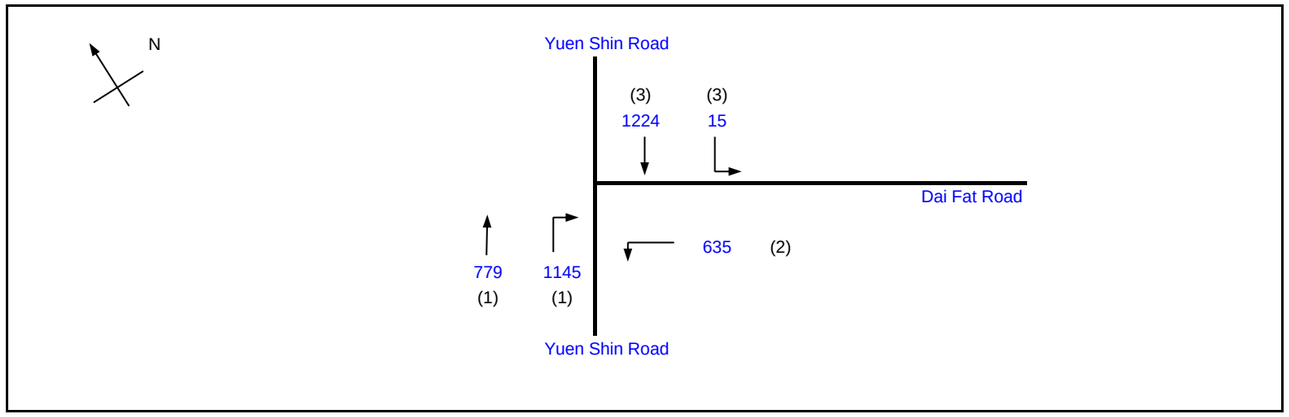
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
LT,SA	A	3.65	1	1	20		N	1980	13	346		359	0.04	1975			1975	0.182		40	23	23	0.772	42	43
SA	A	3.65	1	1				2120		386		386	0.00	2120			2120	0.182			23	23	0.772	48	42
RT	A	3.65	1	2	25			4240		3	725	728	1.00	4001			4001	0.182	0.182		23	23	0.772	42	37
LT	A,B	3.65	2	2	20		N	4100	979			979	1.00	3814			3814	0.257			32	32	0.772	51	30
SA	B	3.65	3	1				2120		93		93	0.00	2120			2120	0.044			5	5	0.772	18	86
RT	B	3.65	3	1	25			2120			315	315	1.00	2000			2000	0.158	0.158		20	20	0.772	42	46
LT	B,C	3.40	4	1	15		N	1955	311			311	1.00	1777			1777	0.175			22	22	0.772	42	45
SA	C	3.40	5	3				6285		698		698	0.00	6285			6285	0.111	0.111		14	14	0.772	32	42
RT	C	3.40	5	1	20			2095			16	16	1.00	1949			1949	0.008			1	1	0.772	6	308
LT,SA	D	3.65	6	1	15		N	1980	83	143		226	0.37	1910			1910	0.118			15	15	0.772	30	54
SA,RT	D	3.65	6	1	25			2120		238	12	250	0.05	2114			2114	0.118			15	15	0.772	36	52

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

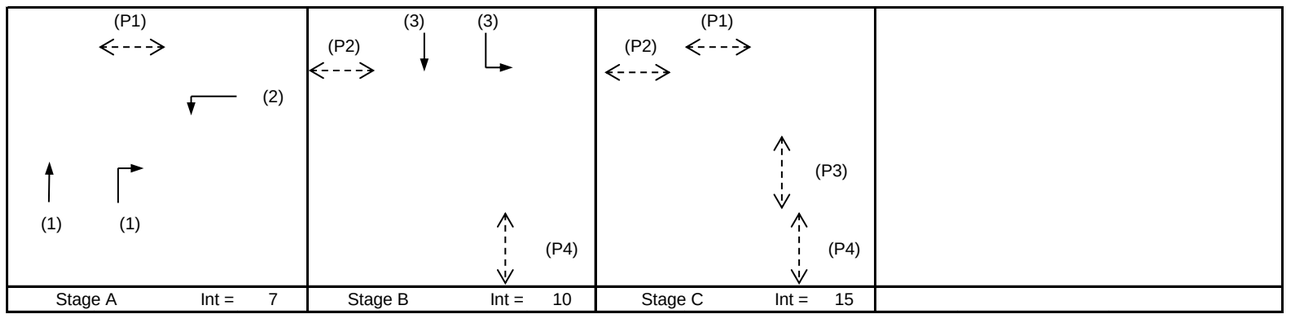
OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

			INITIALS	DATE
Transitional Housing Project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po	PROJECT NO. 82391	Prepared By:	TL,AH	Jun-22
J8: Yuen Shin Road / Dai Fat Street	FILENAME :	Checked By:	LL	Jun-22
2024 Reference AM Peak Hour Traffic Flows (Construction Period)	**2024Ref_AM** J8_Yuen Shin Road_Dai Fat Street_S.xlsx	Reviewed By:	OC	Jun-22



			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.630	
Loss time		L =	30	sec
Total Flow		=	3798	pcu
Co	= (1.5*L+5)/(1-Y)	=	135.2	sec
Cm	= L/(1-Y)	=	81.1	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	7.1	%
Cp	= 0.9*L/(0.9-Y)	=	100.1	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7.1	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		635		635	0.00	1965			1965	0.323	0.323	30	46	46	0.840	78	41
SA,RT	A	3.50	1	1	25			2105		144	506	650	0.78	2011			2011	0.323			46	46	0.840	84	41
RT	A	3.50	1	1	23			2105			639	639	1.00	1976			1976	0.323			46	46	0.840	78	41
LT	A	3.80	2	2	19		N	4130	635			635	1.00	3828			3828	0.166			24	24	0.840	51	53
LT,SA	B	3.20	3	1	17		N	1935	15	578		593	0.03	1931			1931	0.307	0.307		44	44	0.840	78	43
SA	B	3.50	3	1				2105		646		646	0.00	2105			2105	0.307			44	44	0.840	84	42

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

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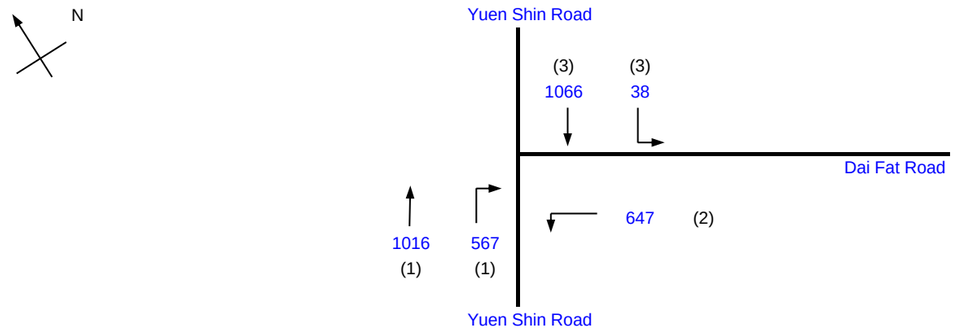
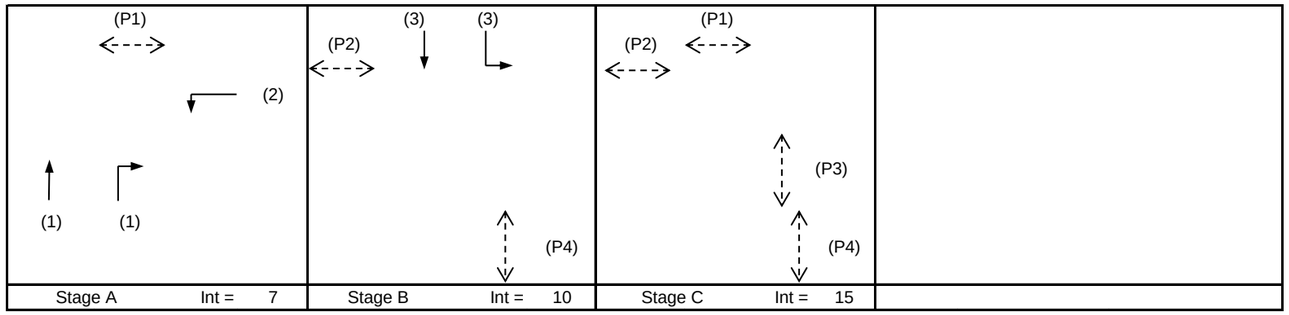


			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.536	
Loss time		L =	30	sec
Total Flow		=	3334	pcu
Co	= (1.5*L+5)/(1-Y)	=	107.9	sec
Cm	= L/(1-Y)	=	64.7	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	25.8	%
Cp	= 0.9*L/(0.9-Y)	=	74.3	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.4	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		515		515	0.00	1965			1965	0.262	0.262	30	34	34	0.766	54	34
SA,RT	A	3.50	1	1	25			2105		501	49	549	0.09	2094			2094	0.262			34	34	0.766	60	34
RT	A	3.50	1	1	23			2105			518	518	1.00	1976			1976	0.262			34	34	0.766	54	34
LT	A	3.80	2	2	19		N	4130	647			647	1.00	3828			3828	0.169			22	22	0.766	42	39
LT,SA	B	3.20	3	1	17		N	1935	38	489		527	0.07	1923			1923	0.274	0.274		36	36	0.766	54	33
SA	B	3.50	3	1				2105		577		577	0.00	2105			2105	0.274			36	36	0.766	60	33

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

OZZO TECHNOLOGY (HK) LIMITED

TRAFFIC SIGNAL CALCULATION

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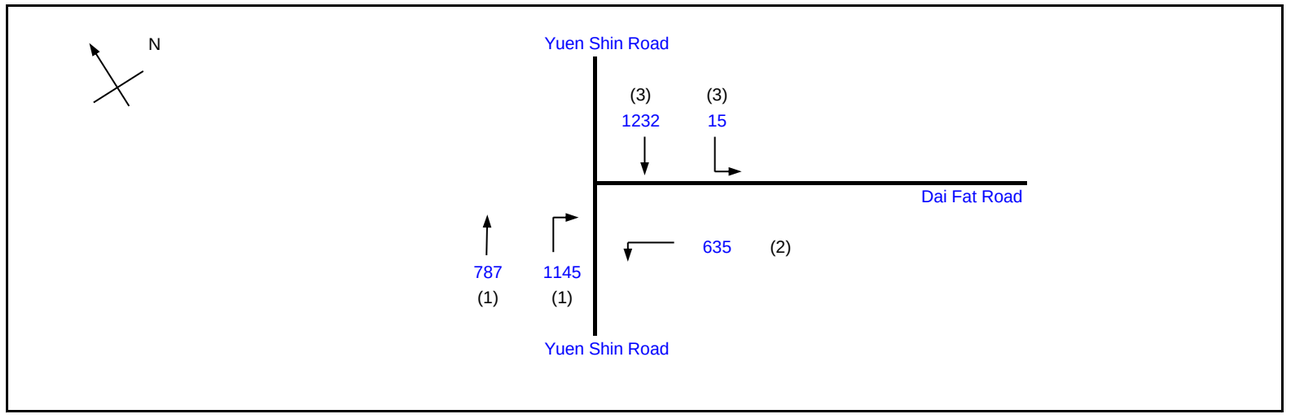
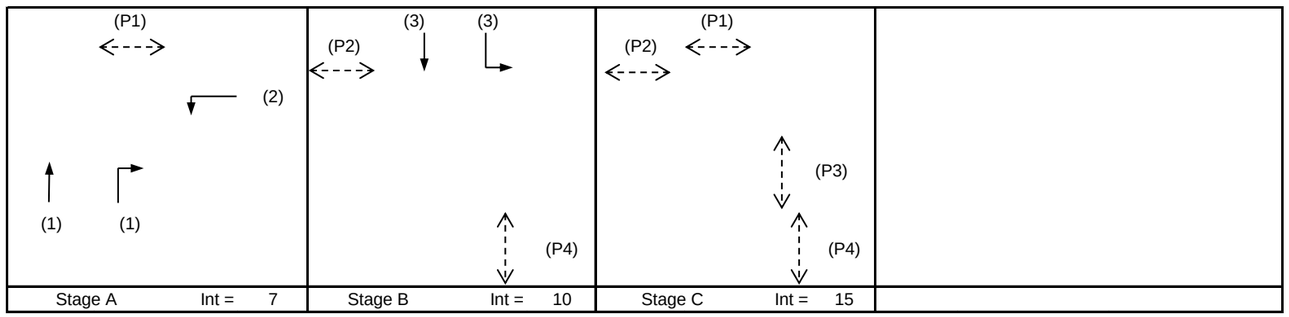


			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	120	sec
Sum(y)		Y =	0.634	
Loss time		L =	30	sec
Total Flow		=	3814	pcu
Co	= (1.5*L+5)/(1-Y)	=	136.4	sec
Cm	= L/(1-Y)	=	81.9	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	6.5	%
Cp	= 0.9*L/(0.9-Y)	=	101.3	sec
Ymax	= 1-L/C	=	0.750	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	6.5	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		638		638	0.00	1965			1965	0.325	0.325	30	46	46	0.845	78	42
SA,RT	A	3.50	1	1	25			2105		149	504	653	0.77	2012			2012	0.325			46	46	0.845	84	42
RT	A	3.50	1	1	23			2105			641	641	1.00	1976			1976	0.325			46	46	0.845	84	42
LT	A	3.80	2	2	19		N	4130	635			635	1.00	3828			3828	0.166			24	24	0.845	51	54
LT,SA	B	3.20	3	1	17		N	1935	15	582		597	0.03	1931			1931	0.309	0.309		44	44	0.845	78	44
SA	B	3.50	3	1				2105		650		650	0.00	2105			2105	0.309			44	44	0.845	84	43

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

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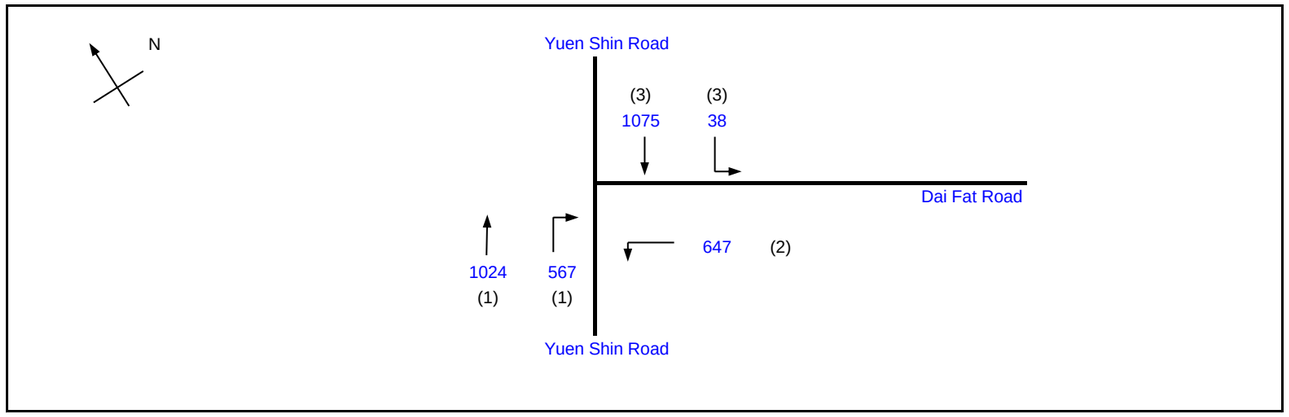
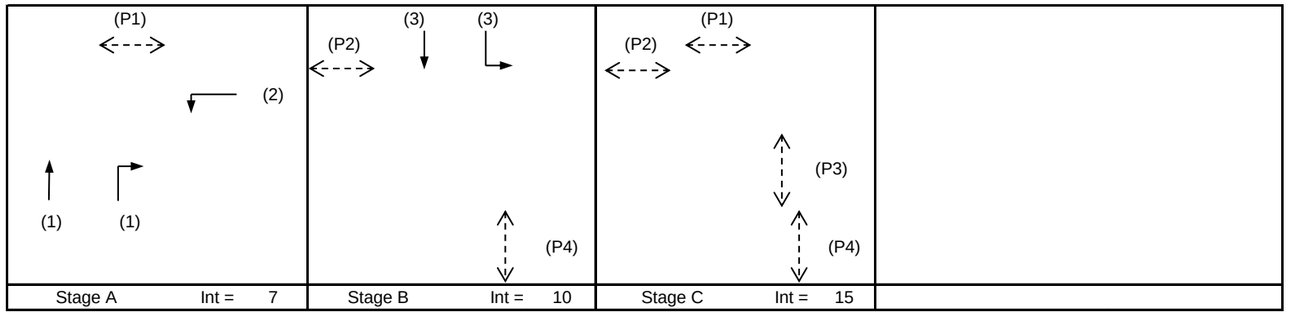


			Existing Cycle Time	
No. of stages per cycle		N =	3	
Cycle time		C =	100	sec
Sum(y)		Y =	0.540	
Loss time		L =	30	sec
Total Flow		=	3351	pcu
Co	= (1.5*L+5)/(1-Y)	=	108.7	sec
Cm	= L/(1-Y)	=	65.2	sec
Yult		=	0.675	
R.C.ult	= (Yult-Y)/Y*100%	=	25.0	%
Cp	= 0.9*L/(0.9-Y)	=	75.0	sec
Ymax	= 1-L/C	=	0.700	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16.7	%



Pedestrian Phase	Stage	Width (m)	Green Time Required (s) SG	FG	Delay	Green Time Provided (s) SG	FG
P1	A,C	7	5	6			
P2	B,C	9	5	8			
P3	C	9	5	8			
P4	B,C	7	5	7			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement Left pcu/h	Straight pcu/h	Right pcu/h	Total FLow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
SA	A	3.50	1	1			N	1965		518		518	0.00	1965			1965	0.264	0.264	30	34	34	0.771	54	35
SA,RT	A	3.50	1	1	25			2105		506	46	552	0.08	2095			2095	0.264			34	34	0.771	60	34
RT	A	3.50	1	1	23			2105			521	521	1.00	1976			1976	0.264			34	34	0.771	54	35
LT	A	3.80	2	2	19		N	4130	647			647	1.00	3828			3828	0.169			22	22	0.771	42	40
LT,SA	B	3.20	3	1	17		N	1935	38	493		531	0.07	1923			1923	0.276	0.276		36	36	0.771	54	34
SA	B	3.50	3	1				2105		582		582	0.00	2105			2105	0.276			36	36	0.771	60	33

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

APPENDIX E - ENVIRONMENTAL ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

ENVIRONMENTAL ASSESSMENT

Aug 2022

Ref No: RT21466-EA-01C

Prepared By:

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Project:	SECTION 16 PLANNING APPLICATION TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO ENVIRONMENTAL ASSESSMENT
Report No.:	Ref: RT21466-EA-01C

Revision	Issue Date	Description	Author	Checker	Approver
0	5/2022	Issued for Comment	Various	YS	HM
A	5/2022	Issued for Comment	Various	YS	HM
B	6/2022	Issued for Comment	Various	YS	HM
C	8/2022	Issued for Comment	Various	YS	HM

Prepared By:

Various

Checked by

Sui Hang Yan

Technical Director

Approved by:

Henry Mak

Director

Disclaimer:

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk

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1 INTRODUCTION

1.1 BACKGROUND

A transitional housing development has been proposed at Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School) (the proposed Site).

The proposed Site is currently zoned "Government, Institution or Community" ("G/IC") under the approved Ting Kok Outline Zoning Plan (OZP) No. S/NE-TK/19. The proposed transitional housing development could be classified as 'Residential Institution', which is a Column 2 use in "G/IC" zone according to the Notes of the OZP requiring planning permission from the Town Planning Board.

BeeXergy Consulting Limited (BeeXergy) was commissioned by the The Society of Rehabilitation and Crime Prevention Hong Kong to conduct an Environmental Assessment (EA) to fulfill the THB planning application requirement of the proposed development.

1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

This Environmental Assessment is prepared to identify and assess the potential environmental impacts arising from the operation of the proposed development within the site to confirm the environmental suitability.

2 PROJECT DESCRIPTION

2.1 SITE LOCATION

The proposed Site area is approximately 4,000 m^2 and it is located to the southeast of Ting Kok Road, northeast of Beverly Hills, and southwest of Spanish Primary School, as shown on **Figure 1**. The Site is currently vacant.



Figure 1 Site Location Plan

2.2 PROPOSED USE

The Proposed Development is intended for developing transitional housing which comprises approximate 276 units, communal area, and a facility management office. The layout plan of the proposed Site is provided in **Appendix 2.1**.

The anticipated year of construction completion and occupation is 2024.

3 AIR QUALITY

3.1 INTRODUCTION

This section presents the assessment of potential air quality impacts associated with the construction and operational phases of the proposed development.

3.2 AIR QUALITY LEGISLATION AND STANDARDS

The Air Pollution Control Ordinance (APCO) provides the statutory framework for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs), which stipulate the statutory limits of air pollutants and the maximum allowable numbers of exceedance over specific periods should be met. The updated AQOs as listed in **Table 3.1** have been effective since 1 January 2022.

Table 3.1 Hong Kong Air Quality Objectives

Pollutant	**Averaging time**	**Concentration limit [1] (μg/m^3)**	**Allowable number of exceedances**
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) [2]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [3]	24-hour	50	35
	Annual	25	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
Ozone (O_3)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead (Pb)	Annual	0.5	Not Applicable

Note:

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

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

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

3.3 EXISTING AIR ENVIRONMENT

The existing environment of the proposed development is primarily affected by the local traffic Ting Kok Road only. A site survey in April 2022 identified that there are no air pollution sources (including chimney in used and odour source) located at the surrounding of the Project Site. As such, local traffic is considered to be the dominant emission source affecting the ambient air quality in the proposed site.

The recent 5-year (i.e. Year 2016 to Year 2020) air quality monitoring data from an EPD's Air Quality Monitoring Station (AQMS) Station have been reviewed. The nearest AQMS to the proposed development is Tai Po AQMS, with its monitoring data tabulated in **Table 3.2** below. The monitoring data indicates that O_3 concentrations exceeded the corresponding AQO. The measured high O_3 concentrations are a regional air pollution problem. The Hong Kong Government works closely with the Guangdong Provincial Government to tackle the photochemical-smog related regional problem, such as restricting the local vehicle emissions.

Table 3.2 Air quality monitoring data (Tai Po AQMS, 2016-2020)

Pollutant	Parameter	Concentrations (μg/m³) [1]						AQOs [2] (μg/m³)
		2016	2017	2018	2019	2020	5-year mean [3]	
SO_2	4th highest 10-minute	37	39	24	20	19	28	500 (3)
	24-hour	10	9	8	10	7	9	50 (3)
NO_2	19th highest 1-hour	112	127	125	142	106	122	200 (18)
	Annual	33	39	36	36	30	35	40
O_3	10th highest 8-hour	147	**181**	**167**	**197**	**165**	**171**	160 (9)
RSP	10th highest 24-hour	74	82	69	65	58	70	100 (9)
	Annual	29	32	31	31	24	30	50
FSP	10th highest 24-hour	**55**	**55**	47	47	38	48	50 (35)

	Annual	20	22	19	20	15	19	25

Notes:

[1] Underlined and **bold** values mean exceedance of the AQO.

[2] Values in ( ) mean the number of exceedances allowed, based on the prevailing AQOs effective since 1.1.2022.

[3] The 5-year means are the arithmetic average.

3.4 HONG KONG PLANNING STANDARD AND GUIDELINES (HKPSG)

According to Chapter 9, Environment of the Hong Kong Planning Standard and Guidelines (HKPSG), adequate buffer distance or screening should be provided between sensitive receptors and potential air pollution emitters. For roads that are distinguished as District Distributor for active and passive recreational uses, the buffer distance must be greater than 10m as shown in **Table 3.3** below.

Table 3.3 Guidelines on Usage of Open Space Site

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	Type of Road		
	Trunk Road and Primary Distributor	>20m	Active and passive recreation 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

According to **Table 1.3** in the same Chapter, buffer distances of at least 200m and 100m for Industrial chimneys and dusty uses, respectively, from the proposed development are required.

3.5 REPRESENTATIVE AIR SENSITIVE RECEIVERS

The identified representative air sensitive receivers (ASRs) are shown in **Table 3.4** below. Their locations are provided in **Figure 3.1a**.

Table 3.4 Identified representative ASRs

ASRs	Description	Remarks

ASR 1	Proposed development	Planned receiver; affected by air quality impact during operational phase
ASR 2	Village house near Ting Kok Road	Existing receiver; affected by air quality impact during construction phase
ASR 3	Beverly Hills	Existing receiver; affected by air quality impact during construction phase
ASR 4	Spanish Primary School	Existing receiver; affected by air quality impact during construction phase
ASR 5	Village house in Shuen Wan	Existing receiver; affected by air quality impact during construction phase

3.6 VEHICULAR EMISSION SOURCES IN OPERATIONAL PHASE AND EVALUATION OF IMPACTS

The proposed development is subject to vehicular emission impact from the nearby Ting Kok Road during the operational phase of the project. With reference to the Annual Traffic Census 2020 published by the Transport Department, Ting Kok Road is classified as a Rural Road and is analogous to a District Distributor shown in **Table 3.3**. A comparison between the proposed layout and the buffer distance is shown in **Figures 3.1a and 3.1b**. The proposed development has a minimal horizontal distance of 46m to the road kerb of Ting Kok Road (**Figures 3.1a**). Therefore, the buffer distance recommended in the HKPSG is satisfied and no adverse vehicular emission impact from Ting Kok Road is anticipated.

The road between the Project site and the Beverly Hills is a local access road rather than a Local Distributor (LD). The number of vehicles on this road is much fewer than that on a LD. As a conservative approach, however, a 5-meter buffer distance for the LD stipulated in the HKPSG is adopted here (**Figures 3.1b**). It indicates that a small portion of the transitional housing (at southeastern end) is within the 5-meter buffer zone. During the detailed design stage of the Proposed development, no openable windows and no fresh air intake of the proposed residential buildings shall be located within the 5-meter buffer zone. With this requirement adopted, no adverse vehicular emission impact from this local road is anticipated.

3.7 INDUSTRIAL CHIMNEY AND DUST EMISSIONS IN OPERATIONAL PHASE AND EVALUATION OF IMPACTS

As discussed in **Section 3.3**, there is no active chimney within 200m from site boundary, i.e., complying with the buffer distance for chimney emissions under the HKPSG. The Tai Po Industrial Estate as the nearest industrial use is more than 1.3 km away from the proposed development. Thus, no adverse air quality impact to the proposed development due to industrial chimney emissions is anticipated. An existing concrete mixing plant is located more than 250 m away from the proposed development, complying with the requirement of buffer distance for dusty use under the HKPSG.

3.8 POTENTIAL ODOUR IMPACT IN OPERATIONAL PHASE

The provision of a refuse collection point (RCP) for the proposed development will be considered during the detailed design stage of the Project. In case that the RCP is included, the RCP should be kept enclosed and equipped with a deodorization system. The exhaust location should be located far from any ASRs to avoid any residual impact of odour. As such, no adverse odour impact is expected with these provisions. Nevertheless, the details of the RCP, if any, will be determined in later stage of the Project. The proposed development does not include any sewage treatment plant since the sewage generated from the proposed development will be conveyed through a public sewer.

3.9 POLLUTION SOURCES DURING CONSTRUCTION PHASE AND EVALUATION OF IMPACTS

During the construction phase, the potential air quality impacts include the dust and exhaust emissions arising from the construction activities (e.g. site formation, minimal foundation works, erection of building blocks based on MIC, emissions from construction plants and machineries, etc.). This may cause short–term air quality impacts on the surrounding ASRs. For the mobile machinery emissions, however, only a limited number of diesel machinery are operated in the proposed site. Furthermore, the requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation allows only approved or exempted non-road mobile machinery to be used in the construction sites. According to the Air Pollution Control (Fuel Restriction) Regulations, ultra-low Sulphur diesel (ULSD) with Sulphur content not exceeding 0.005% by weight is required to be used as fuel to minimize the SO_2 emissions. As such, the exhaust emissions from the construction plants and machineries are expected to be minimal. To minimize the potential dust emissions and for good site practice, applicable mitigation measures under the Air Pollution Control

(Construction Dust) Regulation are required to be incorporated in the relevant works contracts. These measures include:

- Hoarding should be provided along the entire construction site boundary except the site entrance/exit;
- Washing device should be provided at the site entrance/exit. Construction vehicles should be washed immediately before leaving the site to remove the construction dust from their bodies and wheels;
- Materials to be transported by truck should be dampened or covered;
- Dusty activities should be sprayed with water prior to, during and immediately after the activities as far as practicable. Haul roads within the construction site should be watering frequently;
- Dropping heights for construction materials should be minimized to avoid the dust emission during the unloading operation;
- Water spraying or covering should be provided for construction materials stockpiling; and
- Haul roads, dusty activities and stockpiling areas should be positioned away from any ASRs as far as practicable.

With the implementation of the recommended mitigation measures, no adverse dust impacts during construction is anticipated. The “Recommended Pollution Control Clauses for Construction Contracts” available in the EPD’s website provide the recommended control measures to be implemented by the contractor.

3.10 CONCLUSIONS

There are no chimneys found within 200m of the proposed site. No adverse impact of vehicular emissions and dusty uses on the proposed development due to the adequate buffer distances between the pollution sources and the proposed development. As such, no adverse impacts on air quality are anticipated during the operational phase.

During the construction phase, there will be no adverse impacts on air quality with the implementation of recommended mitigation measures and good site practices.

4 NOISE

4.1 INTRODUCTION

This section assesses the potential noise impacts associated with the proposed development during the construction and operational phases.

4.2 CONSTRUCTION NOISE ASSESSMENT

4.2.1 EVALUATION

Referring to the project nature, construction noise is anticipated which is mainly generated by the Powered Mechanical Equipment (PME) such as dump truck and crane for minor site clearance and site formation, as well as minor pre-casting superstructure works. Reference shall be made to EPD's *"Recommended Pollution Control Clauses for Construction Contracts"* and *ProPECC PN 2/93 "Noise from Construction Activities – Non-statutory Controls"* as good practices. These mitigation measures could be enforced by specifying a construction noise control plan as part of the contract document to ensure implementation in sitework.

With implementation of mitigation measures mentioned as well as sufficient separation distance from the site boundary, the construction noise impact at the NSRs can be minimized.

4.2.2 CONSTRUCTION NOISE STANDARD

As stipulated in EPD's *"Recommended Pollution Control Clauses for Construction Contracts"*, for carrying out any construction work other than percussive piling during the time period from 0700 to 1900 hours on any day not being a general holiday (including Sundays), the Contractor shall comply with the following requirements as shown in **Table 4.1**.

Table 4.1 Noise Limits for Daytime Construction Activities

Noise Sensitive Receivers	0700-1900 hours on any day not being a Sunday or general holiday Leq (30 min.), dB(A)
Dwellings	75
School	70 65(during examination)

4.3 TRAFFIC NOISE ASSESSMENT

4.3.1 TRAFFIC NOSIE STANDARD

The maximum permissible road traffic noise level at the external facades of noise sensitive buildings which rely on openable windows for ventilation specified in the Hong Kong Planning Standards and Guidelines (HKPSG) is as follows:

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

4.3.2 ASSESSMENT POINTS

Based on the surrounding environmental context, traffic noise is identified to be mainly dictated by the nearby road traffic noise at north-west to the proposed site contributed from the Ting Kok Road. The two assessment points selected has considered for the worst-case scenario closest to the Ting Kok Road with openable window at the north-west of the proposed site directly facing to the traffic noise source. The locations of the assessment points are shown in **Figure 4.1**.

4.3.3 ASSESSMENT METHODOLOGY

As the occupation year of the proposed development is 2024 for transitional use of 3 year occupancy only, instead of 15 years traffic projections, the traffic data of 3 years projections (Year 2027) provided by Traffic Consultant are used for the assessment. The traffic flow and percentage of heavy vehicle (%HV) for the major roads surrounding the site are presented in **Appendix 4.1**. The road network is shown in **Figure 4.1**.

The traffic noise levels at the external facades of representative NSRs are predicted with consideration of correction factors of distance, view angle, road surface, percentage of heavy vehicle and façade reflection in accordance with the UK Department of the Transport *"Calculation of Road Traffic Noise"* (CRTN).

4.3.4 ASSESSMENT RESULTS

The façade noise levels at the representative NSRs (i.e. NSR1 and NSR2) are predicted. No exceedance of noise criterion of 70 dB(A) is anticipated in both AM and PM Peak hours. Detailed calculation is shown in **Appendix 4.2**.

Since the predicted noise level at all representative NSRs are expected to comply with the noise criterion of 70 dB(A) for both AM and PM Peak hours based on the assessment results of traffic noise calculation, no significant adverse road traffic noise impact at the proposed Site is anticipated.

4.4 FIXED PLANT NOISE ASSESSMENT

4.4.1 FIXED PLANT NOSIE STANDARDS

Noise limit at the NSRs subject to the existing fixed-plant noise impact shall be referred to the Acceptable Noise Levels (ANL) in accordance with the "*Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites"* (IND-TM) under NCO. The Acceptable Noise Levels (ANL) depends on the Area Sensitivity Rating (ASR: "A", "B" or "C").

The appropriate ASR and the corresponding ANL for the NSRs shall be assigned on the basis of **Table 4.2** and **Table 4.3** respectively, however, any NSR shall, irrespective of **Table 4.2**,

be assigned an ASR of “C” if it is within 100m of a zone designated as “Industrial” or “Industrial Estate” on a statutory Outline Zoning Plan, or an ASR of “B” if it is between 100m and 250m from such a zone, except in cases where **Table 4.2** indicate an ASR of “C”.

Table 4.2 Area sensitivity ratings (ASRs)

Type of area containing ASR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
(i) Rural area, including country parks or village type developments	A	B	B
(ii) Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

Table 4.3 Acceptable noise level for different ASRs and time periods

Time Period	ASR		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

In order to plan for a better environment, the Hong Kong Planning Standards and Guidelines (HKPSG) has specified all planned fixed noise sources should be so located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the facade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background.

4.4.2 NOISE SENSITIVE RECEIVERS

The AADT of the major road nearby the proposed site (Ting Kok Road) is 28530 as per the annual traffic census 2020 which is not considered as IF. Representative NSRs rely on opened windows for ventilation of the proposed development are identified, NSRs are assigned an ASR of “A” where located in low density residential area consisting of low-rise or isolated high-rise developments not affected by influencing factors.

Table 4.4 summarized the assigned ASR for the selected NSRs and the corresponding noise criteria adopted according to **Table 4.3**.

Table 4.4 Adopted ASR for representative NSRs

Receiver ID	Land Use	No. of storey	ASR	Acceptable noise level, dB(A)	
				Day-time / Evening-time	Night-time

N01	Residential	4	A	60	50
N02	School	1	A	60	50
NSR1	Residential	4	A	60	50

Noise generated from E&M plant room of the proposed Site is anticipated. The noise criteria (i.e. ANL-5 or prevailing background noise levels, whichever is lower) for the planned fixed noise sources are applied according to the HKPSG.

Prevailing background noise measurement was conducted in 08 Apr 2022 for both daytime/ evening time and night-time periods to determine the suitable noise criteria. The reference background noise levels are shown in **Table 4.5**.

Table 4.5 Reference Prevailing Background Noise Levels (free-field)

Time Period		Noise Level	
		Leq, dB(A)	L90, dB(A)
Day-time / Evening-time Period	14:00 – 16:00	48.3	42.6
	21:00 – 23:00	43.5	38.3
Night-time Period	02:00 – 04:00	42.9	38.1

Representative NSRs subject to the planned fixed noise sources are identified, the locations of NSRs are shown in **Figure 4.2**. **Table 4.6** summarized the adopted noise criteria for the selected NSRs.

Table 4.6 Adopted Criteria for Existing and Planned NSRs

NSR ID	ASR	Background noise measurement, L90 (1hrs), dB(A)[1]		ANL-5, dB(A)		Adopted Criteria, dB(A)	
		Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time
N01	A	41.3	41.1	55	45	41	41
N02	A	41.3	41.1	55	45	41	41
NSR1	A	41.3	41.1	55	45	41	41

Note:
[1] 3 dB(A) of façade correction has included to represent background noise at external façade of NSRs

4.4.3 ASSESSMENT METHODOLOGY

Existing Fixed Noise Sources

Desktop review and site inspection was conducted in the vicinity of the proposed Site in 08 Apr 2022 to identify the fixed noise sources in the neighborhood. During the site survey, a concrete factory was the only potential noise source identified within 300m from the proposed Site. The locations of the identified existing fixed plant noise sources are shown in **Figure 4.2**.

The K. Wah Concrete Company Limited was identified during site inspection. The company located >100m from the project site, no direct line of sight to the company from the planned NSRs is anticipated due to the obstruction of surrounding building which provide shielding effect to minimize the noise transmitted to the surrounding environment. No noticeable noise from the company was perceived at the project site. No evening or night time operation of the

company was observed. Due to distance attenuation and shielding effects of surrounding buildings, it is anticipated the noise impact of the concrete plant on the proposed site to be minimal.

Based on the site inspection observation, the noise generated from the identified noise source is insignificant. No adverse noise impact from the existing fixed noise source is anticipated.

Planned Fixed Noise Sources

Since information regarding the sound power levels of the planned E&M plant room are not available from project proponent at the time. The assessment approach is to specify a maximum allowable sound power level of the plant equipment which is determined by backward calculation with a known maximum allowable impact sound level i.e. the adopted criteria. The locations of planned fixed plant noise sources are shown in **Figure 4.2**.

The proposed maximum allowable Sound Power Level of the planned fixed noise sources are shown in **Table 4.7**. For the planned fixed noise sources, tonality correction of 3 dB(A) has been applied for conservative approach. The maximum allowable SWLs of the planned fixed noise sources would be specified in the specification during design and tender stage for noise control purpose.

Table 4.7 Maximum Allowable SWL of Planned Fixed Noise Sources

Source ID	Maximum Allowable SWL, dB(A)	
	Daytime/ Evening Time Period	Night-time Period
PNS01	65	65

4.4.4 ASSESSMENT RESULTS

Assessment results for each NSRs at day/evening-time and night-time periods are summarized in **Table 4.8**. Detailed calculations are shown in **Appendix 4.3**.

Table 4.8 Predicted Fixed Noise Level at NSRs

NSR ID	Predicted Noise Level, dB(A)		Adopted Noise Criteria, dB(A)		Compliance (Y/N)
	Day-time / Evening-time	Night-time	Day-time / Evening-time	Night-time	
N01	41	41	41	41	Y
N02	28	28	41	41	Y
NSR1	41	41	41	41	Y

The predicted noise levels at all representative NSRs comply with the adopted noise criteria stipulated in IND-TM and HKPSG for both day/evening-time and night-time periods. Thus no adverse fixed noise impact at the proposed Site is anticipated.

4.5 ASSESSMENT SUMMARY

Construction works including minor site formation and pre-casting superstructure works are anticipated during construction periods. With the implementation of the recommended good

site practices, no significant noise impact is predicted.

Road traffic noise impact assessment has been carried out for the proposed development. The predicted noise levels at all residential units comply with HKPSG $L_{10(1\ hour)}$ 70dB(A) noise criterion.

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

5 WATER QUALITY IMPACT

5.1 INTRODUCTION

This section assesses the potential water quality impacts during the construction and operational phases of the proposed development.

5.2 WATER QUALITY LEGISLATIONS, STANDARDS AND GUIDELINES

Relevant legislation, standards and guidelines for the assessment of the water quality impact include the following:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Technical Memorandum Standards for Effluents Discharged and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 1/94 “Construction Site Drainage;
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 5/93 “Drainage Plans subject to Comment by the EPD”; and
- Technical Circular (Works) No. 5/2005 Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works (TCW No. 5/2005).

5.3 WATER POLLUTION CONTROL ORDINANCE (CAP. 358)

The Water Pollution Control Ordinance (WPCO) provides a statutory framework for the control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary WCZs. A designated set of Water Quality Objectives (WQOs) has been set for each WCZ. The study area of the proposed development is located within the Tolo Harbour and Channel WCZ. The relevant WQOs as listed in **Table 5.1.**

Table 5.1 Summary of Key Water Quality Objectives for Tolo Harbour and Channel WCZ

Parameters	Objective	Part(s) of Zone
Aesthetic Appearance	(a)Not to contain substance which settle to form objectionable deposits; (b)No float as debris, scum, oil or other matter to form nuisances; (c)Not to produce objectionable colour, odour, taste or turbidity; (d)Not to injure or be toxic or produce adverse physiological responses in humans, animals or plants; or (e)Not to be conducive to undesirable aquatic life or a nuisance to aquatic life.	Whole Zone
Bacteria	Not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in one calendar year Not exceed 0 per 100 mL Not exceed 1,000 per 100mL	Secondary Contact Recreation Subzone and Fish Culture Zone Inland Waters in Tai Po (A) subzone Inland Waters in Tai Po (B and C) subzones and other watercourses
Dissolved Oxygen (bottom)	Not less than 2 mg/L Not less than 3 mg/L Not less than 4 mg/L	Harbour Subzone Buffer Subzone Channel Subzone

Dissolved Oxygen (surface to 2m above bottom)	Not less than 4 mg/L	Harbour Subzone and Buffer Subzone
Dissolved Oxygen (all depths)	Not less than 4 mg/L Not less than 3 mg/L within 2 m of the bottom, or not less than 4 mg/L in the remainder of the water column Not less than 4 mg/L or 40% saturation (at 15°C) at any time	Channel Subzone Buffer Subzone Inland Waters
pH value	Change due to waste discharge not to be greater than ± 0.1 Change due to waste discharge not to be greater than ± 0.3 Change due to waste discharge not to be greater than ± 0.5	Channel Subzone Buffer Subzone Harbour Subzone
Temperature	Change due to waste discharges not to exceed natural daily temperature by more than 2.0℃ Change due to waste discharge not to exceed 1°C	Inland Waters Marine Waters
Ammonia Nitrogen	Not to exceed 0.5 mg/L at any time	Inland Waters
Suspended Solids	Annual median of suspended solids not to exceed 20 mg/L Annual median of suspended solids not to exceed 25 mg/L	Inland Waters in Tai Po (A, B and C) subzone Inland Waters

5-Day Biochemical Oxygen Demand	Waste discharges not cause the 5-day biochemical oxygen demand to exceed 3 mg/L Waste discharges not cause the 5-day biochemical oxygen demand to exceed 5 mg/L	Inland Waters in Tai Po (A) subzone Inland Waters in Tai Po (B and C) subzones and other watercourses
Chemical Oxygen Demand	Waste discharges not cause the chemical oxygen demand to exceed 15 mg/L Waste discharges not cause the chemical oxygen demand to exceed 30 mg/L	Inland Waters in Tai Po (A) subzone Inland Waters in Tai Po (B and C) subzones and other watercourses
Salinity	Change due to waste discharge not to be greater than ± 3ppt	Marine Waters
Toxicants	Waste discharges shall not cause the toxicants in waters of the subzone to attain such a level as to produce significant toxic effects in humans, fish or any other aquatic organism, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone

5.4 TECHNICAL MEMORANDUM STANDARDS FOR EFFLUENTS DISCHARGED INTO DRAINAGE AND SEWERAGE SYSTEMS, INLAND AND COASTAL WATERS (TM-DSS)

Discharge of effluent is also subject to control under the WPCO. Technical Memorandum Standards for Effluents Discharged into drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS) sets standards for controlling the physical, chemical and microbial quality of effluents. Specific standards apply for different control zones and beneficial use of water bodies. The discharge standards vary with the effluent flow rates and the type of receiving waters (foul sewers, storm water drains, inland and coastal waters). Standards for effluents discharged into the coastal waters is summarized in **Table 5.2**.

Table 5.2 Standards for Effluents Discharged into the Coastal Waters of Tolo and Port Shelter Water Control Zones

Flow rate (m^3/day) Determinand	≦10	>10 and ≦200	>200 and ≦400	>400 and ≦600	>600 and ≦800	>800 and ≦1000	>1000 and ≦1500	>1500 and ≦2000	>2000 and ≦3000	>3000 and ≦4000	>4000 and ≦5000	>5000 and ≦6000
pH (pH units)	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9
Temperature (℃)	45	45	45	45	45	45	45	45	45	45	45	45
Colour (lovibond units) (25mm cell length)	1	1	1	1	1	1	1	1	1	1	1	1
Suspended solids	30	30	30	30	30	30	15	15	15	15	15	15
BOD	20	20	20	20	20	20	10	10	10	10	10	10
COD	80	80	80	80	80	80	50	50	50	50	50	50
Oil & Grease	20	20	20	20	20	20	10	10	10	10	10	10
Iron	10	10	10	7	5	4	2.7	2	1.3	1	0.8	0.6
Boron	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Barium	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Mercury	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Other toxic metals individually	1	1	0.8	0.5	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1
Total toxic metals	2	2	1.6	1	1	0.8	0.2	0.2	0.2	0.2	0.14	0.1
Cyanide	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.03	0.02	0.02	0.01
Phenols	0.5	0.5	0.5	0.25	0.25	0.25	0.1	0.1	0.1	0.1	0.1	0.1
Sulphide	5	5	5	5	5	5	2.5	2.5	1.5	1	1	0.5
Total residual chlorine	1	1	1	1	1	1	1	1	1	1	1	1
Total nitrogen	20	20	20	15	15	15	15	15	10	10	10	10
Total phosphorus	8	8	5	5	5	5	5	5	5	5	5	5
Surfactants (total)	15	15	15	15	15	15	10	10	10	10	10	10
E. coli (count/100ml)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

Notes:

1. All units in mg/L unless otherwise stated; all figures are upper limits unless otherwise indicated.
2. Source: Table 7 of TM-DSS.

5.5 PRACTICE NOTE FOR PROFESSIONAL PERSONS

The Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 1/94) provides environmental guidelines for handling and disposal of construction site discharges. It provides good practice guidelines for dealing with various types of discharge from a construction site. Practices as outlined in the ProPECC PN 1/94 should be followed during the construction phase in order to minimise the water quality impact due to construction site drainage. In addition, other ProPECC Notes including the ProPECC PN 5/93 Drainage Plan (subject to Comment by the Environmental Protection Department) shall also be followed. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN 5/93.

5.6 DESCRIPTION OF THE ENVIRONMENT

According to EPD's Annual Report titled "Marine Water Quality in Hong Kong in 2020", the Tolo Harbour is reported to have shown a great improvement in water quality since the 1980s, including reductions in organic matters, sewage bacteria, nutrients, metals and BODs. The overall WQO compliance rate of the Tolo Harbour and Channel Water Control Zone was reported to be 93% in 2020. However, Tolo Channel was subject to a natural hydrological phenomenon of water column stratification and associated lower bottom DO level due to restricted water exchange with the open waters. The water quality index grading and compliance with the WQOs of the TM3 and TM5 are presented in **Table 5.3**. Stations TM3 (in Harbour Subzone) and TM5 (in Buffer Subzone) are selected since they are the closest monitoring points to the Project Site.

Table 5.3 Water Quality Condition for Marine Water at TM3 and TM5 in 2020

Parameter	Unit	TM3	TM5
Dissolved Oxygen Dissolved Oxygen (bottom)	mg/L	6.4 (5.3 - 7.2) 5.9 (3.8 – 7.2)	6.2 (5.5 - 6.8) 6.0 (4.9 - 6.8)
pH	--	8.0 (7.6 - 8.3)	7.9 (6.8 - 8.2)
Suspended Solids	mg/L	8.2 (1.4 - 19.3)	6.2 (1.1 - 14.0)
5-Day Biochemical Oxygen Demand	mg/L	1.8 (1.2 - 2.9)	1.4 (0.7. - 2.6)
E. coli	counts/ 100mL	18 (<1 – 2 700)	3 (<1 - 450)
Faecal Coliforms	counts/ 100mL	76 (1 - 13 000)	6 (<1 - 890)
Ammonia-Nitrogen	mg/L	0.046 (0.011 - 0.127)	0.031 (0.016 - 0.063)
Nitrate-Nitrogen	mg/L	0.003 (0.002 - 0.049)	0.002 (<0.002 - 0.004)
Total Kjeldahl Nitrogen	mg/L	0.56 (0.25 - 0.86)	0.56 (0.25 - 0.94)
Orthophosphate Phosphorus	mg/L	0.006 (0.003 – 0.014)	0.006 (0.003 - 0.009)
Total Phosphorus	mg/L	0.04 (<0.02 - 0.06)	0.04 (<0.02 - 0.06)

Note:

1. Data presented are annual arithmetic means of the depth-averaged (unless specified) results except for E. coli and faecal coliforms which are annual geometric means.

2. Data in brackets indicate the ranges.

3. NM indicates no measurement taken.

5.7 WATER QUALITY SENSITIVE RECEIVERS

In order to evaluate the potential water quality impact during the construction and operation phases, the water sensitive receivers (WSRs) are identified and listed in **Table 5.4**. The assessment area for the water quality impact assessment is defined by a distance of 500m from the project boundary. Locations of the WSRs are provided in **Figure 5.1**.

Table 5.4 Water quality sensitive receivers in the vicinity of the proposed site

WSRs	Description	Approximate distance from the project site (m)
WSR 1	Stream	> 75 m
WSR 2	Marshland	> 160 m
WSR 3	Pond	> 200 m
WSR 4	Mangrove	> 160 m
WSR 5	Shuen Wan Egretry SSSI	> 150 m

5.8 POTENTIAL SOURCES OF WATER QUALITY IMPACT

The potential sources of water quality impacts during the construction phase include construction runoff and drainage (include accidental spillage of chemicals), runoff from general construction activities, sewage effluent generated by on-site workforce and construction works in close proximity to inland water. During the operational phase, sources of water quality impacts include surface runoff and drainage from the development site, and sewage effluent from the proposed development.

5.9 ASSESSMENT OF WATER QUALITY IMPACTS

Construction Phase

Construction runoff and drainage

The runoff from construction works may contain considerable loads of sediments, suspended solids and contaminants. Potential sources of pollutants from site drainage include*:*

- Runoff and erosion of exposed soil surfaces, earth working areas, drainage channels and temporary stockpiles;

- Release of any bentonite slurries, concrete washings and other grouting materials with construction run-off or storm water;
- Used water from dust suppression sprays and wheel washing facilities; and
- Accidental chemicals spillage such as fuel, oil, solvents and lubricant from maintenance of construction machinery and equipment.

The construction site runoff could cause potential impacts on to the water bodies in the vicinity and on inland water in close proximity. With the proper implementation of mitigation measures, practices and housekeeping, as discussed in **Section 5.10**, unacceptable water quality impacts related to construction runoff and drainage is not anticipated.

General construction activities

On-site construction activities may cause water pollution from the following:

- Uncontrolled discharge of debris and rubbish such as packaging, construction materials and refuse
- Spillage of liquid and chemicals stored on-site such as fuel, oil and solvents

The impact of water quality related to construction activities are likely to be minimal, provided that the site boundaries are well maintained and good construction site management and practices described in **Section 5.10** are well implemented.

Operational Phase

Surface runoff and drainage

Substances such as vehicle dust, tyre scraps and oils deposited on the road surfaces and the exposed soil surfaces of the green areas are washed into the nearby drainage system or watercourses during rainfall events. Surface water will be routed to stormwater drains or other water body nearby.

The recommendations in clause 5 of ProPECC PN 5/93 will be followed to ensure minimal potential water quality impact to the most practicable extent. As a precautionary measure, surface runoff from the Site will be collected in the proposed terminal manhole and discharged into the existing public drainage system to the southwest of the proposed site to avoid any potential poor surface runoff discharge directly to watercourses. Before discharge to a public drainage system, interceptors for oil (for loading/unloading bay) and desilting facilities such as silt traps, sedimentation tanks, etc. will be provided.

Sewage Effluent

The sewage generation calculations on the proposed sewerage system in SIA report have

indicated that the proposed sewer via the terminal manholes in the Proposed Site and downstream sewers will have sufficient capacity to cater for effluent generated from the Proposed Site. Therefore, no adverse water quality impact is anticipated.

5.10 MITIGATION MEASURES

Construction Phase

All discharges into any drainage or sewerage systems, or inland or coastal waters, or into the ground within a WCZ are controlled under the WPCO, except the discharge of domestic sewage into foul sewers or the discharge of unpolluted water into storm drains or into the waters of Hong Kong. Construction site discharges are controlled under the WPCO.

Construction runoff and drainage

The site practices outlined in the ProPECC PN 1/94 “Construction Site Drainage” and Technical Circular (Works) No. 5/2005 “Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works” should be followed strictly as far as practicable in order to minimize surface runoff and the chance of erosion, and also to reduce any suspended solids in the waste water prior to discharge. The practices include the following items:

- Perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works at the beginning of site establishment. Both temporary and permanent channels or sand bag barriers should be provided on site to direct stormwater to silt removal facilities.
- Embankments for flood protection around the boundaries of earthwork areas should be implemented. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt trap. The provision of silt removal facilities such as silt traps or sedimentation facilities to remove silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of silt removal facilities should be based on the guidelines as stipulated in ProPECC PN 1/94. Regular inspection and maintenance of all drainage facilities and erosion and sediment control structures is required to ensure proper and efficient operation at all times and particularly during rainstorms.
- Careful programming of the works is required to minimize surface excavations during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces should be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarized in ProPECC PN 1/94.
- Exposed soil surfaces should be protected by paving or filling materials to reduce the

potential of soil erosion.

- Open stockpiles of construction materials or wastes on-site should be covered with tarpaulin or similar fabric during rainstorms to prevent the washing away of construction materials into any drainage system. These materials should not be placed near water courses.
- Manholes should always be covered and temporarily sealed to prevent silt and construction waste entering the drainage system and storm runoff being directed into foul sewers.
- All vehicles and plant should be cleaned before the construction site to ensure no earth, debris and the like is disposed by them on roads. Wheel washing facilities should be provided at every construction site exit where practicable. To ensure the continued efficiency of the process, wash-water should have sand and silt settled out and removed weekly. The access road from the wheel-wash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay.

General Construction Activities

- Construction solid waste, debris and refuse generated from the site should be collected, handled and disposed of properly. Stockpiles, cement and other construction materials should be kept covered when they are not in use.
- Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank to prevent the spillage of fuel from reaching water sensitive receivers.
- Portable chemical toilets shall be provided to collect the sewage generated by the construction workforce. A licensed contractor shall be employed to clean the toilets on a regular basis, as well as responsible for sewage collection and disposal.

Construction effluent, site run-off and sewage shall be properly collected and/or treated. Wastewater from a construction site should be managed with the following approach in descending order:

(i) minimisation of wastewater generation;

(ii) reuse and recycle;

(iii) treatment.

<u>Operational Phase</u>

Reducing polluted Rainwater and domestic wastewater

The site practices outlined in the ProPECC PN 5/93 “Discharge to Storm Drains and Foul Sewers” should be followed strictly as far as practicable in order to minimize the discharge of stormwater to foul sewers and prevent the contamination of domestic wastewater. The

practices include the following items:

- Polluted rainwater should be discharged to stormwater drains after removal of the pollutants by appropriate facilities. Domestic wastewater can be discharged to foul sewers without pretreatment while commercial and industrial wastewater should be pretreated, where necessary, to meet prescribed effluent standards. Proposals to reduce wastewater generation are encouraged, but proposal on effluent reuse should be discussed with the EPD at the early conception stage.

5.11 EVALUATION OF RESIDUAL IMPACT

With the implementation and incorporation of the recommended mitigation measures for both construction and operation phases, residual impacts due to the works of the proposed development on the water quality are not anticipated to be occurred.

5.12 MONITORING AND AUDIT REQUIREMENTS

No adverse water quality impact would be expected from the construction activities of the Project. All the site effluents and runoff generated from the construction works would be treated such that their quality is fulfilled under the requirements of the WPCO discharge license. Water quality monitoring is considered unnecessary. It is recommended that regular site inspections be undertaken to inspect the construction activities and works area to ensure the proper implementation of proposed mitigation measures.

5.13 SUMMARY

For the construction phase, pollution sources including the surface runoff from construction site and the sewage from site workforce. Their potential pollution impacts have been assessed. With the implementation of recommended site management practices listed in ProPECC PN 1/94, no adverse water quality impact to the nearby WSRs is anticipated.

For the operational phase, potential water quality impacts are mainly due to the surface runoff

and the sewage generation from future population associated with the proposed development. Following the ProPECC PN5/93, no adverse water quality impact related to the surface runoff is anticipated. Moreover, all the sewage generated from the proposed development will be discharged to the public foul sewer. Thus, adverse water quality impact on the nearby WSRs during operational phase is not anticipated.

6 WASTE MANAGEMENT IMPLICATION

6.1 INTRODUCTION

The potential waste management implication during the construction and operational phases of the proposed Development is discussed in this Section.

6.2 WASTE MANAGEMENT LEGISLATIONS, STANDARDS AND GUIDELINES

The Waste Disposal Ordinance (WDO, Cap. 354) provides the statutory framework for planning, control and management of waste, including construction waste, chemical waste, etc. All wastes should be handled and disposed according to the WDO and relevant guidelines such as the Practice Note for Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (PNAP ADV – 19) issued by the Buildings Department.

The storage, collection, transportation and disposal of wastes shall be according to the WDO and the relevant guidelines.

6.3 CONSTUCTION WASTE IMPACT

Construction materials and wastes generated during the construction phase include the construction & demolition (C&D) materials, refuse generated by workforce and chemical waste. The C&D materials consist of inert (broken concrete and soil) and non-inert (wood and vegetation) components. Inert C&D materials shall be reused as far as practicable to minimize the amount of construction waste generated. Disposal of the inert C&D materials is considered only when it is the last resort. In addition, the inert C&D materials shall be disposed of at the public fill reception facilities. The net generation of the inert C&D materials to be disposed of is estimated to be 1790 m^3. This amount is considered as the majority part of generated waste. To facilitate the sorting process, a designated area shall be provided within the site for temporary stockpiling of C&D materials. General refuse generated by workforce and non-inert C&D materials shall be disposed of at a designated landfill. Operation and maintenance of the construction equipment will generate chemical wastes, which shall be collected by a licensed collector for subsequent disposal of and treated at licensed waste disposal facilities such as the Chemical Waste Treatment Centre. Appropriate containers with proper labels shall be used for storage of chemical wastes. The estimated amounts of non-inert C&D materials, general refuse and chemical wastes are 220 m^3, 30 kg/day and 80 L/month, respectively.

6.4 OPERATIONAL PHASE WASTE IMPACT

Domestic waste contributes to a major portion of waste generated from the proposed Development during the operational phase. The proposed Development has 608 residents and 7 employees. Based on the disposal rate of domestic waste of 0.91 kg/head/day[2] for resident and employee, respectively, the proposed Development will generate 559.7 kg solid waste per day and be disposed of at landfill.

Proper collection, storage and disposal facilities shall be provided in the detail design stage of the proposed Development, in order to ensure no adverse environmental impact of the domestic waste on the future residents. The waste storage areas in the Proposed development shall be cleaned regularly.

6.5 MIGITATION MEASURE FOR WASTE MANAGEMENT

Construction Phase

Inert C&D materials shall be reused as far as practicable to minimize the amount of construction waste generated. Disposal of the inert C&D materials to public filling areas are considered only when it is the last resort. Non-inert C&D materials shall be disposed of at a designated landfill.

The handling and management of chemical wastes shall follow *Code of Practice on the Packaging Labelling and Storage of Chemical Wastes*, which provides guideline for complying the relevant regulations. Collection and transport of the chemical wastes from the proposed development to the licensed Chemical Waste Treatment Center shall be performed only by licensed collector.

The “Recommended Pollution Control Clauses for Construction Contracts” available in the EPD’s website provide the recommended mitigation measures for waste implications to be implemented by the contractor.

Construction and Operational Phases

General refuse shall be segregated from other types of wastes and stored in enclosed bins in enclosed temporary storage area to prevent the wastes from being wind-blown away before collected by waste collector. The general refuse shall be collected and transported to waste collection point on a regular basis to prevent prolonged storage in the proposed development in order to prevent odorous nuisance problem. It is also suggested that recycling bins shall be placed at convenient locations in the proposed development whenever possible to encourage

recycling of wastes such as office paper, plastic bottle and aluminum cans.

6.6 LAND CONTAMINATION

This sub-section reviews the potential land contamination of the proposed Site. Historical aerial photographs from 1963 to 2021 (**Appendix 6.1**) have been reviewed to evaluate the potential land contamination at the proposed Site in the past land uses. According to the aerial photos, Shuen Wan Eu Tong Sen School and its playground were existed and construction of Beverly Hills was found in 1973. With the closure of the School before 2000, the School area was mostly covered with grass / vegetation until now. A portion of the School area was paved as indicated in the latest aerial photo taken in 2021 and in a photo taken in our site survey in April 2022 (. Since the proposed Site area was used as a School and covered with vegetation when the Site was vacant, it is unlikely to have a potential land contamination issue. Thus a detailed land contamination assessment is not necessary.

[2]Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2020.

7 CONCLUSION

This Environmental Assessment presents the findings from assessing the potential impacts associated with the construction and operational phases of the proposed development to confirm its environmental suitability. Key environmental concerns have been addressed and potential impacts assessed covering the following:

Air Quality

The development may be subject to vehicular emission impact from roads nearby during the operation of the project. However, no adverse vehicular emission impact is anticipated upon the incorporation of the relevant buffer distance stipulated under the HKPSG into the layout design.

There is no chimney within 200m from site boundary, i.e., complying with the buffer distance for chimney emissions under the HKPSG. Thus, no adverse air quality impact to the proposed residential development due to industrial chimney emissions is anticipated.

Noise

Site inspection around the site vicinity of the application was carried out. In terms of the fixed plant noise and traffic noise, it was confirmed that no noticeable noise will be perceived within the proposed site. With administrative measures such as limiting maximum allowable SWLs of the planned fixed noise sources in contractor's specification during design and tender stage, adverse noise impact due to the planned fixed noise sources is not anticipated.

Water Quality

Water quality impacts during both construction and operational phases have been assessed qualitatively. Construction runoff and activities from the site and sewage from the construction workforce during construction phase, and surface runoff and drainage and sewage effluent from future population during operational phase are identified.

Through the implementation of the water quality control measures regarding the surface runoff, wastewater from the construction site, together with the proper design of drainage system, no adverse water quality impacts during construction and operation is anticipated.

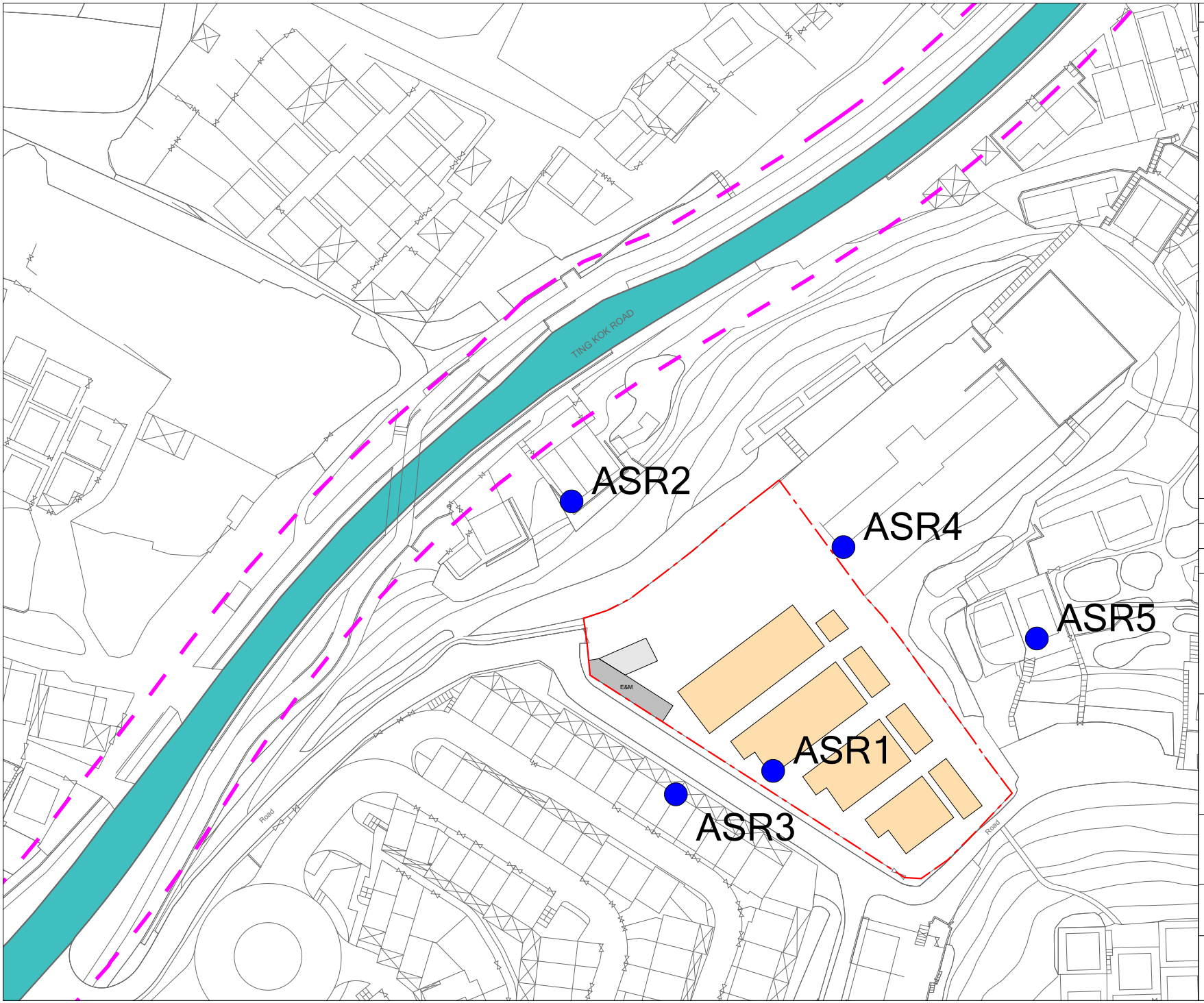
Waste

With proper measures to manage wastes generated from the proposed Development according to their types, no significant waste implication during the construction phase is anticipated. Domestic waste and municipal solid waste generated during the operational phase will be collected and sent to a refuse transfer station for dispose of and thus no adverse waste impact is expected.

The review of historical aerial photos indicates no potential land contamination issue with the proposed Site.

Overall, it would be environmentally acceptable with no adverse impacts on the identified sensitive uses.

FIGURE 3.1 LOCATIONS OF ASRS



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LEGEND:

- Site Boundary
- 10m Buffer Distance
- Air Sentative Receivers

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

LOCATIONS OF REPRESENTATIVE ASRS & 10-METERS BUFFER DISTANCE FROM TING KOK ROAD

Drawing No.	Rev.
FIGURE 3.1a	1

Scale:

A4 - 1:1200

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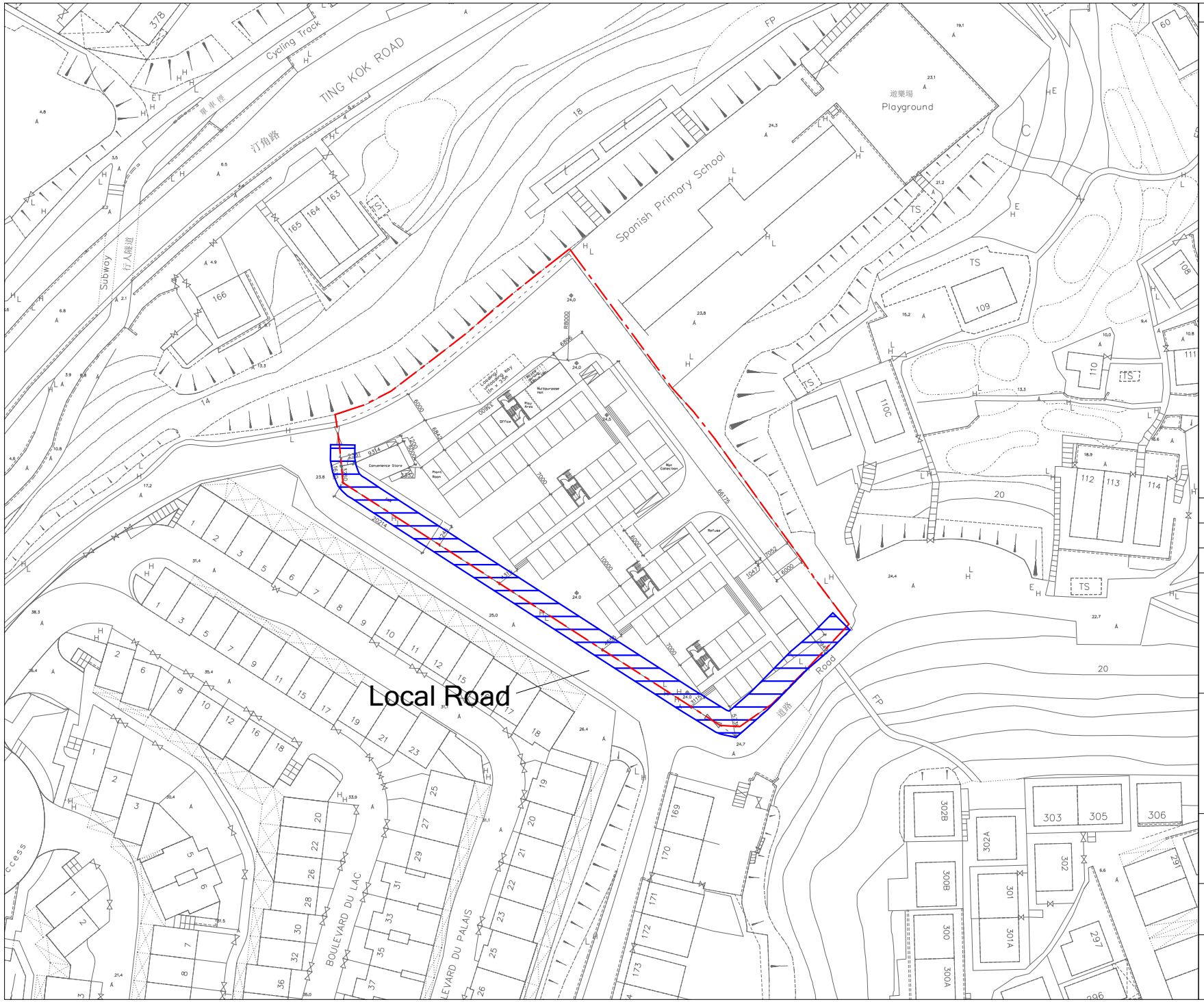

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LEGEND:

Site Boundary

5m Buffer Distance

	Prepared	Checked	Approved
Initial	NY	CC	YS
Date	20220805	20220805	20220805

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

5-METERS BUFFER DISTANCE FROM LOCAL ROAD

Drawing No.

