Form No. S16-III
表格第 S16-III 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 Proposal Only Involving Temporary Use/Development of Land and/or Building Not Exceeding 3 Years in Rural Areas or Regulated Areas, or Renewal of Permission for such Temporary Use or Development*

適用於祇涉及位於鄉郊地區或受規管地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展或該等臨時用途/發展的許可續期的建議*

****Form No. S16-I should be used for other Temporary Use/Development of Land and/or Building (e.g. temporary use/developments in the Urban Area)and Renewal of Permission for such Temporary Use or Development.***
****其他土地上及/或建築物內的臨時用途/發展 (例如位於市區內的臨時用途或發展)及有關該等臨時用途/發展的許可續期，應使用表格第 S16-I 號。***

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

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

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

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

& Please attach documentary proof 請夾附證明文件

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

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

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

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

2402587 25/10 By hand

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/ST/14
	Date Received 收到日期	31 OCT 2024

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

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

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

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1. Name of Applicant 申請人姓名/名稱

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

Civil Engineering and Development Department 土木工程拓展署

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)

Not Applicable 不適用

3. Application Site 申請地點

(a)	Full address / location / demarcation district and lot number (if applicable) 詳細地址／地點／丈量約份及地段號碼（如適用）	Lots 661 S.C. RP (Part), 669 RP, 674 RP (Part) and 733 S.E (Part) in D.D. 99 and Adjoining Government Land in San Tin, Yuen Long 元朗新田丈量約份第 99 約地段第 661 號 C 分段餘段（部分）、第 669 號餘段、第 674 號餘段（部分）及第 733 號 E 分段（部分）和毗連政府土地
(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 38,700 sq.m 平方米 ☑About 約 ☑Gross floor area 總樓面面積 15,905 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）	1,870 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 San Tin Technopole Outline Zoning Plan No. S/STT/2 新田科技城分區計劃大綱核准圖編號S/STT/2
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Other Specified Uses" annotated "Mixed Use"「其他指定用途」註明「混合用途」 "Other Specified Uses" annotated "Amenity Area"「其他指定用途」註明「美化市容地帶」 Area shown as 'Road' 顯示為「道路」的地方
(f)	Current use(s) 現時用途	Temporary Training Facilities 臨時訓練設施 (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 23/10/2024 (DD/MM/YYYY), this application involves a total of 1 "current land owner(s)"#.
根據土地註冊處截至 2024 年 10 月 23 日的記錄，這宗申請共牽涉 1 名「現行土地擁有人」#。

(b) The applicant 申請人 –

☑ has obtained consent(s) of 1 "current land owner(s)"#.
已取得 1 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)
1	Lots 661 S.C. RP, 669 RP, 674 RP and 733 S.E in D.D. 99 in San Tin, Yuen Long	30/09/2024

(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

(A) Temporary Use/Development of Land and/or Building Not Exceeding 3 Years in Rural Areas or Regulated Areas
位於鄉郊地區或受規管地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展
(For Renewal of Permission for Temporary Use or Development in Rural Areas or Regulated Areas, please proceed to Part (B))
(如屬位於鄉郊地區或受規管地區臨時用途/發展的規劃許可續期，請填寫(B)部分)

(a) Proposed use(s)/development 擬議用途/發展	Temporary Training Facilities (Until 31 October 2026) 臨時訓練設施 (直至 2026 年 10 月 31 日) (Please illustrate the details of the proposal on a layout plan) (請用平面圖說明擬議詳情)
(b) Effective period of permission applied for 申請的許可有效期	☐ year(s) 年 ..... Until 31 October 2026 ..... ☐ month(s) 個月 .....

(c) Development Schedule 發展細節表

Proposed uncovered land area 擬議露天土地面積	22,795 sq.m ☑About 約
Proposed covered land area 擬議有上蓋土地面積	15,905 sq.m ☑About 約
Proposed number of buildings/structures 擬議建築物／構築物數目	53
Proposed domestic floor area 擬議住用樓面面積	Not Applicable 不適用 sq.m ☐About 約
Proposed non-domestic floor area 擬議非住用樓面面積	15,905 sq.m ☑About 約
Proposed gross floor area 擬議總樓面面積	15,905 sq.m ☑About 約

Proposed height and use(s) of different floors of buildings/structures (if applicable) 建築物/構築物的擬議高度及不同樓層的擬議用途 (如適用) (Please use separate sheets if the space below is insufficient) (如以下空間不足，請另頁說明)

37 Blocks for Classroom, Student Activity Room and Staff Office; 1 storey (about 3m)

16 Blocks for Building Services Building, Fire Services Building and Toilet Unit; 2 storeys (not more than 5.7m)

Proposed number of car parking spaces by types 不同種類停車位的擬議數目

Private Car Parking Spaces 私家車車位	8
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)	

Proposed number of loading/unloading spaces 上落客貨車位的擬議數目

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	
Others (Please Specify) 其他 (請列明)	3 Nos. Loading / Unloading Bay for Refuse Collection Vehicles

Proposed operating hours 擬議營運時間
8am to 10pm daily (Except Public Holidays)
每日早上8時至下午10時 (公眾假期除外)

(d)	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)) Tung Wing On Road 東永安路 ☐ 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	☐

(e) 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。)

(i)	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	☑
(ii)	Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程?	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	☑

(iii)	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) ....

(B) Renewal of Permission for Temporary Use or Development in Rural Areas or Regulated Areas 位於鄉郊地區或受規管地區臨時用途/發展的許可續期	
(a) Application number to which the permission relates 與許可有關的申請編號	**A/_____/_____**
(b) Date of approval 獲批給許可的日期	..... (DD 日/MM 月/YYYY 年)
(c) Date of expiry 許可屆滿日期	..... (DD 日/MM 月/YYYY 年)
(d) Approved use/development 已批給許可的用途／發展	
(e) Approval conditions 附帶條件	☐ The permission does not have any approval condition 許可並沒有任何附帶條件 ☐ Applicant has complied with all the approval conditions 申請人已履行全部附帶條件 ☐ Applicant has not yet complied with the following approval condition(s): 申請人仍未履行下列附帶條件： _____ _____ _____ Reason(s) for non-compliance: 仍未履行的原因： _____ _____ _____ (Please use separate sheets if the space above is insufficient) (如以上空間不足，請另頁說明)
(f) Renewal period sought 要求的續期期間	☐ year(s) 年 ..... ☐ month(s) 個月 .....

7. Justifications 理由

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

Please refer to the Planning Statement.

8. 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

Carrie K Y LEUNG ..... Chief Engineer/North 4 .....

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

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

on behalf of 代表 Civil Engineering and Development Department 土木工程拓展署 .....

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

Date 日期 25/10/2024 ..... (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。

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	Lots 661 S.C. RP (Part), 669 RP, 674 RP (Part) and 733 S.E (Part) in D.D. 99 and Adjoining Government Land in San Tin, Yuen Long 元朗新田丈量約份第 99 約地段第 661 號 C 分段餘段（部分）、第 669 號餘段、第 674 號餘段（部分）及第 733 號 E 分段（部分）和毗連政府土地
Site area 地盤面積	38,700 sq. m 平方米 ☑ About 約 (includes Government land of包括政府土地 1,870 sq. m 平方米 ☑ About 約)
Plan 圖則	Approved San Tin Technopole Outline Zoning Plan No. S/STT/2 新田科技城分區計劃大綱核准圖編號S/STT/2
Zoning 地帶	"Other Specified Uses" annotated "Mixed Use" 「其他指定用途」註明「混合用途」 "Other Specified Uses" annotated "Amenity Area" 「其他指定用途」註明「美化市容地帶」 Area shown as 'Road' 顯示為「道路」的地方
Type of Application 申請類別	☑ Temporary Use/Development in Rural Areas or Regulated Areas for a Period of 位於鄉郊地區或受規管地區的臨時用途/發展為期 ☐ Year(s) 年 Until 31 October 2026 ☐ Month(s) 月 _____ ☐ Renewal of Planning Approval for Temporary Use/Development in Rural Areas or Regulated Areas for a Period of 位於鄉郊地區或受規管地區臨時用途/發展的規劃許可續期為期 ☐ Year(s) 年 _____ ☐ Month(s) 月 _____
Applied use/ development 申請用途/發展	Temporary Training Facilities (Until 31 October 2026) 臨時訓練設施 (直至 2026 年 10 月 31 日)

(i)	Gross floor area and/or plot ratio 總樓面面積及／或地積比率		sq.m 平方米		Plot Ratio 地積比率
		Domestic 住用		☐ About 約 ☐ Not more than 不多於	☐About 約 ☐Not more than 不多於
		Non-domestic 非住用	15,905	☑ About 約 ☐ Not more than 不多於	0.411 ☑About 約 ☐Not more than 不多於
(ii)	No. of blocks 幢數	Domestic 住用			
		Non-domestic 非住用	53		
(iii)	Building height/No. of storeys 建築物高度／層數	Domestic 住用			m 米 ☐ (Not more than 不多於)
					Storeys(s) 層 ☐ (Not more than 不多於)
		Non-domestic 非住用	3 to 5.7		m 米 ☐ (Not more than 不多於)
			1 to 2		Storeys(s) 層 ☐ (Not more than 不多於)
(iv)	Site coverage 上蓋面積			41.1 %	☑ About 約
(v)	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) _____ _____			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) Loading / Unloading Bay for Refuse Collection Vehicles			3

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

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

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

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

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

Section 16 Planning Application

Temporary Use of Land and Building Not Exceeding 3 Years in Rural Areas

October 2024

Temporary Training Facilities
(Until 31 October 2026)

Planning Statement

Prepared by

Civil Engineering and Development Department

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EXECUTIVE SUMMARY

This Planning Statement is submitted to the Town Planning Board (TPB) in support of a Section 16 planning application (hereinafter referred to as "this application") prepared by the Applicant, Civil Engineering and Development Department (CEDD), which **proposes the use of the existing temporary training facilities [1] on a temporary basis up to 31 October 2026** (hereinafter referred to as "the applied use"), at the Hong Kong Institute of Construction San Tin Training Ground (hereinafter referred to as "the Training Ground"/"the Application Site"), to allow the Construction Industry Council (CIC) to operate the said Training Ground. This Planning Statement provides background information and planning justifications to facilitate the consideration by TPB.

The applied use will cater for the ongoing need of training facilities for holding training courses and trade tests, and is in line with the Government's directive to support the construction industry.

The Application Site falls within an area zoned as "Other Specified Uses" ("OU") annotated "Mixed Use" and "OU" annotated "Amenity Area" and an area shown as 'Road' on the approved San Tin Technopole (STT) Outline Zoning Plan (OZP) No. S/STT/2. The plot ratio is approximately 0.411, with a total gross floor area (GFA) of approximately 15,905m^2. 37 building blocks in one-storey height within the Application Site have been retained as classrooms, student activity rooms, and staff offices. 16 building structures for ancillary facilities including building services buildings and fire services buildings have been retained for the temporary training facilities. All other infrastructure (e.g. footpath, emergency vehicular access, drainage, sewerage, water supply, parking space), trees and landscape and operation arrangement of the facilities maintain status quo.

Justifications

Planning justifications for the applied use are summarized as follows:

- The Application Site will continue to serve as temporary training facilities for CIC to hold training courses and trade tests. All structures and facilities are ready for use and can be better utilized to cater to the training needs if this application is approved. There are no changes to the site layout, development parameters, and the general arrangement/setting of this application as compared to the previously approved application No. A/YL-ST/658. No construction works (e.g. site formation, infrastructure works) would be required for the applied use. Hence, the arrangement in this application is optimized in terms of time and cost.

[1] The operation of the existing temporary training facilities will cease after 31 October 2024 and will only resume upon obtaining planning permission.

- The applied use is fully compatible with the existing and surrounding neighbourhood and will not jeopardize the long-term land use planning intention of zonings. There are no adverse impacts on traffic, environmental, ecological, drainage, sewerage, water supply, tree and landscape aspects as confirmed in the technical assessments conducted under the previously approved application No. A/YL-ST/658. Relevant provision of facilities under the previous approval have been complied with to the satisfaction of the concerned Government departments. As this application has no major changes in planning circumstances, the technical assessments are considered valid and no insurmountable impacts are anticipated.

Permission Sought

In view of the above planning justifications, the TPB's permission for this application on the applied use is sincerely sought, please.

行政摘要

此規劃報告書提交給城市規劃委員會（「城規會」），以支持由申請人，土木工程拓展署（「土拓署」）準備的根據第 16 條的規劃許可申請（以下簡稱「本申請」），臨時使用在香港建造學院新田訓練場（以下簡稱「該訓練場」/「該申請地點」）現有的臨時訓練設施[2]直至 2026 年 10 月 31 日（以下簡稱「申請用途」），以允許建造業議會運作該訓練場。此規劃報告書提供背景資料和規劃理據，以供城規會考慮。

該訓練場將滿足訓練設施需求以舉辦培訓課程和工藝測試，亦符合政府支持建造業的方針。

該申請地點位於在新田科技城分區計劃大綱核准圖編號 S/STT/2 劃為「其他指定用途」註明「混合用途」和「其他指定用途」註明「美化市容地帶」以及「道路」的區域。建議地積比率約為 0.411，總樓面面積約為 15,905 平方米。該申請地點內的 37 座一層高的建築物將會被保留，並用作課室、學員活動室及員工辦公室用途。16 座附屬設施，包括屋宇裝備大樓和消防設備大樓，亦會保留於臨時訓練設施。所有其他基礎設施（例如行人路、緊急車輛通道、排水系統、污水系統、供水系統、停車場）、樹木和景觀以及設施的營運安排保持不變。

規劃理據

申請用途的規劃理據概述如下：

- 該申請地點將繼續作為建造業議會舉辦培訓課程和工藝測試的臨時訓練設施。如果本申請獲批，所有設施均可立即使用以滿足培訓需求。與先前獲准申請（申請編號 A/YL-ST/658）相比，本申請的地點佈局、發展參數和設施佈置/環境沒有任何改變。該訓練場無需進行任何建築工程（如地盤平整、基礎設施工程）。因此，本申請的安排在時間和成本方面已最優化。
- 申請用途與現有及周邊環境完全兼容，亦不會影響地帶內土地用途的長遠規劃意向。根據先前獲准申請（申請編號 A/YL-ST/658）進行的技術評估，確認申請用途對交通、環境、生態、排水、污水、供水、樹木和景觀方面不會造成不良影響。先前獲准申請內相關設施配置已獲遵循並滿足相關政府部門的要求。由於本申請在規劃情境上沒有重大變動，因此認為技術評估有效，亦預計不會出現任何無法克服的影響。

[2] 現有的臨時訓練設施將於 2024 年 10 月 31 日後停止營運，並只會在獲得規劃許可時重新營運。

申請許可

鑒於上述規劃理據，懇請城規會批准本申請，准許有關申請用途。

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1. Introduction

1.1. Background

1.1.1. In accordance with Government's announcement on 13 July 2023, San Tin Community Isolation Facility (CIF) was modified and arranged for the Construction Industry Council (CIC) to hold training courses and trade tests, including on-site training on the Modular Integrated Conduction (MiC) method regarding safety legislation, lifting and assembly to support a wider adoption of the MiC method in Hong Kong. The latest planning permission from the Town Planning Board (TPB) under Application No. A/YL-ST/658 was approved on 22 September 2023 valid until 31 October 2024.

1.1.2. The temporary training facilities have been operated as the Hong Kong Institute of Construction San Tin Training Ground (hereinafter referred to as "the Training Ground") since November 2023 under the approved planning application No. A/YL-ST/658. The operation of the Training Ground will cease after 31 October 2024 and will only resume upon obtaining planning permission. In view of the ongoing need for training facilities for holding training courses and trade tests, CIC intends to operate the Training Ground until 31 October 2026.

1.1.3. In light of the above, the Applicant, Civil Engineering and Development Department (CEDD), proposes the use of the existing temporary training facilities at the Training Ground, on a temporary basis up to 31 October 2026 (hereinafter referred to as "the applied use"). There are no changes to the site layout, development parameters and the general arrangement/setting of the current planning application (hereinafter referred to as "this application") as compared to the previously approved planning application No. A/YL-ST/658 (hereinafter referred to as "the previously approved application").

1.2. Purpose

1.2.1. The Application Site falls within an area zoned as "Other Specified Uses" ("OU") annotated "Mixed Use" (where 'Training Centre' use is always permitted) and "OU" annotated "Amenity Area" and an area shown as 'Road' (where planning permission for the Training Ground is required) on the approved San Tin Technopole (STT) Outline Zoning Plan (OZP) No. S/STT/2. In accordance with Clause No. (10) (b) of the covering Notes of the OZP, *"……temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board……*". Therefore, this application is submitted to the TPB under Section 16 of the Town Planning Ordinance for the applied use of temporary training facilities.

1.2.2. This Planning Statement is submitted to the TPB in support of the applied use, such that CIC can operate the Training Ground on the Application Site to hold training courses and trade tests. This Planning Statement provides background information and planning justifications to facilitate the consideration by TPB.

2. The Site

2.1. Location of the Site

2.1.1. The Application Site is located in San Tin, Yuen Long, with an area of about 38,700m^2, which is largely in the shape of a trapezium and formed on relatively gentle ground with concrete pavement and surrounded by boundary fences. There is no change in the site area as compared to the previously approved application. The location of the Application Site is shown in **Figure 1**.

2.2. Description of the Site

2.2.1. The Application Site was converted from the then San Tin CIF and was used as temporary training facilities at the Training Ground to provide training facilities for both imported labour of the construction industry as well as local workers, on a temporary basis up to 31 October 2024. The Application Site is occupied by modular units for Classrooms, Student Activity Rooms and Staff Office, and ancillary buildings for Building Services, Fire Services and Toilets. An aerial photo showing the Application Site with the surrounding environment is shown in **Figure 2**.

2.3. Land Status

2.3.1. The Application Site falls within Lots 661 S.C. RP (Part), 669 RP, 674 RP (Part) and 733 S.E (Part) in D.D. 99. Apart from the private lots, some adjoining Government Lands are also included within the Site.

2.4. Surrounding Land Uses

2.4.1. The Application Site is located to the northwest of Castle Peak Road - San Tin, San Tin Interchange and San Tin Highway. Shrublands, open storages and workshops are located to the east of the Application Site. The mountain ridgeline of Hadden Hill can be found to the further east.

2.4.2. The Application Site is immediately bounded by Tung Wing On Road to the south. Low-rise village developments such as Wing Ping Tsuen as well as Tung Chan Wai and Yan Shau Wai are located to the south and southwest of the Application Site respectively. Open storage areas and open car parks are scattered within the low-rise village developments located to the south of the Application Site.

2.4.3. An open car parking and storage area is located to the immediate west of the Application Site. Some pieces of shrubland and a large scale of fishponds are located to the further west.

2.4.4. San Tin Tsuen Road, open storage and car parking areas are to the immediate north of the Application Site. San Tin Public Transport Interchange and Lok Ma Chau Control Point are to the northeast and northwest of the Application Site respectively.

2.5. The Current OZP

2.5.1. The northeast portion of the Application Site (which covers about 75% of the site area) falls within an area zoned "OU" annotated "Mixed Use" (where 'training ground' use is always permitted) on the approved STT OZP No. S/STT/2.

2.5.2. The southwest portion of the Application Site (which covers about 24% of the site area) falls within an area shown as 'Road'. The small portion at the southwest corner of the Application Site (which covers about 1% of the site area) falls within an area zoned "OU" annotated "Amenity Area". Planning permission for the Training Ground is required for these two portions of the Application Site.

2.5.3. The Application Site and the zonings on the OZP are shown in **Figure 3**.

2.6. Accessibility of the Site

2.6.1. Under current traffic arrangements, vehicular and pedestrian access is available at Tung Wing On Road, which is located to the south of the Application Site. Tung Wing On Road is a single two-lane carriageway running in the east-west direction. It serves the local traffic demand and provides a connection to Castle Peak Road – San Tin at its eastern end.

2.6.2. Another pedestrian access is at San Tin Tsuen Road. San Tin Tsuen Road is a single-track access road with a two-way road of 1 to 2 traffic lanes in each direction. It connects with Castle Peak Road – San Tin at its southern end and loops around the villages.

2.6.3. Castle Peak Road – San Tin is a single two-lane carriageway that further links up with San Tin Highway via the slip roads to/from San Tin Interchange.

2.6.4. San Tin Highway is a dual-3 lane carriageway, it serves as the main road corridor for local traffic in Tam Mei / San Tin / Ngau Tam Mei area to access other urban areas in Hong Kong.

2.6.5. The nearest bus and minibus stops, including 3 regular bus routes and 5 green minibus routes, are located at the San Tin Public Transport Interchange and Castle Peak Road – Chau Tau, which is approximately 250m from the entrance of the Application Site.

2.6.6. There is no change to the accessibility arrangement of the Application Site when compared with the previously approved application.

3. Applied use of Temporary Training Facilities

3.1. Applied use of Temporary Training Facilities Maintaining Status Quo

3.1.1. The Application Site, which was converted from the then San Tin CIF, is currently used as temporary training facilities at the Training Ground to provide training facilities for both imported labour of the construction industry as well as local workers, on a temporary basis up to 31 October 2024 under the previously approved application No. A/YL-ST/658.

3.1.2. The training facilities accommodate a total of 100 staff members and students during normal operation, and a maximum of 200 staff members and students for particular occasions and events. Training courses including on-site training on the MiC method regarding safety legislation, lifting and assembly to support wider adoption of the MiC method, as well as trade tests and skills assessments for students, will be provided. The plot ratio is approximately 0.411, with a total gross floor area (GFA) of approximately 15,905m^2.

3.1.3. 37 building blocks in one-storey height within the Application Site have been retained as classrooms, student activity rooms and staff offices. Approximately 6m-wide footpaths are provided between building blocks and have been retained under the development. Approximately 7.3m-wide emergency vehicular accesses (EVA) are provided in the central portion and at the outer edges of the Application Site. 16 building structures for ancillary facilities including building services buildings and fire services buildings have been retained for the temporary training facilities.

3.1.4. The operation hours of the Training Ground are from 8:00 a.m. to 10:00 p.m. daily (excluding public holidays), including trade tests[3] and skills assessments for students, on-site training on the use of MiC construction method regarding safety legislation, lifting and assembly to support wider adoption of MiC method. The Training Ground is also used for holding the Safety Training Course for Construction Materials Rigger (A12 Silver Card) and hosting student activities with a series of interactive team games to enhance students' teamwork while deepening their understanding of the importance of construction safety and strengthening their knowledge acquired in the classroom.

3.1.5. A total of 8 private car parking spaces (i.e. 5m x 2.5m) for the staff and 3 Loading/Unloading (L/UL) bays of 11m heavy goods vehicles for refuse collection vehicles are provided. A majority of staff and students access the site by public transport.

[3] Trade test is to conduct skills assessment and award certificate of competence to skilled workers in the construction industry. Example of indoor trade tests are those conducted in CIC's Hong Kong Construction Industry Trade Testing Centre in Aberdeen, such as Painter and Decorator Skilled Trade Test. However, mobile crane related tests and courses would be conducted outdoor. Other than that, all trade tests and courses would be conducted indoor.

3.1.6. A total of 38 existing trees found within the Site are retained in-situ. Since all of them are not in conflict with the existing development, they are retained to provide greenery and visual attraction for the Application Site. In addition, several planting strips located at the southern and western portions are preserved to serve as buffer planting between the surrounding environments.

3.1.7. In accordance with Chapter 4 of the Hong Kong Planning Standard and Guidelines (HKPSG), 0.5m^2 per worker of local open space is provided. The existing sitting bench located at the southern portion of the Application Site are preserved to provide a passive leisure space for enjoyment of the staff/students.

3.1.8. The general layout plan, landscape master plan, a plan illustrating the provision of open space, and block plan of the development are provided in **Figure 4**, **Figure 5**, **Figure 6,** and **Figure 7** respectively. Key development parameters are provided in the table below.

Development Parameters	
Site Area	38,700m^2 (about) (including about 1,870m^2 government land)
Total Plot Ratio	0.411 (about)
Total GFA	15,905m^2 (about)
Non-domestic GFA	15,905m^2 (about)
Total No. of Blocks	53 - 37 blocks for training facilities - 16 ancillary blocks
Max. Building Height	10.0mPD (about) - Training blocks: 1 storey (about 3m) - Ancillary blocks: 2 storeys (not more than 5.7m)
Provision of Local Open Space	Min. 0.5m^2 per Worker
Provision of Car Parking Space	8
Provision of L/UL Bay for Refuse Collection Vehicles	3

3.1.9. There are no changes to the site layout, development parameters, and the general arrangement/setting of this application as compared to the previously approved application.

3.1.10. The site formation has already been completed and existing modular units will continue to be utilized. It is expected that no construction works (e.g. site formation, infrastructure works, filling and excavation of land) would be required for the applied use.

3.2. Tentative Project Programme

3.2.1. The operation of the Training Ground will cease after 31 October 2024 and will only resume upon obtaining planning permission. In view of the ongoing need for training facilities for holding training courses and trade tests, CIC intends to operate the Training Ground until 31 October 2026 which has taken into account the consent given by the current land owner.

3.2.2. The land resumption and/or site formation programme of the Development of STT, which is a project managed by CEDD, has also been considered. Tentatively, the related road works and site formations works, as well as the land resumption works of the Development of STT at the Application Site, are planned to commence in 2026-2027, subject to further review by the Government. As such, CIC and CEDD would maintain close communication on managing any potential project interfaces and whether the site should be returned to the Government at an appropriate time before the expiry of the planning approval for the development of STT.

4. Planning Justifications

4.1. Providing Training Facilities for CIC

4.1.1. In accordance with the Government's announcement on 13 July 2023, San Tin CIF was modified and arranged for CIC to hold training courses and trade tests, including on-site training on the MiC method regarding safety legislation, lifting and assembly to support wider adoption of the MiC method in Hong Kong. The temporary training facilities has been operating as the Training Ground since November 2023 under the previously approved application valid until 31 October 2024.

4.1.2. In view of the ongoing need for training facilities for holding training courses and trade tests, CIC intends to operate the Training Ground until 31 October 2026. The provision of temporary training facilities is also in line with the Government's directive to support the construction industry.

4.2. No Change from Previously Approved Planning Application

4.2.1. There is no change in the applied use, site layout development parameters and other relevant operational arrangements in this application as compared to the previously approved application. All approval conditions under the previously approved application have been complied with as attached in **Appendix A**. CEDD committed to maintaining the fire service installations and water supplies for firefighting currently installed/placed at the Application Site. Besides, all existing drainage facilities at the Application Site would also be maintained.

4.2.2. The Application Site will serve as temporary training facilities for CIC to hold training courses and trade tests. All structures and facilities are ready for use and can be better utilized to cater to the training needs if this application is approved. It is expected that no construction works (e.g. site formation, infrastructure works) would be required for the applied use. Hence, the arrangement in this application is optimized in terms of time and cost.

4.2.3. The operation of the Training Ground will cease after 31 October 2024 and will only resume upon obtaining planning permission. Upon approval of this application, the operation of the Training Ground is targeted to commence in December 2024.

4.3. Compatible with Long Term Land Use Planning Intention

4.3.1. The Application Site falls within an area zoned as "OU" annotated "Mixed Use" and "OU" annotated "Amenity Area" and an area shown as 'Road' on the approved STT OZP No. S/STT/2. This application for the applied use has taken into account the land resumption and/or site formation programme of the Development of STT. CIC and CEDD would also maintain close communication on whether the site should be returned to the Government at an appropriate time for the development of STT. The applied use is only temporary in nature, and the modular units can be easily

dismantled and removed after use. In light of the above, this application will not jeopardize the long-term land use planning intention for the existing zonings.

4.4. Compatible with Surrounding Development Context

4.4.1. The applied use is fully compatible with the existing and surrounding neighbourhood. The Application Site is located in a rural setting environment where low-rise residential developments and village houses such as Wing Ping Tsuen, Tung Chan Wai, and Yan Shau Wai are found. Besides, existing storage yards for vehicles and construction materials are also located to the north of the Application Site. To respect the overall rural setting, the existing modular units will remain in-situ and most of them will be kept at single-storey height only, which is with the similar height of the surrounding developments and thus compatible with the surrounding context.

4.5. Technical Assessments Demonstrating No Adverse Impacts in terms of Traffic, Environment, Ecology, Drainage, Sewerage, Water Supply, Tree and Landscape

4.5.1. There are no adverse impacts on traffic, environmental, ecological, drainage, sewerage, water supply, tree, and landscape aspects as confirmed in the technical assessments (including Traffic Impact Assessment, Environmental Review Report, Drainage Impact Assessment, Sewerage Impact Assessment, Water Supply Impact Assessment, and Tree Survey Report) conducted under the previously approved application. Relevant provision of facilities under the previous approval have been complied with to the satisfaction of the concerned Government departments.

4.5.2. As this application has no major changes in planning circumstances, no insurmountable impacts are anticipated. The ingress and egress routings for development traffic, existing drainage layout plan, existing sewerage layout plan and existing waterworks layout plan are provided in **Figure 8**, **Figure 9**, **Figure 10** and **Figure 11** respectively.

4.5.3. The technical assessments conducted in the previously approved application is attached in **Appendix B** and are summarized in the following paragraphs, with justification of their validity in this application.

Traffic Impact

4.5.4. To serve the operational need, a total of 8 nos. of existing car park spaces (i.e. 5m x 2.5m) would be maintained for staff within the Application Site. 3 nos. of the existing loading/unloading bays of 11m heavy goods vehicles would be maintained for the use of refuse collection vehicles and refuse collection.

4.5.5. With limited parking spaces provided within the Site and no coach service provided to serve the staff and students to/from the proposed development, it is assumed that all staff and students would rely on public transport (PT) to/from the proposed development as a conservative approach. This tallies with the existing transportation mode selection observed after operating the Training Ground since November 2023.

The additional PT demand generated from the applied use was estimated and the occupancy of the existing PT serving the applied use during AM and PM peak periods was assessed. Results show that the spare capacity of the existing PT would be able to accommodate the additional PT demand generated by the applied use.

4.5.6. In case of a coach service is required to be provided within the Site to serve the staff and students to/from the proposed development, the said 3 nos. of the existing L/UL bays could be used to accommodate 2 nos. of 60-seater coaches (i.e. 120 seats in total) which shall be sufficient to serve 100 staff and students. Under this scenario, it is anticipated that the majority of staff and students would take the coach instead of PT. Hence, the additional PT demand generated by the proposed development would be minimal and the utilization of PT would be very similar to the existing situation.

4.5.7. Since there would be 8 nos. of car parking spaces provided for staff within the proposed development, nominal traffic generation/attraction was assumed (i.e. 10 pcu/hr). Traffic impact assessment has been carried out to study the traffic impact caused by the proposed development. The Annual Growth Rate method was adopted for estimating 2026 traffic flows from base year traffic flows of 2023. The annual growth rate was estimated with reference to the historical traffic data in Annual Traffic Census (ATC) and 2019-based Territorial Population and Employment Data Matrix (TPEDM) data.

4.5.8. Junction and road link capacity assessments were undertaken based on the methodology presented in the Transport Planning and Design Manual (TPDM). According to the traffic impact assessment results, it is concluded that the applied use would not induce adverse traffic impact on the capacity of the existing public transport and surrounding road network, and all the critical junctions and road link would operate within capacity. Hence, the traffic impact caused by the proposed development is considered acceptable from the traffic engineering point of view.

4.5.9. Year 2026 was adopted as the design year in the traffic impact assessment agreed by the Transport Department submitted under the previously approved application. The assessment is considered valid for this application.

Environmental and Ecological Impact

4.5.10. The Environmental Review on various aspects (air quality, noise, water quality, waste management, land contamination, ecology) has been conducted for the previously approved application. As there is no change in the applied use, site layout and development parameters in this application as compared to the previously approved application and it is expected that no construction works (e.g. site formation, infrastructure works) would be required, the assessment is considered valid for this application. The results of the assessment are summarized in the following paragraphs.

4.5.11. As far as air quality is concerned, no construction works would be carried out and construction dust impact is not anticipated. During the operation phase, separation distances between the nearby road and the Application Site could meet the buffer

distance requirement of HKPSG and therefore there are no adverse impacts arising from the vehicular emission are anticipated.

4.5.12. As far as noise impact is concerned, no construction works would be carried out and construction noise impact is not anticipated. During the operation phase, traffic noise impact and fixed noise impact would be mitigated by implementing noise mitigation measures. CEDD committed to maintaining all environmental mitigation measures to minimize the noise impact of the outdoor mobile cranes as proposed in the previously approved application. All training courses and trade tests will be conducted indoor except specific courses that involve the use of 3 mobile cranes outdoor. To minimize noise impacts of the outdoor mobile cranes, the use of mobile cranes is limited to 7:00 a.m. to 7:00 p.m. daily (excluding public holidays). The operation of the mobile cranes for training use will also be limited at fixed locations[4] as shown in **Figures 12a to 12c** and sound absorptive materials are installed on the facades of existing buildings at the south-western portion of the site adjoining the noise sources. All noise-sensitive uses (i.e. training facilities) are also served with air conditioning units and opened windows/doors will not rely on natural ventilation. No MiC will be manufactured/made at the Application Site. Hence, no adverse noise impact is anticipated.

4.5.13. As far as water quality is concerned, no construction works would be carried out and no water quality impact during the construction stage is anticipated. During the operation phase, drainage and sewerage systems already constructed within the Application Site would be maintained with proper implementation of the recommended mitigation measures. Hence, no adverse water quality impact is anticipated.