FIGURE 3.1b

Rev.

0

Scale:

A4 - 1:1000

BXG

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FIGURE 4.1 LOCATIONS OF REPRESENTATIVE NSRS AND ROAD NETWORK



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LEGEND:

- Site Boundary
- 300m Assessment Area
- Road Netwroks
- (1) Road Link and Index No.
- Noise Sentative Receivers

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

ROAD NETWORK AND LOCATIONS OF REPRESENTATIVE NSRS

Drawing No.

FIGURE 4.1

Rev.

1

Scale:

A4 - 1:4000

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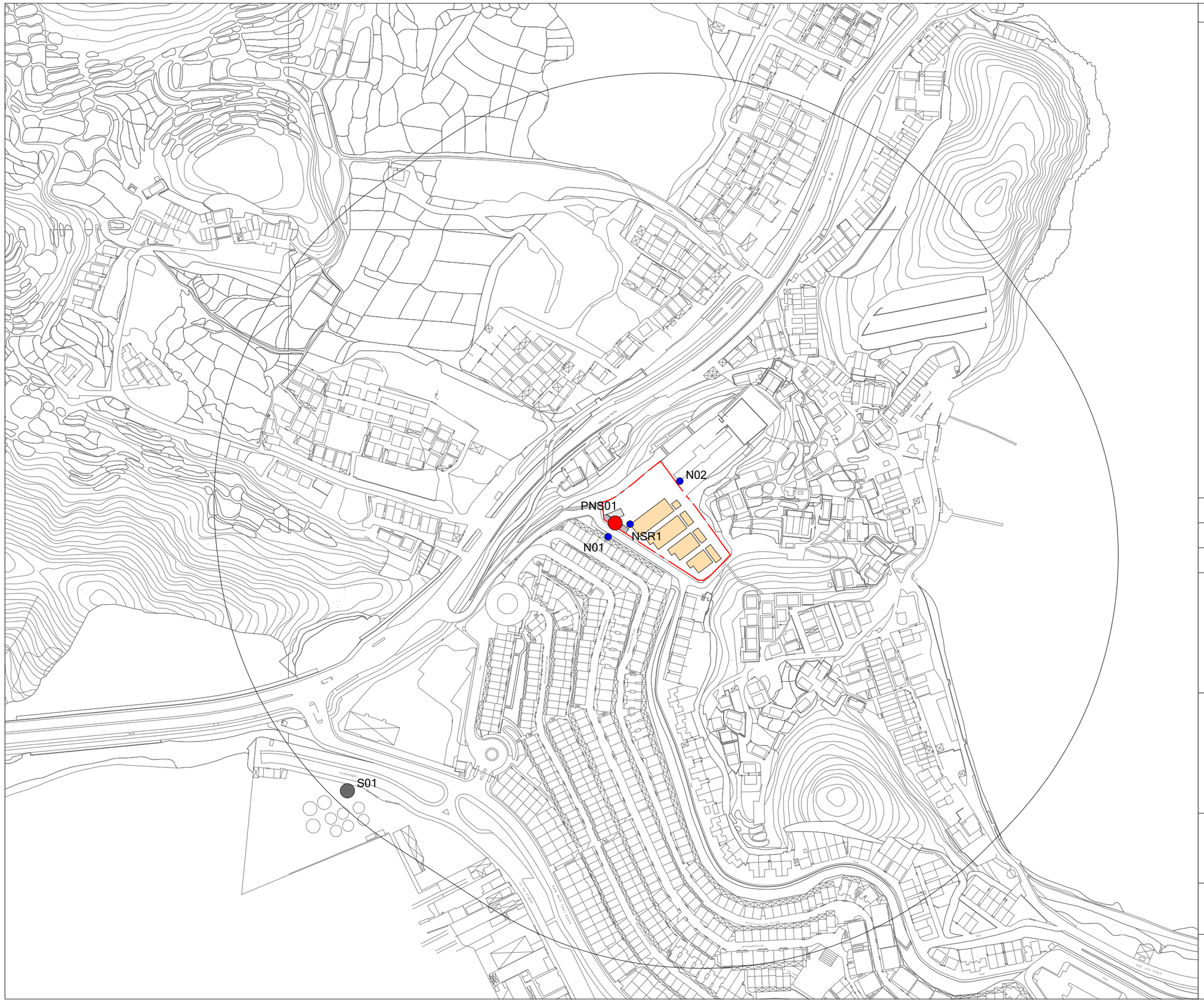
FIGURE 4.2 LOCATIONS OF REPRESENTATIVE NSRS AND FIXED NOISE SOURCES



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LEGEND:

- Site Boundary
- 300m Assessment Area
- Noise Sentative Receivers
- Planned Fixed Plant Sources
- Existing Fixed Plant Sources

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220504	20220506	20220511

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

PLANNED AND EXISTING FIXED PLANT SOURCES AND REPRESENTATIVE NSRS

Drawing No.	Rev.
FIGURE 4.2	1

Scale:

A4 - 1:4000

BXG

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FIGURE 5.1 LOCATIONS OF WATER SENSITIVE RECEIVERS

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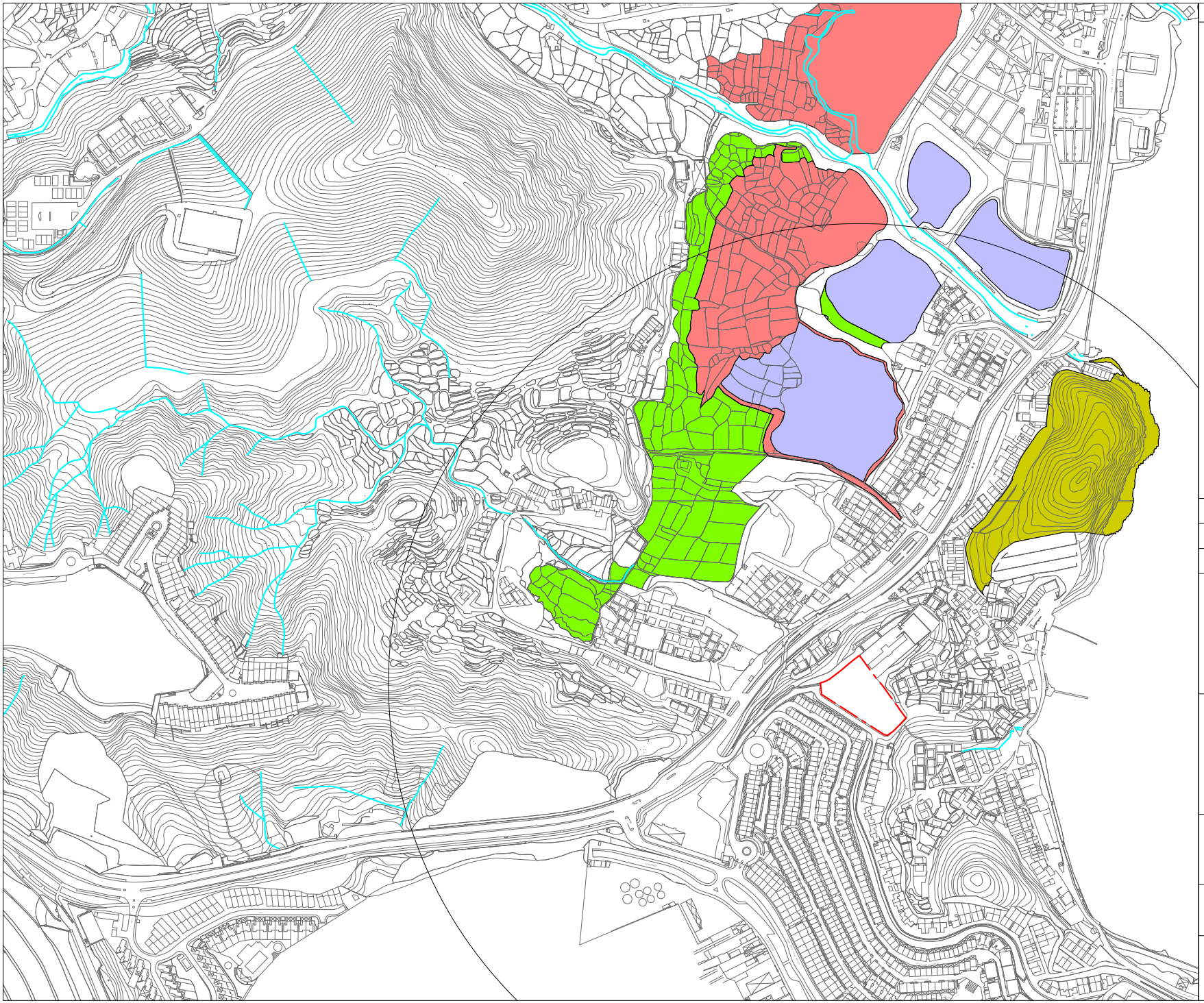

LEGEND:

- Site Boundary
- 500m Assessment Area
- Mangrove
- Marshland
- Pond
- SSSI
- Natural / Channelized Watercourse

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20220613	20220614	20220614

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

LOCATIONS OF WATER SENSITIVE RECEIVERS

Drawing No.

FIGURE 5.1

Rev.

0

Scale:

A4 - 1:6000

BXG

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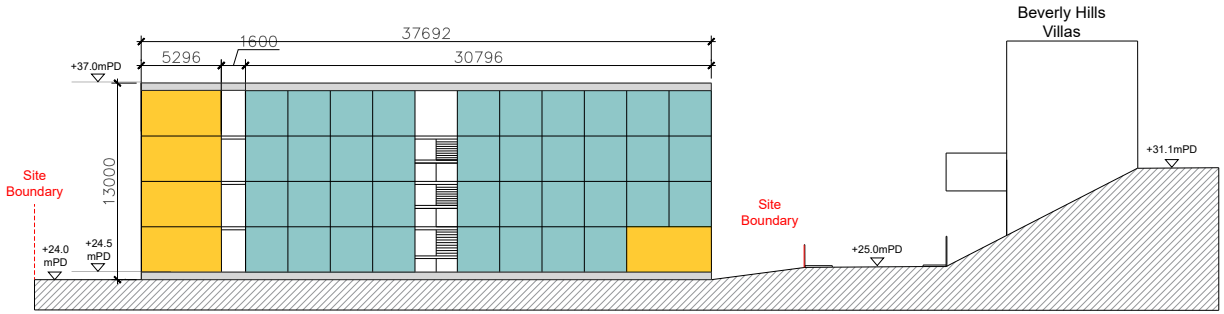
APPENDIX 2.1
MASTER LAYOUT PLAN


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

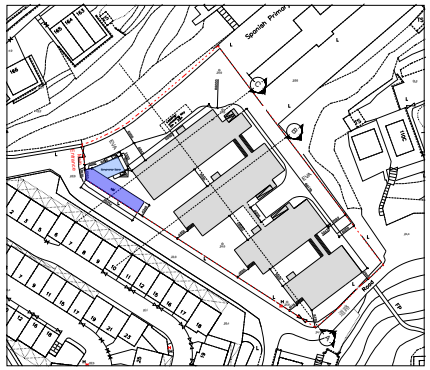


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Tan Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

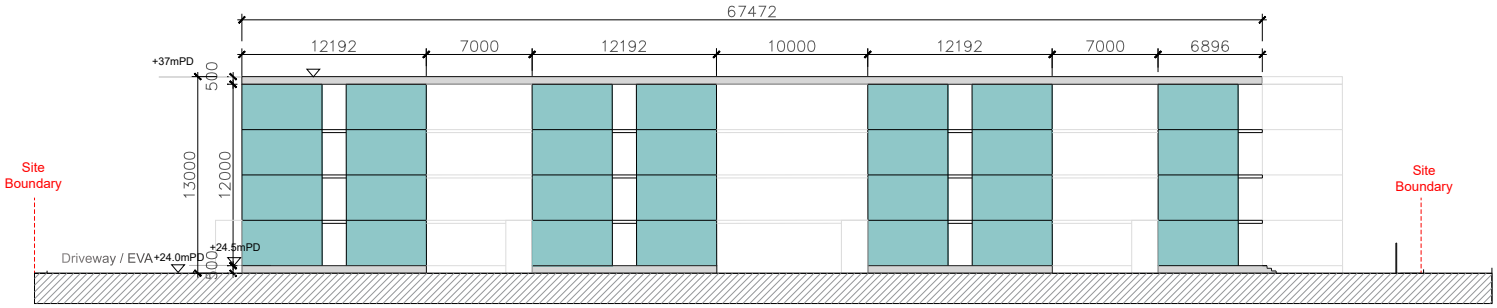

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



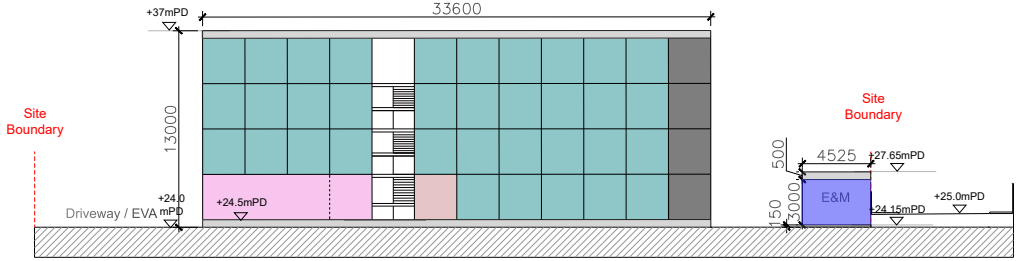
SECTION B



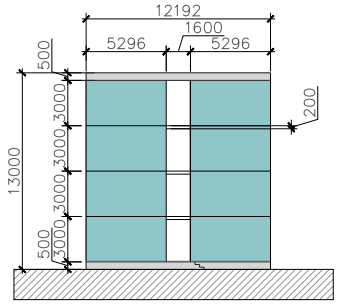
KEY PLAN 1:4000



SECTION A



SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX 4.1
TRAFFIC FORECAST DATA

2027 Peak Hour Traffic Forecast for Traffic Noise Impact Assessment

Road ID	Road Name	Section Between		1- or 2-Way	Weekday AM Peak Hour		Weekday PM Peak Hour	
					Flow (veh/hr)	% HV	Flow (veh/hr)	% HV
1	Ting Kok Road	Sam Mun Tsai Road	Hess Garden	1-way	482	18.1%	723	11.5%
2	Ting Kok Road	Hess Garden	Sam Mun Tsai Road	1-way	857	10.0%	670	11.3%
3	Sam Mun Tsai Road	Ting Kok Road	Tai Po Marine Office and Fisheries Office	1-way	236	25.7%	244	27.8%
4	Sam Mun Tsai Road	Tai Po Marine Office and Fisheries Office	Ting Kok Road	1-way	274	30.2%	225	20.7%
5	Ting Kok Road	Fortune Garden	Sam Mun Tsai Road	1-way	693	20.8%	908	16.7%
6	Ting Kok Road	Sam Mun Tsai Road	Fortune Garden	1-way	1098	14.5%	828	14.0%

APPENDIX 4.2
CALCULATIONS FOR TRAFFIC NOISE ASSESSMENT

Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at NSRs

NSR ID	AM/PM	Road Index	Nearest Horizontal Distance (m)	View Angle (deg)	Corrections					Basic Noise Level, dB(A) [5]	Max Noise Levels L10, 1hr, dB(A)	Cumulative Max Noise Levels L10,1hr, dB(A)	Noise Criterion, dB(A)	Compliance (Y/N)
					Distance [1]	View Angle [2]	Road Surface [3]	Speed/ %HV [4]	Façade					
NSR1	AM	1	74	150	-7.6	-0.8	-1	1.7	2.5	69	64	68	70	Y
		2	74	150	-7.6	-0.8	-1	0.2	2.5	72	65			
		3	236	56	-12.5	-5.1	-1	2.7	2.5	66	53			
		4	236	56	-12.5	-5.1	-1	3.2	2.5	67	54			
		5	279	5	-13.2	-15.6	-1	2.1	2.5	71	45			
		6	279	5	-13.2	-15.6	-1	1.1	2.5	73	46			
NSR1	PM	1	74	150	-7.6	-0.8	-1	0.5	2.5	71	64	68		Y
		2	74	150	-7.6	-0.8	-1	0.5	2.5	70	64			
		3	236	56	-12.5	-5.1	-1	3.0	2.5	66	53			
		4	236	56	-12.5	-5.1	-1	2.1	2.5	66	52			
		5	279	5	-13.2	-15.6	-1	1.5	2.5	72	46			
		6	279	5	-13.2	-15.6	-1	1.0	2.5	71	45			
NSR2	AM	1	73	150	-7.5	-0.8	-1	1.7	2.5	69	64	68		Y
		2	73	150	-7.5	-0.8	-1	0.2	2.5	72	65			
		3	266	53	-13.0	-5.3	-1	2.7	2.5	66	52			
		4	266	53	-13.0	-5.3	-1	3.2	2.5	67	53			
		5	311	4	-13.7	-16.5	-1	2.1	2.5	71	44			
		6	311	4	-13.7	-16.5	-1	1.1	2.5	73	45			
NSR2	PM	1	73	150	-7.5	-0.8	-1	0.5	2.5	71	64	68		Y
		2	73	150	-7.5	-0.8	-1	0.5	2.5	70	64			
		3	266	53	-13.0	-5.3	-1	3.0	2.5	66	52			
		4	266	53	-13.0	-5.3	-1	2.1	2.5	66	51			
		5	311	4	-13.7	-16.5	-1	1.5	2.5	72	45			
		6	311	4	-13.7	-16.5	-1	1.0	2.5	71	44			

Note:
[1] Distance correction = -10*log((horizontal distance + 3.5)/13.5)
[2] Angle of view correction (AoV) = 10*log(AoV/180)
[3] Road surface = -1 for concrete paved
[4] Speed and percentage of HV = 33*log(speed + 40 + 500/speed) + 10*log(1 + 5*percentage of HV/speed) - 68.8
[5] Basic noise level = 42.2 + 10*log(flow)

APPENDIX 4.3
CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at Existing NSRs

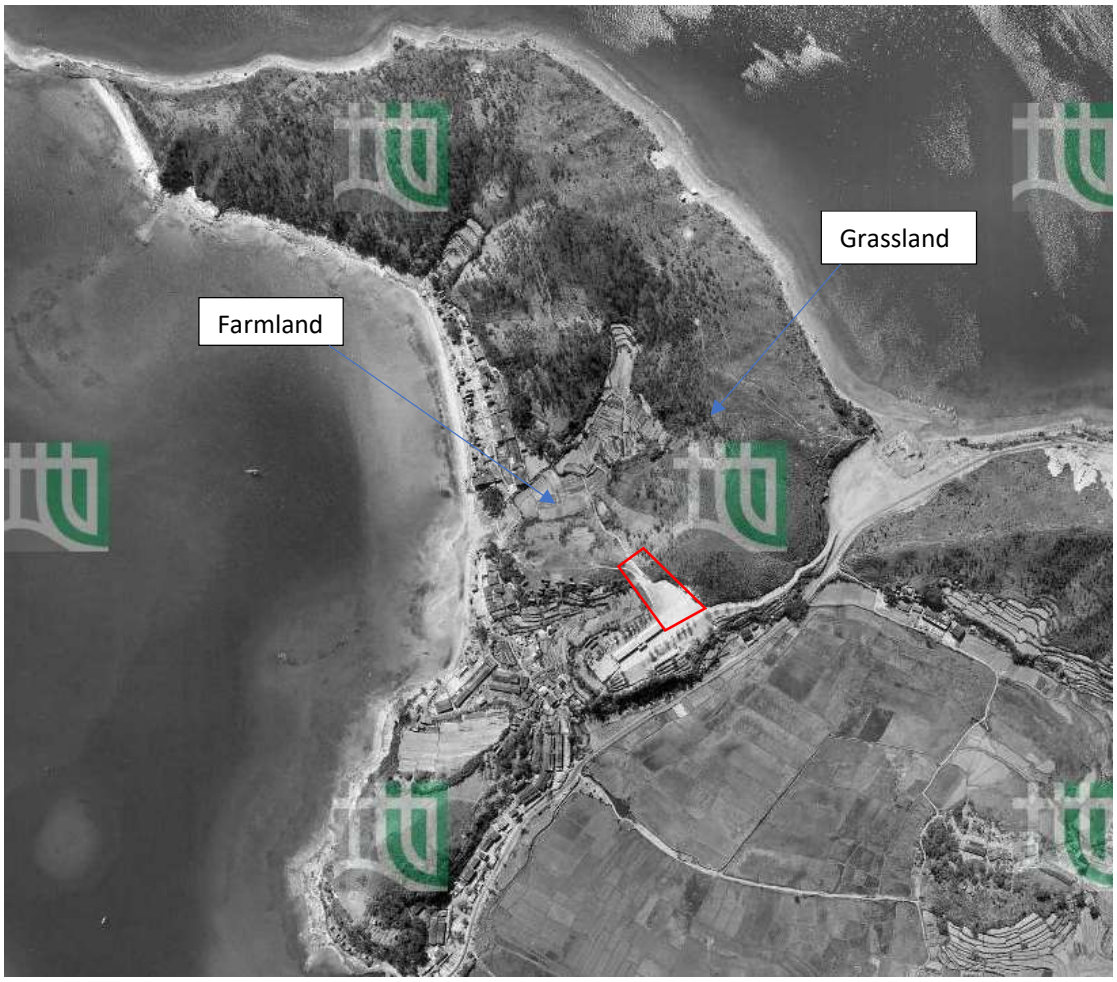
NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
N01	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
N01	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-

NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
N02	PNS01	65	59	-43	3	3	0	28
							Total SPL, dB(A)	28
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
N02	PNS01	65	59	-43	3	3	0	28
							Total SPL, dB(A)	28
							Criteria, ANL	41
							Exceedance	-

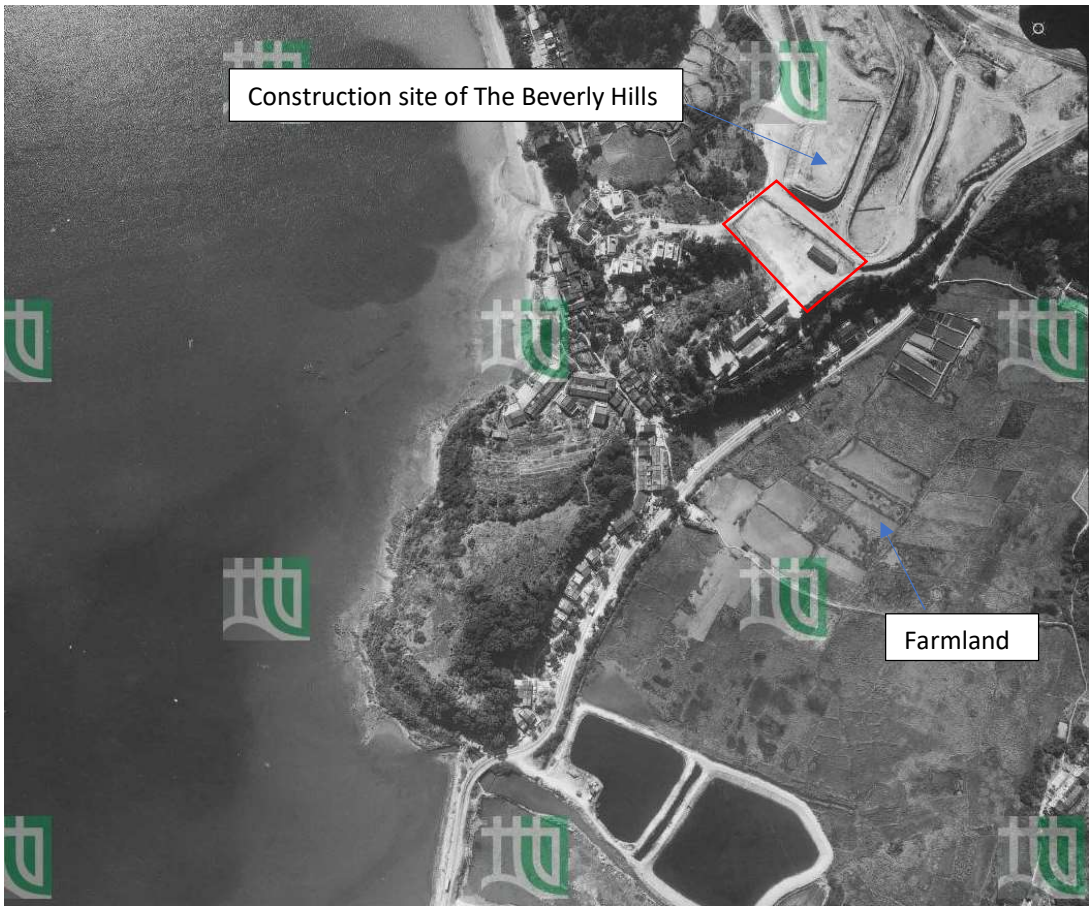
Project: Proposed Transitional Housing Development at Shuen Wan
Title: Predicted Sound Pressure Level at Planned NSRs

NSR	Source	SWL, dB(A)	Nearest Horizontal Distance to NSR, m	Correction, dB(A)				Predicted Noise Level (Planned Noise Source), Leq 30 min, dB(A)
				Distance	Façade	Tonality	Screening/directivity	
Daytime and Evening Time (0700-2300 hours)								
NSR1	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-
Night Time (0700-2300 hours)								
NSR1	PNS01	65	12	-30	3	3	0	41
							Total SPL, dB(A)	41
							Criteria, ANL	41
							Exceedance	-

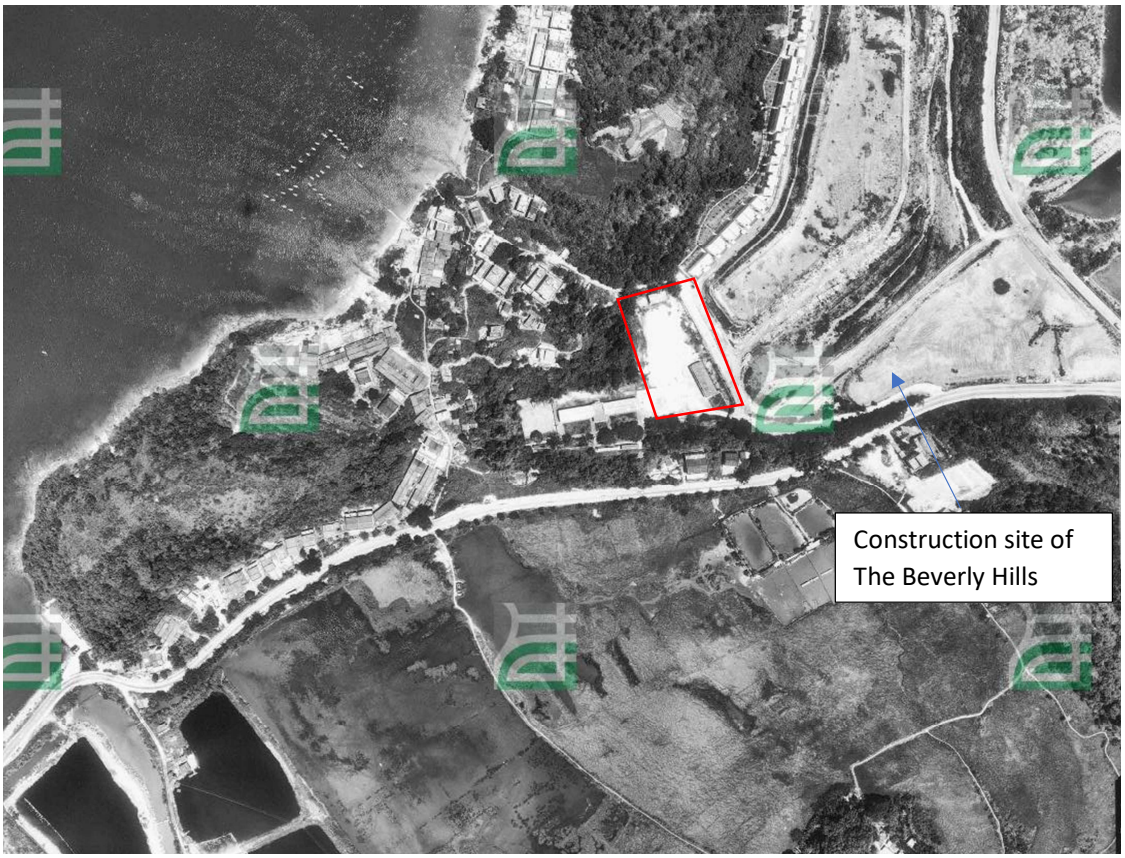
APPENDIX 6.1
HISTORICAL AERIAL PHOTOS



Aerial Photo in 1963. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1973. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1981. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 1990. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2000. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2005. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2011. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2017. ——— Subject site. Photo source: Lands Department, HKSAR.



Aerial Photo in 2021. ——— Subject site. Photo source: Lands Department, HKSAR.



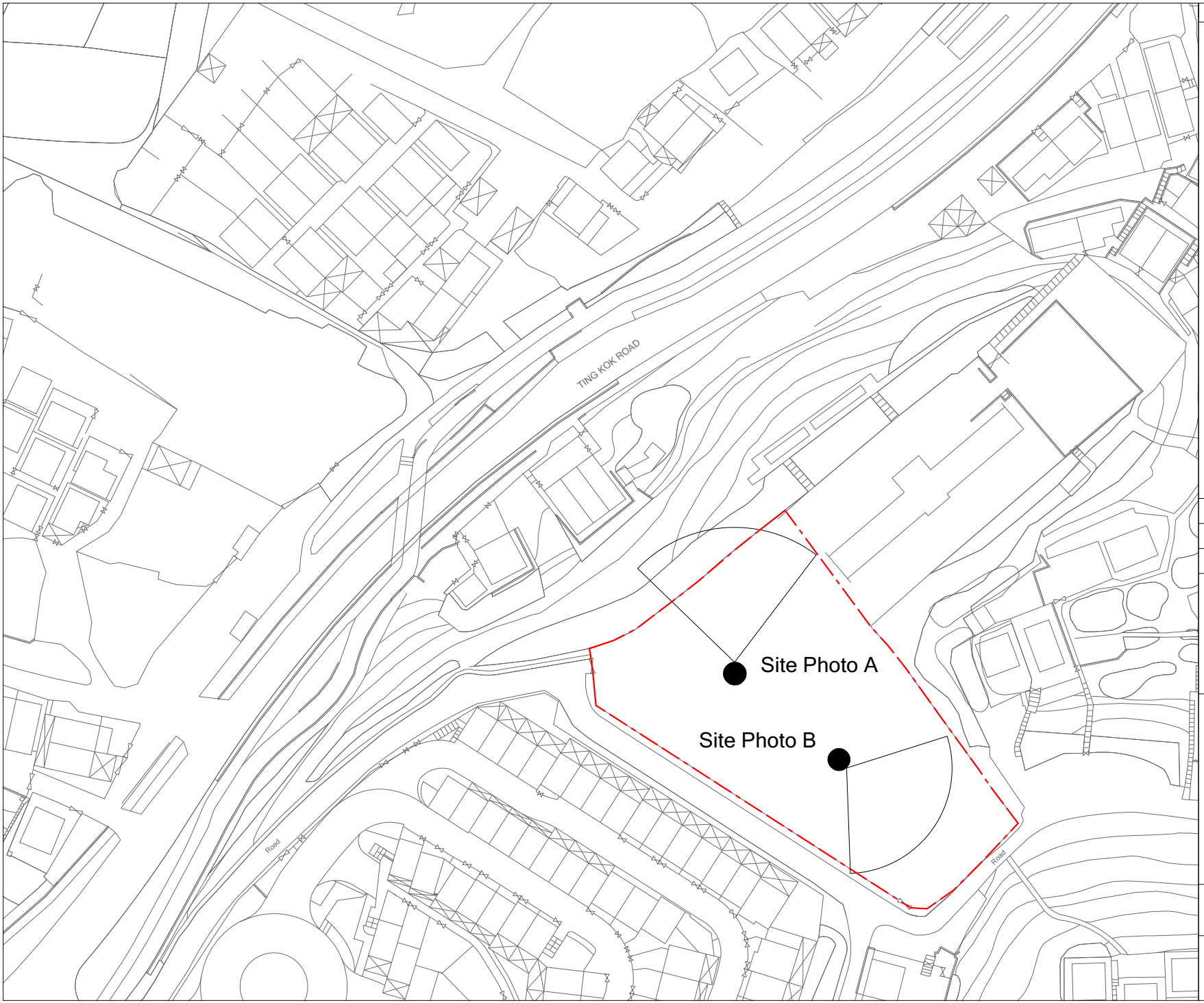
Site Photo A



Site Photo B

Current condition (Apr., 2022) of the Site, photo taken during the site survey

A figure indicating the locations and directions of site photos taken is attached in the next page.



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LEGEND:

Site Boundary

Camera Shot Angle

Shooting Location

	Prepared	Checked	Approved
Initial	NY	CC	YS
Date	20220805	20220805	20220805

Project Title

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

Drawing Title

LOCATIONS OF SITE PHOTO TAKEN

Scale:

A4 - 1:1200

BXG

BeeXergy Consulting Limited

APPENDIX F - DRAINAGE IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAINAGE IMPACT ASSESSMENT

FOR

THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

29 Jul 2022

Ref No: RT21466-DIA-03

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Project:	DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)
Report No.:	RT21466-DIA-03

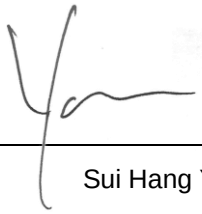
Revision	Issue Date	Description	Author	Checker	Approver
1	6/5/2022	Issued for Comment	TL	YS	HM
2	30/6/2022	Issued for Comment	TL	YS	HM
3	29/7/2022	Issued for Comment	TL	YS	HM

Prepared by:



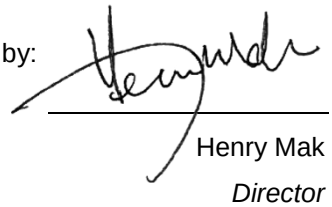
Theo Lai
Senior Consultant

Checked by:



Sui Hang Yan
Technical Director

Approved by:



Henry Mak
Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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Appendix A Master Layout Plan of the Proposed Development
Appendix B Overview of Existing Drainage System
Appendix C DSD's email response
Appendix D Runoff Calculation
Appendix E Proposed Drainage System

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was appointed by The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP) to conduct a drainage impact assessment to fulfill the THB planning application requirement of the proposed Transitional Housing Project at Government Land at Shuen Wan, Off Ting Kok Road, Tai Po (Former Sheun Wan Eu Tong Sen School).

1.2 PROJECT LOCATION

The proposed site is currently zoned as “Government, Institution or Community (G/IC)” under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19. It is bounded by Spanish Primary School to the northeast, Ting Kok Road to the northwest, Beverly Hills to the southwest, and low-rise residential flats to the southeast. Figure 1 shows the project site location and its surrounding area.



Figure 1 Site Location Plan of the Project Area

1.3 DESCRIPTION OF THE SITE AND PROPOSED DEVELOPMENT

The site is a former school development, the school building is located at the west of the Site with a temporary storage at the southeast of the Site. The proposed transitional housing development comprises of a 4-storey residential block, communal area, and a facility management office. Site layout plan is presented in **Appendix A**.

1.4 SCOPE OF WORKS

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

1.5 EXISTING SITE CONDITION AND DRAINAGE FACILITIES

The site is a former school development with concrete paved ground at the north to west of the Site while flat soil and greenery at the east to south of the Site. According to the site visit conducted on 13 April 2022, there is an existing 300mm surface channel at the northwest of the Site. While an existing 300mm surface channel is also identified along Beverly Hills. A detailed drainage layout showing the existing drainage system around the Subject Site is provided in **Appendix B**.

1.6 PROPOSED DRAINAGE CONNECTION

As shown in the DSD's email dated 20 December 2021 as provided in **Appendix C**, a stormwater channel and catchpit shall be constructed by the project proponent connecting the surface channel inside the Site towards the existing 300mm surface channel along Beverly Hills. Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site.

2 DRAINAGE ANALYSIS

2.1 ASSUMPTIONS AND METHODOLOGY

Peak instantaneous runoff before and after the Proposed Development was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.

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

$$\boldsymbol{Q_p = 0.278\, C\, i\, A}$$

where:

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

Rainfall intensity is calculated using the following expression:

$$\boldsymbol{i = \frac{a}{(t_d + b)^c}}$$

where:

i = rainfall intensity in mm/hr
t_d = duration in minutes (td≤240)
a, b, c = storm constants given in Table 3 of SDM

For a single catchment, duration (t_d) can be assumed to be the time of concentration (t_c) which is calculated as follows:

$$\boldsymbol{t_c = t_0 + t_r}$$

where:

t_c = time of concentration
t_0 = inlet time (time taken for flow from the most remote point to reach the most upstream point of the urban drainage system)
Generally, t_0 is much smaller than t_f. As shown in Equation 2, t_d is the divisor. Therefore, larger t_d will result in smaller rain intensity (i) as well as a smaller Q_p. For the worst-case scenario, t_r is assumed to be negligible and so:

$$\boldsymbol{t_d = t_c = t_0}$$

$$\boldsymbol{t_0 = \frac{0.14465\, L}{H^{0.2}\, A^{0.1}}}$$

where:

A = catchment area (m^2)
H = average slope (m per 100m), measure along the line of natural flow, from the summit of the catchment to the point under consideration
L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

The capacities of the open channel have been calculated using the Manning Equation, assuming full bore flow with no surcharge, as follows, incorporate 10% sedimentation in the calculation of drainage flow capacity in accordance with the *Stormwater Drainage Manual:*

$$\overline{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$$

where:

V = mean velocity (m/s)

g = gravitation acceleration (m/s^2)

R = hydraulic radius (m)

k_s = hydraulic pipeline roughness (m)

V = kinematic viscosity of fluid (m^2/s)

S = hydraulic gradient (energy loss per unit length due to friction)

2.2 ASSESSMENT ASSUMPTIONS

2.2.1 SUBJECT SITE

The greenery area of existing site is approximately 2,000m^2, the runoff of the Site should be conveyed to the existing surface channel at the northwest of the Site. While the greenery area of the proposed development is approximately 1436.7m^2, as provided in **Appendix A**.

With reference to the *Stormwater Drainage Manual*, as the Site is relatively steep, the runoff coefficients of paved surface and soft landscape at the existing site are 0.95 and 0.35, respectively. The adopted runoff coefficients for the Site before development and after development respectively are summarised in ***Table 2.1***.

Table 2.1: Surface Characteristics and Runoff Coefficients of the Site

Scenario of Project	**Area (m^2)**	**Surface Characteristics**	**Runoff Coefficient for paved area**	**Runoff Coefficient for Greenery**
Before Development	4,310	50% concrete paved + 50% greenery area	0.95	0.35
After Development	4,310	67% concrete paved + 33% greenery area	0.95	0.35
Catchment A	1,441	100% concrete paved	0.95	/

Based on the site visit conducted on 13 April 2022, the existing 300mm surface channel is serving the Subject Site only. Catchment A is identified along the surface channel from SCH04 towards SCH05.

2.3 ESTIMATED EXISTING AND FUTURE RUNOFF

2.3.1 PEAK RUNOFF FROM THE SITE

In accordance with DSD's Stormwater Drainage Manual (2018) (SDM), the flood protection standard for drainage system is as follows:-

Table 2.2 Flood Protection Standard

Intensively Used Agricultural Land	2 – 5 years
Village Drainage including Internal Drainage System under a Polder Scheme	10 years [1, 3]
Main Rural Catchment Drainage Channels	50 years [2, 3]
Urban Drainage Trunk Systems	200 years [4]
Urban Drainage Branch Systems	50 years [4]

Notes:
1. *The impact of a 50-year event should be assessed in each village to check whether a higher standard than 10 years can be justified.*
2. *Embanked channels must be capable of passing a 200-year flood within banks.*
3. *For definitions of Village Drainage and Main Rural Catchment Drainage Channels, refer to Section 6.6.1 of SDM.*
4. *For definitions of Urban Drainage Branch and Urban Drainage Trunk Systems, refer to Section 6.6.2 of SDM*

With reference to definitions of Main Rural Catchment Drainage Channels as stated in Section 6.6.1 of SDM, flood protection standards shall adopt 1 in 50 years. Based on the assumptions described in Section 2.2, the runoff from the Site before and after development were estimated based on the return periods of 50 years. Detail calculation can be found in **Appendix D** and summarized in ***Table 2.3*** below:

Table 2.3: Estimated Peak Runoff

Catchment	Estimated Peak Runoff (m^3/s)
Subject Site (Before)	0.192
SS1	0.065
SS2	0.084
SS3	0.067
A	0.082

2.4 HYDRAULIC CAPACITY OF THE DRAINAGE SYSTEM

According to the calculation as shown in **Appendix D**, the peak flow of 0.192m^3/s generated from the Subject Site before the development occupied 22.7% of the downstream catchpit at SCH02. Considering the current design has a slightly increase on hard paved area as presented in Section 2.2, Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site. In order to divert the stormwater from Subject Site towards the existing 300mm surface channel along Beverly Hills, a 300mm surface channel across the access road together with a catchpit to be constructed by the project proponent is also proposed. Detail design can be found in **Appendix E**.

After the transitional housing development, the peak flow of 0.299m^3/s generated from the Subject Site and catchment A will take up 66.8% in capacity of the existing downstream SCH05 as shown in the calculation given in **Appendix D.**

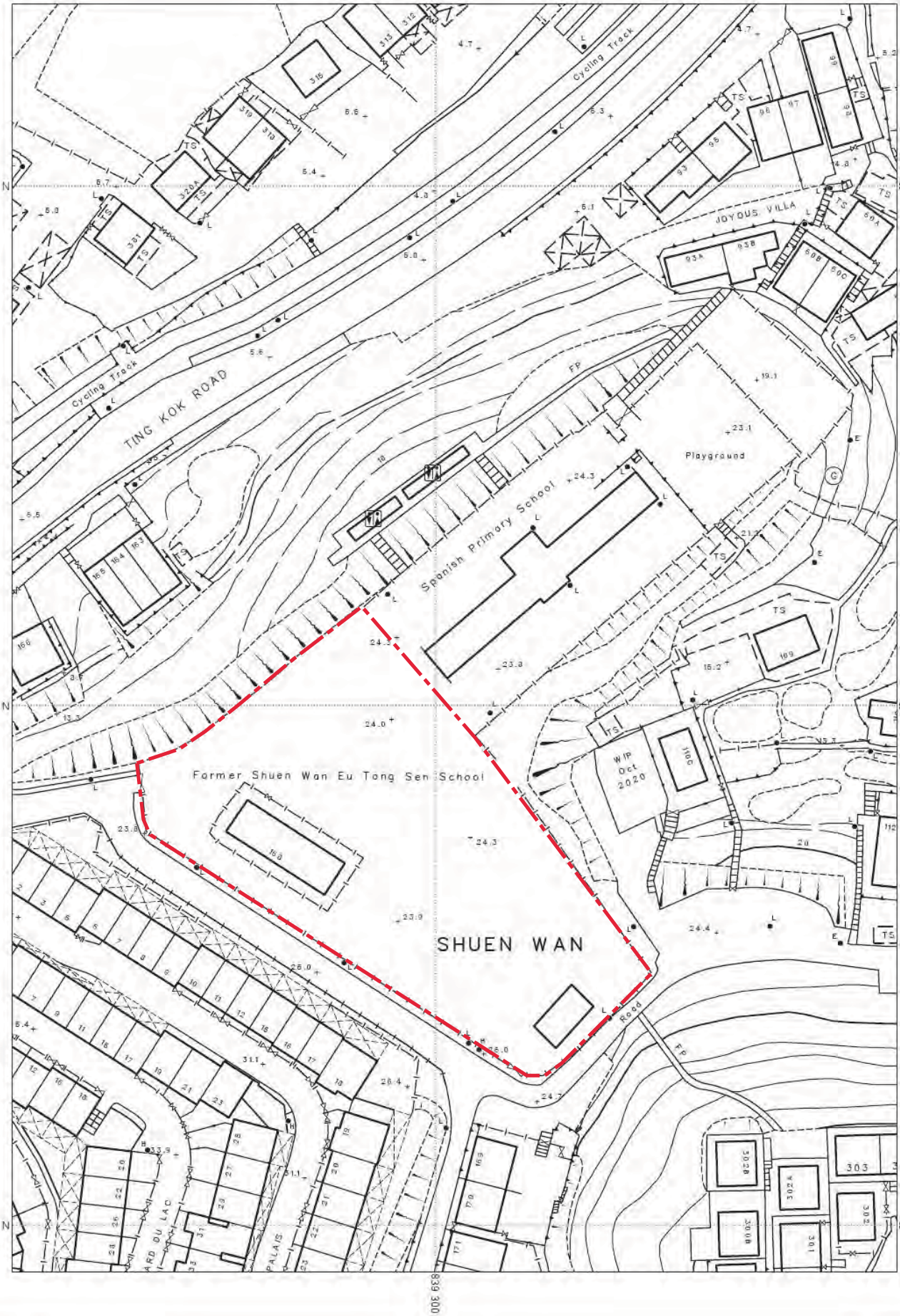
3 CONCLUSION

DIA has been conducted for the proposed development at the Subject Site. A stormwater channel and catchpit shall be constructed by the project proponent connecting the surface channel inside the Site towards the existing 300mm surface channel along Beverly Hills. Surface channels of 300mm will be provided along the perimeter of the site to collect all the runoff generated from the site or passing through the site.

The maximum capacity occupied at downstream is 73.4%, which is way below 90%. The capacity of the existing drainage system is considered sufficient to cater the surface runoff generated from the proposed development. Therefore, it is anticipated that no adverse drainage impact would be imposed from the proposed transitional housing development to the existing drainage system after the upgrading of pipeworks.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

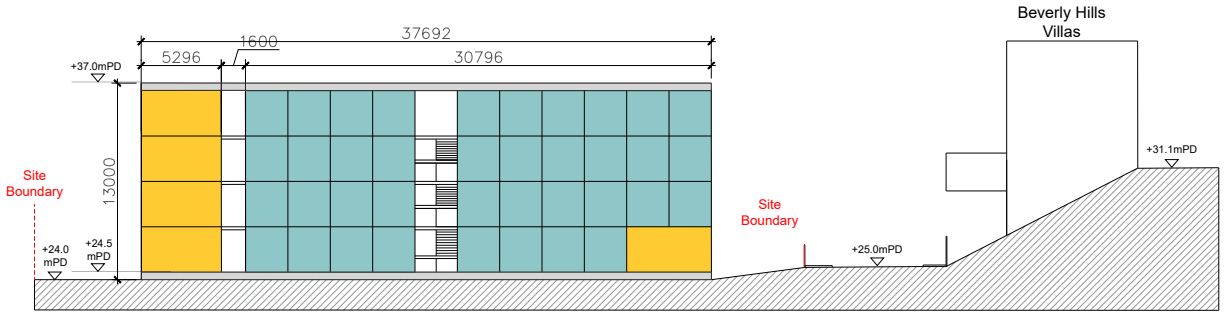
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN



TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



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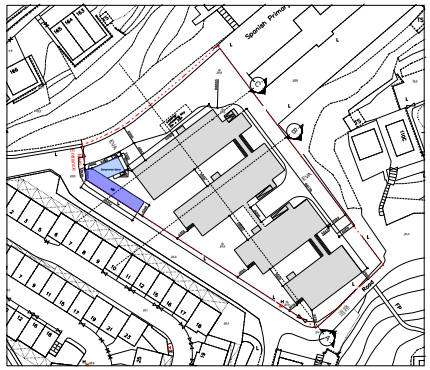
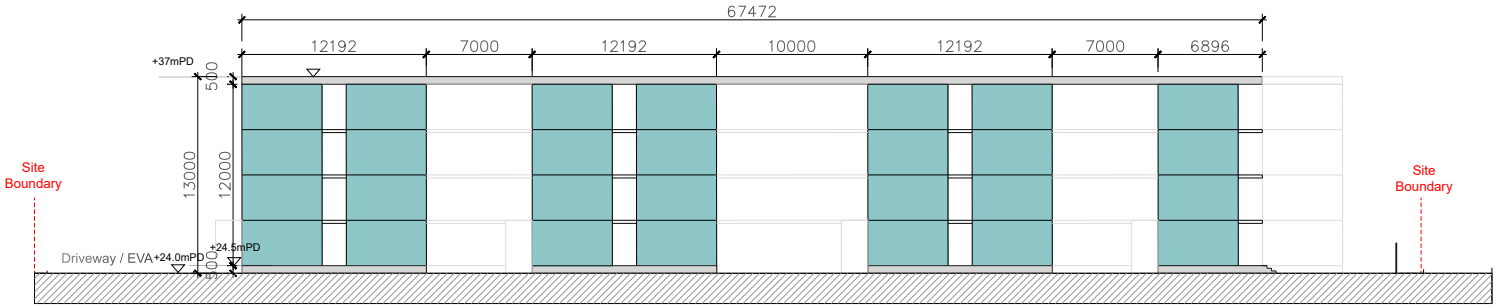


KEY PLAN 1:4000



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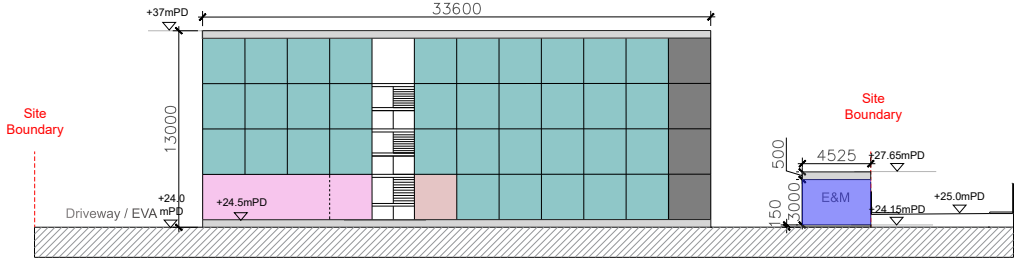

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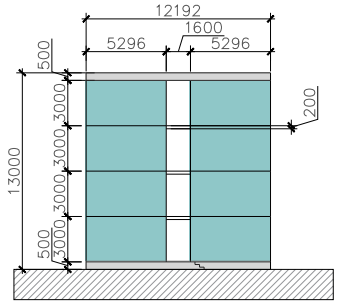


TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

N

24.0

24.0

Loading/ Unloading Bay1 1m x 3.5m

Shuttle Parking 4.8m x 1.8m

24.0

24.0

24.0

1

2

2

3

3

3

4

5

Site Boundary

Pedestrian/Vehicular Entrance

Green Fence

Proposed New Trees (12 nos.)

E&M with Green Roof

EVA

The trees to be retained (33 nos.)

Proposed Shrubs/Groundcovers (Green Area: Not less than 862 sqm)

Pavings

1 Playground/Plaza

2 Leisure Sitting Out Area

3 Fitness Area with Exercise Equipment

4 Community Garden

5 E&M and Convenience store

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

LANDSCAPE MASTER PLAN

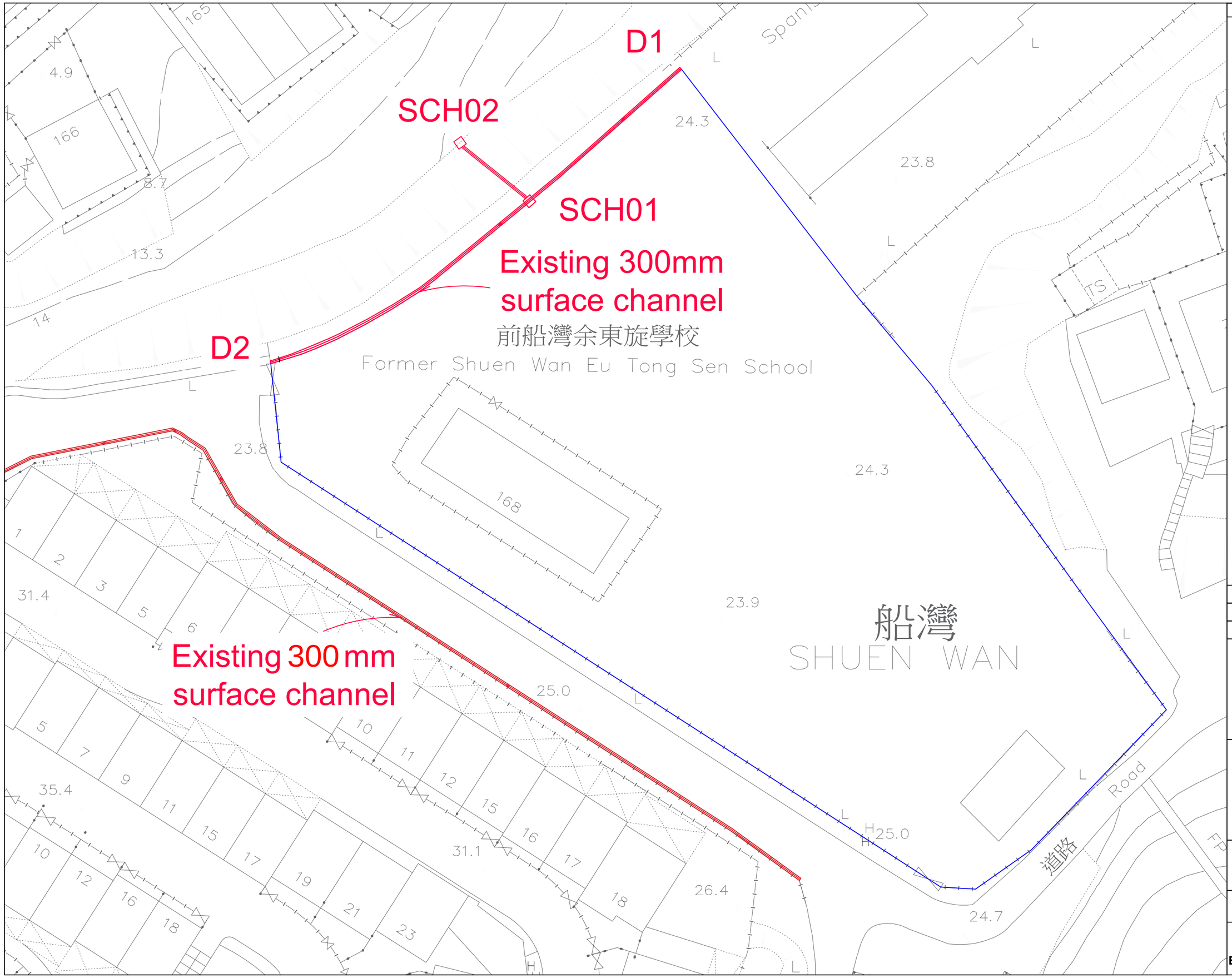
LEAD AND LAND-SCAPE MASTER PLAN CONSULTANT

UDP INTERNATIONAL
SCALE 1:400 @ A3

DRAFTED BY: LANDSCAPE ARCHITECT
DESIGNED BY: LANDSCAPE ARCHITECT
CHECKED BY: QUEENIE
APPROVED BY: SUJATA GOVADA

APPENDIX B

OVERVIEW OF EXISTING DRAINAGE SYSTEM



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Site Boundary

Existing Stormwater Drainage System

	Prepared	Checked	Approved
Initial	TL	YS	HM
Date			

Project Title

DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Drawing Title

Existing Stormwater Drainage System in the vicinityof the Site

Drawing No.	Rev.
App B	2

Scale: A3

BeeXergy Consulting Limited

APPENDIX C

DSD'S EMAIL RESPONSE DATED 20 DECEMBER 2021

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand groups

From: **"Stephen WH WONG/THB" <stephenwong@thb.gov.hk>** - 2021/12/20 下午 06:01
To: "KT SHEK/DSD" <ktshek@dsd.gov.hk>
Cc: "Wing Hing CHOI/DSD" <whchoi@dsd.gov.hk>, "Kwan YEUNG/HD" <k.yeung@hd.gov.hk>, "Raymond WM SO/THB" <raymondso@thb.gov.hk>, "WH NG/MND/DSD" <winghungng@dsd.gov.hk>, "CK YIP/LDD/DSD"
Subject: Re: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Kenneth,
Many thanks for your help in materializing this transitional housing to meet CE's target. We will incorporated your suggestions in the detailed design. Million thanks.
Regards,
Stephen
Tel 3509 8254

From: KT SHEK [mailto:ktshek@dsd.gov.hk]
Sent: Monday, December 20, 2021 5:03 PM
To: Stephen WH WONG/THB <stephenwong@thb.gov.hk>
Cc: Wing Hing CHOI/DSD <whchoi@dsd.gov.hk>; Kwan YEUNG/HD <k.yeung@hd.gov.hk>; Raymond WM SO/THB <raymondso@thb.gov.hk>; WH NG/MND/DSD <winghungng@dsd.gov.hk>; CK YIP/LDD/DSD <ckyip@dsd.gov.hk>
Subject: Re: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Stephen,

I refer to your email on 6 December 2021 regarding the proposed transitional housing at Shuen Wan, Ting Kok Road (Former Shuen Wan Eu Tong Sen School) and our recent discussion of the details of the proposal.

I understand that there are limitations of the proposed transitional housing project at Shuen Wan and the proposed drainage and sewerage connections from the site to the existing systems at Ting Kok Road could not be implemented under the project due to various site, programme and funding constraints.

To facilitate your implementation of the transitional housing project at this site, we have visited the site and further reviewed the stormwater drainage and sewerage proposals. Our findings are appended below for your consideration.

Stormwater Drainage

After further review of the site condition, a connection point near the site entrance in lieu of the nearby slope drainage as previously proposed has been identified. The stormwater drainage connection to the existing 300mm surface channel on the side of access road leading to the site should be technically feasible according to our site inspection.

It is therefore proposed for the project proponent to construct the drainage system within the site, and a short section of stormwater channel (about 15m) and a catchpit near the site entrance for the discharge of stormwater collected from the site (a plan and indicative photo are attached).

However, as the spare capacity of the existing stormwater drainage is limited, the additional surface runoff generated from the site should be minimized as far as practicable. Please consider minimizing the extent of hard paving to the existing vegetated area (currently about 50% of the site) and/or providing greening areas within the site during the development.





Sewerage
After further review of the sewerage provision in this area, DSD can help construct a sewerage manhole and associated sewers near the southern side of the site for the discharge of sewage collected from the site to the existing public sewerage system.

Hence, the project proponent is only required to construct the sewerage system within the site and a short section of sewer from the site to the new sewerage manhole to be provided (a plan and indicative photo are attached).



Sewerage Manhole/sewer provided by DSD

Sewer constructed by **Project Proponent**



I hope the above proposal would help the implementation of the transitional housing project at this site. Should you require any further information/details about the proposal, please feel free to contact me or my colleague, Mr Michael CK Yip, Ag. SE/TP, at 2300 1258.

Thank you.

Regards,
Kenneth Shek
CE/MN, DSD
Tel.: 2300 1145



From: "Stephen WH WONG/THB" <stephenwong@thb.gov.hk>
To: "KT SHEK/DSD" <ktshek@dsd.gov.hk>
Cc: "Raymond WM SO/THB" <raymondso@thb.gov.hk>, "Kwan YEUNG/HD" <k.yeung@hd.gov.hk>
Date: 06/12/2021 17:13
Subject: Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Serial No.:

Dear Mr. Shek,

I refer to the proposed Transitional Housing (TH) project at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School). The site plan is attached for your information, lease.

[See attachment "Site plan.pdf"]
The preliminary development parameters proposed by the operating NGO (The Society of Rehabilitation and Crime Prevention, Hong Kong) is listed below for your information and reference.

Site Area: Approx. 4,000 sq.m
No. of blocks: 1
No. of storey: 4 storey
No. of units: 280 units
Estimated population: approx. 500 persons.
Construction Commencement: Q4 2022 (tentative)

Completion and intake: Q1 2024 (tentative)

Thank you for DSD's comment at the feasibility study stage for using this Government land as TH via email dated 5 August 2021. The comments are captured below for your easy reference.
[See attachment "DR.pdf"]

Stormwater
1. We notice a 300mm U-channel present at the slope crest to the northern of the site and its maintenance party is uncertain. The application shall design its stormwater discharge alignment and lay the necessary connection pipe/channel to the nearest public stormwater drainage system at its own cost for effective conveyance of runoff from its site to the satisfaction of DSD.
2. The applicant is required to (i) demonstrate whether the proposed development will induce adverse drainage impact, and (ii) implement all necessary drainage mitigation measures, including the provision of unpaved area within the site as much as possible and the adoption of green roof design, to achieve no adverse drainage impact.

Sewerage
1. Gravity public sewers are located about 200m away from the site. The application shall design its sewerage discharge alignment and lay the necessary connection pipe to the nearest sewer manhole at its own cost to the satisfaction of DSD.
2. The applicant shall demonstrate whether the proposed development will induce adverse sewerage impact and seek comment from EPD and DSD.

As the connection works for drainage and sewerage are outside the site boundary and that our funding scope will not cover such cost, it would be most grateful if DSD could consider to carry out the connection works with THB's Policy Support to facilitate the implementation of this TH project in order to meet CE's recent pledge of providing 20,000 TH units. Many thanks.

Regards,
Stephen
Project Director (2)
Transport and Housing Bureau
Tel 3509 8254

APPENDIX D

RUNOFF CALCULATION

Table D-1. Peak Runoff Estimation from Subject Site

Catchment	Total Area of the Catchment (m^2)	Land Use		Topography [9]		Average Slope, H (m per 100m)	Flow Distance, L (m)	Inlet Time, t_o (min) [1]	Flow Time, t_f (min) [2]	Duration, t_c (min) [3]	50 - year return period				Runoff Coefficient, C [6]	Rainfall Increase due to Climate Change, % [7]	50- year return period	
		Surface Characteristics	Area (m^2)	Inlet invert level (mPD)	Outlet invert level (mPD)						Storm Constant, a [4]	Storm Constant, b [4]	Storm Constant, c [4]	Extreme Mean Intensity, i (mm/hr) [5]			Peak Runoff, Qp (m3/s) [8]	Total Peak Runoff, Qp (m3/s) [8]
Pre-development (Existing Condition)																		
Subject Site	4310	Concrete	2155.0	25	23.8	1.16	103.692	6.31	0	6.31	451.3	2.46	0.337	217.12	0.95	13.8	0.141	0.192
		Grass	2155.0												0.35		0.052	
Post-development																		
SS1	1330.9	Concrete	841.3	25	23.6	1.32	106.42	7.10	0	7.10	451.3	2.46	0.337	210.91	0.95	13.8	0.053	0.065
		Grass	489.6												0.35		0.011	
SS2	1868.4	Concrete	998.8	25	23.6	1.32	106.42	6.86	0	6.86	451.3	2.46	0.337	212.70	0.95	13.8	0.064	0.084
		Grass	869.6												0.35		0.020	
SS3	1110.7	Concrete	1033.2	25	24.1	0.93	96.54	7.02	0	7.02	451.3	2.46	0.337	211.46	0.95	13.8	0.066	0.067
		Grass	77.5												0.35		0.002	
A	1441	Concrete	1441.0	25	9	7.17	223	10.51	0	10.51	451.3	2.46	0.337	190.29	0.95	13.8	0.082	0.082
		Grass	0.0												0.35		0.000	

Note:

[1] Brandsby William's equation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

$$t_o = \frac{0.1446 L}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)

A = catchment area (m^2)

H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

[2] t_f is assumed to be 0 for conservative estimation.

[3] $t_c = t_o + t_f$

[4] Storm constants are referenced to Table 3a in DSD Stormwater Drainage Manual (Fifth Edition) based on corresponding return periods.

[5] Intensity-Duration-Frequency calculation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

$$i = \frac{a}{(t_d + b)^c}$$

where i = extreme mean intensity in mm/hr,

t_d = duration in minutes ($t_d \leq 240$), and

a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d.

[6] Runoff coefficient is referenced from Section 7.5.2 in DSD Stormwater Drainage Manual (Fifth Edition). For conservative estimation, coefficient of 0.35 is assumed for unpaved area while that of 0.95 for paved area.

[7] Rainfall increase precentage due to climate change is referenced from Table 28 in DSD Stormwater Drainage Manual (Fifth Edition). 13.8% for End of 21st Century is adopted as worst case scenario.

[8] Rational method for peak runoff estimation is referenced from Section 4.3.3 in DSD Stormwater Drainage Manual (Fifth Edition).

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

where Q_p = peak runoff in m^3/s

C = runoff coefficient (dimensionless)

i = rainfall intensity in mm/hr

A = catchment area in km^2

[9] Based on the best available information, the site formation level shall be ranged from 24 - 25mPD after the development.

Table D-2. Hydraulic Testing of the Stormwater Drainage System

ID	From	Cover Level (mPD)	ID	To	Cover Level (mPD)	Diameter, D (m) OR Width, W (m) & Height, H (m) [1]		Cross-section Area, A (m^2) [2]	Wetted Perimeter, P (m) [2]	Hydraulic Radius, R (m) [3]	Length of Pipe, L (m) [1]	Inlet Invert Level (mPD) [1]	Outlet Invert Level (mPD) [1]	Slope, s [4]	Flow Type	Equation [5]	Velocity, V (m/s) [6][12][13]	Full Capacity, Q (m^3/s) [7]	Contributing Catchment Area	Return Periods (Year) [8]	Additional Peak Flow, Q (m^3/s)	Total Flow from All Catchment Area (m^3/s)	Occupancy (%)
Pre-development (Existing Condition)																							
1	D1	24.60	2	SCH01	23.80	0.300	0.300	0.072	0.771	0.0938	22.4	24.30	23.50	0.036	Open Channel	Manning	2.602	0.188	35% Subject Site [9]	50	0.067	0.067	35.8%
3	D2	24.10	2	SCH01	23.80	0.300	0.300	0.072	0.771	0.0938	41.5	23.80	23.50	0.007	Open Channel	Manning	1.169	0.085	65% Subject Site [9]	50	0.125	0.125	147.9%
2	SCH01	23.80	4	SCH02	18.30	0.300	0.300	0.076	0.771	0.0990	9.0	23.50	18.00	0.608	Open Channel	Manning	11.126	0.849	Subject Site	50	0.000	0.192	22.7%
Post-development																							
1	D2	25.00	2	D1	24.30	0.300	0.300	0.072	0.771	0.0938	88.1	24.70	24.00	0.008	Open Channel	Manning	1.226	0.089	50% SS3 [10]	50	0.034	0.034	38.0%
2	D1	24.30	3	SCH01	24.10	0.300	0.300	0.072	0.771	0.0938	23.4	24.00	23.80	0.009	Open Channel	Manning	1.272	0.092	50% SS3 [10]	50	0.034	0.067	73.4%
3	SCH01	24.10	4	SCH02	18.30	0.300	0.300	0.076	0.771	0.0990	9.0	23.80	18.00	0.644	Open Channel	Manning	11.450	0.874	SS3	50	0.000	0.067	7.7%
3	SCH01	24.10	5	SCH03	23.60	0.300	0.300	0.072	0.771	0.0938	31.8	23.80	23.30	0.016	Open Channel	Manning	1.725	0.125	SS1	50	0.065	0.065	51.9%
1	D2	25.00	6	D3	24.80	0.300	0.300	0.072	0.771	0.0938	31.6	24.70	24.50	0.006	Open Channel	Manning	1.095	0.079	33% SS2 [11]	50	0.028	0.028	35.5%
6	D3	24.80	7	D4	23.80	0.300	0.300	0.072	0.771	0.0938	86.2	24.50	23.50	0.012	Open Channel	Manning	1.482	0.107	33% SS2 [11]	50	0.028	0.056	52.5%
7	D4	23.80	5	SCH03	23.60	0.300	0.300	0.072	0.771	0.0938	10.6	23.50	23.30	0.019	Open Channel	Manning	1.890	0.137	33% SS2 [11]	50	0.028	0.084	61.7%
5	SCH03	23.60	8	SCH04	23.10	0.300	0.300	0.076	0.771	0.0990	12.1	23.30	22.80	0.041	Open Channel	Manning	2.897	0.221	SS1 + SS2	50	0.000	0.149	67.4%
8	SCH04	23.10	9	SCH05	9.00	0.300	0.300	0.076	0.771	0.0990	139.1	22.80	8.70	0.101	Open Channel	Manning	4.541	0.347	SS1 + SS2 + Catchment A	50	0.082	0.231	66.8%

Notes

[1] According to the DSD's drainage layout plan (***Appendix B)***

[2] According to Section 9.3 in DSD Stormwater Drainage Manual (Fifth Edition), 5% / 10% reduction in flow area based on channel gradient is taken into account for the effects to flow capacity due to materials deposited on the bed.

[3] Hydraulic Radius = Cross-section Area / Wetted Perimeter

[4] Slope = (Inlet Invert Level - Outlet Invert Level) / Length of Pipe

[5] Colebrook-White Equation is adopted for calculation of pipe capacity; while Manning's Equation for calculation of channel capacity.

[6] Velocity is calculated based on different equations.

By Colebrook-White Equation,

$$\bar{V} = -\sqrt{32gRS_f}\,\log\left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}}\right]$$

By Manning Equation,

$$\bar{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$$

Where

$\bar{V}$ = cross-sectional mean velocity (m/s)
R = hydraulic radius (m)
S_f = friction gradient (dimensionless)
n = Manning coefficient ($s/m^{1/3}$)
k_s = surface roughness (m)
ν = kinematic viscosity (m^2/s)
g = acceleration due to gravity (m/s^2)

Surface roughness is assumed to be 1.5mm with referenced to Table 14 in DSD Stormwater Drainage Manual (Fifth Edition).

Kinematic viscosity is 0.000001306 m/s.

Gravitational acceleration is 9.8m/s^2.

[7] Capacity = Length of Pipe × Velocity

[8] With reference to Section 6.6.1 in DSD Stormwater Drainage Manual (Fifth Edition), the drainage system of Subject Site and its surrounding shall be considered as "Main Rural Drainage Channels". According to Table 10, the recommended design return periods for such system shall be 50 years.

[9] Based on distance ratio of the existing surface channel from D1 to SCH01 and SCH01 to D2, it is estimated that 65% site surface runoff falls from SCH01 to D2 and 35% site surface runoff falls from SCH01 to D1.

[10] It is assumed that runoff from SS3 will be shared by the 2 surface channels neamly D2 to D1, D1 to SCH01.