4.5.14. As far as waste management is concerned, no construction works would be carried out and no construction waste would be generated. During the operation phase, no significant waste implication is expected from the students and staff. The quantity of general refuse arising from the operation phase can be minimized by implementing an effectual waste handling system, a waste reduction programme, and by hiring a reputable waste collector to collect the waste on a daily basis. Recyclable materials should be segregated into different containers to avoid potential odour nuisance to the residents and surrounding environment during the transport of waste. Enclosed waste containers should be used, and the collection route and time should be properly planned. By implementing the recommended mitigation measures, no adverse impact in terms of waste management is anticipated.

4.5.15. As far as land contamination is concerned, no construction works would be carried out and no industrial-related activities would be carried out during the operation phase. No presence of industrial-related activities or building structures, underground storage tanks, chemical drums or oil stains, unnatural colours/odours and abandoned piping/mechanical components are observed at the Application Site. The transformer

[4] Since most of the areas within the Application Site are occupied by existing structures or EVA, the proposed location for mobile cranes is considered the most suitable area for training activities of mobile cranes with a considerable distance from the residential area.

room at the centre of the Application Site would also be retained in-situ. Potential land contamination is not anticipated.

4.5.16. As far as ecology is concerned, no construction works would be carried out and no construction ecological impact is anticipated. During the operation phase, due to the very low ecological values of the habitat and with the implementation of recommended mitigation measures, such as boundary fencing to shield potential noise, traffic and other human disturbance, the potential ecological impact is considered insignificant.

Drainage Impact

4.5.17. The existing facilities and utilities will be fully utilised and no major works are expected to be carried out within the Application Site. The surface runoff at the Application Site is currently being collected by 225mm – 900mm covered channels within the Application Site and eventually discharged into the existing DSD 1400mm channel at the north of the Application Site. There is no change in land characteristics, catchment plan, or any drainage works. Therefore, no adverse drainage impact from the project is anticipated and no drainage works or mitigation measures are considered necessary.

4.5.18. With no change to the Application Site as compared with the previously approved application, the assessment is considered valid for this application.

Sewerage Impact

4.5.19. The total ADWF and peak flow generated from the applied use are estimated to be 4 m3/day and 0.28 L/s which would be significantly lower than those of the previous community isolation facility. Therefore, it is considered that the existing sewerage system and at downstream at the Application Site would be capable of catering to the sewage generation and there will be no sewerage impact due to the proposed development.

4.5.20. With no change to the population contributing to the sewage demand, the assessment is considered valid for this application.

Water Supply Impact

4.5.21. With no salt water main available near the Application Site, it is proposed that flushing water will be supplied by fresh water mains. The estimated mean daily freshwater demand and peak freshwater demand for the proposed development are 5 m3/day and 0.145 l/s respectively. The freshwater demand of the proposed development would be significantly less than that of the existing CIF, it is considered that there will be no adverse impact on the existing freshwater supply system.

4.5.22. With no change to the population contributing to the water supply demand, the assessment is considered valid for this application.

Tree and Landscape

4.5.23. To ensure amenity area to be provided within the Application Site, a total of 38 nos. of existing trees found within the Application Site are proposed to be retained in-situ

(including 2 nos. of Tree of Particular Interest – Ficus microcarpa). A tree survey has been conducted in accordance with the relevant technical circular and no Old and Valuable Trees are found within the Application Site. For the 38 nos. existing trees, since all of them are not in conflict with the applied use, they have been retained to provide greenery and visual attraction for the Application Site. In addition, several planting strips located at the southern and western portions have been preserved to serve as buffer planting between the surrounding environments.

4.5.24. In accordance with Chapter 4 of the Hong Kong Planning Standard and Guidelines (HKPSG), 0.5m^2 per worker of local open space shall be provided for the proposed development. The existing sitting bench located at the southern portion of the Application Site have been preserved to provide a passive leisure space for staff's enjoyment.

4.5.25. As all trees within the Application Site have been retained and the open space (with the sitting bench) have been preserved, the assessment is considered valid for this application.

5. Conclusion

5.1. The Applicant, CEDD, proposes the use of the existing temporary training facilities at the Training Ground, on a temporary basis up to 31 October 2026, to allow CIC to operate the Hong Kong Institute of Construction San Tin Training Ground. The applied use will cater for the ongoing need of training facilities for holding training courses and trade tests, and is in line with the Government's directive to support the construction industry.

5.2. This Planning Statement is submitted to the TPB in support of the applied use, providing background information and planning justifications to facilitate the consideration by TPB.

5.3. The Application Site will serve as temporary training facilities for CIC to hold training courses and trade tests. All structures and facilities are ready for use and can be better utilized to cater for the training needs if this application is approved. There are no changes to the site layout, development parameters and the general arrangement/setting of this application as compared to the previously approved application. It is expected that no construction works (e.g. site formation, infrastructure works) would be required for the applied use. Hence, the arrangement in this application is optimized in terms of time and cost.

5.4. The applied use is fully compatible with the existing and surrounding neighbourhood and will not jeopardise the long-term land use planning intention of zonings. There are no adverse impacts on traffic, environmental, ecological, drainage, sewerage, water supply, tree and landscape aspects as confirmed in the technical assessments conducted under the previously approved application. Relevant provision of facilities under the previous approval have been complied with to the satisfaction of the concerned Government departments. As this application has no major changes in planning circumstances, the technical assessments are considered valid and no insurmountable impacts are anticipated.

5.5. In view of the above and the planning justifications in this Planning Statement, the TPB's permission for this application on the applied use is sincerely sought please.

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Figure 1

Location of the Application Site

LOK MA CHAU CONTROL POINT

SAN SHAM ROAD

LOK MA CHAU ROAD

CHAU TAU TSUEN

SAN TIN

TEMPORARY TRAINING FACILITIES

SAN TIN PUBLIC TRANSPORT INTERCHANGE

TUNG CHAN WAI

ON LUNG TSUEN

MANOR GARDEN

SAN TIN PARK

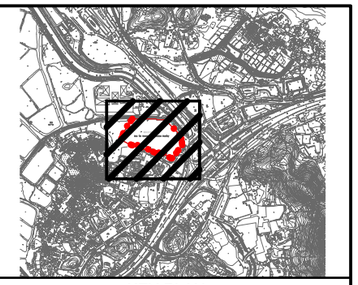
CASTLE PEAK ROAD – SAN TIN

SAN TIN HIGHWAY

KWU TUNG ROAD

HADDEN HILL

KI LUN TSUEN



KEY PLAN

LEGEND :

APPLICATION SITE

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
LOCATION PLAN OF
APPLICATION SITE

Drawing no.			Rev.
FIGURE 1			0
Drawn: CAD	Date: JUL 2024	Checked	Approved
Scale: 1:2000@A1		Status: FOR INFORMATION	

CEDD
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CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
北拓展處
NORTH DEVELOPMENT OFFICE

Figure 2

Aerial Photo of the Site and the Surrounding Environment

Figure 2 - Aerial Photo of the Application Site and the Surrounding Environment

Figure 3

Approved San Tin Technopole Outline
Zoning Plan No. S/STT/2

Figure 3 - The Application Site and Zonings on the Approved San Tin Technopole Outline Zoning Plan No. S/STT/2

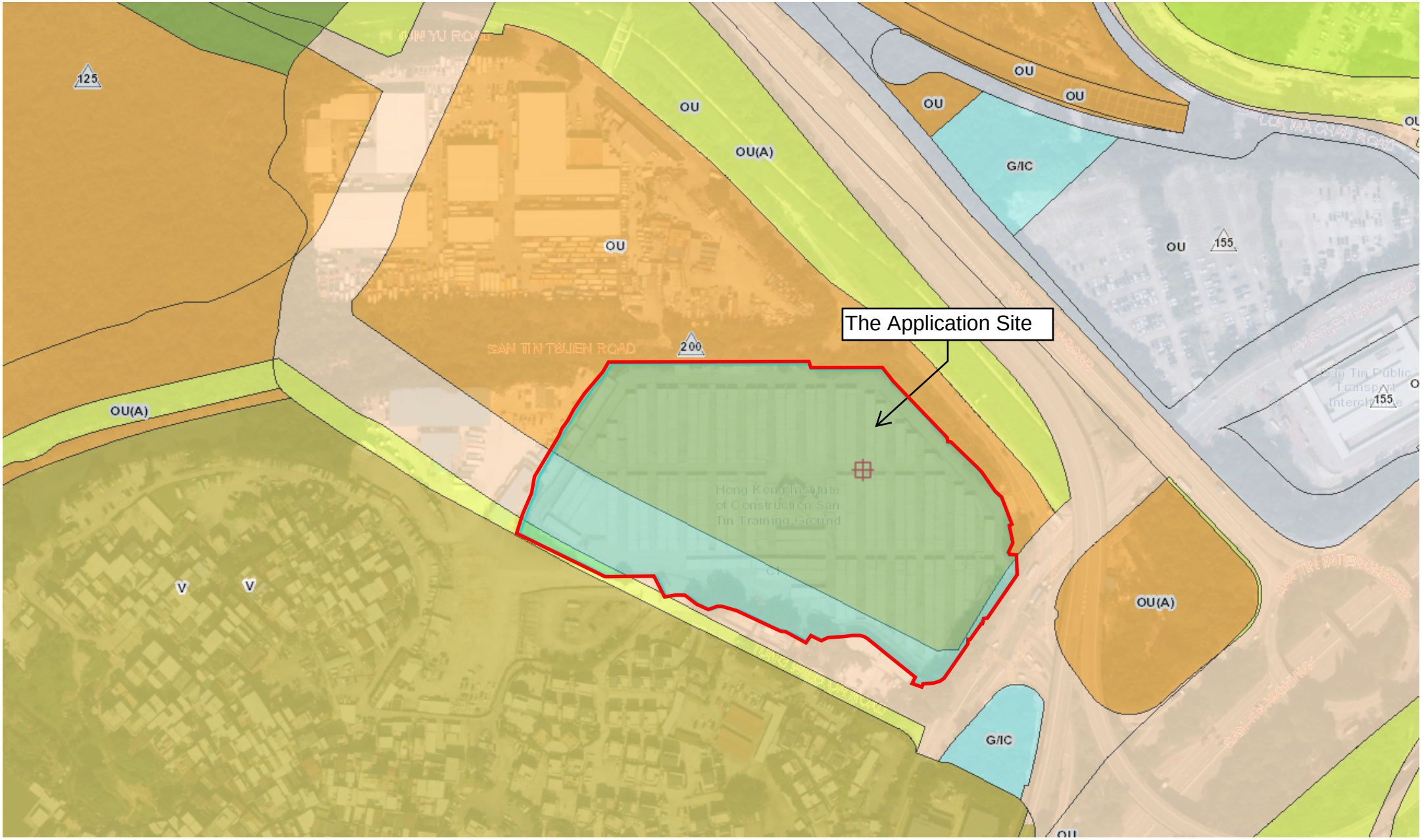

Figure 4

General Layout Plan

KEY PLAN

LEGEND :

- APPLICATION SITE
- PROPOSED CLASSROOMS, STUDENT ACTIVITIES ROOMS, STAFF OFFICES
- W(M) W(F) S(M) S(F) — TOILET FACILITIES AND CHANGING ROOM
- G G — BUILDING SERVICES BUILDING AND FIRE SERVICES BUILDING
- PARKING SPACES
- LOADING /UNLOADING BAYS (FOR REFUSE COLLECTION VEHICLES)

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
GENERAL LAYOUT PLAN

Drawing no.		Rev.
FIGURE 4		
Drawn: CAD	Date: JUL 2024	Checked / Approved
Scale: 1:500@A1	Status: FOR INFORMATION	

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Figure 5

Landscape Master Plan

KEY PLAN

LEGEND :

- APPLICATION SITE
- PROPOSED FOOTPATH / EVA
- PROPOSED CLASSROOMS, STUDENT ACTIVITIES ROOMS, STAFF OFFICES
- EXISTING TOLIET FACILITIES, CHANGING ROOM, BUILDING SERVICES BUILDING AND FIRE SERVICES BUILDING TO BE PRESERVED
- EXISTING SITTING FACILITIES TO BE PRESERVED
- EXISTING TREE TO BE RETAINED
- EXISTING TPI TO BE RETAINED
- EXISTING VEGETATION TO BE RETAINED
- PROPOSED PEDESTRIAN ACCESS
- PROPOSED VECHICLAR ACCESS
- PARKING SPACES
- LOADING /UNLOADING BAYS (FOR REFUSE COLLECTION VEHICLES)

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
LANDSCAPE MASTER PLAN

Drawing no. FIGURE 5 | Rev.

Drawn	Date	Checked	Approved
CAD	JUL 2024		

Scale 1:500@A1 | Status FOR INFORMATION

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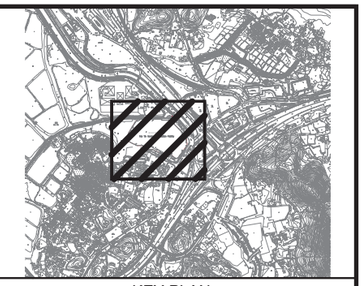
Figure 6

Plan for Open Space

REQUIREMENT FOR THE PROVISION OF LOCAL OPEN SPACE: 0.5m² PER WORKER
PROVISION OF LOCAL OPEN SPACE OF THE PROPOSED DEVELOPMENT: NOT LESS THAN 15m²
(APPROX. 30 WORKERS TO BE EMPLOYED)



KEY PLAN

LEGEND :

APPLICATION SITE

LOCAL OPEN SPACE

Rev	Description	By	Date
Consultant			
Project title			

Drawing title
SAN TIN
PROVISION OF LOCAL OPEN SPACE

Drawing no.		Rev.
FIGURE 6		
Drawn: CAD	Date: JUL 2024	Checked / Approved
Scale: 1:500@A1	Status: FOR INFORMATION	

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NORTH DEVELOPMENT OFFICE

1:500

Figure 7

Block Plan

Block Plan

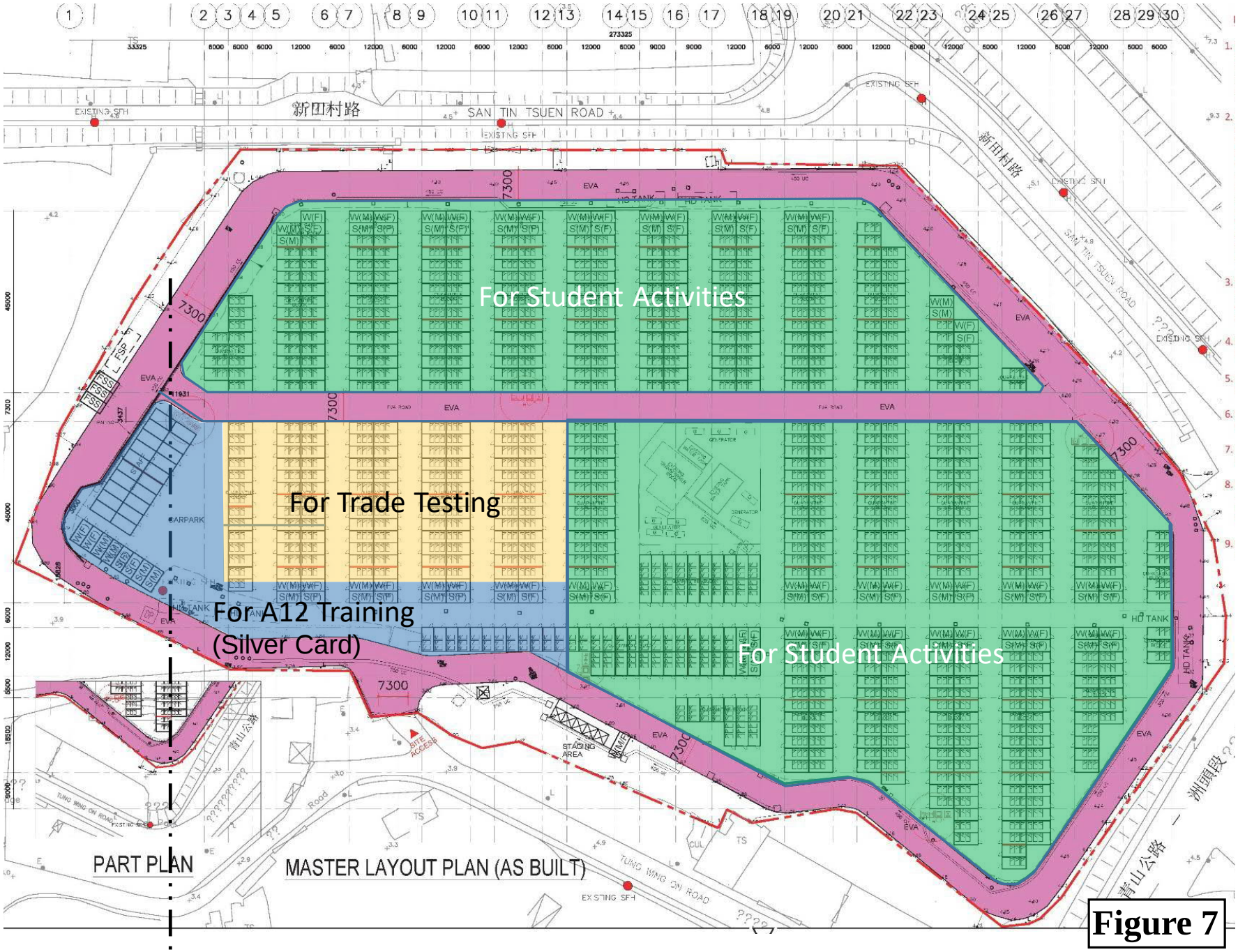
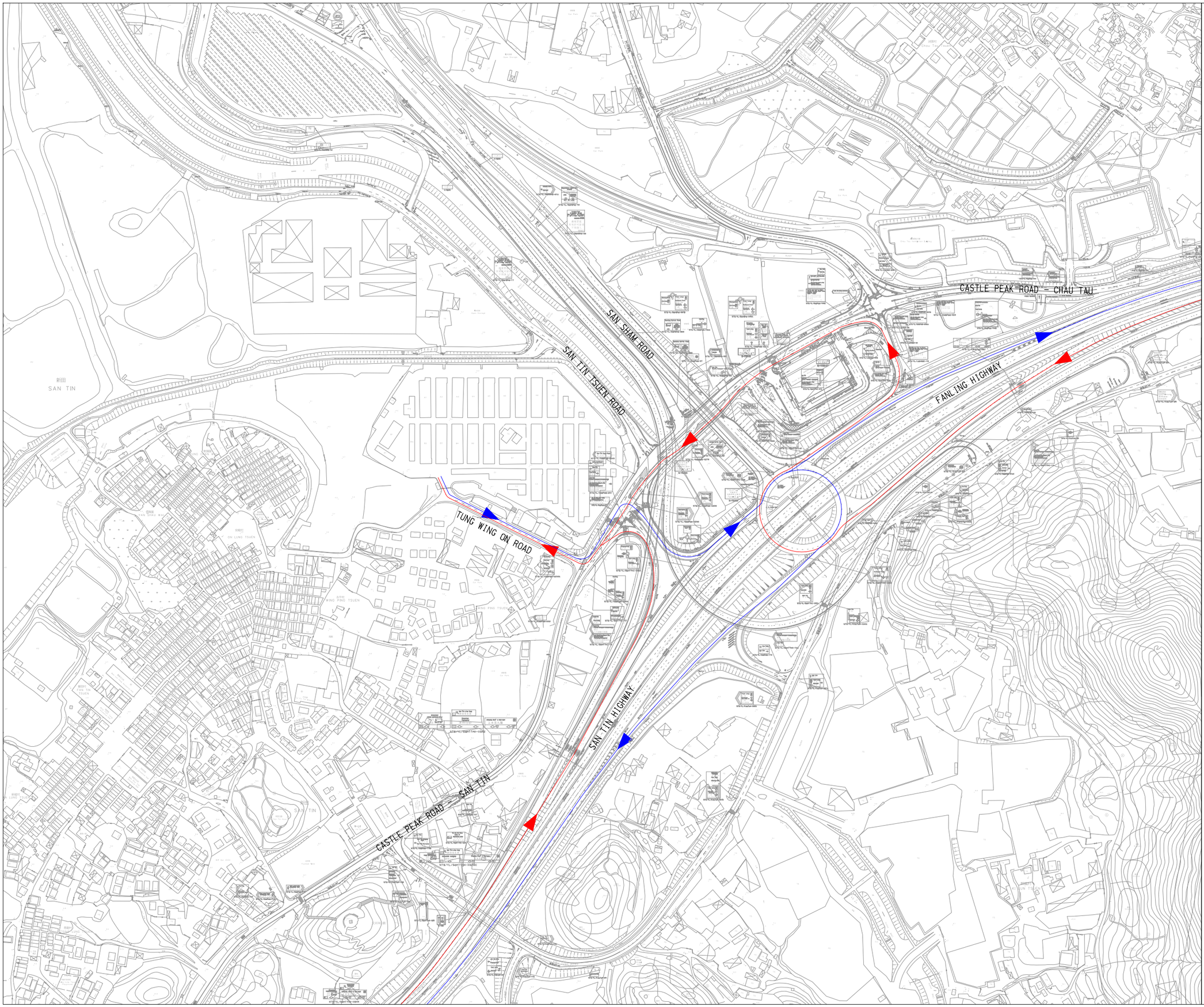


Figure 7

Figure 8

Ingress and Egress Routing for Development Traffic



LEGEND :

- SITE BOUNDARY
- INGRESS ROUTES
- EGRESS ROUTES

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
INGRESS AND EGRESS ROUTINGS
FOR DEVELOPMENT TRAFFIC

Drawing no.			Rev.
FIGURE 8			–
Drawn: CAD	Date: JUL	Checked	Approved
Scale: 1:2000 (A1)		Status: –	

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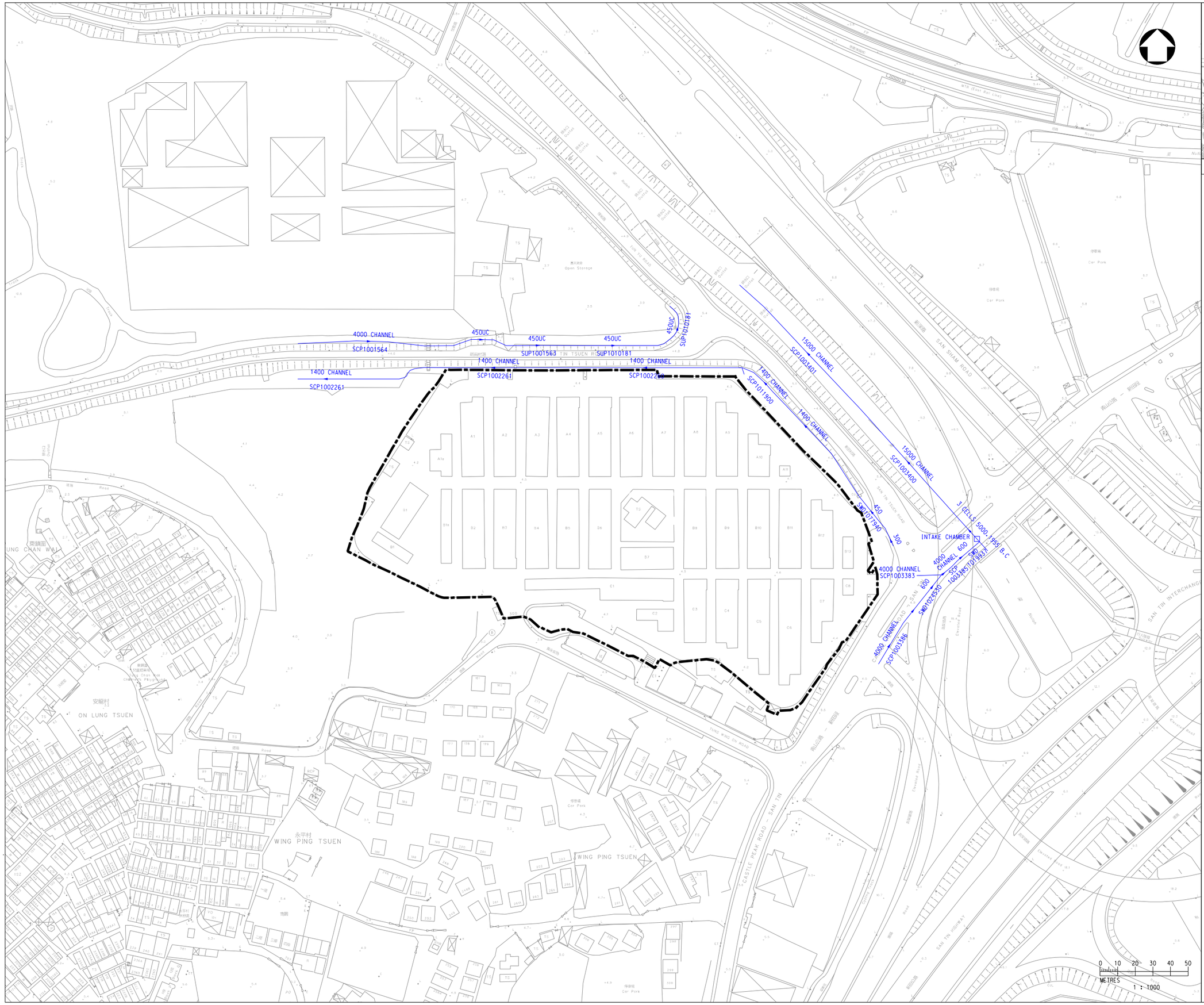
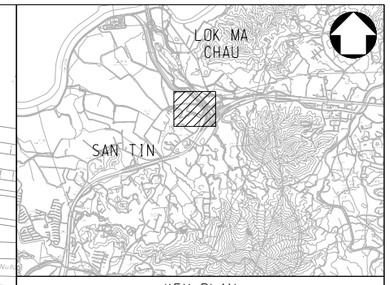
Figure 9

Existing Drainage Layout Plan





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING STORMWATER DRAINS

Rev	Description	By	Date
Consultant			

Project title

Drawing title

SAN TIN
EXISTING DRAINAGE LAYOUT
PLAN

Drawing no.			Rev.
FIGURE 9			–
Drawn: CAD	Date: JUL	Checked	Approved
Scale: 1:1000 (A1)		Status: –	

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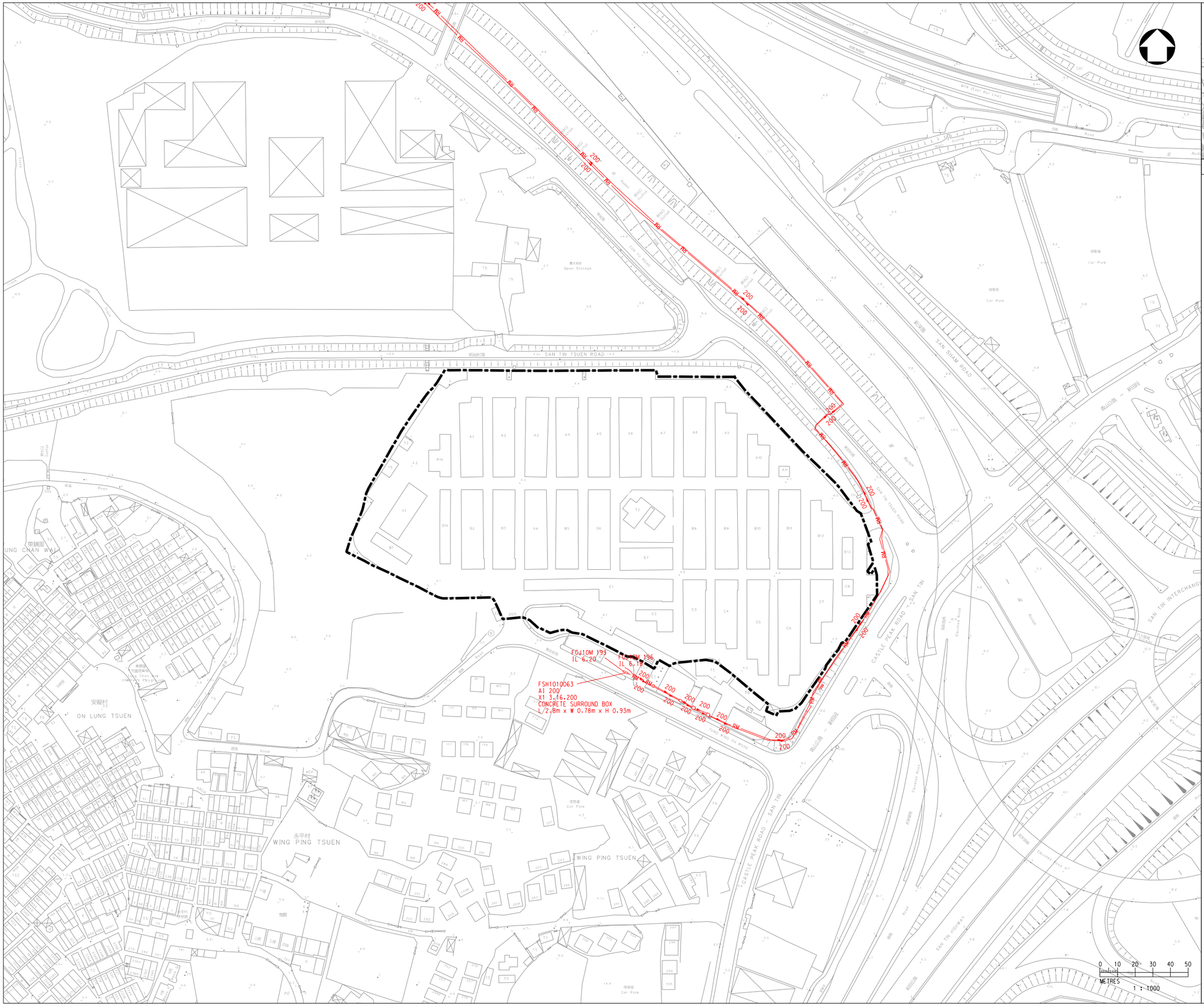
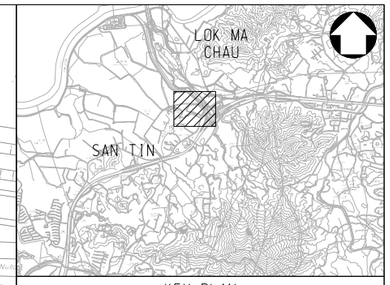
北拓展處
NORTH DEVELOPMENT OFFICE

Figure 10

Existing Sewerage Layout Plan





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
EXISTING SEWERAGE LAYOUT PLAN

Drawing no.			Rev.
FIGURE 10			–
Drawn: CAD	Date: JUL	Checked	Approved
Scale: 1:1000 (A1)		Status: –	

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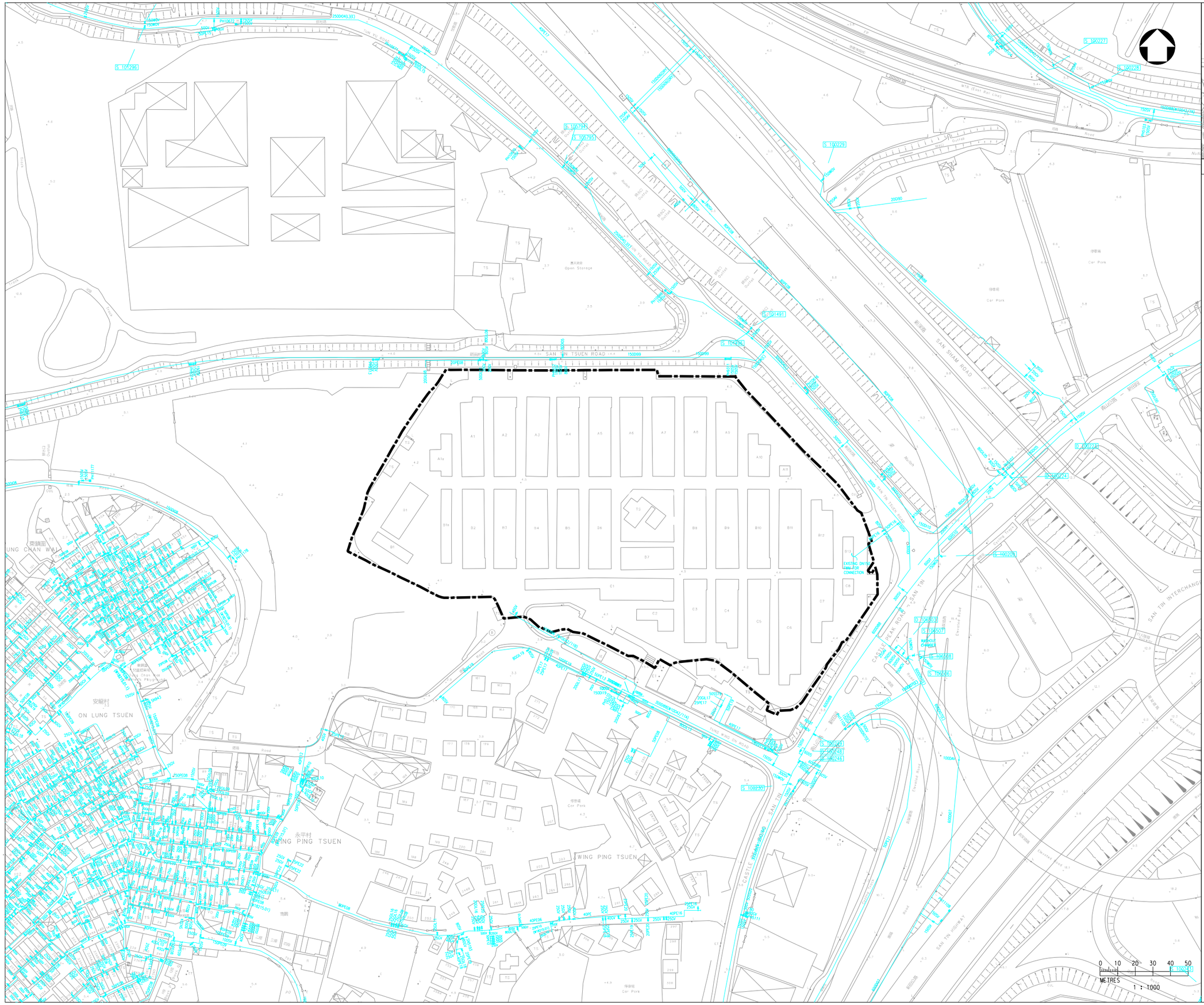
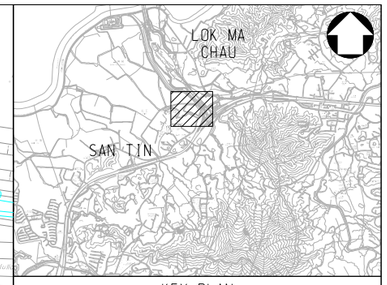
Figure 11