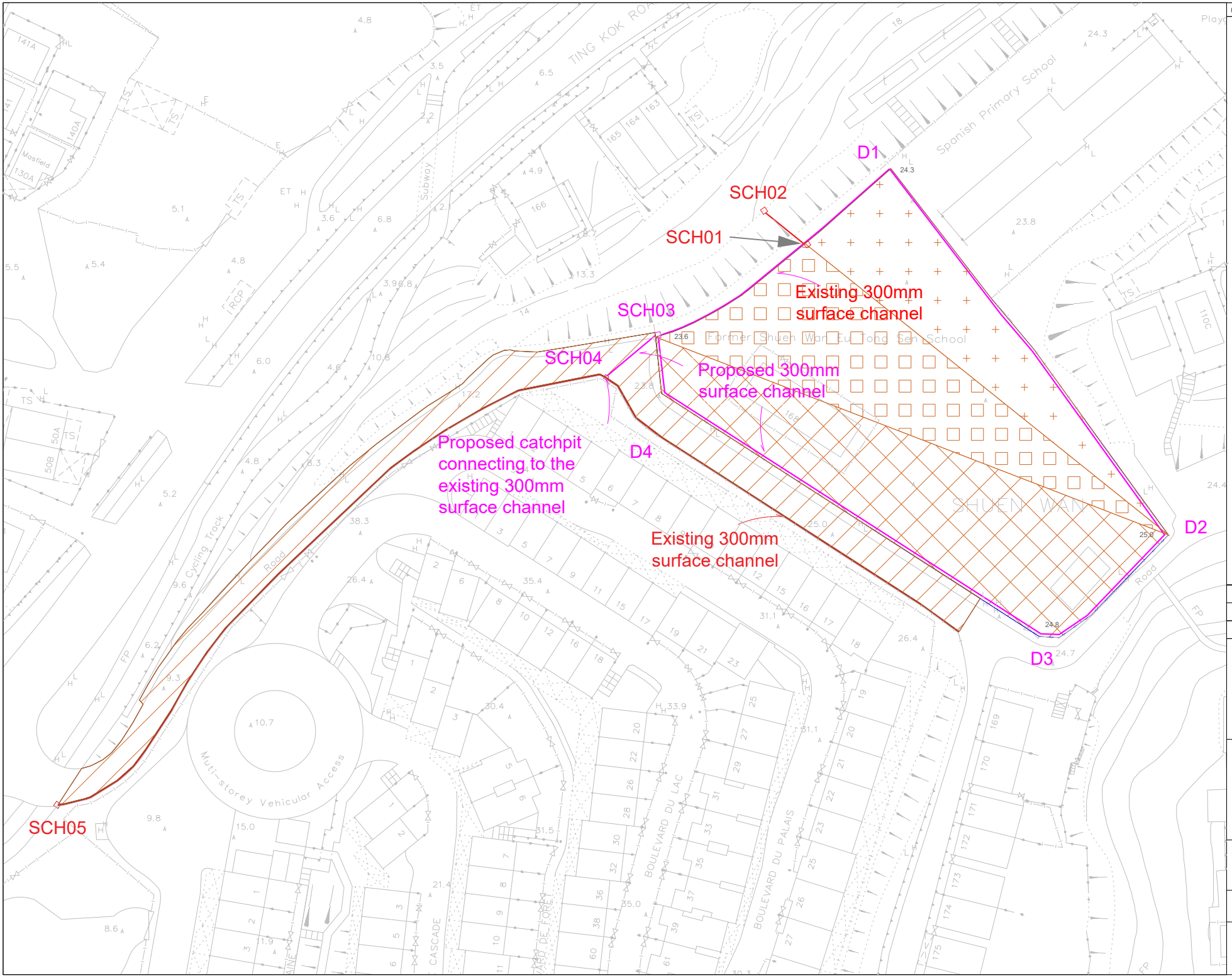
[11] It is assumed that runoff from SS2 will be shared by the 3 surface channels namely D2 to D3, D3 to D4, D4 to SCH03.

[12] The existing SCH01 to SCH02 were constructed by other parties with step gradient to reduce the energy.

[13] For the proposed catchpit SCH03 and SCH04, steps will be provided inside the catchpits with appropriate erosion protection measures to be provided in detail design stage.

APPENDIX E

PROPOSED DRAINAGE SYSTEM



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Site Boundary
Existing Stormwater Drainage System
Proposed Stormwater Drainage System
Catchment A
Catchment SS1
Catchment SS2
Catchment SS3

	Prepared	Checked	Approved
Initial	TL	YS	HM
Date			

Project Title

DRAINAGE IMPACT ASSESSMENT FOR THE TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

Drawing Title

Proposed Stormwater Drainage System

Drawing No.	Rev.
App E	3

Scale: A4 1:1000

BeeXergy Consulting Limited

APPENDIX G - SEWERAGE IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

SEWERAGE IMPACT ASSESSMENT

30 June 2022

Ref No: RT21466-SIA-02

Prepared By:

BeeXergy Consulting Limited (BXG)
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Address: Unit 2608-09, Apec Plaza
49 Hoi Yuen Road, Kwun Tong
Kowloon, Hong Kong
Email: info@beexergy.com

Project:	SECTION 16 PLANNING APPLICATION FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO SEWERAGE IMPACT ASSESSMENT
Report No.:	RT21466-SIA-02

Revision	Issue Date	Description	Author	Checker	Approver
01	16/05/2022	Issued for Comment	BL	YS	HM
02	30/06/2022	Issued for Comment	BL	YS	HM

Prepared by:

Bonnie Lam

Assistant Environmental Consultant

Checked by:

Sui Hang Yan

Technical Director

Approved by:

Henry Mak

Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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1.3 PROPOSED TRANSITIONAL HOUSING 5

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2.2 EXISTING AND PROPOSED SEWERAGE ARRANGEMENT 6

2.3 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS 7

2.4 ESTIMATION OF SEWAGE FLOW 9

3 CONCLUSION 9

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was appointed by the Society of Rehabilitation and Crime Prevention, Hong Kong to conduct a sewerage impact assessment for the Section 16 planning application under the Town Planning Ordinance (Cap 131) of the Comprehensive Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School).

1.2 PROJECT LOCATION

The site is located at Tai Po to the south of Ting Kok Road opposite to the Wong Yue Tan Village. The project site is a former school development with concrete paved ground at the north to west of Site while flat soil and greenery at east to south of the Site. There is an unused utility room at the south of the Site. **Figure 1** shows the project site location and its surrounding area.

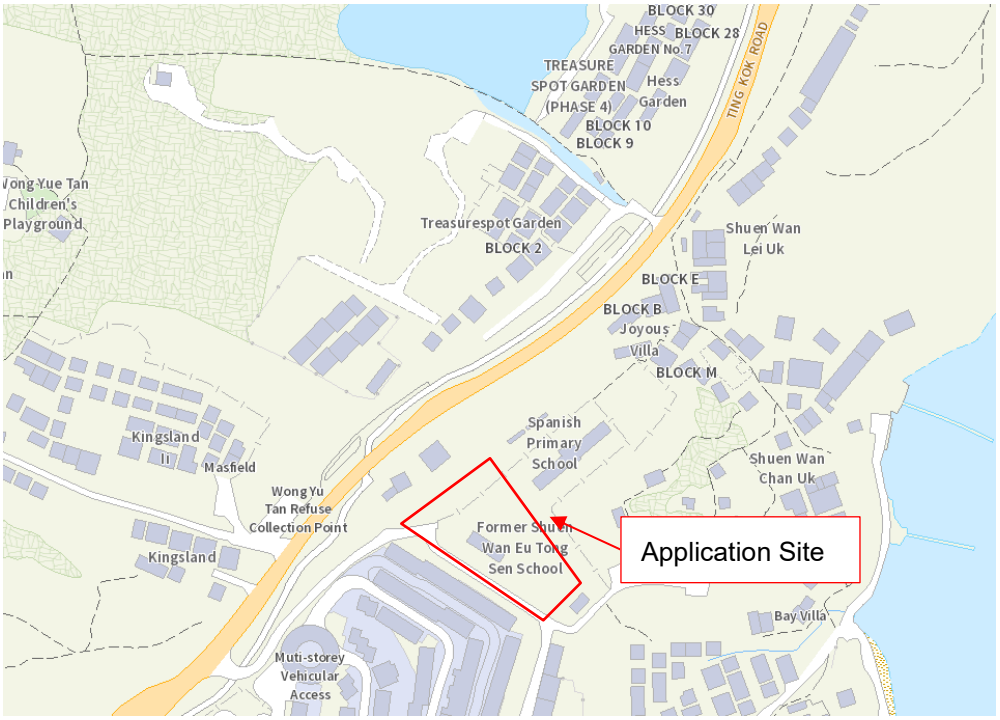


Figure 1 Site Location Plan of the Project Area

1.3 PROPOSED TRANSITIONAL HOUSING

The site is proposed for residential use and the master layout plan is provided in **Appendix A**. The site area, of approximately 4,310m^2, is expected to comprise of a 4-storey residential building, management office and shared space for residents. The proposed site is currently zoned as “Government, Institution or Community ("GIC") under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 (“the OZP”). The anticipated year of construction completion and occupation is in the first quarter of 2024.

2 SEWERAGE IMPACT ASSESSMENT

2.1 SCOPE OF WORKS

The objectives of this Sewerage Impact Assessment (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewage flow arising from the Proposed Development during its operation stage and to recommend appropriate mitigation measures to alleviate unacceptable sewerage impact, if any.

Existing drainage record plan from the Drainage Services Department (DSD) is obtained for this SIA and attached in **Appendix B**.

2.2 EXISTING AND PROPOSED SEWERAGE ARRANGEMENT

According to the drainage record plan provided from DSD, the nearest public sewerage system is located about 200m away from the site, where are the sewers connected from Sha Lan Sewerage Pumping Station (Sha Lan SPS) and a rising main along Ting Kok Road operated mainly by Ting Kok Road Sewage Pumping Stations No. 6 (TSRSPS No. 6).

The existing capacity of TKRSPS No.6 and Sha Lan SPS would be 6,330 m^3/day and 730 m^3/day respectively. The details are attached in **Appendix F**.

As advised by EPD, Ting Kok Road Trunk Sewerage System upgrading works (under DSD Contract No. DC/2018/02) are in progress and tentatively completed by late 2023 since the existing capacity of TKRSPS No.6 is nearly used up.

For the future sewerage system, the sewage generated from the Proposed Site is expected to be discharged to the nearest proposed sewerage terminal manhole (FTMH1) located to the south of the site via the proposed sewage pipeline consisting of a minimum size of 225mm diameter. All connecting manholes will be positioned along the access road and / or buried under the pavement to collect sewage discharged from the proposed development. The proposed sewerage works within the site boundary would be constructed, operated and maintained by the management agent of the future developer.

As advised by DSD, the last section of the sewer extended up to the southern boundary will be constructed in one of the current active DSD contracts (DC 2018/02), which is shown in **Appendix G**. Details of the sewer and manhole constructed by DSD for sewerage connection between the Proposed Site and proposed sewerage facilities are attached in **Appendix C**. The following assessment will be based on the scenario of the proposed drainage plan.

2.3 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS

In order to assess the acceptability of the sewerage impact arising from the operation of the Proposed Development, the sewage generation has been estimated based on the assumptions shown in ***Table 2.1***.

Table 2.1: Parameters for Estimating Wastewater Generation and Hydraulic Capacity

Parameter	Value	Justification
Population		
Number of Residents	608 persons	Information provided by the project applicant.
Number of Employees in Management Office & Multi-purpose Room	5 persons	Information provided by the project applicant.
Number of Employees in Convenience Store	2 persons	Information provided by the project applicant.
Unit Flow Factors		
Residents	0.19 m^3/day	'Public rental' based on EPD's GESF Table T-1.
Employees in Management Office & Multi-purpose Room	0.28 m^3/day	'Commercial Employee + J11 Community, Social & Personal Services' based on EPD's GESF Table T-2.
Employees in Convenience Store	0.28 m^3/day	'Commercial Employee + J4 Wholesale & Retail' based on EPD's GESF Table T-2.
Catchment Inflow Factor		
It is not applicable due to new catchments which is free from misconnections and pipe defects.		
Peaking Factor		
P	6(Sewers)	Peaking factor = 6 for contributing population <1,000 for sewer (excluding stormwater allowance) based on EPD's GESF Table T-5.

Roughness Values (k_s)		
Proposed New Pipes	0.6mm	The value of 'slimed clayware sewers in a normal condition' was adopted based on the Sewerage Manual (Part 1) Table 5

With reference to Sewerage Manual (Part 1) issued by the DSD in May 2013, the Colebrook-White Equation will be used to analyse the flow conditions. Equation (i) for circular pipes flowing full will be adopted to estimate the sewage flow for the proposed development. The Colebrook-White Equation is shown in ***Figure 2*** below.

(i) for circular pipes flowing full,

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

(ii) for partially full pipes or pipes with non-circular cross-sections,

$$V = -\sqrt{(32\,gRs)}\log\left(\frac{ks}{14.8R} + \frac{1.255\,v}{R\sqrt{(32\,gRs)}}\right)$$

where
V = mean velocity (m/s)
g = gravitational acceleration (m/s2)
R = hydraulic radius (m)
D = internal pipe diameter (m)
ks = hydraulic pipeline roughness (m)
v = kinematic viscosity of fluid (m2/s)
s = hydraulic gradient (energy loss per unit length due to friction)

Figure 2 Colebrook – White Equation

2.4 ESTIMATION OF SEWAGE FLOW

The estimated peak sewage flow generated from the Proposed Development was calculated to be 0.0082 m^3/sec for sewer. Detailed sewage generation calculations are provided in ***Appendix D***. The hydraulic capacity of the proposed 225mm dia. Sewer connected between proposed terminal manhole (FTMH-01) and FMH (by DSD) has been checked and shown in ***Table 3*** of ***Appendix D***. Peak flow from the proposed development contributes to 32% of the sewer capacity.

In order to assess the impact on the proposed sewerage system due to proposed development, the capacity of downstream sewers has been quantitively assessed and is shown in ***Table 1*** of ***Appendix E***. The percentage of the used capacity contributed by the proposed development and the vicinity catchments range from 2% to 34%.

The future required capacity of sewerage pumping stations due to proposed development has also been checked and presented in ***Table 2*** of ***Appendix E***. The percentage of the used capacity contributed by the proposed development is less than 90%.

Therefore, surcharged is not expected. Hence, no adverse impact on the proposed sewerage system is anticipated after the development.

Since there is no nearby existing public sewerage network serving the project site, sewage from the project site is proposed to be discharged to the nearest proposed sewerage terminal manhole FTMH1 of the site via a proposed 225mm sewer in the Site which will then be connected to the proposed sewers constructed by DSD under Contract (DC 2018/02) as shown in ***Appendix C***. Detailed alignment and design of the connecting sewer will be subject to the detailed design of the Project, which will ensure all sewage generated from the Site to be collected and conveyed to the existing sewerage facilities.

The Applicant shall be responsible for appointing a qualified engineer for the design of the connecting sewers, likely at the later design stage of Project. The project proponent shall also be responsible for the sewerage works arisen from the proposed development. Agreement and approval from relevant government departments, including DSD, shall be obtained in due course.

3 CONCLUSION

The potential sewerage impact due to the application site has been quantitatively addressed. Based on the estimated sewage flow for the Project Site presented in ***Appendix D***, the total peak sewage flow projected for the proposed development is about 0.00082 m^3/sec (for sewer).

Since the Ting Kok Road Trunk Sewerage System upgrading works (under DSD Contract No.

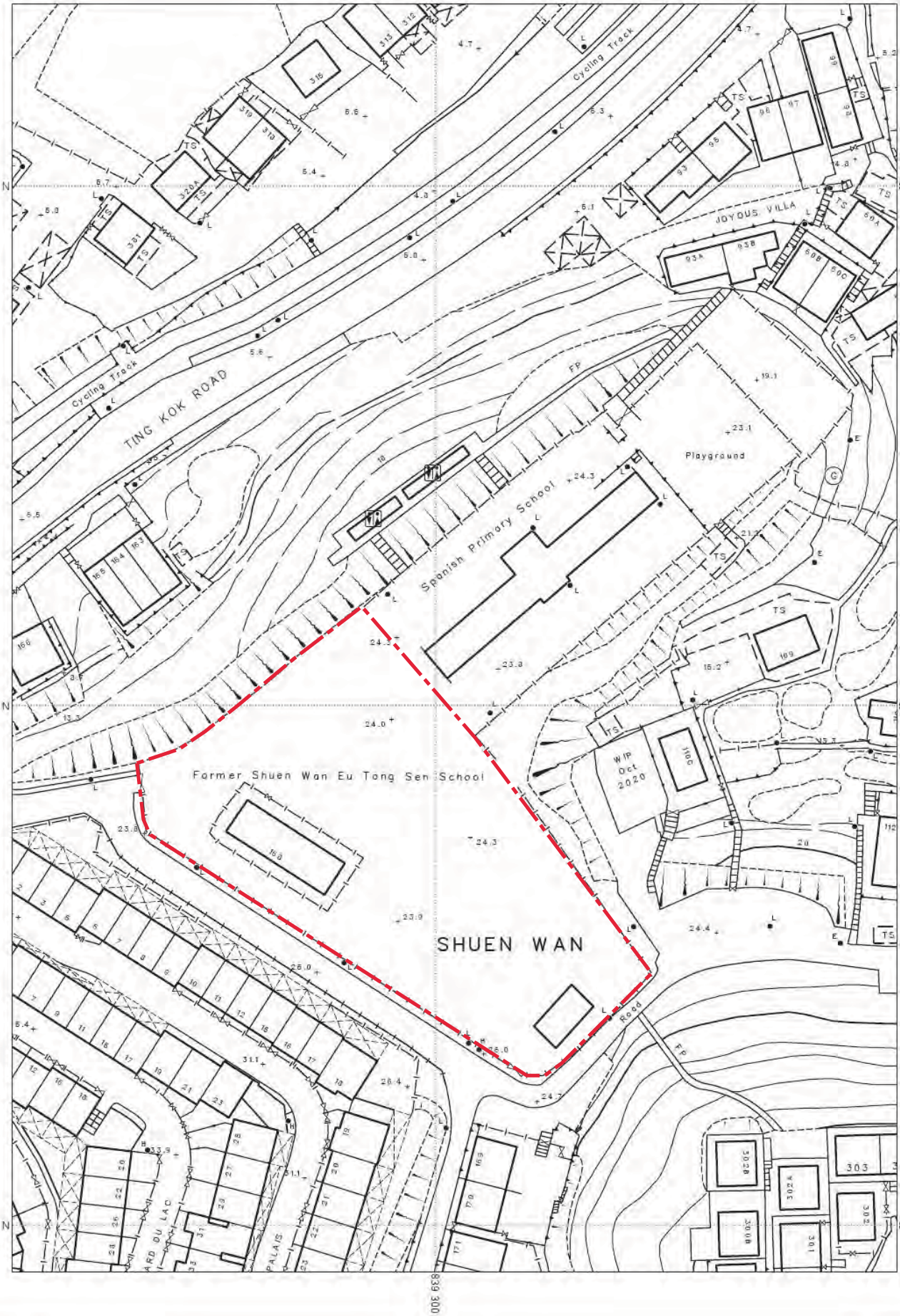
DC/2018/02) will be completed by 2023, no adverse sewerage impact arising from the Proposed Development will be anticipated with the occupation date after the upgrading works.

The estimated sewage generation calculations on the proposed sewerage system have indicated that the proposed sewer via the terminal manholes (FTMH01) in the Proposed Site and downstream sewers will have sufficient capacity to cater for effluent generated from the Proposed Site.

The resultant sewage flow including the Proposed Site will account for less than 90% of the flow capacity of the existing pumping sewerage stations (TKRSPSNo.6 & Sha Lan SPS). Hence, it is concluded that no sewerage impacts arising from the development is anticipated.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

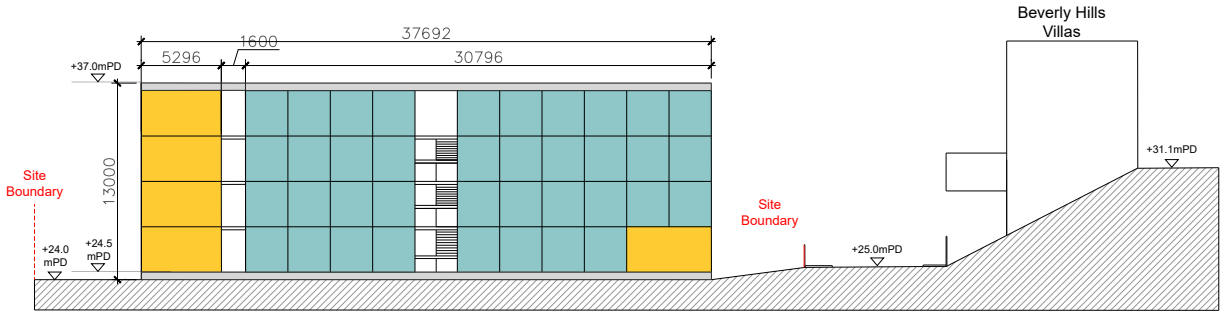
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN



TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Tan Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



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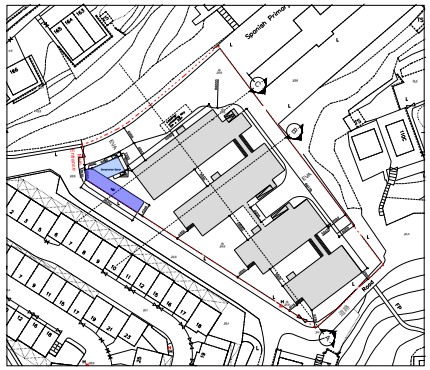
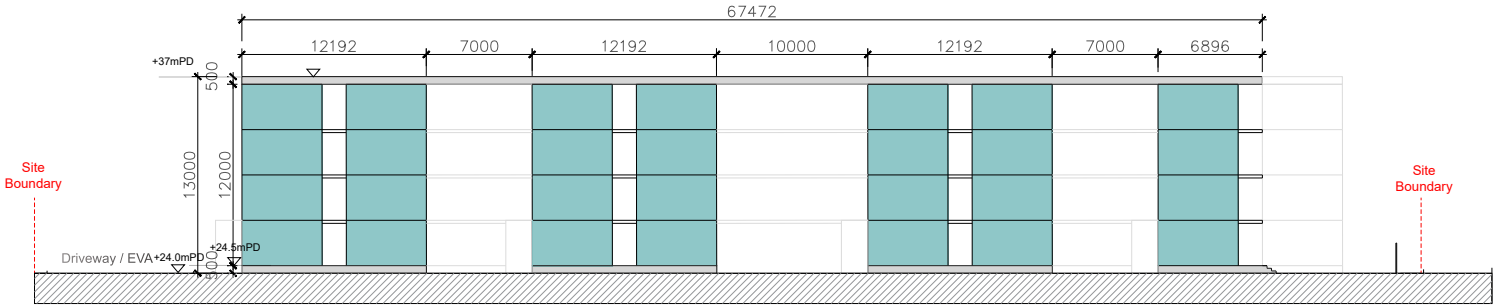


KEY PLAN 1:4000



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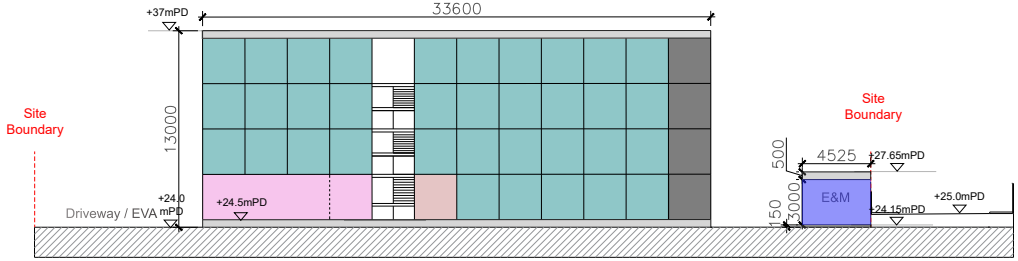
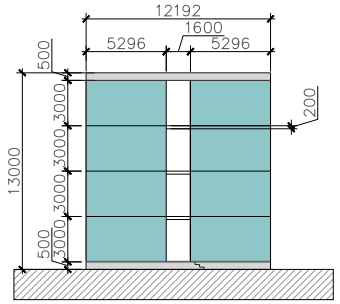


SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX B
EXISTING SEWERAGE LAYOUT RECORD FROM DRAINGE SERVICE DEPARTMENT

船灣海
PLOVER COVE
(SHUEN WAN HOI)

SHUEN WAN CHIM UK

CHIM UK ROAD

TING KOK ROAD

VILLA PALOMA

Flat Rock

江庫花園（第四期）

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

7-NE-2A-2

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

Mainland North Division
Drainage Services Department

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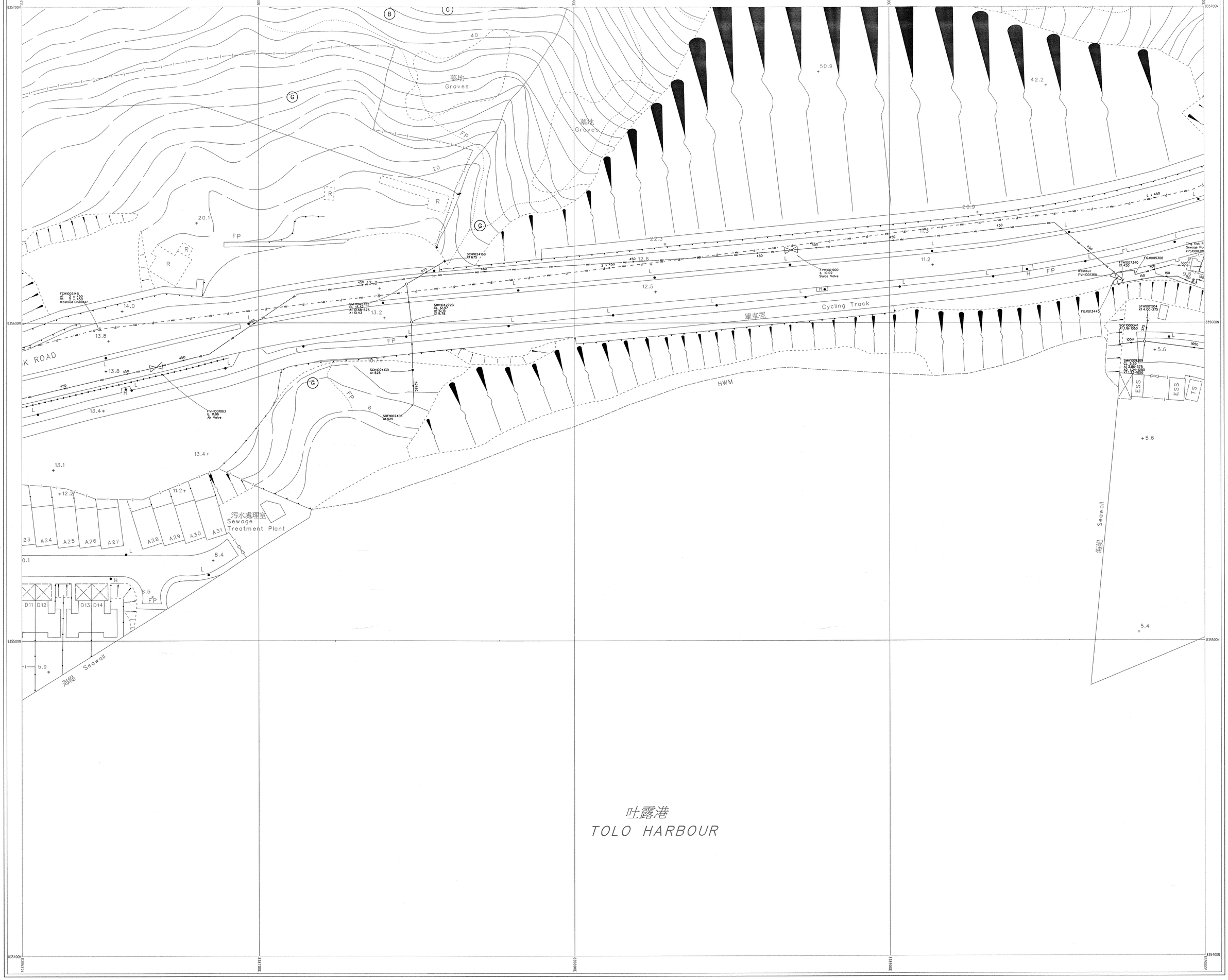
Drainage Record Sheet Number

3-SE-22C-4

Last Updating : 30/11/2021

Map data renewed on January 2021

- 6 APR 2022



7-NE-1B-3

7-NE-2A-3

7-NE-1D-2

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

Mainland North Division
Drainage Services Department

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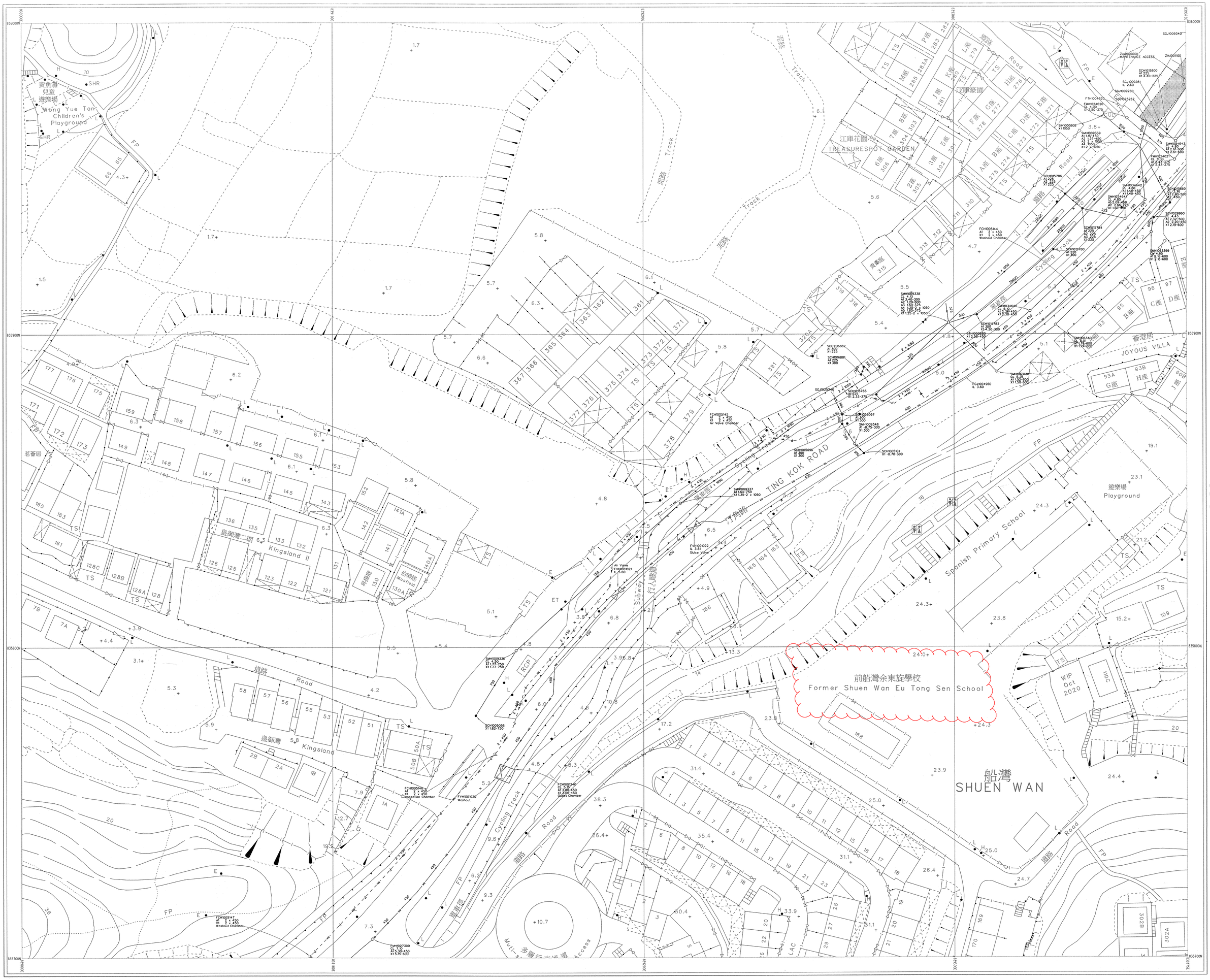
Drainage Record Sheet Number

7-NE-1B-4

Last Updating : 16-06-2021

Map data renewed on January 2021

- 6 APR 2022



7-NE-1B-2

7-NE-2A-2

7-NE-2A-3

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

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SCALE 1 : 500

Drainage Record Sheet Number

7-NE-2A-1

Last Updating : 16-06-2021

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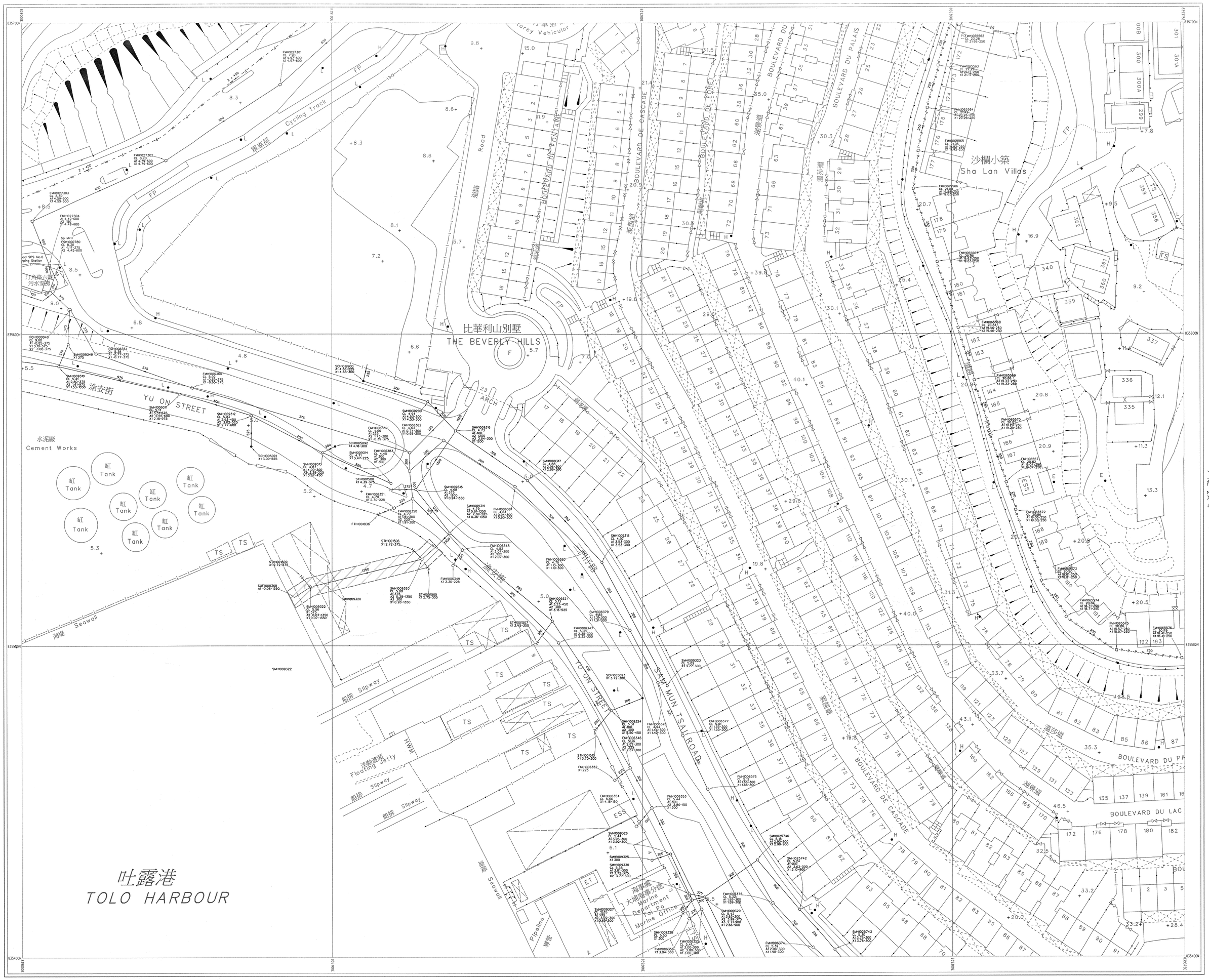

Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

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Drainage Services Department

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Drainage Record Sheet Number

7-NE-2A-3

Last Updating : 16-06-2021

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-6 APR 2022



Please note that drainage information is now available in the GeoInfo Map services of the Lands Department (https://www.map.gov.hk/gm/?lg=en). Please refer to the Quick Reference Guide of the system for the operation.

For legend of drainage record plans, please refer to the following URL: (https://www.dsd.gov.hk/EN/Files/Legend_BW.pdf)

Metres 20 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

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Drainage Services Department

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Drainage Record Sheet Number

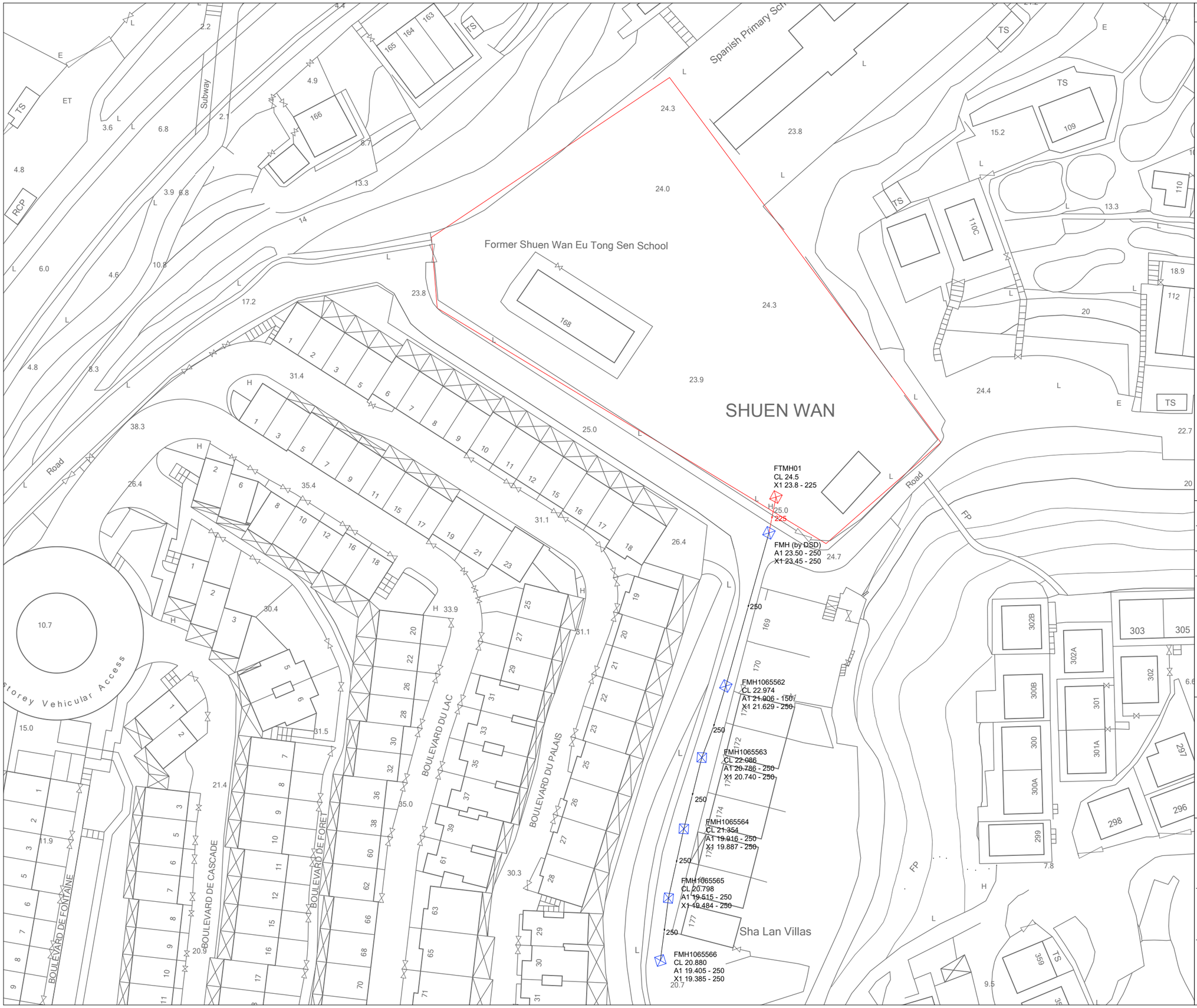
7-NE-2A-2

Last Updating : 16-06-2021

Map data renewed on January 2021

-6 APR 2022

APPENDIX C
PROPOSED SEWERAGE PLAN



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LEGEND:

- PROPOSED SITE
- PROPOSED TERMINAL MANHOLE (FTMH-01)
- PROPOSED FOUL MANHOLE (UNDER DSD CONTRACT NO. DC/2018/02)
- PROPOSED SEWERAGE SYSTEM (UNDER DSD CONTRACT NO. DC/2018/02)
- PROPOSED SEWER BY APPLICANT
- 250 PROPOSED PIPE DIAMTER (UNDER DSD CONTRACT NO. DC/2018/02)
- 225 PROPOSED PIPE DIAMTER BY APPLICANT

	Prepared	Checked	Approved
Initial	BL	CC	YS
Date	06/ 2022	06/ 2022	06/ 2022

Project Title

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

SEWERAGE IMPACT ASSESSMENT

DrawingTitle

INDICATIVE SEWERAGE PLAN

Drawing No.

SIA - 1001

Rev.

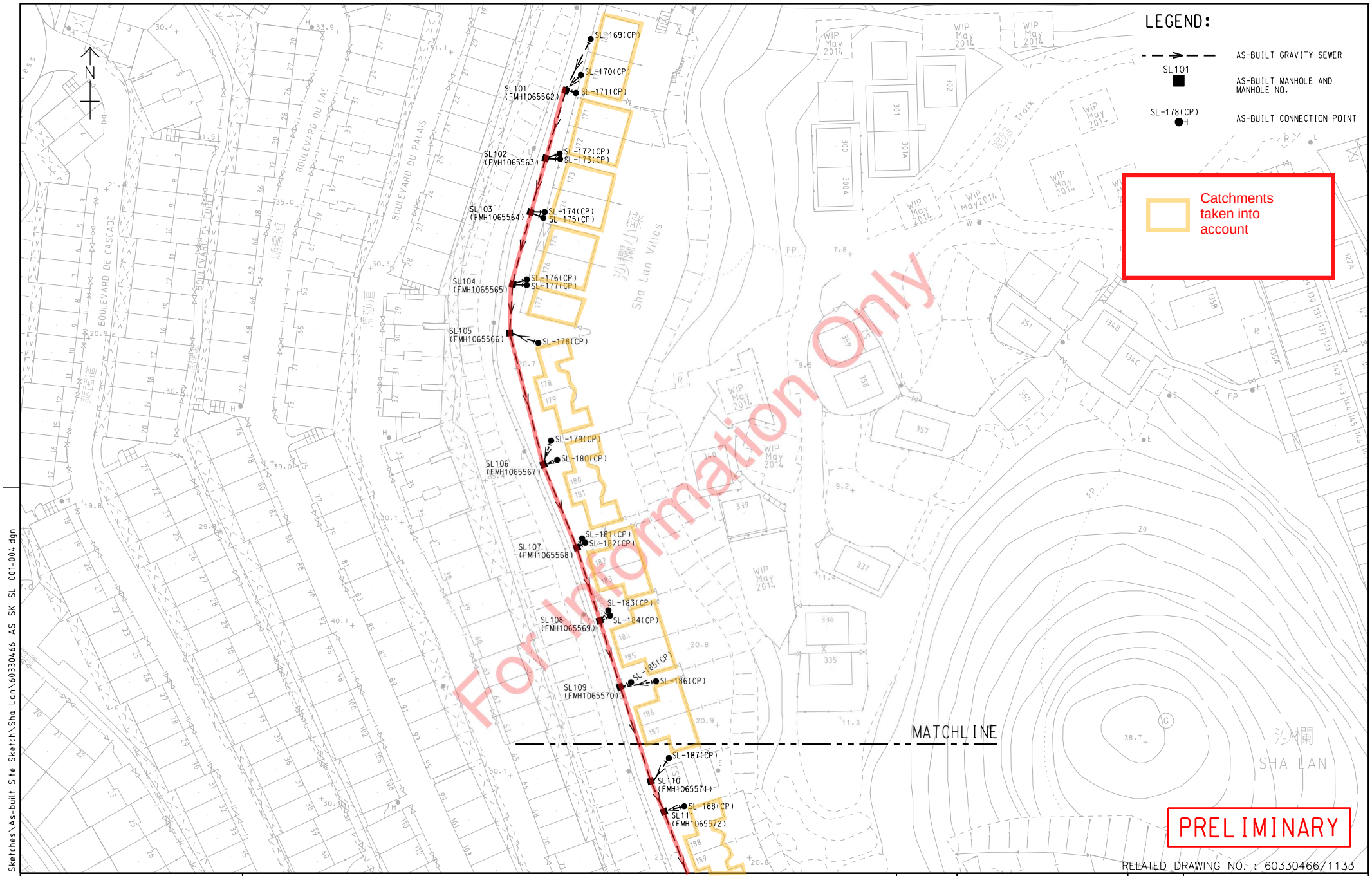
0

Scale:

A3 - 1:1000

BXG

BeeXergy Consulting Limited



RELATED DRAWING NO. : 60330466/1133

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 1 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/001
		REV	–

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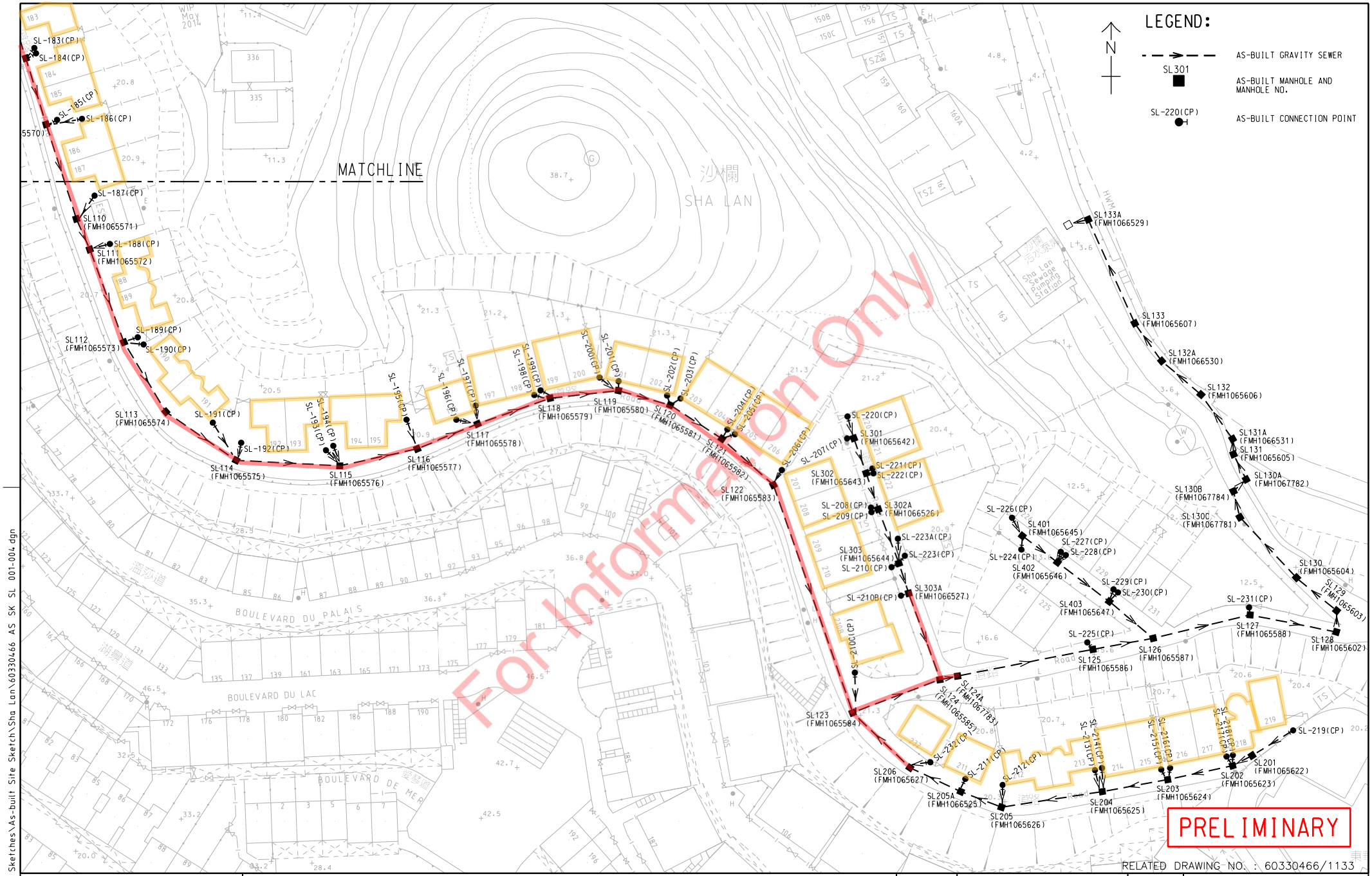

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AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 2 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/002
		REV	–

APPENDIX D

CALCULATION OF SEWAGE FLOW FOR THE PROPOSED DEVELOPMENT

Appendix D Calculation of Sewage Peak Flow

Table D-1 Calculation for Sewage Generation Rate of the Proposed Development

Development	GFA (m2)	Occupancy Density (person/m2)	Estimated Population	Unit Flow Factor (m3/day)	Estimated Average Dry Weather Flow (m3/day)	Cumulative Average Flow (m3/day) [1]	Contributing Population	Peaking Factor [2]	Estimated Peak Flow (L/sec)	Estimated Peak Flow (m3/sec)	Remarks
A) Residenatial (Domestic Use)											
Residential Unit	5910.9	-	608	0.19	115.52	115.52					UFF: 0.19 m3/day for 'Public rental' based on EPD's GESF Table T-1 Population: Information from project applicant Size of household is 248 units for 1-2 persons and 28 units for 3-4 persons
B) Commercial (Non-domestic Use)											
Employee in Management Office & Multipurpose Room	74.1	-	5	0.28	1.40	116.9					UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Population: Information from project applicant
Employee in Convenience Store	38.8	-	2	0.28	0.56	117.5	436	6 (Sewer)	8.16	0.0082	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J4 'Wholesale & Retail' based on EPD's GESF Table T-2 Population: Information from project applicant
								Total (Sewer)	**8.16**	**0.0082**	

Note:

[1] The cumulative average flow has considered the average dry weather flow from both residential and commercial developments for determining the contributing population.

[2] Peaking factor = 6 for contributing population <1,000 for sewer (excluding stormwater allowance) based on EPD's GESF Table T-5.

Remark: Catchment Inflow Factor is not applicable due to new catchments which is free from misconnections and pipe defects.

Table D-2 Calculation for Sewage Generation Rate of the surrounding buildings

1	**Sha Lan Villas 169-171**				**Remarks**
	Residential				
a	Total number of units	=	9	units	
b	Total number of residents	=	26	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	7.02	m^3/day…(=1b*1c)	

2	**Sha Lan Villas 172-173**				**Remarks**
	Residential				
a	Total number of units	=	5	units	
b	Total number of residents	=	14	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	3.78	m^3/day…(=2b*2c)	

3	**Sha Lan Villas 174-175**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=3b*3c)	

4	**Sha Lan Villas 176-177**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=4b*4c)	

5	**Sha Lan Villas 178**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=5b*5c)	

6	**Sha Lan Villas 179-180**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=6b*6c)	

7	**Sha Lan Villas 181-182**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=7b*7c)	

8	**Sha Lan Villas 183-184**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=8b*8c)	

9	**Sha Lan Villas 185-186**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=9b*9c)	

10	**Sha Lan Villas 187**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=10b*10c)	

11	**Sha Lan Villas 188**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=11b*11c)	

12	**Sha Lan Villas 189-190**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=12b*12c)	

13	**Sha Lan Villas 191-192**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=13b*13c)	

14	**Sha Lan Villas 193-194**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=14b*14c)	

15	**Sha Lan Villas 195**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=15b*15c)	

16	**Sha Lan Villas 196-197**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=16b*16c)	

17	**Sha Lan Villas 198-199**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=17b*17c)	

18	**Sha Lan Villas 200-201**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=18b*18c)	

19	**Sha Lan Villas 202-203**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=19b*19c)	

20	**Sha Lan Villas 204-205**				**Remarks**
	Residential				
a	Total number of units	=	6	units	
b	Total number of residents	=	17	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	4.59	m^3/day…(=20b*20c)	

21	**Sha Lan Villas 206**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=21b*21c)	

22	**Sha Lan Villas 210c**				**Remarks**
	Residential				
a	Total number of units	=	3	units	
b	Total number of residents	=	9	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	2.43	m^3/day…(=22b*22c)	

22	**Sha Lan Villas 207-210, 210B, 220-223**				**Remarks**
	Residential				
a	Total number of units	=	27	units	
b	Total number of residents	=	76	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	20.52	m^3/day…(=23b*23c)	

24	**Sha Lan Villas 211-219, 232**				**Remarks**
	Residential				
a	Total number of units	=	30	units	
b	Total number of residents	=	84	people (i.e. 2.8 persons per units)	
c	Design flow	=	0.27	m^3/person/day -- refer to Private R2 in Table T-1 of GESF	
d	Sewage generation rate	=	22.68	m^3/day…(=24b*24c)	

Table D-3 Hydraulic Capacity Check of Proposed Sewers at Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po

Manhole Reference	Pipe Dia.	Pipe Length	US IL	DS IL	g	k_s	s	v	R	V	Area	Estimated Capacity	Estimated Flow, Q_{PEAK} (m^3/s)	Contribution to the pipe capacity (%)	Status (OK/Spill)
	mm	m	mPD	mPD	m/s^2	m		m^2/s	m	m/s	m^2	m^3/s			
Proposed Sewer TM FTMH-01	225	7.1	23.8	23.5	9.81	0.00060	0.042	0.000001	0.056	2.69	0.04	0.11	0.0082	8%	OK
FMH (by DSD)	250	35.0	23.50	23.45	9.81	0.00060	0.001	0.000001	0.063	0.52	0.05	0.03	0.0082	32%	OK

Remarks: (1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity; R=hydraulic radius

(2) The value of k_s = 0.6 mm is used for slimed polyethylene sewer in normal condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(4) Equation used:

$$V = -\sqrt{(32gRs)}\log\left(\frac{ks}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}}\right)$$

APPENDIX E

ASSESSMENT OF PROPOSED SEWERS

Appendix E Assessment of Proposed Sewers

Table E-1 Hydraulic Capacity Check of Proposed Sewers With the Proposed Transitional Housing Development at Government Land At Shuen Wan, Off Ting Kok Road, Tai Po

Manhole Reference	Pipe Dia.	Pipe Length	US IL	DS IL	g	k_s	s	v	R	V	Area	Estimated Capacity	Estimated Flow, Q_{PEAK} (m^3/s)	Contribution to the pipe capacity (%)	Status (OK/Spill)
	mm	m	mPD	mPD	m/s^2	m		m^2/s	m	m/s	m^2	m^3/s			
FMH1065562 to FMH1065563	250	14.7	21.63	20.786	9.81	0.00060	0.058	0.000001	0.063	3.37	0.05	0.17	0.0086	5%	OK
FMH1065563 to FMH1065564	250	11.2	20.7	19.916	9.81	0.00060	0.073	0.000001	0.063	3.81	0.05	0.19	0.0089	5%	OK
FMH1065564 to FMH1065565	250	15.3	19.89	19.515	9.81	0.00060	0.024	0.000001	0.063	2.19	0.05	0.11	0.0092	9%	OK
FMH1065565 to FMH1065566	250	9.8	19.5	19.405	9.81	0.00060	0.008	0.000001	0.063	1.25	0.05	0.06	0.0095	16%	OK
FMH1065566 to FMH1065567	250	28.7	19.39	19.31	9.81	0.00060	0.003	0.000001	0.063	0.71	0.05	0.03	0.0097	28%	OK
FMH1065567 to FMH1065568	250	18.6	19.3	19.248	9.81	0.00060	0.003	0.000001	0.063	0.73	0.05	0.04	0.0100	28%	OK
FMH1065568 to FMH1065569	250	15.6	19.24	19.172	9.81	0.00060	0.004	0.000001	0.063	0.89	0.05	0.04	0.0102	23%	OK
FMH1065569 to FMH1065570	250	13.8	19.2	19.123	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0105	27%	OK
FMH1065570 to FMH1065571	250	20.3	19.12	19.051	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0108	27%	OK
FMH1065571 to FMH1065572	250	5.9	19.0	19.03	9.81	0.00060	0.003	0.000001	0.063	0.76	0.05	0.04	0.0110	29%	OK
FMH1065572 to FMH1065573	250	20.2	19.03	18.925	9.81	0.00060	0.005	0.000001	0.063	0.99	0.05	0.05	0.0112	23%	OK
FMH1065573 to FMH1065574	250	16.4	18.9	18.82	9.81	0.00060	0.005	0.000001	0.063	0.99	0.05	0.05	0.0115	24%	OK
FMH1065574 to FMH1065575	250	17.3	18.82	18.759	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0115	29%	OK
FMH1065575 to FMH1065576	250	21.3	18.7	18.641	9.81	0.00060	0.005	0.000001	0.063	0.98	0.05	0.05	0.0118	25%	OK
FMH1065576 to FMH1065577	250	16.1	18.63	18.563	9.81	0.00060	0.004	0.000001	0.063	0.91	0.05	0.04	0.0121	27%	OK
FMH1065577 to FMH1065578	250	13.0	18.6	18.483	9.81	0.00060	0.005	0.000001	0.063	1.01	0.05	0.05	0.0123	25%	OK
FMH1065578 to FMH1065579	250	15.4	18.48	18.431	9.81	0.00060	0.003	0.000001	0.063	0.80	0.05	0.04	0.0126	32%	OK
FMH1065579 to FMH1065580	250	13.6	18.4	18.25	9.81	0.00060	0.013	0.000001	0.063	1.61	0.05	0.08	0.0129	16%	OK
FMH1065580 to FMH1065581	250	10.3	18.24	18.185	9.81	0.00060	0.005	0.000001	0.063	1.01	0.05	0.05	0.0133	27%	OK
FMH1065581 to FMH1065582	250	12.8	18.2	18.141	9.81	0.00060	0.003	0.000001	0.063	0.81	0.05	0.04	0.0136	34%	OK
FMH1065582 to FMH1065583	250	13.8	18.13	18.071	9.81	0.00060	0.004	0.000001	0.063	0.88	0.05	0.04	0.0139	32%	OK
FMH1065583 to FMH1065584	250	51.2	18.0	17.785	9.81	0.00060	0.005	0.000001	0.063	1.00	0.05	0.05	0.0141	29%	OK
FMH1065584 to FMH1065585	250	19.2	17.78	17.502	9.81	0.00060	0.014	0.000001	0.063	1.68	0.05	0.08	0.0158	19%	OK
FMH1065585 to FMH1067783	280	2.7	17.5	14.438	9.81	0.00060	1.150	0.000001	0.070	16.26	0.06	1.00	0.0172	2%	OK

Remarks:

(1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity; R=hydraulic radius

(2) The value of k_s = 0.6 mm is used for slimed polyethylene sewer in normal condition (based on Table 5: Recommended roughness values in Sewerage Manual)

(3) The value of velocity (V) is referred to the Tables for the hydraulic design of pipes, sewers and channels (8th edition)

(4) Equation used:

$$V = -\sqrt{(32gRs)}\log\left(\frac{ks}{14.8R} + \frac{1.255v}{R\sqrt{(32gRs)}}\right)$$

Table 1 Breakdown Table 1 Breakdown of concerned sewers

Manhole Reference	Subcatchment	Approx. Population	Sewage generation rate (m3/day)	Cumulative Average flow (m3/day)	Contributing Population [1]	Peak Factor [2]	Q_{PEAK} (m3/day)	Total Q_{PEAK} (m3/s)
FMH1065562	Sha Lan Villas 169-171	26	7.02	124.50	462	6	747.0	0.0086
	Proposed Development	619	117.48					
FMH1065563	Sha Lan Villas 172-173	14	3.78	128.28	476	6	769.7	0.0089
FMH1065564	Sha Lan Villas 174-175	17	4.59	132.87	493	6	797.2	0.0092
FMH1065565	Sha Lan Villas 176-177	17	4.59	137.46	510	6	824.8	0.0095
FMH1065566	Sha Lan Villas 178	9	2.43	139.89	519	6	839.3	0.0097
FMH1065567	Sha Lan Villas 179-180	17	4.59	144.48	536	6	866.9	0.0100
FMH1065568	Sha Lan Villas 181-182	9	2.43	146.91	545	6	881.5	0.0102
FMH1065569	Sha Lan Villas 183-184	17	4.59	151.50	562	6	909.0	0.0105
FMH1065570	Sha Lan Villas 185-186	17	4.59	156.09	579	6	936.5	0.0108
FMH1065571	Sha Lan Villas 187	9	2.43	158.52	588	6	951.1	0.0110
FMH1065572	Sha Lan Villas 188	9	2.43	160.95	597	6	965.7	0.0112
FMH1065573	Sha Lan Villas 189-190	17	4.59	165.54	614	6	993.2	0.0115
FMH1065574	Including all above catchments	-	-	165.54	614	6	993.2	0.0115
FMH1065575	Sha Lan Villas 191-192	17	4.59	170.13	631	6	1020.8	0.0118
FMH1065576	Sha Lan Villas 193-194	17	4.59	174.72	648	6	1048.3	0.012
FMH1065577	Sha Lan Villas 195	9	2.43	177.15	657	6	1062.9	0.012
FMH1065578	Sha Lan Villas 196-197	17	4.59	181.74	674	6	1090.4	0.0126
FMH1065579	Sha Lan Villas 198-199	17	4.59	186.33	691	6	1118.0	0.0129
FMH1065580	Sha Lan Villas 200-201	17	4.59	190.92	708	6	1145.5	0.0133
FMH1065581	Sha Lan Villas 202-203	17	4.59	195.51	725	6	1173.1	0.014
FMH1065582	Sha Lan Villas 204-205	17	4.59	200.10	742	6	1200.6	0.014
FMH1065583	Sha Lan Villas 206	9	2.43	202.53	751	6	1215.2	0.0141
FMH1065584	Including all above catchments	-	-	227.64	844	6	1365.8	0.0158
	Sha Lan Villas 210c	9	2.43					
	Sha Lan Villas 211-219, 232	84	22.68					
FMH1065585	Including all above catchments	-	-	248.16	920	6	1488.96	0.0172
	Sha Lan Villas 207-210, 210B, 220-223	76	20.52					

Remarks:

[1] Refer to Section 12 of GESFfor calculation of contributing population, average UFF of 0.27

[2] Refer to Table-5 of GESF for population excluding stormwater allowance.

Table E2 - Existing and Future Required Capacity of Sewerage Pumping Station

Existing				
Capacity of TKRSPSNo.6	=	6330	m3/day	From EPD
Average daily flow of TKRSPSNo.6 in 2020	=	5503	m3/day	From EPD
Capacity of Sha Lan SPS	=	730	m3/day	From EPD
Average daily flow of Sha Lan SPS in 2020	=	269	m3/day	From EPD
Future				
Average daily flow of Subject Site	=	117.48	m3/day	From App D
Total daily flow of TKRSPSNo.6	=	5620.48	m3/day	<6330 m3/day
Contribution to the capacity of TKRSPSNo.6 (%)	=	**89%**		
Total daily flow of Sha Lan SPS	=	386.48	m3/day	<730 m3/day
Contribution to the capacity of Sha Lan SPS (%)	=	**53%**		

APPENDIX F

INFORMATION OF TING KOK ROAD SEWAGE PUMPING STATION NO.6 AND SHA LAN PUMPING STATION FROM EPD

BXG

Bonnie Lam <bonnie.lam@beexergy.com>

Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

rebeccaystsui@epd.gov.hk <rebeccaystsui@epd.gov.hk> 3 May 2022 at 15:19
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, rickyliu@epd.gov.hk

Dear Bonnie,

The design capacity for Ting Kok Road Sewage Pumping Station No.6 (TKRSPSNo.6) and San Lan Sewerage Pumping Station (Sha Lan SPS) is 6,330 m3/day and 730 m3/day respectively. For information, the average daily flow in 2020 for TKRSPSNo. 6 and Sha Lan SPS is 5,503 m3/day and 269 m3/day respectively. If you wish to obtain the latest flow for the two SPSs, please liaise with DSD.

Please note that the design capacity of TKRSPSNo.6 will remain unchanged after the Ting Kok Road Trunk Sewerage System upgrading work (Contract No. DC/2018/02) which is scheduled for completion in late 2023/ early 2024. Nevertheless, the remaining capacity of TKR No.6 SPS would be further released due to the sewage diversion after upgrading work.

On the other hand, would you please advise how to come up with the flow rate of 125.28 m3/day for the 280 units?

-

Thank you.

Regards,
Rebecca TSUI
E(SI)61
SIG/EPD
Tel: 3107 8248/ 6236 7197

From: Bonnie Lam <bonnie.lam@beexergy.com>
To: rebeccaystsui@epd.gov.hk
Cc: Ka Ming WAI <kmwai@beexergy.com>, Henry Mak <henry.mak@beexergy.com>
Date: 27/04/2022 16:22
Subject: Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Dear Ms Tsui,

We are the appointed environmental consultant responsible for the Sewage Impact Assessment for the Section 16 planning application under the Town Planning Ordinance (Cap 131) of the captioned project. The project is tentatively having 280 units, with a sewage generation rate of 125.28m3/day and peak flow of 8.7L/s. Please find the attached plan for the location of the Proposed Site.

As we are currently studying the feasibility to connect with existing sewers, we are writing to seek EPD's advice. As informed by DSD, there are upgrading works currently ongoing for Ting Kok Road, grateful if you could provide the existing and future capacity for San Lan Pumping Station and Ting Kok Road Sewage Pumping Station No.6 and if any surplus capacity for our assessment.

Should there be any queries, please do not hesitate to contact the undersigned or our K.M. Wai at 35684703. Thank you.

Best regards,

Bonnie Lam

BeeXergy Consulting Limited | *Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong*

M: 6800-3056| **O**: 3709-9221 | **F**: 3568-4704 | **E**: bonnie.lam@beexergy.com | **W**: www.beexergy.com

:: BEAM Pro/Faculty (NB,ND,BI,EB), LEED AP (BD+C,O+M,ID+C), WELL AP/Faculty, GBL Manager, Envision AP, CEEQUAL Assessor
:: RPE, REA, CAP, CEM, BEMP, CMVP, Energy Analyst, BMS & Control Expert, MIOA
:: IAQ, Acoustic, Micro-climate, Building Physics & Environmental Scientist
:: Wind Tunnel & Low-level Wind Specialist, AVA and CFD Expert, Fire Engineering Professional

ISO 50001 | ISO 9001 | IAQwi$e | Energywi$e | Wastewi$e | Hong Kong Green Organization | BEAM Plus Interiors Platinum Award HKAEE Outstanding Green Leader Award 2018, Outstanding Green Leadership Award 2017 | Green Council Green Management Award (Bronze) 2017
HKAEE Gold Award 2018, Silver Award + 2017 - 2015, Bronze Award 2014 | HKMA Sustainability Award 2017 (Certificate of Excellence)
HSBC Living Business Green Achievement Award 2015 & 2016 & 2017 (Certificate of Excellence)[attachment "Site Plan_TP.pdf" deleted by Rebecca YS TSUI/EPD/HKSARG]

APPENDIX G
INFORMATION OF UPGRADING WORKS UNDER CONTRACT NO. DC/2018/02 FROM DSD

BXG

Bonnie Lam <bonnie.lam@beexergy.com>

Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

ckyip@dsd.gov.hk <ckyip@dsd.gov.hk> 10 May 2022 at 18:16
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>

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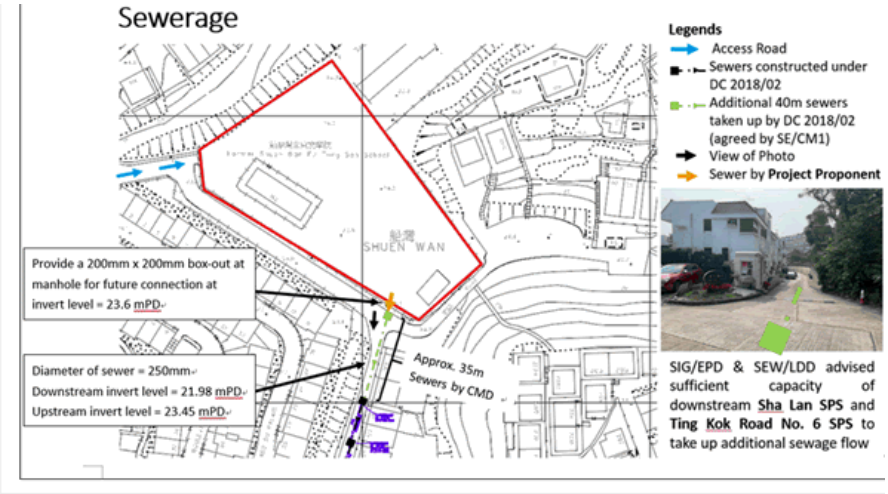
==========

Dear Bonnie,

Attached please find the drainage records for the sewerage for sewerage connection to the proposed transitional housing. The red solid line as well as the pale purple dash line with "P" are the sewers.

The last section of the sewer extended up to the boundary of the proposed site will be constructed in one of the current active DSD contract. Details of the last section of the sewer and the manhole to be constructed for sewerage connection are shown below.



The sewage will be delivered via Sha Lan SPS and Ting Kok Road No. 6 SPS.

Thank.

Regards
Michael C K Yip
Engineer/Tai Po 4
Mainland North Division
Drainage Services Department
2300 1258/ 6056 5685

Zero "0" 意外 ACCIDENT
地盤零意外 關懷建未來
Zero Accident, we Build, we Care

From: Bonnie Lam <bonnie.lam@beexergy.com>
To: ckyip@dsd.gov.hk
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>
Date: 27/04/2022 16:26
Subject: [Internet] Re: [Internet] Fwd: Proposed Sewerage and Drainage Works for Transitional Housing at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)
Serial No.:

Bonnie Lam <bonnie.lam@beexergy.com>

[Internet] Fw: [Internet] RE: [Internet] A proposed transitional housing at Shuen Wan Eu Tong Sen School

ckyip@dsd.gov.hk <ckyip@dsd.gov.hk>
To: Bonnie Lam <bonnie.lam@beexergy.com>
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>

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Dear Bonnie,

The invert level of concerned pipe is 23.50 mPD is also acceptable.

Regards
Michael C K Yip
Engineer/Tai Po 4
Mainland North Division
Drainage Services Department
2300 1258/ 6056 5685



From: Bonnie Lam <bonnie.lam@beexergy.com>
To: ckyip@dsd.gov.hk
Cc: Henry Mak <henry.mak@beexergy.com>, Ka Ming WAI <kmwai@beexergy.com>, Theo Lai <theo.lai@beexergy.com>
Date: 27/06/2022 17:47
Subject: [Internet] Re: [Internet] Fw: [Internet] RE: [Internet] A proposed transitional housing at Shuen Wan Eu Tong Sen School
Serial No.:

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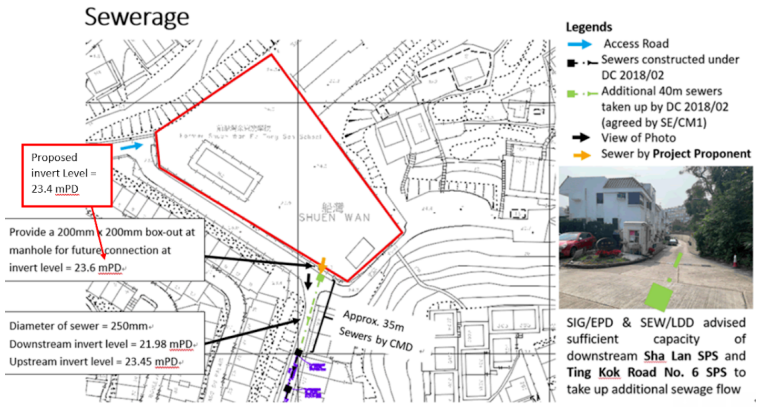
Dear Michael,

As discussed, could we propose the invert level of the 200mm x 200mm manhole as the following for ensuring the smooth flow of sewage from the pr
Kindly let us know if you have any questions? Thank you.



Best regards,

Bonnie Lam
BeeXergy Consulting Limited | *Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong*
M: 6800-3056| **O**: 3568-4703 | **F**: 3568-4704 | **E**: bonnie.lam@beexergy.com | **W**: www.beexergy.com

:: BEAM Pro/Faculty (NB,ND,BI,EB), LEED AP (BD+C,O+M,ID+C), WELL AP/Faculty, GBL Manager, Envision AP, CEEQUAL Assessor
:: RPE, REA, CAP, CEM, BEMP, CMVP, Energy Analyst, BMS & Control Expert, MIOA
:: IAQ, Acoustic, Micro-climate, Building Physics & Environmental Scientist
:: Wind Tunnel & Low-level Wind Specialist, AVA and CFD Expert, Fire Engineering Professional

ISO 50001 | ISO 9001 | IAQwi$e | Energywi$e | Wastewi$e | Hong Kong Green Organization | BEAM Plus Interiors Platinum Award
HKAEE Outstanding Green Leader Award 2018, Outstanding Green Leadership Award 2017 | Green Council Green Management Award (Bronze) 2017
HKAEE Gold Award 2018, Silver Award + 2017 - 2015, Bronze Award 2014 | HKMA Sustainability Award 2017 (Certificate of Excellence)
HSBC Living Business Green Achievement Award 2015 & 2016 & 2017 (Certificate of Excellence)

On Fri, 13 May 2022 at 15:03, Bonnie Lam <bonnie.lam@beexergy.com> wrote:

PRELIMINARY

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS REFER TO P.D.H.K. AND ARE IN METRES.

MANHOLE SCHEDULE

PIPE LABEL	MANHOLE U/S	MANHOLE D/S	U/S MANHOLE TYPE	PIPE DIAMETER (mm)	PIPE LENGTH (m)	U/S GL (mPD)	INVERT LEVEL (mPD) U/S	INVERT LEVEL (mPD) D/S	PIPE GRADIENT (1 IN)	PIPE MATERIAL	BEDDING TYPE	REMARKS
SP1.169	SL-169(CP)	SL101 (FMH1065562)	-	150	12.196	23.800	22.345	21.906	28	uPVC	CS1	
SP1.170	SL-170(CP)	SL101 (FMH1065562)	-	150	4.440	23.210	22.154	21.904	18	uPVC	CS1	
SP1.171	SL-171(CP)	SL101 (FMH1065562)	-	150	1.969	22.940	21.709	21.696	152	uPVC	CS1	
SL1.01	SL101 (FMH1065562)	SL102 (FMH1065563)	D1	NS250	14.660	22.974	21.629	20.786	17	PE	B	
SP1.172	SL-172(CP)	SL102 (FMH1065563)	-	150	2.845	22.170	21.048	20.959	32	uPVC	CS1	
SP1.173	SL-173(CP)	SL102 (FMH1065563)	-	150	2.839	22.120	21.041	20.961	36	uPVC	CS1	
SL1.02	SL102 (FMH1065563)	SL103 (FMH1065564)	D1	NS250	11.248	22.086	20.740	19.916	14	PE	B	
SP1.174	SL-174(CP)	SL103 (FMH1065564)	-	150	2.790	21.390	19.917	19.899	155	uPVC	CS1	
SP1.175	SL-175(CP)	SL103 (FMH1065564)	-	150	2.799	21.340	19.937	19.914	122	uPVC	CS1	
SL1.03	SL103 (FMH1065564)	SL104 (FMH1065565)	D1	NS250	15.356	21.354	19.887	19.515	41	PE	B	
SP1.176	SL-176(CP)	SL104 (FMH1065565)	-	150	2.950	20.810	19.753	19.703	59	uPVC	CS1	
SP1.177	SL-177(CP)	SL104 (FMH1065565)	-	150	2.854	20.810	19.766	19.731	82	uPVC	CS1	
SL1.04	SL104 (FMH1065565)	SL105 (FMH1065566)	D1	NS250	9.845	20.798	19.484	19.405	125	PE	B	
SP1.178	SL-178(CP)	SL105 (FMH1065566)	-	150	6.164	20.780	19.692	19.545	42	uPVC	CS1	
SL1.05	SL105 (FMH1065566)	SL106 (FMH1065567)	D1	NS250	28.730	20.880	19.385	19.310	383	PE	B	
SP1.179	SL-179(CP)	SL106 (FMH1065567)	-	150	5.171	20.800	19.719	19.587	39	uPVC	CS1	
SP1.180	SL-180(CP)	SL106 (FMH1065567)	-	150	2.698	20.800	19.668	19.595	37	uPVC	CS1	
SL1.06	SL106 (FMH1065567)	SL107 (FMH1065568)	D1	NS250	18.622	20.770	19.300	19.248	358	PE	B	
SP1.181	SL-181(CP)	SL107 (FMH1065568)	-	150	1.748	20.800	19.641	19.592	36	uPVC	CS1	
SP1.182	SL-182(CP)	SL107 (FMH1065568)	-	150	1.675	20.800	19.678	19.603	22	uPVC	CS1	
SL1.07	SL107 (FMH1065568)	SL108 (FMH1065569)	D1	NS250	15.567	20.732	19.236	19.172	243	PE	B	
SP1.183	SL-183(CP)	SL108 (FMH1065569)	-	150	2.391	20.750	19.592	19.523	35	uPVC	CS1	
SP1.184	SL-184(CP)	SL108 (FMH1065569)	-	150	2.014	20.800	19.618	19.493	16	uPVC	CS1	
SL1.08	SL108 (FMH1065569)	SL109 (FMH1065570)	E1	NS250	13.750	20.748	19.168	19.123	306	PE	B	
SP1.185	SL-185(CP)	SL109 (FMH1065570)	-	150	2.129	20.800	19.666	19.541	17	uPVC	CS1	
SP1.186	SL-186(CP)	SL109 (FMH1065570)	-	150	7.372	20.800	19.674	19.438	31	uPVC	CS1	
SL1.09	SL109 (FMH1065570)	SL110 (FMH1065571)	E1	NS250	20.290	20.753	19.119	19.051	298	PE	B	
SP1.187	SL-187(CP)	SL110 (FMH1065571)	-	150	6.571	20.800	19.676	19.401	24	uPVC	CS1	
SL1.10	SL110 (FMH1065571)	SL111 (FMH1065572)	E1	NS250	5.939	20.771	19.048	19.030	330	PE	B	
SP1.188	SL-188(CP)	SL111 (FMH1065572)	-	150	4.034	20.710	19.577	19.416	25	uPVC	CS1	
SL1.11	SL111 (FMH1065572)	SL112 (FMH1065573)	E1	NS250	20.243	20.766	19.028	18.925	196	PE	B	
SP1.189	SL-189(CP)	SL112 (FMH1065573)	-	150	2.716	20.770	19.640	19.402	11	uPVC	CS1	
SP1.190	SL-190(CP)	SL112 (FMH1065573)	-	150	3.683	20.720	19.594	19.413	20	uPVC	CS1	
SL1.12	SL112 (FMH1065573)	SL113 (FMH1065574)	E1	NS250	16.396	20.766	18.902	18.820	200	PE	B	
SL1.13	SL113 (FMH1065574)	SL114 (FMH1065575)	E1	NS250	17.303	20.773	18.816	18.759	304	PE	B	
SP1.191	SL-191(CP)	SL114 (FMH1065575)	-	150	9.045	20.710	19.578	19.299	32	uPVC	CS1	
SP1.192	SL-192(CP)	SL114 (FMH1065575)	-	150	3.466	20.760	19.615	19.302	11	uPVC	CS1	
SL1.14	SL114 (FMH1065575)	SL115 (FMH1065576)	E1	NS250	21.347	20.817	18.746	18.641	203	PE	B	
SP1.193	SL-193(CP)	SL115 (FMH1065576)	-	150	3.823	20.720	19.614	19.167	9	uPVC	CS1	
SP1.194	SL-194(CP)	SL115 (FMH1065576)	-	150	3.838	20.720	19.584	19.158	9	uPVC	CS1	
SL1.15	SL115 (FMH1065576)	SL116 (FMH1065577)	E1	NS250	16.058	20.770	18.632	18.563	233	PE	B	
SP1.195	SL-195(CP)	SL116 (FMH1065577)	-	150	6.338	20.795	19.909	19.076	8	uPVC	CS1	
SL1.16	SL116 (FMH1065577)	SL117 (FMH1065578)	E1	NS250	12.963	20.851	18.551	18.483	191	PE	B	
SP1.196	SL-196(CP)	SL117 (FMH1065578)	-	150	3.969	21.240	20.077	19.283	5	uPVC	CS1	
SP1.197	SL-197(CP)	SL117 (FMH1065578)	-	150	3.555	21.380	20.250	19.260	3	uPVC	CS1	
SL1.17	SL117 (FMH1065578)	SL118 (FMH1065579)	E1	NS250	15.447	21.353	18.482	18.431	303	PE	B	
SP1.198	SL-198(CP)	SL118 (FMH1065579)	-	150	2.476	21.390	20.328	19.853	5	uPVC	CS1	
SP1.199	SL-199(CP)	SL118 (FMH1065579)	-	150	2.353	21.390	20.289	19.845	5	uPVC	CS1	
SL1.18	SL118 (FMH1065579)	SL119 (FMH1065580)	E1	NS250	13.563	21.361	18.429	18.250	76	PE	B	

PIPE LABEL	MANHOLE U/S	MANHOLE D/S	U/S MANHOLE TYPE	PIPE DIAMETER (mm)	PIPE LENGTH (m)	U/S GL (mPD)	INVERT LEVEL (mPD) U/S	INVERT LEVEL (mPD) D/S	PIPE GRADIENT (1 IN)	PIPE MATERIAL	BEDDING TYPE	REMARKS
SP1.200	SL-200(CP)	SL119 (FMH1065580)	-	150	3.904	21.370	20.120	19.661	9	uPVC	CS1	
SP1.201	SL-201(CP)	SL119 (FMH1065580)	-	150	1.143	21.360	20.072	19.660	3	uPVC	CS1	
SL1.19	SL119 (FMH1065580)	SL120 (FMH1065581)	F1	NS250	10.347	21.353	18.239	18.185	192	PE	B	
SP1.202	SL-202(CP)	SL120 (FMH1065581)	-	150	1.862	21.380	20.140	19.507	3	uPVC	CS1	
SP1.203	SL-203(CP)	SL120 (FMH1065581)	-	150	2.051	21.370	20.173	19.506	3	uPVC	CS1	
SL1.20	SL120 (FMH1065581)	SL121 (FMH1065582)	F1	NS250	12.081	21.361	18.185	18.141	275	PE	B	
SP1.204	SL-204(CP)	SL121 (FMH1065582)	-	150	2.387	21.355	20.307	19.519	3	uPVC	CS1	
SP1.205	SL-205(CP)	SL121 (FMH1065582)	-	150	2.294	21.355	20.223	19.519	3	uPVC	CS1	
SL1.21	SL121 (FMH1065582)	SL122 (FMH1065583)	F1	NS250	13.768	21.361	18.126	18.071	250	PE	B	
SP1.206	SL-206(CP)	SL122 (FMH1065583)	-	150	3.152	21.405	20.290	19.487	4	uPVC	CS1	
SL1.22	SL122 (FMH1065583)	SL123 (FMH1065584)	F1	NS250	51.179	21.381	18.047	17.785	195	PE	/	TRENCHLESS METHOD
SP1.210C	SL-210C(CP)	SL123 (FMH1065584)	-	150	8.357	21.300	20.285	20.048	35	uPVC	CS1	
SL1.23	SL123 (FMH1065584)	SL124 (FMH1065585)	F1/BD3	NS250	19.203	21.342	17.779	17.502	69	PE	/	TRENCHLESS METHOD
SL1.24	SL124 (FMH1065585)	SL124A (FMH1067783)	E1	NS280	2.653	20.218	17.490	14.438	51	PE	B	
SL1.24A	SL124A (FMH1067783)	SL125 (FMH1065586)	E1	NS280	29.162	19.683	17.301	14.005	9	PE	B	
SP1.225	SL-225(CP)	SL125 (FMH1065586)	-	150	1.456	15.310	14.121	13.986	11	uPVC	CS1	
SL1.25	SL125 (FMH1065586)	SL126 (FMH1065587)	D1	NS280	12.408	15.296	13.938	12.017	6	PE	B	
SL1.26	SL126 (FMH1065587)	SL127 (FMH1065588)	E1	NS280	20.498	14.127	11.442	10.889	37	PE	B	
SP1.231	SL-231(CP)	SL127 (FMH1065588)	-	150	2.202	12.797	11.327	11.139	12	uPVC	CS1	
SL1.27	SL127 (FMH1065588)	SL128 (FMH1065602)	E1	NS280	18.228	12.761	10.868	8.487	8	PE	B	
SL1.28	SL128 (FMH1065602)	SL129 (FMH1065603)	D1	NS280	3.918	9.808	8.458	7.847	6	PE	B	
SL1.29	SL129 (FMH1065603)	SL130 (FMH1065604)	D1	NS280	10.271	9.282	7.807	7.329	22	PE	B	
SL1.30	SL130 (FMH1065604)	SL130C (FMH1067781)	D1	NS280	17.092	8.809	7.313	5.565	10	PE	B	
SL1.30C	SL130C (FMH1067781)	SL130B (FMH1067784)	E1	NS280	4.516	6.750	4.998	4.401	8	PE	B	
SL1.30B	SL130B (FMH1067784)	SL130A (FMH1067782)	E1	NS280	2.872	5.891	3.909	3.699	14	PE	B	
SL1.30A	SL130A (FMH1067782)	SL131 (FMH1065605)	E1	NS280	5.038	5.635	3.691	3.262	12	PE	B	
SL1.31	SL131 (FMH1065605)	SL131A (FMH1066531)	D1	NS280	2.560	4.390	3.259	3.248	232	PE	B	
SL1.31A	SL131A (FMH1066531)	SL132 (FMH1065606)	C1	NS280	11.173	4.166	3.241	2.809	26	PE	B	
SL1.32	SL132 (FMH1065606)	SL132A (FMH1066530)	C1	NS280	10.601	3.574	2.809	2.771	279	PE	B	
SL1.32A	SL132A (FMH1066530)	SL133 (FMH1065607)	C1	NS280	9.400	3.544	2.764	2.736	336	PE	B	
SL1.33	SL133 (FMH1065607)	SL133A (FMH1066529)	C1	NS280	24.135	3.536	2.731	2.633	246	PE	B	
SL1.33A	SL133A (FMH1066529)	E.X.MH	C1	NS280	3.820	3.698	2.603	1.846	5	PE	B	
SP2.219	SL-219(CP)	SL201 (FMH1065622)	-	150	10.076	20.670	19.514	19.408	95	uPVC	CS1	
SL2.01	SL201 (FMH1065622)	SL202 (FMH1065623)	D1	NS250	3.656	20.672	19.402	19.376	141	PE	B	
SP2.217	SL-217(CP)	SL202 (FMH1065623)	-	150	2.177	20.697	19.366	19.213	14	uPVC	CS1	
SP2.218	SL-218(CP)	SL202 (FMH1065623)	-	150	1.996	20.697	19.353	19.213	14	uPVC	CS1	
SL2.02	SL202 (FMH1065623)	SL203 (FMH1065624)	E1	NS250	13.149	20.643	18.827	18.714	116	PE	B	
SP2.215	SL-215(CP)	SL203 (FMH1065624)	-	150	2.096	20.691	19.495	19.249	9	uPVC	CS1	
SP2.216	SL-216(CP)	SL203 (FMH1065624)	-	150	2.157	20.691	19.498	19.275	10	uPVC	CS1	
SL2.03	SL203 (FMH1065624)	SL204 (FMH1065625)	E1	NS250	13.140	20.624	18.698	18.654	299	PE	B	
SP2.213	SL-213(CP)	SL204 (FMH1065625)	-	150	4.538	20.650	19.546	19.204	13	uPVC	CS1	
SP2.214	SL-214(CP)	SL204 (FMH1065625)	-	150	4.529	20.650	19.539	19.171	12	uPVC	CS1	
SL2.04	SL204 (FMH1065625)	SL205 (FMH1065626)	E1	NS250	20.967	20.652	18.627	18.526	208	PE	B	
SP2.212	SL-212(CP)	SL205 (FMH1065626)	-	150	4.538	20.730	19.546	19.204	13	uPVC	CS1	
SL2.05	SL205 (FMH1065626)	SL205A (FMH1066525)	E1	NS250	8.144	20.746	18.524	18.498	313	PE	B	
SP2.211	SL-211(CP)	SL205A (FMH1066525)	-	150	4.438	20.860	19.738	19.544	10	uPVC	CS1	
SL2.05A	SL205A (FMH1066525)	SL206 (FMH1065627)	E1	NS250	10.939	20.834	18.497	18.449	228	PE	B	
SP2.232	SL-232(CP)	SL206 (FMH1065627)	-	150	4.545	21.050	19.898	19.509	12	uPVC	CS1	
SL2.06	SL206 (FMH1065627)	SL123 (FMH1065584)	E1	NS250	16.144	21.089	18.444	18.348	168	PE	B	

FOR INFORMATION ONLY

RELATED DRAWING NO. : 60330466/1133

AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 3 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/003
		REV	-

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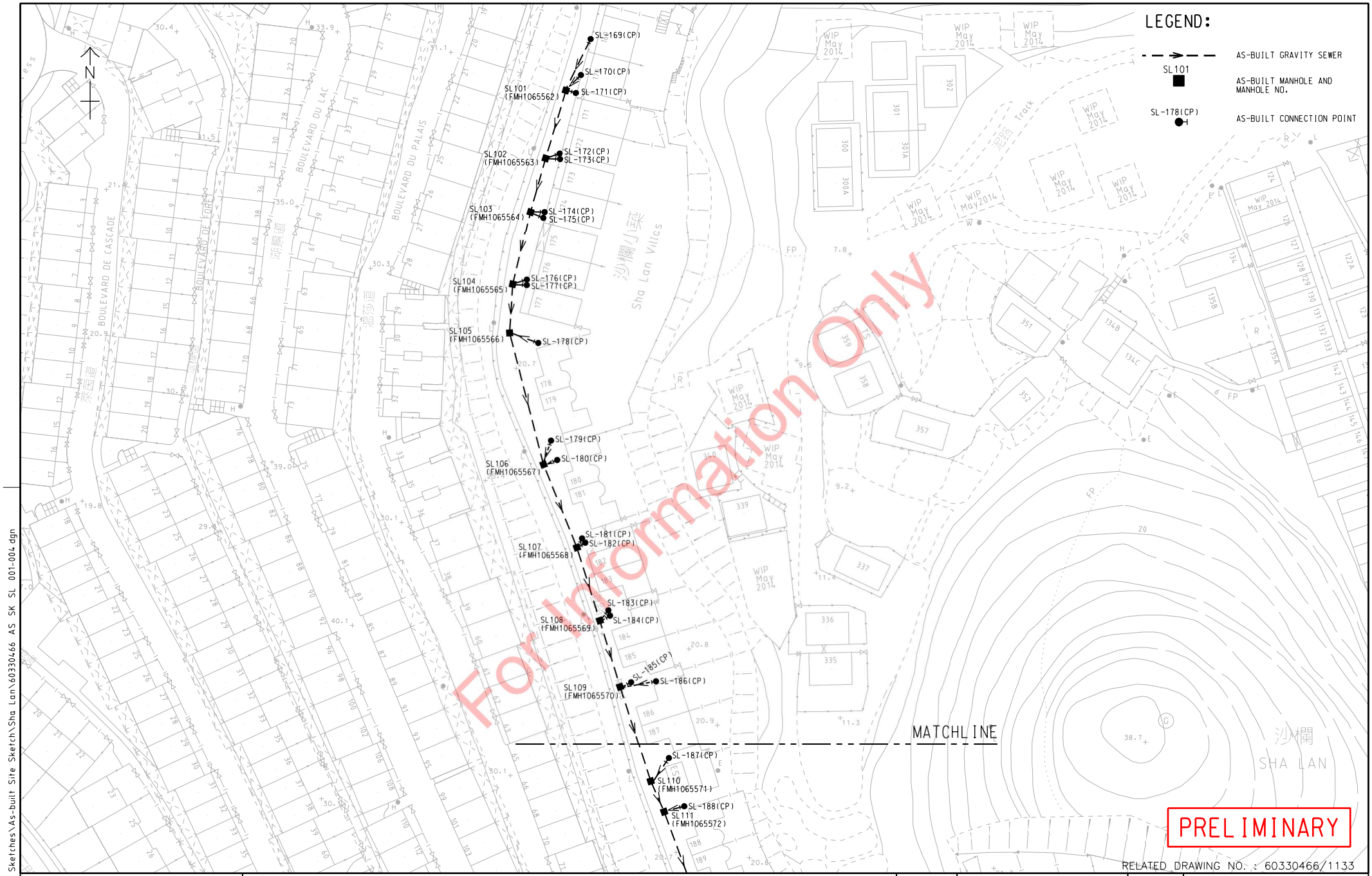

RELATED DRAWING NO. : 60330466/1133

AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 1 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/001
		REV	–

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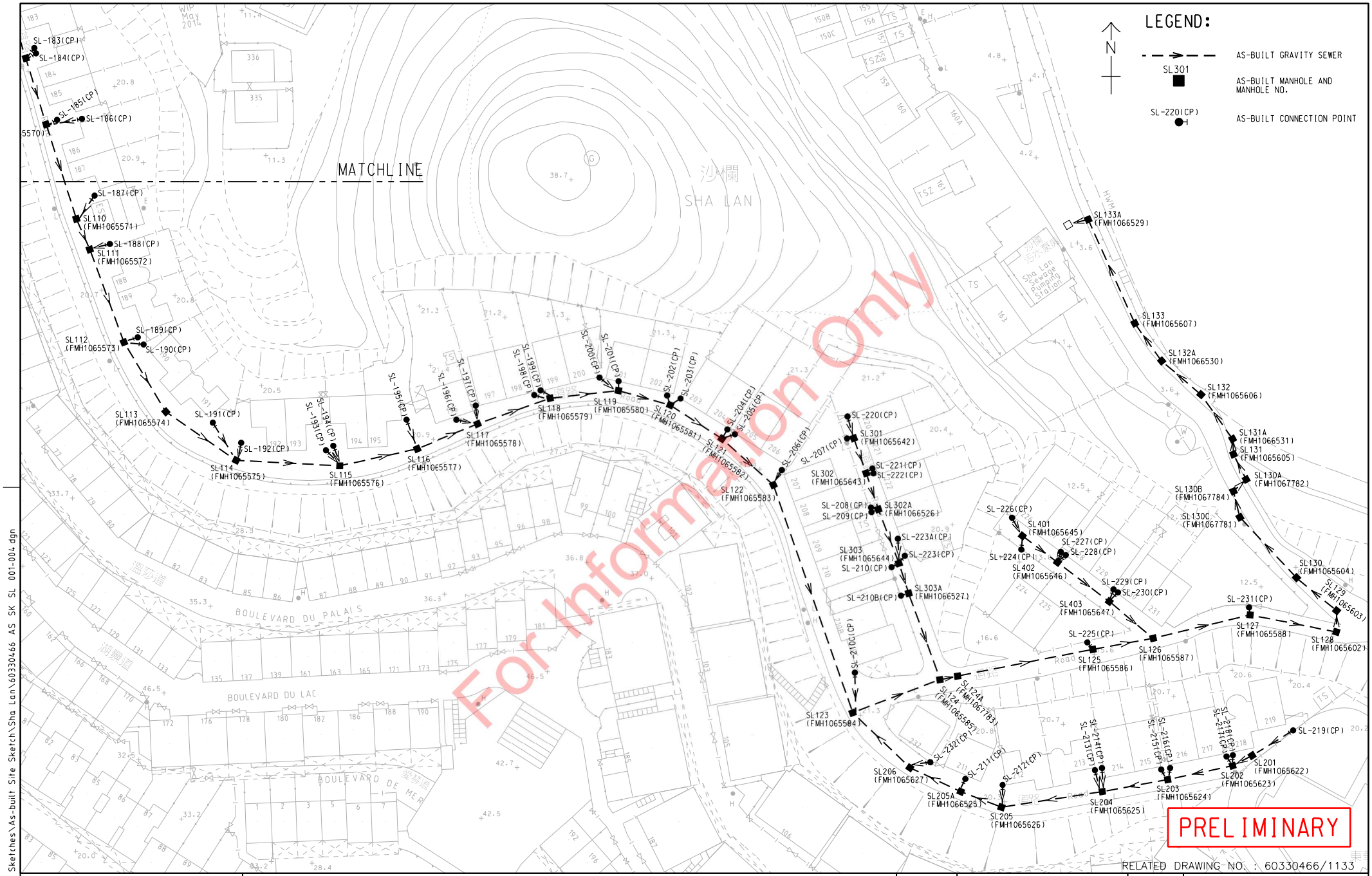

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AECOM

DSD CONTRACT NO. DC/2018/02
UPGRADING OF SEWAGE PUMPING STATIONS AND SEWERAGE ALONG TING KOK ROAD

AS-BUILT SITE SKETCH FOR SEWERAGE WORKS AT SHA LAN

SHEET 2 OF 4

SCALE	N.T.S.	DATE	DEC 2021
CHECKED BY	Eric Fong	DRAWN BY	Gary Tam
CONTRACT NO.	DC/2018/02	SKETCH NO.	60330466/AS/SK/SL/002
		REV	–

APPENDIX H - WATER SUPPLY IMPACT ASSESSMENT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

WATER SUPPLY IMPACT ASSESSMENT

7 July 2022

Ref No: RT21466-SWIA-02

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Project:	SECTION 16 PLANNING APPLICATION WATER SUPPLY IMPACT ASSESSMENT FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO
Report No.:	RT21466-SWIA-02

Revision	Issue Date	Description	Author	Checker	Approver
01	20/05/2022	Issued for Comment	BL	YS	HM
02	07/07/2022	Issued for Comment	BL	YS	HM

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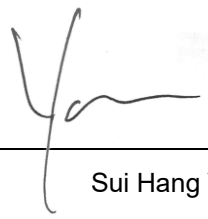
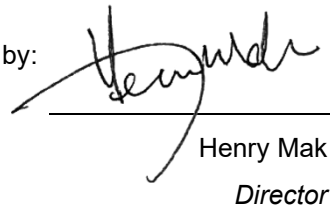


Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer

- This report is prepared and submitted by Beexergy Consulting Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited (BeeXergy) was commissioned by the Applicants to conduct a water supply impact assessment (SWIA) for the Comprehensive Transitional Housing Development at Government Land at Shuen Wan, off Ting Kok Road, Tai Po (“the Subject Site” in response to support the Section 16 Planning Application. The Subject Site is located to the south of Ting Kok Road opposite to Wong Yue Tan Village. The Site is currently zoned as “Government, Institution or Community ("GIC") under the Approved Ting Kok Outline Zoning Plan No. S/NE-TK/19 (“the OZP”).

The site is located at Tai Po to the south of Ting Kok Road opposite to the Wong Yue Tan Village. The project site is a former school development with concrete paved ground at the north to west of Site while flat soil and greenery at east to south of the Site. There is an unused utility room at the south of the Site. The site area is approximately 4,310m^2. The Development will provide about 276 residential units.

The Development will be constructed, operated and maintained by a Non-Governmental Organisation. The anticipated year of construction completion and occupation is 2024.

1.2 PROJECT ENVIRONS

The Subject Site is elevated at around 23.8 to 25 mPD. A school was located at the site and is now abandoned. **Figure 1** shows the project site location and its surrounding area.



Figure 1 Site Location Plan of the Project Area

1.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Development will be operated by The Society of Rehabilitation and Crime Prevention, Hong Kong.

According to the Planning Statement, the Proposed Development will provide about 276 transitional housing units, with a population of about 608 persons estimated by the operator, based on a combination of 1-2 persons and 3-4 persons units.

However, a conservative approach using the general assumption of average household size of 2.9 for Tai Po District based on the Population and Household Statistics Analysed by District Council District (2018 Edition) published by the Census and Statistics Department has been considered.

Therefore, based on average occupancy of 2.9 persons per flat, there will be 801 residents catered. Apart from a management office, there are ancillary facilities such as a multi-purpose room, a plant room and communal space to provide basic needs for the residents. The master layout plan of the Proposed Development is presented in **Appendix A**.

2 WATER SUPPLY IMPACT ASSESSMENT

2.1 SCOPE OF WORK

The objectives of this Water Supply Impact Assessment (WSIA) is to assess whether the capacity of the existing water supply is sufficient to cope with the water demands arising from the proposed residential development and provide mitigation measures where necessary.

Existing record plan and data from the Water Supplies Department (WSD) is obtained for this WSIA.

2.2 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS

The water supply of the Subject Site will be served by Tai Po East Low Level Fresh Water Service Reservoir (TPELLFWSR). Situated outside the salt water supply zone, the Subject Site has no saltwater supply. The existing water supply network is attached in **Appendix B.**

The capacity and mean daily demand (MDD) of TPELLFWSR is 14,600 m^3 and 15,335 m^3/day respectively.

The design criteria for water supplies in Hong Kong are set in WSD Departmental Instruction (DI) No. 1309 which includes the unit water demands for different categories of population and the maximum peak flow velocity of pipeline and minimum residual head loss at extremity. Calculation for the water demands of the Proposed Development is presented in **Appendix C**.

2.3 ASSESSMENT OF WATER SUPPLY IMPACT

The demand of fresh water (including flushing water) for the Proposed Development is estimated to be 241.1 m^3/d, as presented in **Appendix C**.

Considering the additional water demand from the proposed development, the Mean daily Demand of Tai Po East Low Level FWSR is expected to increase from 15,335 m^3/d to 15,576 m^3/d after development. The existing capacity would still adequate for 75% of Future MDD (11,682 m^3/d).

The estimated water demand calculations on the existing capacity have indicated that the existing FWSR will have sufficient capacity to cater for the increase in daily demand generated from the Proposed Development. Hence, it is concluded that no water supply impact arising from the development is anticipated.

2.4 HYDRAULIC ASSESSMENT OF PROPOSED WATER SUPPLY SYSTEM

According to the information, there is an existing PE100 freshwater main at southern side of the Proposed Development, as shown in **Appendix B**. In this assessment, it is assumed that freshwater and flushing water will be supplied by the freshwater supply system.

Considering the proximity of the existing PE100 freshwater main to the Proposed Development, it is proposed to lay new connections to the 100mm diameter freshwater main at Sam Mun Tsai Road to satisfy the water demand from Proposed Development. **Appendix E** shows the proposed connection to the public water supply system.

Details of the internal water supply system for fresh and flushing water supply and the proposed connection to public water supply system will be further developed in the detailed design stage.

In accordance with Manual of Mainlaying Practice by WSD, the maximum flow velocity under peak flow for distribution mains should be less than 3m/s with pipeline of sufficient size.

To determine the peak flow velocity and the residual head loss at extremity of the proposed water supply system, the hydraulic assessment has been conducted, which is presented in **Appendix D**. The peak flow of the proposed 100mm diameter water main is 0.98m/s, which can comply with the maximum requirement for velocity (3 m/s). The residual head at extremity of the proposed system is 31.6m, which also fulfills the minimum requirement (30m).

Upgrading works of the existing service reservoir and water mains are thus not necessary.

3 CONCLUSION

The Proposed Transitional Housing Development will provide about 276 transitional housing units to expedite the delivery of supply for housing in short-term period. The potential water supply impacts have been quantitatively addressed.

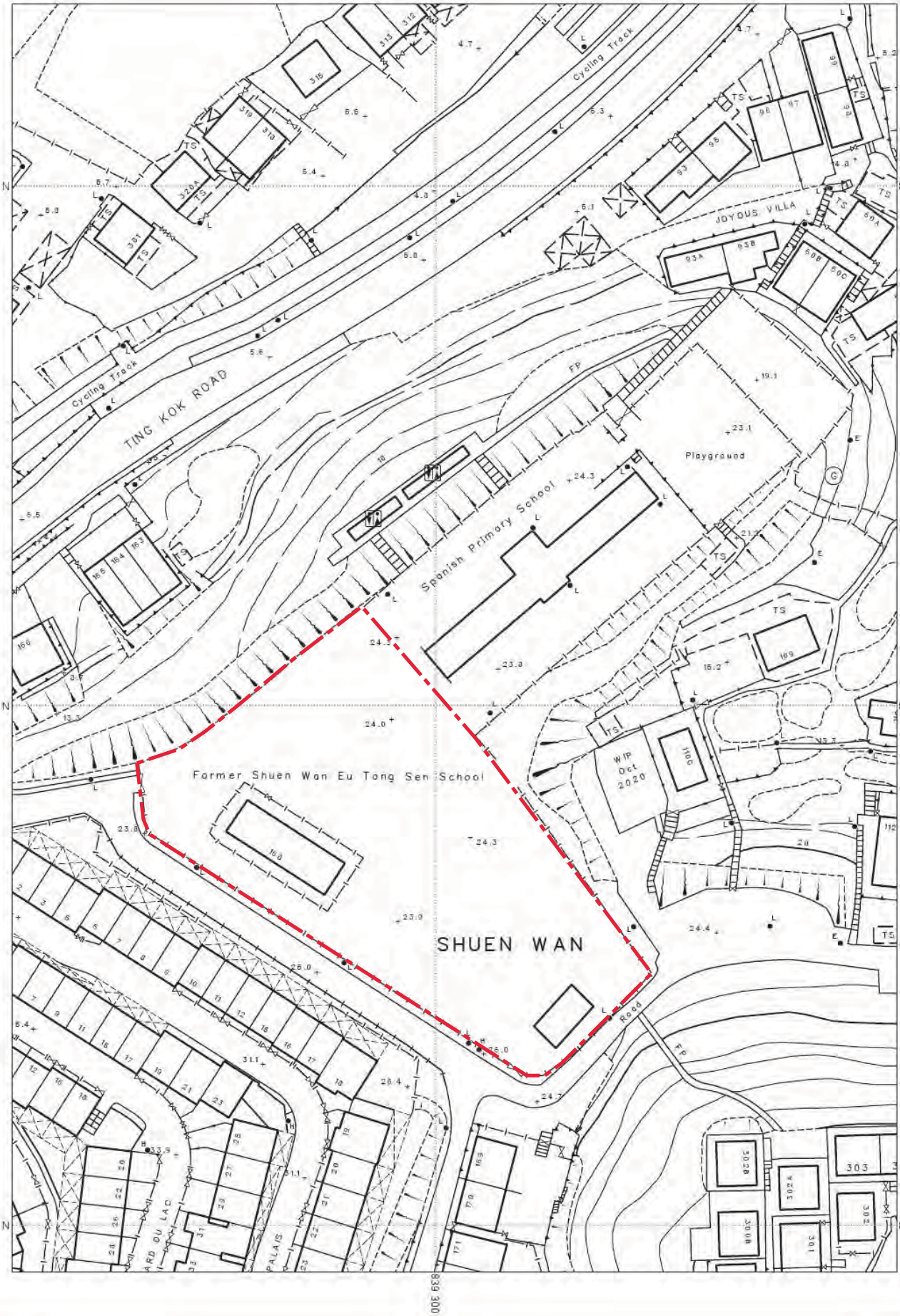
The demand for fresh water and flushing water for the Proposed Development are estimated to be 184.7 m^3/d and 56.3 m^3/d respectively. Due to unavailable flushing water supplies near the subject site, the total fresh water demand for the Proposed Development with the consideration of water demand for flushing water is 241.1 m^3/d. The existing freshwater main could provide sufficient supply of fresh water to cater the water demand of the Proposed Development. No adverse water supply impact is anticipated due to the Proposed Development.

It is proposed to make connection of Fresh and flushing water supply for the Proposed Development to the existing water freshwater watermains along Sam Mun Tsai Road. Based

on the hydraulic assessment, the residual head is adequate for the connection. Thus, no upgrading works of the service reservoirs and water mains are recommended. It is concluded that no adverse water supply impact arising from the Proposed Development is anticipated.

APPENDIX A

MASTER LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



FOR IDENTIFICATION ONLY

只供識別用

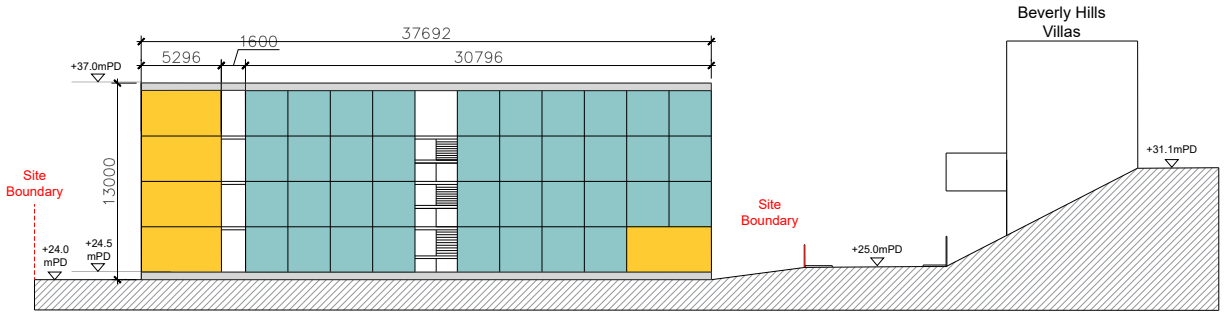
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

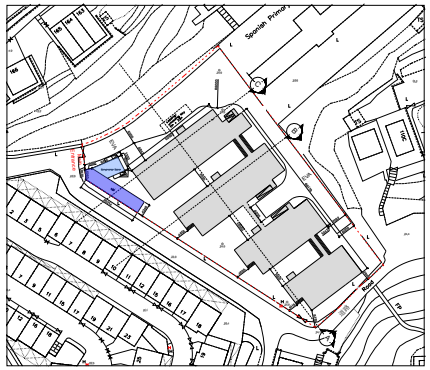


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Tan Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

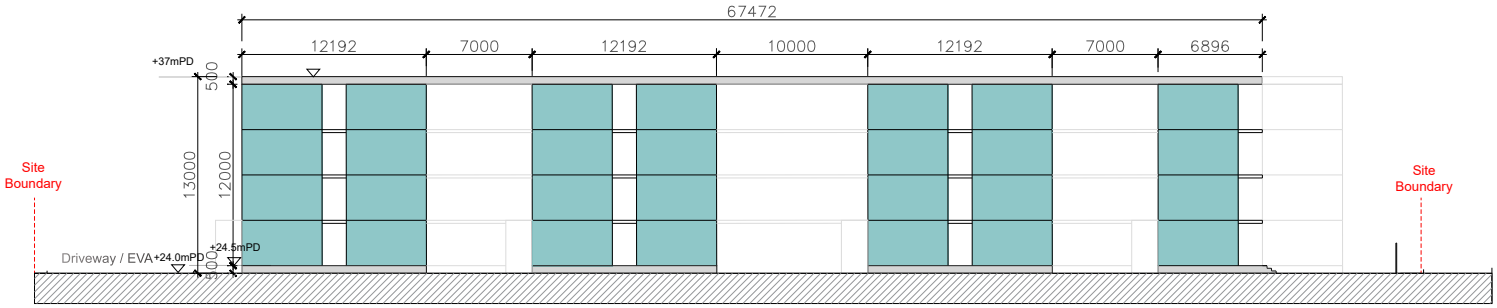

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



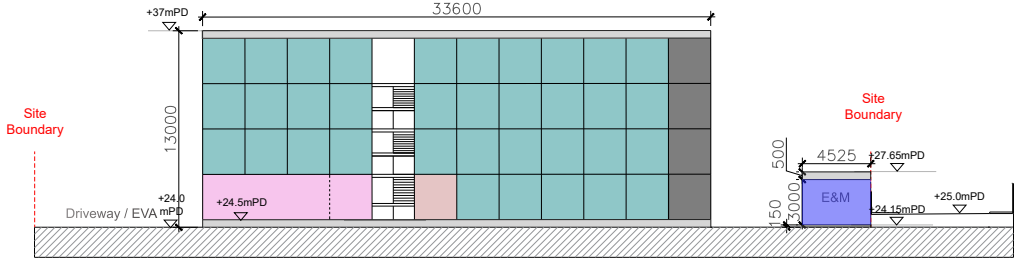
SECTION B



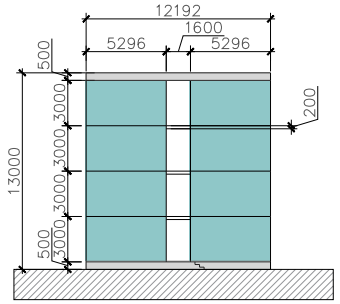
KEY PLAN 1:4000



SECTION A



SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

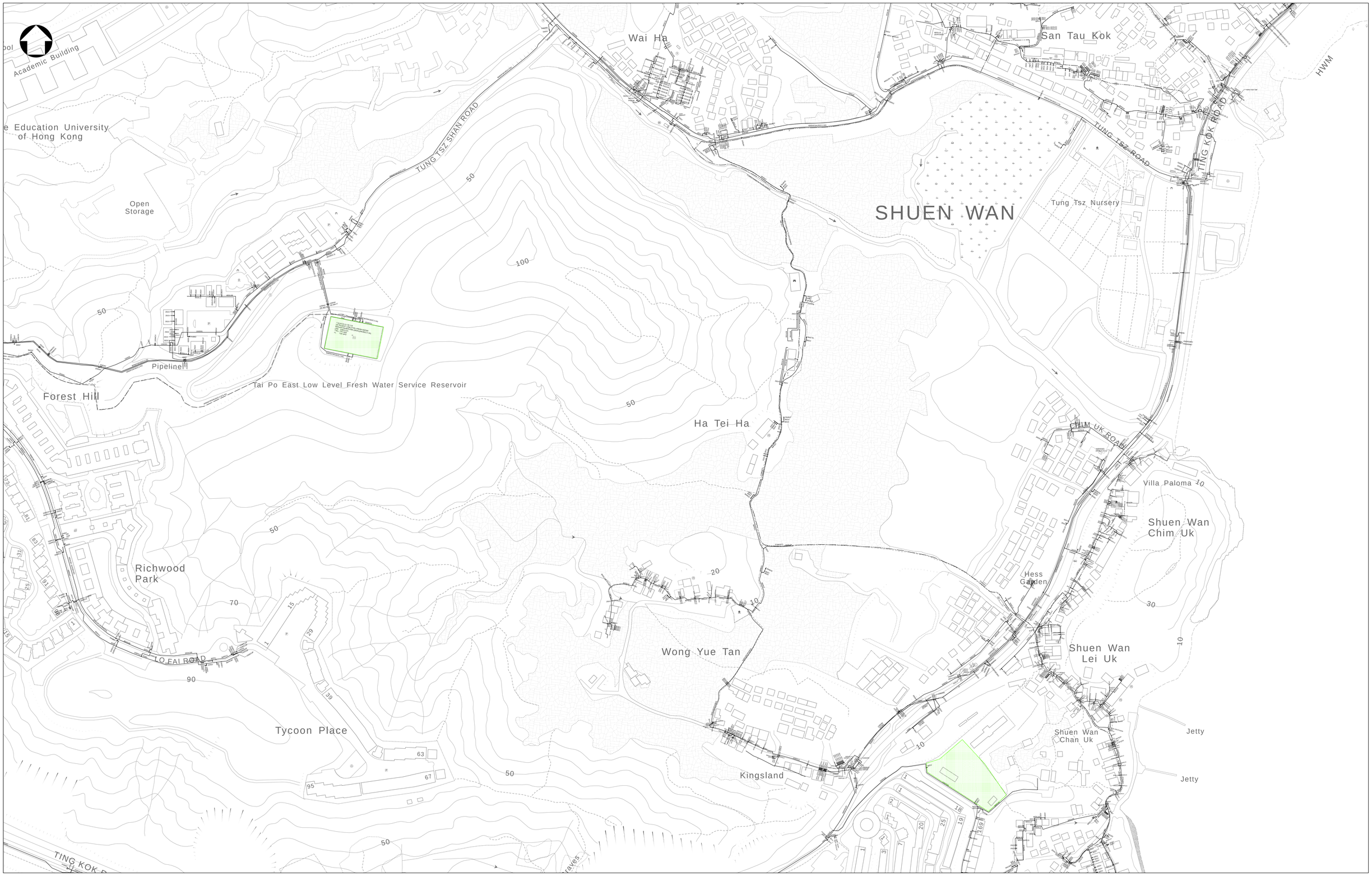
ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada

APPENDIX B

RECORD PLAN FROM WATER SUPPLIES DEPARTMENT & WSD CORRESPONDENCE



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/3-SE-21A, 21B, 21C, 22A, 22B, 22D, 7-NE-1A, 1B, 2A & 2B

REF. CODE: 20W22M	SHEET 1 OF 1	SCALE 1:1500

水 務 署
Water Supplies Department

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APPENDIX C
CALCULATIONS OF WATER DEMAND

Appendix C1 - Estimation of Daily Water Demand

Future Water Demands of the Subject Site at Former Shuen Wan Eu Tong Sen School, Tai Po

				Freshwater		Flushing Water	
		Type of Use	Population	Daily Unit Demand (m3/head/day) [1]	Daily Demand (m3/day)	Daily Unit Demand (m3/head/day)[1]	Daily Demand (m3/day)
Subject Site	Residential Development	Residential Density Zone R1	801	0.23	184.23	0.07	56.07
	Laundry	Laundry	5	0.05	0.25	-	-
	Management Office	Commercial	5	0.05	0.25	0.05	0.25
					184.7		**56.3**

Total Fresh water Demand (m3/day) = **241.1**

Remarks:
[1] Reference made to DI 1309 Design Criteria in the freshwater and flushing water unit demand.

Appendix C2 - Existing and Future Required Capacity of Tai Po East Low Level Fresh Water Service Reservior (TPELLFWSR)

Existing				
FWSR Capacity	=	14600 m3	From WSD	
FWSR Mean Daily Demand (MDD) in 2019	=	15335 m3/day	From WSD	
Future				
MDD Of Subject Site	=	241.1 m3/day		
Total MDD	=	15576.05 m3/day		
75% of MDD	=	11682.04 m3/day		<14600m3/day

APPENDIX D

HYDRAULIC ASSESSMENT OF PROPOSED WATER SUPPLY SYSTEM

Appeendix D Hydraulic Assessment of the Proposed Water Supply System

Freshwater Supply System

Portion	Diameter (mm)	Material	Main Type	Length (m)	Hazen-Williams Coefficient	Peak Factor	Q (m3/day)	Factored Q(m3/s)	Area (m2)	Velocity (m/s)	Status	HL/Length	HL(m)
400D197	412.8	DI	TKM	1317	110	3	6371.4	0.221	0.134	1.653	OK	0.008	10.720
300D100	412.8	DI	TKM	360.2	110	3	2174.4	0.076	0.134	0.564	OK	0.001	0.401
300D100-300D107	311.6	DI	TKM	488.3	110	3	1218.84	0.042	0.076	0.555	OK	0.002	0.733
300D107 - 400DI91	412.8	DI	TKM	64.62	110	3	845.9	0.029	0.134	0.219	OK	0.000	0.013
400DI91-100PE98	103.1	PE	TKM	211.82	140	3	389.5	0.014	0.008	1.620	OK	0.025	5.389
Proposed Freshwater Main within the Subject Site	103.1	PE	TKM	10	140	3	241.1	0.008	0.008	1.003	OK	0.010	0.105
												Total HL	17.36034

Residual Head Estimation

Head to Tai Po Low level Fresh Water Reservoir	=	74	mPD	
Gorund Level at extremity of proposed system	=	24.5	mPD	
Friction Head Loss from existing and proposed mains	=	17.4	m	
Residual Head at Extremity	=	**32.1**	m	>30m

Note:

1. The exisitng daily demand of TPELLFWSR is 15,335m3/d. The existing water mains supplied by TPELLFWSR branches out into a 600mm (west stream) and a 400mm (east stream) at Tung Tsz Road. It is assumed that 40% of the existing daily demand is conveyed to the east 400mm branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 6371.4 m3/day.

2.The 400DI97 water main branches out into 4 mians in total (two 300mm mains, a 200mm main and a 150mm main) at Tung Tsz Road and Ting Kok Road. It is assumed that about 32% of the existing daily demand of 400DI97 is conveyed to the 300D100 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 2174.4 m3/day.

3. The 300D100 water branches out into two 300mm mains at Ting Kok Road. It is assumed that about 50% of the existing daily demand of 300DI100 is conveyed to the 300DI107 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 1218.84 m3/day.

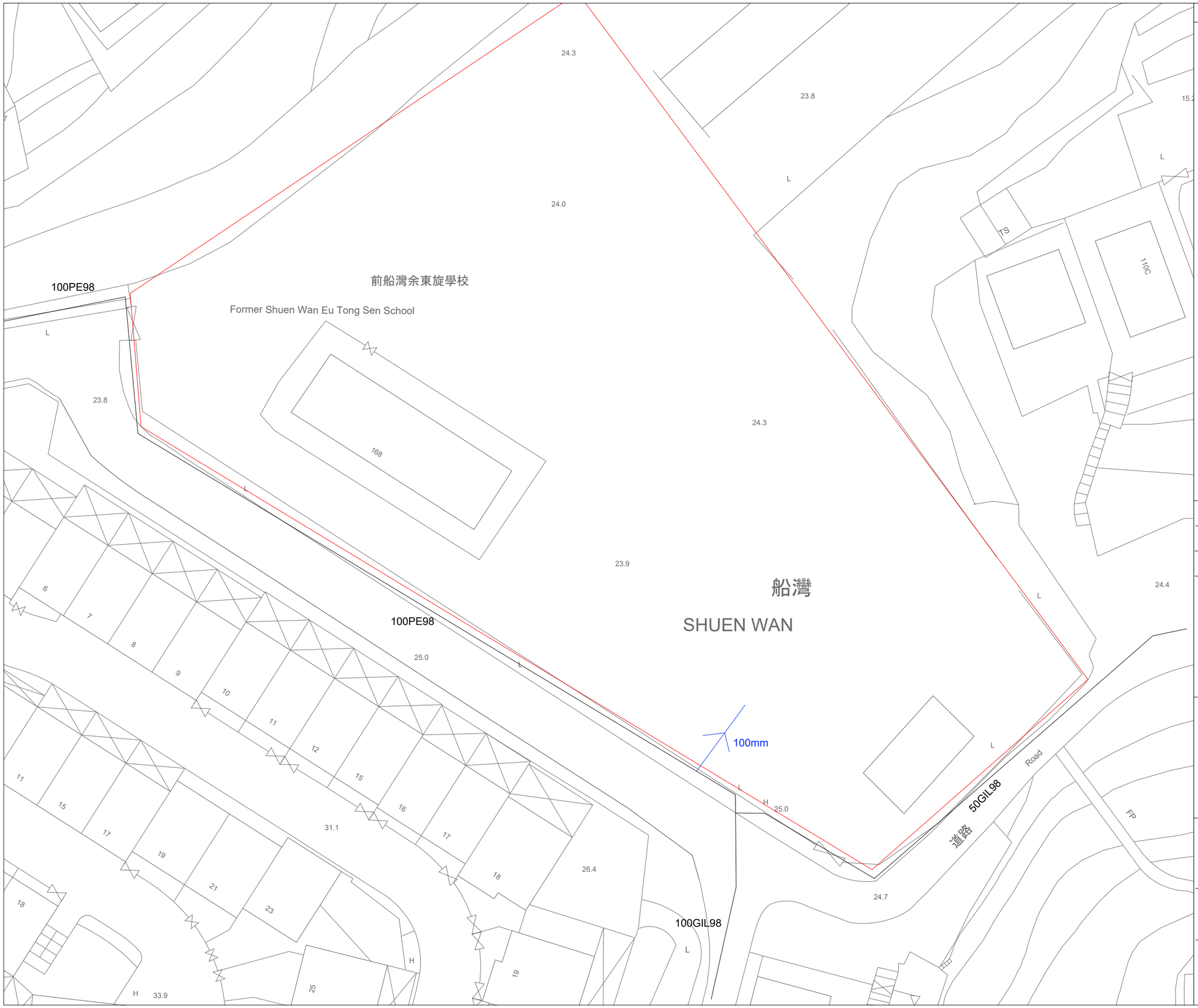
4. The 300DI107 water main branches out into a 150mm main, a 100mm main and a 400mm main. It is assumed that about 62% of the existing daily demand of 300DI107 is conveyed to the 400D197 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 400mm branch is assumed to have a total demand of 845.9 m3/day.

5. The 400DI97 water main branches out into two 100mm mains and a 200mm main. It is assumed that about 25% of the existing daily demand of 400D197 is conveyed to the 100PE98 branch. With the additional water demand of 237.4 m3/day from the Subject Site, the 100mm branch is assumed to have a total demand of 389.5 m3/day.

6. The top water level and invert level of TPELLFWSR is 77 mPD and 71 mPD respectively. The water level is assumed to be the mean, 74mPD.

APPENDIX E

PROPOSED WATER SUPPLY SYSTEM



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LEGEND:

- PROPOSED SITE
- EXISTING FRESHWATER DISTRIBUTION MAIN
- PROPOSED FRESHWATER MAIN

	Prepared	Checked	Approved
Initial	BL	CC	YS
Date	05/ 2022	05/ 2022	05/ 2022

Project Title

SECTION 16 PLANNING APPLICATION

FOR THE COMPREHENSIVE TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO

WATER SUPPLY IMPACT ASSESSMENT

DrawingTitle

PROPOSED WATER SUPPLY SYSTEM

Drawing No.

SWIA - 1001

Rev.

0

Scale:

A3 - 1:500

BXG

BeeXergy Consulting Limited

APPENDIX I - GEOTECHNICAL PLANNING REVIEW

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN,
OFF TING KOK ROAD, TAI PO
(FORMER SHUEN WAN EU TONG SEN SCHOOL)

Good House – Transitional Housing Project at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Geotechnical Planning Review Report

June 2022

Modern Consulting Engineers Limited

Room 2801, Kwai Hung Holdings Center
89 King's Road, North Point, Hong Kong
Tel: (852) 3572 0586 Fax: (852) 3020 3153

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1.2 Objectives of this report 1

2 The site 2

2.1 Site description 2

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6 Conclusion 6

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Appendix A Information retrieved from SIS and SMRIS

Appendix B Excerpt of Final Filedwork Report of Ground Investigation Works near the site

Appendix C Excerpt of tender documents

Appendix D SLOPE/W Analysis of Feature No. 7NE-A/F36

Appendix E SLOPE/W Analysis of Feature No. 7NE-A/C141

1 Synopsis

1.1 Introduction

Transitional Housing Project "Good House" is to be carried out at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School). A total number of 280 living units, an account unit, a management office, a multi-purpose room and an area for E&M usage will be formed.

1.2 Objectives of this report

To facilitate the construction activities for the above proposal, planning shall be reviewed from a geotechnical perspective. This report is prepared to cover the following items:

(i) Review on the site condition

(ii) Review on existing structures and geotechnical features located in the vicinity of the site

(iii) Review on the findings of ground investigation works near the site

(iv) Review on the proposed construction works

2 The site

2.1 Site description

The site is located at Shuen Wan, off Ting Kok Road, Tai Po where Shuen Wan Eu Tong Sen School had been operated from year 1950 to 1994. A Site layout plan is shown in **Figure 1**.



Figure 1 – Site Plan

Situated within Hong Kong 1980 Grid Coordinates 839243E to 839341E and 835727N to 835813N, the site has an area around 3956m^2. The ground profile within the site is roughly flat

with reduced level at +24mPD. There are a few existing structures and geotechnical features found in the vicinity of the site for which a brief description is given in the following sections.

2.2 Existing structure in the vicinity of the site

Spanish Primary School is located on the North-East of the site. The school has a site area of 743m^2 including three one-storey blocks. The minimum distance between the blocks and the site boundary of this project is around 4m.

2.3 Existing geotechnical features in the vicinity of the site

There are two registered geotechnical features found near the site. Basic information of the features are retrieved from the **Slope Information System (SIS)** under the Geotechnical Engineering Office (GEO) of Civil Engineering and Development Department (CEDD). Also, the maintenance responsibility of the features are obtained from the **Slope Maintenance Responsibility Information System (SMRIS)** under the Lands Department (LandsD). A brief summary of the information retrieved is given in **Table 1** and **Table 2**.

Table 1 – Basic information of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Max. height (m)	Length (m)	Average angle (deg.)
North	7NE-A/F36	5	170	60
East	7NE-A/C141	5	115	40

Table 2 – Maintenance responsibility of the registered features in the vicinity of the site

Location relative to the site	Feature Nos.	Sub-divisions	Responsible Lot / Party
North	7NE-A/F36	1	Lands Department
		2	DD26 Lot 989
East	7NE-A/C141	1	DD26 Lot 989
		2	DD26 Lot 413B
		3	DD26 Lot 413A
		4	Lands Department

Detailed information retrieved from the **SIS** and **SMRIS** is presented in **Appendix A**.

3 Ground investigation works

3.1 Collection of information

At the time being, a record of ground investigation works near the site is found to be carried out by Vibro (H.K.) Limited in October and November 2011, which include 3 drill holes and 5 trial pits.

3.2 Predicted geological stratum

Based on the results of the ground investigation works, the following stratums are encountered:

Fill – firm, brown (7.5YR 5/4), slightly sandy SILT with occasional angular to sub-angular fine gravel sized highly to moderately decomposed rock fragments.

Colluvium – firm, brown to light brown (7.5YR 5/4), light brown, dappled brown, slightly sandy SILT with occasional sub-angular fine to medium gravel sized highly to moderately decomposed rock fragments.

Residual Soil – Firm, light brown, slightly sandy SILT with occasional angular to sub-angular fine gravel and quartz fragments.

Saprolitic Soil and Weathered Rock – Extremely weak, reddish brown, completely decomposed GRANODIORITE.

Excerpt of the final fieldwork report of the ground investigation works is presented in **Appendix B**.

4 Proposed construction works

4.1 Relevant information from tender document

Some information of the project, including site plan, layout plans and records / arrangement for water and electricity supply are presented in **Appendix C**.

4.2 Proposed site formation works

As the ground level within the site area is generally levelled, no massive site formation works are anticipated. Nevertheless, details of the proposed site formation works, including stability check for surrounding slopes, shall be referred to relevant design reports (to be submitted separately).

5 Preliminary slope stability analysis on the registered features

5.1 Feature No. 7NE-A/F36

It is noted that the slope was upgraded under LPM contract GE/2011/13 by replacement of the loose fill by mass concrete. The relevant information including Stage 3 report and design drawings is attached in in **Appendix D**. Having said that, the stability of the slope with the consideration of the future road surcharge according to the tentative future building layout is preliminarily assessed by SLOPE/W with design parameters and geological profiles referred to the previous Stage 3 Report. The analysis results are attached in **Appendix D**. The SLOPE/W analysis results demonstrate the Factor-of-safety of the slope is less than 1.40 and hence slope upgrading works such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

5.2 Feature No. 7NE-A/C141

There is no previous design report can be found and so the slope profile (i.e 5m in high / slope angle = 40 degrees) is referred to the SIS information. The ground conditions are assumed to be Colluvium as referred from adjacent boreholes.

It is noted that the proposed 3-storey proposed building is set back from the slope crest by 6m according to the tentative future building layout.

The stability of the slope with the consideration of the future building surcharge according to the tentative future building layout is preliminary assessed with SLOPE/W with design parameters and geological profiles as mentioned above. The analysis results are attached in **Appendix E**. The SLOPE/W analysis results demonstrate the Factor-of-safety of the slope is less than 1.40 and hence slope upgrading works such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

6 Conclusion

Review has been made on the site conditions, existing structural and geotechnical features in the vicinity of the site, findings of the ground investigation works near the site and proposed construction works. Although the proposed development is geotechnically feasible, the following points are to be noted:

(i) Based on the readily available information, no massive site formation works will be required for constructing the households and the associated buildings. It is considered that the effects to adjacent structures and geotechnical features will be limited.

(ii) Preliminary SLOPE/W analysis suggests that slope upgrading works of the registered features 7NE-A/F36 and 7NE-A/C141 such as soil nailing may be required. Further analysis and slope upgrading design will be carried out in the detailed design stage. Seeking land permission from relevant parties for the carrying out of the slope upgrading works may also be required.

Appendix A

Information retrieved from SIS and SMRIS

BASIC INFORMATION

Location:	NO.166 TING KOK ROAD, TAI PO
Registration Date:	25-02-1998
Ranking Score (NPRS):	0 (LPMit)
Date of Formation:	pre-1977
Date of Construction/ Modification:	
Data Source:	SIRST
Approximate Coordinates:	Easting : 839289 Northing : 835823

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	School
Distance of Facility from Crest (m):	0
Facility at Toe:	Residential building
Distance of Facility from Toe (m):	3.5
Consequence-to-life Category:	1
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 170 Average Angle (deg): 60

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 28-09-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 28-09-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 04-08-1997
Data Source: SIRST
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: N/A
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

N/A

CHECKING STATUS INFORMATION

N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A2
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	Y09679 (1963), Y097800 (1963)
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	04-08-1997
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department):
Date of Recommendation to BD: 13/06/2006 File Reference: N/A
Date Served by BD: N/A Notice No.: N/A
Date of Recommendation to BD: 13/06/2006 File Reference: DH/0044/06/NT
Date Served by BD: 29/01/2008 Notice No.: DH0009/NT/08/C

Advisory Letter (To Be Confirmed with Buildings Department): None

LPMIS:
Agreement No.: CE56/2009 Report No.: S3R027/2012
Agreement No.: CE12/2004 Report No.: S2R98/2006

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Residential building

Distance from Toe(m): 3.5
Type of Crest Facility: School

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

Action By: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: DD26 LOT989

LPM/LPMit Study
- Agreement No.: CE56/2009
- Study Type: Stage 3 Study Under Schedule of Rates Contract
- Consultant: Fugro (HK) Ltd.
- GEO Managing Section / Engineer: LPM1 / CM22
- Study Status: Study completed
- Design Approach: Conventional (GI + Analysis)
- Option Assessment Accepted: Y
- Study Report No.: S3R027/2012
- Programme / Actual Commencement: 01-12-2010
- Programme / Actual Completion: 03-05-2013
- Report Recommendation (For Stage 2 Study): N/A
- District Check Status: N/A
- Checking Certificate No.: GEO/LPM051/2014
- GEO Engineer's Remarks: 7NE-A/F36 (Sub-division 1)

LPM/LPMit Works
- Works Contract No.: GE/2011/13
- GEO Managing Section / Engineer: LPM1 / CM22
- Contractor: Dix Construction & Transportation Limited
- Progress Status: Maintenance completed
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: 20-11-2012
- Forecast Completion Date: 07-10-2013
- Completion Cert. Issued: 01-11-2013
- Site Handed Over to Maintenance Department on: 27-11-2015
- Estimated Cost for Upgrading (HK$M): 2.4161
- Maintenance Manual No.: MM051/2014
- Actual Works: Others
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: 100
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

eLPMIS

LPM/LPMit Details Report
- LPM Study Feature No.: 7NE-A/F 36
- Location: NO.166 TING KOK ROAD, TAI PO
- District Council: Tai Po
- Maintenance Responsibility (At the Time of Selection): Mixed
- Responsible Party for Maintenance of Government Portion: Lands D
- Private Lot No.: T19809, DD26 Lot989

LPM/LPMit Study
- Agreement No.: CE12/2004
- Study Type: Stage 2 Study
- Consultant: C M Wong & Associates Ltd.
- GEO Managing Section / Engineer: SS / SS3
- Study Status: Study completed
- Design Approach: N/A
- Option Assessment Accepted: N/A
- Study Report No.: S2R98/2006
- Programme / Actual Commencement: 06-03-2006
- Programme / Actual Completion: 27-06-2007
- Report Recommendation (For Stage 2 Study): DH Order,Warning letter for STT
- District Check Status: Exempted from checking
- Checking Certificate No.: N/A
- GEO Engineer's Remarks: N/A

LPM/LPMit Works
- Works Contract No.: N/A
- GEO Managing Section / Engineer: N/A / N/A
- Contractor: N/A
- Progress Status: N/A
- Reason of Study Termination / Works Deletion (If Necessary): N/A
- Forecast Commencement Date: N/A
- Forecast Completion Date: N/A
- Completion Cert. Issued: N/A
- Site Handed Over to Maintenance Department on: N/A
- Estimated Cost for Upgrading (HK$M): N/A
- Maintenance Manual No.: N/A
- Actual Works: N/A
- No. of Tree Felled: N/A
- No. of Tree Planted (Incl. Transplant): N/A
- % Bare of Slope Surfacing: N/A
- % Vegetated of Slope Surfacing: N/A
- % Shotcrete of Slope Surfacing: N/A
- Other Hard Surface of Slope Surfacing: N/A

PHOTO




Hess Garden
蔷悦
江庫豪園
江庫花園
船灣李屋
Shuen Wan Lei Uk
船灣陳屋
Shuen Wan Chan Uk
沙欄小築
沙欄
Sha Lan
BOULEVARD
839 200E
836 000N
839 400E
835 600N
7NE-A/F 49
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
7NE-A/R 37
7NE-A/R 36
7NE-A/C 107
7NE-A/F 36
7NE-A/R 34
7NE-A/CR 96
7NE-A/R 35
7NE-A/R 18
7NE-A/C 139
7NE-A/R 33
7NE-A/C 172
7NE-A/R 41
7NE-A/R 48
7NE-A/CR 98
7NE-A/R 45
7NE-A/C 175
7NE-A/C 173
7NE-A/C 114
7NE-A/R 42
7NE-A/R 44
7NE-A/R 49
7NE-A/R 17
7NE-A/C 105
7NE-A/C 155
7NE-A/C 142
7NE-A/CR 157
7NE-A/CR 103
7NE-A/C 101
7NE-A/R 21
7NE-A/R 29
7NE-A/R 170
3SE-C/C

Slope Maintenance Responsibility Report (7NE-A/F36)	**ESTATE MANAGEMENT SECTION** **LANDS DEPARTMENT**

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/F36**		**Sub-Division**	1
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

2	**7NE-A/F36**		**Sub-Division**	2
	Location	ADJOINING AND WITHIN DD26 LOT989		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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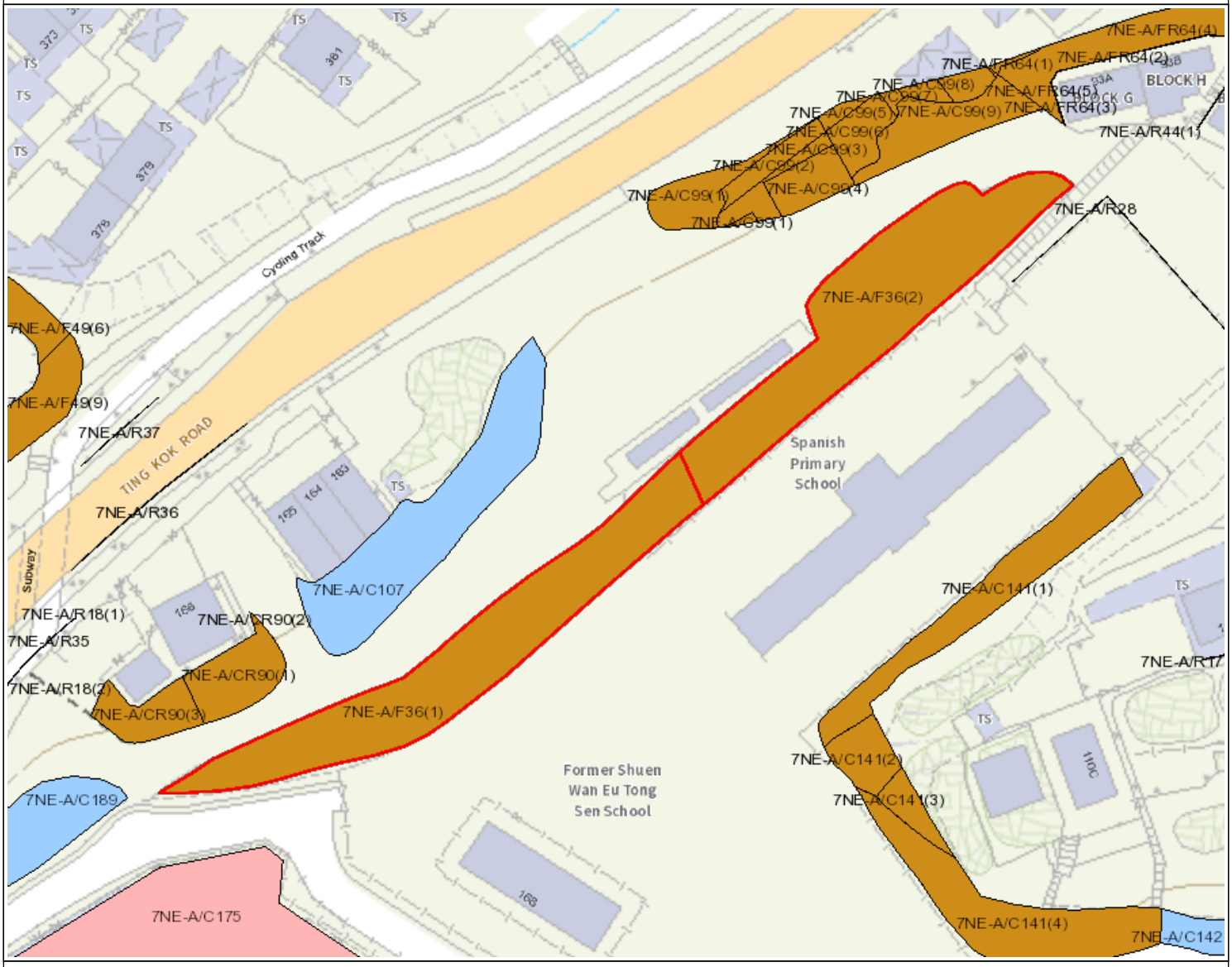
Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

This Plan is **NOT TO SCALE** and intended for **IDENTIFICATION** only. All information shown on this plan **MUST** be verified by field survey.