Existing Waterworks Layout Plan





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING FRESH WATER MAIN

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
EXISTING WATERWORK LAYOUT PLAN

Drawing no.			Rev.
FIGURE 11			–
Drawn: CAD	Date: JUL	Checked	Approved
Scale: 1:1000 (A1)		Status: –	

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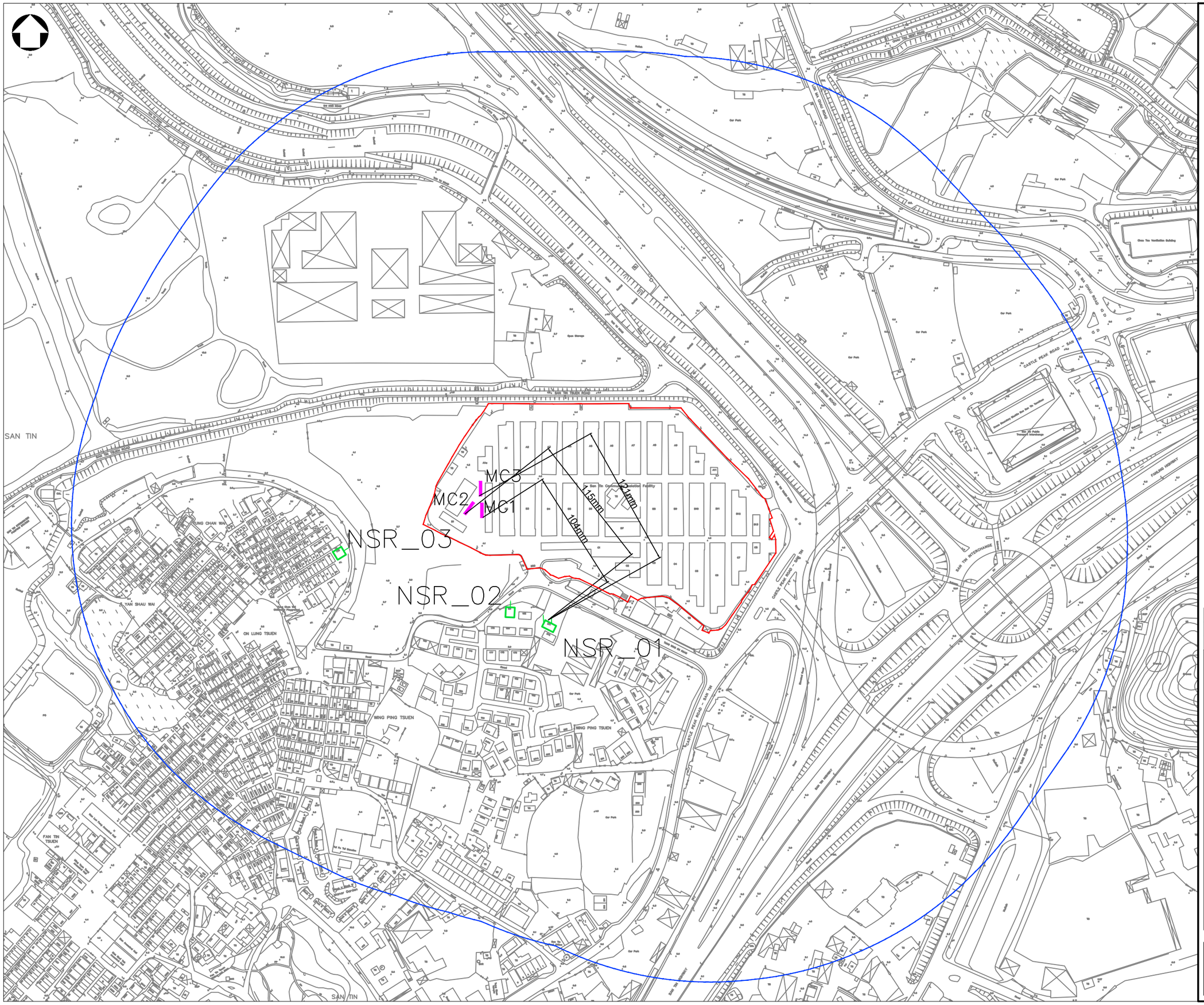
Figure 12a to 12c

Location of Fixed Noise Source



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Rev	Description	By	Date

Consultant

Project title

Drawing title
LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 12a		
Drawn	Date: JUL 2024	Checked / Approved
Scale: 1:3000@A3	Status: –	

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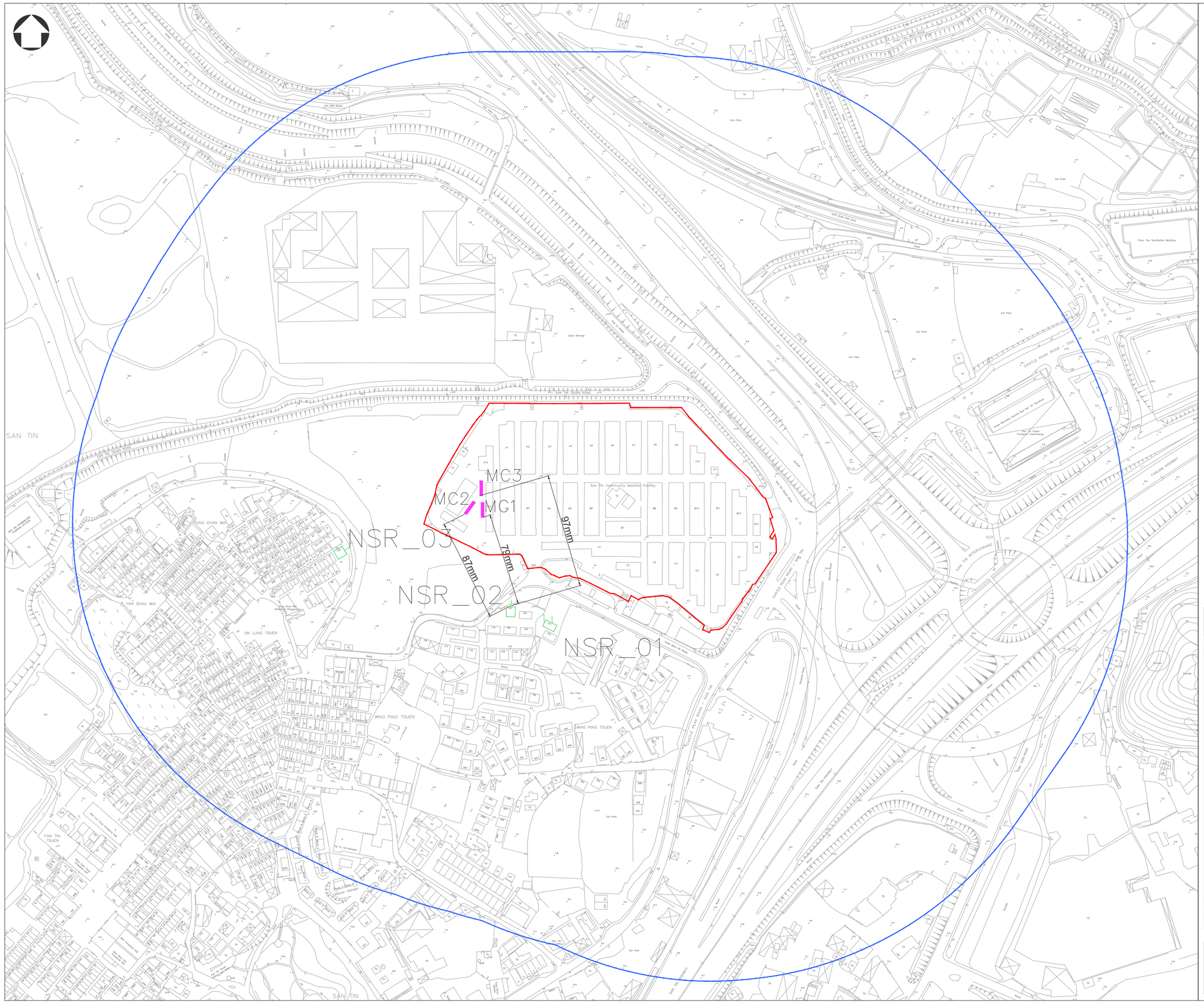
北拓展處 NORTH DEVELOPMENT OFFICE



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Rev	Description	By	Date

Consultant

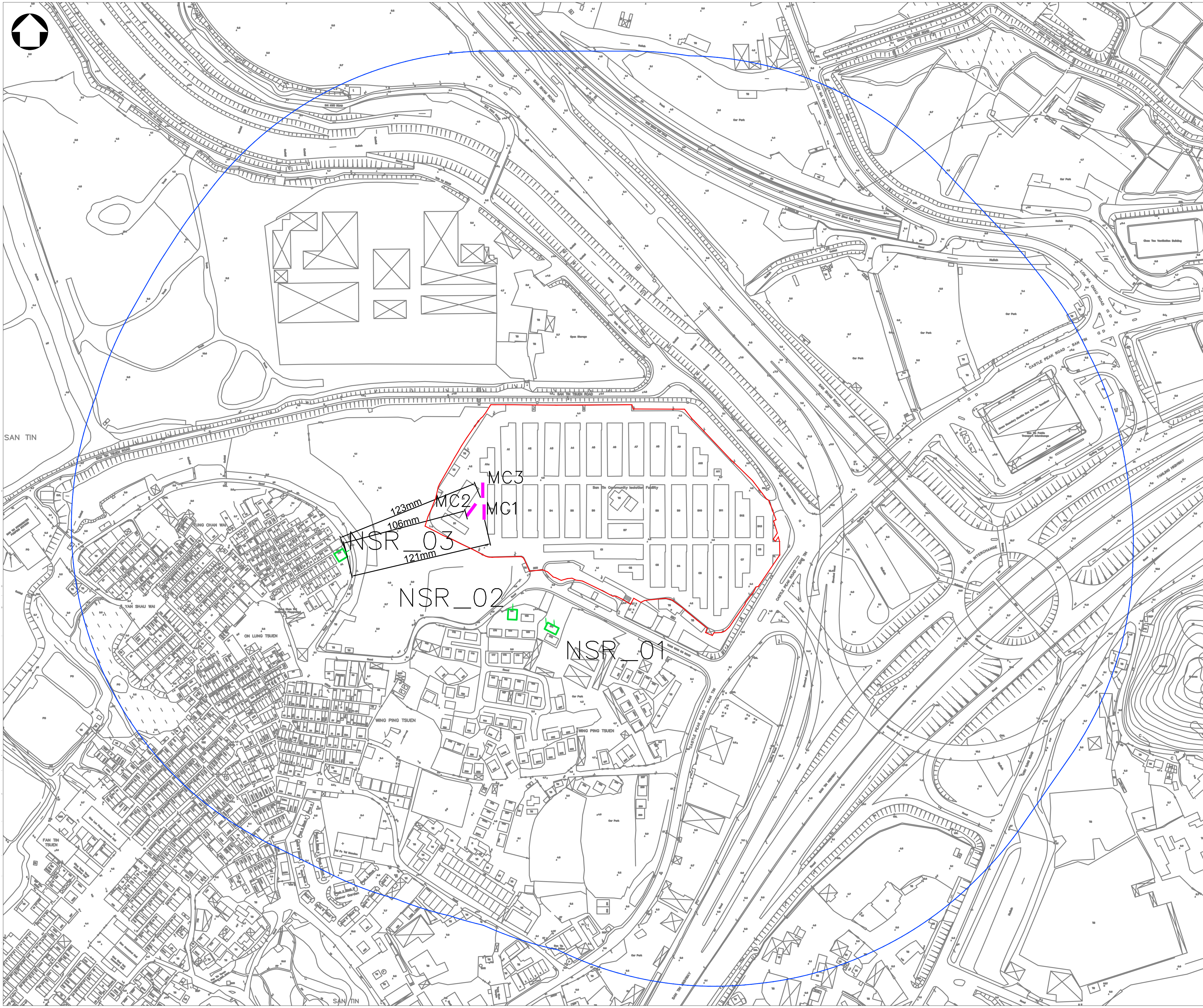
Project title

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 12b		
Drawn	Date: JUL 2024	Checked / Approved
Scale: 1:3000@A3	Status: –	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 北拓展處 NORTH DEVELOPMENT OFFICE



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Rev	Description	By	Date

Consultant

Project title

Drawing title
LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		FIGURE 12c	Rev.
Drawn	Date JUL 2024	Checked	Approved
Scale 1:3000@A3		Status –	

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
北拓展處
NORTH DEVELOPMENT OFFICE

Appendix A

Record of compliance with previous approval conditions

Appendix A

By Post and Email

規 劃 署
粉嶺、上水及元朗東規劃處
新界荃灣青山公路 388 號
中染大廈 22 樓 2202 室

Planning Department
Fanling, Sheung Shui & Yuen Long East
District Planning Office
Unit 2202, 22/F, CDW Building,
388 Castle Peak Road, Tsuen Wan, N.T.

來函檔號	Your Reference :	
本署檔號	Our Reference :	( ) in TPB/A/YL-ST/658
電話號碼	Tel. No. :	3168 4072
傳真機號碼	Fax No. :	3168 4074 / 3168 4045

22 April 2024

Civil Engineering and Development Department
26/F, Tsuen Wan Government Offices,
38 Sai Lau Kok Road, Tsuen Wan
(Attn.: Mr. HO Kai Ho)

Dear Sir,

Compliance with Approval Condition (c)
The provision of fire service installations and water supplies for firefighting

Proposed Temporary Training Facilities until 31 October 2024,
Lots 661 S.C RP (Part), 669 RP, 674 RP (Part) and 733 S.E (Part) in D.D. 99
and Adjoining Government Land, San Tin, Yuen Long
(Planning Application No. A/YL-ST/658)

I refer to your email dated 15.4.2024 regarding the submission of a set of relevant FS251 certificate in an attempt to comply with the approval condition (c) of the subject application. Your submission is considered:

☑ Acceptable. The captioned condition **has been complied with**.

☐ Acceptable. Since the captioned condition requires both the submission and implementation of the proposal, it **has not been fully complied with**.

☐ Not acceptable. The captioned condition **has not been complied with**.

Yours faithfully,

(K W NG)
District Planning Officer/
Fanling, Sheung Shui and Yuen Long East
Planning Department

c.c.
D of FS (Attn: Mr. CHEUNG Wing-hei)
CTP/TPB(3)

KWN/KAC/RC/rc

FIRE SERVICE (INSTALLATIONS AND EQUIPMENT) REGULATIONS
消防（裝置及設備）規例
(Regulation 9(1))
(第九條(1)款)
CERTIFICATE OF FIRE SERVICE INSTALLATION AND EQUIPMENT
消防裝置及設備證書

FSD Ref.: 消防處檔號

Serial Number: 10390132227

Name of Client 顧客姓名: 建造業議會

Address 地址: 新界 新田東永安路

Type of Building 樓宇類型: ☐ Industrial 工業 ☐ Commercial 商業 ☐ Domestic 住宅 ☒ Composite 綜合 ☐ Licensed premises 持牌處所 ☐ Institutional 社團

Part 1 Annual Maintenance ONLY
第一部 只適用於年檢事項

In accordance with Regulation 8(b) of the Fire Service (Installations and Equipment) Regulations, the owner of any fire service installation or equipment which is installed in any premises shall have such fire service installation or equipment inspected by a registered contractor at least once in every 12 months. 根據消防(裝置及設備)規例第八條(b)款，擁有裝置在任何處所內的任何消防裝置或設備的人，須每12個月由一名註冊承辦商檢查該等消防裝置或設備至少一次。

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)	Next Due Date 下次到期日 (DD/MM/YYYY)

Part 2 第二部 Installation / Modification / Repair / Inspection works 裝置/改裝/修理/檢查工作

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Nature of Work Carried out 完成之工作內容	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)
13	Fire Alarm System (MFA)	1號及5號	檢查1號及5號MFA PANEL	Conforms with FSD requirement	18/03/2024

Part 3 第三部 Defects 損壞事項

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Outstanding Defects 未修缺點	Comment on Defects 缺點評述

Remark 備註:

I/We hereby certify that the above installations/equipment have been tested and found to be in efficient working order in accordance with the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment published from time to time by the Director of Fire Services. Defects are listed in Part 3.

本人藉此證明以上之消防裝置及設備經試驗，證明性能良好，符合消防處處長不時公佈的最低限度之消防裝置及設備守則與裝置及設備之檢查測試及保養守則的規格，損壞事項列於第三部.

如證書涉及年檢事項，應張貼於大廈或處所當眼處以供消防處人員查核
This certificate should be displayed at prominent location of the building or premises for FSD's inspection if any annual maintenance work is involved.

Authorized Signature: 受權人簽署

Name: 姓名: Lam Tung Chiu

FSD/RC No.: 消防處註冊號碼: RC1 / 0390 RC2 / 0555

Company Name: 公司名稱: Best Engineering Services Limited

Telephone: 聯絡電話: [redacted]

Date: 日期: 18/03/2024

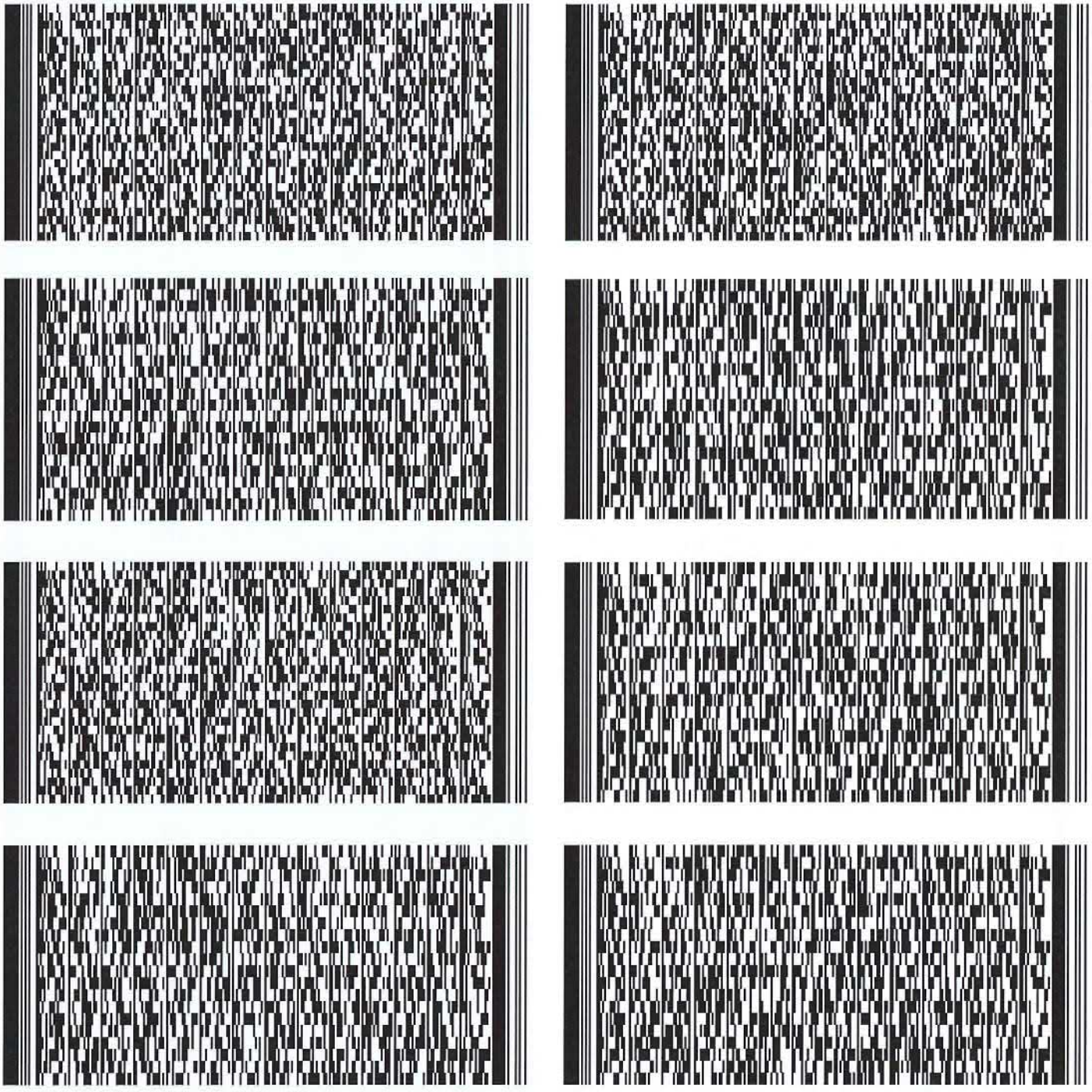
For FSD use only
☐ Inspected
☐ Key-in
☐ Verified

Serial Number

10390132227

Name of Client 顧客姓名

建造業議會



FIRE SERVICE (INSTALLATIONS AND EQUIPMENT) REGULATIONS
消防（裝置及設備）規例
(Regulation 9(1))
(第九條(1)款)
CERTIFICATE OF FIRE SERVICE INSTALLATION AND EQUIPMENT
消防裝置及設備證書

FSD Ref.: 消防處檔號

Serial Number
10390132314

Name of Client 顧客姓名
建造業議會

Address 地址
新界 新田東永安路

Type of Building 樓宇類型: ☐ Industrial 工業 ☐ Commercial 商業 ☐ Domestic 住宅 ☒ Composite 綜合 ☐ Licensed premises 持牌處所 ☐ Institutional 社團

Part 1 Annual Maintenance ONLY
第一部 只適用於年檢事項

In accordance with Regulation 8(b) of the Fire Service (Installations and Equipment) Regulations, the owner of any fire service installation or equipment which is installed in any premises shall have such fire service installation or equipment inspected by a registered contractor at least once in every 12 months. 根據消防(裝置及設備)規例第八條(b)款，擁有裝置在任何處所內的任何消防裝置或設備的人， 須每12個月由一名註冊承辦商檢查該等消防裝置或設備至少一次。

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)	Next Due Date 下次到期日 (DD/MM/YYYY)

Part 2 第二部 Installation / Modification / Repair / Inspection works 裝置/改裝/修理/檢查工作

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Nature of Work Carried out 完成之工作內容	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)
13	Fire Alarm System (MFA)	2號Panel、3號Panel、4號Panel	檢查MFA PANEL	Conforms with FSD requirement	13/04/2024

Part 3 第三部 Defects 損壞事項

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Outstanding Defects 未修缺點	Comment on Defects 缺點評述

Remark 備註

I/We hereby certify that the above installations/equipment have been tested and found to be in efficient working order in accordance with the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment published from time to time by the Director of Fire Services. Defects are listed in Part 3.

本人藉此證明以上之消防裝置及設備經試驗，證明性能良好，符合消防處處長不時公佈的最低限度之消防裝置及設備守則與裝置及設備之檢查測試及保養守則的規格，損壞事項列於第三部.

如證書涉及年檢事項，應張貼於大廈或處所當眼處以供消防處人員查核
This certificate should be displayed at prominent location of the building or premises for FSD's inspection if any annual maintenance work is involved.

Authorized Signature: 受權人簽署

Name: 姓名 Lam Tung Chiu

FSD/RC No.: 消防處註冊號碼 RC1 / 0390 RC2 / 0555

Company Name: 公司名稱 Best Engineering Services Limited

Telephone: 聯絡電話 [redacted]

Date: 日期 15/04/2024

For FSD use only
☐ Inspected
☐ Key-in
☐ Verified

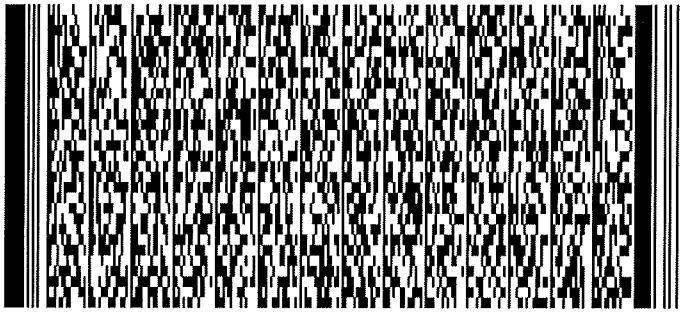
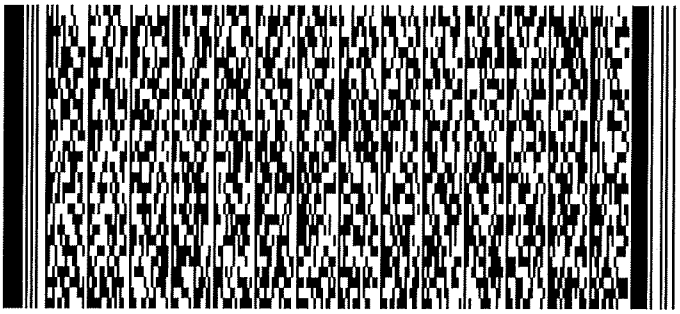
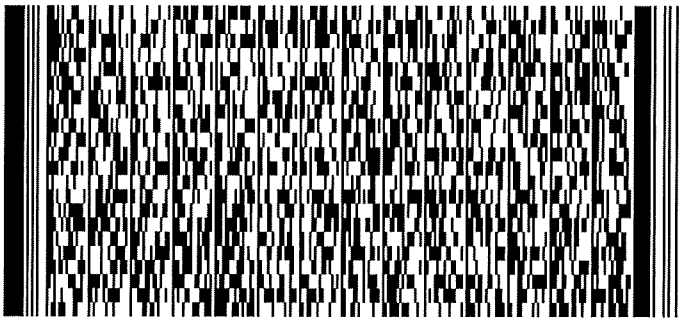
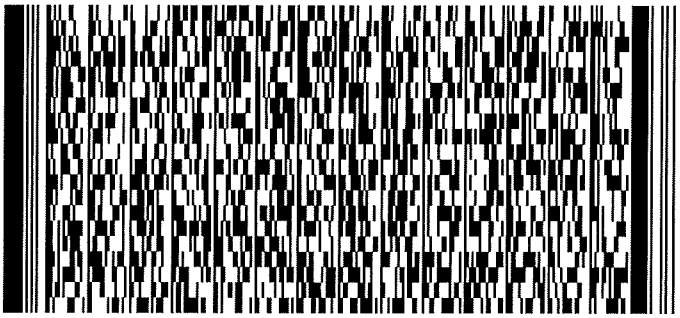
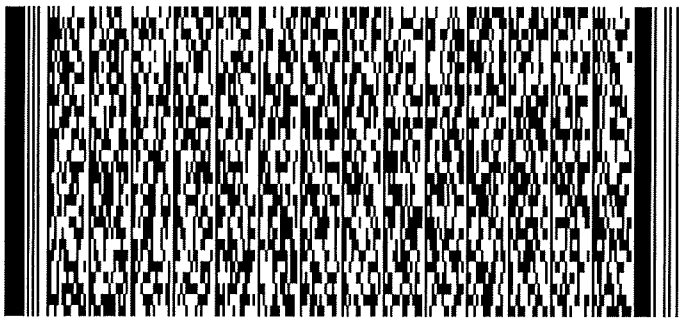
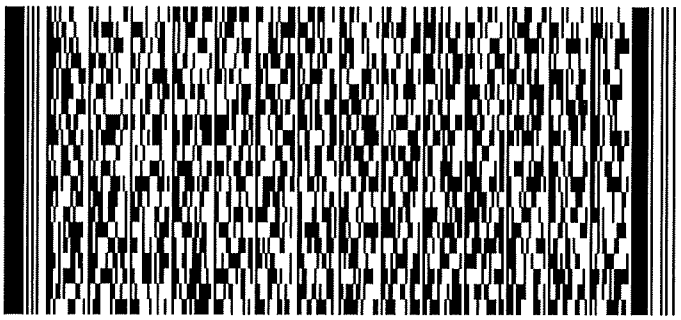
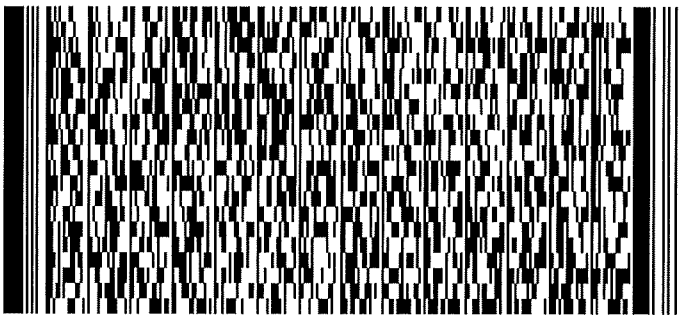
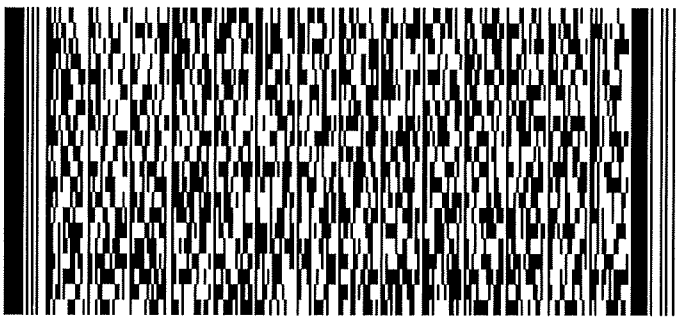
F.S. 251 (Rev. 01/2012)
85e8-331a-58ce-4be9-4df9-aea6-b81b-d814

Serial Number

10390132314

Name of Client 顧客姓名

建造業議會


FSD Ref.: 消防處檔號

FIRE SERVICE (INSTALLATIONS AND EQUIPMENT) REGULATIONS
消防（裝置及設備）規例
(Regulation 9(1))
(第九條(1)款)
CERTIFICATE OF FIRE SERVICE INSTALLATION AND EQUIPMENT
消防裝置及設備證書

Serial Number: 10390132313

Name of Client 顧客姓名: 建造業議會

Address 地址: 新界 新田東永安路

Type of Building 樓宇類型: ☐ Industrial 工業 ☐ Commercial 商業 ☐ Domestic 住宅 ☒ Composite 綜合 ☐ Licensed premises 持牌處所 ☐ Institutional 社團

Part 1 Annual Maintenance ONLY
第一部 只適用於年檢事項

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Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)	Next Due Date 下次到期日 (DD/MM/YYYY)

Part 2 第二部 Installation / Modification / Repair / Inspection works 裝置/改裝/修理/檢查工作

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Nature of Work Carried out 完成之工作內容	Comment on Condition 狀況評述	Completion Date 完成日期 (DD/MM/YYYY)
13	Fire Alarm System (MFA)	2號Panel、3號Panel、4號Panel	更換6件12V 7.2AH電池	Conforms with FSD requirement	13/04/2024

Part 3 第三部 Defects 損壞事項

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s)位置	Outstanding Defects 未修缺點	Comment on Defects 缺點評述

Remark 備註:

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This certificate should be displayed at prominent location of the building or premises for FSD's inspection if any annual maintenance work is involved.

Authorized Signature: 受權人簽署

Name: 姓名: Lam Tung Chiu

FSD/RC No.: 消防處註冊號碼: RC1 / 0390 RC2 / 0555

Company Name: 公司名稱: Best Engineering Services Limited

Telephone: 聯絡電話: [redacted]

Date: 日期: 15/04/2024

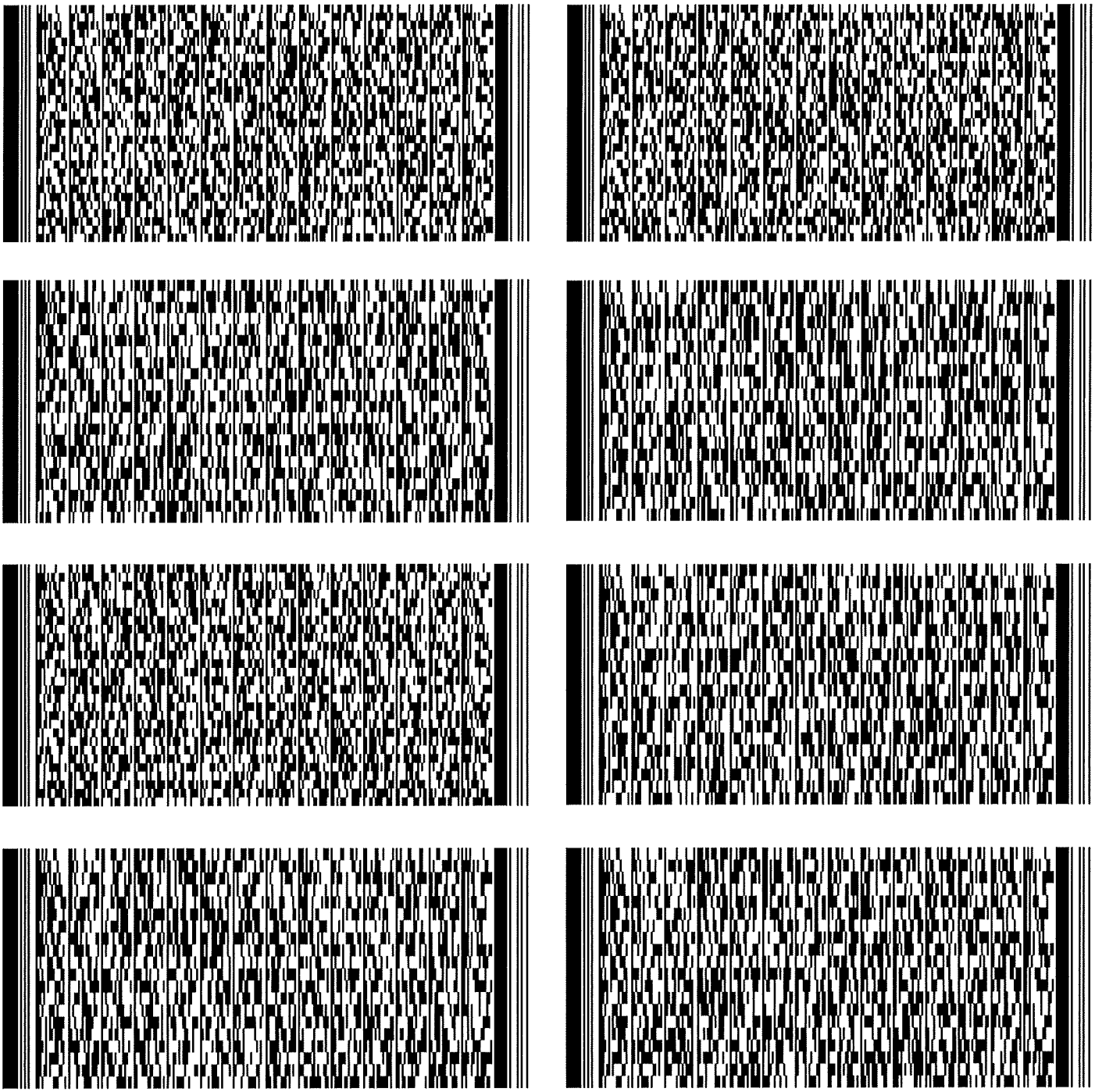
For FSD use only
☐ Inspected
☐ Key-in
☐ Verified

Serial Number

10390132313

Name of Client 顧客姓名

建造業議會



FIRE SERVICE (INSTALLATIONS AND EQUIPMENT) REGULATIONS
消防（裝置及設備）規例
(Regulation 9(1))
（第九條(1)款）

FSD Ref.: _____
消防處檔號

A 9272351

CERTIFICATE OF FIRE SERVICE INSTALLATION AND EQUIPMENT
消防裝置及設備證書

Name of Client : 顧客姓名 — 百佳國際工程有限公司

地盤: 新田方艙醫院

Name of Building : 樓宇名稱 — **********

Street No./Town Lot : 門牌號數/市地段 — **********

Street/Road/Estate Name : 街道/屋苑名稱 — **********

Block : 座 — **********

District : 分區 — 新界

Area : 地區 — ☐ HK 香港 ☐ K 九龍 ☒ NT 新界

Type of Building 樓宇類型： ☐ Industrial 工業 ☐ Commercial 商業 ☐ Domestic 住宅 ☐ Composite 綜合 ☐ Licensed premises 持牌處所 ☐ Institutional 社團

Part 1 Annual Inspection ONLY 第一部 只適用於年檢事項

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Code編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Comment on Condition 狀況評述	Completion Date 完成日期(DD/MM/YY)	Next Due Date 下次到期日(DD/MM/YY)
*****	**********		**********	********	********

Part 2 第二部 Installation / Modification / Repair / Inspection work 裝置/改裝/修理/檢查工作

Code編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Nature of Work Carried out 完成之工作內容	Comment on Condition 狀況評述	Completion Date 完成日期(DD/MM/YY)
24	800 NOS X 2KG DRY POWDER TYPE F.E	地盤用	TO SUPPLY	CONFORMS WITH FSD REQUIREMENTS	30/10/2023

Part 3 第三部 Defects 損壞事項

Code編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Outstanding Defects 未修缺點	Comment on Defects 缺點評述
*****	**********	*****	**********	********

I/We hereby certify that the above installations/equipment have been tested and found to be in efficient working order in accordance with the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment published from time to time by the Director of Fire Services. Defects are listed in Part 3.

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如證書涉及年檢事項，應張貼於大廈或處所當眼處以供消防處人員查核

This certificate should be displayed at prominent location of the building or premises for FSD's inspection if any annual maintenance work is involved.

Authorized Signature : 受權人簽署 — Wu Kin Yun

Name : 姓名 — Wu Kin Yun

FSD/RC No. : 消防處註冊號碼 — RC3/671

Company Name : 公司名稱 — TAI HING FIRE ENGINEERING LTD. 大興消防工程有限公司

Telephone : 聯絡電話 — [redacted]

Date : 日期 — 31/10/2023

For FSD use only:

☐ Inspected

☐ Key-in

☐ Verified

F.S. 251 (Rev. 1/2016)

Appendix B

Technical assessments conducted in the previously approved application

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Traffic Impact Assessment

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE47/2020 (CE) -

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021-2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

SECTION 16 PLANNING APPLICATION
Traffic Impact Assessment
(Issue 1)

AUGUST 2023

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) – TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

SECTION 16 PLANNING APPLICATION
Traffic Impact Assessment
(Issue 1)

PROJECT NO.: 2512219A

DATE: AUGUST 2023

WSP (ASIA) LTD.
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY
HONG KONG

PHONE: +852 2579-8899
FAX: +852 2856-9902
WSP.COM

REVISION HISTORY

REVISION	DATE	PREPARED BY	CHECKED BY	APPROVED BY
Issue 1	August 2023	Various	Calvin Li	Emeric Wan

TABLE OF CONTENT

LIST OF DRAWINGS

Drawing Nos.	Drawing Title
CE47/TO9/TIA/101	Site Location Plan
CE47/TO9/TIA/201	Indicative Master Layout Plan
CE47/TO9/TIA/202	Ingress and Egress Routings for Development Traffic
CE47/TO9/TIA/301	Critical Junctions and Road Link
CE47/TO9/TIA/302	Existing Junction Layout of San Tin Interchange (J1)
CE47/TO9/TIA/303	Existing Junction Layout of Castle Peak Road – Chau Tau / Lok Ma Chau Road (J2)
CE47/TO9/TIA/304	Existing Junction Layout of Castle Peak Road – San Tin / San Tin Tsuen Road (J3)
CE47/TO9/TIA/305	Existing Junction Layout of Castle Peak Road – San Tin / Slip Road from San Tin Interchange (J4)
CE47/TO9/TIA/306	Existing Junction Layout of Castle Peak Road – San Tin / Tung Wing On Road (J5)
CE47/TO9/TIA/307	2023 Observed Traffic Flows
CE47/TO9/TIA/308	Existing Public Transport Services
CE47/TO9/TIA/501	2026 Reference Traffic Flows
CE47/TO9/TIA/502	2026 Design Traffic Flows

APPENDICES

Appendix A	Junction Calculation Sheet

ABBREVIATIONS

AADT	Annual Average Daily Traffic
APPROX.	Approximate
ATC	Annual Traffic Census
CAP.	Capacity
CEDD	Civil Engineering and Development Department
CIF	Community Isolation Facility
DFC	Design Flow / Capacity
EB	Eastbound
GMB	Green Minibus
HGV	Heavy Goods Vehicle
HKPSG	Hong Kong Planning and Standard Guidelines
L/UL	Loading/Unloading

MLP	Master Layout Plan
NB	Northbound
OCC.	Occupancy
OU	Other Specified Uses
OZP	Outline Zoning Plan
PCU	Passenger Car Unit
PlanD	Planning Department
PT	Public Transport
PTI	Public Transport Interchange
RC	Reserve Capacity
RCV	Refuse Collection Vehicle
SB	Southbound
TIA	Traffic Impact Assessment
TPB	Town Planning Board
TPDM	Transport Planning and Design Manual
TPEDM	Territorial Population and Employment Data Matrix
V/C	Volume to Capacity
WB	Westbound
WSP	WSP (Asia) Ltd.

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 WSP (Asia) Ltd. (WSP) is commissioned by the Civil Engineering and Development Department (CEDD) to submit the Section 16 Planning Application to seek permission from the Town Planning Board (TPB/ the Board) for the proposed temporary training facilities (the proposed development) at the San Tin Community Isolation Facility (CIF) (Application Site/Site), on a temporary basis up to 31 October 2024.

1.1.2 The Applicant, CEDD, proposes a development at San Tin CIF, on a temporary basis up to 31 October 2024. The Application Site falls within an area zoned for "Other Specified Uses (Services Stations)" under the Approved San Tin Outline Zoning Plan No. S/YL-ST/8 (OZP). In accordance with Clause No. (11) (b) of the covering Notes of the approved OZP, "……*temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board*……". Therefore, this planning application is submitted to the TPB under Section 16 of the Town Planning Ordinance for the proposed temporary development.

1.1.3 The Application Site is currently occupied by San Tin CIF. With the epidemic in Hong Kong having been brought under control gradually, the CIF have been put into standby mode. To fully utilize the existing resources and facilities, the Applicant intends to convert the existing San Tin CIF as the proposed temporary development up to 31 October 2024. The location plan of the Site is shown in **Drawing No. CE47/TO9/TIA/101**.

1.2 STRUCTURE OF THIS REPORT

1.2.1 This report is organized into 6 sections. Apart from this introductory section, there will be other sections as follows:

- Section 2 – Proposed Development, describes the proposed development, development parameters and the internal transport facilities, access arrangement etc.;
- Section 3 – Existing Traffic Condition, reviews the current traffic conditions in the vicinity of the proposed development;
- Section 4 – Future Public Transport (PT) Demand, elaborates the anticipated PT demand and assesses the existing PT capacity;
- Section 5 – Traffic Impact Assessment (TIA), presents the traffic forecasting methodology and presents the forecasted traffic flows in design year, assesses the traffic impact induced on the surrounding road network;
- Section 6 – Summary and Conclusion, summarizes the findings of the study and presents the conclusion of this TIA.

2 THE PROPOSED DEVELOPMENT

2.1 SITE LOCATION

2.1.1 The proposed development is located at the existing San Tin CIF which is bounded by Castle Peak Road – San Tin to the east, Tung Wing On Road to the south and San Tin Tsuen Road to the west and north. The site location is shown in **Drawing No. CE47/TO9/TIA/101**.

2.2 DEVELOPMENT SCHEDULE

2.2.1 The proposed development is targeted to commission in October 2023 and operate up to 31 October 2024.

2.2.2 Regular training classes would be provided at the Site, accommodating around 100 staff and students within the Site. The training classes are anticipated to be held at the Site from 08:00 to 22:00 tentatively.

2.2.3 The indicative Master Layout Plan (MLP) of the Site is shown in **Drawing No. CE47/TO9/TIA/201**.

2.3 VEHICULAR AND PEDESTRIAN ACCESS ARRANGEMENT

2.3.1 Under the existing traffic arrangement, there is vehicular and pedestrian access available at San Tin Tsuen Road and Tung Wing On Road. For the operational need of the proposed development, the access at Tung Wing On Road would be maintained for both vehicles and pedestrians while that at San Tin Tsuen Road would be open to pedestrians only to facilitate staff/students to/from the nearby bus stops/public transport interchange (PTI).

2.3.2 Although the existing internal road within the Site is a single-2 carriageway (i.e. two-way), it is proposed to convert it into a one-way gyratory system in clockwise direction in order to minimise vehicular conflicting movements.

2.3.3 For the traffic routings outside the Site as demonstrated in **Drawing No. CE47/TO9/TIA/202**, the vehicle would enter / leave the Site via:

Ingress Route

From the South

- San Tin Highway Northbound (NB) → San Tin Highway Slip Road → Castle Peak Road – San Tin Southbound (SB) → Tung Wing On Road Westbound (WB)

From the North

- Fanling Highway SB → San Tin Interchange → San Tin Highway Slip Road → Castle Peak Road – Chau Tau SB → Castle Peak Road – San Tin SB → Tung Wing On Road WB

Egress Route

To the South

- Tung Wing On Road Eastbound (EB) → Castle Peak Road – San Tin NB → San Tin Interchange → San Tin Highway SB

To the North

- Tung Wing On Road EB → Castle Peak Road – San Tin NB → San Tin Interchange → Fanling Highway NB

2.4 PARKING AND SERVICING FACILITIES

Car Park Provision

2.4.1 Currently, there is no standard parking/servicing facilities requirement for training facilities. To serve the operational need, a total of 8 nos. of car park spaces (i.e. 5m x 2.5m) would be provided for staff within the proposed development.

2.4.2 As refuse storage and collection is required for the operation of the proposed development, 3 nos. of the existing loading/unloading (L/UL) bays of 11m heavy goods vehicle (HGV) would be reserved for the use of Refuse Collection Vehicle (RCV) and refuse collection.

2.4.3 The car park spaces for staff and the L/UL bays for RCV and refuse collection are indicated in **Drawing No. CE47/TO9/TIA/201**.

3 EXISTING TRAFFIC CONDITION

3.1 EXISTING ROAD NETWORK IN THE VICINITY OF PROPOSED DEVELOPMENT

3.1.1 The proposed development is located at the existing San Tin CIF which is bounded by is bounded by Castle Peak Road – San Tin to the east, Tung Wing On Road to the south and San Tin Tsuen Road to the west and north.

3.1.2 San Tin Tsuen Road is a single track access road with passing bays except the section between Tun Yu Road and Castle Peak Road – San Tin which is a two-way road with 1 to 2 traffic lanes in each direction. It connects with Castle Peak Road – San Tin at its southern end and loops around the villages. It then joins back Castle Peak Road – San Tin at its northern end.

3.1.3 Tung Wing On Road is a single-2 lane carriageway running in east-west direction. It serves the local traffic demand and provides connection to Castle Peak Road – San Tin at its eastern end.

3.1.4 Castle Peak Road – San Tin is a single-2 lane carriageway which further links up with San Tin Highway via the slip roads to/from San Tin Interchange.

3.1.5 San Tin Highway is a dual-3 lane carriageway which is a part of New Territories Circular Road (Route 9) and serves as the main road corridor for local traffic in Tam Mei / San Tin / Ngau Tam Mei area to access other urban areas in Hong Kong.

3.2 TRAFFIC SURVEY

3.2.1 A total of 5 critical junctions and 1 road link were identified for assessment in this TIA. They are listed in **Table 3.1** and shown in **Drawing No. CE47/TO9/TIA/301**. Layouts of the existing junctions are presented in **Drawing No. CE47/TO9/TIA/302** to **Drawing No. CE47/TO9/TIA/306**.

Table 3.1 Critical Junctions and Road Link

Index	Name of Junction / Road Link	Type
Junction		
J1	San Tin Interchange	Roundabout
J2	Castle Peak Road – Chau Tau / Lok Ma Chau Road	Signalised
J3	Castle Peak Road – San Tin / San Tin Tsuen Road	Priority
J4	Castle Peak Road – San Tin / Slip Road from San Tin Interchange	Signalised
J5	Castle Peak Road – San Tin / Tung Wing On Road	Priority
Road Link		
L1	Tung Wing On Road	-

3.2.2 Manual classified traffic counts surveys were carried out during AM and PM peak periods on a typical weekday in early July 2023 to establish the current traffic condition in the vicinity. The identified AM and PM peak hours are 07:45 – 08:45 and 17:00 – 18:00 respectively.

3.2.3 The 2023 observed AM and PM peak hour traffic flows are shown in **Drawing No. CE47/TO9/TIA/307**.

3.3 TRAFFIC ASSESSMENT PRINCIPLE

3.3.1 Junction capacity analysis will be carried out based on the guideline as stated in the TPDM during AM and PM peak hours. The performances of signalised junctions and roundabout / priority junction are indicated by reserve capacity (RC) and Design Flow / Capacity (DFC) ratio respectively. A positive RC figure indicates that the junction is operating with spare capacity; and a negative RC figure indicates that the junction is overloaded, hence resulting in traffic queues and longer travelling time. DFC of 1.00 indicates that capacity has been reached; DFC over 1.00 indicates the overloaded condition.

3.3.2 For road links, the performance indicator is V/C (Volume to Capacity) ratio. A V/C ratio equal to or less than 1.0 means that the road has sufficient capacity to cope with the volume of vehicular traffic under consideration. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further traffic increases.

3.4 EXISTING TRAFFIC CONDITION

3.4.1 Junction capacity analysis was carried out for the aforesaid junctions and road link based on the Transport Planning and Design Manual (TPDM) (e.g. Volume 2 Chapter 2.4.2 and Volume 4 Chapter 2.4). The results of the junction and road link capacity assessment are shown in **Table 3.2** and **Table 3.3** respectively. The detailed junction calculation sheets are shown in **Appendix A**.

Table 3.2 Existing Junction Performance

Index	Junction	Type	Year 2023 Observed RC / DFC	
			AM Peak	PM Peak
J1	San Tin Interchange	Roundabout	0.45	0.43
J2	Castle Peak Road – Chau Tau / Lok Ma Chau Road	Signalised	37%	35%

Index	Junction	Type	Year 2023 Observed RC / DFC	
			AM Peak	PM Peak
J3	Castle Peak Road – San Tin / San Tin Tsuen Road	Priority	0.19	0.25
J4	Castle Peak Road – San Tin / Slip Road from San Tin Interchange	Signalised	>100%	>100%
J5	Castle Peak Road – San Tin / Tung Wing On Road	Priority	0.28	0.20

Table 3.3 Existing Road Link Performance

Index	Road Link	Dir. (1)	Capacity (pcu/hr)	Year 2023 Observed			
				AM Peak		PM Peak	
				Flow (pcu/hr)	V/C Ratio	Flow (pcu/hr)	V/C Ratio
L1	Tung Wing On Road	EB	415 (2)	140	0.34	90	0.22
		WB	415 (2)	95	0.23	125	0.30

Notes:
(1) EB – northbound; WB - southbound
(2) The capacity is made reference to TPDM Volume 2, Chapter 2.4, Table 2.4.1.1. For local road, the design flow of a 2-lane single carriageway is 800 veh/hr. With consideration of high heavy vehicle content as observed from survey, 10% reduction in design flow per carriageway is adopted. A pcu factor of 1.15 based on survey is used to convert veh/hr to pcu/hr, therefore the design flow is calculated as 800 veh/hr x (1-10%) x 1.15 = approx. 830 pcu/hr for 2-way traffic, and thus 415 pcu/hr for each bound).

3.4.2 At present, all the assessed junctions and road link are operating within capacity.

3.5 EXISTING PUBLIC TRANSPORT SERVICES

3.5.1 There are 8 franchised bus (including 3 regular bus) and 5 green minibus (GMB) routes serving the vicinity of the proposed development at Castle Peak Road – Chau Tau and Lok Ma Chau (San Tin) Public Transport Interchange (PTI) as summarized in **Table 3.4** and shown in **Drawing No. CE47/TO9/TIA/308**.

Table 3.4 Existing Public Transport Services

Route No.	Origin / Destination			Frequency (min.)
Franchised Bus				
B1	Lok Ma Chau Station	←→	Tin Tsz Estate	5 – 15
	Lok Ma Chau Station	←→	Ma Wang Road (San Shui House)	15 – 60

Route No.	Origin / Destination			Frequency (min.)
	Lok Ma Chau Station	←→	Tin Yan	15 – 30 (1)
76K	Sheung Shui (Ching Ho)	←→	Long Ping Estate	20 – 30
276B	Sheung Shui (Choi Yuen)	←→	Tin Fu	15 – 25
976	Lok Ma Chau (San Tin)	←→	Sai Wan Ho	06:30, 07:20, 07:50, 18:10, 18:40, 19:10 (2)
976A	Lok Ma Chau (San Tin)	←→	Siu Sai Wan (Island Resort)	07:00, 17:30 (2)
A43P	Fanling (Luen Wo Hui)	→	Airport (Ground Transportation Centre)	05:30, 06:15, 06:35, 07:00, 07:40, 08:40, 09:40, 10:40, 11:40, 12:40, 13:40
NA43	Hong Kong Zhuhai Macau Bridge (HKZMB) Hong Kong Port	←→	Fanling	00:15, 01:10, 04:05, 04:25, 04:45
N73	Lok Ma Chau	←→	Shatin Central	30
GMB				
44B	Lok Ma Chau (San Tin) PTI	←→	Tuen Mun MTR Station	15 – 20
44B1	Lok Ma Chau (San Tin) PTI	←→	Tuen Mun Ferry Pier	15 – 20
75	Yuen Long (Fook Hong Street)	←→	Ha Wan Tsuen	15 – 20
	Yuen Long (Fook Hong Street)	←→	Lok Ma Chau Spur Line Control Point	15 – 30
76	Yuen Long (Fook Hong Street)	←→	Siu Hom Tsuen	15 – 20
78	Lok Ma Chau (San Tin) PTI	←→	Pat Heung Road (near Tai Lam Bus-Bus Interchange)	20 – 25

Notes:

(1) Temporarily suspended

(2) Monday to Friday (except public holidays).

4 FUTURE PUBLIC TRANSPORT DEMAND

4.1 FUTURE PUBLIC TRANSPORT DEMAND

4.1.1 With limited parking spaces provided within the Site and no coach service would be provided to serve the staff and students to/from the proposed development, the majority of the staff and students is anticipated to take PT to/from the proposed development. The closest bus stops and PTI to the proposed development are located at Castle Peak Road – Chau Tau and Lok Ma Chau (San Tin) PTI, which would be around 230m away from the proposed development and is considered within acceptable walking distance.

4.1.2 There would be around 100 staff and students having regular training classes at the Site at the same time. As a conservative approach, it is assumed that all staff and students would rely on the PT.

4.1.3 Taking into account the early class would start at 08:00 and the last class would end at 22:00 tentatively, it is expected that the arrival of staff/students would not overlap with the dismissal of staff/student during AM peak period while it would happen during PM peak period. As a worst-case scenario, the following PT demand is assumed for assessment purpose:

- AM Peak – 100 pax/hr (Inbound) and nil pax/hr (Outbound)
- PM Peak – 100 pax/hr (Inbound) and 100 pax/hr (Outbound)

4.2 ASSESSMENT OF EXISTING PUBLIC TRANSPORT CAPACITY

4.2.1 There are 7 regular franchised bus and GMB services (i.e. franchised bus route no. B1, 76K, 276B and GMB route no. 44B, 44B1, 75, 78) at the nearest bus stop/PTI to the Site, which would be the major PT serving the staff/students to/from the proposed development. The destination areas/points of the above PT services are Lok Ma Chau / San Tin, Yuen Long Area (including Long Ping and Tin Shui Wai), Sheung Shui, Tuen Mun and Tai Lam BBI.

4.2.2 Based on site observation, the existing franchised bus service of route nos. B1 and 276B are heavily utilized, the occupancy rate of some buses could reach 80% to 100% during peak hours. Therefore, the above bus routes are excluded for estimating the spare capacity of the existing PT services to/from the proposed development. The observed occupancy and estimated spare capacity of the other existing PT services during peak periods are presented in **Table 4.1**.

Table 4.1 Existing Occupancy and Spare Capacity of the Public Transport Services (Excluding Bus Route Nos. B1 and 276B)

Route No.	Origin / Destination	AM Peak (1)		PM Peak			
		Inbound (To the Site)		Inbound (To the Site)		Outbound (From the Site)	
		Average Occ. (%)	Spare Cap. (2) (pax/hr)	Average Occ. (%)	Spare Cap. (2) (pax/hr)	Average Occ. (%)	Spare Cap. (2) (pax/hr)
Franchised Bus							
76K	Sheung Shui (Ching Ho) ←→ Long Ping Estate	30%	403	45%	316	45%	316
GMB							
44B	Lok Ma Chau (San Tin) PTI ←→ Tuen Mun MTR Station	35%	42	45%	35	70%	19
44B1	Lok Ma Chau (San Tin) PTI ←→ Tuen Mun Ferry Pier	85%	9	25%	48	100%	0
75	Lok Ma Chau / San Tin ←→ Yuen Long	45%	55	60%	40	60%	40
78	Lok Ma Chau (San Tin) PTI ←→ Tai Lam BBI	20%	40	10%	45	15%	43
Total		**-**	**549**	**-**	**484**	**-**	**418**

Notes:

(1) No PT demand for outbound as discussed in **Section 4.1.3**.

(2) Assuming the capacity for bus and GMB is 120 pax/bus and 19 pax/bus respectively, the remaining capacity is calculated by:

For Bus 76K (1 – Existing Occupancy) x 120 pax/bus x 60 min / average frequency x 2 bounds

For GMB 75 (1 – Existing Occupancy) x 19 pax/bus x 60 min / average frequency x 2 bounds

For GMB 44B, 44B1, 78 (1 – Existing Occupancy) x 19 pax/bus x 60 min / average frequency

4.2.3 As shown in **Table 4.1**, the remaining capacity of the existing regular PT services (excluding the busy bus route nos. B1 and 276B) would be much greater than (around 5 times) the estimated PT demand (i.e. >> 100 pax/hr) for inbound during both AM and PM peak periods. Furthermore, the total spare capacity for outbound during PM peak period is around 4 times the anticipated PT demand (i.e. 100 pax/hr). It implies that the remaining capacity of the existing PT would be able to accommodate the additional PT demand generated by the proposed development.

4.2.4 Nonetheless, in case of coach service is required to be provided within the Site, the 3 nos. of L/UL bays (as mentioned in **Section 2.4.2**) could be used to accommodate two 60-seater coaches (i.e. 120 seats in total) which shall be sufficient to serve 100 staff and students. Under this scenario, it is anticipated that the majority of staff and students would take coach instead of PT. Hence, the additional PT demand generated by the proposed development would be minimal and the utilization of PT would be very similar to the existing situation.

5 TRAFFIC IMPACT ASSESSMENT

5.1 DESIGN YEAR

5.1.1 Taking into consideration (1) the proposed development is tentatively scheduled for commission in October 2023 and would operate up to 31 October 2024; and (2) the permission from TPB would be granted for a maximum period of three years, as a conservative approach, year 2026 is adopted as the design year in this TIA for assessment purpose.

5.2 TRIP GENERATION OF THE PROPOSED DEVELOPMENT

5.2.1 As mentioned in **Section 2.4**, there is only 8 nos. of car parking spaces provided for staff within the Site. As a conservative approach, a nominal traffic generation/attraction of 10 pcu/hr is assumed for the proposed development as tabulated in **Table 5.1**.

Table 5.1 Estimated Development Traffic

Type	Trip Ends (pcu/hr) (1)			
	AM Peak		PM Peak	
	Gen.	Att.	Gen.	Att.
Car Park	0	10	10	10

Note:

(1) A nominal traffic generation of 10 pcu/hr is assumed for both traffic generation and attraction. Since the earliest class shall start at 8am tentatively and classes are likely to be finished after the AM peak, nil traffic generation is thus assumed for AM peak.

5.3 OTHER PLANNED MAJOR DEVELOPMENTS

5.3.1 Nil planned major development of which to be completed on or before 2026, is identified in close vicinity of the proposed development.

5.4 TRAFFIC FORECAST

5.4.1 In order to carry out traffic forecasts and examine traffic impact due to the proposed development in year 2026, Annual Growth Rate method is adopted to estimate the background traffic flows based on the existing traffic flows. An appropriate growth factor has been identified for the area, which would be determined from (i) the historical traffic growth and (ii) planning data in Yuen Long Area. In addition, traffic generated by the other key future developments within the vicinity and the proposed development have been added to the background traffic flows to produce year 2026 reference traffic flows (i.e. without the proposed development) and year 2026 design traffic flows (i.e. with the proposed development).

Historical Trend

5.4.2 Annual Traffic Census (ATC) published by Transport Department was referred to determine the historical traffic growth in Yuen Long area. Taking into account San Tin

area is close to the mainland boundary and the cross boundary traffic had been significantly affected by the pandemic situation, thus the Annual Average Daily Traffic (AADT) data in year 2020 and 2021 is excluded and only AADT for counting stations in the vicinity of the proposed development from year 2015 to 2019 is considered as summarized in **Table 5.2**.

Table 5.2 Average Annual Daily Traffic (AADT) Date from ATC

Station No.	Road	Traffic Generation (pcu/hr)				
		2015	2016	2017	2018	2019
5257	Castle Peak Road – Tam Mi, Mai Po & San Tin	10,510	10,940	10,770	11,980	11,910
5496	San Sham Road	27,750	28,900	28,450	29,150	26,970
5656	Fanling Highway	54,860	65,300	64,830	66,900	69,560
5861	Lok Ma Chau Road	12,050	12,920	9,820	10,060	9,990
Total		**105,170**	**118,060**	**113,870**	**118,090**	**118,430**
Annual Growth Rate from 2015 to 2019 = +3.0%						

5.4.3 Studying the AADT flows as shown in **Table 5.2**, the average traffic growth in the vicinity of the proposed development was about +3.0% per annum.

Planning Data

5.4.4 The traffic growth rate was also made reference to 2019-based Territorial Population and Employment Data Matrix (TPEDM) data which is available on Planning Department (PlanD)'s website. **Table 5.3** shows year 2019 to year 2026 population and employment planning data in Northeast New Territories (Other Area), Northwest New Territories (Other Area) and Fanling/Sheung Shui area.

Table 5.3 Planning Data of 2019-based TPEDM

Planning Data District	Year 2019		Year 2026	
	Population	Employment	Population	Employment
Northeast New Territories (Other Area)	105,400	36,050	143,050	38,300
Northwest New Territories (Other Area)	222,800	58,400	239,250	76,850
Fanling/Sheung Shui	258,300	64,100	274,100	66,650
Total	**745,050**		**838,200**	
	Annual Growth Rate = +1.7% per annum			

Adopted Annual Growth Rate

5.4.5 Taking into consideration of ATC and planning data, it is assumed to adopt an annual growth rate of +3.0% per annum for projecting the peak hour traffic flows from year 2023 to produce year 2026 reference traffic flows as presented in **Drawing No. CE47/TO9/TIA/501**.

5.4.6 In addition, the additional traffic generated to/from the proposed development have been superimposed to produce year 2026 design traffic flows as presented in **Drawing No. CE47/TO9/TIA/502**.

5.5 JUNCTION AND ROAD LINK CAPACITY ASSESSMENT

5.5.1 The operational performance of the critical junctions and road link based on year 2026 traffic forecast (both "Reference Case" and "Design Case") have been assessed. The results of the junction and road link capacity assessment are presented in **Table 5.4** and **Table 5.5** respectively. The detailed junction calculation sheets are shown in **Appendix A**.

Table 5.4 Junction Performance in Year 2026

Index	Junction	Type	Year 2026 RC / DFC			
			Reference Case		Design Case	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	San Tin Interchange	Roundabout	0.50	0.47	0.50	0.47
J2	Castle Peak Road – Chau Tau / Lok Ma Chau Road	Signalised	25%	24%	25%	24%
J3	Castle Peak Road – San Tin / San Tin Tsuen Road	Priority	0.21	0.28	0.21	0.28
J4	Castle Peak Road – San Tin / Slip Road from San Tin Interchange	Signalised	>100%	>100%	>100%	>100%
J5	Castle Peak Road – San Tin / Tung Wing On Road	Priority	0.32	0.21	0.32	0.23

Table 5.5 Road Link Performance in Year 2026

Index	Road Link	Dir. (1)	Capacity (pcu/hr)	Year 2026 Reference Case				Year 2026 Design Case			
				AM Peak		PM Peak		AM Peak		PM Peak	
				Flow (pcu/ hr)	V/C Ratio	Flow (pcu/ hr)	V/C Ratio	Flow (pcu/ hr)	V/C Ratio	Flow (pcu/ hr)	V/C Ratio
L1	Tung Wing On Road	EB	415 (2)	155	0.37	100	0.24	155	0.37	110	0.27
		WB	415 (2)	105	0.25	135	0.33	115	0.28	145	0.35

Notes:

(1) EB – northbound; WB - southbound

(2) The capacity is made reference to TPDM Volume 2, Chapter 2.4, Table 2.4.1.1. For local road, the design flow of a 2-lane single carriageway is 800 veh/hr. With consideration of high heavy vehicle content as observed from survey, 10% reduction in design flow per carriageway is adopted. A pcu factor of 1.15 based on survey is used to convert veh/hr to pcu/hr, therefore the design flow is calculated as 800 veh/hr x (1-10%) x 1.15 = approx. 830 pcu/hr for 2-way traffic, and thus 415 pcu/hr for each bound).

5.5.2 As shown in **Table 5.4** and **5.5**, all the critical junctions and road link would operate within capacity under both reference and design cases in year 2026. Therefore, the traffic impact caused by the proposed development to the above junctions and road link is considered acceptable from traffic point of view.

6 SUMMARY AND CONCLUSION

6.1 SUMMARY

6.1.1 This TIA Report is to ascertain the potential traffic impact by the proposed development on the transport infrastructure and facilities provision.

6.1.2 The proposed development is located at the existing San Tin CIF which is bounded by Castle Peak Road – San Tin to the east, Tung Wing On Road to the south and San Tin Tsuen Road to the west and north. The anticipated commencement date is envisaged to be October 2023 tentatively and the Site is intended to operate up to 31 October 2024.

6.1.3 Under the existing traffic arrangement, there is vehicular and pedestrian access available at San Tin Tsuen Road and Tung Wing On Road. For the operational need of the proposed development, the access at Tung Wing On Road would be maintained for both vehicles and pedestrians while that at San Tin Tsuen Road would be open to pedestrians only to facilitate staff/students to/from the nearby bus stops/ PTI.

6.1.4 It is proposed to convert the existing internal road from two-way into one-way gyratory system in clockwise direction in order to minimise vehicular conflicting movements.