Printed on: 16/05/2022

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BASIC INFORMATION

Location:	Shuen Wan Chan UK, Tai Po
Registration Date:	24-09-1998
Ranking Score (NPRS):	2 (EI)
Date of Formation:	post-1977
Date of Construction/ Modification:	
Data Source:	EI
Approximate Coordinates:	Easting : 839317 Northing : 835789

CONSEQUENCE-TO-LIFE CATEGORY

Facility at Crest:	Other non-crowded built-up facilities
Distance of Facility from Crest (m):	0
Facility at Toe:	Road/footpath with very low traffic density
Distance of Facility from Toe (m):	0
Consequence-to-life Category:	2
Remarks:	N/A

SLOPE PART

(1) Max. Height (m): 5 Length (m): 115 Average Angle (deg): 40

WALL PART

N/A

MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 1 Mixed Feature Party: DD26 LOT989 Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(2) Sub Div.: 2 Mixed Feature Party: DD26 LOT413 B Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(3) Sub Div.: 3 Mixed Feature Party: DD26 LOT413 A Agent: N/A Land Cat.: 1 Reason Code: 1 MR Endorsement Date: 26-01-2007
(4) Sub Div.: 4 Mixed Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 26-01-2007

DETAILS OF SLOPE / RETAINING WALL

Date of Inspection: 17-04-2002
Data Source: EI
Slope Part Drainage: N/A

Wall Part Drainage: N/A

SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 0 Chunam: 0 Shotcrete: 0 Other Cover: 100
Material Description: Material type: Soil Geology: Colluvium
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): N/A Spacing (m): N/A

WALL PART

N/A

SERVICES

(1) Utilities Type: Water Main Size(mm): 25 Location: On slope Remark: N/A

CHECKING STATUS INFORMATION

Tagmark: 21177_1_4 Part: 1 Checking Status: No checking records Checking Certificate No.: N/A

BACKGROUND INFORMATION

GIU Cell Ref.:	7NE2A5
Map Sheet Reference (1:1000):	7NE- 2A
Aerial Photos:	N/A
Nearest Rainguage Station (Station Number):	Fishes Wholesale Market Building, Sham Mun Tsai(N45)
Data Collected On:	17-04-2002
Date of Construction, Subsequent Modification and Demolition:	N/A
Related Reports/Files or Documents:	N/A
Remarks:	N/A
Follow Up Actions:	N/A

DH-Order (To Be Confirmed with Buildings Department): None

Advisory Letter (To Be Confirmed with Buildings Department): None

LPMIS: None

ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 10/08/2021)

STAGE 1 STUDY REPORT

Inspected On:
Weather:
District: ME

Section No: 1-1
Height(m):
Type of Toe Facility: Road/footpath with very low traffic density

Distance from Toe(m): 0
Type of Crest Facility: Other non-crowded built-up facilities

Distance from Crest(m): 0
Consequence Category:
Engineering Judgement:

Section No: 2-2
Type of Toe Facility:

Distance from Toe(m):
Type of Crest Facility:

Distance from Crest(m):
Consequence Category:
Engineering Judgement:

Sign of Seepage:

Criterion A satisfied:

Sign of Distress:

Criterion D satisfied:

Non-routine maintenance required:

Note:

Masonry wall/Masonry facing:

Note:

Consequence category (for critical section):

Observations: N/A

Emergency Action Required:

Action By: N/A

ACTION TO INITIATE PREVENTIVE WORKS

Criterion A/Criterion D: N/A

Action By: N/A

Further Study:

Action By: N/A

OTHER EXTERNAL ACTION

Check / repair Services:

Action By: N/A

Non-routine Maintenance:

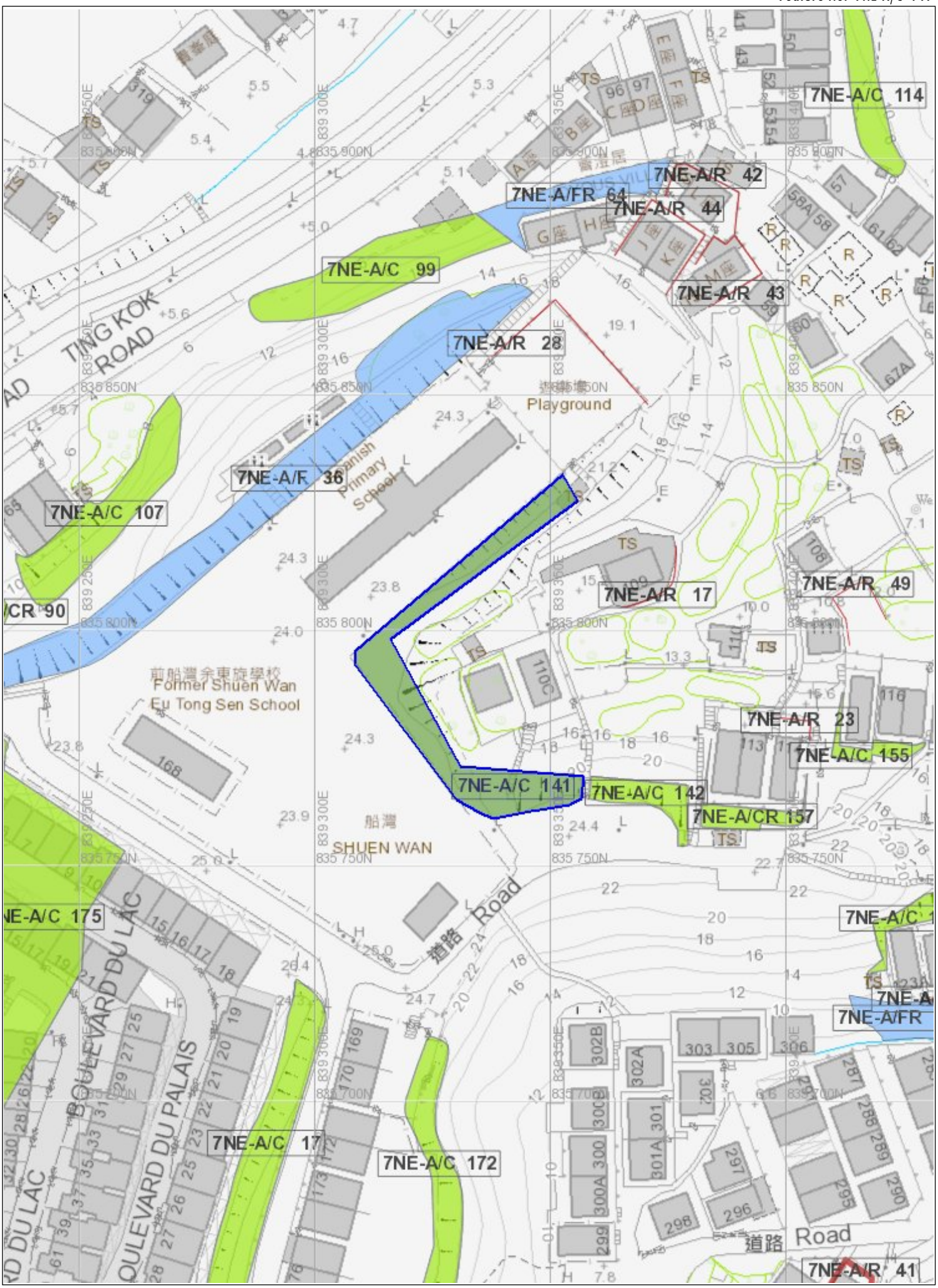
Action By: N/A

PHOTO








7NE-A/C 114
7NE-A/R 42
7NE-A/FR 64
7NE-A/R 44
7NE-A/C 99
7NE-A/R 43
7NE-A/R 28
TING KOK ROAD
Playground
7NE-A/F 36
Spanish Primary School
7NE-A/C 107
7NE-A/R 49
7NE-A/R 17
前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School
7NE-A/R 23
7NE-A/C 155
7NE-A/C 141
7NE-A/C 142
7NE-A/CR 157
船灣
SHUEN WAN
道路 Road
BOULEVARD DU LAC
BOULEVARD DU PALAIS
7NE-A/C 17
7NE-A/C 172
7NE-A/FR
道路 Road
7NE-A/R 41

Slope Maintenance Responsibility Report

(7NE-A/C141)

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

List of Slope Maintenance Responsibility Area(s)

1	**7NE-A/C141**		**Sub-Division**	1
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT989	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

2	**7NE-A/C141**		**Sub-Division**	2
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 B	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

3	**7NE-A/C141**		**Sub-Division**	3
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	DD26 LOT413 A	**Maintenance Agent**	Not Applicable
	Remarks	Not Applicable		

4	**7NE-A/C141**		**Sub-Division**	4
	Location	WITHIN DD26 LOTS989, 413 B, 413 A AND GOVERNMENT LAND		
	Responsible Lot/Party	Lands Department	**Maintenance Agent**	Lands Department
	Remarks	For enquiries about the maintenance of this slope / sub-division of the slope, please contact the Maintenance Agent directly.		

- End of Report -

Notes:

(i) The location plan in Annex is for identification purposes of slope(s) only.

(ii) The slope(s) as listed in the Slope Maintenance Responsibility Report may not be shown on the location plan in Annex.

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Location Plan



Legend

- Slope Area(s)
- Search Location
- Slope(s) Maintained by Government
- Slope(s) Maintained by Private Party/Parties
- Slope(s) Maintained by Government and Private Party/Parties

ESTATE MANAGEMENT SECTION
LANDS DEPARTMENT

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Appendix B

Excerpt of Final Filedwork Report of Ground Investigation Works near the site

VIBRO (H.K.) LIMITED
SITE INVESTIGATION DEPARTMENT

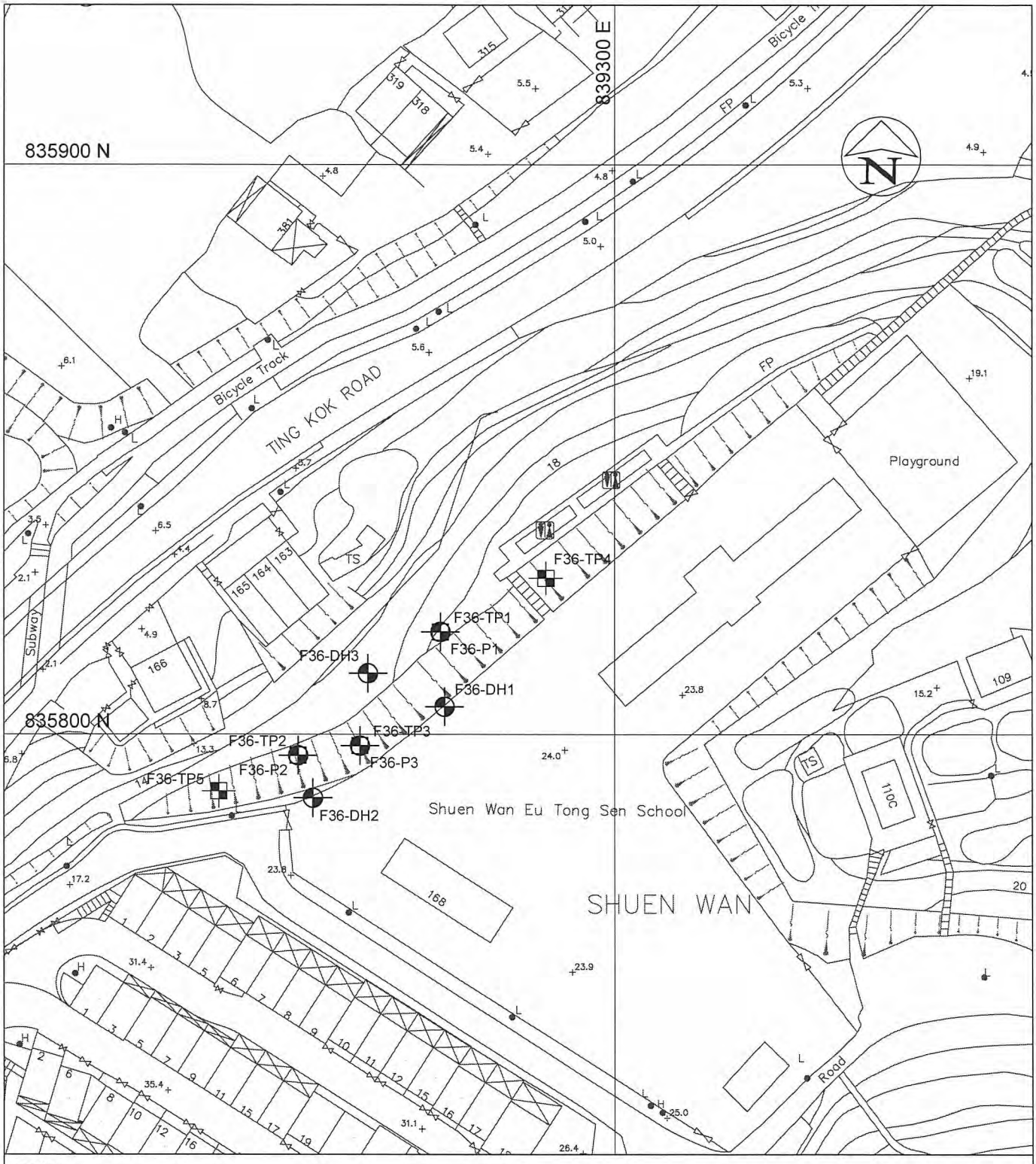
FINAL FIELDWORK REPORT

CONTRACT No.	GE/2009/15
WORKS ORDER No.	GE/2009/15.211D
PROJECT	Ground Investigation - New Territories East (Term Contract) Location : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po
CLIENT	Civil Engineering and Development Department
DATE	18 November 2011

CHECKED BY		18-11-11
	M. C. Leung Geotechnical Engineer	Date
CERTIFIED BY		18-11-11
	Ngan Chau Nam Contractor's Representative	Date

CONTRACTOR
Head Office: 4th Floor,
38 Sheung On Street, Chai Wan, Hong Kong.

Tel: 2336 5985 Fax: 2342 3589



LEGEND :

F36-DH1 DRILLHOLE

F36-TP1 TRIAL PIT

F36-P1 DYNAMIC PROBING TEST

DRAWN : RN	CHECKED : E LEUNG	CEDD CONTRACT NO. GE/2009/15 GROUND INVESTIGATION - NT EAST (TERM CONTRACT)	FEATURE NO. : 7NE-A/F36
SCALE : 1 : 1000	DATE : 15-11-2011		LOCATION : Tai Po
DRAWING NO. : J200946e/GIP/211D			WORKS ORDER NO. : GE/2009/15.211D
VIBRO (H.K.) LIMITED	CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT HONG KONG		DRAWING TITLE : GROUND INVESTIGATION LAYOUT PLAN

VIBRO (H.K.) LIMITED
SITE INVESTIGATION DEPARTMENT

CONTRACT NO. GE/2009/15
WORKS ORDER NO. GE/2009/15.211D

PROJECT : Ground Investigation - New Territories East (Term Contract)

LOCATION : Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

Table 2 - Summary of Drillhole Result

Stratum	HOLE NO.								
	F36-DH 1	F36-DH 2	F36-DH 3						
Ground Level (mPD)	+24.08	+23.93	+16.83						
Concrete Surface Bottom Level (mPD)	-	-	+16.73						
Bottom Depth (m below Ground Level)	-	-	0.10						
Thickness (m)	-	-	0.10						
Fill Bottom Level (mPD)	+21.48	+22.43	+15.33						
Bottom Depth (m below Ground Level)	2.60	1.50	1.50						
Thickness (m)	2.60	1.50	1.40						
Colluvium Bottom Level (mPD)	+18.58	+20.03	-						
Bottom Depth (m below Ground Level)	5.50	3.90	-						
Thickness (m)	2.90	2.40	-						
Residual Soil Bottom Level (mPD)	+16.58	-	+13.33						
Bottom Depth (m below Ground Level)	7.50	-	3.50						
Thickness (m)	2.00	-	2.00						
Saprolitic Soil and Weathered Rock Bottom Level (mPD)	+9.03	+11.33	+1.83						
Bottom Depth (m below Ground Level)	15.05	12.60	15.00						
Thickness (m)	7.55	8.70	11.50						
Rock Bottom Level (mPD)	-	-	-						
Bottom Depth (m below Ground Level)	-	-	-						
Thickness (m)	-	-	-						
End of Hole Level (mPD)	+9.03	+11.33	+1.83						
End of Hole Depth (m below Ground Level)	15.05	12.60	15.00						
Rock Type	-	-	-						
Bedrock Level (mPD)	-	-	-						

Note : - : Not encountered in the investigation

DRILLHOLE RECORD

VIBRO

HOLE NO. F36-DH 1

CONTRACT NO. : GE/2009/15

SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	DATE : 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
20/10/2011	PW								A 0.50 INSPECTION PIT; B 1.00; C 1.50	+24.08	0.00			Firm, brown (7.5YR 5/4), dappled light brown, spotted light grey, slightly sandy SILT with occasional angular to subangular fine gravel sized highly decomposed and moderately decomposed rock fragments. (FILL)
			45	100					1 1.50; 2 2.50 2.60	+21.48	2.60			
								1,1, 2,2,2,3 N=9	3 2.70; 4 3.00 3.05					Firm, light brown (7.5YR 6/4), dappled brown, slightly sandy clayey SILT with occasional subangular fine gravel sized highly decomposed rock fragments. (COLLUVIUM)
			45	95					5 3.50; 6 4.50 4.60					
	PW 4.50 HW							1,1, 2,2,3,3 N=10	7 4.70; 8 5.00 5.05	+18.58	5.50		VI	
			45	100					9 5.50; 10 6.50 6.60					Firm, light brown, slightly sandy SILT with occasional angular to subangular fine gravel and quartz fragments. (RESIDUAL SOIL)
								2,3, 3,4,4,5 N=16	11 6.70; 12 7.00 7.05	+16.58	7.50		V	
			45	95					13 7.50; 14 8.50 8.60					Extremely weak, reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with occasional angular fine gravel)
								2,2, 3,4,6,8 N=21	15 8.70; 16 9.00 9.05					From 8.50m to 8.60m : With firm, light brown, sandy silt infilled relict joints 20mm thick, dipping 20° to 30°.
			45						17 9.50	+14.58	9.50		V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED T. C. Yip

DATE 21/10/2011

CHECKED E. Leung

DATE 24/10/2011

REMARKS

1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 2.30m and 5.20m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 2.00m and b) from 1.50m to 4.50m depth at 0.50m intervals.

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 1
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839270.53 N 835804.87	DATE : 20/10/2011 to 21/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 24.08 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW			100						+14.08	10.00		V	See sheet 1 of 2
20/10/2011		7.80m at 18:00	45						18 10.50 10.60	+13.48	10.60			
21/10/2011		Dry at 08:00						5,7, 10,13,16,20 N=59	19 10.70 11.00 20 11.05				IV	Weak to moderately weak, highly decomposed GRANODIORITE. (Sandy angular fine to coarse GRAVEL)
11										+12.58	11.50			
									21 11.50				V	Extremely weak, brown, dappled light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with some angular fine gravel)
12			45	92					22 12.50 12.60	+11.48	12.60			
								4,6, 8,10,14,20 N=52	23 12.70 24 13.00 13.05				V	Extremely weak, brown, dappled reddish brown, completely decomposed GRANODIORITE. (Sandy SILT with some angular fine gravel)
13														
									25 13.50					
14			45	100					26 14.50 14.60	+9.48	14.60			
								7,11, 14,17,19,22 N=72	27 14.70 28 15.00 15.05	+9.03	15.05		V	Extremely weak, light brown, completely decomposed GRANODIORITE. (Silty fine to coarse SAND with occasional angular fine gravel)
15 21/10/2011	HW 15.05	12.00m at 18:00												
														End of Investigation Hole at 15.05m.
16														
17														
18														
19														
20														

- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	21/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 2
	SHEET 1 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	**CO-ORDINATES**	**W.O.NO.** GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	**DATE :** 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	**ORIENTATION** Vertical	**GROUND LEVEL** + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	T C R %	S C R %	R Q D %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
18/10/2011	PW								A 0.50	+23.93	0.00			Firm, brown (7.5YR 5/4), slightly sandy SILT with some angular to subangular fine gravel sized moderately decomposed rock fragments. (FILL)
									B INSPECTION PIT 1.00					
									C 1.50	+22.43	1.50			Firm, brown (7.5YR 5/4), dappled light brown, slightly sandy SILT with occasional subangular fine to medium gravel sized highly decomposed and moderately decomposed rock fragments. (COLLUVIUM)
			45	95					1 2.50					
								1,2, 2,3,4,5 N=14	2 2.60					
									3 2.70					
									4 3.00 3.05					
									5 3.50	+20.03	3.90		V	Extremely weak, reddish brown, dappled light brown and brown, spotted light grey, completely decomposed GRANODIORITE. (Slightly sandy SILT with some angular to subangular fine gravel)
			45	100					6 4.50 4.60					
								1,1, 2,2,2,3 N=9	7 4.70					
									8 5.00 5.05					
	PW 5.50								9 5.50					
	HW													
			45	100					10 6.50 6.60	+17.33	6.60		V	Extremely weak, reddish brown, dappled dark brown, completely decomposed GRANODIORITE with some iron and manganese stained relict joints, dipping 0° to 10° and 10° to 20°. (Slightly sandy SILT with some angular to subangular fine gravel)
								4,5, 7,9,11,13 N=40	11 6.70					
									12 7.00 7.05					
									13 7.50					
			45	95					14 8.50 8.60					
								3,5, 6,6,10,14 N=36	15 8.70					
									16 9.00 9.05					
			45						17 9.50					

Disturbed sample	Standard penetration test
Piston sample	In-situ vane shear test
U76 undisturbed sample	Permeability test
U100 undisturbed sample	Pressuremeter test
Mazier sample	Packer Test
SPT liner sample	Acoustic or optical televiewer survey
Water sample	Piezometer tip
En Environmental Sample	Standpipe

LOGGED	T. C. Yip
DATE	20/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS
1. An inspection pit was excavated to 1.50m depth.
2. Piezometers were installed at 4.50m and 12.10m depth.
3. Piezometer buckets were installed in piezometers a) from 1.50m to 4.00m and b) from 1.50m to 11.50m depth at 0.50m intervals.

J200946e_211D

DRILLHOLE RECORD

VIBRO

CONTRACT NO. : GE/2009/15	HOLE NO. F36-DH 2
	SHEET 2 OF 2

PROJECT Ground Investigation - New Territories East (Term Contract)
Agreement No. CE 56/2009 (GE), LPMit Programme, 2009, Package I, Landslip Prevention Works on Government Slopes and Retaining Walls Mainland East (North) - Investigation, Design and Construction, Mainland East (North) (Batch 2), Feature No. 7NE-A/F36, No.166 Ting Kok Road, Tai Po

METHOD	Rotary	CO-ORDINATES	W.O.NO. GE/2009/15.211D
MACHINE & NO.	VBM52	E 839247.43 N 835788.88	DATE : 18/10/2011 to 18/10/2011
FLUSHING MEDIUM	Water	ORIENTATION Vertical	GROUND LEVEL + 23.93 mPD

Drilling Progress	Casing Depth/Size	Water Level (m) Shift start / end	Flush Returns %	TCR %	SCR %	RQD %	FI	Tests	Samples No. Type Depth	Reduced Level	Depth (m)	Legend	Grade	Description
	HW		45	87					18 10.50 10.60	+13.93	10.60		V	See sheet 1 of 2
								3,5, 7,10,13,18 N=48	19 10.70				V	Extremely weak, brown, dappled pinkish brown, completely decomposed GRANODIORITE. (Slightly sandy SILT with occasional angular to subangular fine gravel)
									20 11.00 11.05					
									21 11.50					
			45	80										
18/10/2011	HW 12.60	8.20m at 18:00							22 12.50 12.60	+11.33	12.60			End of Investigation Hole at 12.60m.

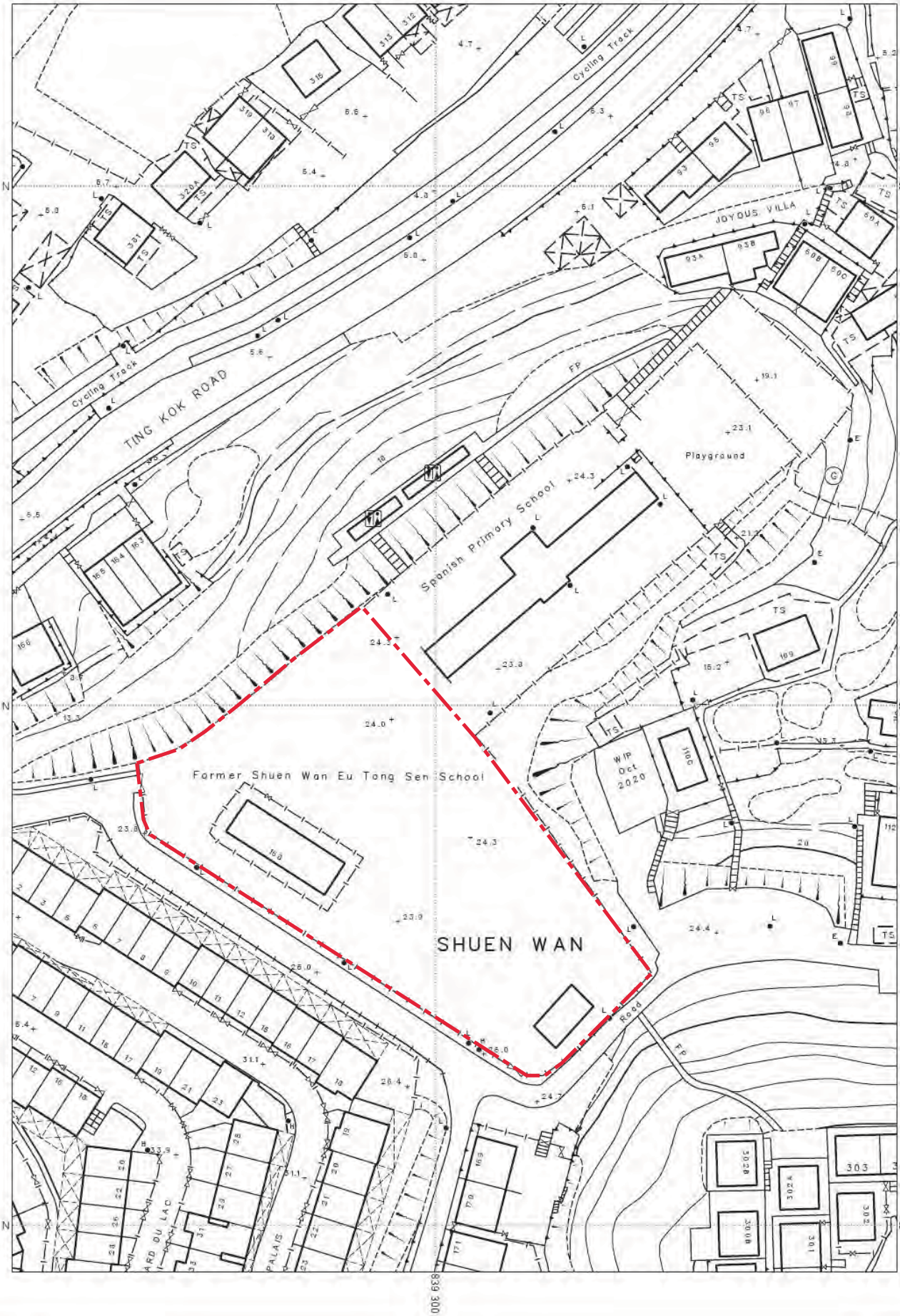
- Disturbed sample
- Piston sample
- U76 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- SPT liner sample
- Water sample
- En Environmental Sample
- Standard penetration test
- V In-situ vane shear test
- Permeability test
- Pressuremeter test
- Packer Test
- Acoustic or optical televiewer survey
- Piezometer tip
- Standpipe

LOGGED	T. C. Yip
DATE	20/10/2011
CHECKED	E. Leung
DATE	24/10/2011

REMARKS

Appendix C

Excerpt of tender documents



FOR IDENTIFICATION ONLY

只供識別用

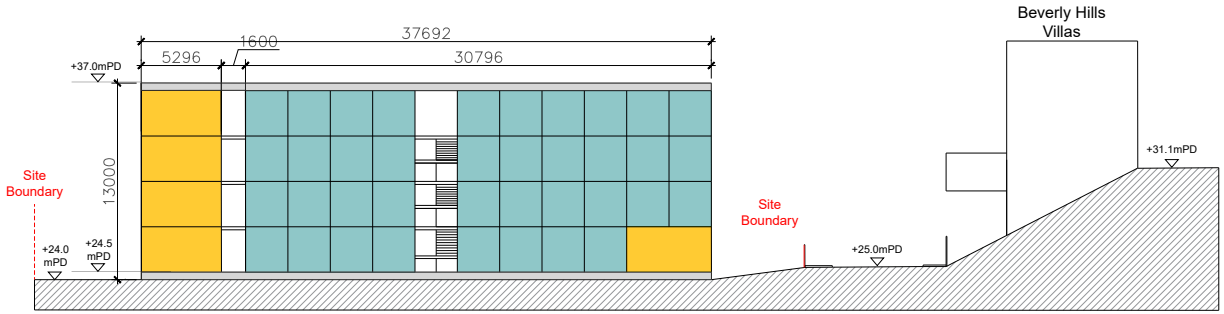
Sheet Number 7-NE-2A


TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Chuk Hang Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
船灣
SHUEN
CHAN

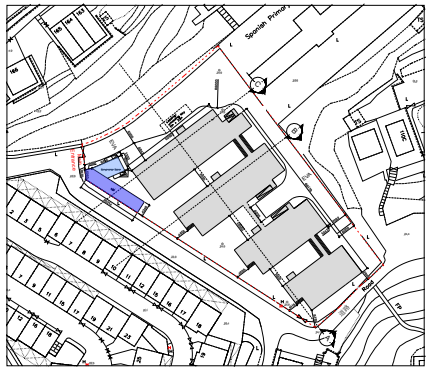


TING KOK ROAD
汀角路
Cycling Track
單車徑
Subway
行人隧道
Wong Yu Ten Refuse Collection Point
Spanish Primary School
遊樂場
Playground
Road
道路
Cycling Track
多層行車通道
Muti-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Road

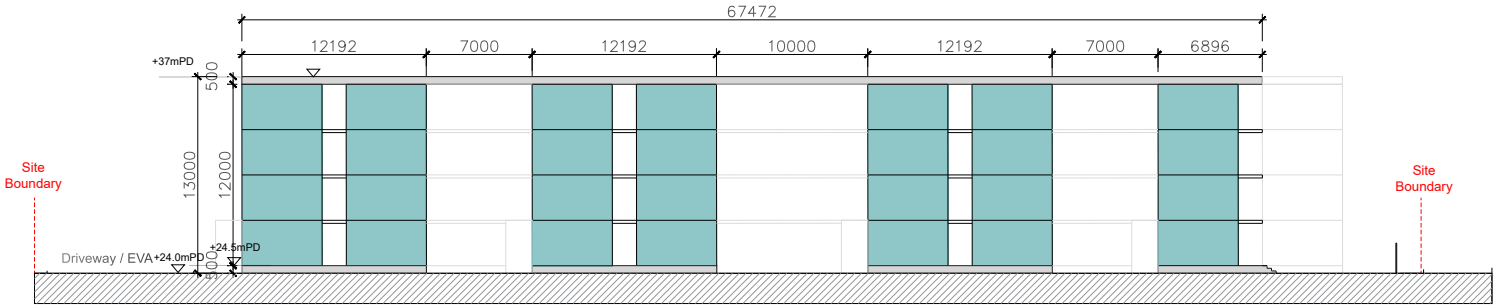

TING KOK ROAD
汀角路
Cycling Track
Subway
行人隧道
Spanish Primary School
遊樂場
Playground
Wong Ma Kok Refuse Collection Point
Cycling Track
道路
Road
多層行車通道
Multi-storey Vehicular Access
BOULEVARD DU LAC
BOULEVARD DU PALAIS
Convenience Store
船灣
SHUEN
CHAN



SECTION B



KEY PLAN 1:4000



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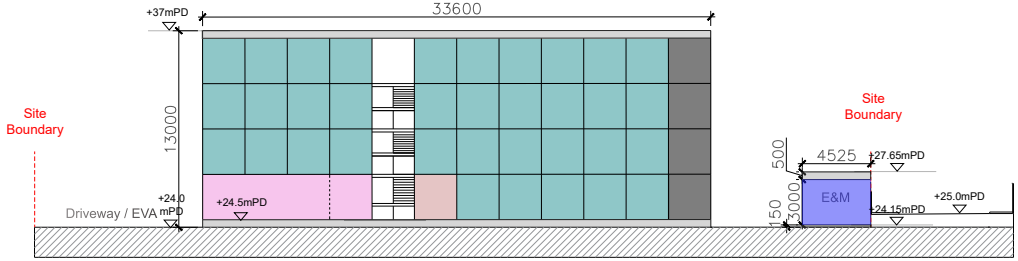
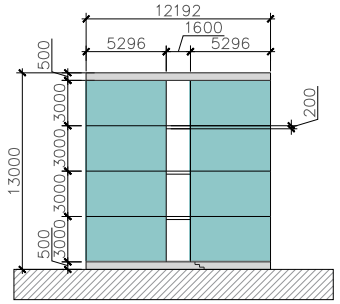


SECTION C



TYPICAL BLOCK SECTION

PROJECT

TRANSITIONAL HOUSING PROJECT AT GOVERNMENT LAND AT SHUEN WAN, OFF TING KOK ROAD, TAI PO (FORMER SHUEN WAN EU TONG SEN SCHOOL)

DRAWING PURPOSES

CONCEPT DRAWING

DRAWING TITLE

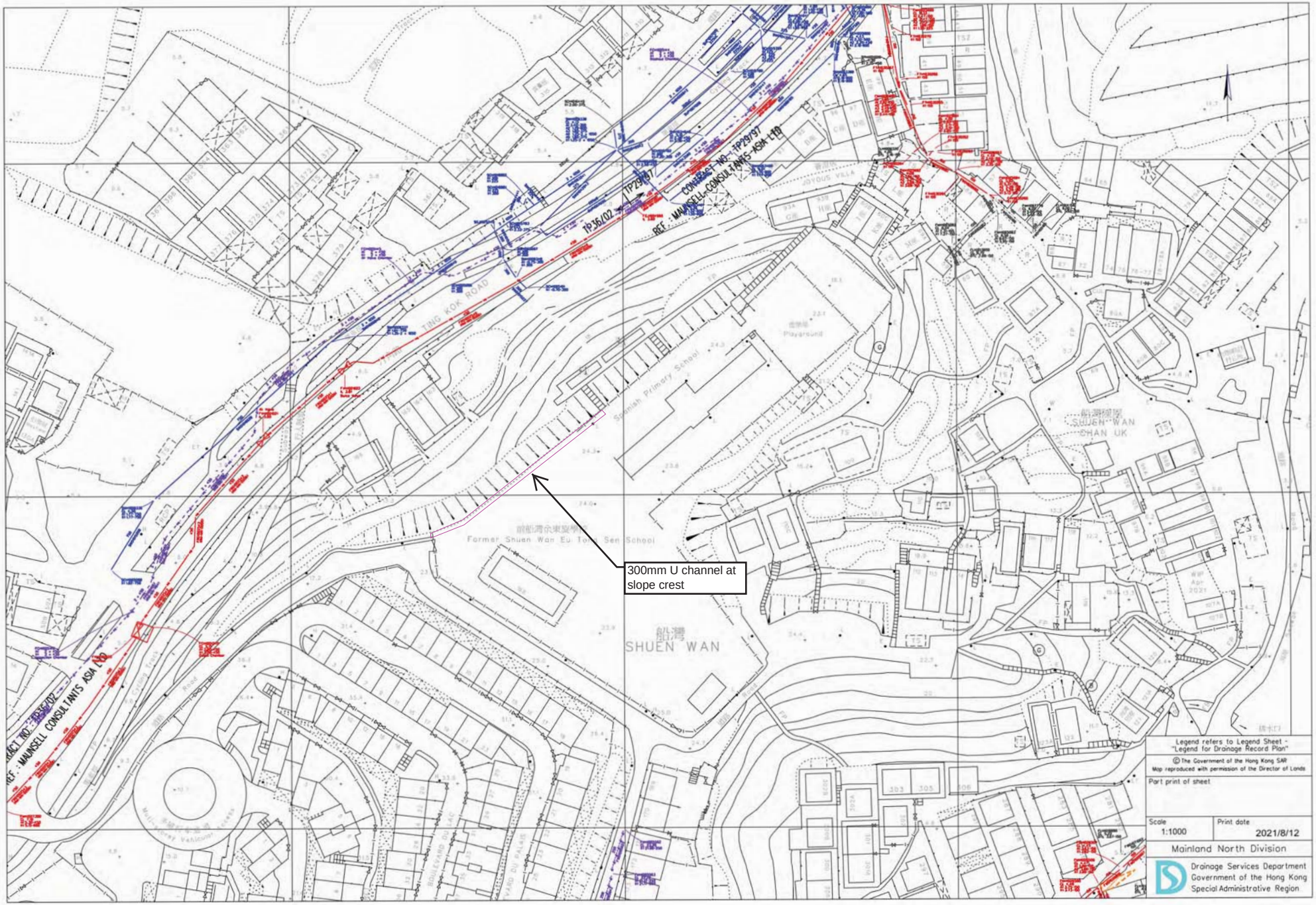
PROPOSED TRANSITIONAL HOUSING BUILDING SECTIONS

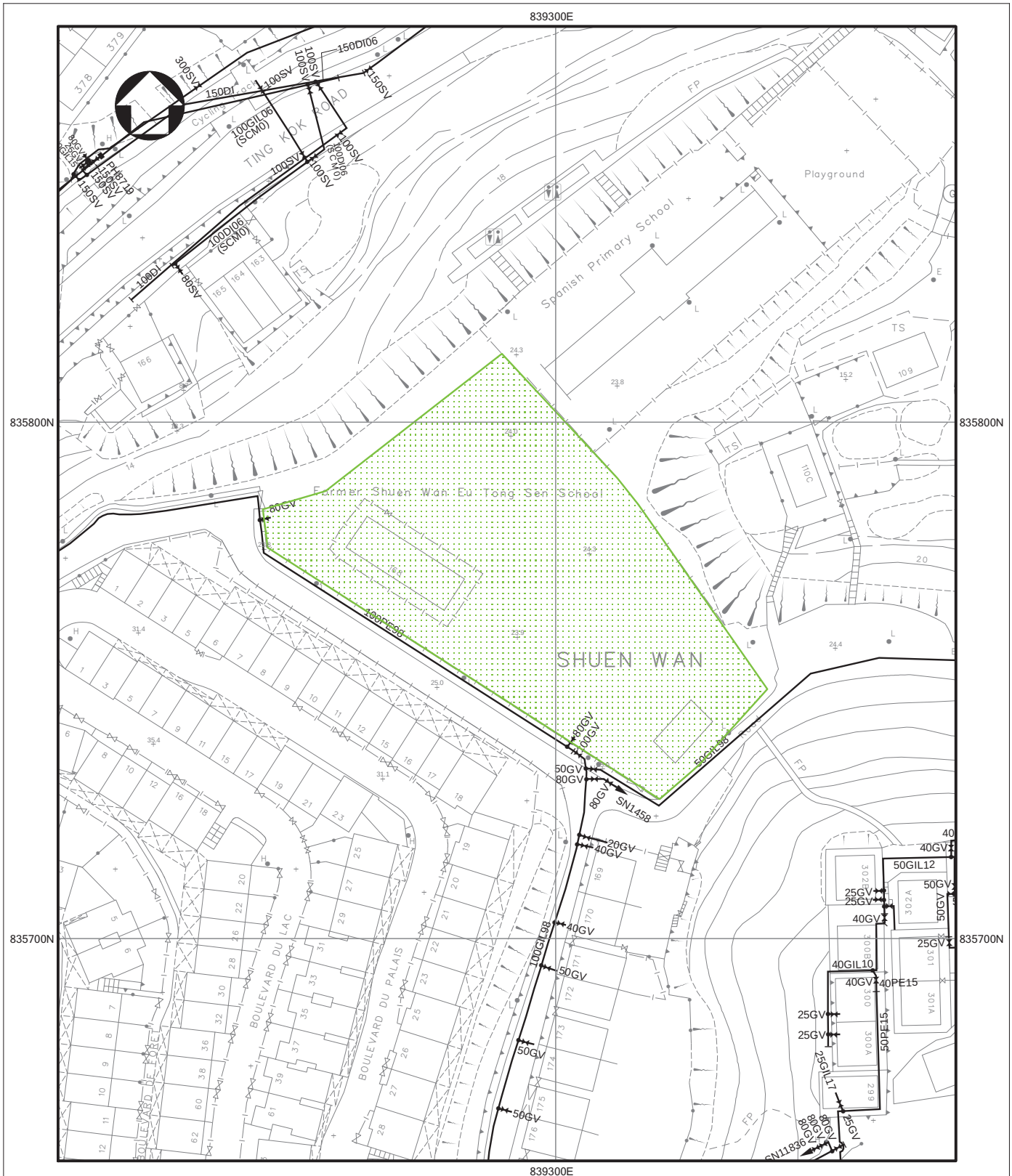
- Single Unit (1-2P)
- Double Unit (3-4P)
- Ancillary Facilities
- Convenience Store
- E&M Plant Room
- Management/Office
- Multipurpose Hall

ARCHITECTURAL DESIGN

UDP INTERNATIONAL
SCALE 1:500 @ A4

Drafted By: Architect
Designed By: Architect
Checked By: Queenie Huang
Approved By: Sujata Govada


300mm U channel at slope crest
SHUEN WAN
SHUEN WAN CHAN UK
Spanish Primary School
Former Shuen Wan Eu Tong Sen School
TING KOK ROAD
CONTRACT NO. TP29/97
REF. : MAUNSELL CONSULTANTS ASIA LTD
TP36/02
Legend refers to Legend Sheet - "Legend for Drainage Record Plan"
© The Government of the Hong Kong SAR
Map reproduced with permission of the Director of Lands
Part print of sheet
Scale 1:1000
Print date 2021/8/12
Mainland North Division
Drainage Services Department
Government of the Hong Kong Special Administrative Region



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/7-NE-2A

REF. CODE: 31W21M	SHEET 1 OF 1	SCALE 1:1000

水 務 署
Water Supplies Department

© The Government of the Hong Kong SAR, Map reproduced with permission of the Director of Lands


The Site
Proposed routing of power cable lead-in from Ting Kok Road
船灣
SHUEN WAN
前船灣余東旋學校
Former Shuen Wan Eu Tong Sen School
沙欄小築
Sha Lan Villas
Spanish Primary School
Kingsland
Cycling Track
Map data reproduced with p

Appendix D

SLOPE/W Analysis of Feature No. 7NE-A/F36

STAGE 3 STUDY REPORT S3R 27/2012

FEATURE NO. 7NE-A/F36
(Sub-division No. 1)
No. 166, Ting Kok Road, Tai Po

Fugro (Hong Kong) Limited

This report has been prepared for the sole and specific use of the Government of the Hong Kong Special Administrative Region. Any other persons who use any information contained in it do so at their own risk.

October 2012
LPM Division 1
Geotechnical Engineering Office
Civil Engineering and Development Department

Foreword

This report presents the results of a Stage 3 Study on the government portion of Feature No. 7NE-A/F36 (Sub-division No.1), which is located at No. 166, Ting Kok Road, Tai Po.

The desk study, aerial photograph interpretation, site inspection, ground investigation, supervision, topographical survey, stability assessment, design of landslip preventive works and compilation of this report were carried out by Fugro (Hong Kong) Limited on behalf of the Geotechnical Engineering Office, Civil Engineering and Development Department under Agreement No. CE 56/2009 (GE): Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) – Investigation, Design and Construction.

Based on the Slope Report obtained from the web-based Slope Maintenance Responsibility Information System of the Lands Department (LandsD), the study feature is maintained by the LandsD (Sub-division No.1) and the owners of D.D. 26 LOT989 (Sub-division No.2).

The results of the stability analysis indicate that the stability of the government portion of the existing feature under the maintenance of LandsD possesses a minimum factor of safety below the current safety standards. Hence, landslip preventive works comprising replacement of existing loose fill and provision of new surface drainage system are recommended to the government portion of the feature. To improve the aesthetics of the upgraded government portion of the feature, hydroseeding will be applied to the final slope surface.

Y C Koo
Project Director

Stage 3 Study Report

Design Certificate

Agreement No. & Title :	Agreement No. CE 56/2009 (GE) Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) - Investigation, Design and Construction
Contract No. & Title :	Contract No. GE/2011/13 Landslip Prevention and Mitigation Programme, 2009, Package I – Landslip Prevention and Mitigation Works in Mainland East (North)
Feature No. & Location :	Feature No. 7NE-A/F36 (Sub-division No.1) No. 166, Ting Kok Road, Tai Po
Consulting Engineer :	Fugro (Hong Kong) Limited

We certify that:

(i) Our design complies with the standards set out in the Agreement and with amendments agreed to by the Director's Representative.

(ii) All reasonable and professional skill, care and diligence have been exercised.

(iii) An in-house independent check of the design calculations and contract documents has been undertaken and the design and contract documentation comply with the requirements of the Agreement.

Signed	
Name	Y C Koo
Professional Qualifications	FHKIE, MICE, RPE (Civil & Geotechnical)
Date	17/10/2012

Stage 3 Study Report

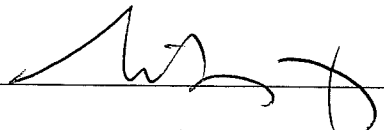
Independent Checking Certificate

Feature No. 7NE-A/F36
(Sub-division No.1)

Agreement No. & Title :	Agreement No. CE 56/2009 (GE) Landslip Prevention and Mitigation Programme, 2009, Package I, Landslip Preventive Works on Government Slopes and Retaining Walls, Mainland East (North) - Investigation, Design and Construction
Feature No. & Location :	Feature No. 7NE-A/F36 (Sub-division No.1) No. 166, Ting Kok Road, Tai Po
Consulting Engineer :	Fugro (Hong Kong) Limited

1. I certify that this Stage 3 Study complies with the standards and requirements set out in the Agreement.

2. I have independently checked this Stage 3 Study Report. All reasonable and professional skill, care and diligence have been exercised.

Signed	
Name	Timothy Wong (Independent Checking Engineer)
Professional Qualifications	MHKIE, RPE (Geotechnical)
Date	16/10/2012

Stage 3 Study Report

Quality Assurance Sheet

Feature No. 7NE-A/F36 (Sub-division No.1)
No. 166, Ting Kok Road, Tai Po

Document Rev: 0
Document Status: Final
Document Ref: 091041.22.S3R.01

Prepared By: _____ Date: 12/10/2012
Candy Kang / Andy Ng
Fugro (Hong Kong) Limited

Approved By: _____ Date: 15/10/2012
K K Pang
Fugro (Hong Kong) Limited

Fugro (Hong Kong) Limited
October 2012

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Appendix C: API Report

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Appendix E: Topographical Survey Plan

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Appendix G: p'-q Plots of Respective Soil Materials

Appendix H: Stability Analysis of Existing Feature

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Appendix J: Stability Analysis of Upgraded Feature and Design of Upgrading Works

Appendix K: Surface Drainage Calculation

List of Drawings

1 Introduction

1.1 Background

The Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department (CEDD) selected Feature No. 7NE-A/F36 for Stage 3 Study under Agreement No. CE 56/2009 (GE). This Agreement commenced in February 2010 and involves technical and administrative activities related to the investigation, design and construction of landslip prevention works on sub-standard Government man-made slopes and retaining walls and hazard mitigation works for natural hillside catchments.

1.2 Site Description

Feature No. 7NE-A/F36 (Hong Kong Metric Grid Ref. 839289E, 835823N) is located at No. 166, Ting Kok Road, Tai Po. Location plan and site plan of the feature are shown in Figures 1.1 and 1.2 respectively.

The feature is a 160 m long fill slope with the north-eastern portion of the feature located within private Lot No. 989 in DD26. The government portion of the feature is about 90 m long with a maximum height of about 5 m and an average slope angle of 35°. Below the toe of the government portion is a registered cut slope Feature No. 7NE-A/C107 and some cottages. Abandoned washrooms and natural slope are located below the toe of the private portion of the feature. Above the crest of the government portion are an abandoned school playground and an access road. An abandoned playground and school are situated at the crest of the private portion of the feature. General views of the feature are shown in Figures 1.3 to 1.6 and their locations and directions are shown in Figure 1.2.

1.3 Maintenance Responsibility

Based on the Slope Report obtained from the web-based Slope Maintenance Responsibility Information System (SMRIS) of the Lands Department (LandsD), the feature lies partly on unallocated government land and partly within private Lot 989 respectively. The study feature is maintained jointly by the Lands D and the owner of private lot 989 in DD26. A copy of SIMAR Slope Report is presented in Appendix A. Details are summarised as follows:

Feature No.	Sub-division No. in SIMAR report	Maintenance Responsibility
7NE-A/F36	1	LandsD
	2	DD26 LOT989

2 Geotechnical Investigation

2.1 Desk Study

A desk study was carried out to retrieve relevant information from the Geotechnical Information Unit (GIU) and various divisions of the GEO, the Lands D, other government departments and utility undertakers. An aerial photograph interpretation (API) of the site was also undertaken. Results of the desk study are summarized below. A copy of the documents relevant to the study is included in Appendix B.

2.1.1 Geotechnical Engineering Office

A Feature Registration Form (Appendix B1) was obtained from the Slope Information System (SIS) of the GEO. It was stated in the form that the consequence-to-life of the feature is of category '1'.

A "Phase 2 Systematic Inspection of Features in the Territory" report (SIFT Report No. 7NE-2A/S82 (GEO, 1997)) (Appendix B2) on the feature was prepared by the Planning Division of GEO on 14 March 1997. The SIFT report indicates that the feature was formed before 1963 and was classified as a 'Class B1' feature.

A Stage 2 Study Report (S2R 98/2006) was prepared by C M Wong & Associates Limited under Agreement No. CE12/2004 in 2006 with no feature-specified ground investigation (GI) information. Stability analyses were carried out for the slope using shear strength parameters of c'=0kPa, ϕ'=35° for Fill and c'=6kPa, ϕ'=36° for CDG. The results of stability analysis indicated that the slope had a minimum FOS of 0.848 for Sub-division No.1 (at that time this portion was maintained by Land License) and that of 0.694 for Sub-division No.2 (private portion). A DH Order and a warning letter were hence recommended to be issued to the lot owners of DD26 Lot989 and the Licensees of Licence Area T19809 respectively. The proposed issuance of the warning letter to the licensee could not be made because the Shuen Wan Eu Tong Sen School had ceased operation from 1 September 1994. A DH Order DH0009/NT/08/C concerning the north-eastern section of the feature was then served on SHUEN WAN SCHOOL (Owner of D.D. 26 Lot No. 989) on 29 January 2008 by the Buildings Department (BD).

2.1.2 Lands Department

There was no record in the LandsD indicating that Engineer Inspection (EI) had been carried out for the feature.

2.1.3 Utilities Information

The following government departments and utility undertakers were contacted regarding the location of their utilities and plants in relation to the subject feature:

- Drainage Services Department
- Highways Department, Lighting Division
- Transport Department
- Water Supplies Department
- Fire Services Department
- CLP Power Hong Kong Limited
- Towngas Telecommunications Fixed Network Limited
- Hong Kong Broadband Network Limited
- Hong Kong Cable Television Limited
- Hutchison Global Communications Limited
- New World Telecommunications Limited
- PCCW-HKT Telephone Limited
- The Hong Kong and China Gas Company Limited
- Wharf T & T Limited

A review of the information from the above utility undertakers revealed that there is a buried 100 mm diameter water main located along Ting Kok Road at the southwestern end of the government portion of the feature. The approximate locations of the utilities are shown on Drawing No. LPM1113/22/01.

2.1.4 Previous Ground Investigation Information

An information search for previous GI was carried out at the GIU of CEDD. The search did not reveal any record of previous GI work carried out within and in the vicinity of the feature.

2.1.5 Aerial Photograph Interpretation (API)

An API was carried out to identify the topographical / geomorphological and geological setting of the feature, as well as the site development history, past instability and surface hydrology in the vicinity of the feature.

The findings of the API revealed that the feature was formed as a fill slope on or before 1963 probably in association with the construction of the Shuen Wan Eu Tong Sen School at the crest of the feature. Except the change in density of vegetation cover, no significant change to the feature can be observed from API since its formation. A copy of the API report is presented in Appendix C.

2.1.6 Past Instability

No record of past instability relating to the feature was found in the SIS or Enhanced Natural Terrain Landslide Inventory (ENTLI) of the GEO.

2.2 Visual Inspection

Visual inspections to the subject feature were undertaken by Fugro (Hong Kong) Limited (FHK) between March 2010 and November 2011.

The feature is accessible via Ting Kok Road to its crest. At the time of inspections, the slope surface was generally covered with dense vegetation. An abandoned school was situated at the crest of the feature and two abandoned washrooms with stairways were located at the toe of the feature. Below the toe of the government portion of the feature was a 9 m high cut slope with 300 mm wide U-channel and catchpit along its slope crest. Some 2-storey cottages were located at the toe of the cut slope. No signs of seepage and sign of distress were noted during the inspection.

2.3 Ground Investigation

To acquire geological information for the present study, ground investigation (GI) was carried out on the feature by Vibro (H.K.) Limited in November 2011 under CEDD Contract No. GE/2009/15. The GI works consisted of three drillholes (F36-DH1 to F36-DH3) and five trial pits (F36-TP1 to F36-TP5). Two piezometers were installed in drillhole nos. F36-DH1 to F36-DH3. Locations of the GI stations are shown in Figure 2.1. Results of the GI are summarised in Appendix D.

2.4 Laboratory Testing

After completion of the GI works, laboratory tests were carried out on selected soil samples taken from the feature to determine the shear strength parameters and other properties of the slope forming materials. The laboratory tests included the following:

- Multi-stage Consolidated Undrained Triaxial Compression Test
- Atterberg Limits Determination
- Particle Size Distribution Analysis
- Moisture Content Determination
- Chemical Tests

The laboratory tests were carried out by Soils & Materials Engineering Co., Ltd. under CEDD Contract No. GE/2010/30. The laboratory test results are summarised in Appendix D.

3 Geotechnical Assessment

3.1 Topography

A topographical survey for the study feature was carried out by Alliance Professional Surveyors Co. Ltd. in November 2011. A copy of the survey plan is presented in Appendix E. Based on the survey plan, a critical section, Section 1-1, was established for slope stability analyses of the government portion. Location of the section is shown in Figure 2.1.

3.2 Geological Model

The Hong Kong Geological Survey, 1:20,000 scale geological map, Series No. HGM20, Sheet No. 7 – Sha Tin, published by the Geotechnical Control Office (GCO, 1986), indicates that the feature is underlain by sand, gravel, cobbles and boulders in silt matrix (colluvium). No adverse geological feature was identified within and in the vicinity of the feature. A copy of regional geological map is shown in Figure 3.1

Based on the findings of the site-specific GI, the feature mainly comprises maximum 2m thick fill overlying colluvium and residual soil followed by Completely Decomposed Granodiorite (CDGd). Details of sub-surface materials found in the GI are summarised below:

Fill (FILL) Brown, slightly sandy SILT with occasional angular to subangular fine gravel sized highly decomposed and moderately decomposed rock fragments.

Colluvium (COLL) Light brown, slightly sandy clayey SILT with occasional subangular fine gravel sized highly decomposed and moderately decomposed rock fragments.

Residual Soil (RS) Brown, slightly sandy SILT with occasional angular to subangular fine gravel and quartz fragments.

Completely Decomposed Granodiorite (CDGd) Extremely weak, reddish brown, completely decomposed GRANODIORITE (slightly sandy SILT with some angular to subangular fine gravel).

The inferred geological profile of the feature in Sections 1-1 is shown in Figure 3.2.

3.3 Groundwater Conditions

The groundwater monitoring records were taken in late October 2011. No groundwater level was encountered (i.e. dry) in any of the drillholes (i.e. F36-DH1 to F36-DH3). The groundwater monitoring records are presented in Appendix F.

Having considered the potential rise in the groundwater level during the season of heavy rainfall and the effect of possible leakage of buried water pipe located at the southwestern end of the feature, a perched water table at 0.5 m above the bottom of Fill layer and a design groundwater table at one-third of slope height were adopted to cater for 1 in 10-year return period rainfall.

The design groundwater table and perched water table adopted in the stability analyses at Section 1-1 are shown in Figure 3.2. The groundwater monitoring records are presented in Appendix F.

3.4 Parameters for Analysis

The shear strength parameters of Fill, COLL and RS were evaluated from the p'-q plots of results of laboratory triaxial tests. The adopted parameters are summarised in the table below and the p'-q plots are presented in Appendix G.

Material Type	Effective Cohesion c' (kPa)	Effective Friction Angle, ϕ' (°)	Bulk Unit Weight γ (kN/m^3)
FILL	0	33	18
COLL	2	32	19
RS	2	33	19

3.5 Stability Analysis of Existing Feature

It is considered that the cottages at the feature toe would be affected in the event of failure of this feature. Based on Works Bureau Technical Circular No. 13/99 (WB, 1999) and GEO Technical Guidance Note (TGN) No. 15 (GEO, 2007), the consequence-to-life and economic consequence categories of this feature should be classified as category "1" and category "A" according to Tables 3 and 4 of Appendix A of the Circular respectively. Thus, a minimum factor of safety (FOS) of 1.4 under a 10-year return period rainfall is recommended for this feature.

Stability analyses for Sections 1-1 was carried out using computer program SLOPE/W, Version 2007 with the inferred geological model, the assumed groundwater condition and the adopted shear strength parameters as discussed in Sections 3.2 to 3.4. The Morgenstern-Price Method was used to determine the FOS. Results of the slope stability analyses are shown in Figure 3.3. The calculated minimum FOS of overall stability of Sub-division No. 1 of the feature is given in the following table.

Section	Calculated Minimum FOS for 1 in 10- Year Return Period Rainfall	Required FOS
1-1	1.04	1.4

Details of the analyses are presented in Appendix H. Results of the analyses indicate that the stability of the government portion of the feature is below the current safety standards and landslip preventive measures are therefore required.

4 Proposed Upgrading Works

4.1 Design Options

Two design options were proposed for the government portion of the feature as follows:

(i) Option 1 – Installation of Soil Nail with Concrete Grillage Beam

(ii) Option 2 – Replacement of Existing Loose Fill with No-fines Concrete

These options were discussed in the Option Assessment Meeting No. 4 held at the GEO on 20 December 2011 to determine the preferred option. Option 1 was agreed to be the preferred scheme taking into account of its higher cost-effectiveness, shorter construction period and less local and environmental impact on the surrounding area. However, the feasibility of Option 1 shall be further confirmed by result of laboratory tests. Copies of the extracts of the Design Option Report and the minutes of the Option Assessment Meeting are given in Appendix I. Based on the fill compaction test result, the average relative compaction of the existing fill is 73.7% which is less than 75% and hence installation of soil nail in loose fill is not feasible. Option 2 is then adopted as fallback option. The summary of the calculation is shown in Appendix D.

4.2 Proposed Upgrading Works

To upgrade the slope stability of the government portion of the feature, the following upgrading works are recommended:

(i) Replacement existing loose fill with no-fines concrete on pit-by-pit basis;

(ii) Provision of surface drainage channels;

(iii) Provision of maintenance access and staircases; and

(iv) Application of hydroseeding with erosion control mat to the final slope surface.

Detail of the proposed upgrading works are shown in Figure 4.1 and Drawing No. LPM1113/22/02.

4.3 Stability Analysis of Upgraded Feature

The shear strength parameters for proposed no-fines concrete replacement were assumed by reference to typical values of parameters for compacted fill and crushed rock fill given in Table 8 of Geoguide 1. The adopted parameters are summarised in the table below.

Material Type	Effective Cohesion c' (kPa)	Effective Friction Angle, ϕ' (°)	Bulk Unit Weight γ (kN/m^3)
No-fines Concrete	5	45	20

The stability of the government portion of the feature after upgrading has been analysed. The results indicate that the upgraded government portion will have a minimum FOS in excess of 1.4 for 1 in 10-year return period rainfall. Results of the slope stability analyses carried out on the upgraded government portion of the feature are shown in Figure 4.1. The calculated minimum FOS of the upgraded government portion of the feature is given in the following table.

Section	Calculated Minimum FOS for 1 in 10- Year Return Period Rainfall	Required FOS
1-1	1.43	1.4

Result of the stability analyses of the upgraded feature are provided in Appendix J.

4.4 Surface Drainage Measures

Considering that the condition of the existing drainage system is not satisfactory, additional drainage channel along the slope crest and toe of the feature is proposed. The layout of the surface drainage system is shown in Drawing No. LPM1113/22/02.

4.5 Future Maintenance

As there is no proper maintenance access to the feature, it is recommended to provide new maintenance stairways along the slope toe and crest of the government portion of the feature for future maintenance and inspections. The layout of proposed staircase, maintenance access and handrailing is shown on Drawing No. LPM1113/22/02.

4.6 Landscaping Works

In order to ameliorate the final appearance of the upgraded government portion of the feature, it is recommended to provide a 300 mm-thick soil layer on top of the proposed no-fines concrete surface to facilitate the provision of hydroseeding on the final slope surface.

5 Conclusions and Recommendations

Based on the information obtained from the desk study, visual inspection, GI and the results of the stability analysis carried out for the government portion (Sub-division No.1) of the feature, the stability of the existing government portion of the feature is below the current safety standards. Hence, landslip preventive works comprising replacement of existing loose fill with no-fines concrete on pit-by-pit basis are recommended. To improve the aesthetics of the upgraded government portion of the feature, it is recommended to provide hydroseeding with erosion control mat to the final slope surface of the government portion of the feature.

6 References

6.1 Technical References

GEO (1984). *Geotechnical Manual for Slopes (Second Edition)*. Geotechnical Engineering Office, Civil Engineering Department, Hong Kong, 272 p.

GEO (1986). *Hong Kong Geological Survey Series No. HGM20 Sheet 11 – Solid and Superficial Geology of Hong Kong & Kowloon, Scale 1:20,000.* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong

GEO (1993). *Guide to Retaining Wall Design (Geoguide 1).* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong.

GEO (2007). *Guidelines for Classification of Consequence-to-Life Category for Slope Features (Technical Guidance Note No. 15).* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong.

GEO (2008). *Guide to Soil Nail Design and Construction (Geoguide 7).* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong, 97 p.

Works Bureau (1999). *Geotechnical Manual for Slope - Guidance on Interpretation and Updating (Works Bureau Technical Circular No. 13/99)* Works Bureau, 2 p.

6.2 References Identified in the Study

GEO (1997). *SIFT Report No. 7NE-2A/S82.* Geotechnical Engineering Office, Civil Engineering Department, Hong Kong.

Vibro (Hong Kong) Limited (2011). *Ground Investigation Final Fieldwork Report – Feature No.7NE-A/F36 – No.166, Ting Kok Road, Tai Po, Contract No. GE/2009/15, Works Order No. GE/2009/15.211D).*

Soils & Materials Engineering Co., Ltd (2011). *Final Laboratory Testing Report – Feature No.7NE-A/F36 – No.166, Ting Kok Road, Tai Po, Contract No. GE/2010/30, GI Works Order No. GE/2009/15.211D).*

C M Wong & Associates Ltd (2006). Stage 2 Study Report (S2R98/2006) – *Feature No. 7NE-A/F36, DD26 Lot989 and Licence Area T19809, No. 166 Ting Kok Road, Tai Po, Agreement No. CE 12/2004 (GE).*

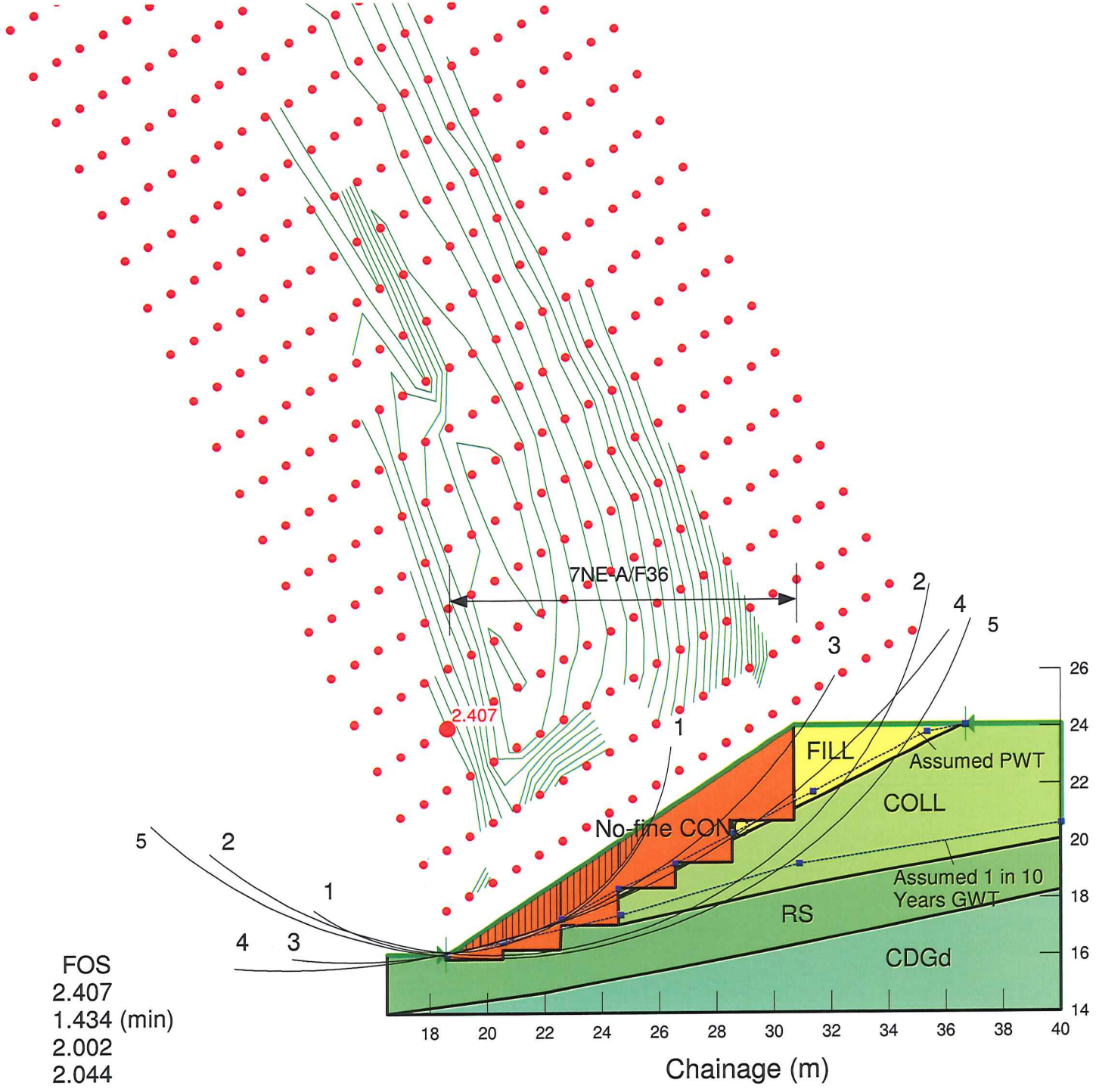
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



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Slip No. 1	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

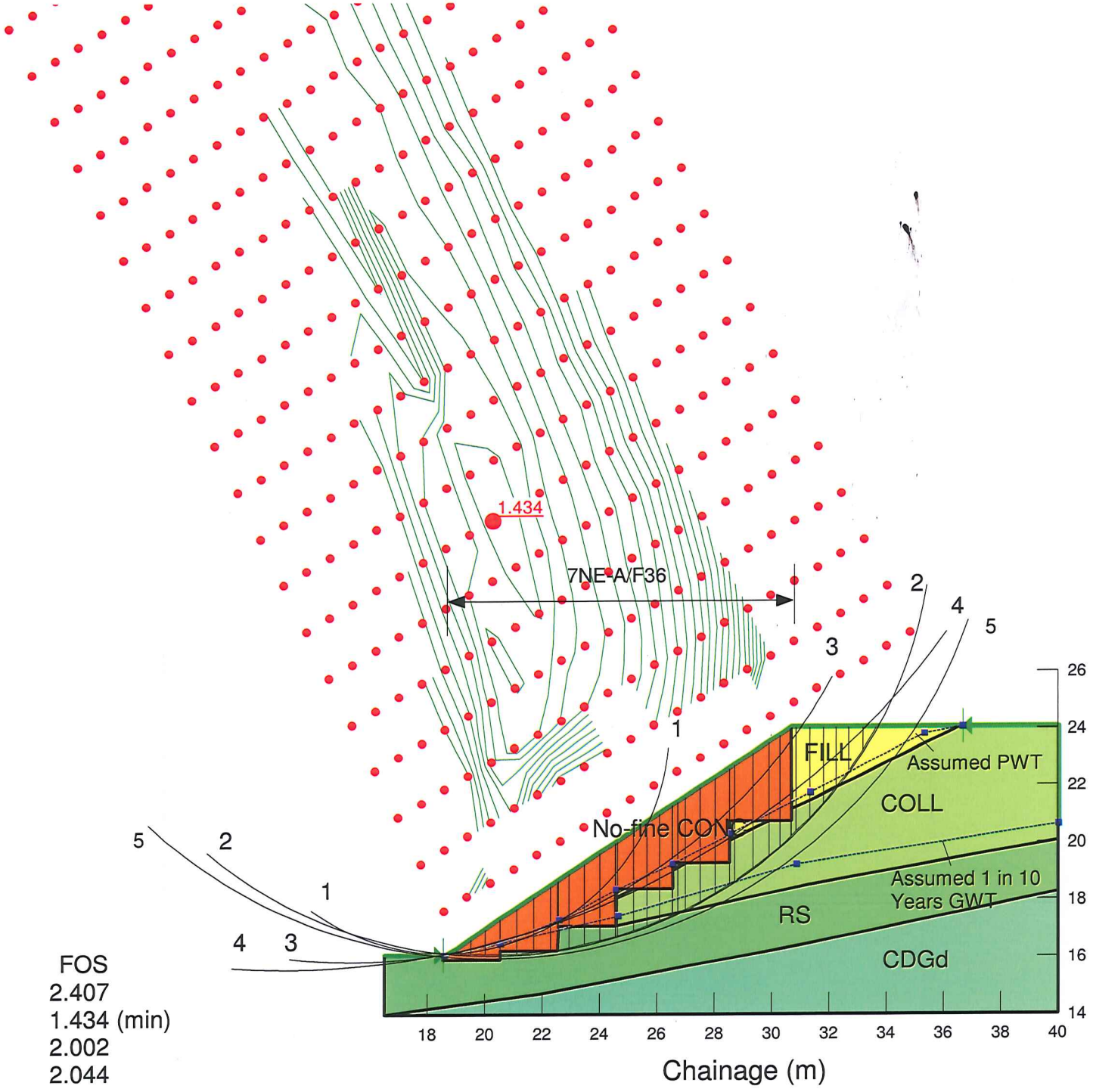
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 2	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

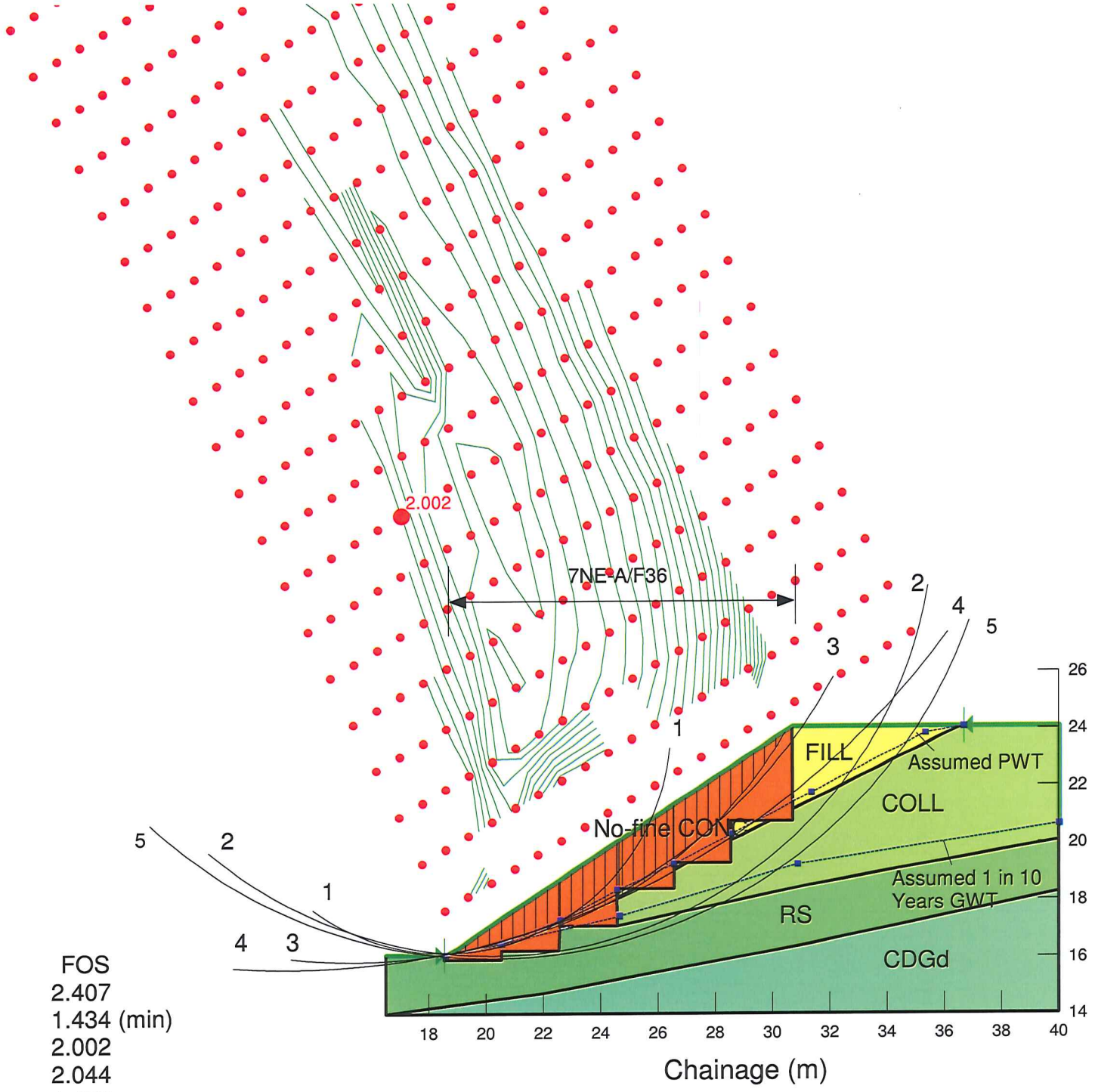
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 3	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

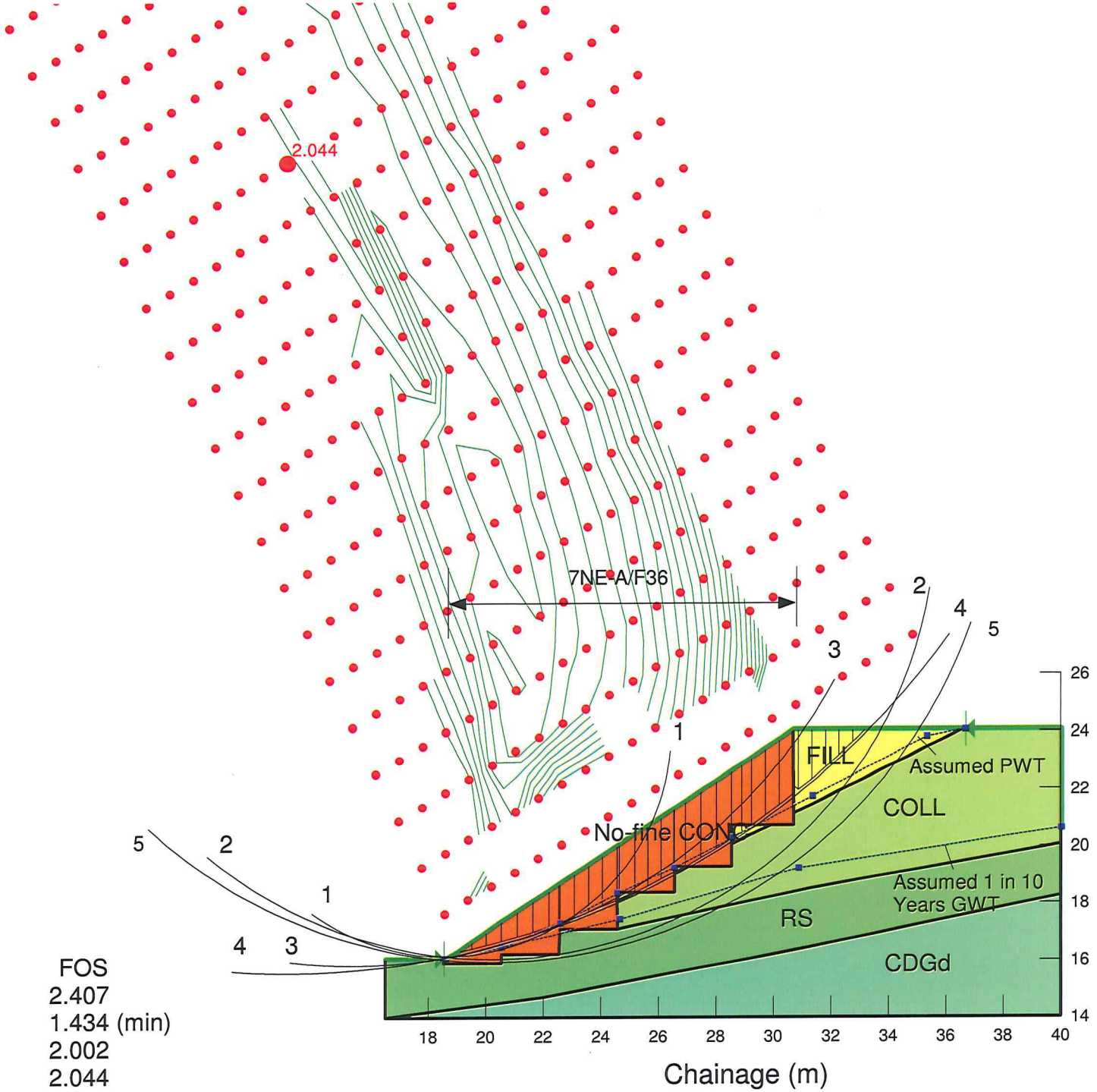
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
Scale 1:200	1	2.407
Slip No. 4	2	1.434 (min)
	3	2.002
	4	2.044
	5	1.478

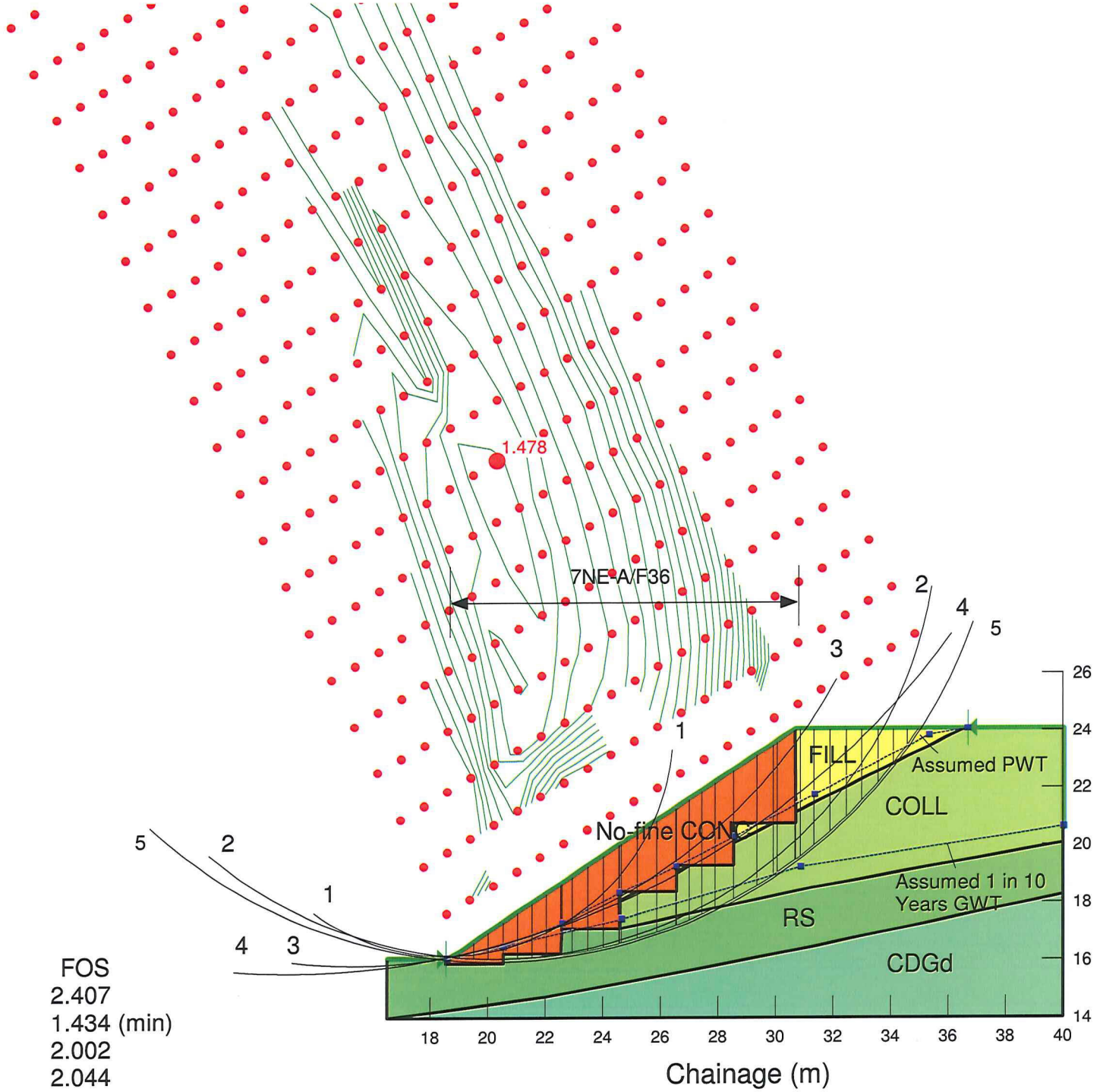
Feature No.: 7NE-A/F36
Title: CE56/2009
Date: 23/02/2012

Name: Fill
Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion: 0 kPa
Phi: 33 °

Name: COLL
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 32 °

Name: RS
Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion: 2 kPa
Phi: 33 °

Name: No-fine concrete
Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion: 5 kPa
Phi: 45 °



Section 1-1	Slip No.	FOS
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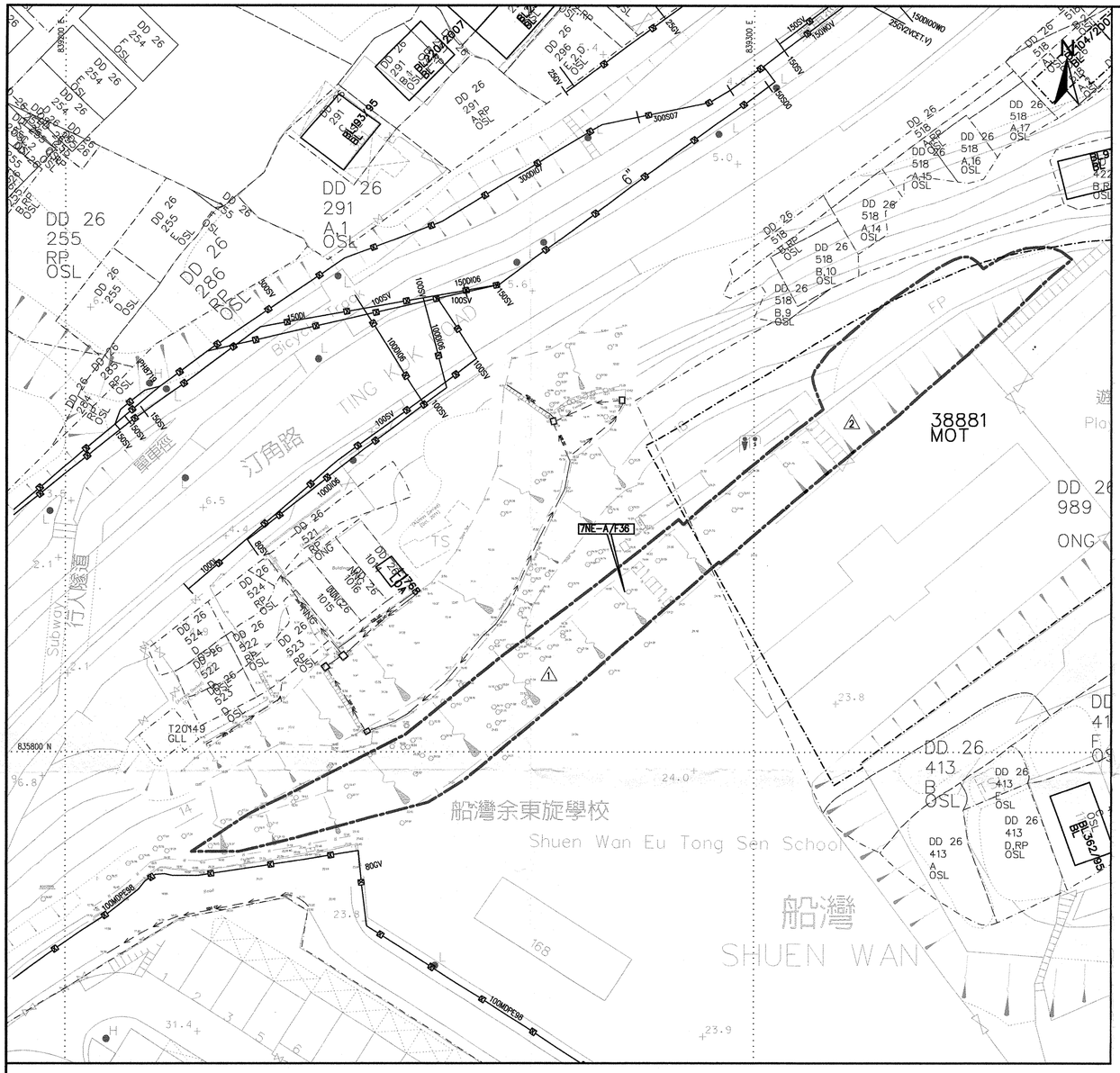
	4	2.044
	5	1.478


38881 MOT
7NE-A/F36
DD 26 989 ONG
DD 26 413 B OSL)
船灣余東旋學校
Shuen Wan Eu Tong Sen School
船灣
SHUEN WAN
TING KOK ROAD
汀角路
行人隧道
Subway
Bicycle Track
835800 N
T20149 GLL
T20145 GLL
80GV
100DW06
150DW06
150DW07
150DW00
150SV(VCE1.V)
100SV
150SV
80SV
100DI
150DI
6"
DD 26 291 A.1 OSL
DD 26 255 RP OSL
DD 26 286 RP OSL
DD 26 518 A.14 OSL
DD 26 518 B.10 OSL
DD 26 518 B.9 OSL
DD 26 518 A.15 OSL
DD 26 518 A.16 OSL
DD 26 518 A.17 OSL
DD 26 413 B OSL
DD 26 413 D.RP OSL
DD 26 413 A OSL
DD 26 413 E OSL
DD 26 413 F OSL
DD 26 521 RP OSL
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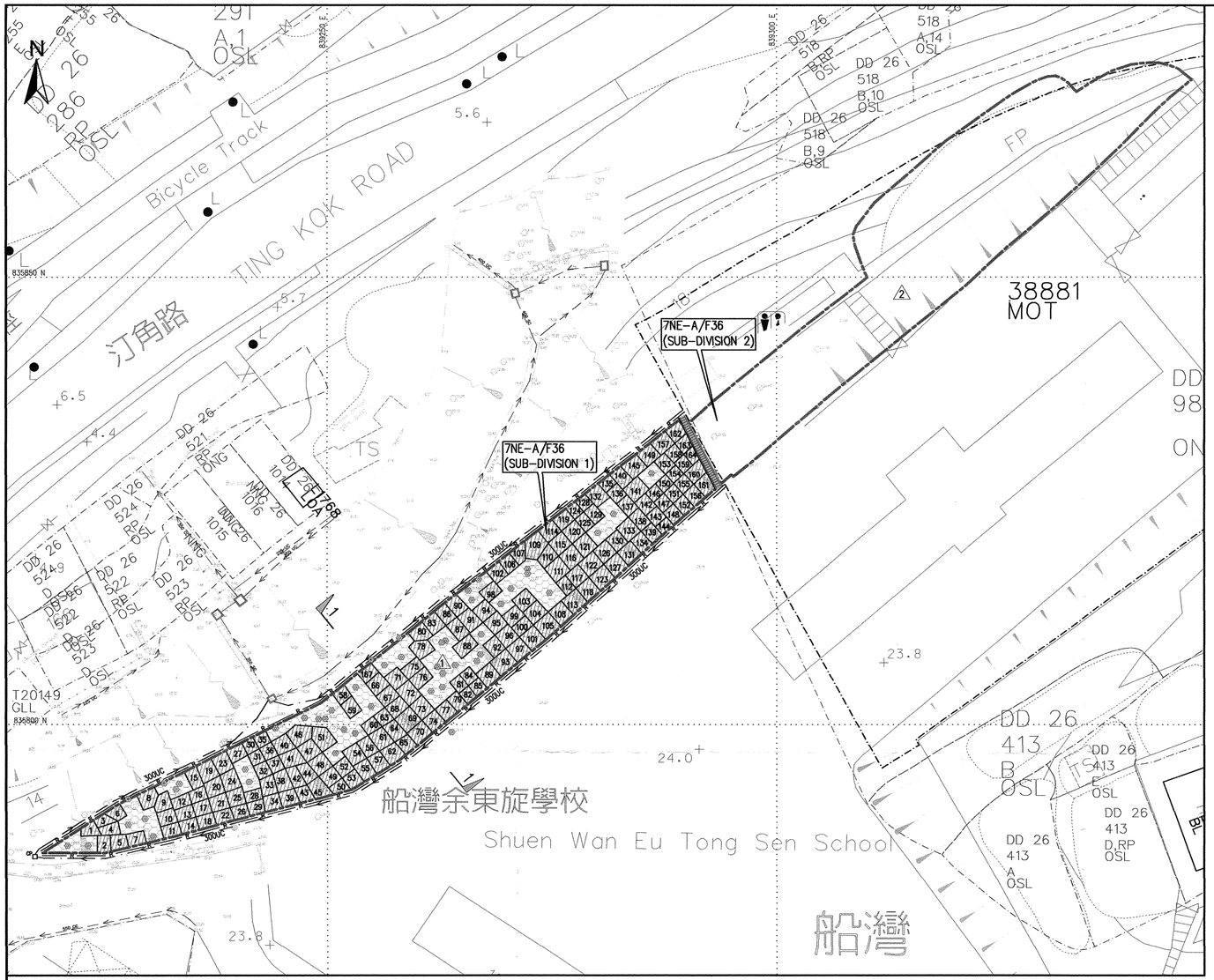

PLAN OF WORKS

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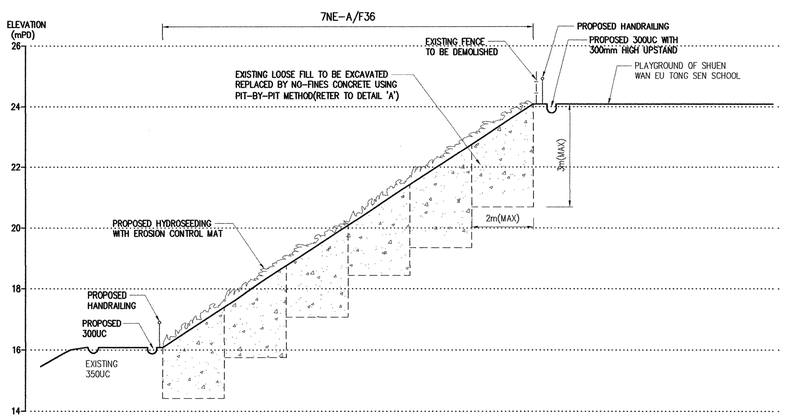

SECTION 1 – 1

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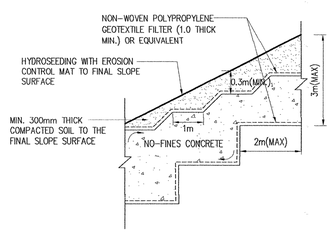

DETAIL 'A': SURFACE TREATMENT OF NO-FINES CONCRETE

N.T.S.

LEGEND:

- FEATURE BOUNDARY
- LOT BOUNDARY
- LOT BOUNDARY (MODIFICATION OF TENANCY)
- LICENCE BOUNDARY
- 38881 MOT (MODIFICATION OF TENANCY)
- UC EXISTING U-CHANNEL
- EXISTING CATCHPIT
- CP PROPOSED CATCHPIT
- UC PROPOSED U-CHANNEL
- R PROPOSED HANDRAILING (SEE STD. DRG. C2103H AND H2135C)
- PROPOSED CONCRETE MAINTENANCE STAIRCASE WITH HANDRAILING (STD. DRG. C2101D AND C2103H)
- PROPOSED HYDROSEEDING AND EROSION CONTROL MAT TO THE FINAL SLOPE SURFACE
- 1 TENTATIVE LAYOUT OF EXCAVATION PITS (EXISTING LOOSE FILL TO BE EXCAVATED AND REPLACED BY NO-FINES CONCRETE USING PIT BY PIT METHOD)
- 1 SUB-DIVISION 1 MAINTAINED BY LANDS D
- 2 SUB-DIVISION 2 MAINTAINED BY DD26 LOT 989 ONG
- EXISTING TREE TO BE PROTECTED

NOTE :

1. THE DRAWING SHALL BE READ IN CONJUNCTION WITH GENERAL NOTES FOR LPM WORKS (GEO SKETCH NO. R1069D), ALL OTHER RELEVANT DRAWINGS, SKETCHES, SPECIFICATIONS AND INSTRUCTIONS ISSUED BY THE ENGINEER.

RE-PLACEMENT OF EXISTING FILL WITH NO-FINES CONCRETE ON PIT-BY-PIT BASIS

1. THE CONTRACTOR SHALL SUBMIT PROGRAMME, METHOD STATEMENT AND TEMPORARY SUPPORT SYSTEM FOR ENGINEER APPROVAL PRIOR TO THE COMMENCEMENT OF WORKS.
2. EXCAVATION OF EXISTING FILL AND PLACEMENT OF NO-FINES CONCRETE SHALL BE CARRIED OUT IN ALTERNATE PIT BY PIT BASIS AND IN STAGGERED AS PER TENTATIVE LAYOUT AS SHOWN ON THIS DRAWING.
3. DIMENSION OF PITS SHALL NOT BE GREATER THAN 2m ON PLAN OR AS AGREED BY ENGINEER ON SITE.
4. PRIOR TO CONCRETING, MATERIAL OF THE PITS SHALL BE INSPECTED BY THE ENGINEER ON SITE. NO NO-FINES CONCRETE SHALL BE PLACED WITHOUT APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION MEASURES TO PREVENT WATER ENTERING INTO THE PIT AND THE DAMAGE OF TREE ROOTS.
6. CARRY OUT THE EXCAVATION IN THE FOLLOWING SEQUENCE.

BATCH	PIT NOS. (TENTATIVE)
1	1,5,8,13,15,21,23,29,35,41,45,47,52,56,58,63,69, 78,83,85,90,94,97,99,105,106,111,119,121,127, 128,136,139,145,146,152,153,160,163
2	2,6,9,14,16,22,24,30,34,37,43,48,53,60,65,66, 70,72,79,86,92,100,107,112,115,122,124,130,132, 138,140,147,154,161,162
3	3,7,10,17,19,25,31,38,46,49,54,62,67,73,76,80, 84,87,93,95,101,108,116,118,125,131,141,144,150, 156,157,164
4	4,11,12,18,20,26,27,32,39,40,44,51,55,61,68,81, 88,92,102,104,109,113,114,123,129,134,137,143, 151,159
5	28,33,36,42,50,57,59,64,71,74,75,77,82,89,91, 96,103,110,117,120,126,133,135,142,148,149,155, 158

i. EXCAVATE THE PITS IN BATCH 1 AND BACKFILL THE PITS WITH NO-FINES CONCRETE

ii. EXCAVATE THE PITS IN BATCH 2 AND REPEAT THE WORKS UNTIL THE COMPLETION OF PLACEMENT OF NO-FINES CONCRETE WORKS BATCH 5.

no.	date	description	designed	checked
A	2.Nov.2012	- MINOR REVISION	SL	Oct 12.

	name	date
designed	CYK	Apr-2012
drawn	HON	Apr-2012
checked	AN	Apr-2012

approved

PROJECT DIRECTOR, FUGRO (HONG KONG) LIMITED

project no.
091041 / 04

agreement no.
CE 56/2009 (GE)

contract
CONTRACT NO. GE/2011/13
LANDSLIP PREVENTION AND MITIGATION PROGRAMME, 2009, PACKAGE I, LANDSLIP PREVENTION AND MITIGATION WORKS IN MAINLAND EAST (NORTH)

feature no. & location
7NE-A/F36 (SUB-DIVISION NO.1)
NO.166, TING KOK ROAD, TAI PO

drawing title
PLAN OF WORKS AND SECTIONS

drawing no.	revision	scale
LPM1113/ 22 / 02	A	AS SHOWN

consulting engineer
FUGRO (HONG KONG) LIMITED

office
LANDSLIP PREVENTIVE MEASURES DIVISION 1 GEOTECHNICAL ENGINEERING OFFICE

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT HONG KONG

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CAD File : P:\091041\Drawing\Control\Stage 2\Report\7NE-A\F36 (SHEET 1 OF 1) 7NE-A-F36 (SHEET 1 OF 1).dwg

Status : P03

ORIGINAL PAPER SIZE: A1

PLOTTED BY : tetem, 02 Nov,2012 - 1:11pm

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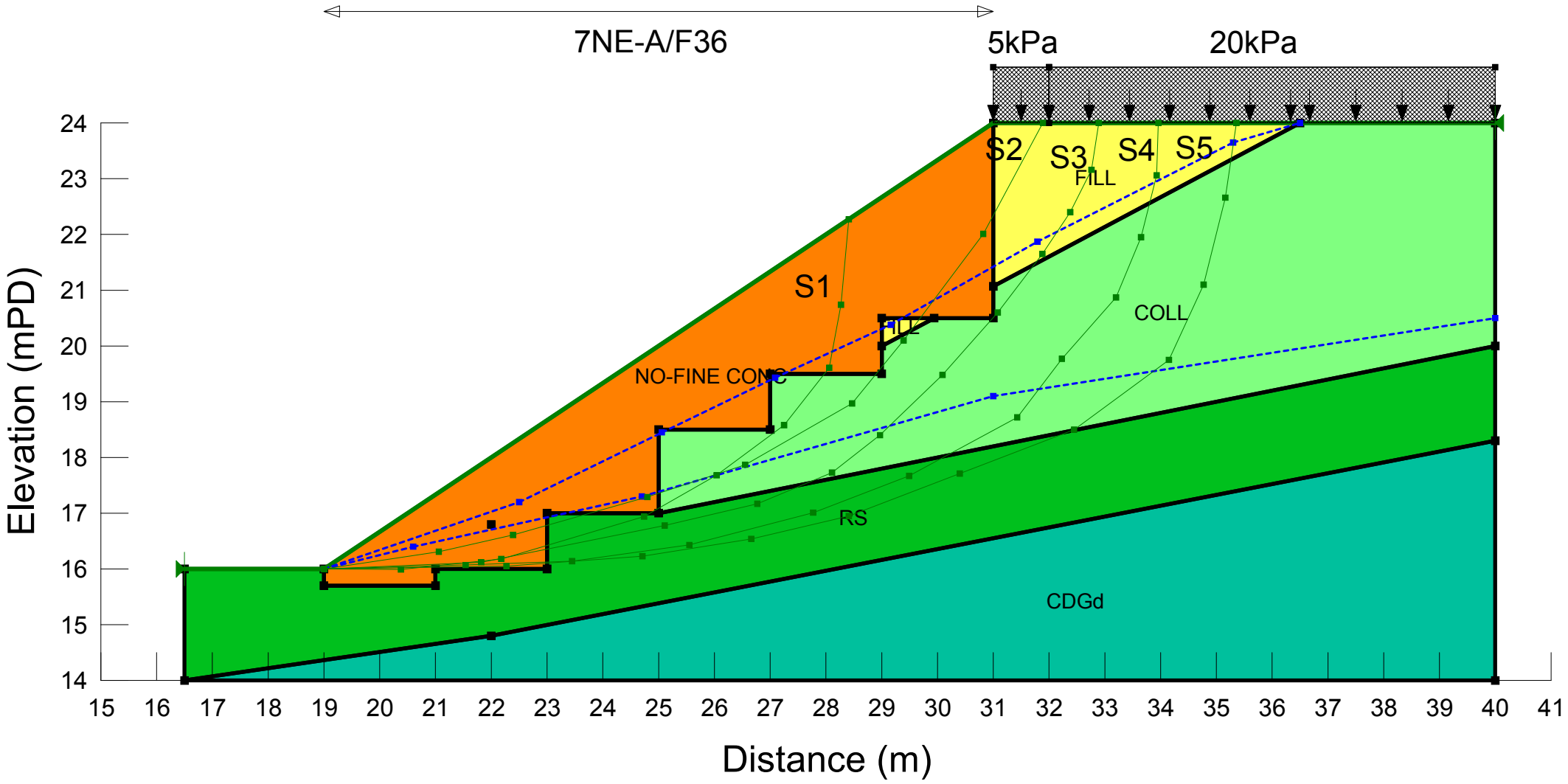
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



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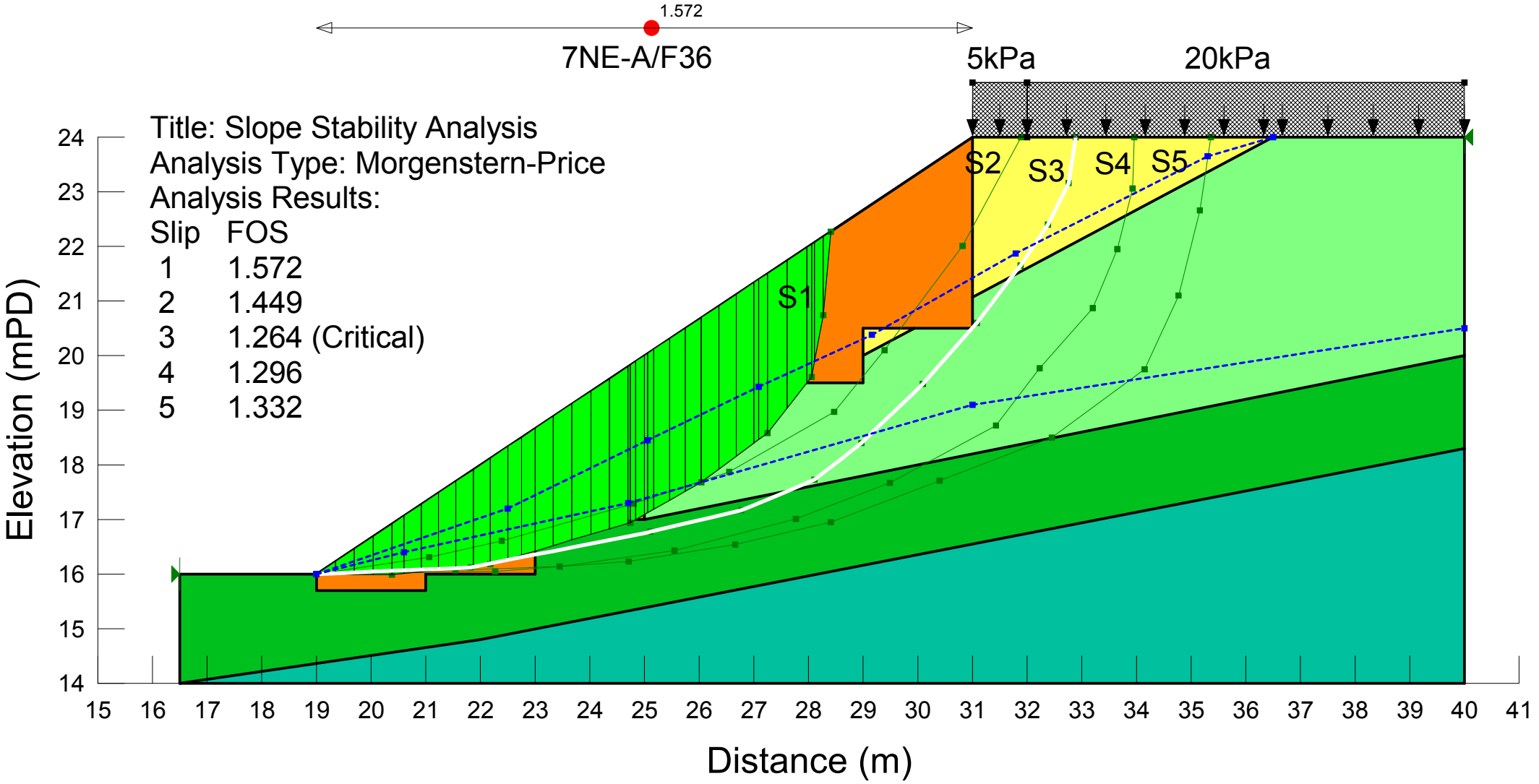

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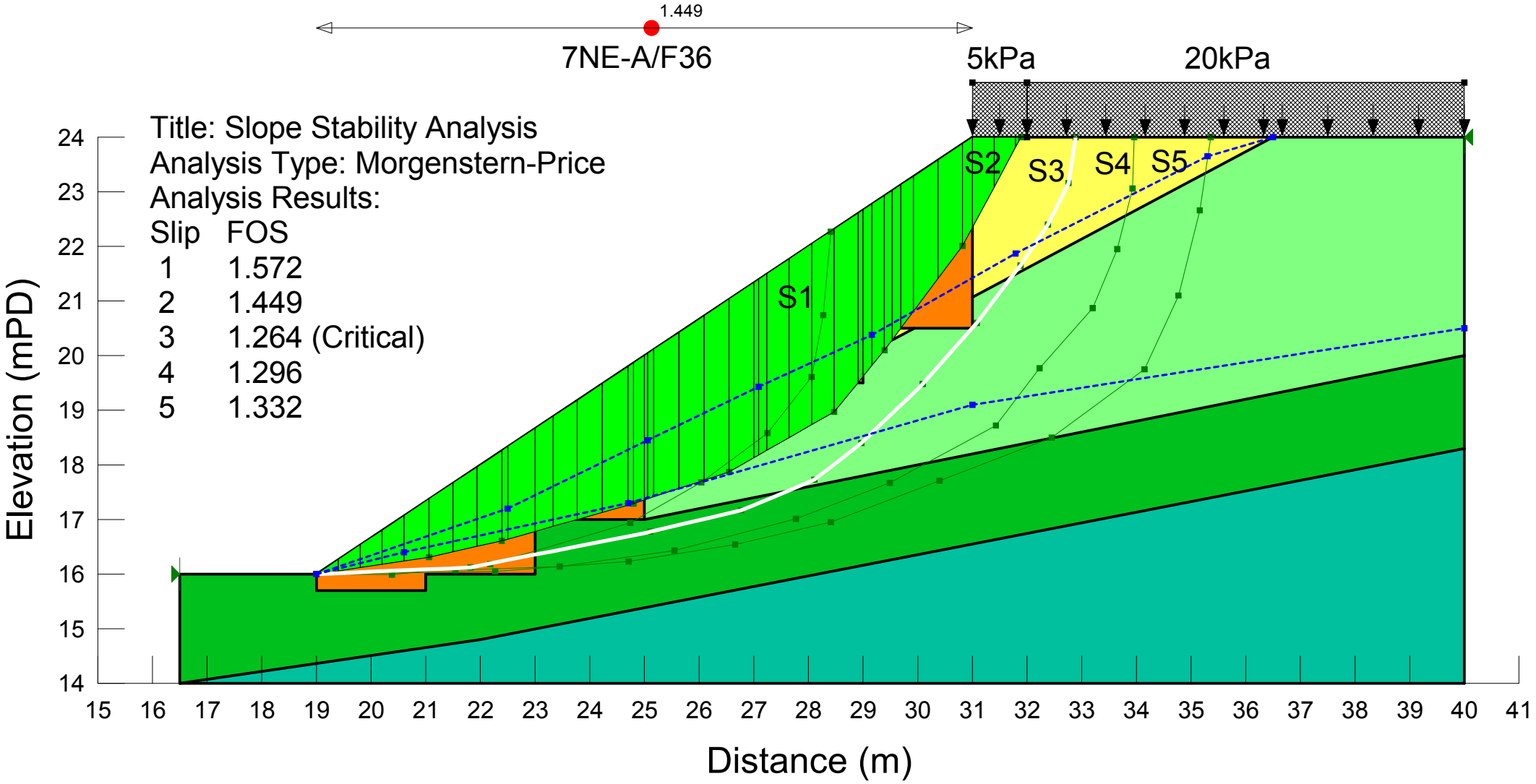
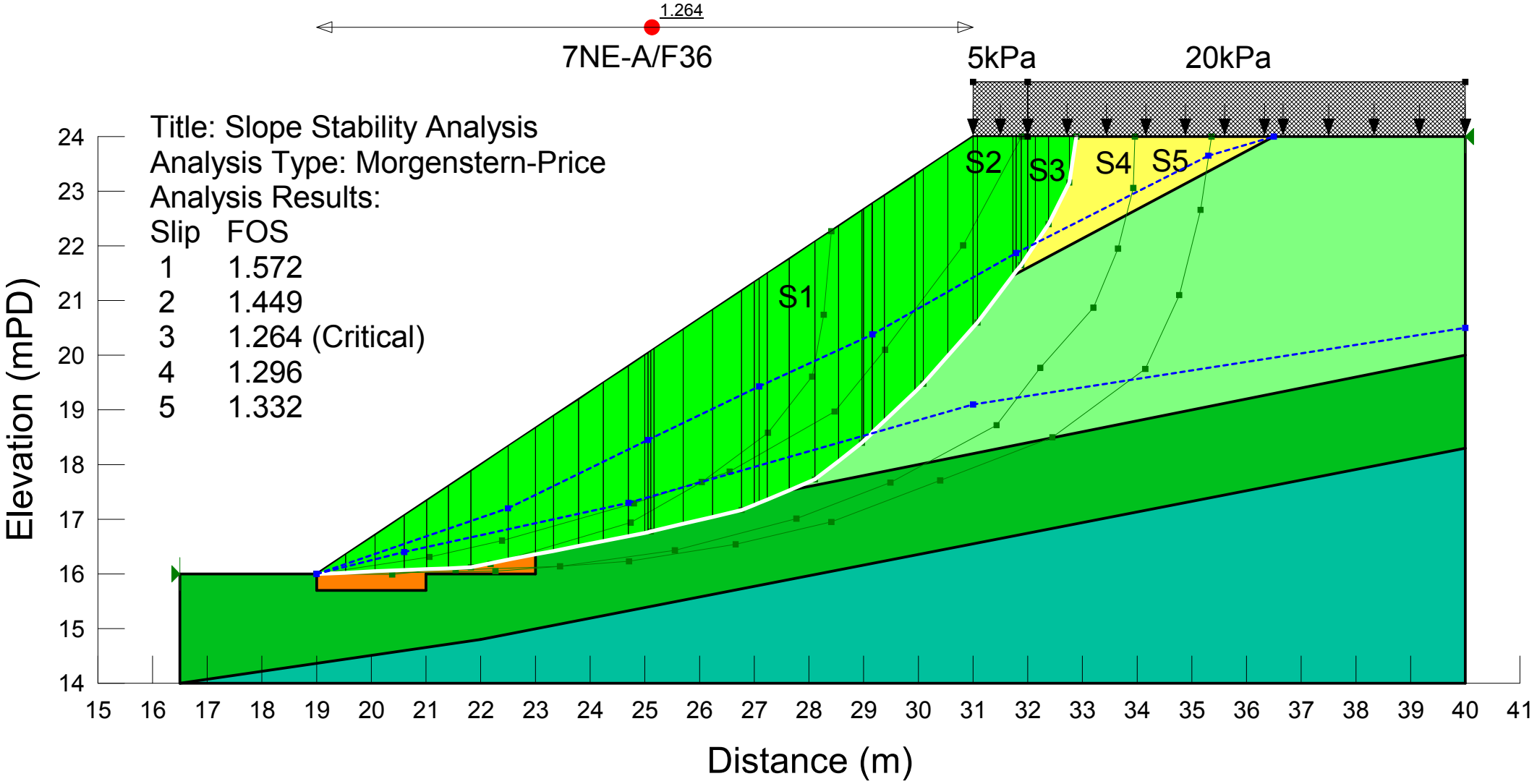
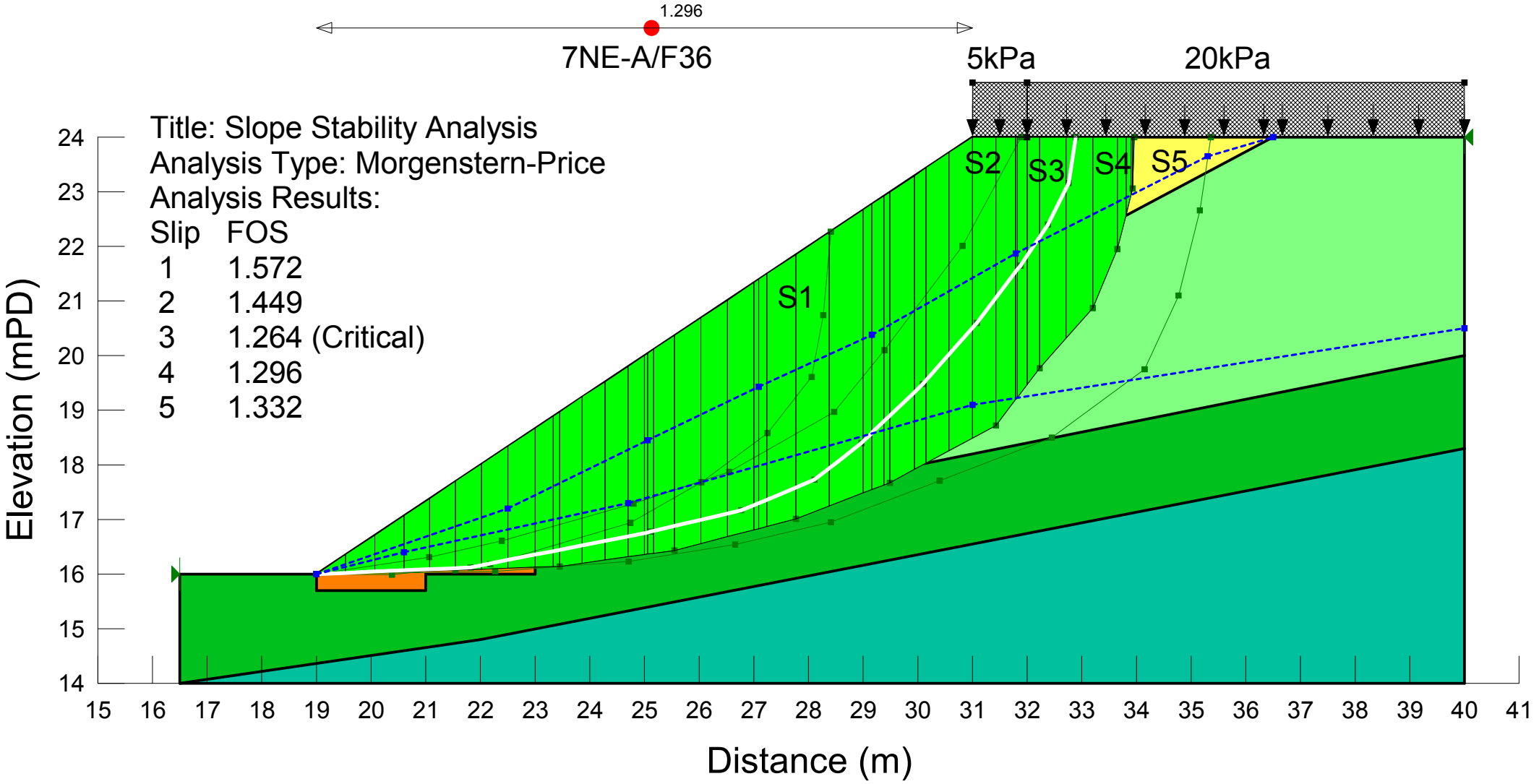


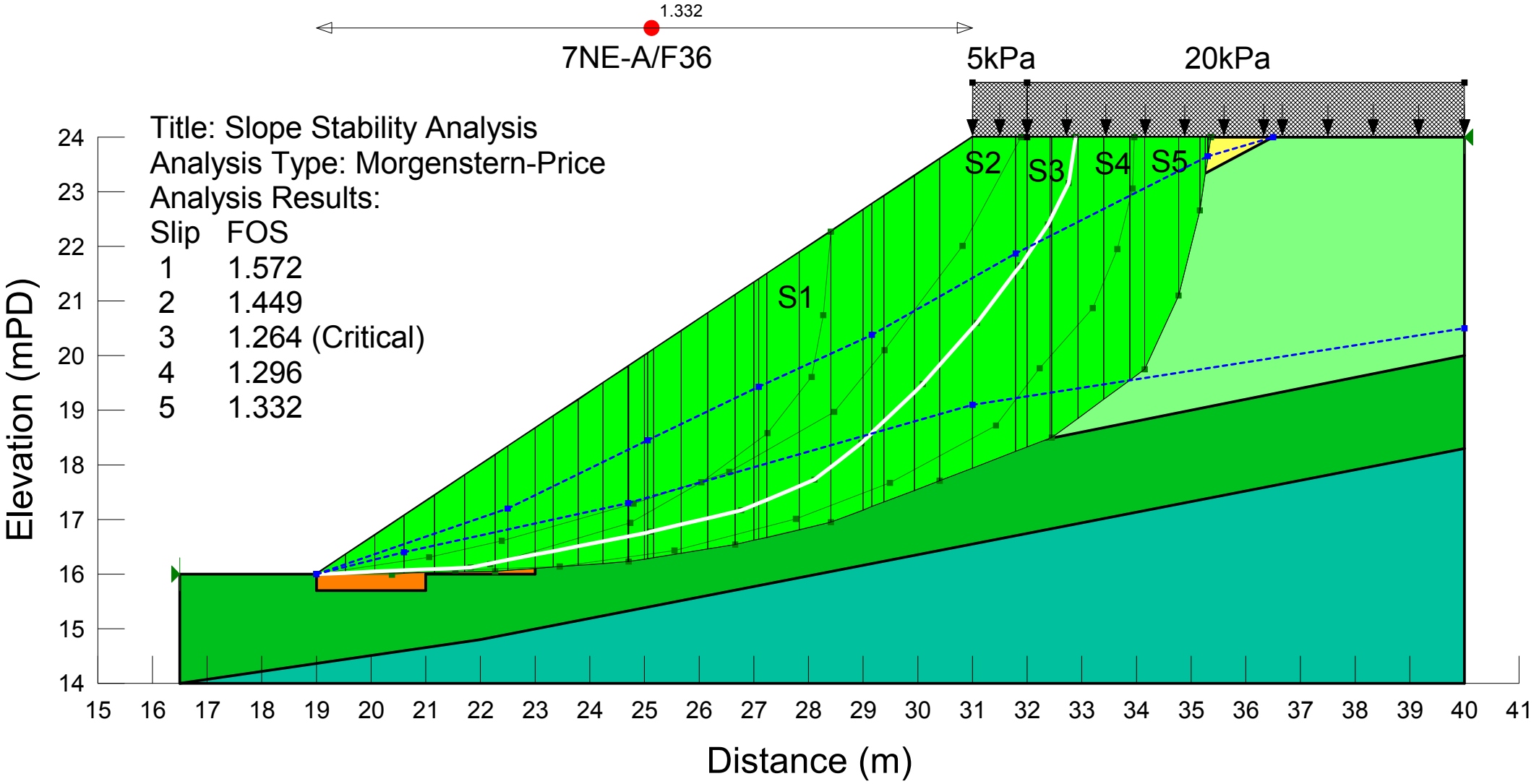
Name: FILL Unit Weight: 18 kN/m³ Cohesion': 0 kPa Phi': 33 °
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



Name: FILL Unit Weight: 18 kN/m³ Cohesion': 0 kPa Phi': 33 °
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



Name: FILL Unit Weight: 18 kN/m³ Cohesion': 0 kPa Phi': 33 °
Name: COLL Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 32 °
Name: RS Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: CDGd Unit Weight: 19 kN/m³ Cohesion': 2 kPa Phi': 33 °
Name: NO-FINE CONC Unit Weight: 20 kN/m³ Cohesion': 5 kPa Phi': 45 °



SLOPE/W Analysis

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File Information

File Version: 8.15
Revision Number: 71
Date: 11/7/2022
Time: 17:46:57
Tool Version: 8.15.1.11236
File Name: 7NE-A_F63.gsz
Directory: \\MCESERVER\MCE Share Files\server recover\J1079\20220516 Geotechnical Planing Review Report\Slope W\
Last Solved Date: 11/7/2022
Last Solved Time: 17:46:58

Project Settings

Length(L) Units: Meters
Time(t) Units: Seconds
Force(F) Units: Kilonewtons
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D
Element Thickness: 1

Analysis Settings

SLOPE/W Analysis

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
Side Function
Interslice force function option: Half-Sine
PWP Conditions Source: Piezometric Line
Apply Phreatic Correction: No
Use Staged Rapid Drawdown: No
Slip Surface
Direction of movement: Right to Left
Use Passive Mode: No
Slip Surface Option: Fully-Specified
Critical slip surfaces saved: 1
Resisting Side Maximum Convex Angle: 1 °
Driving Side Maximum Convex Angle: 5 °
Optimize Critical Slip Surface Location: No
Tension Crack
Tension Crack Option: (none)
F of S Distribution
F of S Calculation Option: Constant
Advanced
Number of Slices: 30
F of S Tolerance: 0.001
Minimum Slip Surface Depth: 0.1 m
Search Method: Root Finder
Tolerable difference between starting and converged F of S: 3
Maximum iterations to calculate converged lambda: 20
Max Absolute Lambda: 2

Materials

FILL

Model: Mohr-Coulomb
Unit Weight: 18 kN/m³
Cohesion': 0 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

COLL

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 32 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

RS

Model: Mohr-Coulomb

Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

CDGd

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

NO-FINE CONC

Model: Mohr-Coulomb
Unit Weight: 20 kN/m³
Cohesion': 5 kPa
Phi': 45 °
Phi-B: 0 °
Pore Water Pressure
Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (16.5, 16) m
Right Coordinate: (40, 24) m

Fully Specified Slip Surfaces

Fully Specified Slip Surface 1

	X (m)	Y (m)
	19	16
	20.380181	15.985933
	22.181416	16.177134
	24.73513	16.940552
	26.037344	17.678733
	27.245745	18.580796
	28.055435	19.60671
	28.267059	20.738436
	28.408551	22.272367

Fully Specified Slip Surface 2

	X (m)	Y (m)
	19	16
	21.062774	16.303194
	22.385066	16.609363
	24.798299	17.290292
	26.553159	17.871136
	28.474976	18.9689
	29.388689	20.09347
	30.81996	22.01035
	31.890422	24

Fully Specified Slip Surface 3

	X (m)	Y (m)
	19	16
	21.819953	16.120294
	25.113218	16.77354
	26.767316	17.163954
	28.111836	17.724256
	28.968209	18.399597
	30.092922	19.474237
	31.077901	20.593814
	31.878211	21.647697
	32.377013	22.402341
	32.759292	23.160921
	32.893519	24

Fully Specified Slip Surface 4

	X (m)	Y (m)
	19	16
	21.540527	16.068001
	23.446894	16.142567
	25.551702	16.432634
	27.765731	17.007293
	29.487728	17.671811

	31.426972	18.719706
	32.228866	19.7676
	33.196891	20.863416
	33.654255	21.944753
	33.930041	23.05868
	33.964038	24

Fully Specified Slip Surface 5

	X (m)	Y (m)
	19	16
	22.266925	16.046945
	24.71202	16.225666
	26.6607	16.535039
	28.405853	16.944917
	30.395285	17.706067
	32.451275	18.496661
	34.146811	19.744704
	34.767135	21.097169
	35.16116	22.654634
	35.359718	24

Piezometric Lines

Piezometric Line 1

Coordinates

	X (m)	Y (m)
Coordinate 1	19	16
Coordinate 2	22.5	17.2
Coordinate 3	25.059602	18.444894
Coordinate 4	27.092404	19.430327
Coordinate 5	29.164649	20.377859
Coordinate 6	31.793309	21.866584
Coordinate 7	35.296641	23.65056
Coordinate 8	36.5	24

Piezometric Line 2

Coordinates

	X (m)	Y (m)
Coordinate 1	19	16
Coordinate 2	20.6	16.4
Coordinate 3	24.7	17.3
Coordinate 4	31	19.1
Coordinate 5	40	20.5

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 20 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	32	24
	32	25
	40	25

Surcharge Load 2

Surcharge (Unit Weight): 5 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	31	25
	32	25

Points

	X (m)	Y (m)
Point 1	16.5	16
Point 2	19	16
Point 3	31	24
Point 4	40	24
Point 5	40	14
Point 6	16.5	14
Point 7	22	14.8
Point 8	40	18.3
Point 9	22	16.8
Point 10	40	20
Point 11	36.5	24
Point 12	19	15.7
Point 13	21	15.7
Point 14	21	16
Point 15	23	16
Point 16	23	17
Point 17	25	17
Point 18	25	18.5
Point 19	27	18.5
Point 20	27	19.5
Point 21	29	19.5
Point 22	29	20.5
Point 23	31	20.5
Point 24	29	20
Point 25	29.938351	20.5
Point 26	30.996801	21.06458

Regions

	Material	Points	Area (m^2)
Region 1	CDGd	6,5,8,7	48.1
Region 2	RS	6,1,2,12,13,14,15,16,17,10,8,7	37.8
Region 3	NO-FINE CONC	2,12,13,14,15,16,17,18,19,20,21,24,22,25,23,26,3	25.594
Region 4	COLL	17,10,4,11,26,23,25,24,21,20,19,18	47.199
Region 5	FILL	24,22,25	0.23459
Region 6	FILL	26,3,11	8.0724

Current Slip Surface

Slip Surface: 3
F of S: 1.264
Volume: 38.206835 m³
Weight: 746.37464 kN
Resisting Moment: 4,290.9639 kN-m
Activating Moment: 3,395.8024 kN-m
Resisting Force: 382.76602 kN
Activating Force: 302.96161 kN
F of S Rank (Analysis): 1 of 5 slip surfaces
F of S Rank (Query): 1 of 5 slip surfaces
Exit: (19, 16) m
Entry: (32.893519, 24) m
Radius: 10.284121 m
Center: (22.491911, 26) m

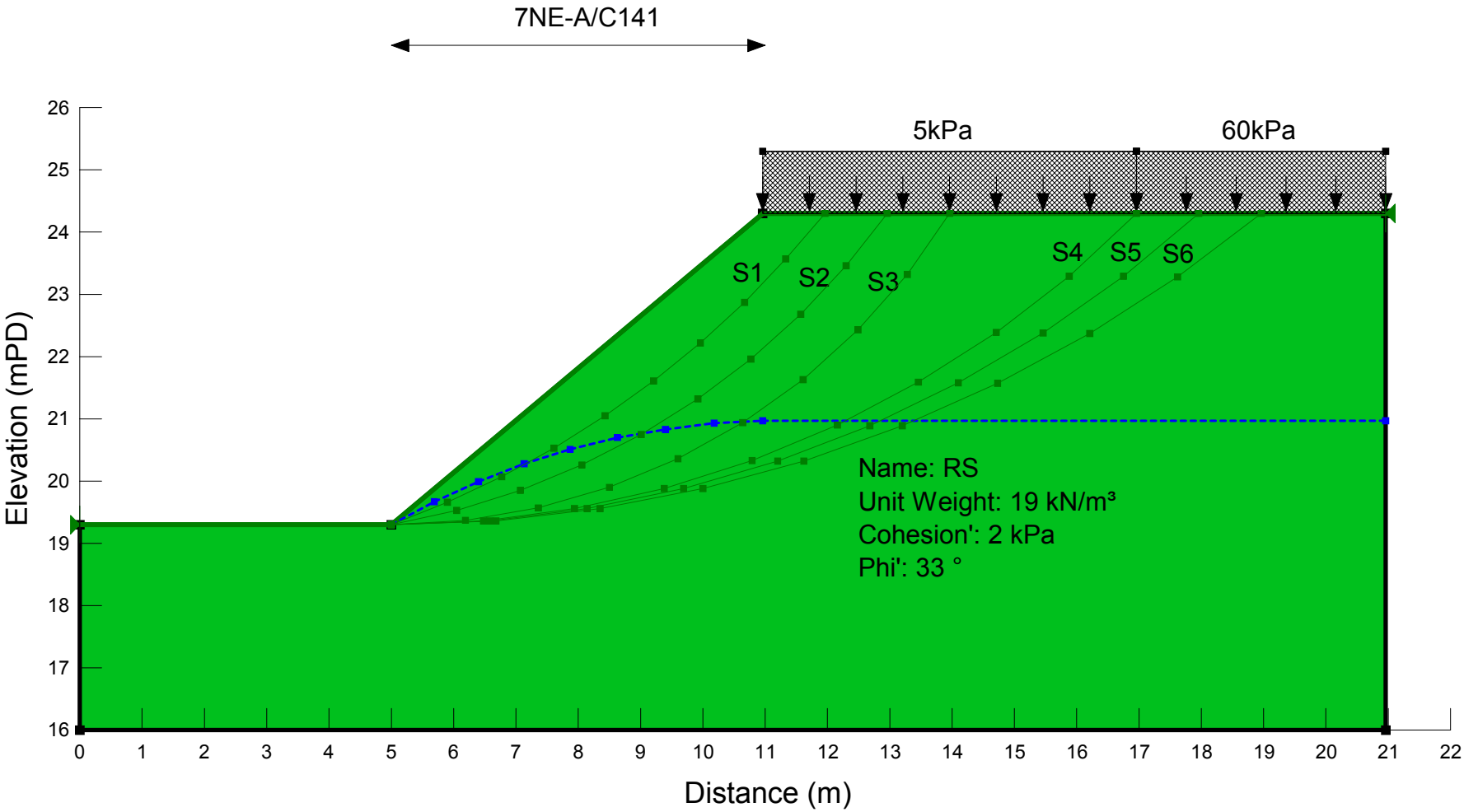
Slip Slices

	X (m)	Y (m)	PWP (kPa)	Base Normal Stress (kPa)	Frictional Strength (kPa)	Cohesive Strength (kPa)
Slice 1	19.266667	16.011376	0.78508039	3.4966903	2.7116099	5
Slice 2	19.8	16.034127	2.3552412	11.457278	9.1020368	5
Slice 3	20.333333	16.056878	3.9254019	20.490362	16.56496	5
Slice 4	20.803326	16.076927	5.309083	29.416021	24.106938	5
Slice 5	21.209977	16.094274	6.5062845	37.943016	31.436731	5
Slice 6	21.616628	16.111621	7.703486	47.193133	39.489647	5
Slice 7	22.159976	16.18774	8.7839345	47.440249	38.656314	5
Slice 8	22.75	16.304776	9.9718965	55.73361	45.761714	5
Slice 9	23.166667	16.387426	11.148754	55.587678	28.858975	2
Slice 10	23.561111	16.465667	12.262845	59.315339	30.556247	2
Slice 11	24.016667	16.55603	13.549542	63.393523	32.36906	2
Slice 12	24.472222	16.646393	14.836239	67.186993	33.996977	2
Slice 13	24.85	16.721329	15.903256	70.102588	35.197458	2
Slice 14	25.029801	16.756994	16.411096	69.776297	34.655767	2
Slice 15	25.08641	16.768222	16.570566	70.174445	34.810766	2
Slice 16	25.143248	16.780628	16.719118	67.761417	33.147257	2
Slice 17	25.438951	16.850422	17.440446	69.41029	33.749611	2
Slice 18	25.970297	16.975835	18.736596	72.133162	34.676136	2
Slice 19	26.501643	17.101248	20.032745	74.533278	35.39306	2
Slice 20	26.883658	17.212437	20.758446	64.179305	28.197835	2
Slice 21	27.046202	17.280174	20.8669	63.537011	27.710294	2
Slice 22	27.168591	17.331177	20.928001	63.714193	27.785678	2
Slice 23	27.443248	17.445635	21.037141	64.140851	27.991876	2
Slice 24	27.876777	17.6263	21.209412	64.806429	27.24244	2
Slice 25	28.325929	17.893091	20.607096	51.050739	19.023299	2
Slice 26	28.754116	18.230762	19.215653	50.584202	19.601245	2
Slice 27	28.984105	18.414785	18.442263	46.351661	17.439727	2
Slice 28	29.073607	18.500303	18.004941	45.294357	17.05232	2

Slice 29	29.155932	18.578962	17.602692	45.149744	17.213308	2
Slice 30	29.272482	18.690323	17.148579	44.976438	17.388776	2
Slice 31	29.659333	19.059952	15.672258	44.499774	18.013431	2
Slice 32	30.015636	19.400392	14.312513	44.127812	18.630667	2
Slice 33	30.318533	19.730678	12.755731	40.182103	17.137899	2
Slice 34	30.772072	20.246193	10.219087	38.967688	17.96412	2
Slice 35	31.03895	20.549541	8.7264347	37.131449	17.749423	2
Slice 36	31.405957	21.025812	6.0940432	30.4199	15.200483	2
Slice 37	31.763661	21.496852	3.4612876	26.684227	15.081153	0
Slice 38	31.83576	21.591796	2.9068471	25.775674	14.85119	0
Slice 39	31.939106	21.739825	1.9712247	22.792135	13.521257	0
Slice 40	32.069684	21.937379	0.68591425	28.814554	18.266953	0
Slice 41	32.258191	22.222573	-1.1695912	26.543361	17.23746	0
Slice 42	32.568152	22.781631	-5.1043389	19.445733	12.628207	0
Slice 43	32.826406	23.580461	-11.648758	6.3833582	4.1454013	0