6.1.5 Currently, there is no standard parking/servicing facilities requirement for training facilities. To serve the operational need, a total of 8 nos. of car park spaces (i.e. 5m x 2.5m) would be provided for staff within the proposed development. As refuse storage and collection is required for the operation of the proposed development, 3 nos. of the existing L/UL bays of 11m HGV would be reserved for the use of RCV and refuse collection.

6.1.6 5 critical junctions and 1 road link were identified in the vicinity of the proposed development for assessment in this TIA. Junction and road link capacity analysis were carried out for the critical junctions and road link to appraise the existing traffic condition based on 2023 observed peak hour traffic flows. At present, all critical junctions and road link are operating within capacity.

6.1.7 There would be around 100 staff and students having regular training classes at the Site at the same time. With limited parking spaces provided within the Site and no coach service would be provided to serve the staff and students to/from the proposed development, it is assumed that all staff and students would rely on the PT as a conservative approach. Taking into account the early class would start at 08:00 and the last class would end at 22:00 tentatively, the arrival of staff/students would not overlap with the dismissal of staff/student during AM peak period while it would happen during PM peak period. As a worst-case scenario, the following PT demand is assumed for assessment purpose:

- AM Peak – 100 pax/hr (Inbound) and nil pax/hr (Outbound)
- PM Peak – 100 pax/hr (Inbound) and 100 pax/hr (Outbound)

6.1.8 Based on site observation, the existing franchised bus service of route nos. B1 and 276B are heavily utilized, the occupancy rate of some buses could reach 80% to 100% during

peak hours. Excluding the above bus routes, the spare capacity of the existing regular PT services (including franchised bus route no. 76K and GMB route no. 44B, 44B1, 75, 78) which is close to the Site, would be able to accommodate the additional PT demand generated by the proposed development. Nonetheless, in case of coach service is required to be provided within the Site to serve the staff and students to/from the proposed development, the 3 nos. of L/UL bays (as mentioned in **Section 2.4.2**) could be used to accommodate 2 nos. of 60-seater coaches (i.e. 120 seats in total) which shall be sufficient to serve 100 staff and students. Under this scenario, it is anticipated that the majority of staff and students would take coach instead of PT. Hence, the additional PT demand generated by the proposed development would be minimal and the utilization of PT would be very similar to the existing situation.

6.1.9 Taking into consideration (1) the proposed development is tentatively scheduled for commission in October 2023 and would operate up to 31 October 2024; and (2) the permission from TPB would be granted for a maximum period of three years, as a conservative approach, year 2026 is adopted as the design year in this TIA for assessment purpose.

6.1.10 In order to carry out traffic forecasts and examine traffic impact due to the proposed development in year 2026, Annual Growth Rate method is applied to estimate year 2026 traffic forecast from year 2023 observed traffic flows. Taking into consideration of both ATC and planning data, it is assumed to adopt an annual growth rate of +3.0% per annum for projecting the peak hour traffic flows from year 2023 to year 2026.

6.1.11 Year 2026 reference traffic flows were derived based on the observed traffic demands and circulation pattern by adopting an appropriate growth rate.

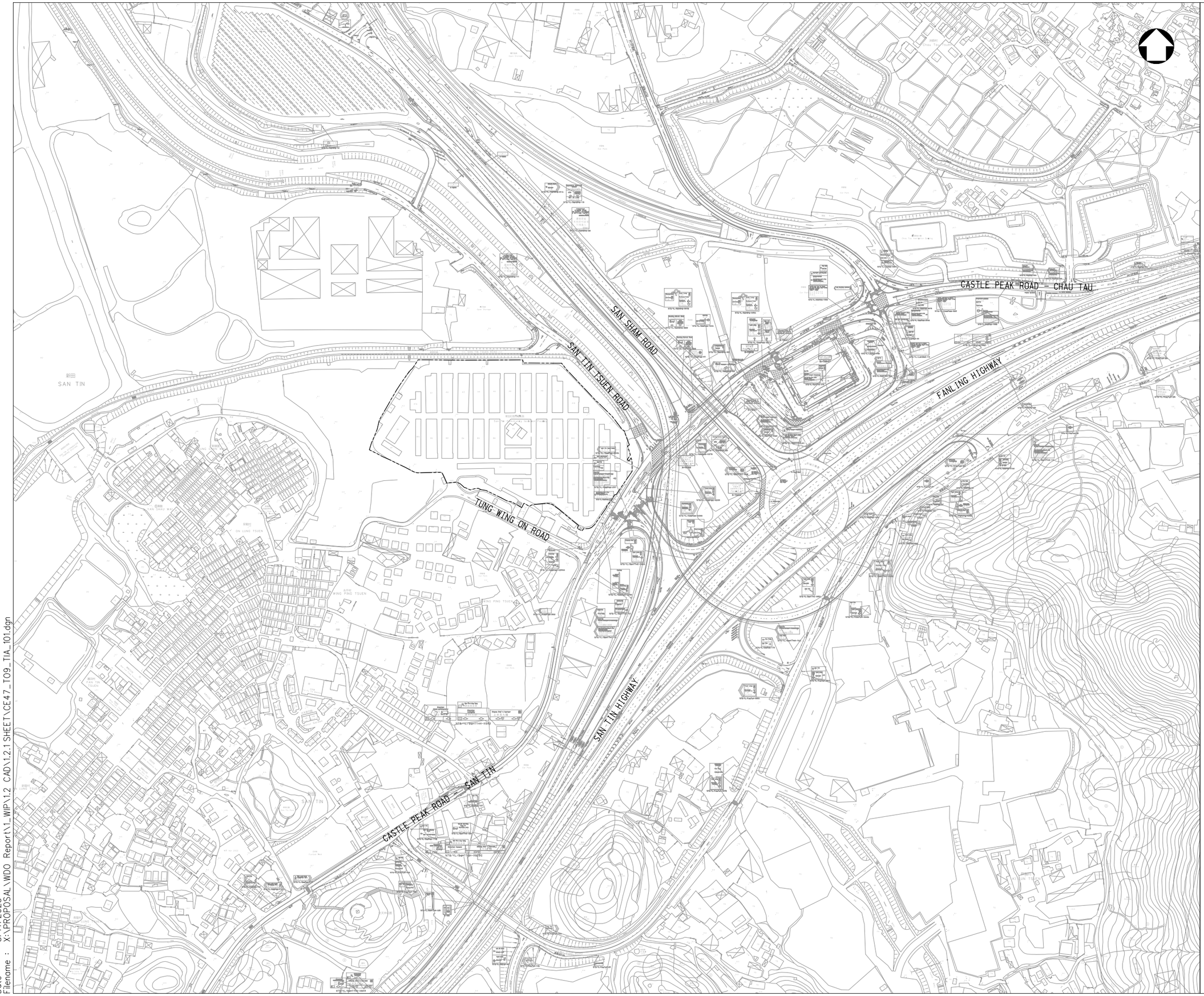
6.1.12 The estimated development traffic trips have been superimposed onto the anticipated year 2026 reference traffic flows to produce the anticipated year 2026 peak hour traffic flows for design case.

6.1.13 Junction and road link capacity assessment was conducted for both year 2026 reference and design cases. The results indicated that the critical junctions and road link would operate within capacity in year 2026 with the proposed development.

6.2 CONCLUSION

6.2.1 All the identified critical junctions and road link would operate within capacity under 2026 design case (i.e. with the proposed development) during AM and PM peak periods, the proposed development would not induce adverse traffic impacts on the surrounding road network. Therefore, it can be concluded that the proposed development is acceptable from the traffic engineering point of view.

Drawings



LEGEND :

SITE BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 – SAN TIN SITE LOCATION PLAN

Drawing no.			Rev.
CE47/T09/TIA/101			–
Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY
Scale		Status	
1:2000 (A1)		–	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

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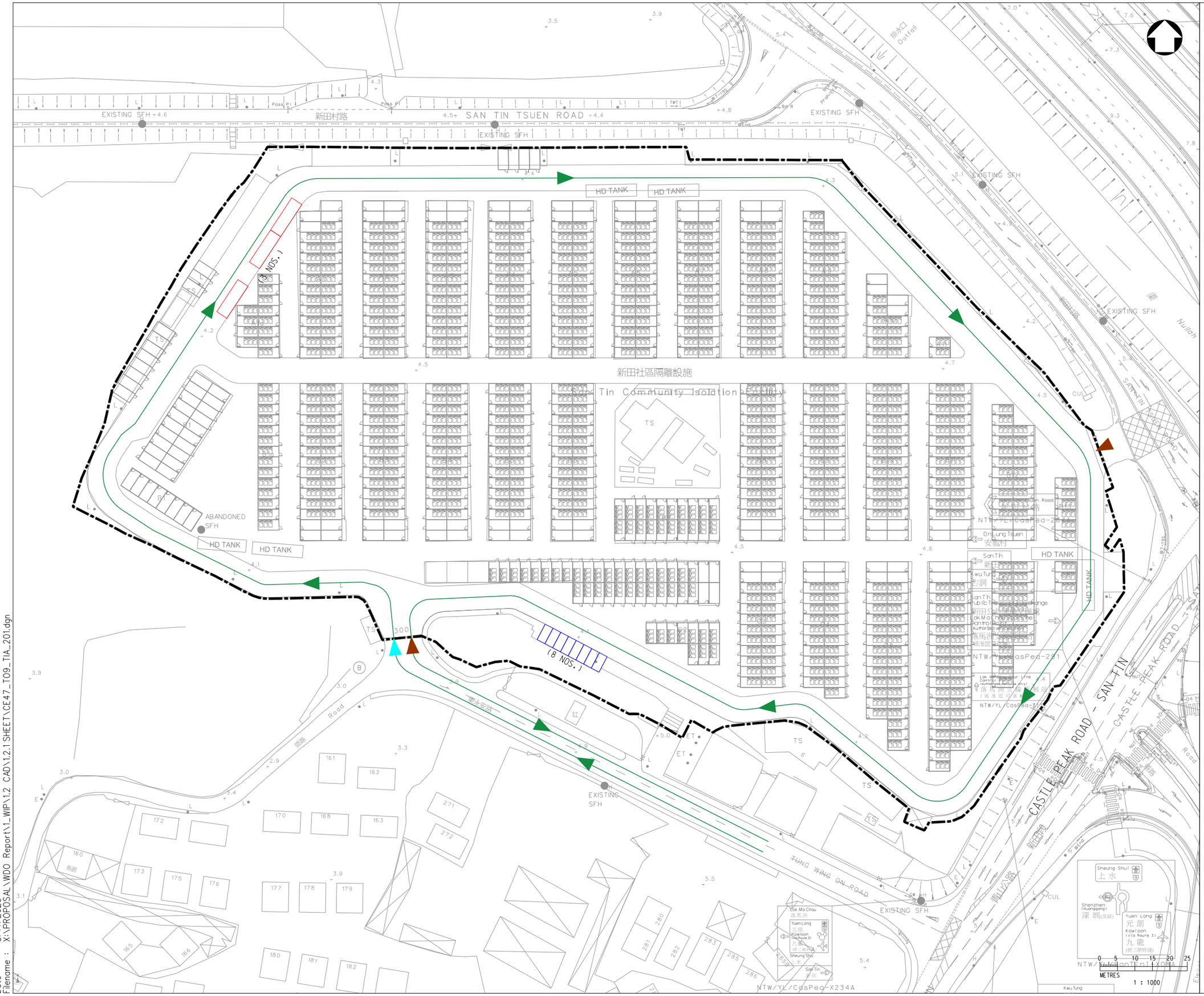

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9
SAN TIN
INDICATIVE MASTER LAYOUT PLAN

Drawing no.	Rev.
CE47/T09/TIA/201	–

Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY

Scale 1:1000 (A3) Status –

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 8/14/2023
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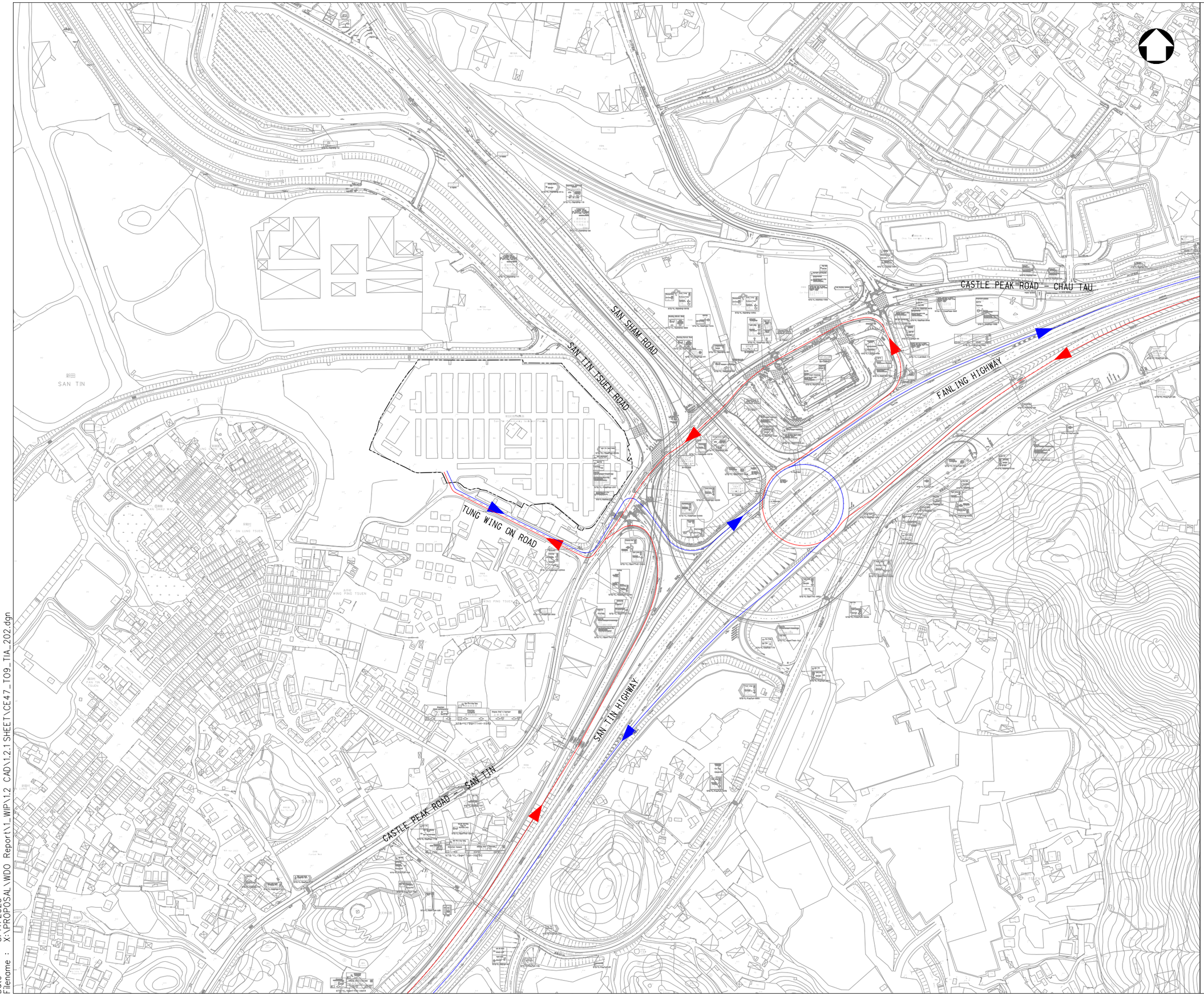

LEGEND :

- SITE BOUNDARY
- INGRESS ROUTES
- EGRESS ROUTES

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 – SAN TIN INGRESS AND EGRESS ROUTINGS FOR DEVELOPMENT TRAFFIC

Drawing no.			Rev.
CE47/T09/TIA/202			–
Drawn: CAD	Date: MAY 2023	Checked: VS	Approved: YWY
Scale: 1:2000 (A1)		Status: –	

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

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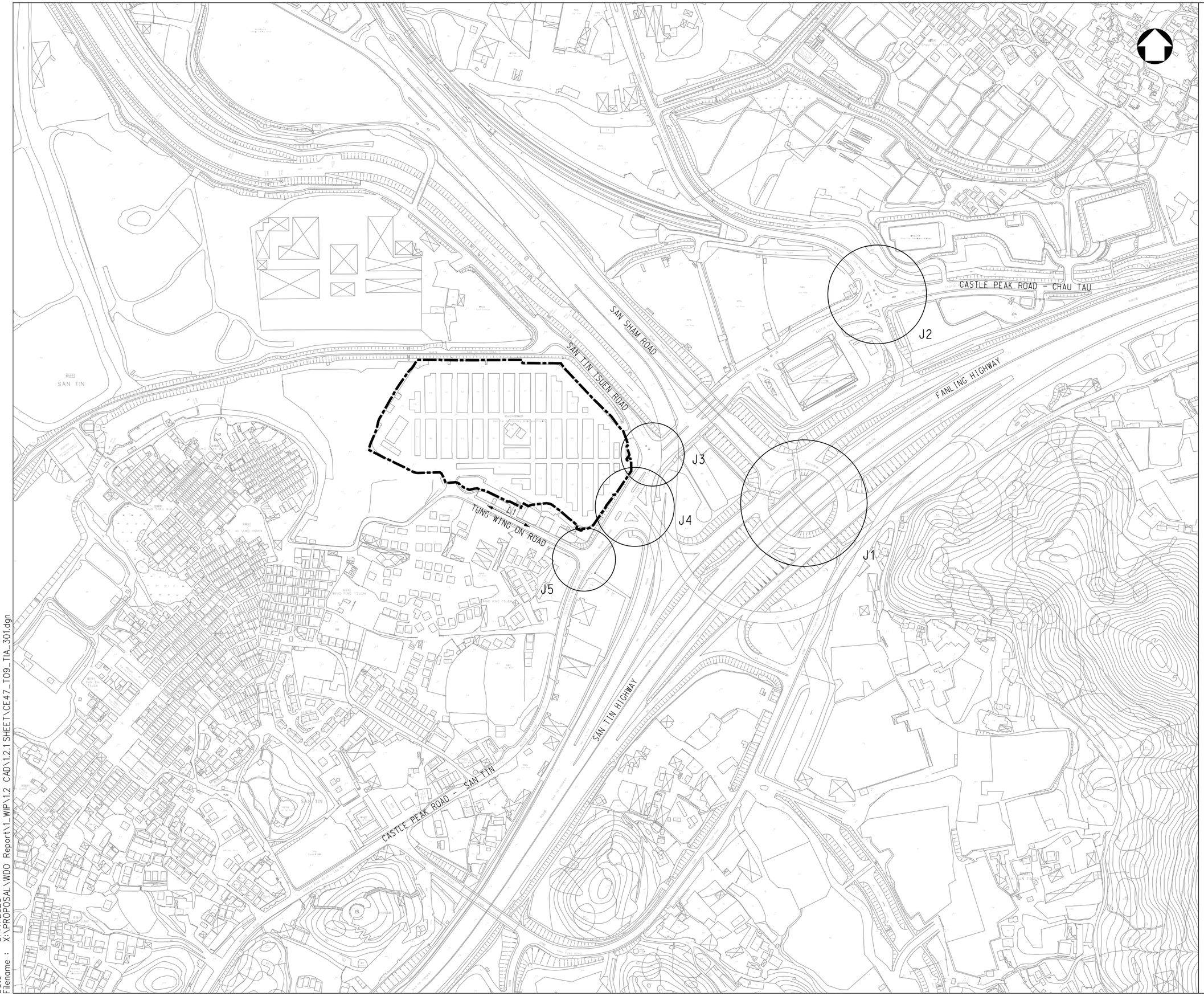

LEGEND :

- SITE BOUNDARY
- J1 KEY JUNCTIONS
- L1 KEY ROAD LINKS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN CRITICAL JUNCTIONS AND ROAD LINK

Drawing no.			Rev.
CE47/T09/TIA/301			-
Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY
Scale		Status	
1:2000 (A1)		-	

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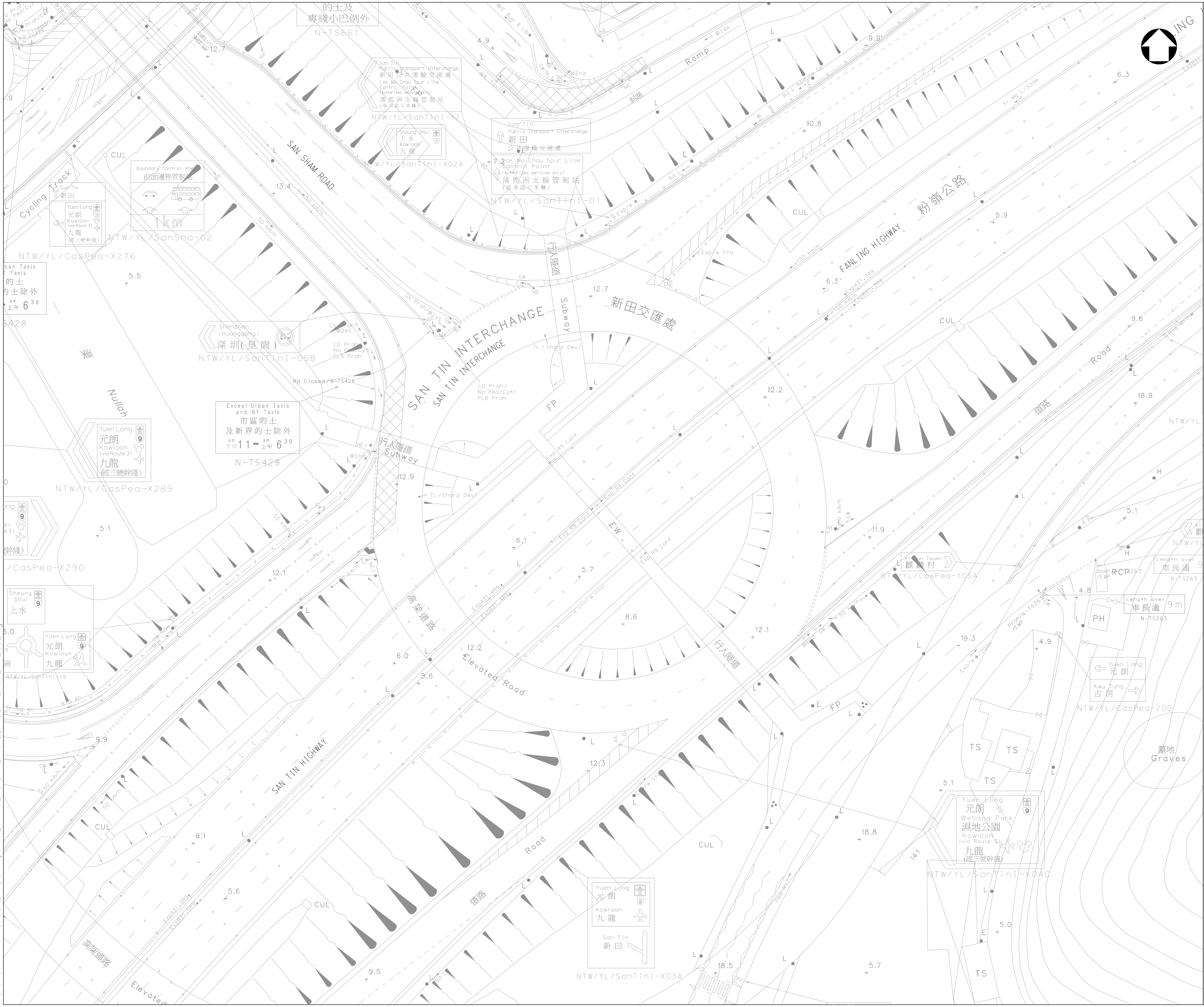
Date : 7/27/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_TIA_302.dgn



Rev	Description	By	Date

Consultant
wsp

Project title
AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title
TASK ORDER NO. 9
SAN TIN
EXISTING JUNCTION LAYOUT OF SAN TIN INTERCHANGE (J1)

Drawing no.			Rev.
CE47/T09/TIA/302			-
Drawn: CAD	Date: MAY 2023	Checked: VS	Approved: YWY
Scale: 1:400 (A1)		Status: -	

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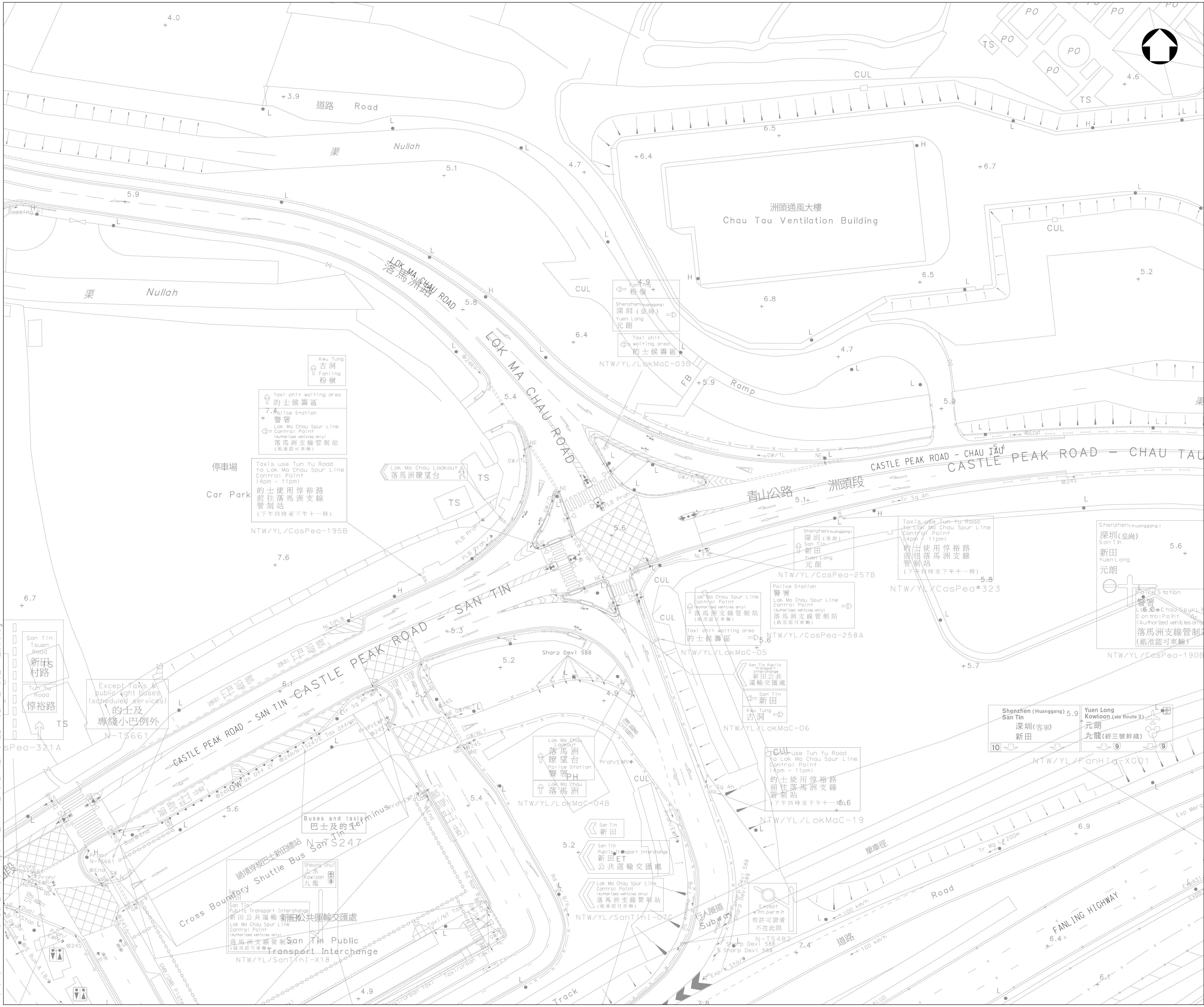
西拓展處
WEST DEVELOPMENT OFFICE



Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING JUNCTION LAYOUT OF CASTLE PEAK ROAD - CHAU TAU/ LOK MA CHAU ROAD (J2)

Drawing no.	Rev.
CE47/T09/TIA/303	-

Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY

Scale	Status
1:400 (A1)	-

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

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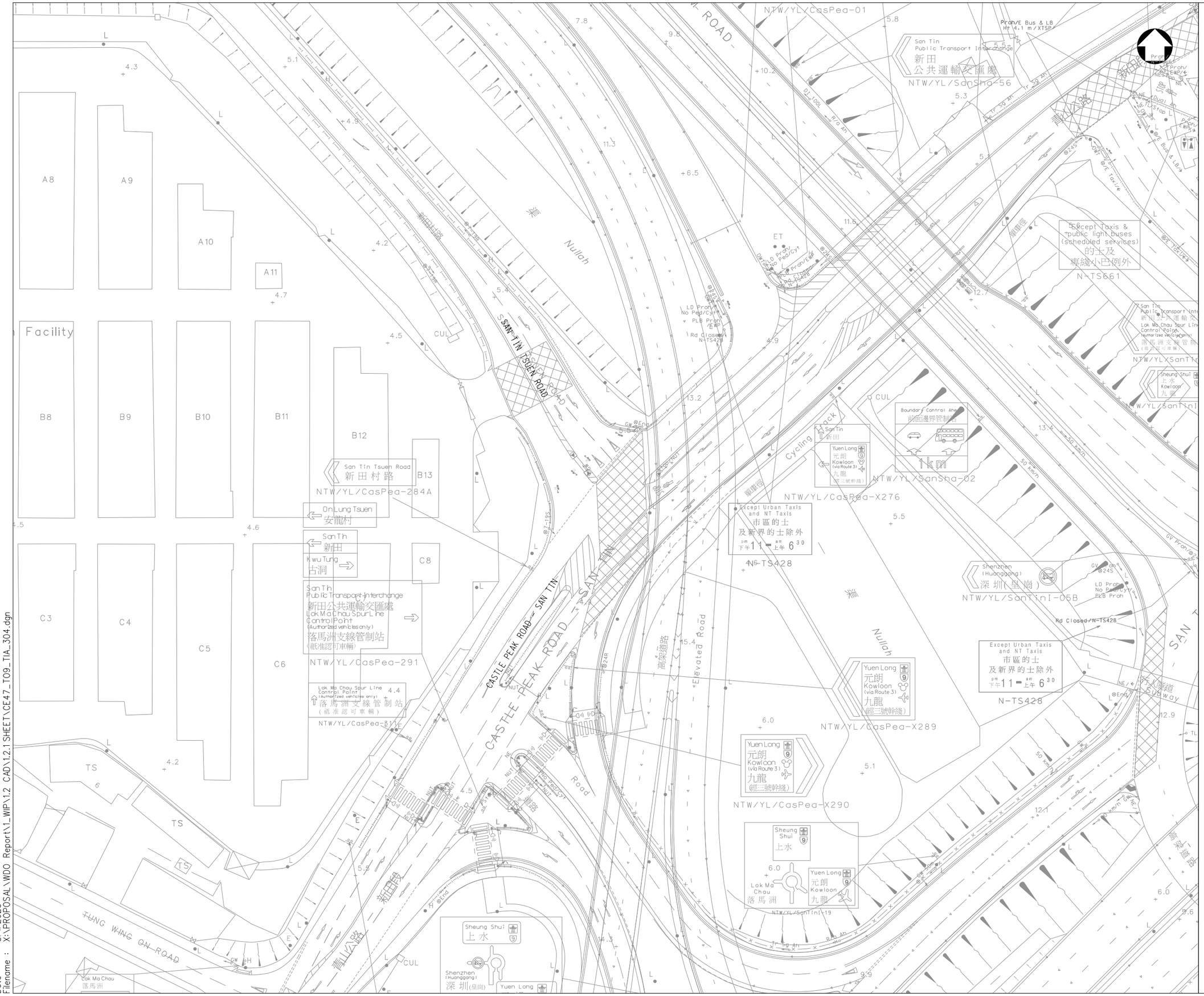

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Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING JUNCTION LAYOUT OF CASTLE PEAK ROAD - SAN TIN/ SAN TIN TSUEN ROAD (J3)

Drawing no.			Rev.
CE47/T09/TIA/304			-
Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY
Scale		Status	
1:400 (A1)		-	

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西拓展處
WEST DEVELOPMENT OFFICE

離設施

nity Isolation Facility

SAN TIN TSUEN ROAD

CASTLE PEAK ROAD – SAN TIN

SAN TIN HIGHWAY

TUNG WING GAN ROAD

Elevated Road

Nullah

Cycling Track

San Tin Tsuen Road 新田村路

NTW/YL/CasPea-284A

On Lung Tsuen 安龍村

San Tin 新田

Kwu Tung 古洞

San Tin Public Transport Interchange 新田公共運輸交匯處

Lok Ma Chau Spur Line Control Point (Authorized vehicles only) 落馬洲支線管制站 (獲准認可車輛)

NTW/YL/CasPea-291

Lok Ma Chau Spur Line Control Point (Authorized vehicles only) 落馬洲支線管制站 (獲准認可車輛)

NTW/YL/CasPea-811E

NTW/YL/CasPea-X276

Except Urban Taxis and NT Taxis 市區的士及新界的士除外 pm 下午 11 – am 上午 6 30

N-TS428

Boundary Control Ahead 前面邊界管制站

1km

NTW/YL/SanSha-02

Shenzhen (Huanggang) 深圳(皇崗)

NTW/YL/SanTinI-05B

Yuen Long 元朗 Kowloon (via Route 3) 九龍 (經三號幹線)

NTW/YL/CasPea-X289

NTW/YL/CasPea-X290

Sheung Shui 上水

Lok Ma Chau 落馬洲

NTW/YL/SanTinI-19

NTW/YL/SanTinI-X08A

NTW/YL/CasPea-X280

NTW/YL/CasPea-X234A

TaiFu Tai 大夫第

San Tin

Rd Closed/N-TS428

N-TS6

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 – SAN TIN EXISTING JUNCTION LAYOUT OF CASTLE PEAK ROAD – SAN TIN/ SLIP ROAD FROM SAN TIN INTERCHANGE (J4)