Appendix E

SLOPE/W Analysis of Feature No. 7NE-A/C141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5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
26
25
24
23
22
21
20
19
18
17
16
0
1
2
3
4
5
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7
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17
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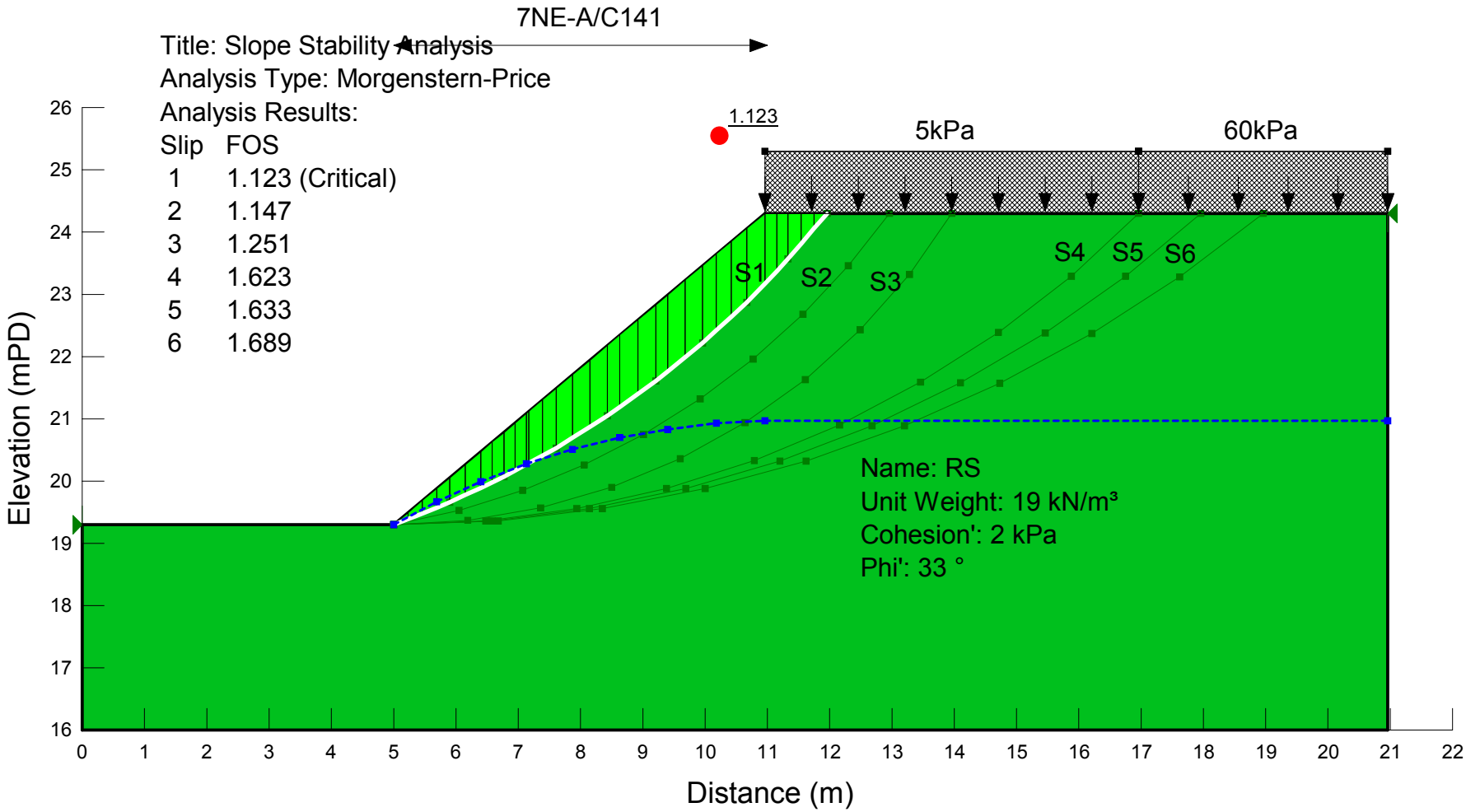
19
20
21
22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Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.123
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
26
25
24
23
22
21
20
19
18
17
16
0
1
2
3
4
5
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7
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17
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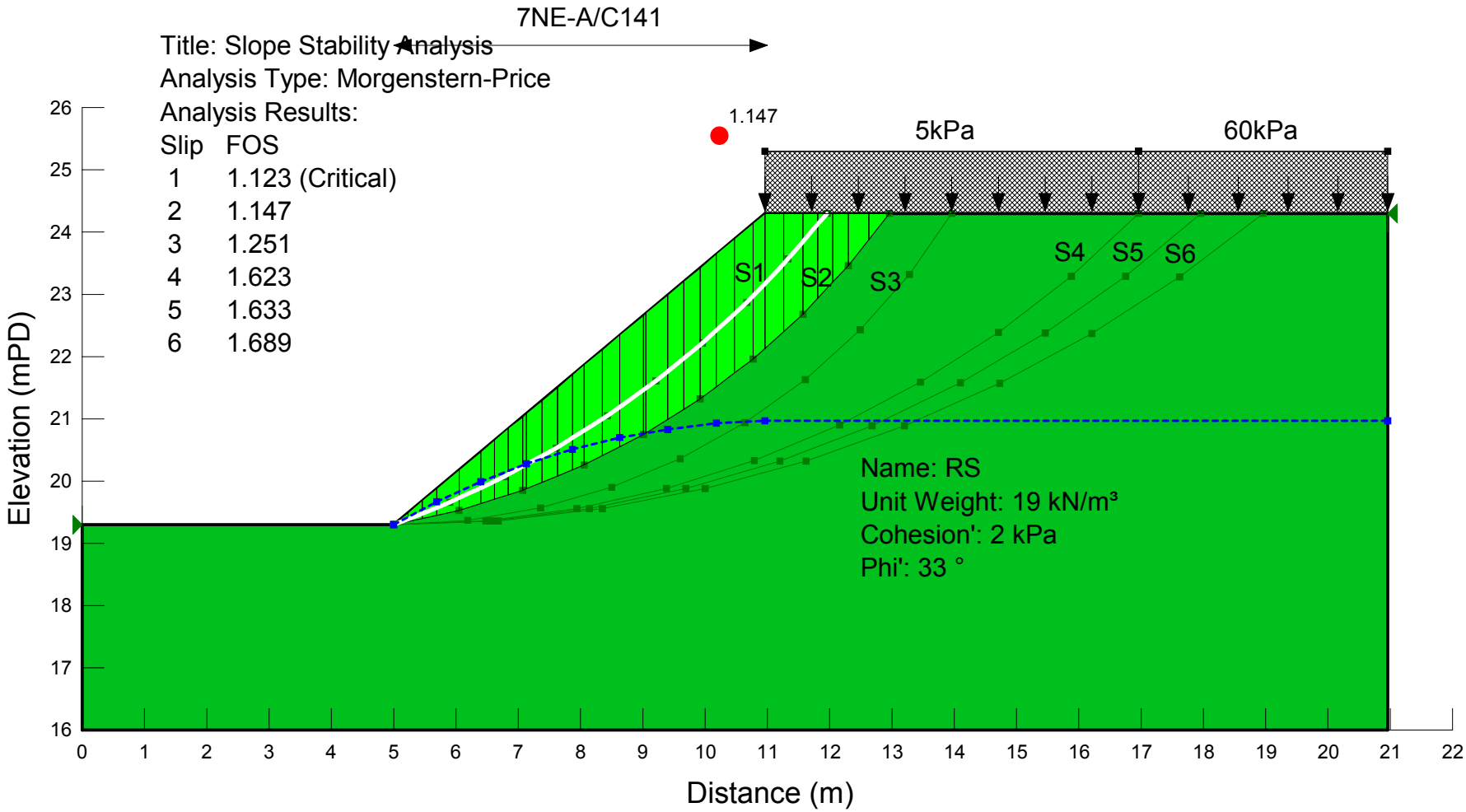
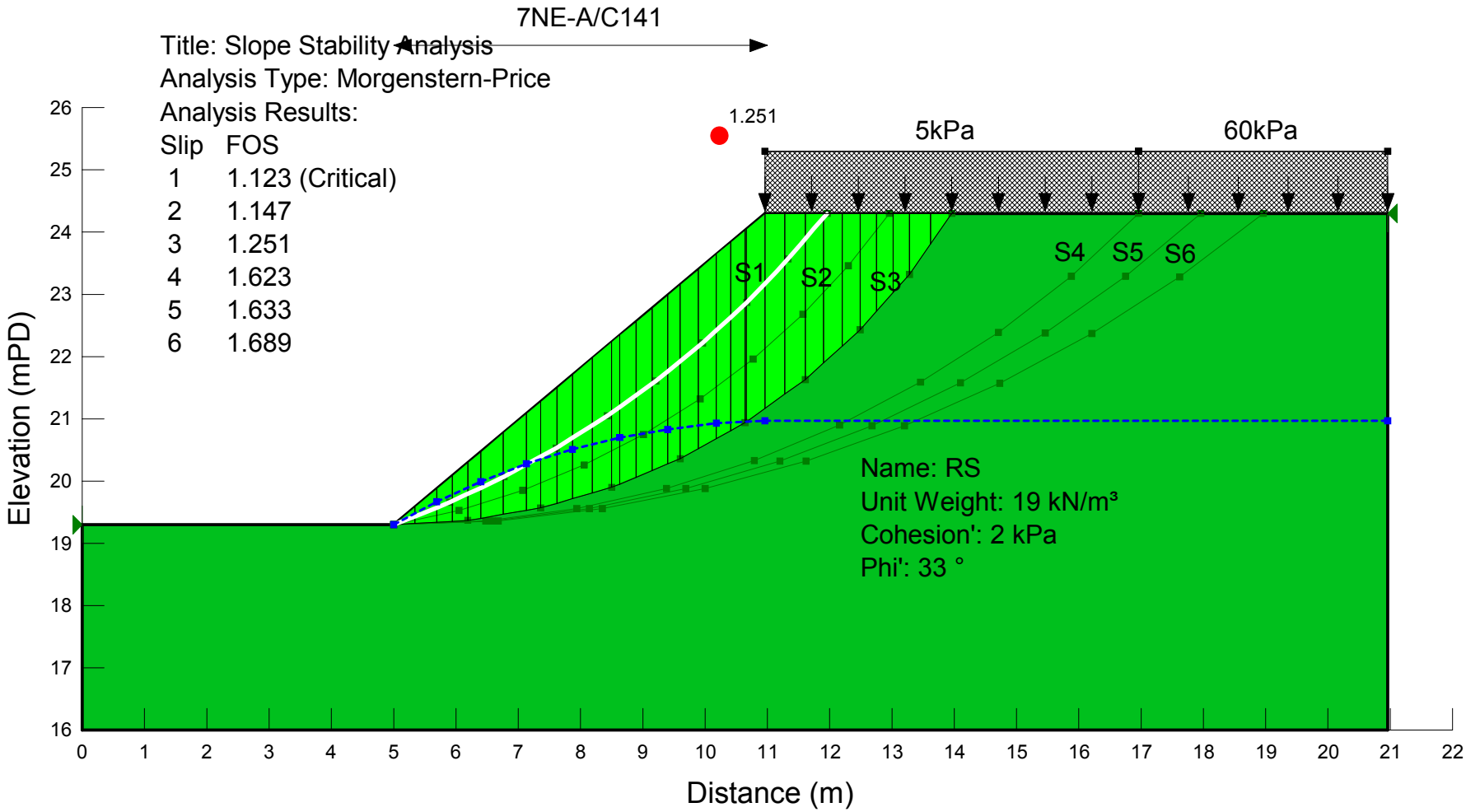
19
20
21
22


7NE-A/C141
Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.147
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)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Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.251
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
26
25
24
23
22
21
20
19
18
17
16
0
1
2
3
4
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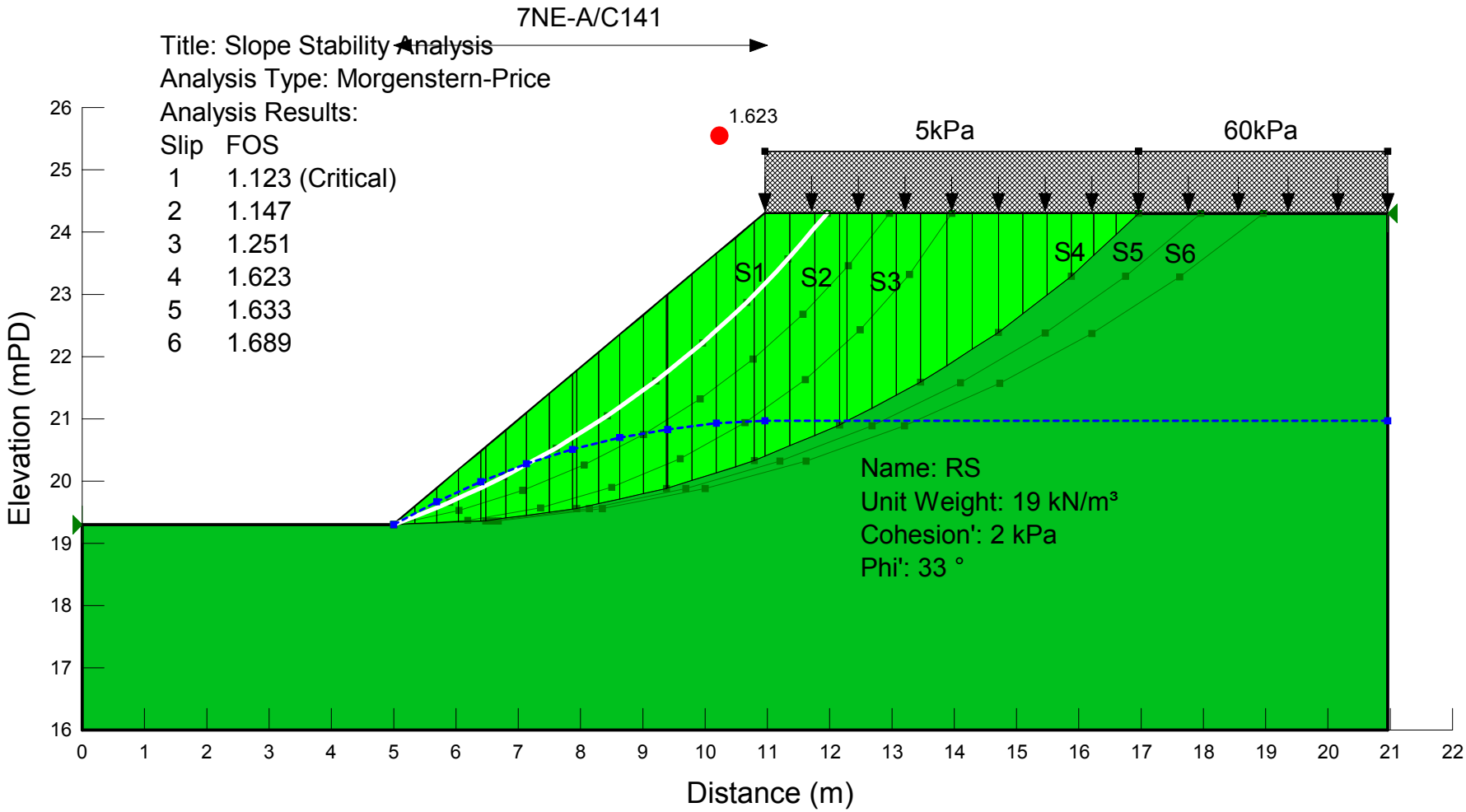
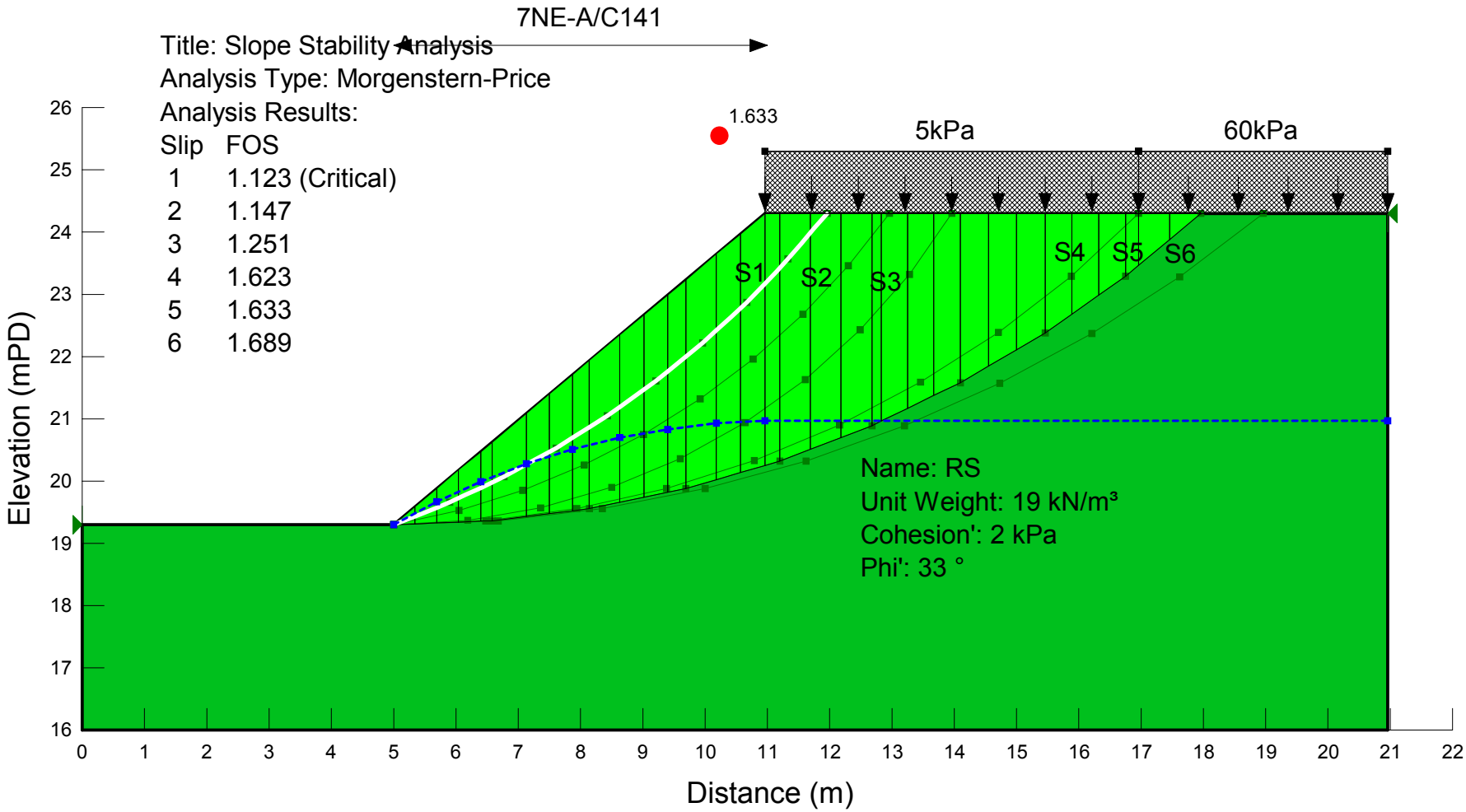
20
21
22


7NE-A/C141
Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.623
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)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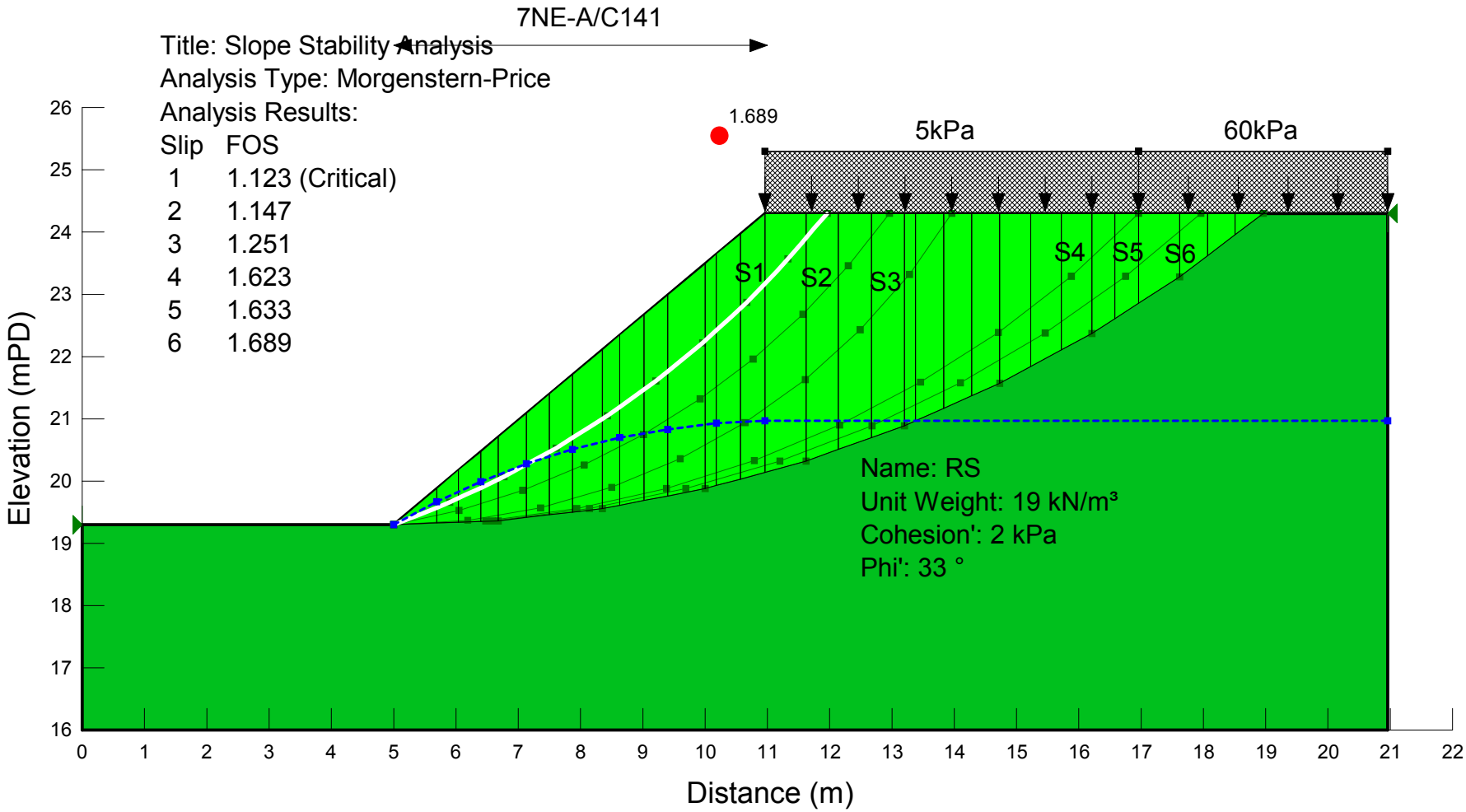
Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.633
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)


7NE-A/C141
Title: Slope Stability Analysis
Analysis Type: Morgenstern-Price
Analysis Results:
Slip FOS
1 1.123 (Critical)
2 1.147
3 1.251
4 1.623
5 1.633
6 1.689
1.689
5kPa
60kPa
S1
S2
S3
S4
S5
S6
Name: RS
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Elevation (mPD)
Distance (m)
26
25
24
23
22
21
20
19
18
17
16
0
1
2
3
4
5
6
7
8
9
10
11
12
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14
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16
17
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19
20
21
22

SLOPE/W Analysis

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File Information

File Version: 8.15
Revision Number: 13
Date: 11/7/2022
Time: 17:57:15
Tool Version: 8.15.1.11236
File Name: 7NE-A_C141.gsz
Directory: \\MCESERVER\MCE Share Files\server recover\J1079\20220516 Geotechnical Planing Review Report\Slope W\
Last Solved Date: 11/7/2022
Last Solved Time: 17:57:16

Project Settings

Length(L) Units: Meters
Time(t) Units: Seconds
Force(F) Units: Kilonewtons
Pressure(p) Units: kPa
Strength Units: kPa
Unit Weight of Water: 9.807 kN/m³
View: 2D
Element Thickness: 1

Analysis Settings

SLOPE/W Analysis

Kind: SLOPE/W
Method: Morgenstern-Price
Settings
- Side Function
  - Interslice force function option: Half-Sine
- PWP Conditions Source: Piezometric Line
- Apply Phreatic Correction: No
- Use Staged Rapid Drawdown: No

Slip Surface
- Direction of movement: Right to Left
- Use Passive Mode: No
- Slip Surface Option: Fully-Specified
- Critical slip surfaces saved: 1
- Resisting Side Maximum Convex Angle: 1 °
- Driving Side Maximum Convex Angle: 5 °
- Optimize Critical Slip Surface Location: No
- Tension Crack
  - Tension Crack Option: (none)

F of S Distribution
- F of S Calculation Option: Constant

Advanced
- Number of Slices: 30
- F of S Tolerance: 0.001
- Minimum Slip Surface Depth: 0.1 m
- Search Method: Root Finder
- Tolerable difference between starting and converged F of S: 3
- Maximum iterations to calculate converged lambda: 20
- Max Absolute Lambda: 2

Materials

RS

Model: Mohr-Coulomb
Unit Weight: 19 kN/m³
Cohesion': 2 kPa
Phi': 33 °
Phi-B: 0 °
Pore Water Pressure
- Piezometric Line: 1

Slip Surface Limits

Left Coordinate: (0, 19.3) m
Right Coordinate: (20.9588, 24.3) m

Fully Specified Slip Surfaces

Fully Specified Slip Surface 1

	X (m)	Y (m)
	5	19.3
	5.8954	19.6571
	6.7673	20.068
	7.6127	20.5313
	8.4283	21.0451
	9.2112	21.6076
	9.9583	22.2166
	10.667	22.87
	11.3347	23.5653
	11.9588	24.3

Fully Specified Slip Surface 2

	X (m)	Y (m)
	5	19.3
	6.0452	19.531
	7.0668	19.8507
	8.0572	20.2569
	9.0091	20.7465
	9.9156	21.3159
	10.7698	21.961
	11.5656	22.677
	12.297	23.4586
	12.9588	24.3

Fully Specified Slip Surface 3

	X (m)	Y (m)
	5	19.3
	6.1882	19.3673
	7.3612	19.5682
	8.504	19.9003
	9.602	20.3593
	10.6412	20.9393
	11.6083	21.6329
	12.4909	22.4312
	13.2777	23.324
	13.9588	24.3

Fully Specified Slip Surface 4

	X (m)	Y (m)
	5	19.3
	6.4767	19.365
	7.9419	19.5596
	9.3843	19.8821
	10.7929	20.3302
	12.1565	20.9004
	13.4648	21.5882
	14.7076	22.3883
	15.8753	23.2946
	16.9588	24.3

Fully Specified Slip Surface 5

	X (m)	Y (m)
	5	19.3
	6.577	19.3646
	8.1434	19.5578
	9.6889	19.8784
	11.2029	20.3243
	12.6754	20.8925
	14.0965	21.5791
	15.4568	22.3796
	16.7471	23.2886
	17.9588	24.3

Fully Specified Slip Surface 6

	X (m)	Y (m)
	5	19.3
	6.6788	19.3642
	8.3477	19.5564
	9.9972	19.8755
	11.6174	20.3196
	13.199	20.8861
	14.7327	21.5717
	16.2096	22.3725
	17.621	23.2837
	18.9588	24.3

Piezometric Lines

Piezometric Line 1

Coordinates

	X (m)	Y (m)
Coordinate 1	5	19.3
Coordinate 2	5.6887	19.6693
Coordinate 3	6.3992	19.9948
Coordinate 4	7.1287	20.2751
Coordinate 5	7.8743	20.5091
Coordinate 6	8.6331	20.696
Coordinate 7	9.4022	20.8349
Coordinate 8	10.1784	20.9254
Coordinate 9	10.9588	20.967
Coordinate 10	20.9588	20.967

Surcharge Loads

Surcharge Load 1

Surcharge (Unit Weight): 5 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	10.9588	25.3
	16.9588	25.3

Surcharge Load 2

Surcharge (Unit Weight): 60 kN/m³
Direction: Vertical

Coordinates

	X (m)	Y (m)
	16.9588	25.3
	20.9588	25.3

Points

	X (m)	Y (m)
Point 1	0	19.3
Point 2	5	19.3
Point 3	10.9588	24.3
Point 4	20.9588	24.3
Point 5	20.9588	16
Point 6	0	16

Regions

	Material	Points	Area (m²)
Region 1	RS	1,2,3,4,5,6	134.06

Current Slip Surface

Slip Surface: 1
F of S: 1.123
Volume: 5.8442511 m³
Weight: 111.04077 kN
Resisting Moment: 411.40978 kN-m
Activating Moment: 366.37539 kN-m
Resisting Force: 62.02723 kN
Activating Force: 55.242811 kN
F of S Rank (Analysis): 1 of 6 slip surfaces
F of S Rank (Query): 1 of 6 slip surfaces
Exit: (5, 19.3) m
Entry: (11.9588, 24.3) m
Radius: 5.938642 m
Center: (5.7849699, 25.55) m

Slip Slices

	X (m)	Y (m)	PWP (kPa)	Base Normal Stress (kPa)	Frictional Strength (kPa)	Cohesive Strength (kPa)
Slice 1	5.1147833	19.345777	0.1546814	0.36033696	0.13355428	2
Slice 2	5.34435	19.437332	0.46404421	2.2558265	1.163597	2
Slice 3	5.5739167	19.528887	0.77340701	4.1784925	2.2112884	2
Slice 4	5.79205	19.615882	0.9882042	6.0222885	3.2691726	2
Slice 5	6.02135	19.716456	1.0320876	7.2987713	4.069632	2
Slice 6	6.27325	19.835169	0.99962295	8.9802899	5.1827058	2
Slice 7	6.491225	19.937894	0.90484348	10.438338	6.1911238	2
Slice 8	6.675275	20.024631	0.74774924	11.672792	7.0948061	2

Slice 9	6.85765	20.117514	0.52407499	11.758185	7.2955166	2
Slice 10	7.03835	20.216542	0.23382074	12.601142	8.0314323	2
Slice 11	7.1480095	20.276638	0.044346804	13.110787	8.4854452	2
Slice 12	7.2786642	20.34824	-0.25571963	13.694448	8.8932785	2
Slice 13	7.5013547	20.47028	-0.76715889	14.65239	9.5153731	2
Slice 14	7.7435	20.6137	-1.4283889	14.106465	9.1608454	2
Slice 15	8.0128	20.783349	-2.3550072	14.719679	9.5590716	2
Slice 16	8.2898	20.95785	-3.3972229	15.315333	9.9458939	2
Slice 17	8.5307	21.118673	-4.3925039	14.27932	9.2730988	2
Slice 18	8.777625	21.296084	-5.6290474	14.471621	9.3979807	2
Slice 19	9.066675	21.503761	-7.1537883	14.707443	9.5511251	2
Slice 20	9.3067	21.685447	-8.5104594	13.514043	8.7761224	2
Slice 21	9.541225	21.876621	-10.057187	13.510324	8.773707	2
Slice 22	9.819275	22.103274	-11.962041	13.542902	8.7948635	2
Slice 23	10.06835	22.318063	-13.783679	12.369517	8.0328581	2
Slice 24	10.30055	22.532144	-15.693483	12.260863	7.9622974	2
Slice 25	10.54485	22.757381	-17.774672	12.180313	7.909988	2
Slice 26	10.8129	23.021931	-20.22898	11.043178	7.1715235	2
Slice 27	11.052775	23.271721	-22.602402	12.813908	8.321449	2
Slice 28	11.240725	23.46744	-24.52182	10.965817	7.1212846	2
Slice 29	11.438717	23.68775	-26.682395	8.1254468	5.2767268	2
Slice 30	11.64675	23.93265	-29.08413	5.7187295	3.7137863	2
Slice 31	11.854783	24.17755	-31.485864	3.1084238	2.018634	2

Our ref: UDP/HB/THSW/TPB-L06

August 19, 2022

Secretary
Town Planning Board
17/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong
(Attn: Ms. Aileen Cheng)

Dear Sir/ Madam,

A/NE-TK/753

Planning Application
Under Section 16 of Town Planning Ordinance

Proposed Transitional Housing Project at Government Land at Shuen Wan, Off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School)

Please see the attached 4 hard copies of Response-to-Comments with regards to the Planning Application No. A/NE-TK/753 for the proposed transitional housing project at the Government Land at Shuen Wan, off Ting Kok Road, Tai Po (Former Shuen Wan Eu Tong Sen School), submitted by Urban Design & Planning Consultants Limited (UDP International) to the Town Planning Board under Section 16 of the Town Planning Ordinance (Cap. 131) on behalf of the Applicant, The Society of Rehabilitation and Crime Prevention, Hong Kong (SRACP). The Application Site falls within the area zoned "Government, Institution or Community" under the Approved Outline Zoning Plan No. S/NE-TK/19, for a proposed temporary residential institution (transitional housing) for a period of 5 years.

Please feel free to contact the undersigned or Ms. Queenie Huang if you need any clarification or further information. We look forward to your favourable consideration on this planning application so that there is no further delay of this much-needed transitional housing project for needy households.

Yours sincerely,
For and on behalf of
Urban Design & Planning Consultants Limited (UDP International)

Dr. Sujata S. Govada
CEO and Managing Director
SG/AL

Encl.
cc.
Client (Ms. Anthea Lee) (By Hardcopy x1 and Softcopy x1)

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TOWN PLANNING BOARD

Planning & Design Services			
Department / Subject Officer	**Assessment**	**Comment**	**Response**
1. Comments from Urban Design and Landscape Section, Planning Department (UD&L, PlanD) **Subject Officer: Ms. Cheryl YEUNG (Tel: 3565 3941)**	**VIA**	1) According to the submitted Landscape Master Plan (Appendix B), no landscaping is proposed for the non-domestic block along the site periphery, but groundcovers and tree are shown at its entrance area in the submitted 3D rendered view and photomontage (VP3). Please clarify.	Noted. Rendering and VP3 amended accordingly.
2. Comments from Urban Design and Landscape Section, Planning Department (UD&L, PlanD) **Subject Officer: Mr. Samuel HUI (Tel: 356503957)**	**Landscape Observations and Comments**	2) According to the aerial photo of 2021, the site is situated in an area of miscellaneous urban fringe landscape character comprising of low rise residential building clusters, car parks, village houses, vacant lands and scattered tree groups. According to the Planning Statement (PS), 276 housing units in two residential blocks with not more than 4 storeys are proposed. The proposed development is considered not incompatible with the landscape setting in the proximity.	Noted and amended in the PS.
		3) According to the Landscape Master Plan and Tree Preservation and Removal Proposal (LMP) (Appendix B), 68 trees of common species are identified and no Registered Old and Valuable Tree (OVT) or rare/protected species is found within the site. Total 37 nos. of tree including 14 nos. of invasive weed species are proposed to be felled due to direct conflict with the development proposal and poor health condition. 12 nos. of new trees are proposed to compensate the loss of existing trees within the site.	Noted and amended in the PS.

		4) With reference to para. 4.3, not less than 608 m2 of Local Open Space (LOS) would be provided for the proposed population of 608 and minimum 20% of green coverage is provided within the site. According to the LMP, landscape provisions with hard and soft landscape treatments, including community garden, playground, sitting out area, fitness area, etc. are proposed. We have no objection to the application from landscape planning perspective.	Noted and amended in the PS.
		5) It is noted that 37 trees within the site to be felled and 12 new tree plantings are proposed. The applicant is advised to maximize the opportunity for new tree planting within the site.	Noted and it is clarified in Paragraph 3.4.1 that most of the trees to be felled are in poor health or form.
		6) Open Space Demarcation Plan - Some areas are not countable as open space (eg. Pedestrian paved areas adjacent to EVA). The applicant should review the demarcation plan to ensure all open space are functional and usable for active/passive recreation.	Noted and revised the required heading and the drawing to exclude carpark and paved areas adjacent to EVA for open space.
		7) The applicant should be advised that approval of the application does not imply approval of tree works such as pruning, transplanting and felling under lease. The applicant is reminded to seek approval for any proposed tree works from relevant department prior to commencement of the works.	Noted.
Traffic and Transport Impact Assessment			
Department / Subject Officer	**Assessment**	**Comment**	**Response**
1. Comments from Transport Department, Traffic Engineering (NTE) Division **Subject Officer: Issac Chan / Ms.**	**TIA (Comments from Transport Engineering Division)**	a) Para. 3.6.2 – ATC station no. 6608 for Ting Kok Road from Tai Mei Tuk to Bride's Pool Road is far from the development site and the suitability shall be justified. Except ATC station no. 6608, the difference between measured 2020 AADT and 2020 projected flows are -11.9% and -14.4% while the annual	Noted. ATC No. 6608 is excluded. Noted. 2022 projected peak hour flows are compared with 2022 observed peak hour flows as indicated in Para. 3.6.2.

Cynthia Kwok (Tel: 2399 2406 / 2399 6936)		growth rates are +4.6% and +5.5%. Please justify the adjusted traffic flow by +15%has already reflected the effect of COVID-19 and also growth between 2020 and 2022.	
		b) Para. 4.2.1 – Although the ATC data for 2019 and 2020 were affected by social events and COVID-19, please clarify why those ATC data before 2009 was not considered in your methodology.	Noted. Table 4-1 is added to show the historical ATC data and Section 4.3 is updated accordingly.
		c) Table 4-2 – Chung Nga Road Area 9 Public Rental Housing Development shall be included in the table.	Noted. The development is included in Table 4-3 (previously Table 4-2).
		d) Para.5.4.2 – Confirmation from relevant government department/ Bureau on not providing Barrier Free Access shall be provided and it should be clearly stated in the TIA report.	Para. 5.4.4 is amended to explain no BFA unit will be provided.
		e) Para. 6.1.3 – Please clarify how the delivery can be restricted, e.g. the delivery period restriction will be incorporated in the contract clauses.	Noted. Para. 6.1.3 is amended to clarify the delivery period restriction.
		f) Para. 6.2.1 - In the Construction Impact Assessment for conventional construction method, other similar projects shall be referenced to determine the construction vehicles trip rate for assessment.	Noted. 6.2.3 is amended with reference to similar construction site.
		g) Table 6-1 – There are significant RC reduction for junction J6 from the 2024 reference case to 2027 reference case (from 9% to -7% for AM peak and from 12% to 2% for PM peak). Please justify.	For clarity, the RC of J6 in Table 6-1 is changed to show the 2024 reference case without improvement scheme (-3% and 6% in the AM and PM peak hour respectively).

			Table 6-2 is added to show the RC with junction modification scheme at J6 (9% and 12% in the AM and PM peak hour respectively).
	TIA (Comments from Transport Operation Division)	h) Section 4.7 – The methodology adopted could not accurately reflect whether the existing bus services can meet the public transport demand arising from the transitional housing developments on Sunday and in the PM on weekday.	Noted. Additional surveys are undertaken at the key loading points for 75K, 73D and 74E for the weekday PM peak hour.
		i) Section 4.8 – The assumption adopted in the assessment on passenger queuing area did not take into account the individual demand for each bus route as in Table 4-4. The assessment on remaining footpath width did not take into account the existing bus shelter.	Noted. The anticipated passenger queues are reviewed (as indicated in Annex A attached) taking into account of the individual routes as in Table 4-5 (previously Table 4-4). Noted. The queueing area in Figure 4-4 is updated taking into account of the extended bus bay and existing bus shelter. An area of 26m x 1.2m would be sufficient to cope with the anticipated passenger queues.
		j) We noted that the footpath leading to the site is very narrow and not continuous, which may cause difficulty for the wheelchair users to access the site. The application shall seek confirmation from relevant government department/Bureau on not providing Barrier Free Access. The consultant shall review and confirm the adequacy of the footpath width in order to suit its operational need to existing use and also the proposed development. Please note that the footpath was not managed by TD, comments from the management and maintenance department of the access road shall be consulted.	Noted. From the para 5.4.5 in TIA, the Housing Bureau supports the non-provision of BFA units due to the site constraints.
Environmental & Infrastructure Assessments			
Department / Subject Officer	**Assessment**	**Comment**	**Response**

Received on 5 August 2022			
Comments of EPD	**EA** (Air Quality)	1. Table 3.2: Please compare the data against the prevailing Air Quality Objectives which have been effective since 1.1.2022.	The data is compared against the prevailing Air Quality Objectives (effective since 1.1.2022) accordingly.
		2. S.3.6: (i) Please provide confirmation from Transport Department (TD) on the road type of the nearby Ting Kok Road which is claimed as "District Distributor". (ii) Please clarify the meaning of "local access road" and check whether this road can be accessed by public. If this road is publicly accessible, please provide the confirmation from TD on the road type of this road and provide sufficient buffer distance according to Hong Kong Planning Standards and Guidelines (HKPSG).	(i) Relevant TD's comment is being sought accordingly. (ii) Relevant TD's comment is being sought accordingly.
		3. Please provide a figure showing the comparison between the proposed layout and the buffer distance discussed in Section 3.6.	Figures showing the buffer distances are added in Section 3.6 accordingly.
	EA (Waste Management and Land Contamination)	4. The assessment should normally base on the maximum traffic projections within 15 years upon the occupation of the noise sensitive receivers (NSRs). Please explain in the report why the traffic data of Year 2027 is adopted in the assessment given the occupation year of the proposed development is 2024.	Since the proposed transitional housing development would only occupied for 3 years, the maximum traffic projections is anticipated at the end of occupation (Year 2027) within 15 years upon the occupation, therefore, traffic data of Year 2027 is adopted for the assessment. Please refer to Section 4.3.3 of the report.
		5. The traffic data should be endorsed by TD.	Relevant TD's correspondence is being sought accordingly.
	EA (Water Quality)	6. S.5.2: Please revise the 1st sentence as "Relevant legislation, standards and guidelines for the assessment of the water quality impact include the following:"	Noted. The 1 st sentence will be revised accordingly.
		7. Table 5.1: As not all Water Quality Objectives (WQOs) for Tolo Harbour and Channel Water Control Zone (WCZ) have been covered in Table 5.1, please amend the title as "Summary of Key Water Quality	Noted. The WQOs and title will be revised accordingly.

		Objectives for Tolo Harbour and Channel WCZ"	
		8. S.5.4: Please amend the title as "TECHNICAL MEMORANDUM STANDARDS FOR EFFLUENTS DISCHARGED **INTO DRAINAGE** AND SEWERAGE SYSTEMS, INLAND AND COASTAL WATERS".	Noted. The title will be revised accordingly.
		9. Table 5.3: The title for Table 5.3 is missing, please revise and consider to adopt the title as "Water Quality Condition for Marine Water at TM3 and TM5 in 2020".	Noted. The title will be revised accordingly.
		10. Table 5.1: As the project site is located in Tai Po, for the WQOs for watercourses, the inland water subzone for Tai Po should be covered instead of Shing Mun. Please amend the row for "Bacteria", "Suspended Solids", "BODS" and "COD".	Noted. The table will be revised accordingly.
		11. S.5.7: Please revise the 1st sentence as "(WSRs) ~~were~~ **are** identified and ~~are~~ **listed** in the Table 5.4.".	Noted. The sentence will be revised accordingly.
		12. S.5.9 (operational phase – sewage effluent): Please add a brief conclusion of the SIA report into this section to support the foul sewer have sufficient capacity for handling the sewage during operation stage.	Noted. A brief conclusion will be added accordingly.
	EA (Waste Management and Land Contamination)	13. S.6.3: Please provide a breakdown of the estimated quantities of the different types of wastes, including inert construction & demolition (C&D) materials, non-inert C&D materials, general refuse and chemical wastes.	Noted. A breakdown of the estimated quantities of the different types of wastes will be provided accordingly.
		14. Section 6: Please propose mitigation measures to be implemented to reduce the impacts from waste management perspective.	Noted. The mitigation measure for waste management will be proposed accordingly.
		15. Appendix 6.1: Please provide a figure indicating the directions and locations of the site photos taken.	Noted. The directions and locations of Appendix 6.1 will be provided accordingly.

Government Departments' General Comments

1. Land Administration

Comments of the District Lands Officer/Tai Po, Lands Department (DLO/TP, LandsD):

- the Site falls on unleased government land. The north-western side of the Site is subject to an application for short term tenancy (STT) from the adjoining Spanish Primary School and is being used as an access road for the school; and
- the then THB has applied for temporary government land allocation for the proposed relocation of the adjoining Spanish Primary School which is now under processing.

2. Traffic

Comments of the Commissioner for Transport (C for T):

- no in-principle objection to the application from traffic engineering point of view; and
- no adverse comment on the submitted TIA.

Comment of the Chief Highway Engineer/NT East, Highways Department (CHE/NTE, HyD):

- the junction improvement works at Ting Kok Road/Fung Yuen Road proposed under Wong Yue Tan transitional housing development are scheduled to complete by June 2023.

3. Environment and Sewerage

Comments of the Director of Environmental Protection (DEP):

- no objection to the application and the submitted EA and SIA.

4. Drainage

Comments of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD):

- no in-principle objection to the application from public drainage viewpoint; and
- should the application be approved, an approval condition requiring the submission and implementation of drainage proposal for the Site is recommended to ensure that it will not cause adverse drainage impact to the surrounding areas.

5. <u>Urban Design and Landscape</u>

Comments of the Chief Town Planner/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD):

Urban Design and Visual

- the Site falls within an area zoned "G/IC" with no development restrictions. The Site is located on a foothill slope to the southeast of Ting Kok Road and sandwiched between the low-rise Spanish Primary School and the Beverly Hills to its immediate north and south, with village houses scattered to its northwest and east respectively; and

- given the temporary nature and low-rise built form of the proposed development, together with its layout with permeability and landscaping measures, the proposed development is considered not incompatible with the surrounding area which is mainly rural in character with low-rise residential developments and village houses. No significant adverse visual impact is anticipated.

Landscape

- according to the aerial photo taken in 2021, the Site is situated in an area of miscellaneous urban fringe landscape character comprising mainly low-rise residential building clusters, village houses, vacant lands, car parks and scattered tree groups. The proposed development is considered not incompatible with the landscape setting in the proximity;

- according to the Tree Preservation and Removal Proposal, 68 existing trees of common species are identified and no Registered Old and Valuable Tree (OVT) or rare/protected species is found within the Site. A total of 37 nos. of trees including 14 nos. of invasive weed species are proposed to be felled due to direct conflict with the development proposal or in poor health condition. 12 nos. of new trees are proposed to compensate for the loss of existing trees within the Site;

- it is noted that not less than 608m^2 of local open space are proposed for the design population of about 608 residents. A minimum of 20% green coverage will also be provided. Furthermore, landscape provisions with hard and soft landscape treatments including community garden, playground, sitting-out area, fitness area etc. are proposed. We have no objection to the application from the landscape planning perspective; and

- existing trees and vegetation acting as landscape buffer are observed between Ting Kok Road and the Site. Should the Board approve the application, it is considered not necessary to impose a landscape condition.

6. <u>Fire Safety</u>

Comment of the Director of Fire Services (D of FS):

- no in-principle objection to the application subject to fire service installations being provided his satisfaction.

7. Building Matters

Comments of the Chief Building Surveyor/New Territories West, Buildings Department (CBS/NTW, BD):

- formal submission under the Buildings Ordinance (BO) is required for any proposed new works, including any temporary structures and site formation works like filling of pond and land. Detailed comments under the BO will be provided at the building plan submission stage.

8. Environmental Hygiene

Comment of the Director of Food and Environmental Hygiene (DEFH):

- no adverse comment on the application.

9. Social Welfare

Comments of the Director of Social Welfare (DSW):

- no comment on the application; and
- given the temporary nature of the development, he has no proposed welfare facilities for this development yet he stands ready to review in case there are welfare facilities to be proposed by the applicant.

10. Other Departments

The following departments have no objection to/no comment on the application:

- Chief Engineer/Construction of Water Supplies Department (CE/C, WSD);
- Head (Geotechnical Engineering Office) of Civil Engineering and Development Department (H(GEO), CEDD);
- Project Manager/North of Civil Engineering and Development Department (PM/N, CEDD); and
- District Officer (Tai Po), Home Affairs Department (DO(TP), HAD).

Recommended Advisory Clauses

(a) to note the comment of the District Lands Officer/Tai Po, Lands Department (DLO/TP, LandsD) that should the application be approved, the applicant is required to apply for a Short Term Tenancy (STT) to give effect to the proposal. However, there is no guarantee that the STT application would be approved. If the STT application is eventually approved by LandsD acting in the capacity as the landlord at its discretion, such approval will be subject to such terms and conditions as may be imposed by LandsD where appropriate, including payment of administration fee/rent.

(b) to note the comment of the Chief Highway Engineer/NT East, Highways Department (CHE/NTE, HyD) that the existing footpath and vehicular access in between Ting Kok Road cycle track and the Site are not maintained by his department. The applicant is advised to seek comments from the relevant maintenance department(s) on the proposed footpath improvement works;

(c) to note the comment of the Chief Town Planner/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD) that approval of the application does not imply approval of tree works such as pruning, transplanting and felling under lease. The applicant is reminded to seek approval for any proposed tree works from relevant department prior to commencement of works;

(d) to note the comment of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) that the temporary drainage management plan for the construction phase should be submitted before commencement of the construction works;

(e) to note the comments of the Director of Fire Services (D of FS) that:

- detailed fire safety requirements will be formulated upon receipt of formal submission of general building plans;

- furthermore, the emergency vehicular access (EVA) provision shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 under the Building (Planning) Regulations (B(P)R) 41D which is administered by the Buildings Department (BD). Also, the EVA provision of the nearby buildings shall not be affected by the proposed work; and

- nevertheless, shall the proposed work affect any EVA provision of nearby buildings or licensed premises in the area, such as petrol filling station or dangerous goods store, the consultant should make separate enquiry to this department to ensure work feasibility.

(f) to note the comments of the Chief Building Surveyor/New Territories West, Buildings Department (CBS/NTW, BD) that:

- means of escape of the proposed buildings shall comply with regulation 41 of B(P)R. If single staircase buildings are proposed, the requirements on building height, usable floor area, access to required staircase and travel distance etc. under Clause B6.1 and Clause B11.2 of the Code of Practice for Fire Safety in Buildings 2011 shall be complied with;

- the buildings shall comply with regulation 72 of B(P)R and Design Manual: Barrier Free Access 2008 as appropriate;

- the provision of natural lighting and ventilation for domestic units shall comply with Regulation 30 and 31 of B(P)R;

- if the existing structures are erected on leased land without approval of the BD (not being a New Territories Exempted House), they are unauthorized under the Buildings Ordinance (BO) and should not be designated for any approved use under the planning application;

- before any new building works are to be carried out on the Site, prior approval and consent of the Building Authority (BA) should be obtained unless they are exempted building works or commenced under the simplified requirement under the Minor Works Control System, otherwise they are Unauthorized Building Works (UBW). An Authorized Person (AP) should be appointed as the co-ordinator for the proposed building works in accordance with the BO;

- for UBW erected on leased land, enforcement action may be taken by the BA to effect their removal in accordance with BD's enforcement policy against UBW as and when necessary. The granting of any planning approval should not be construed as an acceptance of any existing building works or UBW on the Site under the BO;

- any temporary shelters or converted containers for storage or other uses are considered as temporary buildings which are subject to the control of Part VII of the B(P)R;

- the Site shall be provided with means of obtaining access thereto from a street under Regulation 5 of the B(P)R and EVA shall be provided under the Regulation 41D of the B(P)R;

- if the Site is not abutting on a specified street having a width not less than 4.5m, the development intensity shall be determined by the BA under Regulation 19(3) of the B(P)R at building plan submission stage;

- the applicant may wish to note that in general there is no requirement under the BO in respect of provision of car parking spaces for the proposed development. However, the applicant's attention is drawn to the provision of accessible car parking spaces designated for the use of persons with a disability as per the requirements under the B(P)R 72 and Division 3 of Design Manual: Barrier Free Access 2008;

- sustainable building design requirements and pre-requisites under PNAP APP-151 and APP-152 shall be complied with if GFA concession for green and amenity features and non-mandatory/non-essential plant rooms and services is to be exempted/disregarded. Particular attention is drawn to the compliance with building separation requirements for buildings in close proximity to site boundary; and

- open space shall be provided under Regulation 25 of B(P)R; and

(g) to note the comments of the Director of Food and Environmental Hygiene (DFEH) that:

- proper licence/permit issued by FEHD is required if there is any food business/catering service/activities regulated by the DFEH under the Public Health and Municipal Services Ordinance (Cap. 132) and other relevant legislation for the

public.

(a) under the Food Business Regulation, Cap. 132X, a food business licence is required for the operation of the relevant type of food business listed in the Regulation. For any premises intended to be used for food business (e.g. a restaurant, a food factory, a fresh provision shop), a food business licence from the FEHD in accordance with the Public Health and Municipal Services Ordinance (Cap. 132) shall be obtained. The application for licence, if acceptable by the FEHD, will be referred to relevant government departments such as BD, FSD and PlanD for comment. If there is no objection from the departments concerned, a letter of requirements will be issued to the applicant for compliance and the licence will be issued upon compliance of all the requirements;

(b) depending on the mode of operation, generally there are several types of food business licence/permits that the operator of a store may apply for under the Food Business Regulation:

  (i) if food is sold to customers for consumption on the premises, a restaurant licence should be obtained;

  (ii) if food is only prepared for sale for consumption off the premises, a food factory licence should be obtained;

  (iii) if fresh, chilled or frozen meat is sold, a fresh provision shop licence should be obtained;

  (iv) if milk, frozen confections, non-bottled drinks, cut fruit etc. are to be sold, relevant restricted food permits should be obtained; and

(c) the operators of the eating place should take measures to prevent the existence of nuisance to the surrounding areas. The refuse generated by the proposed use are regarded as trade refuse. The management or owner of the Site is responsible for its removal and disposal at their expenses. The operation of any business should not cause any obstruction or environmental nuisance in the vicinity.

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220720-201635-50168
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	20/07/2022 20:16:35
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Anthony LO

意見詳情
Details of the Comment :

項目除了可善用閒置的土地以紓緩有需要人士及家庭的住屋需要外，同時亦提供更多休憩及綠化公共空間、社區共享設施、玩樂園地等供社區人士享用，惠及區內其他居民，新界居民十分支持! 十分期待政府部門連同善導會於其他地區推出更多相類似的項目!

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220721-145904-04789
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	21/07/2022 14:59:04
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Ho Chun yin

意見詳情
Details of the Comment :

現時汀角路在早上通勤時段已十分擠塞，假日更加嚴重。
居民外出都有困難。
交通配套不足 公共交通加密班次也無法解決 當局會否考慮擴闊汀角路為2線行駛

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220725-005503-15215
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	25/07/2022 00:55:03
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 陳全發

意見詳情
Details of the Comment :

反對. 對面已經有一個黃漁灘項目, 交通已不勝負荷

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220726-131803-72259
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	26/07/2022 13:18:03
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. Wong Chau Ping

意見詳情
Details of the Comment :

三門仔路這邊社區設施支援不足，附近沒有街市或超市，買餸十分困難。
地處偏遠，交通十分不方便。需要住過渡性房屋的人十分依賴公共交通。但這裏有好多私家車和泥頭車，交通繁忙，偏偏公共交通班次少。往返市區需要更長的交通時間。
考慮以上，這個地方適合做學校（國際學校）或社區設施，並不適合做過渡性房屋。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220728-184143-46591
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	28/07/2022 18:41:43
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. TSANG PUI FAI

意見詳情
Details of the Comment :

I object to the planning to build transition housing in the "新界大埔船灣丈量約份第 26 約的政府土地" (application number A/NE-TK/753) because the Ting Kok Road is already over congested, especially during rush hours. If further housing is to be planned, the traffic jam problem must be solved first, for example, building mass transit system to the area.

Tsang

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220729-181704-04380
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	29/07/2022 18:17:04
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Chan Yee Ki

意見詳情
Details of the Comment :

反對在船灣興建過渡性房屋，現在汀角路在繁忙時間路面已經嚴重擠塞，待黃魚灘興建好的千多伙加上建議的二百多伙，此範圍一下子增加了成千上萬人，要增加多少輛小巴及巴士班次才可疏導人流？這樣又相對增加汀角路面的交通擠塞？為何為了要服務這些沒有交稅的人，而犧牲了我們這班每天勞碌奔波上下班的納稅人時間？
而且為了這5年的短期計劃，為什麼要扎根在船灣4年的西班牙小學臨時搬遷？學校是放了多少心血去打造一間適合學生的學習環境，為什麼要他們去遷就一個短期計劃而去令學生需要重新適應一個臨時嘅學習環境。而且以我們所知，西班牙小學一直想在余東旋學校舊址開辦中學部，為什麼不給予他們機會，而是迫令學校學生們去遷就一個短期計劃？
希望貴署能為我們這班每天默默付出的納稅人爭取基本便利的生活環境！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220730-225233-81067
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	30/07/2022 22:52:33
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	夫人 Mrs. Jadie Li

意見詳情
Details of the Comment :

There have been repeated petition to relocate the cement facilities（嘉華混凝土公司）at Sam Mun Tsai which is the main cause of traffic congestion along Ting Kok Road, because of hundreds of their huge delivery trucks circulating the area everyday. Before this problem can be resolved, we are deeply troubled by another government initiative to add more human and vehicle's traffic to our area. We strongly object as the traffic condition and social grievances will deteriorate further in the next 5 years if the government goes ahead with this 過渡性房屋project. If you are asking us to support, first ask what the government has done to improve our environment by addressing the cement facilities' relocation petition.

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220803-151730-70137
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	03/08/2022 15:17:30
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Tong Siu Yu

意見詳情
Details of the Comment :

加重汀角路交通負荷
社區設施配套嚴重不足
影響居住環境嚴重擾民
阻礙汀角路消防救護通道
增加鄉郊管理治安風險
公共交通工具不足夠應付

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220803-191042-36221
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	03/08/2022 19:10:42
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. 羅玉容

意見詳情
Details of the Comment :

反对大埔汀角路（前船湾余东旋学校）过渡性房屋项目。

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220803-211405-27768
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	03/08/2022 21:14:05
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 羅耀東

意見詳情
Details of the Comment :

作為汀角路的沿路居民，認為黃魚灘過渡性房屋的計劃十分之不可行，人口問題將會對船灣區造成影響。

1.現時汀角路不論是公共交通工具的使用率或是私家車的數量，已經非常飽和。平日早上上班時間的交通工具經常坐滿，令中途站的乘客難以上車。倘若增加500人口問題只會更加嚴重。如果是假日加上遊客，過渡性房屋簡直是雪上加霜。

2.黃魚灘過渡性房屋在汀角路的入口亦是非常危險，因為它在車來車往的一個彎位中。因為是盲點，非常有機會釀成嚴重車禍。路面空間無法擴闊，實屬天方夜譚。

3.黃魚灘過渡性房屋實屬選址錯誤，可見得規劃地皮面積並不大，增設房屋實屬牽強。

RECEIVED
29 JUL 2022
Town Planning Board

致城市規劃委員會秘書：
專人送遞或郵遞:香港北角渣華道 333 號北角政府合署 15 樓
傳真 : 2877 0245 或 2522 8426
電郵: tpbpd@pland.gov.hk

To : Secretary, Town Planning Board
By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong
By Fax : 2877 0245 or 2522 8426
By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 The application no. to which the comment relates
A/NE-TK/753

意見詳情 (如有需要，請另頁說明)
Details of the Comment (use separate sheet if necessary)

本人為大埔、沙欄、沙欄小築委員會主席，現代表沙欄小築居民對在沙欄小築西北鄰擬議興建之過渡性房屋提出強烈反對，如下：

(一) 擬議興建之過渡性房屋之地段位置現時為一國際學校(西班牙國際學校)，為沙欄小築及一帶汀角路一帶居民提供方便的幼童教育。如果將來此國際學校結業或被迫遷，將會帶給沙欄小築及汀角路一帶的家長及學童極度不便。

(二) 現時汀角路之交通已是非常繁忙，在繁忙時段及假日更是

—另頁繼續—

「提意見人」姓名/名稱 Name of person/company making this comment 沙欄小築委員會

簽署 Signature _____ 日期 Date 2022年7月29日

for 沙欄小築委員會主席
(李許笑蘭女仕)

非常塞車。將來的過渡性房屋將必增加汀角路之交通負荷，在政府未有解決汀角路交通擁塞問題之前，實在不宜興建此過渡性房屋。

(三) 多年以來，沙欄小築及汀角路一帶的泊車位並不足夠，違例泊車、停車等候已是非常嚴重，並往往成為道路使用者的潛在危險。將來過渡性房屋落成後，此問題將變得更為嚴重，除了過渡性房屋居民有當中有些會擁有私人車輛外，相信當中亦有職業司機，他們可能在晚上會將其職業車輛違例停泊於過渡性房屋附近一帶，把沙欄小築及汀角路一帶變成潛在交通黑點。

(四) 不少沙欄小築居民擔心，當過渡性房屋落成後，沙欄小築的治安問題會惡化。

沙欄小築委員會主席
(李許笑蘭女仕)

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220804-200014-18798
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	04/08/2022 20:00:14
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. 韓明怡

意見詳情
Details of the Comment :

本人反對南豐發展據「土地共享先導計劃」於大埔露輝路及汀角路綠化用地興建1642個公私營住宅單位。地點偏遠，露輝路一帶都是低密度住宅洋房，缺乏生活,謀生配套。加上那段道路於繁忙時間交通擠塞。根據政府現時的規劃，並沒有交通改善配套。交通問題估計只會愈發嚴重。此地方實不適合用來興建密集的公營房屋。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220805-100330-63479
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	05/08/2022 10:03:30
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. SIN KIT YI

意見詳情
Details of the Comment :

就「新界大埔船灣丈量約份第26約的政府土地」擬議臨時住宿機構（過渡性房屋」，提出反對。

反對理由：
1. 汀角路交通難以負荷，長期塞車。
2. 沒有足夠公共設施配合。
3. 破壞周邊綠化環境。
4. 沒有充分時間諮詢。

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220805-115206-93190
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	05/08/2022 11:52:06
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Albert Chan

意見詳情
Details of the Comment :

土地共享計劃，發展商有誤導及失實的做法，最好的安排是政府自行興建公屋或居屋,而發展商自行興建合規格的小型房屋不應以幫政府為名欺騙市民大眾。

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**	
參考編號 **Reference Number:**	220805-195953-03058
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	05/08/2022 19:59:53
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Hui Lok Him

意見詳情
Details of the Comment :

現時交通已經非常不方便，即使搭公共交通工具或自行駕駛亦經常遇到塞車問題，我們屋苑對面現時是沙泥廠，已經有好多大型嘅車輪行駛，如果再要增加過渡性房屋，這對我們這些小業主實在不公平！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220806-013629-86943
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	06/08/2022 01:36:29
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	夫人 Mrs. Tse Pui Man

意見詳情
Details of the Comment :

本人是住在汀角路的，自從興建了沙灘後，交通擠塞情況已經到達樽頸。另外上下班、繁忙時間的擠塞情況亦然，如果在未有任何路面擴闊的情況下，興建「善.樓」過渡房屋，交通情況是不勝負荷，嚴重影響市民。所以本人非常反對興建過渡性房屋。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220806-105924-68121
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	06/08/2022 10:59:24
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Iain h BONNER-FOMES

意見詳情
Details of the Comment :

This development is being placed in our community with absolutely no feedback form the local residents. The fact that this has not even been notified to the local district council shows that thei r has been no transparency.

Our objections as a family are many.

1. It's totally out of keeping with the neighbourhood.
2. It's land that ought to be used for a school. The Spanish school next door has been begging for this land for expansion for many years
3. The land is next door to a school. Does the govt really think that placing felons that have just l eft prison into land next to a junior school is a good idea ?
4. The woefully inadequate assessment of traffic on the area seems to say that the area isn't busy . At present time it takes somewhere around 15 -20 minutes to get to the highway in peak times. When I moved here it was 5-6 minutes. How much more traffic does the govt want to allow in a residential area?
5. Their is plenty of room for this type of development down the road on the industrial estates.
6. Finally , my family are not thrilled at the thought of having IP to 608 ex prisoners being dump ed on our doorstep. This is a quiet neighborhood with professional people looking to get away fo rm the stresses and strains of urban life. It is highly likely that this is going to cause significant l oss of value to our properties and stress to residents of our community. Who will compensate us for this if property prices fall? Exactly no one. Please rethink this urgently

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220806-181157-10139
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	06/08/2022 18:11:57
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Shermaine To

意見詳情
Details of the Comment :

嚴厲反對在黃魚灘興建過渡性房屋，令上址交通加劇惡化，破壞生態環境。龍尾沙灘已經令汀角路一帶交通嚴重擠塞，影響居民出入，再起過渡性房屋，上址交通配套不足，令本土居民出入更加不方便。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220806-222537-97412
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	06/08/2022 22:25:37
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. Lin

意見詳情
Details of the Comment :

本人居住在附件多年，而汀角路是唯一交通出入幹道，眼見近年因附近龍尾泳灘、慈山寺及多個大型屋苑相繼落成，導致交通問題十分嚴重，繁忙時間尤甚;此外，嘉華英泥廠上落貨產生的泥塵及區內不斷建屋亦令空氣污染問題日益惡化，懇請當局認真作出周詳城市規劃及環評之前，不要再無視居民反對，盡快取消興建任何過渡性房屋，以免影響居民生活。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220807-130730-49248
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	07/08/2022 13:07:30
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Kevin Wong

意見詳情
Details of the Comment :

本人強烈返對大埔汀角路（前船灣余東旋學校）過渡性房屋項目， 理由如下:
1. 大埔汀角區一向公共交通工具不足，如果給一大班市民入住，會造成嚴重交通工具不足，使到現時的居民更加不便出入。
2. 汀角區生活配套不足，沒有超市、沒有便利便店等等，肯定入住的市民也覺得不便。
3. 大埔汀角區，十分近大尾篤，是大眾市民的郊遊熱點，在市民的郊遊地點興建過渡性房屋，實在大殺郊外的美景！
4. 興建過渡性房屋是解決不了香港的住屋問題，實在是浪費政府公帑！不如引入外奴，加快興建公屋，才能令市民對現介政府從復信心！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220807-144319-04984
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	07/08/2022 14:43:19
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Sanda Chan

意見詳情
Details of the Comment :

本人強烈返對大埔汀角路（前船灣余東旋學校）過渡性房屋項目，理由如下：
1. 大埔汀角區一向交通工具不足，如果給一大班市民入住，會造成嚴重交通工具不足，使到現時的居民更加不便出入。
2. 汀角區生活配套不足，沒有超市、沒有便利店等等，肯定入住的市民也覺得不便。
3. 大埔汀角區，十分近大尾篤，是大眾市民的郊遊熱點，在市民的郊遊地點興建過渡性房屋，實在大殺郊外的美景！
4. 興建過渡性房屋是解決不了香港的住屋問題，實在是浪費公帑。不如引入外奴，加快興建公屋，才能令市民對現屆政府重複信心！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-004652-32196
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 00:46:52
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 張全發

意見詳情
Details of the Comment :

該項目沒有專屬的公共巴士線。當局估算居民會前往大埔墟鐵路站，惟現時大埔墟鐵路站各個上落客點，已經完全爆滿，此問題短時間內根本無法解決。
居民要途經一段較長的露天通道，才能回家，必定飽受日曬雨淋之苦。

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**	
參考編號 **Reference Number:**	220808-080024-89814
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 08:00:24
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	POWER 18 LTD

意見詳情
Details of the Comment :

本公司反對在船灣余東旋鼠校舊址興建過渡性房屋，此是影響物業周圍環境及設計上不協調。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-104204-38113
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 10:42:04
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. LO CHIU BUN

意見詳情
Details of the Comment :

本人意見如下：
環境：在現有低密度的環境下，包括比華利山、三門仔村、西班牙國際學校，本人認為在上址興建過渡性房屋並不適合，其影響將包括：
一、噪音
二、景觀
三、道路安全
四、擠塞問題

希望你能衷心考慮有關計劃將帶來附近民居的實際影響。
但如果必須要興建，請考慮現有房屋的高度、密度作適合的刪改和規劃，並且增加周邊的綠化樹木。在興建的過程中，請確保減低對自然環境和樹木的破壞。

感謝貴 處能考慮和接納本人的建議。 如有任何問題，歡迎致電[redacted]與本人聯絡，謝謝！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-130129-17226
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 13:01:29
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Fu Annie

意見詳情
Details of the Comment :

反對是項申請， 愚見如下：
1）此過渡性房屋屬短期措施，未能提供此地及週圍環境後續的用處，此地配套／交通不足，不宜作資助性房屋
2）鄉郊發展現已很密集，此發展增加建築物密度
3）此土地位於斜坡上，此羣組建築物興建，加重斜坡的負重
4）舊村校（包括牌坊）是大埔歷史的一環

請審慎考慮此位置是否應為過渡性房屋而犧牲。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-142811-36889
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 14:28:11
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Fan

意見詳情
Details of the Comment :

現時大埔出入大尾篤交通班次已經不足以應付人流，番工時間小巴頭站已經爆滿，巴士都一樣，布心排以後都差不多爆滿，放工等入大尾篤小巴的時間動輒要20分鐘。

如果不解決以上問題又再加過渡屋係船灣，交通問題會更加惡化，希望政府會規劃好，解決好以上問題，才推出過渡屋。

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新界大埔船灣聯村村公所
JOINT VILLAGE OFFICE FOR VILLAGES IN SHUEN WAN.TAI PO.N.T.
地址：香港新界大埔汀角路磯頭角村2號B
2 B, SAN TAU KOK VILLAGE,TING KOK ROAD,TAI PO,N.T.,H.K.
電話：2662 5568　電郵:shuenwanjvo@yahoo.com.hk

香港北角渣華道333號
北角政府合署15樓
城市規劃委員會秘書

RECEIVED
- 5 AUG 2022
Town Planning Board

(傳真號碼：2877 0245 / 2522 8426)
(電郵：tpbpd@pland.govhk)

執事先生/女士：

強烈反對在大埔船灣丈量約份第26約地段的政府土地擬議

臨時住宿機構(過渡性房屋一為期5年)

申請編號：A/NE-TK/753

運輸及房屋局轄下倡議過渡性房屋項目的專責小組，於2021年建議利用位於大埔汀角路船灣(即前船灣余東旋學校)的政府土地(後稱「項目擬定選址」)，擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目(中轉屋)，房屋數目達276個單位。船灣聯村村公所強烈反對上述申請，理由如下：

1. 交通—船灣區只有汀角路一條主要幹道，近年船灣區發展迅速，私人屋苑及各村丁屋林立人口激增，一直以來汀角路的車流量不勝負荷，經常遇上交通擠塞，加上龍尾泳灘已開放，汀角路交通非常擠塞，上班時間輪候多班車仍無法上車；區內社區設施亦十分匱乏，連街市也欠奉，村民現時的生活已相當不便擔心過渡性房屋落成後，800人遷入，將大大增加相關設施和交通的負荷，「新遷舊戶一起受苦」。沿汀角路有(1)鳳園嵐山第3期(1，462單位)，(2)汀角路/露輝路土地共享先導計劃一南豐大埔綠化地(1，642單位)，(3)黃魚灘興建1，236個過渡性房屋單位，預計沿汀角路居住人口必然會顯著上升，令到已經擠塞

不斷的汀角路,更超出負荷,居民叫苦連天。擬建過渡性房屋選址是西班牙小學的校巴甚至消防車通往校舍的唯一道路,導善會的改建計劃只預留細窄道路通往學校,影響學校的運作。276 戶約 800 多人口仍需乘搭巴士、小巴上班、上學、買餸,必然會加重汀角路車流量引致交通擠塞,其嚴重性難以想像。

又船灣區的人口增長爭搭巴士、小巴返工返學及放工放學是常態,若城規會批准此項目申請,爭搭巴士小巴返工返學及放工放學的情況會更加惡化,真係悲哀! 對當地居民晚上停泊車位也成一個大問題。故促請當局了解民意,撤回在擬議過渡性房屋項目的決定。

2.排污問題一現時陳屋村一帶,都缺乏排污設施,未能接駁到政府排污渠。反而過渡性房屋便能接駁就近的政府排污渠。對船灣陳屋村等待 20 年還未有政府排污渠接駁非常不公平。

3. 社會和合及治安一新增入口大部份並非慣常在鄉郊生活,未必能融入鄉村寧靜生活的模式; 目前陳屋村全村只有約 100 多名居民,新增入口卻多達 800 多人,竟是陳屋村原有的 8 倍以上!勢必完全摧毀現有的寧靜鄉村的面貌和居民和階共處的風氣。村民亦會擔心新增的人口,在缺乏社區設施的情況下,必定對社區造成壓力,引發治安問題。為何大多基層都寧願選擇在市區住劏房,也是為節省時間金錢和鄰近交通生活配套齊全罷了。過渡性房屋的目的是服務基層,項目的配套甚為重要,不是單單隨便找幅荒地興建房屋便能解決,故堅決反對申請編號: A/NE-TK/753 項目。

基於上述種種問題，船灣聯村村公所及船灣鄉鄉公所強烈反對在大埔船灣丈量約份第 2 6 約地段的政府土地興建過渡性房屋項目。

JOINT VILLAGE OFFICE FOR VILLAGES IN SHUEN WAN, TAI PO, N.T.
新界大埔
船灣聯村村公所

代行

李貴平先生-船灣聯村村公所代主席
及首副主席 謹上

日期:2022 年 8 月 1 日

副本呈:
香港特別行政區
李家超 行政長官

立法會
陳　勇 議員
陳克勤 議員

致:
城市規劃委員會

反對「前船灣余東旋學校」教育用地
申請用作「過度性房屋」
申請編號:A/NE-TK/753

敬啟者:

本人陳平，是船灣陳屋村村代表。而該項申請地點正處於本村的村界之內。本人現代表全村村民，就標題所示的申請，提出反對。

[過渡性房屋]乃因公屋興建滯後所致，為輪候者提供棲身之地，雖為臨時措施，但也屬德政。因此我等地區人士，均表支持。

然而，有些選址極不適宜，甚至於毀滅性地影響原有設施的，政府部門是否還要一意孤行呢? 前船灣余東旋學校，現西班牙國際學校，就是典型事件;

事由:

- 該「學校」土地分為兩部份，一半為船灣鄉的物業(現正由西班牙國際學校營運)另一半為政府土地(即[過渡性房屋]申請地點)。而該地點正是現學校的[擴建申請]的地點。
- 毗鄰「黃漁灘」已經獲批准興建 1,236 伙過渡性房屋。雖有反對聲音，但其影響有限，因而已獲通過。而「學校」現址的申請卻僅為 200 多伙，效益極低。
- 去年 9 月中，陳克勤議員聯同鄉民代表、學校代表會見了相關部門，政府已經表明態度，決不撤回申請。大有堅決執行「林鄭」房屋政策之勢，這並非為「良政善治」之道。事實證明，該等部門官僚，現已相繼下台。

反對在「前船灣余東旋學校」興建過渡性房屋
主要理由;

1、 【效益低】面積太細，只可容納 200 多間;
2、 【損害大】同時引致學校的發展計劃即時停頓、令學生退學而無法營運! 同時，原有校園亦隨即荒廢，引發環境、衛生及治安等連鎖問題。
3、 【獻良策】鄉民強力推薦「愛德新村」舊址，可以增建更多的過度性房屋，以取代「西班牙小學」這個選址。既可解決臨屋問題，亦可推動文化教育事業。

本人身為該村民選代表，而申請地點正值我村之內，然而，本人卻沒有得到應有的諮詢。為了表達意見，去年我們懇求立法會議員約會高官，才得以敷衍見面! 當我們向當局「提建議」、【獻良策】時，官員宣稱「既定政策、不可撼動」。對於我們推薦土地的建議，卻換來「兩者兼要」的回應。這般毫不講理的強權施政，是要引發村民憎恨政府、村民對抗嗎? 這是政府想要得到的結果嗎?