Drawing no.	Rev.
CE47/TO9/TIA/305	–

Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY

Scale 1:400 (A1) Status –

土木工程拓展署
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西拓展處
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C1 C2 C3 C4 C5 C6 C7 C8

San Tin
新田
Kwu Tung
古洞
San Tin
Public Transport Interchange
新田公共運輸交匯處
Lok Ma Chau Spur Line
Control Point
(Authorized vehicles only)
落馬洲支線管制站
(祇准認可車輛)
NTW/YL/CasPea-291

Lok Ma Chau Spur Line
Control Point
(Authorized vehicles only)
落馬洲支線管制站
(祇准認可車輛)
NTW/YL/CasPea-811E

CASTLE PEAK ROAD – SAN TIN
Elevated Road
高架道路
NTW-TS428
下午 pm 1 1 – 上午 am 6 30
及新界的士除外

Yuen Long
元朗
Kowloon
(via Route 3)
九龍
(經三號幹線)
NTW/YL/CasPea-X290

Sheung Shui
上水
Lok Ma Chau
落馬洲
Yuen Long
元朗
Kowloon
九龍
NTW/YL/SanTin1-19

Sheung Shui
上水
Shenzhen
(Huanggang)
深圳(皇崗)
Yuen Long
元朗
Kowloon
(via Route 3)
九龍
(經三號幹線)
NTW/YL/SanTin1-X08A

Kwu Tung
古洞
Shenzhen
(Huanggang)
深圳(皇崗)
San Tin
Tsuen Rd
新田
村路
Yuen Long
元朗
Kowloon
(via Route 3)
九龍
(經三號幹線)
NTW/YL/CasPea-X280

Tai Fu Tai
大夫第
San Tin
新田
On Lung Tsuen
安龍村
NTW/YL/SanTin1-13

San Tin
新田
Kwu Tung
古洞

San Tin
Public Transport Interchange
新田
公共運輸交匯處

Lok Ma Chau Spur Line
Control Point
(Authorized vehicles only)
落馬洲支線管制站
(祇准認可車輛)
NTW/YL/SanTin1-15

On Lung Tsuen
安龍村
NTW/YL/CasPea-282

Lok Ma Chau
落馬洲
Yuen Long
元朗
Kowloon
(via Route 3)
九龍
(經三號幹線)
Sheung Shui
上水
San Tin
新田
NTW/YL/CasPea-X234A

TUNG WING ON ROAD
東永安路
WING PING TSUEN
停車場
Car Park
缸
ET
TS
CUL
Cycling Track
SAN TIN HIGHWAY
新田公路
Elevated Road
高架道路

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 – SAN TIN EXISTING JUNCTION LAYOUT OF CASTLE PEAK ROAD – SAN TIN/ TUNG WING ON ROAD (J5)

Drawing no.	Rev.
CE47/T09/TIA/306	–

Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY

Scale 1:400 (A1)
Status –

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

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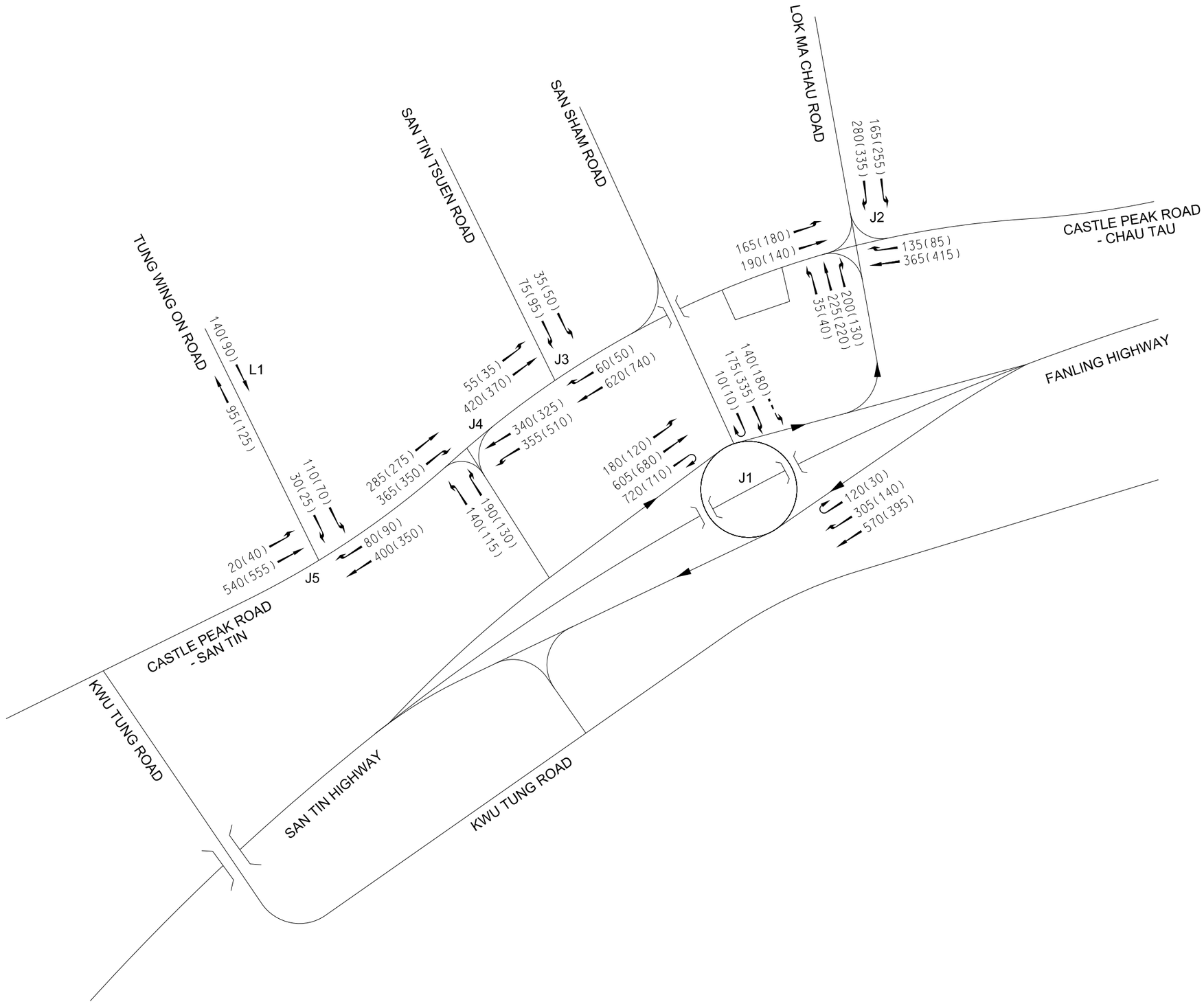

LEGEND :

1000(1000) AM(PM) TRAFFIC FLOW (pcu/HR)

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN 2023 OBSERVED TRAFFIC FLOWS

Drawing no.	Rev.
CE47/T09/TIA/307	-

Drawn	Date	Checked	Approved
CAD	JUN 2023	YS	YWY

Scale	Status
1:2000 (A3)	-

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 7/27/2023
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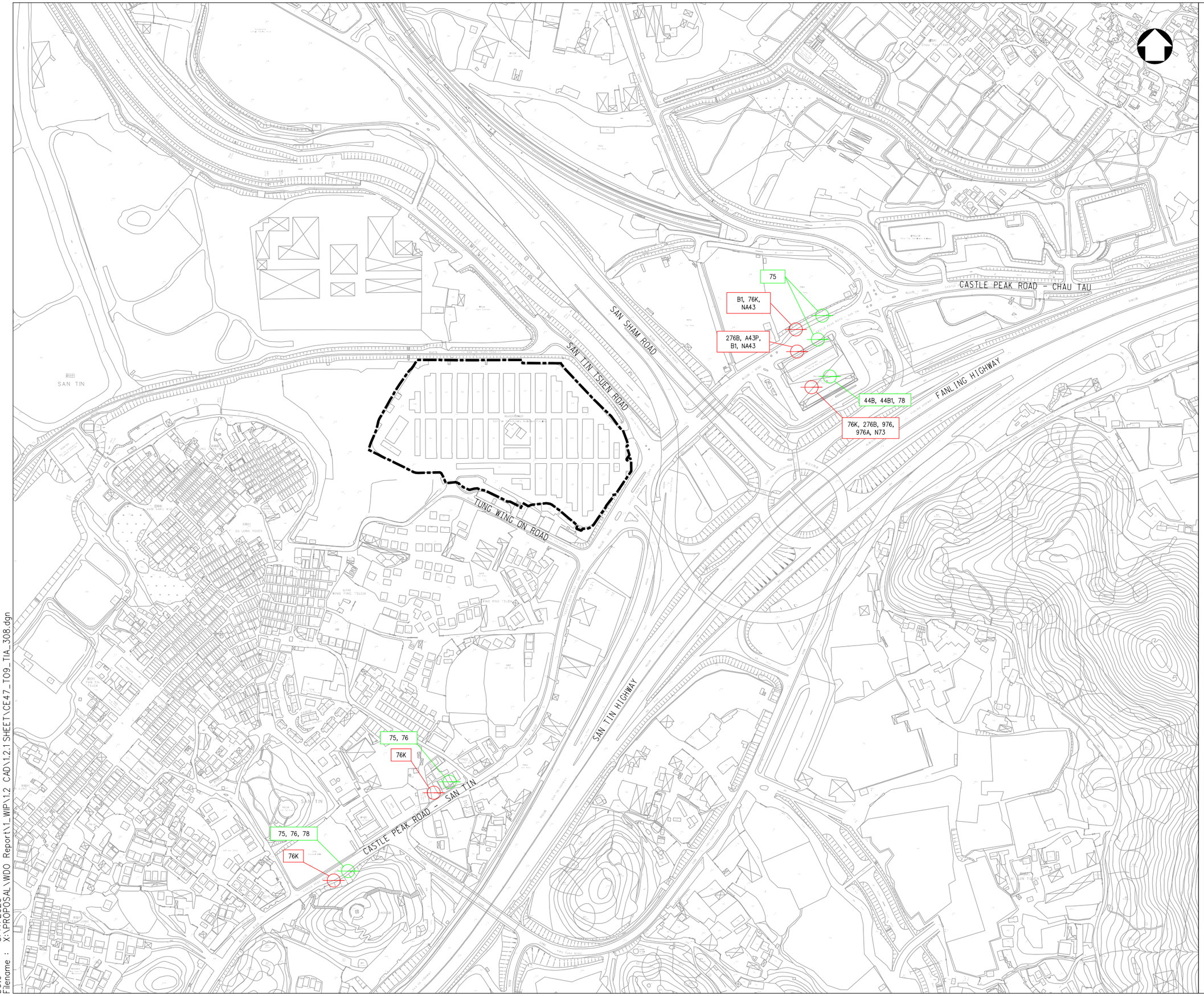

LEGEND :

- SITE BOUNDARY
- BUS STOP
- GMB STOP

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING PUBLIC TRANSPORT SERVICES

Drawing no.	Rev.
CE47/T09/TIA/308	-

Drawn	Date	Checked	Approved
CAD	MAY 2023	VS	YWY

Scale	Status
1:2000 (A1)	-

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

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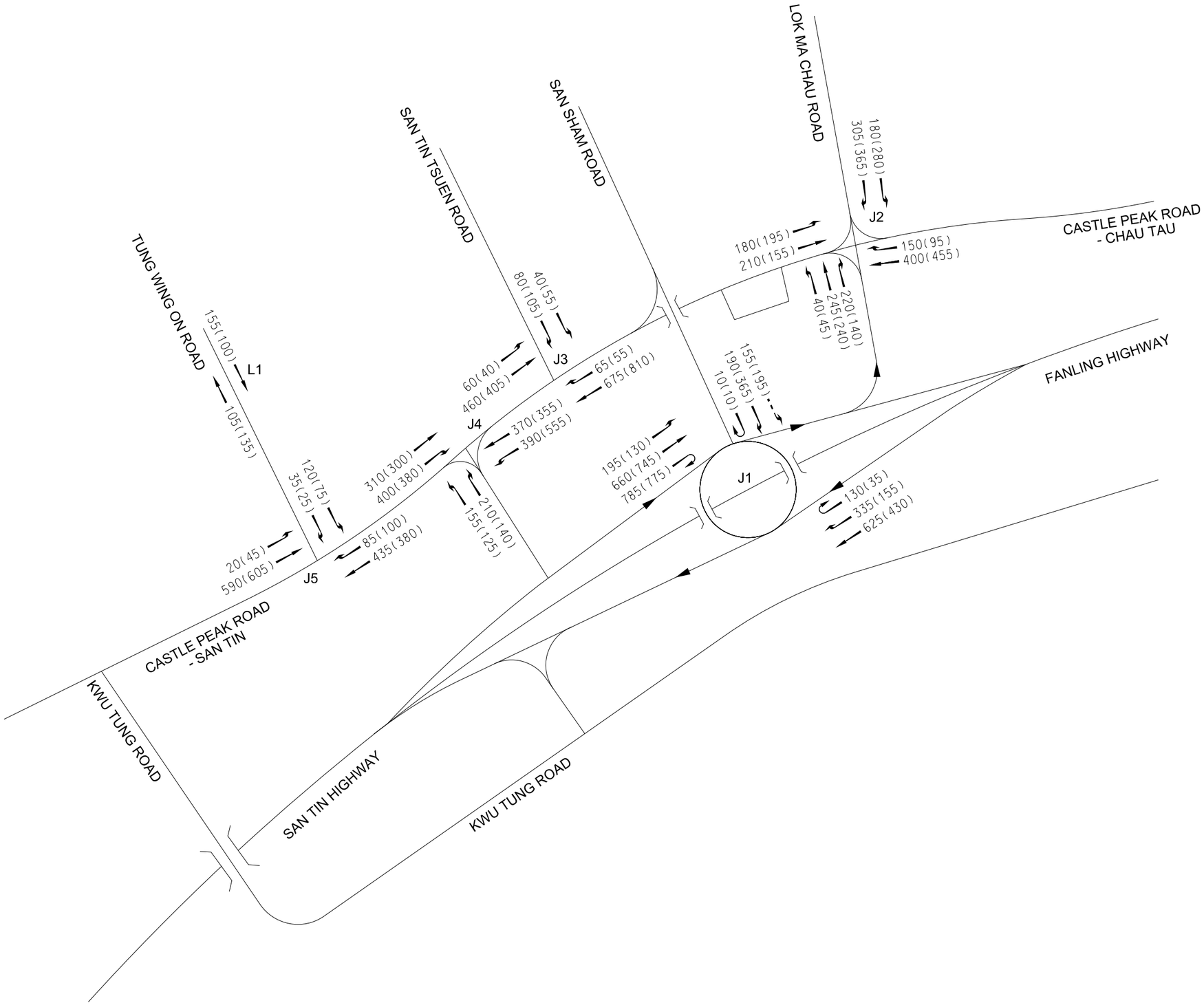

LEGEND :

1000(1000) AM(PM) TRAFFIC FLOW (pcu/HR)

0 10 20 30 40 50
METRES
1 : 2000

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN 2026 REFERENCE TRAFFIC FLOWS

Drawing no.	Rev.
CE47/T09/TIA/501	-

Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY

Scale	Status
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土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 7/27/2023
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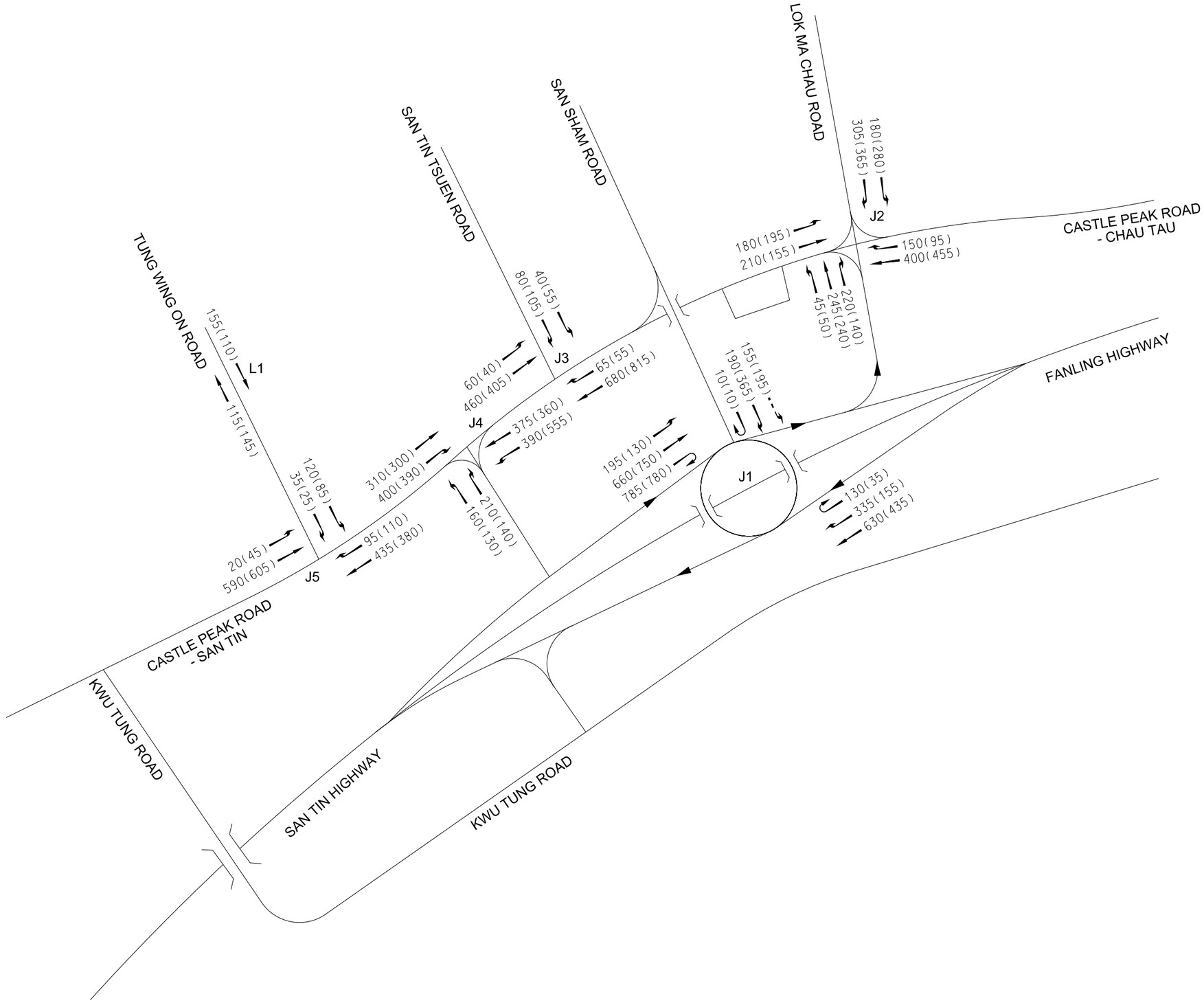


LEGEND :

1000(1000) AM(PM) TRAFFIC FLOW (pcu/HR)

0 10 20 30 40 50
METRES
1 : 2000

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN 2026 DESIGN TRAFFIC FLOWS

Drawing no.	Rev.
CE47/T09/TIA/502	-

Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY

Scale	Status
1:2000 (A3)	-

CEDD 土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 7/27/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_TIA_502.dgn

APPENDIX A

Junction Calculation Sheet

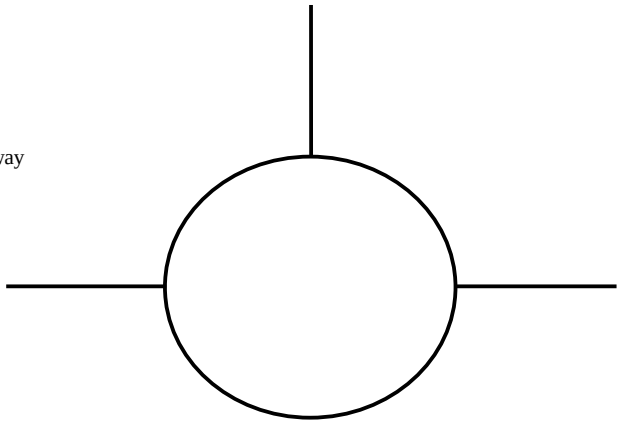
Roundabout Junction Capacity Calculation

Junction : San Tin Interchange Junction No. : J01

Scenario : Observe Design Year : 2023

Arm A San Sham Road

Arm C San Tin Highway



Arm B Fanling Highway

Geometry							
	v	**e**	**L**	**r**	**D**	**Phi**	**S**
Arm A	7.8	11.1	32.0	38.2	100	30	0.17
Arm B	7.1	10.4	16.1	100.0	100	28	0.33
Arm C	11.4	10.4	1.0	30.7	100	30	-1.60

Flow				
	Circ(AM)	**Entry(AM)**	**Circ(PM)**	**Entry(PM)**
Arm A	1445	185	1420	345
Arm B	905	995	1055	565
Arm C	435	1505	180	1510

Calculation				
	K	**X_2**	**M**	**F**
Arm A	1.02	10.28	54.60	3115
Arm B	1.05	9.09	54.60	2755
Arm C	1.02	11.85	54.60	3592

	tD	**fc**	**QE(AM)**	**QE(PM)**
Arm A	1.01	0.65	2230	2247
Arm B	1.01	0.60	2317	2223
Arm C	1.01	0.71	3337	3522

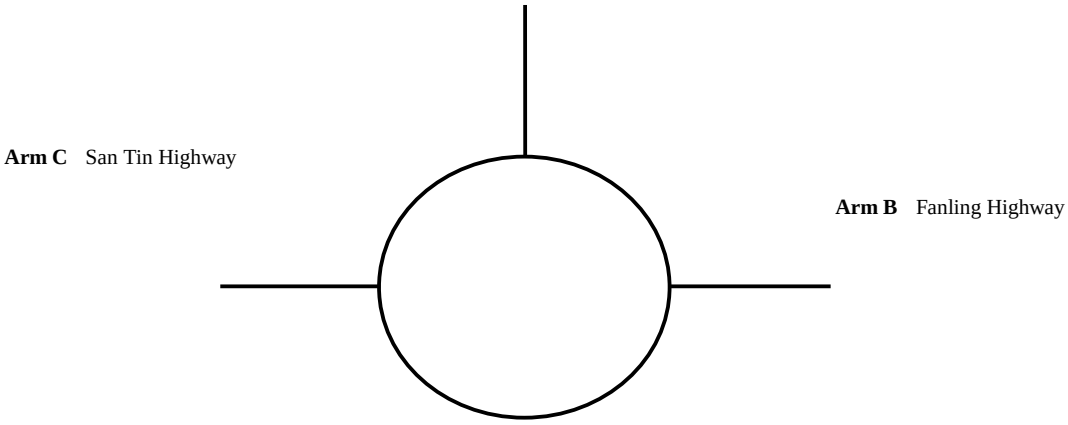
DFC		
	AM	**PM**
Arm A	0.08	0.15
Arm B	0.43	0.25
Arm C	0.45	0.43
Crtical:	**Arm C**	**Arm C**
DFC:	**0.45**	**0.43**

Roundabout Junction Capacity Calculation

Junction : San Tin Interchange Junction No. : J01

Scenario : Reference Design Year : 2026

Arm A San Sham Road



Geometry							
	v	e	L	r	D	Phi	S
Arm A	7.8	11.1	32.0	38.2	100	30	0.17
Arm B	7.1	10.4	16.1	100.0	100	28	0.33
Arm C	11.4	10.4	1.0	30.7	100	30	-1.60

Flow				
	Circ(AM)	Entry(AM)	Circ(PM)	Entry(PM)
Arm A	1575	200	1555	375
Arm B	985	1090	1150	620
Arm C	475	1640	200	1650

Calculation				
	K	X_2	M	F
Arm A	1.02	10.28	54.60	3115
Arm B	1.05	9.09	54.60	2755
Arm C	1.02	11.85	54.60	3592

	tD	fc	QE(AM)	QE(PM)
Arm A	1.01	0.65	2144	2157
Arm B	1.01	0.60	2267	2164
Arm C	1.01	0.71	3308	3508

DFC		
	AM	PM
Arm A	0.09	0.17
Arm B	0.48	0.29
Arm C	0.50	0.47
Crtical:	**Arm C**	**Arm C**
DFC:	**0.50**	**0.47**

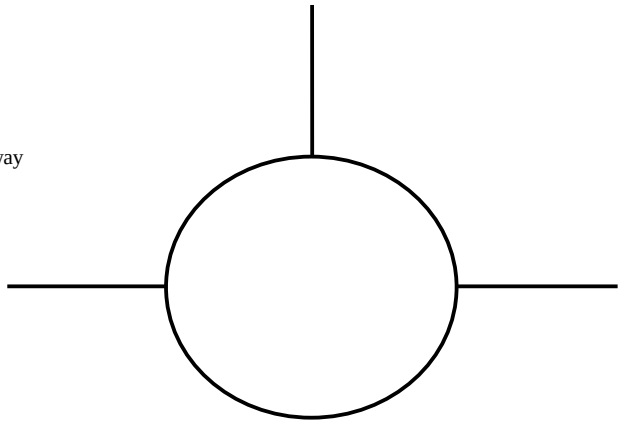
Roundabout Junction Capacity Calculation

Junction : San Tin Interchange Junction No. : J01

Scenario : Design Design Year : 2026

Arm A San Sham Road

Arm C San Tin Highway



Arm B Fanling Highway

Geometry							
	v	**e**	**L**	**r**	**D**	**Phi**	**S**
Arm A	7.8	11.1	32.0	38.2	100	30	0.17
Arm B	7.1	10.4	16.1	100.0	100	28	0.33
Arm C	11.4	10.4	1.0	30.7	100	30	-1.60

Flow				
	Circ(AM)	**Entry(AM)**	**Circ(PM)**	**Entry(PM)**
Arm A	1575	200	1565	375
Arm B	985	1095	1155	625
Arm C	475	1640	200	1660

Calculation				
	K	**X_2**	**M**	**F**
Arm A	1.02	10.28	54.60	3115
Arm B	1.05	9.09	54.60	2755
Arm C	1.02	11.85	54.60	3592

	tD	**fc**	**QE(AM)**	**QE(PM)**
Arm A	1.01	0.65	2144	2151
Arm B	1.01	0.60	2267	2160
Arm C	1.01	0.71	3308	3508

DFC

	AM	**PM**
Arm A	0.09	0.17
Arm B	0.48	0.29
Arm C	0.50	0.47
Crtical:	**Arm C**	**Arm C**
DFC:	**0.50**	**0.47**

TRAFFIC SIGNALS CALCULATION SHEET

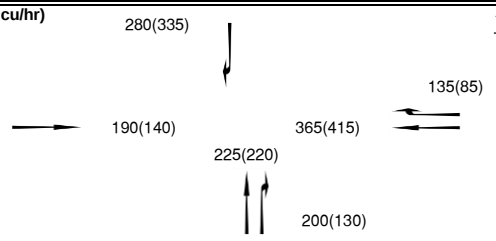
Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Road Junction No.: J02

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Lok Ma Chau Rd SB																
↲	E	4	4.5		17				1900	1900	280	0.15	0.15	335	0.18	0.18
Castle Peak Road Chau Tau EB																
→	A	1	3.9						2005	2005	190	0.09	0.09	140	0.07	
Lok Ma Chau Road NB																
↱	D	3	4.4		17		47%	37%	1975	1990	425	0.22	0.22	350	0.18	0.18
Castle Peak Road Chau Tau WB																
←	B	1,2	3.2						1935	1935	365	0.19		415	0.21	0.21
↰	C	2	3.7		22				1990	1990	135	0.07	0.07	85	0.04	
Pedestrian Crossing																
	Fp	1,2,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Gp	1	MIN GREEN + FLASH =			7	+	6	=	13						
	Hp	3	MIN GREEN + FLASH =			7	+	5	=	12						

NOTES:

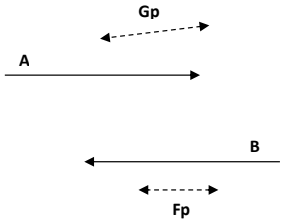
Flow: (pcu/hr)



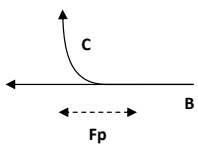
Group		A,C,D,E	Group		B,D,E
Sum of Critical *y* ***Y***		0.53	Sum of Critical *y*		0.57
Lost Time ***L*** (sec)		19	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		96	Cycle Time ***c*** (sec)		102
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.77
Reserve Capacity ***RC***		37%	Reserve Capacity ***RC***		35%

Stage / Phase Diagrams

1.



2.



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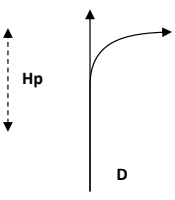

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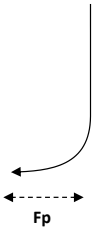


5.

I/G=		I/G= 5	8	I/G= 5	5	I/G=		I/G=	
I/G=		I/G=	8	I/G= 5	5	I/G=		I/G=	

Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Ro

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

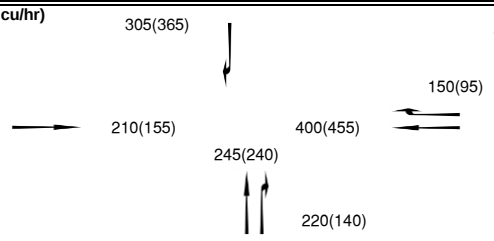
Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Road Junction No.: J02

Scenario: Reference Design Year: 2026

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Lok Ma Chau Rd SB																
↲	E	4	4.5		17				1900	1900	305	0.16	0.16	365	0.19	0.19
Castle Peak Road Chau Tau EB																
→	A	1	3.9						2005	2005	210	0.10	0.10	155	0.08	
Lok Ma Chau Road NB																
↱	D	3	4.4		17		47%	37%	1975	1990	465	0.24	0.24	380	0.19	0.19
Castle Peak Road Chau Tau WB																
←	B	1,2	3.2						1935	1935	400	0.21		455	0.24	0.24
↰	C	2	3.7		22				1990	1990	150	0.08	0.08	95	0.05	
Pedestrian Crossing																
	Fp	1,2,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Gp	1	MIN GREEN + FLASH =			7	+	6	=	13						
	Hp	3	MIN GREEN + FLASH =			7	+	5	=	12						

NOTES:

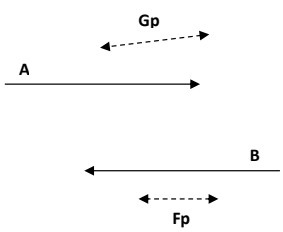
Flow: (pcu/hr)



Group		A,C,D,E	Group		B,D,E
Sum of Critical *y* ***Y***		0.58	Sum of Critical *y*		0.62
Lost Time ***L*** (sec)		19	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		96	Cycle Time ***c*** (sec)		102
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.77
Reserve Capacity ***RC***		25%	Reserve Capacity ***RC***		24%

Stage / Phase Diagrams

1.



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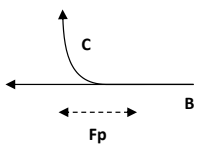

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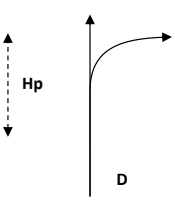

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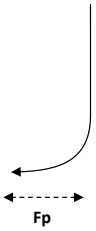


5.

I/G=		I/G= 5	8	I/G= 5	5	I/G=		I/G=	
I/G=		I/G=	8	I/G= 5	5	I/G=		I/G=	

Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Ro

Junction No.: J02

TRAFFIC SIGNALS CALCULATION SHEET

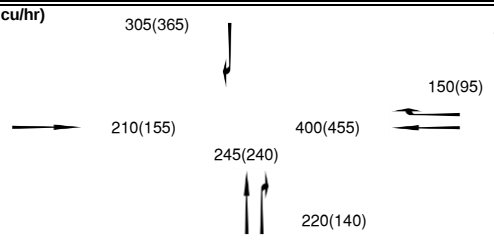
Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Road Junction No.: J02

Scenario: Design Design Year: 2026

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Lok Ma Chau Rd SB																
↲	E	4	4.5		17				1900	1900	305	0.16	0.16	365	0.19	0.19
Castle Peak Road Chau Tau EB																
→	A	1	3.9						2005	2005	210	0.10	0.10	155	0.08	
Lok Ma Chau Road NB																
↱	D	3	4.4		17		47%	37%	1975	1990	465	0.24	0.24	380	0.19	0.19
Castle Peak Road Chau Tau WB																
←	B	1,2	3.2						1935	1935	400	0.21		455	0.24	0.24
↰	C	2	3.7		22				1990	1990	150	0.08	0.08	95	0.05	
Pedestrian Crossing																
	Fp	1,2,4	MIN GREEN + FLASH =			5	+	5	=	10						
	Gp	1	MIN GREEN + FLASH =			7	+	6	=	13						
	Hp	3	MIN GREEN + FLASH =			7	+	5	=	12						

NOTES:

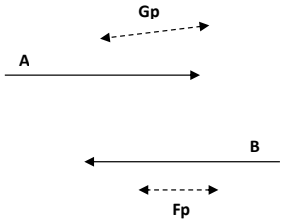
Flow: (pcu/hr)



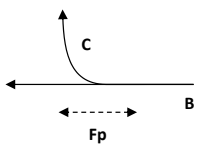
Group		A,C,D,E	Group		B,D,E
Sum of Critical *y* ***Y***		0.58	Sum of Critical *y*		0.62
Lost Time ***L*** (sec)		19	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		96	Cycle Time ***c*** (sec)		102
Practical *Y* ***Ypr***		0.72	Practical *Y* ***Ypr***		0.77
Reserve Capacity ***RC***		25%	Reserve Capacity ***RC***		24%

Stage / Phase Diagrams

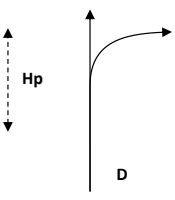
1.



2.



3.



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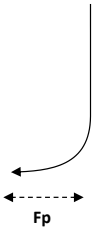


5.

I/G=		I/G= 5	8	I/G= 5	5	I/G=		I/G=	
I/G=		I/G=	8	I/G= 5	5	I/G=		I/G=	

Junction: Castle Peak Road (Chau Tau) / Castle Peak Road (San Tin) / Lok Ma Chau Ro

Junction No.: J02

Priority Junction Capacity Calculation

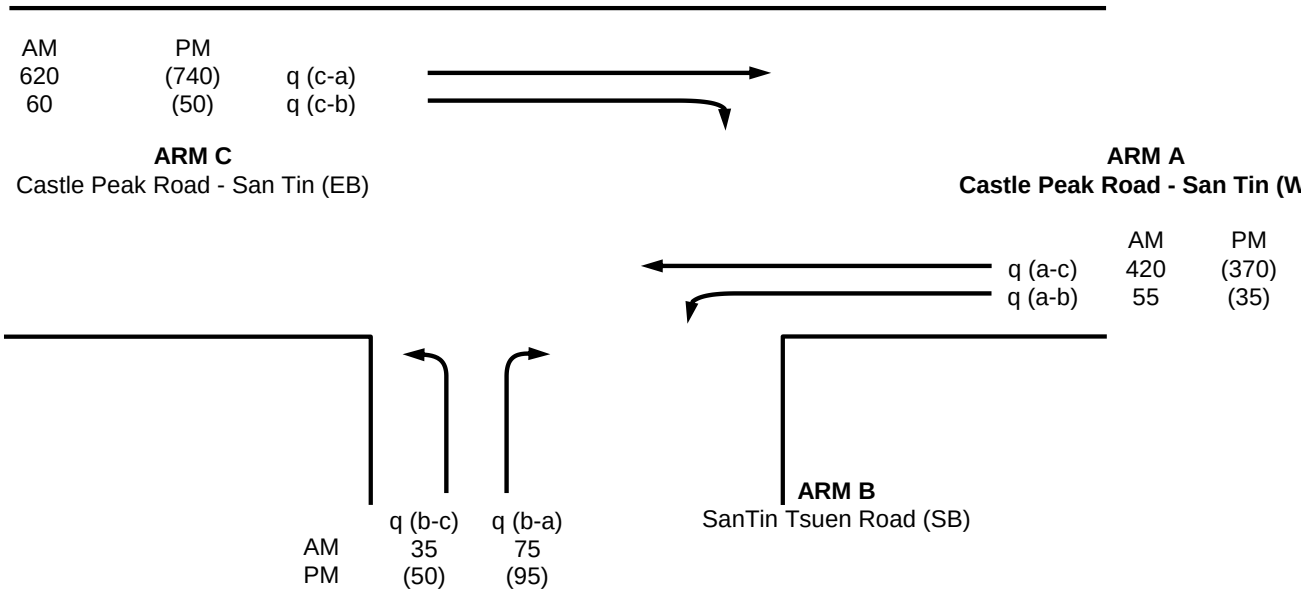
Junction : Castle Peak Road (San Tin) / San Tin Tsuen Road

Junction No. : J03

Scenario : Observe

Design Year : 2023

ARM A	Castle Peak Road - San Tin (WB)
ARM B	SanTin Tsuen Road (SB)
ARM C	Castle Peak Road - San Tin (EB)



Geometry			Analysis					
Major Road Width	W	18.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	4		q(c-a)		620		740
				q(c-b)		60		50
Lane Width	w(b-a)	4.5		q(a-b)		55		35
	w(b-c)	4.3		q(a-c)		420		370
	w(c-b)	3.8		q(b-a)		75		95
Visibilities				q(b-c)		35		50
	Vr(b-a)	55		f		0.32		0.34
	Vl(b-a)	88	Capacities					
	Vr(b-c)	61		Q(b-a)		545		544
	Vr(c-b)	142		Q(b-c)		687		695
Geometric Parameter				Q(c-b)		705		715
	D	0.979		Q(b-ac)		583		588
	E	1.005						
	F	1.037	DFC's					
	Y	0.379		b-a		0.14		0.17
				b-ac		0.19		0.25
				c-b		0.09		0.07
			Critical DFC			0.19		0.25

Priority Junction Capacity Calculation

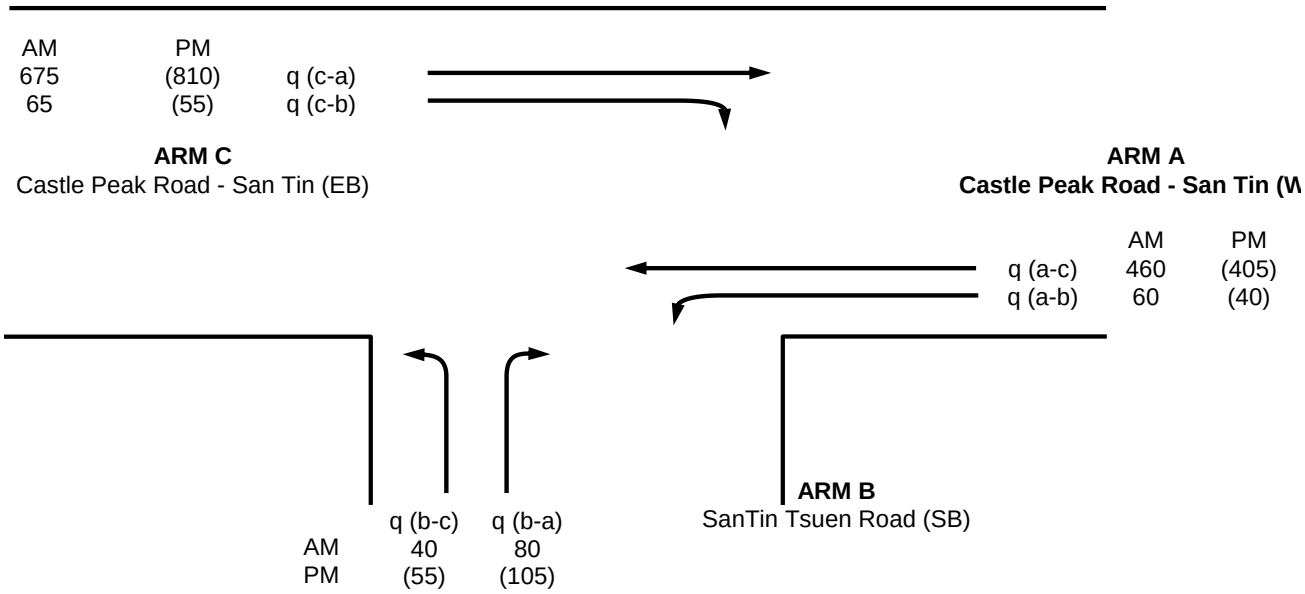
Junction : Castle Peak Road (San Tin) / San Tin Tsuen Road

Junction No. : J03

Scenario : Reference

Design Year : 2026

ARM A	Castle Peak Road - San Tin (WB)
ARM B	SanTin Tsuen Road (SB)
ARM C	Castle Peak Road - San Tin (EB)



Geometry			Analysis					
Major Road Width	W	18.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	4		q(c-a)		675		810
				q(c-b)		65		55
Lane Width	w(b-a)	4.5		q(a-b)		60		40
	w(b-c)	4.3		q(a-c)		460		405
	w(c-b)	3.8		q(b-a)		80		105
Visibilities				q(b-c)		40		55
	Vr(b-a)	55		f		0.33		0.34
	Vl(b-a)	88	Capacities					
	Vr(b-c)	61		Q(b-a)		533		532
	Vr(c-b)	142		Q(b-c)		681		690
Geometric Parameter				Q(c-b)		698		709
	D	0.979		Q(b-ac)		575		578
	E	1.005						
	F	1.037	DFC's					
	Y	0.379		b-a		0.15		0.20
				b-ac		0.21		0.28
				c-b		0.09		0.08
			Critical DFC			0.21		0.28

Priority Junction Capacity Calculation

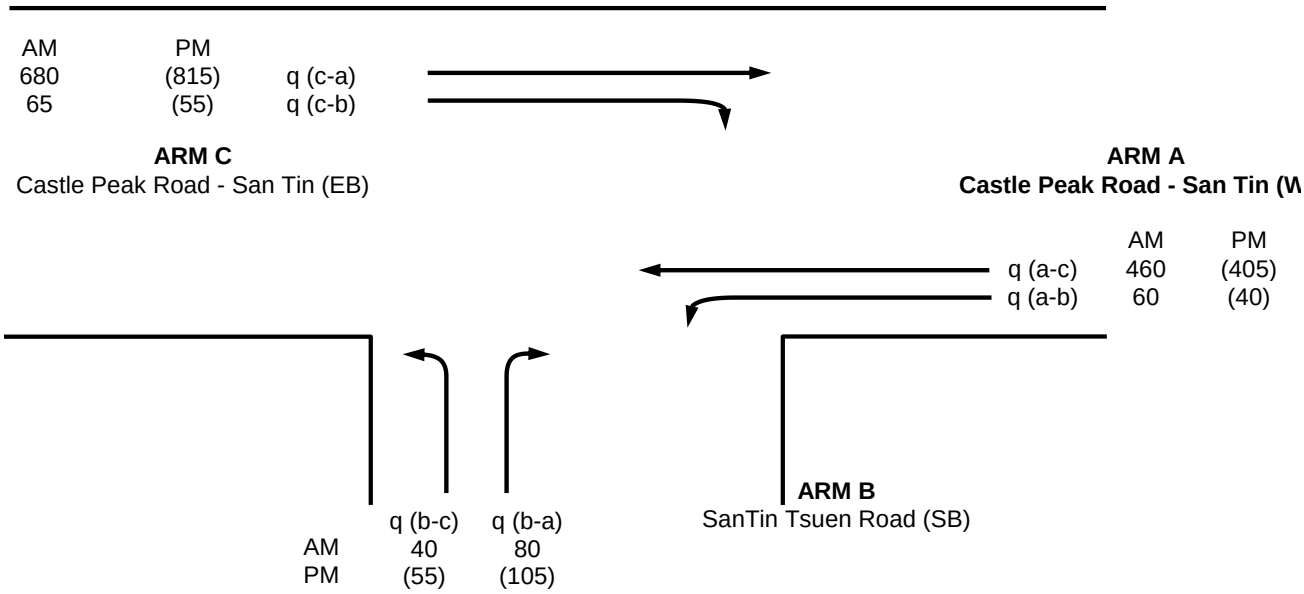
Junction : Castle Peak Road (San Tin) / San Tin Tsuen Road

Junction No. : J03

Scenario : Design

Design Year : 2026

ARM A	Castle Peak Road - San Tin (WB)
ARM B	SanTin Tsuen Road (SB)
ARM C	Castle Peak Road - San Tin (EB)



Geometry			Analysis					
Major Road Width	W	18.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	4		q(c-a)		680		815
				q(c-b)		65		55
Lane Width	w(b-a)	4.5		q(a-b)		60		40
	w(b-c)	4.3		q(a-c)		460		405
	w(c-b)	3.8		q(b-a)		80		105
Visibilities				q(b-c)		40		55
	Vr(b-a)	55		f		0.33		0.34
	Vl(b-a)	88	Capacities					
	Vr(b-c)	61		Q(b-a)		533		532
	Vr(c-b)	142		Q(b-c)		681		690
Geometric Parameter				Q(c-b)		698		709
	D	0.979		Q(b-ac)		575		577
	E	1.005						
	F	1.037	DFC's					
	Y	0.379		b-a		0.15		0.20
				b-ac		0.21		0.28
				c-b		0.09		0.08
			Critical DFC			0.21		0.28

TRAFFIC SIGNALS CALCULATION SHEET

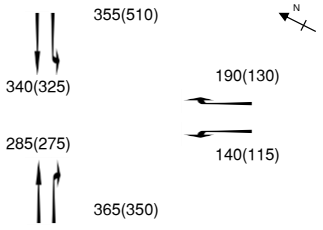
Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange Junction No.: J04

Scenario: Observe Design Year: 2023

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Castle Peak Road - San Tin NB																
↑	A	2,3	3.6						1975	1975	285	0.14		275	0.14	
↱	A	2,3	3.7		30				2020	2020	365	0.18	0.18	350	0.17	0.17
Castle Peak Road - San Tin SB																
↳	C	1,3,4	5.5	40					2085	2085	355	0.17		510	0.24	
↓	B	1	3.9						2145	2145	171	0.08		164	0.08	0.08
↓	B	1	3.6						2115	2115	169	0.08	0.08	161	0.08	
Slip Road From San Tin Interchange WB																
↓	E	4	3.7	20					1840	1840	140	0.08		115	0.06	
↰	D	4	3.5		25				1985	1985	190	0.10	0.10	130	0.07	0.07
Pedestrian Crossing																
	Fp	1,4	MIN GREEN + FLASH =			5	+	6	=	11						
	Gp	2,3,4	MIN GREEN + FLASH =			5	+	6	=	11						
	Hp	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ip	1	MIN GREEN + FLASH =			9	+	7	=	16						
	Jp	2	MIN GREEN + FLASH =			5	+	5	=	10						

NOTES:

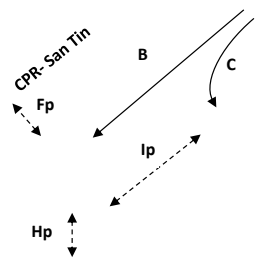
Flow: (pcu/hr)



Group		A,B,D	Group		A,B,D
Sum of Critical *y* ***Y***		0.36	Sum of Critical *y*		0.32
Lost Time ***L*** (sec)		15	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		120	Cycle Time ***c*** (sec)		120
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity ***RC***		>100%	Reserve Capacity ***RC***		>100%

Stage / Phase Diagrams

1.



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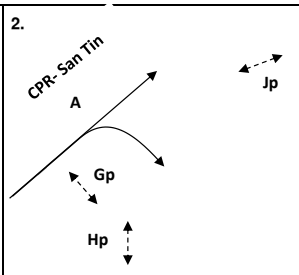

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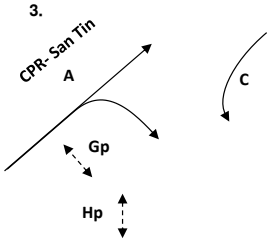

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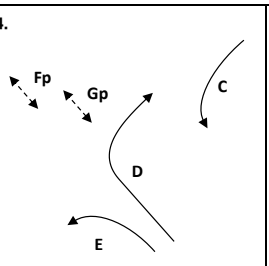


5.

I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=	
I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=	

wsp

Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

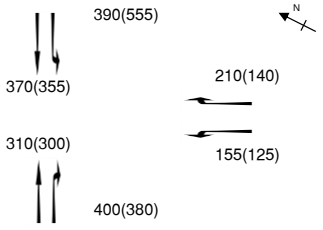
Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange Junction No.: J04

Scenario: Reference Design Year: 2026

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
Castle Peak Road - San Tin NB																
↑	A	2,3	3.6						1975	1975	310	0.16		300	0.15	
↱	A	2,3	3.7		30				2020	2020	400	0.20	0.20	380	0.19	0.19
Castle Peak Road - San Tin SB																
↳	C	1,3,4	5.5	40					2085	2085	390	0.19		555	0.27	
↓	B	1	3.9						2145	2145	186	0.09		179	0.08	0.08
↓	B	1	3.6						2115	2115	184	0.09	0.09	176	0.08	
Slip Road From San Tin Interchange WB																
↓	E	4	3.7	20					1840	1840	155	0.08		125	0.07	
↰	D	4	3.5		25				1985	1985	210	0.11	0.11	140	0.07	0.07
Pedestrian Crossing																
	Fp	1,4	MIN GREEN + FLASH =			5	+	6	=	11						
	Gp	2,3,4	MIN GREEN + FLASH =			5	+	6	=	11						
	Hp	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ip	1	MIN GREEN + FLASH =			9	+	7	=	16						
	Jp	2	MIN GREEN + FLASH =			5	+	5	=	10						

NOTES:

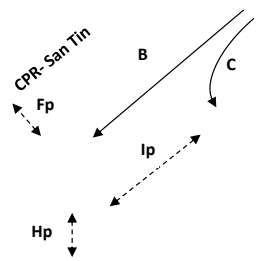
Flow: (pcu/hr)



Group		A,B,D	Group		A,B,D
Sum of Critical *y* ***Y***		0.39	Sum of Critical *y*		0.34
Lost Time ***L*** (sec)		15	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		120	Cycle Time ***c*** (sec)		120
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity ***RC***		>100%	Reserve Capacity ***RC***		>100%

Stage / Phase Diagrams

1.



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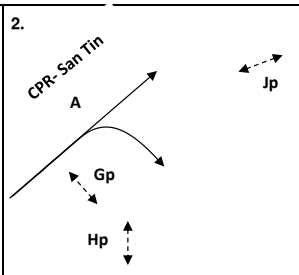

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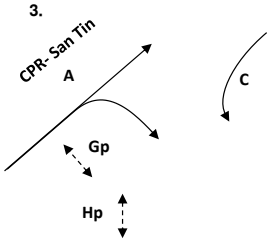

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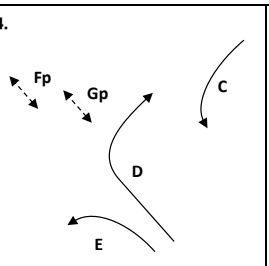

5.

I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=	
I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=	

wsp

Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange

Junction No.: J04

TRAFFIC SIGNALS CALCULATION SHEET

Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange Junction No.: J04

Scenario: Design Design Year: 2026

Movements	Phase	Stage	Lane Width (m)	Radius for turning (m) Left	Radius for turning (m) Right	Gradient in %	Proportion Turning (%) AM	Proportion Turning (%) PM	Saturation Flow (pcu/hr) AM	Saturation Flow (pcu/hr) PM	AM Peak Design Flow (pcu/hr)	AM Peak Flow Factor y	AM Peak Critical y	PM Peak Design Flow (pcu/hr)	PM Peak Flow Factor y	PM Peak Critical y
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↳	C	1,3,4	5.5	40					2085	2085	390	0.19		555	0.27	
↓	B	1	3.9						2145	2145	189	0.09	0.09	181	0.08	
↓	B	1	3.6						2115	2115	186	0.09		179	0.08	0.08
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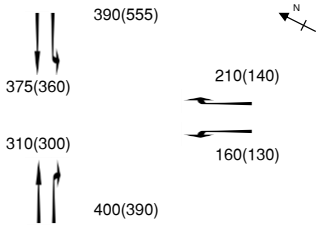
	Gp	2,3,4	MIN GREEN + FLASH =			5	+	6	=	11						
	Hp	1,2,3	MIN GREEN + FLASH =			5	+	7	=	12						
	Ip	1	MIN GREEN + FLASH =			9	+	7	=	16						
	Jp	2	MIN GREEN + FLASH =			5	+	5	=	10						

NOTES:

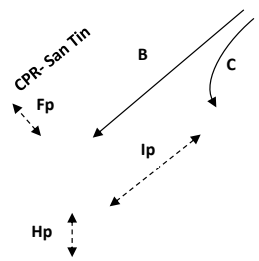
Flow: (pcu/hr)



Group		A,B,D	Group		A,B,E
Sum of Critical *y* ***Y***		0.39	Sum of Critical *y*		0.35
Lost Time ***L*** (sec)		15	Lost Time ***L*** (sec)		15
Cycle Time ***c*** (sec)		120	Cycle Time ***c*** (sec)		120
Practical *Y* ***Ypr***		0.79	Practical *Y* ***Ypr***		0.79
Reserve Capacity ***RC***		>100%	Reserve Capacity ***RC***		>100%

Stage / Phase Diagrams

1.



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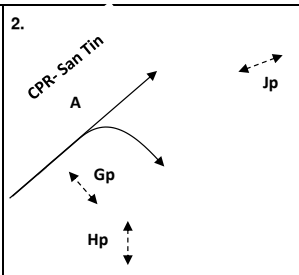

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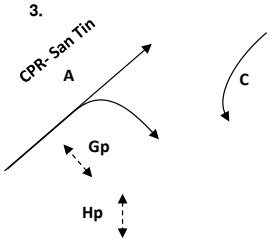

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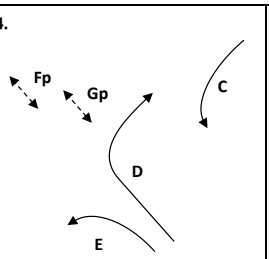


5.

I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=			
I/G= 5		I/G= 8		I/G=		I/G= 5		I/G=			

Junction: Castle Peak Road (San Tin) / Slip Road from San Tin Interchange

Junction No.: J04

Priority Junction Capacity Calculation

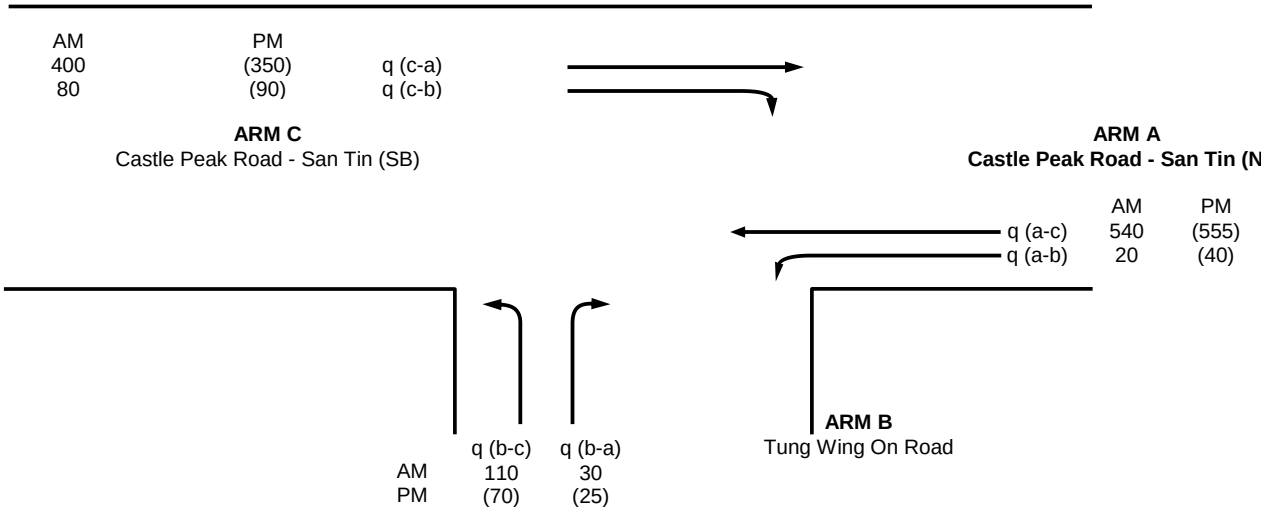
Junction : Castle Peak Road (San Tin) / Tung Wing On Road

Junction No. : J05

Scenario : Observe

Design Year : 2023

ARM A	Castle Peak Road - San Tin (NB)
ARM B	Tung Wing On Road
ARM C	Castle Peak Road - San Tin (SB)



Geometry			Analysis						
Major Road Width	W	11.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		400		350
				q(c-b)		80		90
Lane Width	w(b-a)	3.3		q(a-b)		20		40
	w(b-c)	3.3		q(a-c)		540		555
	w(c-b)	3.6		q(b-a)		30		25
Visibilities				q(b-c)		110		70
	Vr(b-a)	40		f		0.79		0.74
	Vl(b-a)	100	Capacities					
	Vr(b-c)	40		Q(b-a)		364		363
	Vr(c-b)	65		Q(b-c)		555		550
Geometric Parameter				Q(c-b)		585		578
	D	0.866		Q(b-ac)		499		485
	E	0.893						
	F	0.946	DFC's					
	Y	0.621		b-a		0.08		0.07
				b-ac		0.28		0.20
				c-b		0.14		0.16
			Critical DFC			0.28		0.20

Priority Junction Capacity Calculation

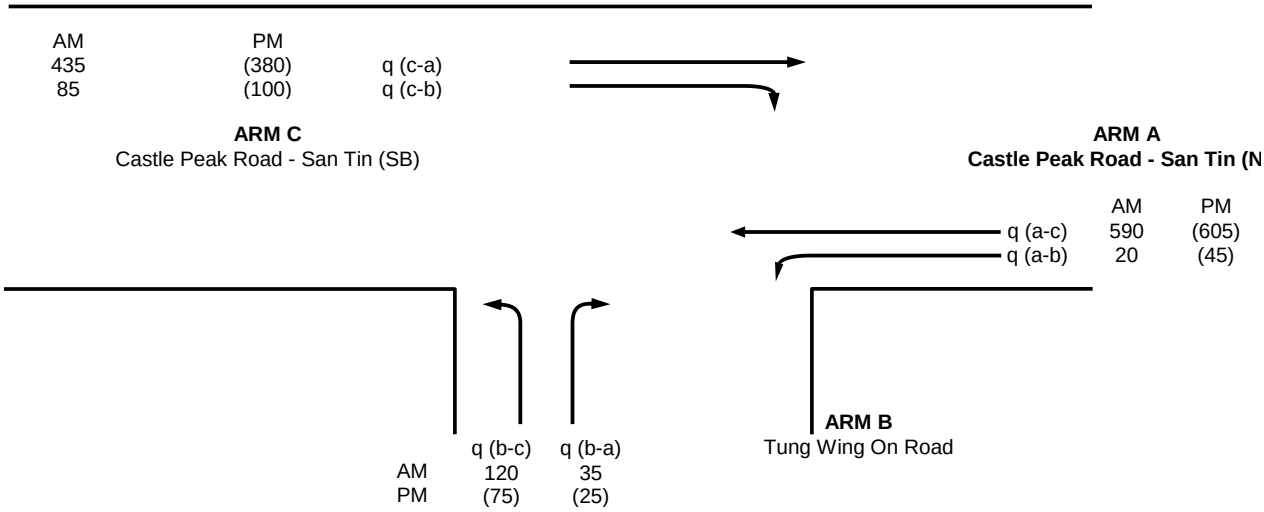
Junction : Castle Peak Road (San Tin) / Tung Wing On Road

Junction No. : J05

Scenario : Reference

Design Year : 2026

ARM A	Castle Peak Road - San Tin (NB)
ARM B	Tung Wing On Road
ARM C	Castle Peak Road - San Tin (SB)



Geometry			Analysis						
Major Road Width	W	11.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		435		380
				q(c-b)		85		100
Lane Width	w(b-a)	3.3		q(a-b)		20		45
	w(b-c)	3.3		q(a-c)		590		605
	w(c-b)	3.6		q(b-a)		35		25
Visibilities				q(b-c)		120		75
	Vr(b-a)	40		f		0.77		0.75
	Vl(b-a)	100	Capacities					
	Vr(b-c)	40		Q(b-a)		349		347
	Vr(c-b)	65		Q(b-c)		545		540
Geometric Parameter				Q(c-b)		574		566
	D	0.866		Q(b-ac)		483		474
	E	0.893						
	F	0.946	DFC's					
	Y	0.621		b-a		0.10		0.07
				b-ac		0.32		0.21
				c-b		0.15		0.18
			Critical DFC			0.32		0.21

Priority Junction Capacity Calculation

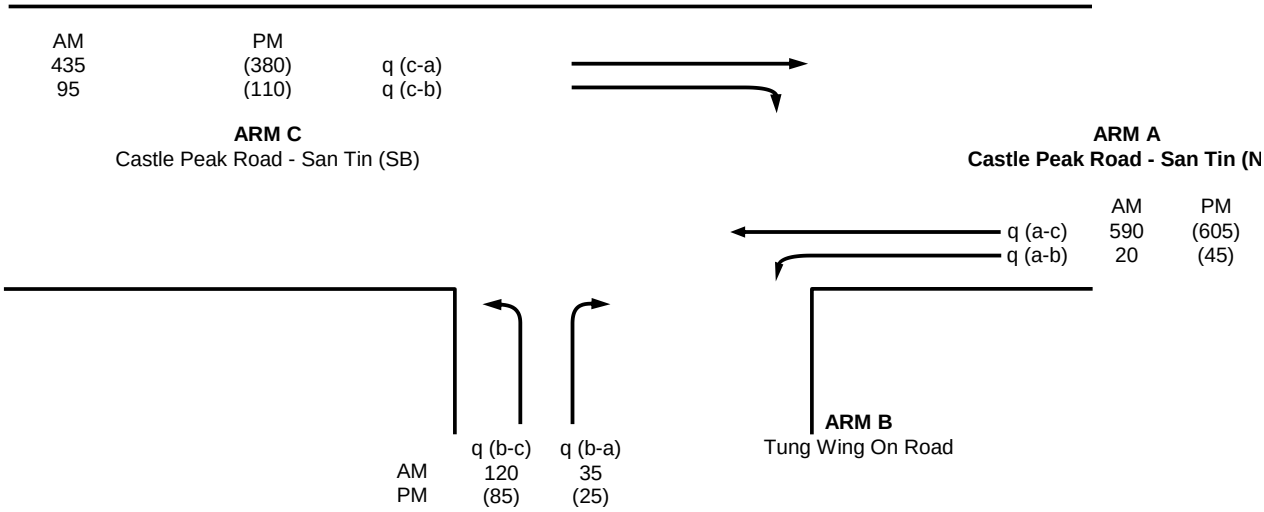
Junction : Castle Peak Road (San Tin) / Tung Wing On Road

Junction No. : J05

Scenario : Design

Design Year : 2026

ARM A	Castle Peak Road - San Tin (NB)
ARM B	Tung Wing On Road
ARM C	Castle Peak Road - San Tin (SB)



Geometry			Analysis						
Major Road Width	W	11.0	Traffic flows			AM		PM
Central Reserve Width	Wcr	0		q(c-a)		435		380
				q(c-b)		95		110
Lane Width	w(b-a)	3.3		q(a-b)		20		45
	w(b-c)	3.3		q(a-c)		590		605
	w(c-b)	3.6		q(b-a)		35		25
Visibilities				q(b-c)		120		85
	Vr(b-a)	40		f		0.77		0.77
	Vl(b-a)	100	Capacities					
	Vr(b-c)	40		Q(b-a)		346		344
	Vr(c-b)	65		Q(b-c)		545		540
Geometric Parameter				Q(c-b)		574		566
	D	0.866		Q(b-ac)		482		478
	E	0.893						
	F	0.946	DFC's					
	Y	0.621		b-a		0.10		0.07
				b-ac		0.32		0.23
				c-b		0.17		0.19
			Critical DFC			0.32		0.23

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Preliminary Environmental Review Report

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) –
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN
Preliminary Environmental Review Report
(Draft – Issue 2)

August 2023

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) – TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Preliminary Environmental Review Report (Draft – Issue 2)

PROJECT NO.: 2512218A

DATE: AUGUST 2023

WSP (ASIA) LTD.
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY
HONG KONG

PHONE: +852 2579-8899
FAX: +852 2856-9902
WSP.COM

REVISION HISTORY

REVISION	DATE	PREPARED BY	CHECKED BY	APPROVED BY
Draft – Issue 1	July 2023	Various	Vincent So	Emeric Wan
Draft – Issue 2	August 2023	Various	Vincent So	Emeric Wan

TABLE OF CONTENT

1 INTRODUCTION

1.1 BACKGROUND

1.1.1. WSP (Asia) Ltd. (WSP) is commissioned by the Civil Engineering and Development Department (CEDD) of the Hong Kong Special Administrative Region under Task Order No. 9 - San Tin of Agreement No. CE 47/2020 (CE) Term Consultancy for Site Formation and Infrastructure Works for Proposed Housing Developments in Zone 2 (2021 - 2024) - Feasibility Study, to prepare the Section 16 Planning Application to seek permission from the Town Planning Board (TPB/ the Board) for the Proposed Temporary Training Facilities (proposed development) at the Community Isolation Facility (CIF) of San Tin, Yuen Long (Application Site / Project Site / Site).

1.1.2. The Application Site falls within an area that is zoned for "Other Specified Uses (Services Stations "("OU (Services Station)" under the Approved San Tin Outline Zoning Plan No. S/YL-ST/8 (OZP). In accordance with Clause No. (11) (b) of the covering Notes of the approved OZP, ...temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board.

1.1.3. In this connection, WSP prepared this Preliminary Environmental Report (PER) alongside with the planning application of the proposed development to the TPB for consideration and approval.

1.2 OVERALL OBJECTIVE

1.2.1 The objective of this PER is to review existing available information and findings in order to identify any potential changes in environmental impacts and required mitigation measures arising from the construction and operation phases of the proposed development.

1.2.2 The PER reviews the potential environmental impact according to the current project design and timeframe, and recommends necessary mitigation measures to avoid / minimise the potential environmental impacts.

1.3 SCOPE OF THE REPORT

1.3.1 After this introductory section, the remainder of this PER is arranged as follows:

(a) Section 2 presents the description of the project;

(b) Section 3 reviews the air quality impact assessment;

(c) Section 4 reviews the noise impact assessment;

(d) Section 5 reviews the water quality impact assessment;

(e) Section 6 reviews the waste management and disposal impact;

(f) Section 7 reviews the land contamination impact;

(g) Section 8 reviews the ecological impacts; and

(h) Section 9 presents the conclusions.

2 PROJECT DESCRIPTION

2.1 EXISTING SITE CONDITION

2.1.1 The Site is located at San Tin, with approximate area of 38,567 m^2. It is currently occupied by Community Isolation Facility (CIF) since March 2022. The CIF was used for accommodating confirmed patients with mild or no symptoms to reduce the risk of transmission to the community. The location of the Site is illustrated in **Figure 2.1**.