船灣鄉民和我村村民，長期奉公守法、支持政府依法施政，然而卻換來這次強盜一般的施政，本人代表本村村民，提出強烈的反對。

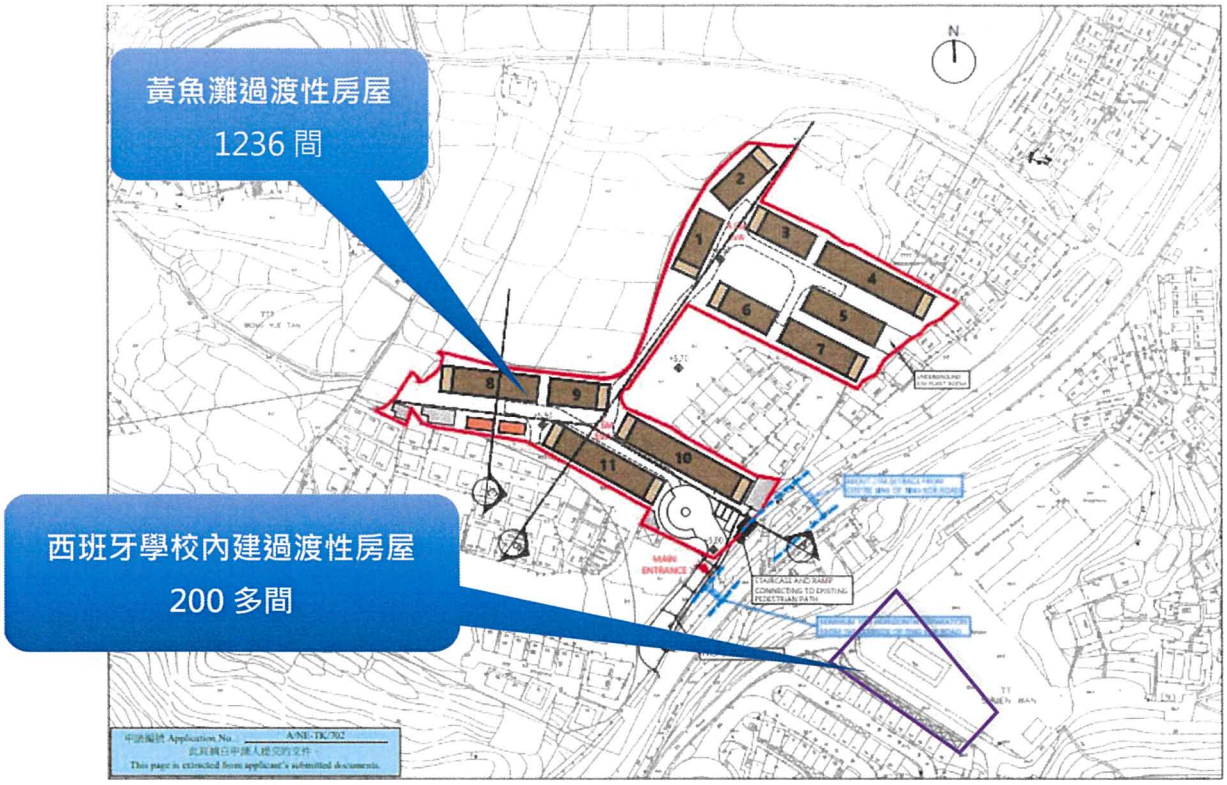
懇請

城市規劃委員會，合理、正確使用你們的權力，撤銷該項「民怨高、效益低」的申請吧!

此致



陳平 聯絡: [redacted]
陳屋村原居民 村代表 7/8/2022


黃魚灘過渡性房屋
1236 間
西班牙學校內建過渡性房屋
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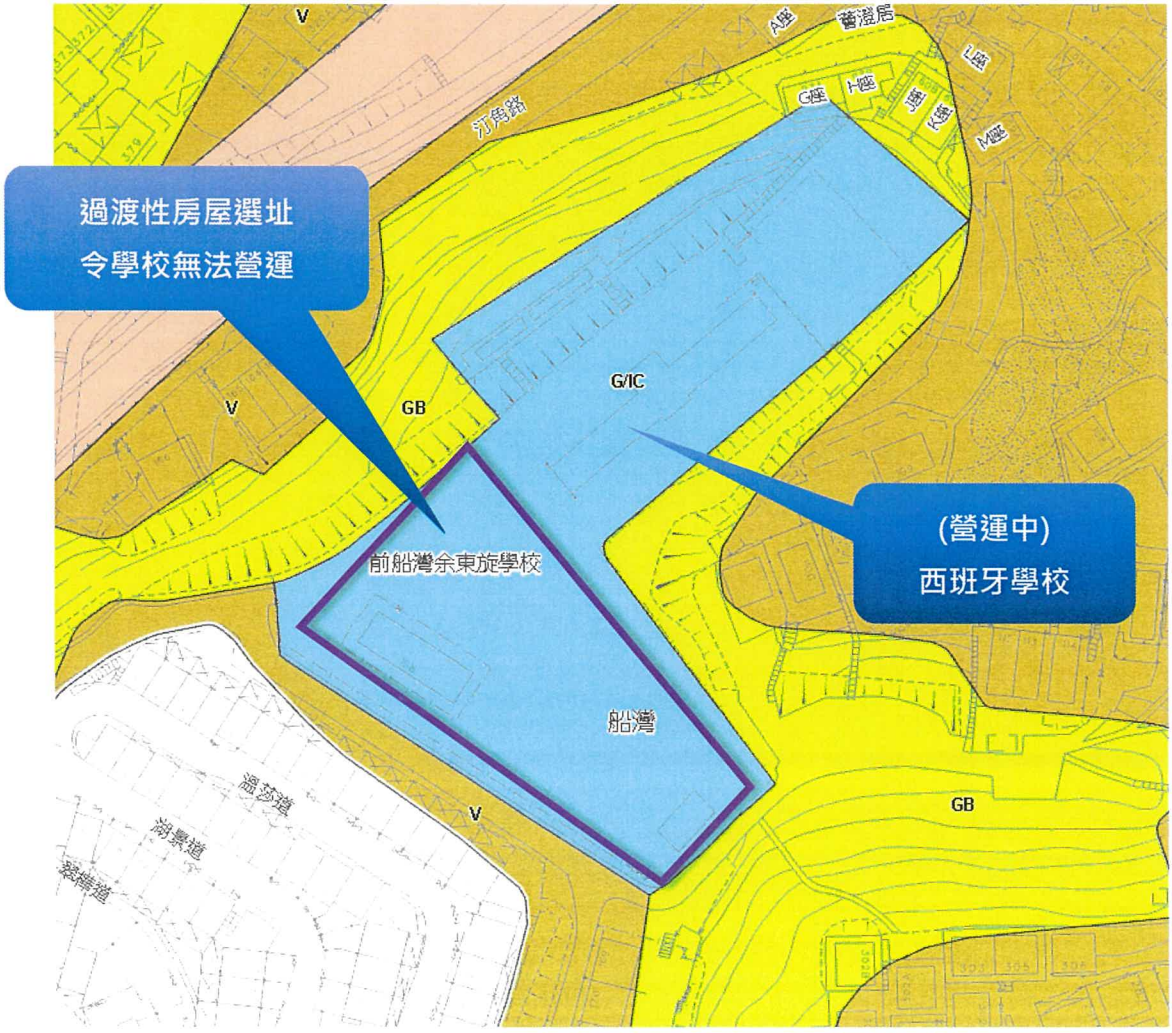
MAIN ENTRANCE
STAIRCASE AND RAMP CONNECTING TO EXISTING PEDESTRIAN PATH
中請編號 Application No.: A/NE-TK/702
此頁摘自中請人提交的文件。
This page is extracted from applicant's submitted documents.


過渡性房屋選址
令學校無法營運
(營運中)
西班牙學校
V
A座
舊澄居
L座
G座
H座
J座
K座
M座
汀角路
GB
G/IC
前船灣余東旋學校
船灣
溫莎道
湖景道
翠樺道

城市規劃委員會秘書收 29

黃魚灘村事務管理委員會

大埔黃魚灘村17號 電話: 2948 2001、[redacted] 傳真: 2662 5442

17 WONG YUE TAN VILLAGE, TAI PO TEL: 2948 2001、[redacted] FAX: 2662 5442

香港北角渣華道 333 號

北角政府合署 15 樓

城市規劃委員會秘書

執事先生 / 女士：

強烈反對於大埔汀角路船灣政府土地（前船灣余東旋學校）興建臨時住宿機構（過渡性房屋）

申請編號：A/NE-TK/753

我們代表黃魚灘村所有村民強烈反對上述申請，理由如下：

1. **選址錯誤，破壞整體規劃。**有關申請擬於「政府、機構或社區」(GIC) 地帶，興建 4 棟四層高、提供約 276 個單位，可容納約 608 人的建築物。雖然有關地盤佔地不算太大，但人口卻比鄰近的幾條村落都高出很多。船灣一帶是鄉村郊野，缺乏基建（道路、排污...）及社區設施（例如學校、市場...），並不適宜作大規模增加人口的發展。根據《汀角分區計劃大綱核准圖編號 S/NE-TK/19》的說明書，GIC 地帶的規劃意向，「主要是提供政府、機構或社區設施，以配合當地居民及 / 或該地區、區域，以至全港的需要... 當局日後進行詳細規劃時，可能把其他用途的土地改劃作這項用途，以應付該區人口不斷增加而預期帶來的需求。」是項建議發展，卻背道而馳，不但減少 GIC 用地，還增加人口，並不符合《汀角分區計劃大綱核准圖編號 S/NE-TK/19》的整體規劃意向，也不符合 GIC 地帶的規劃要求。

2. **舊債未清，新債又來？**早前城規會批准樂善堂在黃魚灘興建過渡性房屋的申請（A/NE-TK/702），項目已經開展得如火如荼，但政府及申請人在申請時的各種承諾或建議舒緩對原有居民影響的措施，例如為黃魚灘及附近村落連接公共排污設施立項、新增專線小巴路線，早上增加 75K 巴士班次、改善鄰近巴士站及汀角路多個路口等，到現時皆渺無音訊，令人對有關承諾能否落實存疑，是次申請的各項建議，是否也是空談？

城市規劃委員會秘書收：

黃魚灘村事務管理委員會
大埔黃魚灘村17號 電話：2948 2001、[redacted] 傳真：2662 5442
17 WONG YUE TAN VILLAGE TAI PO TEL.: 2948 2001、[redacted] FAX: 2662 5442

3. **累積發展規模過大，基建及社區設施無法負荷。**是次申請連同之前獲批的過渡性房屋項目，將為船灣區帶來三千多新人口，再加上汀角路的各項公私營住宅發展，必然會嚴重影響當地交通、排污等基建設施，不單會嚴重影響現有居民的日常生活，亦無法滿足新增人口的基本生活需求，但申請書卻沒有詳細交待相關的累積影響。

4. **導致交通擠塞，居民乘車困難。**當區只有汀角路一條主要通道，突然加增了三千多人口，對公共交通的需求必然十分強烈，增加居民乘車的困難。增加巴士及小巴班次，亦未必能有效地疏導龐大的新增乘客數量，反而令已非常繁忙的汀角路更加擠塞，更會使原本的交通擠塞問題加劇惡化。

5. **錯誤估算交通需求。**申請書的交通影響評估，只是利用一些全港平均數值和一般程式運算，缺乏詳細實地調查（只有24/4和25/4兩天調查，未必具代表性），亦嚴重**忽略了新增人口及船灣區的特質**，因此低估了實際交通影響。例如交通影響評估估算每天早上繁忙時段，每小時只會增加120人乘車往大埔，並以平均值推算，候車時間為6分鐘，巴士站最多有12人在排隊，似乎與村民日常經驗的「等車耐」、「上車難」完全不同！現時早上在船灣一帶的車站，乘車已經非常困難，建議增加的少量小巴和巴士班次，**無法緩解交通不足問題**。事實上申請人鄉議會只是一個非政府組織，如何能叫巴士公司增加特定路線的班次？全港各處都有增加巴士班次的需求，為何這個項目能令巴士公司優先處理？

6. **社區難以融合及治安問題。**申請地點貼近現有村落及屋宛，在基礎設施及道路使用方面，容易與原有居民產生衝突。新增人口是當地村落的數倍，將會改變現時寧靜環境，勢必完全摧毀現有寧靜鄉村的面貌和居民和諧共處的風氣。缺乏社區設施容易對社區造成壓力，並引發治安問題。

7. **假借「臨時」及「住宿機構」為名，蒙混過關。**現時的申請聲稱屬「臨時」「住宿機構」項目，為期5年，實有取巧之嫌。況且有關地點為政府土地，亦未有指定用途，建成房屋入伙之後，米已成炊，隨時可向城規會申請延期，五年又五年，隨時一幌十多二十年。項目實則涉及興建大量住宅單位，**絕不能視作臨時土地用途**，也非「住宿機構」。

城市規劃委員會秘書收：

黃魚灘村事務管理委員會

大埔黃魚灘村17號 電話: 2948 2001, [redacted] 傳真: 2662 5442

17 WONG YUE TAN VILLAGE, TAI PO TEL: 2948 2001, [redacted] FAX: 2662 5442

若當局有心發展，應該以整個船灣灘新作規劃，徹底解決當區房屋及基建配套等問題。若說項目屬緊急及臨時性質，為何不選擇在大埔區內少人使用的設施，例如廣福公園球場，或工業邨一些臨時停車場，來興建過渡性房屋？基於上述種種原因，我們強烈反對是次項目，期望城規會能夠否決是次申請。謝謝。

黃魚灘村事務管理委員會

2022年8月8日

原居民村代表

張小明

香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會秘書
傳真號碼：2877 0245／2522 8426 電郵：tpbpd@pland.gov.hk

RECEIVED
- 8 AUG 2022
Town Planning Board

執事先生／女士：

強烈反對

大埔船灣丈量約份第 26 約地段的政府土地
擬議臨時住宿機構（過渡性房屋—為期 5 年）
申請編號：A／NE-TK／753

運輸及房屋局轄下倡議過渡性房屋項目的專責小組，於 2021 年建議利用位於大埔汀角路船灣（即前船灣余東旋學校）的政府土地（後稱「項目擬定選址」），擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目（中轉屋），房屋數目達 276 個單位。本村強烈反對上述申請理由如下：

① 近年船灣區發展迅速，私人屋苑及各村丁屋林立，人口激增，一直以來汀角路的車流量不勝負荷，加上龍尾泳灘已開放，導致汀角路交通非常擠塞。上班時間輪候多班車都無法上車，區內社區設施亦十分匱乏，連街市也欠奉。村民現時的生活已相當不便，擔心過渡性房屋落成後，約 800 人遷入，將大大增加相關設施和交通的負荷，「新遷舊戶一起受苦」。而沿汀角路有：
（1）鳳園嵐山第 3 期（共 1,462 單位）
（2）汀角路／露輝路土地共享先導計劃-南豐大埔綠化地（共 1,642 單位）
（3）黃魚灘興建 1,236 個過渡性房屋單位
預計沿汀角路居住人口必然會顯著上升，令到已經擠塞不斷的汀角路更加超出負荷，居民叫苦連天。擬建過渡性房屋選址亦是西班牙小學的校巴甚至消防車通往校舍的唯一道路，導善會的改建計劃只預留狹窄道路通往學校，影響學校的運作。276 戶約 800 多人口仍需乘搭巴士、小巴上班、上學、買餸，必然會加重汀角路車流量，引致交通擠塞，其嚴重性難以想像。現時居民已經常投訴巴士及小巴班次追不上船灣區的人口增長，爭搭巴士、小巴返工返學及放工放學是常態，若城規會批准此項目申請，爭搭巴士小巴返工返學及放工放學的情況會更加惡化！！！
促請當局了解民意，撤回在擬議過渡性房屋項目的決定。

② 船灣區私人屋苑及各村丁屋增加，區內亦沒有停車場/足夠泊車位，而過渡性房屋落成後，人口增多必定會出現爭車位情況。

③ 現時陳屋村一帶都缺乏排污設施，未能接駁到政府排污渠。反而過渡性房屋便能接駁就近的政府排污渠，對陳屋村等候 20 年還未得到政府安排排污渠接駁是非常不公平。

④ 過渡性房屋約有 800 多人口遷入，大部份並非慣常在鄉郊生活，未必能融入鄉村寧靜生活的模式。目前陳屋村全村只有約 100 多名居民，新增人口卻多達 800 多人，是陳屋村

原有人口的 8 倍以上！勢必完全摧毀現有的寧靜鄉村的面貌和居民和階共處的風氣。村民亦擔心新增的人口，在缺乏社區設施的情況下，必定對社區造成壓力，引發治安問題。

⑤ 為期五年的過渡性房屋項目計劃又是否可真正解決基層市民的住屋需要？擬建過渡性房屋選址部分位置「吊腳」，周邊配套設施欠奉，是否可如政府所願，真正協助那些父母經常要早出晚歸返工，子女在附近就學及課後活動的貧困家庭需要呢？為何大多基層都寧願選擇在市區住劏房？也是為節省時間金錢和鄰近交通生活配套完善罷了。

興建過渡性房屋目的是服務基層，項目的配套甚為重要，不是單單隨便找幅荒地興建房屋便能解決，希望政府部門真正讓基層緩解燃眉之急，在大埔市區另覓合適地點。基於上述各種問題，強烈反對在大埔船灣丈量約份第 26 約地段的政府土地興建過渡性房屋項目。期望城規會能否決是次申請，謝謝!

船灣磡頭角村村代表
曾新強

船灣磡頭角村居民代表
曾壽強

2022 年 08 月 05 日

敬啟者：

強烈反對在大埔船灣丈量約第26約地段的政府土地建過渡性房屋（申請編號：A/NE-TK753）

運輸及房屋局轄下偕議過渡性房屋項目的專責小組，於2021年建議利用位於大埔汀角路船灣余東旋學校內的政府土地擬批市民問團體"香港善尊會"於該土地推行一個為期5年的過渡性房屋項目，表示最強烈反對上述的申請，理由如下：

一、選址問題：該土地周邊配套設施欠奉，是否可以真正解決基層市民的住屋需要呢？前政府把該項目都有"交數"的意味。不是單單隨便找幅荒地興建房屋便能解決問題，希望政府部門真正讓基層緩解燃眉之急，在大埔市區另找合適地點。

二、欠缺咨詢：政府既然知道進行該項工程涉及大埔陳屋村、沙欄村、李屋村、參屋村，為何事前政府有關部門不作咨詢，到目前才公佈申請項目，有黑箱作業之嫌。

三、交通：船灣區只有汀角路一條主要幹道，近年船灣區發展迅速，私人屋苑及各村丁屋林立，人口激增，汀角路的車流量不勝負荷，經常遇上塞車，加上龍尾泳灘已開放，鳳凰嵐山幾千個單位，黃魚灘過渡性房屋，汀角路的塞車其嚴重性真是難以想象。況且目前擬建過渡性房屋的地點有學校，靠一條單程斜路上落。若城規會批准此項申請，令搭巴士小巴返工返學及放工放學的情況更加惡化。促請政府了解民意，撤回擬在土地建過渡性房屋項目的決定。

四. 社會融合及治安：入住過渡性房屋的新增人口大部份並非慣常在鄉郊生活，未必能夠融入鄉村寧靜生活的模式，新增人口多於現住人口幾倍，勢必完全摧毀現有的寧靜鄉村的面貌和居民和諧共處的風氣，村民亦擔心新增人口所帶來的治安問題在缺乏配套設施的情況下，必定對社區造成治安的壓力。

基於以上原因，強烈反對在大埔船灣丈量約份第26約地段的政府土地興建過渡性房屋項目。

此致

城市規劃委員會秘書處 台鑒



新界大埔船灣沙欄村原居民代表　新界大埔船灣沙欄村居民代表

李茂榮　　李少峰

李茂榮　　李少峰

2022年8月6日

通訊地址：[redacted]

32 P.1

香港北角渣華道 333 號
北角政府合署 15 樓
城市規劃委員會秘書

(傳真號碼：2877 0245 / 2522 8426)
(電郵：tpbpd@pland.gov.hk)

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- 9 AUG 2022
Town Planning Board

執事先生 / 女士：

強烈反對在大埔船灣丈量約份第 26 約地段的政府土地
擬議臨時住宿機構(過渡性房屋—為期 5 年)
申請編號：A/NE-TK/753

2021 年運輸及房屋局轄下倡議過渡性房屋項目的專責小組，建議利用位於大埔汀角路船灣（即前船灣余東旋學校）的政府土地（後稱「項目擬定選址」），擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目（中轉屋），房屋數目達 276 個單位。汀角路民生關注組經過了一年同部門反映居民強烈反對在大埔船灣丈量約份第 26 約地段的政府土地建過渡性房屋項目、進行文書表達、和平抗議、一眾船灣居民在會議上認為本區社區設施欠缺、交通配套不足，種種理由反對聲音不斷。

在城規會諮詢期間，「汀角路民生關注組」在本區進行多日民意調查活動，收集了 284 名居民的回覆，結果反映有 97.5%(即 277 人)居民反對在大埔船灣丈量約份第 26 約地段的政府土地建過渡性房屋項目，只有 2.5%(即 7 人)支持建過渡性房屋項目。有 98.2%(即 279 人)居民認為會加重汀角路交通負荷，有 86.6%(即 246 人)居民認為本區社區設施配套嚴重不足，另外有 81%(即 230 人)居民認為增加了鄉郊管理治安風險，而且有 91.2%(即 259 人) 居民認為過渡性房屋項目應另行選址興建，只有 8.8%(即 25 人)是認同原址興建。這一切一切都反映了船灣居民的不滿。我們及本區居民深感疑惑為何政府不理居民反對，硬推「過渡性房屋計劃」，只會令船灣區居民怨聲載道。

1. **交通—**船灣區只有汀角路一條主要幹道，近年船灣區發展迅速，私人屋苑及各村丁屋林立，人口激增，一直以來汀角路的車流量不勝負荷，加上龍尾泳灘已開放，汀角路交通非常擠塞，上班時間輪候多班車仍無法上車；區內社區設施亦十分匱乏，連街市也欠奉，村民現時的生活已相當不便，擔心過渡性房屋落成後，800 多人遷入，將大大增加相關設施和交通的負荷，「新遷舊戶一起受苦」。沿汀角路有**(1)**鳳園嵐山第 3 期(1,462 單位)，**(2)**汀角路/露輝路土地共享先導計劃-南豐大埔綠化地(1,642 單位)，**(3)**黃魚灘興建 1,236 個過渡性房屋單位，預計沿汀角路居住人口必然會顯著上升，令到已經擠塞不斷的汀角路，更超出負荷，居民叫苦連天。擬建過渡性房屋選址是西班牙小學的校巴甚至消防車通往校舍的唯一道路，導善會的改建計劃只預留細窄道路通往學校，影響學校的運作。276 戶約 800 多人口仍需乘搭巴士、小巴上班、上學、買餸，必然會加重汀角路車流量，引致交通擠塞，其嚴重性難以想像。

現時居民經常投訴巴士及小巴班次追不上船灣區的人口增長，爭搭巴士、小巴返工返學及放工放學是常態，若城規會批准此項目申請，爭搭巴士小巴返工返學及放工放學的情況會更加惡化，真係悲哀!!! 促請當局了解民意，撤回在擬議過渡性房屋項目的決定。

2. **排污**—現時陳屋村一帶，都缺乏排污設施，未能接駁到政府排污渠。反而過渡性房屋便能接駁就近的政府排污渠，對陳屋村等待 20 年還未有接駁政府排污渠非常不公平。

3. **社會融合及治安**—新增人口大部份並非慣常在鄉郊生活，未必能融入鄉村寧靜生活的模式; 目前陳屋村全村只有約 100 多名居民，新增人口卻多達 800 多人，竟是陳屋村原有的 8 倍以上! 勢必完全摧毀現有的寧靜鄉村的面貌和居民和階共處的風氣。村民亦會擔心新增的人口，在缺乏社區設施的情況下，必定對社區造成壓力，引發治安問題。

4. **選址**—這個計劃又是否可真正解決基層市民的住屋需要？部分位置「吊腳」，周邊配套設施欠奉；前政府把該項目都有濃濃「交數」的意味，但是否可如政府所願，真正協助到那些父母經常要早出晚歸搵食，子女需在附近就學及課後活動的貧困家庭需要呢？為何大多基層都寧願選擇在市區住劏房，也是為節省時間金錢和鄰近交通生活配套齊全罷了。過渡性房屋的目的是服務基層，項目的配套甚為重要，不是單單隨便找幅荒地興建房屋便能解決，希望政府部門真正讓基層緩解燃眉之急，在大埔市區另覓合適地點。

基於上述種種問題，「汀角路民生關注組」謹代表船灣居民強烈反對在大埔船灣丈量約份第 26 約地段的政府土地興建過渡性房屋項目，要求回應居民改善交通配套及生活設施，並就興建過渡性房屋另覓合適選址。

TING KOK ROAD COMMUNITY CONCERN GROUP 汀角路民生關注組

汀角路民生關注組主席—劉志成博士

回郵地址: [redacted] 日期: 08/08/2022

汀角路民生關注組－民意調查

P3

有關: 大埔汀角路前船灣余東旋學校(即現今西班牙小學)旁
擬建過渡性房屋
城規會申請編號: A/NE-TK/753

運輸及房屋局轄下倡議過渡性房屋項目的專責小組，於 2021 年建議利用位於大埔汀角路船灣（即前船灣余東旋學校）的政府土地（後稱「項目擬定選址」），擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目（中轉屋），房屋數目達 276 個單位。

沿汀角路有**(1)**鳳園嵐山第 3 期(1,462 單位)，**(2)**汀角路/露輝路土地共享先導計劃-南豐大埔綠化地(1,642 單位)，**(3)**黃魚灘興建 1,236 個過渡性房屋單位，預計沿汀角路居住人口必然會顯著上升，令到已經擠塞不斷的汀角路，更超出負荷，居民叫苦連天。擬建過渡性房屋選址是班西牙小學的校巴甚至消防車通往校舍的唯一道路，導善會的改建計劃只預留細窄道路通往學校，值得區內居民及師生關注。

城規會現正就上述項目進行公眾諮詢，若查詢該項目資料請登入 s16_A_NE-TK_753_0_gist.pdf (info.gov.hk)，提出意見請登入 PEMS Comment Submission (tpb.gov.hk)，並於 2022 年 8 月 9 日前以書面方式直接向城規會提出意見。「汀角路民生關注組」為收集市民意見，現誠邀閣下回答以下問卷：

你認為在船灣擬定選址興建中轉屋，在以下那方面會否對市民造成不良影響？（可選多於一項）

- ☐ 加重汀角路交通負荷
- ☐ 阻礙鄰校／鄰舍交通
- ☐ 社區設施配套嚴重不足
- ☐ 影響居住環境嚴重擾民
- ☐ 阻礙汀角路消防救護通道
- ☐ 影響校網發展及學校運作
- ☐ 增加鄉郊管理治安風險
- ☐ 其他不良影響 （請詳述）

_____

_____

請問你支持城規會通過在「船灣政府土地興建過渡性房屋」項目嗎？

- ☐ 支持
- ☐ 反對

你是否認同上述過渡性房屋項目應另行選址興建？

- ☐ 認同，應另行選址
- ☐ 不認同，無需另行選址

性別 ： ☐男 ☐女

請問你現時是否居住在船灣選區 ： ☐是 ☐否

受訪者姓名 ：_____ 住址或電郵地址：_____

時間戳記	你認為在船灣擬定選址興建中轉屋，在以	請問你支持城規會通過	你是否認同上述過渡性	性別	請問你現時是否居住在	姓名	住址	電郵地址	
8/1/2022 16:17:21	加重汀角路交通負荷	反對	認同，應另行選址	男	是	Lau			
8/1/2022 16:18:37	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	KIT			
8/1/2022 16:28:25	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Anth			
8/1/2022 16:29:45	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Elam			
8/1/2022 16:34:20	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Kayl			
8/1/2022 16:36:05	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳			
8/1/2022 17:29:48	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李			
8/1/2022 17:34:38	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳			
8/1/2022 17:44:06	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李			
8/1/2022 17:48:23	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳			
8/1/2022 18:22:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是				
8/1/2022 18:25:53	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lee			
8/1/2022 18:36:33	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	張			
8/1/2022 18:38:40	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Ms chu			
8/1/2022 18:39:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	女	否	何			
8/1/2022 18:39:56	加重汀角路交通負荷	支持	不認同，無需另行選址	男	是	Tang			
8/1/2022 18:39:56	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Hugo			
8/1/2022 18:41:39	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	May			
8/1/2022 18:42:31	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	男	是	Fong			
8/1/2022 18:43:35	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	否	Ng			
8/1/2022 18:43:56	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Leung			
8/1/2022 18:45:22	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	否				
8/1/2022 18:45:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	S			
8/1/2022 18:45:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李			
8/1/2022 18:46:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳			
8/1/2022 18:46:27	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Mich			
8/1/2022 18:47:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Os			
8/1/2022 18:47:27	加重汀角路交通負荷, 如加闊行車路或多	支持	不認同，無需另行選址	女	是	梁			
8/1/2022 18:48:50	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李			
8/1/2022 18:49:14	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	否	Lee			
8/1/2022 18:49:37	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	KmL			
8/1/2022 18:49:46	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Lau			
8/1/2022 18:54:35	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	M			
8/1/2022 18:54:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	MRS.CHAN			
8/1/2022 18:56:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	MR. CHAN			
8/1/2022 18:56:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	女	是	余			
8/1/2022 18:56:30	不會有影響	支持	不認同，無需另行選址	女	是				
8/1/2022 18:59:06	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	詹			
8/1/2022 19:03:18	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Lui			
8/1/2022 19:03:28	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	So			
8/1/2022 19:05:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Chu			
8/1/2022 19:06:54	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Leung			
8/1/2022 19:07:14	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳			
8/1/2022 19:13:06	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	女	是	Cam			

8/1/2022 19:13:06	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	羅
8/1/2022 19:19:59	對交通影响不大，鐵尾起沙灘，影响重大	支持	不認同，無需另行選址	男	否	吳先生
8/1/2022 19:27:05	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	紫
8/1/2022 19:30:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	TSA
8/1/2022 19:47:25	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	chan
8/1/2022 19:54:20	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Amy
8/1/2022 19:58:04	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	陳
8/1/2022 20:04:37	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	CHI
8/1/2022 20:04:43	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	HUI
8/1/2022 20:05:10	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	吳
8/1/2022 20:06:22	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	C T
8/1/2022 20:06:38	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	
8/1/2022 20:07:04	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李
8/1/2022 20:09:08	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	WY
8/1/2022 20:11:36	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Fu
8/1/2022 20:15:09	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	NGA :
8/1/2022 20:17:59	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	David
8/1/2022 20:19:21	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Chan
8/1/2022 20:22:30	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳
8/1/2022 20:26:39	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Fen
8/1/2022 20:28:02	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	YU
8/1/2022 20:30:38	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Liza
8/1/2022 20:31:14	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	ch
8/1/2022 20:35:10	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Hel
8/1/2022 20:36:19	加重汀角路交通負荷, 增加鄉郊管理治安	支持	不認同，無需另行選址	男	否	Tor
8/1/2022 20:39:18	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	
8/1/2022 20:39:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	SIN
8/1/2022 20:45:47	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	張
8/1/2022 20:47:04	加重汀角路交通負荷, 社區設施配套嚴重	反對	不認同，無需另行選址	男	否	Leung
8/1/2022 20:47:39	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/1/2022 20:47:58	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Chi
8/1/2022 20:48:51	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	女	是	Wor
8/1/2022 20:54:21	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Cliff
8/1/2022 20:54:23	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Sin
8/1/2022 20:57:49	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/1/2022 21:05:10	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	
8/1/2022 21:08:30	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	曾
8/1/2022 21:13:37	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	lp
8/1/2022 21:17:49	加重汀角路交通負荷	反對	認同，應另行選址	男	是	Lau
8/1/2022 21:25:14	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Lee
8/1/2022 21:33:08	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ben
8/1/2022 21:44:32	加重汀角路交通負荷	反對	認同，應另行選址	男	是	余
8/1/2022 22:08:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	fra
8/1/2022 22:08:50	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	女	是	HU
8/1/2022 22:11:15	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	男	是	So

8/1/2022 22:15:33	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	MAG
8/1/2022 22:16:25	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Chan
8/1/2022 22:17:33	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	yeung
8/1/2022 22:18:14	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Gary
8/1/2022 22:28:17	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Fung
8/1/2022 22:29:21	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳太
8/1/2022 22:39:05	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	徐
8/1/2022 22:44:54	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Yau
8/1/2022 22:54:50	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Mrs Chan
8/1/2022 22:54:56	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	曾
8/1/2022 22:55:57	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Dick
8/1/2022 23:00:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/1/2022 23:03:00	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李
8/1/2022 23:04:13	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	林
8/1/2022 23:07:00	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Yuet
8/1/2022 23:07:32	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Lee
8/1/2022 23:59:02	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Frank
8/2/2022 0:04:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Tob
8/2/2022 0:22:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Mag
8/2/2022 0:53:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	殷
8/2/2022 6:32:18	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Chen
8/2/2022 7:06:14	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Percy
8/2/2022 7:59:03	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Jacke
8/2/2022 8:28:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ping
8/2/2022 9:39:25	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Karen
8/2/2022 10:36:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	
8/2/2022 11:04:47	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	女	是	War
8/2/2022 11:22:01	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Tom
8/2/2022 11:40:53	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	Chai
8/2/2022 13:19:06	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	LAU
8/2/2022 14:17:49	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	馮
8/2/2022 14:21:52	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Celi
8/2/2022 15:24:03	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ng
8/2/2022 15:49:49	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Chai
8/2/2022 15:54:32	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Kelv
8/2/2022 16:08:29	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Chai
8/2/2022 16:31:54	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Lilia
8/2/2022 17:10:21	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	否	陳
8/2/2022 17:15:40	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lam
8/2/2022 17:23:47	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Chan
8/2/2022 20:24:49	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	FUN
8/2/2022 21:27:08	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	LAI
8/2/2022 22:30:40	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Chen
8/3/2022 0:06:34	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Go
8/3/2022 14:21:18	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	朱

8/3/2022 14:25:49	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Yeung
8/3/2022 14:27:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Miss
8/3/2022 14:28:32	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	LAW
8/3/2022 14:29:32	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	丘
8/3/2022 14:30:09	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Chow
8/3/2022 14:30:45	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	李
8/3/2022 14:32:46	點解可以起豪宅，但唔可以起過渡性房屋	支持	不認同，無需另行選址	男	是	Jon
8/3/2022 14:33:42	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	陳
8/3/2022 14:35:07	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	HO
8/3/2022 14:35:19	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	[illegible]
8/3/2022 14:36:51	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Li
8/3/2022 14:38:17	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Ken
8/3/2022 14:39:43	加重汀角路交通負荷, 阻礙汀角路消防救	反對	認同，應另行選址	男	是	
8/3/2022 14:40:43	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	曾
8/3/2022 14:43:54	加重汀角路交通負荷, 阻礙汀角路消防救	反對	不認同，無需另行選址	男	是	譚
8/3/2022 14:47:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	許
8/3/2022 14:47:38	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	UNI
8/3/2022 14:47:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	女	是	Kayla
8/3/2022 14:48:30	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	
8/3/2022 15:12:49	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	湯
8/3/2022 15:18:00	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Ng
8/3/2022 15:25:59	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	S Le
8/3/2022 15:29:46	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	
8/3/2022 15:45:02	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	男	是	Lee
8/3/2022 15:49:42	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳
8/3/2022 15:50:57	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	鄧
8/3/2022 15:52:18	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	陳
8/3/2022 15:56:48	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/3/2022 16:08:03	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	俞
8/3/2022 16:15:12	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	否	Eva
8/3/2022 16:29:32	加重汀角路交通負荷, 影響居住環境嚴重	反對	不認同，無需另行選址	男	否	Wai
8/3/2022 16:31:34	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Lee
8/3/2022 16:38:33	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	鄺
8/3/2022 17:12:10	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Tsan
8/3/2022 17:49:42	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	黃
8/3/2022 18:00:15	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	
8/3/2022 18:07:21	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Canl
8/3/2022 19:46:46	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Nga
8/3/2022 20:52:10	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	鄧生
8/3/2022 21:57:38	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ray
8/3/2022 22:02:00	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Won
8/3/2022 22:07:04	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/3/2022 22:08:08	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	BIL
8/3/2022 22:12:51	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Tam
8/3/2022 22:14:11	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Kei

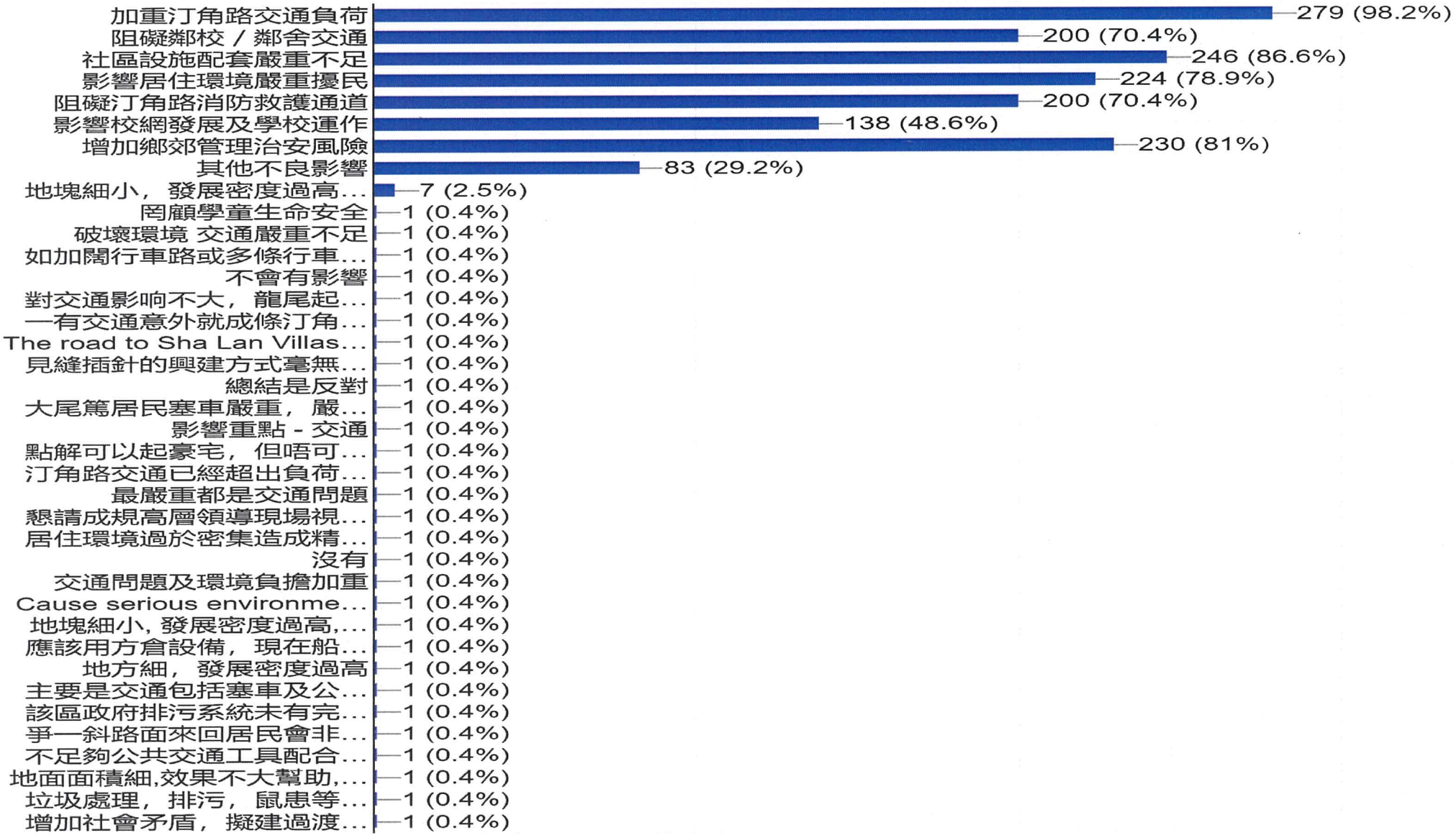
8/3/2022 22:14:52	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	
8/3/2022 22:22:49	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	An
8/3/2022 22:32:13	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	jan
8/3/2022 22:32:41	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Yu
8/3/2022 22:34:54	沒有	支持	不認同，無需另行選址	女	是	小
8/3/2022 22:37:54	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Yiu
8/3/2022 22:44:28	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	黃
8/3/2022 22:50:24	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Sin
8/3/2022 22:53:42	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Lee
8/3/2022 22:53:50	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Ga
8/3/2022 23:09:31	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	
8/3/2022 23:01:32	加重汀角路交通負荷, 社區設施配套嚴重	反對	不認同，無需另行選址	女	是	Ling
8/3/2022 23:10:08	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	林
8/3/2022 23:24:34	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	陳
8/3/2022 23:43:28	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Ec
8/4/2022 0:17:08	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Dee
8/4/2022 2:34:00	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳
8/4/2022 4:42:53	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	是	Mr
8/4/2022 5:20:48	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	男	否	Ho
8/4/2022 7:01:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Li,
8/4/2022 7:11:38	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Qu
8/4/2022 8:14:18	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Jam
8/4/2022 9:16:54	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李
8/4/2022 9:19:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	李
8/4/2022 9:51:46	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Li
8/4/2022 10:12:50	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Zoe
8/4/2022 10:36:07	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Wis
8/4/2022 10:39:06	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Chan
8/4/2022 10:42:12	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Li Wa
8/4/2022 10:49:18	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	Tsai
8/4/2022 10:53:29	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Alvin
8/4/2022 10:54:28	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Johnny
8/4/2022 11:05:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	盧
8/4/2022 11:13:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Julie
8/4/2022 11:20:39	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	Yiqu
8/4/2022 11:38:47	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	姜
8/4/2022 12:19:43	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Grace
8/4/2022 12:20:47	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ricky
8/4/2022 12:21:50	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Will
8/4/2022 12:37:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Hu
8/4/2022 12:41:59	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Ann
8/4/2022 13:34:30	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Jia
8/4/2022 13:39:53	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Cindy
8/4/2022 14:33:46	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lee
8/4/2022 16:27:39	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Edwi

8/4/2022 18:41:33	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	Berton
8/4/2022 21:40:54	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	
8/5/2022 6:32:13	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳
8/5/2022 6:34:32	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	林
8/5/2022 7:30:03	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Tam
8/5/2022 7:33:48	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Wong
8/5/2022 7:34:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Wong
8/5/2022 8:23:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Win
8/5/2022 8:39:41	加重汀角路交通負荷, 影響居住環境嚴重	反對	認同，應另行選址	女	是	Ng
8/5/2022 9:39:13	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Ceci
8/5/2022 10:21:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Pun
8/5/2022 10:56:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Jess
8/5/2022 11:30:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	陳
8/5/2022 16:42:48	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	
8/5/2022 18:53:31	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	趙
8/5/2022 20:49:31	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	曾
8/5/2022 21:05:17	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Chen
8/6/2022 11:36:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	孫
8/6/2022 11:41:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	li shi
8/6/2022 12:13:23	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Fan
8/6/2022 12:24:58	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lam
8/6/2022 12:27:03	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Lee
8/6/2022 12:48:58	加重汀角路交通負荷	反對	認同，應另行選址	男	否	Ger
8/6/2022 13:09:23	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	譚
8/6/2022 13:33:07	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	
8/6/2022 14:25:57	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ben
8/6/2022 14:33:38	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	張
8/6/2022 14:37:55	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	E H
8/6/2022 15:22:28	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	Leu
8/6/2022 16:13:02	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	LEUI
8/6/2022 17:36:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Wen
8/6/2022 17:37:44	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Tam
8/6/2022 19:38:52	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Gord
8/6/2022 19:45:25	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	San
8/6/2022 19:46:04	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lay
8/6/2022 20:08:21	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	CHA
8/6/2022 20:18:14	影響居住環境嚴重擾民, 影響校網發展及	反對	認同，應另行選址	男	是	Lam
8/6/2022 20:32:32	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Kath
8/6/2022 21:38:11	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	NG
8/6/2022 23:56:39	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	何
8/7/2022 2:03:12	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	劉
8/7/2022 7:30:02	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Amy
8/7/2022 8:25:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	TSE
8/7/2022 8:26:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	MO
8/7/2022 10:06:31	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	grace

8/7/2022 10:09:12	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Mrs. Yeung
8/7/2022 10:14:31	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	不認同，無需另行選址	男	是	張
8/7/2022 10:35:32	加重汀角路交通負荷, 社區設施配套嚴重	反對	認同，應另行選址	女	是	何小姐
8/7/2022 11:06:37	加重汀角路交通負荷, 社區設施配套嚴重	反對	不認同，無需另行選址	男	否	jimmy
8/8/2022 10:03:13	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Chan
8/8/2022 10:04:08	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Choi
8/8/2022 10:05:27	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Choi
8/8/2022 10:06:19	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Char
8/8/2022 10:07:12	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Chan
8/8/2022 10:08:15	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Choi
8/8/2022 10:08:59	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Tsai
8/8/2022 10:11:23	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Ulaye
8/8/2022 10:18:29	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	女	是	Lana
8/8/2022 10:19:55	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	Ryan
8/8/2022 10:39:40	加重汀角路交通負荷, 阻礙鄰校／鄰舍交	反對	認同，應另行選址	男	是	何

你認為在船灣擬定選址興建中轉屋，在以下那方面會否對市民造成不良影響？（可選多於一項）

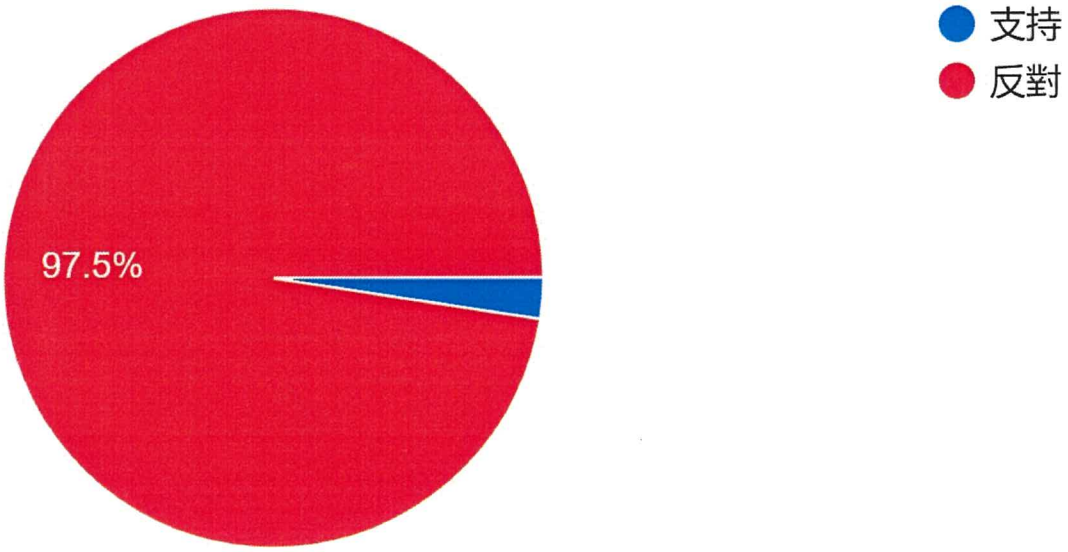
284 則回應



P11

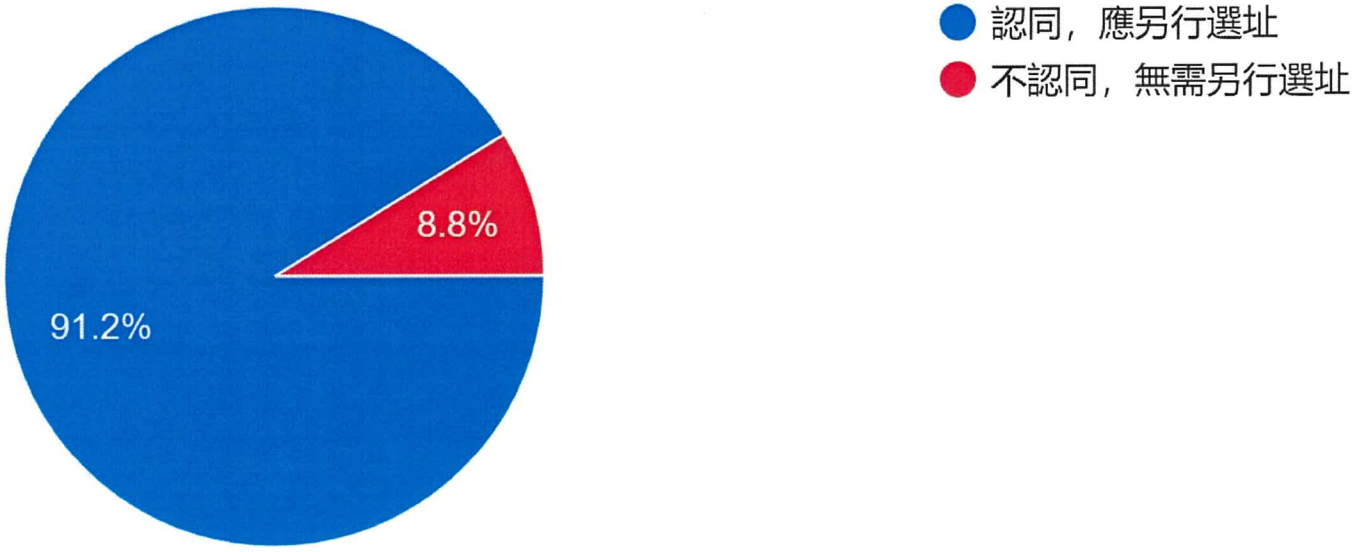
請問你支持城規會通過在「船灣政府土地興建過渡性房屋」項目嗎?

284 則回應



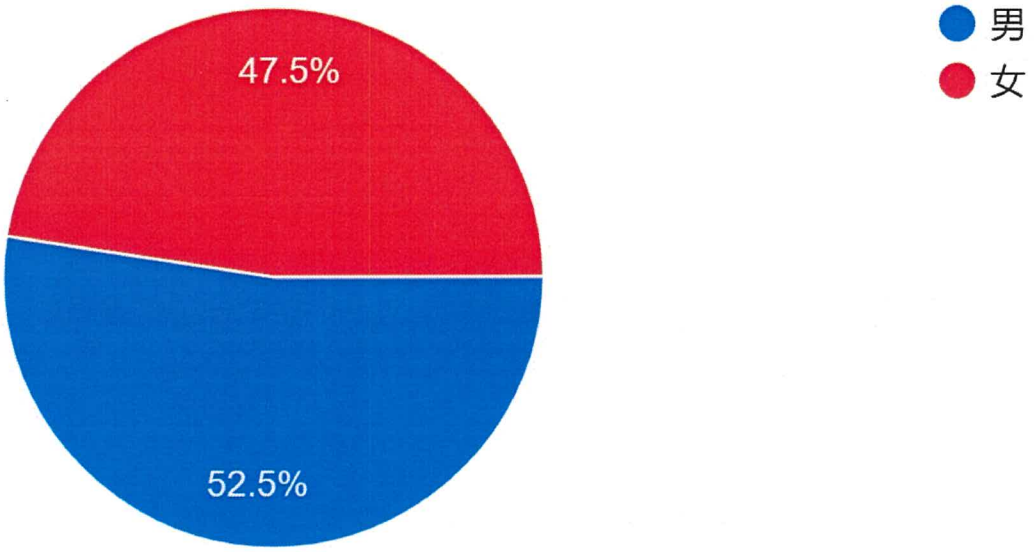
你是否認同上述過渡性房屋項目應另行選址興建?

284 則回應



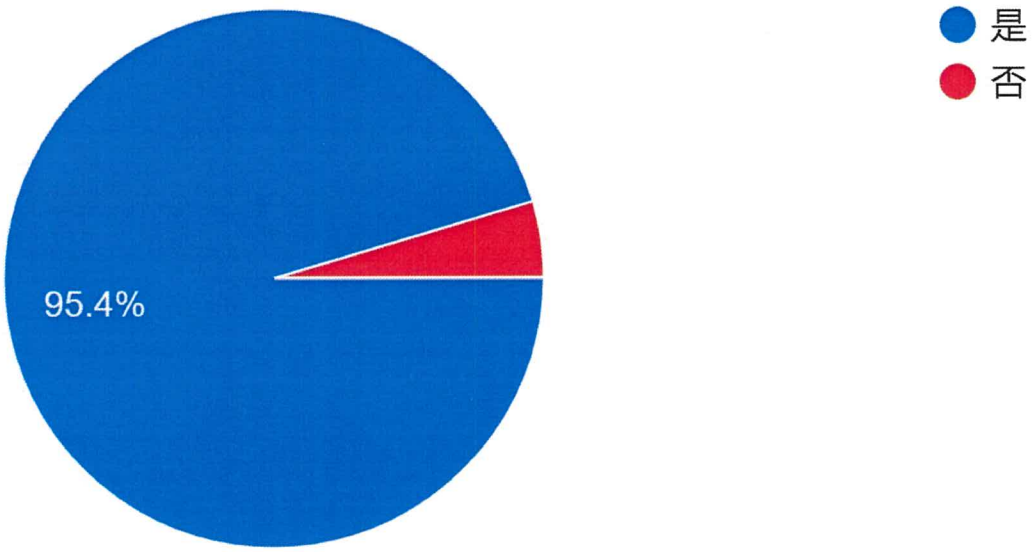
性別

284 則回應



請問你現時是否居住在船灣選區

284 則回應



就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-164325-89505
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 16:43:25
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Li Kin Chung

意見詳情
Details of the Comment :

Ting Kok Road has reached its full capacity during rush hour. The ongoing drainage works would put extra stress on the road. This planning application shouldn't go ahead until the drainage works are finished and traffic jam problems during rush hour are solved.

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220808-164457-90154
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 16:44:57
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Liu Yuk Ping

意見詳情
Details of the Comment :

Ting Kok Road has reached its full capacity during rush hour. The ongoing drainage works would put extra stress on the road. This planning application shouldn't go ahead until the drainage works are finished and traffic jam problems during rush hour are solved.

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-185536-21433
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 18:55:36
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 李天送

意見詳情
Details of the Comment :

運輸及房屋局轄下倡議過渡性房屋項目的專責小組，於2021年建議利用位於大埔汀角路船灣（即前船灣余東旋學校）的政府土地（後稱「項目擬定選址」），擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目（中轉屋），房屋數目達276個單位。本人強烈反對上述申請，理由如下：

1. 交通—船灣區只有汀角路一條主要幹道，近年船灣區發展迅速，私人屋苑及各村丁屋林立，人口激增，一直以來汀角路的車流量不勝負荷，經常遇上交通擠塞，加上龍尾泳灘已開放，汀角路交通非常擠塞，上班時間輪候多班車仍無法上車；區內社區設施亦十分匱乏，連街市也欠奉，村民現時的生活已相當不便，擔心過渡性房屋落成後，800人遷入，將大大增加相關設施和交通的負荷，「新遷舊戶一起受苦」。沿汀角路有(1)鳳園嵐山第3期(1,462單位)，(2)汀角路/露輝路土地共享先導計劃-南豐大埔綠化地(1,642單位)，(3)黃魚灘興建1,236個過渡性房屋單位，預計沿汀角路居住人口必然會顯著上升，令到已經擠塞不斷的汀角路，更超出負荷，居民叫苦連天。擬建過渡性房屋選址是西班牙小學的校巴甚至消防車通往校舍的唯一道路，導善會的改建計劃只預留細窄道路通往學校，影響學校的運作。276戶約800多人口仍需乘搭巴士、小巴上班、上學、買餸，必然會加重汀角路車流量，引致交通擠塞，其嚴重性難以想像。現時居民經常投訴巴士及小巴班次追不上船灣區的人口增長，爭搭巴士、小巴返工返學及放工放學是常態，若城規會批准此項目申請，爭搭巴士小巴返工返學及放工放學的情況會更加惡化，真係悲哀!!! 促請當局了解民意，撤回在擬議過渡性房屋項目的決定。

2. 排污—現時陳屋村一帶，都缺乏排污設施，未能接駁到政府排污渠。反而過渡性房屋便能接駁就近的政府排污渠，對陳屋村等待20年還未有政府排污渠接駁非常不公平。

3. 社會融合及治安—新增人口大部份並非慣常在鄉郊生活，未必能融入鄉村寧靜生活的模式; 目前陳屋村全村只有約100多名居民，新增人口卻多達800多人，竟是陳屋村原有的8倍以上! 勢必完全摧毀現有的寧靜鄉村的面貌和居民和階共處的風氣。村民亦會擔心新增的人口，在缺乏社區設施的情況下，必定對社區造成壓力，引發治安問題。

4. 選址—這個計劃又是否可真正解決基層市民的住屋需要？部分位置「吊腳」，周邊配套設施欠奉；前政府把該項目都有濃濃「交數」的意味，但是否可如政府所願，真正協助到那些父母經常要早出晚歸搵食，子女需在附近就學及課後活動的貧困家庭需要呢？為何大多基層都寧願選擇在市區住劏房，也是為節省時間金錢和鄰近交通生活配套齊全罷了。過渡性房屋的目的是服務基層，項目的配套甚為重要，不是單單隨便找幅荒地興建房屋便能解決，希望政府部門真正讓基層緩解燃眉之急，在大埔市區另覓合適地點。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-190216-67400
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 19:02:16
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. 文林明

意見詳情
Details of the Comment :

運輸及房屋局轄下倡議過渡性房屋項目的專責小組，於2021年建議利用位於大埔汀角路船灣（即前船灣余東旋學校）的政府土地（後稱「項目擬定選址」），擬批予民間團體「香港善導會」於該土地推行一個為期五年的過渡性房屋項目（中轉屋），房屋數目達276個單位。我強烈反對上述申請，理由如下：

1. 交通—船灣區只有汀角路一條主要幹道，近年船灣區發展迅速，私人屋苑及各村丁屋林立，人口激增，一直以來汀角路的車流量不勝負荷，經常遇上交通擠塞，加上龍尾泳灘已開放，汀角路交通非常擠塞，上班時間輪候多班車仍無法上車；區內社區設施亦十分匱乏，連街市也欠奉，村民現時的生活已相當不便，擔心過渡性房屋落成後，800人遷入，將大大增加相關設施和交通的負荷，「新遷舊戶一起受苦」。沿汀角路有(1)鳳園嵐山第3期(1,462單位)，(2)汀角路/露輝路土地共享先導計劃-南豐大埔綠化地(1,642單位)，(3)黃魚灘興建1,236個過渡性房屋單位，預計沿汀角路居住人口必然會顯著上升，令到已經擠塞不斷的汀角路，更超出負荷，居民叫苦連天。擬建過渡性房屋選址是西班牙小學的校巴甚至消防車通往校舍的唯一道路，導善會的改建計劃只預留細窄道路通往學校，影響學校的運作。276戶約800多人口仍需乘搭巴士、小巴上班、上學、買餸，必然會加重汀角路車流量，引致交通擠塞，其嚴重性難以想像。現時居民經常投訴巴士及小巴班次追不上船灣區的人口增長，爭搭巴士、小巴返工返學及放工放學是常態，若城規會批准此項目申請，爭搭巴士小巴返工返學及放工放學的情況會更加惡化，真係悲哀!!! 促請當局了解民意，撤回在擬議過渡性房屋項目的決定。

2. 排污—現時陳屋村一帶，都缺乏排污設施，未能接駁到政府排污渠。反而過渡性房屋便能接駁就近的政府排污渠，對陳屋村等待20年還未有政府排污渠接駁非常不公平。

3. 選址—這個計劃又是否可真正解決基層市民的住屋需要？部分位置「吊腳」，周邊配套設施欠奉；前政府把該項目都有濃濃「交數」的意味，但是否可如政府所願，真正協助到那些父母經常要早出晚歸搵食，子女需在附近就學及課後活動的貧困家庭需要呢？為何大多基層都寧願選擇在市區住劏房，也是為節省時間金錢和鄰近交通生活配套齊全罷了。過渡性房屋的目的是服務基層，項目的配套甚為重要，不是單單隨便找幅荒地興建房屋便能解決，希望政府部門真正讓基層緩解燃眉之急，在大埔市區另覓合適地點。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220808-203535-77840
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 20:35:35
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 劉偉雄

意見詳情
Details of the Comment :

不贊成在船灣一帶汀角路沿線起過渡性房屋，因為交通不能負荷，除非政府先改善交通配套，

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220808-224511-49565
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	08/08/2022 22:45:11
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	張仙芳

意見詳情
Details of the Comment :

本人住汀角村，遇到最大問題是交通問題，因為往大埔墟方向的20C小巴通常到汀角站已滿座了，我們被迫搭75K巴士，但巴士班次平均為20分鐘，而且十分兜路，交通繁忙時段，用上40分鐘才到大埔火車站，本人建議：
1.增加20C班次
2.將72C巴士改為恆常班次，例如每半小時一班
3.275R增星期六班次及提早班早上7時便開出第一班
4.74E提早至6：30am開出第一班

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-000017-75494
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 00:00:17
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	夫人 Mrs. Lee

意見詳情
Details of the Comment :

我反對船灣政府土地興建過渡性房屋:
1. 加重汀角路交通負荷
2. 阻礙鄰校／鄰舍交通
3. 社區設施配套嚴重不足
4. 影響居住環境嚴重擾民
5. 阻礙汀角路消防救護通道
6. 影響校網發展及學校運作
7. 增加鄉郊管理治安風險

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-100831-41163
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 10:08:31
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Lam

意見詳情
Details of the Comment :

反對興建
因為一旦興建，會有以下的問題出現：
- 加重汀角路交通負荷
- 阻礙鄰校／鄰舍交通
- 間接令社區設施配套嚴重不足
- 影響居住環境/ 嚴重擾民
- 阻礙汀角路消防救護通道
- 影響校網發展及學校運作
- 增加鄉郊管理治安風險

等等
麻煩另求新址。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-101133-56272
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 10:11:33
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Sue Yam

意見詳情
Details of the Comment :

首先感謝當局善意向居民諮詢。
當區本身交通問題還沒有解決(尤其人工泳灘開放後), 黃漁灘中轉屋已經完全估計不到情況，現再有大余東璇學校用地作過渡性房屋，有完善交通規劃嗎？本人現在每個星期六日出大埔買日用品都會塞車，區議會身位有限制，多年來即使不停收到居民提出問題都跟本無方法改善，這個項目真的不會觸發更大交通問題？

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-114232-15800
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 11:42:32
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. C Tam

意見詳情
Details of the Comment :

1. 此地段之交通配套非常不足，已經常出現上唔到小巴或巴士的情況，不宜再曾加道路使用的壓力
2. 此地方屬郊區，缺乏日常生活配套供日常所需

請考慮此段位置及配套是否真正適合興建過渡性房屋。市民入住後會否因交通及配套問題而困擾

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-114541-84904
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 11:45:41
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss WONG

意見詳情
Details of the Comment :

本人十分極力反對興建過渡性房屋, 為居民帶來不便, 交通不足, 配套不足, 人多車少。返工返學假日交通非常缺乏!! 多年來住這區, 提出過多次交通問題一直都沒有解決!! 如再建過渡性房屋, 帶來該區嚴重後果!!!!!!!!

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-115601-44849
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 11:56:01
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. 冼

意見詳情
Details of the Comment :

反對有關規劃!!
其實而家汀角沿路交通都不勝負荷, 再起咁多屋, 係咪想大家困獸鬥? 係咪非要起喺船灣不可呢?
好心唔好再搞船灣, 唔好再打搞船灣的居民啦, 搞咁多嘢, 又唔係真係幫到香港本地居民, 起埋起埋咁多公屋, 點解香港咁多人都仲係未上到樓?
做人做事要對得住天地良心呀!

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220809-120004-26978
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 12:00:04
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Anna Lan

意見詳情
Details of the Comment :

不讚成再起渡性房屋, 交通未能配合, 政府從來沒有改善過交通配套, 只是硬塞人口入來

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-124702-26264
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 12:47:02
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Fu Sui Yee

意見詳情
Details of the Comment :

上述位置不適宜興建大型住屋,因周邊已有不少私人發展項目, 如露輝路的最新大型豪宅已落成, 正在開售中。再者, 政府已開放了龍尾泳灘,令不少居住新東的市民帶同家人等專乘到來游玩, 已令住在大尾篤一帶居民造成不少困擾。船灣居民, 不論自駕或乘公共交通均只有汀角路可出入, 根本無法可承載更多交通流量。懇請當局能從善如流,取消此項目,

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220809-131956-53221
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 13:19:56
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Chiu sze wing

意見詳情
Details of the Comment :

反對興建，區內交通配套已嚴重不足，影響原有居民日常生活

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-132208-32803
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 13:22:08
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. Annie luk

意見詳情
Details of the Comment :

每日汀角路已經好塞車，即使非繁忙時間都巴士或小巴未必有位, 之前已起咗龍尾灘，假期的交通情況更擠塞，如再起渡性房屋，我們居住如何返工返學呢？
例如今個星期日，我們12pm出門口，等了幾架小巴都沒有位上車，我已在總站之後一個站等車，在總站已滿座，最後我們在33度高溫的太陽下等了最少半小時才上到小巴。如再有一批居民搬入這區，會嚴重增加交通負荷。請考慮停止止計劃，謝謝

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220809-132341-25080
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 13:23:41
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Wong fung yee

意見詳情
Details of the Comment :

反對船灣興建過渡性房屋， 道路未完善，所有東西都未完善，根本連沙灘都不應該興建，現在很多時候都塞車，回不了家，人滿為患環境惡劣了很多！

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220809-133350-28617
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 13:33:50
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Lok Nga Yee Christine
意見詳情 **Details of the Comment :**	
反對	

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-140635-05416
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 14:06:35
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Justin Lee

意見詳情
Details of the Comment :

本人反對香港善導會大埔汀角路過渡性房屋項目。 原因是汀角路的交通（包括公共交通工具和私家車）已飽和，甚至已超出負荷，實不能再承受百人或以上的大型項目。 懇請政府，城規會聆聽我等住在船灣的居民意見，否決此項目。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-190713-68534
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 19:07:13
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss LI

意見詳情
Details of the Comment :

本人反對興建，因船灣區的交通長期處於緊張狀態，其配套並不足以服務更多的群體。若再執意於船灣區興建過渡性房屋，定然會對該區居民，以及假日遊客帶來出行上的諸多不便。

就規劃申請/覆核提出意見 **Making Comment on Planning Application / Review**

參考編號 **Reference Number:**	220809-214920-50782
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 21:49:20
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Coffee Nip

意見詳情
Details of the Comment :

本人反對未有完善改通後，又再新增多一處的過渡性房屋項目（A/NE-TK/753），汀角路一直存在交通問題，黃漁灘的過渡性房屋，亦快將動工，突然加劇了整條汀角路的交通人流負荷。汀角沿路中途站的居民現在已經很難在中途站乘車往返住所。請優先處理交通問題再作日後考慮。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-221106-59176
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 22:11:06
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	小姐 Miss Yung Pik Ki

意見詳情
Details of the Comment :

此地區周圍本身無生活配套，這個計劃以一間便利店滿足近數百戶居民生活所需？根本不合規劃原則。
再者汀角路交通已經因先前龍尾灘發展變得越來越擠塞，這個計劃令汀角路交通百上加斤。也是一個錯誤的規劃。

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220809-234819-08917
提交限期 **Deadline for submission:**	09/08/2022
提交日期及時間 **Date and time of submission:**	09/08/2022 23:48:19
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TK/753
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 毛家俊議員

意見詳情
Details of the Comment :

整個項目沒有針對交通提供配套方案，現時繁忙時間汀角路已經越見擠塞，沿線中途站的居民難以登車，單靠改善個別路口無法解決問題。

幾座建築物與整體規劃亦不配合，影響旁邊比華利山及船灣陳屋村的通風。新增的居民亦會帶來嚴重的違泊問題。

旁邊已有黃漁灘過渡性房屋項目，不應同一時間新增大量居民。附近本身已缺乏社區配套，離鐵路站及大埔墟亦遠，加重低收入人士的生活成本負擔。

致城市規劃委員會秘書：
專人送遞或郵遞:香港北角渣華道 333 號北角政府合署 15 樓
傳真 : 2877 0245 或 2522 8426
電郵: tpbpd@pland.gov.hk

To : Secretary, Town Planning Board
By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong
By Fax : 2877 0245 or 2522 8426
By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 The application no. to which the comment relates
A/NE-TK/753

意見詳情 (如有需要，請另頁說明)
Details of the Comment (use separate sheet if necessary)

有關余東旋樂校改建為「過渡性房屋」一事，本工作隊有以下意見：
(1) 整個計劃完全漠視當地居民的意見。
(2) 入住的居民完全生活在孤島中，連性第一期共近2000居民必須出大埔市中心乘車上班/返樂/買餸等，對已飽和的大屋篤交通做成嚴重的影响，特別上下班時間
(3) 我們不反對興建<過渡性房屋，但這計劃是形象工程多過解決輪位公屋問題，故此我們要求政府重新落區諮詢，未有結果前暫緩推行有關計劃。

「提意見人」姓名/名稱 Name of person/company making this comment _____

簽署 Signature [signature] 日期 Date 9-8-2022

西樂大埔工作隊召集人 張榮輝
Tel: [redacted]