2.1.2 With the pandemic in Hong Kong having been brought under control gradually, some CIFs have been put into standby mode.

2.1.3 The Application Site is trapezium in shape and formed on a relatively gentle ground with concrete pavement. The Application Site is surrounded by boundary fence. Currently, the Application Site is occupied by modular units and ancillary facilities.

2.1.4 All of these existing modular units have already been equipped with air conditioning (A/C) units and basic furniture and are ready for use as classrooms, group activity areas and storages. Ancillary facilities including service buildings and staff offices, toilets, washing basins and shower facilities are being provided and these facilities will be retained in the proposed development.

2.2 SCOPE OF THE PROJECT

2.2.1 In accordance with Government's announcement on 13 July 2023, the Client proposes to convert the existing San Tin CIF to temporary training centre for the Construction Industry Council (CIC) to hold training courses and trade tests, including on-site training on the Modular Integrated Construction (MIC) method regarding safety legislation, lifting and assembly to support a wider adoption of the MIC method in Hong Kong.

2.2.2 As the proposed development will fully utilise the existing building structures and services utilities, no site formation or infrastructure works are to be carried out at the Site. Existing electrical and mechanical buildings will be preserved *in-situ* for the proposed development use.

2.2.3 The target occupancy for the proposed development is targeted in October 2023 tentatively, and it will last for about one year only.

2.2.4 No site formation or infrastructure works would be expected for the proposed development.

3 AIR QUALITY

3.1 INTRODUCTION

3.1.1 This section presents the review and findings of the air quality implications associated with the construction and operation phases of the proposed development.

3.2 ENVIRONMENTAL LEGISLATION, STANDARDS AND GUIDELINES

3.2.1 The relevant legislations and standards for the assessment of air quality applicable to the Study Area include:

- Air Pollution Control Ordinance (APCO) (Cap 311);
- Air Pollution Control (Construction Dust) Regulation;
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation;
- Air Pollution Control (Fuel Restriction) Regulation; and
- Annex 4 & Annex 12 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

Air Quality Objectives (AQOs)

3.2.2 The Hong Kong Air Quality Objectives (AQOs) stipulating the maximum allowable concentrations and frequency of exceedance over specific periods for criteria pollutants shall be met. The prevailing AQOs which was enacted on 1 January 2022 are listed in **Table 3-1** below:

Table 3.1 The Hong Kong Air Quality Objectives

Pollutant	Averaging Time	AQO Concentration [i] (μg/m³)	Allowable Number of Exceedance
Respirable Suspended Particulates (PM_{10}) [ii]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [iii]	24-hour	50	18 [iv]
		50	35
	Annual	25	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Ozone (O_3)	8-hour	160	9
Lead	Annual	0.5	Not Applicable

Notes:
[i] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325kPa.
[ii] Respirable suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 10μm or less.
[iii] Fine suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 2.5μm or less.
[iv] 18 times of allowed exceedance is for government projects.

Air Pollution Control (Construction Dust) Regulation

3.2.3 Notifiable and regulatory works are under the control of Air Pollution Control (Construction Dust) Regulation. Notifiable works include site formation, reclamation, demolition, foundation and superstructure construction for buildings and road construction. Regulatory works are building renovation, road opening and resurfacing slope stabilization, and other activities including stockpiling, dusty material handling, excavation, concrete production, etc. Contractors and site agents are required to adopt construction dust suppression measures to reduce dust emission to the acceptable level.

3.2.4 The Regulation requires that any notifiable work shall give advance notice to the Environmental Protection Department (EPD), and the contractor shall ensure that both notifiable works and regulatory works will be conducted in accordance with the Schedule of the Regulation, which provides dust control and suppression measures.

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

3.2.5 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation takes effects since 1 June 2015, which requires Non-road Mobile Machinery (NRMM) to comply with the prescribed emission standards except those exempted. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes.

Air Pollution Control (Fuel Restriction) Regulation

3.2.6 To minimize SO_2 emission from construction plants and equipment, requirements stipulated in the Air Pollution Control (Fuel Restriction) Regulation (Amendment) Regulation 2008, using liquid fuel with sulphur content of less than 0.005% by weight or viscosity less than 6 Centistokes at 40°C should be fulfilled.

Hong Kong Planning Standards and Guidelines (HKPSG)

3.2.7 In accordance with Chapter 9 Environment of Hong Kong Planning Standards and Guidelines (HKPSG), the minimum buffer distances are recommended between different types of roads and the active open spaces. The buffer distance requirements of HKPSG for different road types are listed in listed in **Table 3-2** below for reference:

Table 3.2 Setback Distances from Roads according to HKSPG Recommendation

Pollution Source	Type of Road	Buffer Distance	Permitted Uses
Road and Highways	Trunk Road and Primary Distributor	> 20m	Active and passive recreation uses
		3 – 20m	Passive recreational use
		< 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 use
	Under Flyovers	-	Passive recreational use

3.2.8 Chapter 9 of HKPSG also stipulates the minimum buffer distance between ASRs and industrial chimneys. The buffer distance requirements are shown in **Table 3-3** below.

Table 3.3 Required Minimum Buffer Distances between ASRs and Chimneys

Difference in Height between Industrial Chimney Exit and ASR (m)	Minimum Buffer Distance (m)	Permitted Uses
<20	>200	Active and passive recreational uses
	5 – 200	Passive recreational use
20 – 30	>100	Active and passive recreational uses
	5 – 100	Passive recreational us
30 – 40	>50	Active and passive recreational uses
	5 – 50	Passive recreational use
>40	>10	Active and passive recreational uses

3.3 BACKGROUND AIR QUALITY REVIEW

3.3.1 Existing air quality of the Study Area has been reviewed with reference to the EPD's routine air quality monitoring data collected in 2018 – 2022. The nearest EPD air quality monitoring station (AQMS) from the Project Site is the Yuen Long AQMS at Yuen Long District Office Building, 269 Castle Peak Road. Its most recent 5 years of air quality data records (i.e., Sulphur Dioxide, Nitrogen Dioxide, Respirable and Fine Suspended Particulates and Ozone) are summarized in **Table 3-4** to depict the trend of the local air quality.

Table 3.4 Background Air Quality Records at Yuen Long AQMS From 2018 to 2022

Pollutant	Averaging Time	Conc. Limits ($\mu g/m^3$)	Number of Exceedances Allowed	Concentration ($\mu g/m^3$) [i]					Remarks
				2018	2019	2020	2021	2022	
Respirable Suspended Particulates (PM_{10})	24-hour	100	9	75	83	77	73	56	10th highest conc.
	Annual	50	Not Applicable	37	37	30	30	25	/
Fine Suspended Particulates ($PM_{2.5}$)	24-hour	50	35/18[ii]	41	38	33	36	38	19th highest conc.
	Annual	35	Not Applicable	20	20	16	17	16	/
Nitrogen Dioxide (NO_2)	1-hour	200	18	150	161	135	148	122	19th highest conc.
	Annual	40	Not Applicable	**43**	**44**	32	40	37	/
Sulphur Dioxide (SO_2)	10-minute	500	3	52	42	26	24	21	4th highest conc.
	24-hour	50	3	16	11	10	14	7	4th highest conc.
Ozone (O_3)	8-hour[iii]	160	9	**162**	**200**	154	**178**	**194**	10th highest conc.
Carbon Monoxide (CO)	1-hour	30,000	0	1720	2150	1530	2090	1700	1st highest conc.
	8-hour	10,000	0	1574	1903	1279	1591	1519	1st highest conc.

Notes:

[i] **Bolded** concentrations indicate exceedance of the Air Quality Objectives (AQOs).

[ii] 18 frequency of exceedances of AQO limits are allowed per year for daily FSP for new government projects.

[iii] No information of the 19th highest daily FSP is available in Annual Air Quality Reports from 2018 - 2022, the 19th highest daily FSP were obtained from the Environmental Protection Interactive Center (https://cd.epic.epd.gov.hk/EPICDI/air/?lang=en).

3.3.2 The ambient air quality in the vicinity of the project site is generally complied with the AQOs except exceedances were found for ozone and annual average NO_2. Ozone exceeded the AQO limit from 2018 to 2019 and from 2021 to 2022. Ozone is a regional problem in Hong Kong rather than a local issue. Annual average NO_2 exceeded the AQO limit from 2018 to 2019 and 2022 and were in compliance with AQO limit from 2020 to 2021.

3.4 REPRESENTATIVE AIR SENSITIVE RECEIVERS

3.4.1 The representative planned Air Sensitive Receivers (ASRs) of the proposed development have been identified and summarized in **Table 3-5**. The locations of the representative ASRs are shown on **Figure 3.1**.

Table 3.5 Identifications of Representative Planned On-site ASRs

ID	ASRs	Type of Use
P01	Project Site	Educational
P02	Project Site	Educational
P03	Project Site	Educational
P04	Project Site	Educational
P05	Project Site	Educational
P06	Project Site	Educational

3.4.2 On the other hand, some representative existing off-site ASRs are also identified within 500m study Area. The locations of these existing off-site ASRs are also shown in **Figure 3.1** and tabulated in **Table 3-6** below:

Table 3.6 Identifications of Representative Existing off-site ASRs

ASR	Description	Type of Use	Horizontal Distance from Site Boundary (m)
A01	Wing Ping Tsuen	Residential	41
A02	Tung Chan Wai	Residential	74
A03	Gospel Bridge Care & Attention Home for the Aged	GIC	312
A04	Tung Shan Temple	Place of Worship	352
A05	Tun Yu School	Educational	386

3.4.3 As revealed from **Figure 3.1** and **Table 3-6** above, most of the off-site ASRs are located to the south or southwest of the project site. The closest off-site ASR are A01 and A02, which are located to the southwest of the project site. These ASRs have separation distances of at least 41m away from the project.

3.5 ENVIRONMENTAL IMPACTS DURING CONSTRUCTION PHASE

3.5.1 The existing location of the Project is the San Tin Community Isolation Facility (CIF), which were built in 2022 for accommodating confirmed patients with mild or no symptoms to reduce the risk of transmission to the community. To date, the CIF in San Tin, Yuen Long has been put into standby mode.

3.5.2 Most of the MiC units are remained *in-situ* for the proposed development. No demolition or construction works would be expected for the proposed development. Hence, construction dust impact arising from the construction phase of the proposed development is not anticipated.

3.6 ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

3.6.1 This section will discuss the potential air quality impacts arising from the surrounding emission sources to the proposed development.

Vehicular Emissions from Off-Site Traffic

3.6.2 The proposed development are bounded by a few roads including Tung Wing On Road, Castle Peak Road – San Tin, San Tin Tsuen Road, San Sham Road, San Tin Highway and Tun Yu Road. The road types which have been confirmed by Transport Department (TD) internally and their required buffer distances from the planned ASRs with reference to **Table 3-3** are listed below and are demonstrated in **Figure 3.2**.

(1) Tung Wing On Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of Transport Planning and Design Manual (TPDM) Vol. 2. Hence, a 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 5m buffer zone requirement.

(2) Castle Peak Road – San Tin is classified as Rural Road with reference to the Annual Traffic Census (ATC) in 2021. As Rural Road could be considered as either District Distributor (DD) or Local Distributor (LD), hence, a 10m buffer similar as a DD is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 10m buffer zone requirement.

(3) San Tin Tsuen Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of TPDM Vol. 2. A 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of San Tin Tsuen Road could meet 5m buffer zone requirement.

(4) San Sham Road is classified as Rural Road with reference to the Annual Traffic Census (ATC) in 2021. As Rural Road could be considered as either DD or LD, hence a 10m buffer similar as a LD is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of San Sham Road could meet 10m buffer zone requirement.

(5) San Tin Highway is classified as Expressway with reference to ATC 2021. Hence, a buffer distance of 20m is considered applied. The separation distance between the proposed development and the road kerb of San Tin Highway could meet the 20m buffer zone requirement.

(6) Tun Yu Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of TPDM Vol. 2. A 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 5m buffer zone requirement.

3.6.3 Given separation distances between the nearby road and the proposed development could meet the buffer distance requirement of Table 3.1 in Chapter 9 of HKSPG, therefore no adverse impact arising from the vehicular emission is anticipated.

Industrial Emissions

3.6.4 According to review from survey maps of Lands Department and site visit carried out on 23 June 2023, open storage were found at the northern of the project site. It is observed that the industrial area is used as moto services centre and no chimney is identified within 200m away from the project site boundary. Therefore, no potential air quality impact is anticipated from the industrial emissions.

3.6.5 As no chimney within 200m sway from the project site is confirmed and verified by site visit, and the conditions of the proposed development will remain unchanged as that of the existing San Tin CIF, and thus, no change of existing air quality impact is expected after the operation of the proposed development as compared to the existing condition.

Odour Impact

3.6.6 Site visits were conducted on 23 June 2023, and the surrounding of the Project Site were visited. It was observed that the some of the nearby open areas are mainly used for vehicles parking or open storage, and no odour impacts was detected when passing through the access roads at the surroundings of these open area.

3.7 CONCLUSION

3.7.1 No site formation or infrastructure works would be expected for the proposed development. Hence, potential construction dust impacts arising from the construction activities of the proposed development is not anticipated.

3.7.2 During operation phase, separation distances between the nearby roads and the proposed development could meet the buffer distance requirements of HKSPG, therefore no adverse impacts arising from the vehicular emission is anticipated. No gaseous emission arising from the nearby industrial area was identified during site visit. In addition, the conditions of the proposed development will remain unchanged as that of the existing San Tin Community Isolation Facility. Hence, no adverse air quality impact arising from the industrial emission is anticipated.

3.7.3 In view of the abovementioned, no adverse air quality impact is therefore anticipated to the proposed development during construction and operation stages.

4 NOISE

4.1 INTRODUCTION

4.1.1 The potential noise impacts associated with the construction and operation phases of the project have been assessed.

4.2 RELEVANT LEGISLATION, GUIDELINES AND CRITERIA

Construction Noise

4.2.1 Legislation, Standards, Guidelines and Criteria relevant to the consideration of construction noise impact under this Study include the following:

- Noise Control Ordinance (NCO);
- Technical Memoranda (TM) on Noise from Construction Work other than Percussive Piling (GW-TM);
- TM on Noise from Percussive Piling (PP-TM);
- TM on Noise on Construction Work in Designated Areas (DA-TM);
- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG);
- Recommended Pollution Control Clauses for Construction Contracts; and
- ProPECC PN 2/93 Environmental Protection Department Practice Note for Professional Persons: Noise from Construction Activities – Non-statutory Controls.

General Construction Activities during Non-Restricted Hours

4.2.2 ProPECC PN 2/93 provides assessment criteria as well as requirements relating to construction noise not currently controlled under the NCO. The Practice Note also provides information on noise abatement measures. Noise impacts arising from general construction activities other than percussive piling during the daytime period (07:00-19:00 hours on any day not being a Sunday or general holiday) would be assessed against the noise standards tabulated in **Table 4.1** below. Practicable direct mitigation measures will be evaluated and exhausted to maximise the protection of NSRs.

Table 4.1 Noise Standards for Daytime Construction Activities

Noise Sensitive Uses	0700 to 1900 hours on any day not being a Sunday or general holiday, L_{eq} (30 min), dB(A)
Residential	75
School	70 65 during examination

Source: Practice Note for Professional Persons (ProPECC) PN 2/93 "Noise from Construction Activities – Non-Statutory Controls" issued by EPD in 1993.

Note: The above noise standards apply to uses, which rely on opened windows for ventilation. The above standards shall be viewed as the maximum permissible noise levels assessed at 1 m from the external façade.

General Construction Activities during Restricted Hours

4.2.3 Noise impacts arising from general construction activities (excluding percussive piling) conducted during the restricted hours (19:00-07:00 hours on any day and anytime on Sunday or general holiday) and percussive piling during anytime are governed by the NCO.

4.2.4 For carrying out of any general construction activities involving the use of any Powered Mechanical Equipment (PME) within the restricted hours, a Construction Noise Permit (CNP) issued by the Authority must be obtained under the NCO. The noise criteria and the assessment procedures for issuing a CNP are specified in GW-TM published under the NCO.

4.2.5 Regardless of any description or assessment made in this section, in assessing a filed application for a CNP the Authority shall follow the relevant guidelines and requirements according to Technical Memoranda. The Authority will consider all the factors affecting their decision taking contemporary situations/ conditions into account. Nothing in this study shall pre-empt the Authority in making their decisions, and there is no guarantee that a CNP will be issued. If a CNP is to be issued, the Authority may include any conditions they consider appropriate and such conditions are to be followed while the works covered by the CNP are being carried out. Failing to do so may lead to cancellation of the CNP and prosecution action under the NCO.

4.2.6 No site formation and infrastructure works would be expected for the proposed development. In case of any construction activities during restricted hours, it is the contractor's responsibility to ensure compliance with the NCO and the relevant TMs. The Contractor will be required to submit CNP application to the Noise Control Authority and abide by any conditions stated in the CNP, should any be issued. No construction works in restricted hours will be required for the Project based on the currently envisaged programme.

Operation Phase

4.2.7 The noise criteria for evaluating noise impact of planning development with respect to road traffic noise are based on the HKPSG. The summary of noise criteria is given in **Table 4.2**.

Table 4.2 Relevant Road Traffic Noise Standards for Planning Purposes

Common Uses	**Road Traffic Noise Peak Hour Traffic $L_{10\ (1\ Hour)}$, dB(A)**
All domestic premises including temporary housing accommodation, offices	70
Educational institutions including kindergartens, childcare centres and all other where unaided voice communication is required	65
Diagnostic rooms and wards of hospitals, clinics, convalescences and homes for the aged	55

Notes:
(i) The above standards apply to uses which rely on opened windows for ventilation.
(ii) The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

Fixed Noise Sources

4.2.8 Fixed noise sources are controlled under the Noise Control Ordinance (NCO) and Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM). More stringent criteria for assessing noise impacts of fixed plant are recommended in the HKPSG for planning purposes. A noise criterion of 5 dB(A) below the appropriate Acceptable Noise Levels (ANLs) shown in the IND-TM or the prevailing

background noise levels, whichever is the lower has been adopted for the assessment of fixed noise source impact in relation to operation of the Proposed Development. For a given Area Sensitivity Rating (ASR), the ANL, in dB(A), is given by **Table 4.3**.

4.2.9 In any event, the ASRs and the ANLs assumed in this report are indicative and are used for assessment only. It should be noted that noise from fixed noise sources is controlled under Section 13 of the Noise Control Ordinance. Therefore, the ASRs and ANLs determined in this report shall not prejudice the Noise Control Authority's discretion to determine the noise impact due to fixed noise sources on the basis of prevailing legislation and practices being in force and taking account of contemporary conditions/ situations of adjoining land uses. Nothing in this report shall bind the Noise Control Authority in the context of law enforcement against any of the fixed noise sources being assessed.

Table 4.3 Acceptable Noise Level for Fixed Plant Noise

Time Period	Area Sensitivity Rating		
	A	B	C
Day-time (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)	60	65	70
Night-time (2300 to 0700 hours)	50	55	60

Note:
(i) The above standards apply to uses which rely on opened windows for ventilation
(ii) The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade

4.2.10 According to Outline Zoning Plan (S/YL-ST/8), the Proposed Development is located at "Other Specified Uses" while the "Village Type Development" ("V" type) is identified within 50m of the Proposed Development. Area Sensitivity Rating of "A" is adopted. The ANL in $L_{eq\ (30min)}$ dB(A) regarding to the ASR for both daytime and night-time are shown in **Table 4.4** below.

Table 4.4 Noise Criteria for Fixed Noise Impact Assessment

Area Sensitivity Rating	Time Period	ANL, $L_{eq\ (30min)}$, dB(A)
A	Day and evening time (0700 – 2300 hours)	60
	Night-time (2300 – 0700 hours)	50

4.2.11 For planned fixed sources, the noise criteria shall follow the requirements of Table 4.1 of Chapter 9 of HKPSG –

(a) 5 dB(A) below the appropriate ANLs shown in Table 2 of IND-TM, and

(b) the prevailing background noise levels

4.3 REPRESENTATIVE NOISE SENSITIVE RECEIVERS

4.3.1 The Assessment Area is defined as an area within 300m away of the Project Site boundary for noise impact assessment.

4.3.2 In accordance with HKPSG, Noise Sensitive Receivers (NSRs) refers to, but not limited to all domestic premises including temporary housing, education institutions, hospitals, medical clinics, homes for the aged, convalescent homes, places of public worship, libraries, courts of law, performing arts centres, auditoria, amphitheatres, hostels and country parks.

4.3.3 For the proposed development, air conditioning system with mechanical ventilation will be provided to all noise sensitive uses (i.e., training centre) where they will not rely on openable window/door for ventilation. Thus, adverse noise impact on the proposed development will not be anticipated and the noise standard will not be applicable.

4.3.4 A temporary container tractor/trailer park for a period of one year which located at the "V" zone is identified at the immediate southwest of the proposed development. Village houses at Wing Ping Tsuen and Tung Chan Wai have been identified as noise sensitive receivers (NSRs). The identified representative NSRs are listed in **Table 4.5** below, and their locations are illustrated in **Figure 4.1**. No planned or committed NSRs are identified within the Assessment Area.

Table 4.5 Representative Noise Sensitive Receivers

ID	Description	Type of Use	Existing/ Planned	Horizontal Distance from site boundary (m)
NSR_01	271 Wing Ping Tsuen	Residential	Existing	37
NSR_02	161 Wing Ping Tsuen	Residential	Existing	40
NSR_03	17B Tung Chan Wai	Residential	Existing	77

4.4 CONSTRUCTION NOISE IMPACT ASSESSMENT

Evaluation of Construction Noise Impact

4.4.1 No site formation or infrastructure works would be expected for the proposed development. As mentioned in **Section 2.2.1**, some minor construction works would be carried out. However, the use of powered mechanical equipment (PME) will be very limited during the construction phase and mitigation measures would be adopted as per established requirements and guidelines. Therefore, construction noise impact is not expected.

4.4.2 Current land use within the Site is the San Tin Community Isolation Facility (CIF) which was built for accommodating confirmed patients with mild or no symptoms to reduce the risk of transmission to the community. The San Tin CIF is converting to the proposed training school on a not more than 1-year temporary basis at the San Tin Community Isolation Facility (CIF).

4.4.3 The Applicant shall prioritize and adopt quieter construction methods/equipment as far as practicable, and incorporate the EPD's "Recommended Pollution Control Clauses for Construction Contracts" into the construction works contract(s) to ensure the implementation of the noise mitigation measures for minimizing the potential construction noise impacts.

4.4.4 Considering that no site formation or infrastructure works would be expected for the proposed development, and thus, no insurmountable construction noise impact is anticipated.

4.5 OPERATION NOISE IMPACT ASSESSMENT

Road Traffic Noise

Identification and evaluation of Noise Sources

4.5.1 Road traffic noise from the nearby road network is anticipated. The nearby road network within the 300m Project Area is identified and showed in **Figure 4.1**. However, all noise sensitive use of the Project will be served with air conditioning (A/C) units and would not rely on openable

window / door for ventilation. Therefore, no road traffic noise from the nearby road networks to our Project Site is anticipated.

4.5.2 The future population of not more 200 people are served for training every day, subject to the capacity of existing public transport. No coach service will be provided. The primary means of transportation of staff and students will be the existing public transport at nearby locations of the Project. No change to the existing traffic (in terms of vehicle/hour for both light and heavy vehicles) due to the Project is anticipated. Hence, no additional traffic flow is anticipated due to the proposed development. Given that there will be only eight private car parking spaces allowed within the site, the potential of road traffic noise from our Project Site to the nearby NSRs will be limited.

4.5.3 According to the Annual Traffic Census 2021, about 6,500 nos. of vehicles were recorded during AM and PM peak hour at San Tin Highway, Castle Peak Road and San Tam Road. The noise climate in San Tin is dominated by traffic noise impacts arising from San Tin Highway, which is next to Castle Peak Road – San Tin. The road traffic noise impacts induced from the Site will be largely screened by the traffic noise from the San Tin Highway. To minimize the potential road traffic noise impact, the staff and/or student travelling to/ from the site should make use of the entrance at San Tin Tsuen Road via San Tin Highway and avoid using Tung Wing On Road as far as practicable. Thus, the potential traffic noise impacts induced from the Site to the nearby NSRs is limited.

4.5.4 In addition, A/C units will be provided for all noise-sensitive uses in the site, which will not rely on openable windows / doors for natural ventilation, there is no Noise Assessment Point (NAPs) identified within the Site and no adverse traffic noise impact on the proposed development is anticipated.

Fixed Plant Noise

4.5.5 Based on the site visit conducted on 23 June 2023, the existing major fixed noise source within 300m from the Project Site is identified and tabulated in **Table 4.6**. The site layout plan which shows the exact type and location of the training activities/ demonstration to be carried out on-site is presented in **Appendix 4.1**. The locations and site photos of the fixed noise source are shown in **Figure 4.2**.

Table 4.6 Summary of Fixed Noise Source

Exiting NSRs		Distance from the Site Boundary (m)
ID	Details	
OS1	MAN Truck & Bus Hong Kong Limited	174
OS2	Dah Chong Motor Service Center Co., Ltd. Isuzu Service Center	210
OS3	中國重汽陳列室及服務中心	165

4.5.6 OS1 is identified as an open storage, which is located at the north of about 174m from the Site. As observed during site visit, it is used for parking of trucks and buses while no evidence of construction activities being carried out in the open storage area.

4.5.7 OS2 is identified as an open storage, which is located at the north of about 210m from the Site. As observed during site visit, it is used for parking of commercial vehicles while no evidence of construction activities being carried out in the open storage area.

4.5.8 OS3 is identified as an open storage, which is located at the north of about 165m from the Site. As observed during site visit, it is used for parking of commercial vehicles while no evidence of construction activities being carried out in the open storage area.

4.5.9 Considering that there are no noisy activities at all the identified fixed noise sources, such as use of trucks and frequent trips of vehicles observed during the site visits. Noisy operation from this open storage is considered to be minor. The distance between the Project Site boundary to the closest fixed noise sources are far more than 165m). In addition, both the proposed development and the 3 fixed noise sources identified are surrounded by steel hoardings of about 2m high, and the noise climate is dominant by traffic noise, in which traffic flow along San Tin Highway is the dominant noise source. Therefore, it is considered that the operation of OS1, OS2 and OS3 has no adverse fixed plant noise impact on the proposed development.

Planned Fixed Noise

4.5.10 Background noise measurement was conducted on 4 August 2023 (from 1500 to 1600) to identify the background noise level of the surrounding environment of Wing Ping Tsuen. Parking area near 161 Wing Ping Tsuen is selected for background noise measurement to represent the background noise level for Ho Sze House.The measurement result is illustrated in **Table 4.7** and **Appendix 4.2**.

Table 4.7 Background Noise Measurement

Location of Background Noise Measurement	Measurement ID	Background Noise Levels, L90 (1hr), dB(A) [1]
Parking area near 161 Wing Ping Tsuen	BN_01	58

Notes:

[1] Night-time operation of the planned noise source is not anticipated.

[2] 3 dB(A) is added for façade effect correction.

4.5.11 Given that the nature of the proposed development is to provide training activities on-site and demonstration and classroom teaching of construction-related techniques, mobile cranes would be operated on-site; and the operation time of the proposed development, including the mobile crane will be limited within the 8 hour working day (between 0700 to 1900 hours during days excluding public holidays and Sundays). All the training activities/courses and trade tests will be conducted indoors only except for the safety training course of specified trade (Silver Card) which will involve the use of mobile crane outdoor. There will be no use of hand-held tools like hammering/drilling, handling of construction materials such as steel bar, loading and unloading activities, or other noisy activities carried out outdoor. The number of mobile cranes will be limited to 3.

Assessment Methodology

4.5.12 For those planned fixed noise sources , the design information will be made reference to the relevant catalogues/reports or obtained by on-site noise measurements. Fixed noise sources impact assessment will be conducted based on the following procedures:

- Determine the assessment area;
- Identify and locate representative NSRs that may be affected by the noise sources;
- Determine the noise criteria for both daytime and night-time;
- Use standard acoustic principle for attenuation and directivity;
- Calculate the noise impacts for worst case scenario; and

- Cumulative impacts will be included.

4.5.13 Noise impact levels due to individual noise sources have been predicted at each NSR after the corrections for distance attenuation and screening effects as the PNL.

$$PNLi = SWLi + C_{dist} + C_{barrier}$$

4.5.14 For the mobile crane that will be carried out concurrently, the relevant individual PNLs are then summed logarithmically with correction for façade reflection for the overall impacts ("CNL") at each individual NSR:

$$CNL = \sum PNL_i + C_{facade}$$

where;

- PNL_i = Predicted noise level arising from various individual source after corrections for distance attenuation and screening
- SWL_i = Sound power level of individual noise sources
- C_{dist} = Correction for distance attenuation
- $C_{barrier}$ = Correction [-5 to -10 dB(A)] for barrier effects due to in-situ screening by obstacles, architectural features or purpose-built noise barrier
- $C_{façade}$ = Correction [+3 dB(A)] for façade reflection at NSR
- CNL = Corrected overall noise level being logarithmic sum of individual PNLs occurring at the same time together with correction for façade at the NSR

4.5.15 The distance attenuation was estimated using the standard acoustic equation which was presented in relevant appendices. As a conservative approach, horizontal distances between the selected NAPs and the fixed noise sources were adopted for calculating the distance attenuation. Screening correction offered by buildings or other structures, if any, has been taken into account in calculating the predicted noise levels. A positive 3 dB(A) has been added to predicted noise levels at the NAPs due to the façade effect.

4.5.16 Acceptable Noise Level (ANL) will be adopted for the cumulative noise from all the identified sources. The predicted noise levels at NSRs from the fixed noise sources by adopting standard acoustics principles were compared with the noise criteria to determine whether mitigation measures shall be adopted.

Evaluation of Impact

4.5.17 Noise assessment points (NAPs) are selected for fixed noise impact assessment. Three scenarios will be presented in this report and are listed below. The actual arrangement of mobile crane will be subject to the future operation of the training centre:

Option (1): Only 1 mobile crane at the location of MC3 as shown in **Figure 4.3** without noise mitigation measures;

Option (2): 3 mobile cranes with movable noise barriers at the proposed location as indicated in **Appendix 4.3.**

Option (3): 3 mobile cranes at the location of mobile crane as shown in **Figure 4.3** without any movable noise barriers at the proposed location.

4.5.18 The locations of the representative NAPs and distances between the fixed noise sources (planned) and NAPS are illustrated in **Figure 4.3**. Information regarding the design, configuration and application of the movable noise barriers, including at least the product surface density (i.e.,10kg/m^2), the configuration drawings, their setups and arrangements as against the mobile cranes and the nearby NSRs are presented in **Appendix 4.3**. The % on-time in 30 minutes as advised by the project proponent, the type/model of the mobile cranes to

be used and the SWLs of the mobile crane, as listed in **Table 4.8**, subject to the actual operation of the proposed development. Details presentation for Options (1), (2) and (3) are shown in **Appendix 4.4.**

Table 4.8 Summary of fixed noise impact assessment for different options

Option	ID	QPME ref.	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)
1 (without any noise mitigation measures)	MC3	EPD-08025	1	20%	107
2a	MC1	EPD-08025	1	10%	107
	MC2	EPD-08025	1	20%	107
	MC3	EPD-08025	1	20%	107
2b	MC1	EPD-13564	1	30%	103
	MC2	EPD-13564	1	50%	103
	MC3	EPD-13564	1	50%	103
2c	MC1	EPD-13684	1	60%	101
	MC2	EPD-13684	1	70%	101
	MC3	EPD-13684	1	70%	101
3 (without any noise mitigation measures)	MC1	EPD-13685	1	80%	95
	MC2	EPD-13685	1	90%	95
	MC3	EPD-13685	1	90%	95

Note:

1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

4.5.19 The QPME label, i.e., EPD-08025, EPD-13564, EPD-13684 or EPD-13685 for the mobile cranes are adopted in the assessment for reference purposes only, and the future operator(s) shall be required to use mobile cranes with SWL equivalent or lower than the QPME reference on-site only and ensure the mobile cranes would be regularly inspected and properly maintained for the controlled level of noise at all times.

4.5.20 In addition to the SWL of the mobile cranes to be used, noise mitigation measures in terms of operation requirements including:

(1) the % on-time in 30 minutes; and

(2) limiting the mobile cranes to be operated at the fixed locations shown in **Figure 4.3**,

shall be strictly followed by the future operator(s).

4.5.21 The initial draft assessment of unmitigated noise at the closest sensitive receiver (i.e., Wing Ping Tsuen) are predicted to exceed by approximately 5 dB(A). Mitigation measures are hence recommended for consideration. Use of movable noise barriers will be adopted to screen noise

from the mobile crane. Due consideration should be given to the potential noise leakage/reflection, and the noise barrier should be fitted with absorptive material on the side facing the noise sources to minimize the impact. The mobile crane will be positioned as far away from the NSRs as possible. The predicted noise levels with proposed mitigation measure (i.e., noise barrier) are summarized in **Table 4.9**. Detailed calculations are shown in **Appendix 4.3**.

Table 4.9 Predicted noise levels with proposed mitigation measures

ID	Description	Noise Criterion[1], dB(A)	Cumulative Noise Level (Option 1), dB(A)	Cumulative Noise Level (Option 2), dB(A)	Compliance
NSR_01	271 Wing Ping Tsuen	55	53	53	Yes
NSR_02	161 Wing Ping Tsuen	55	55	55	Yes
NSR_03	17B Tung Chan Wai	55	53	52	Yes

Note[1]: Background noise level is higher than ANL – 5 dB(A). ANL- 5 dB(A) is adopted as noise criteria.

4.5.22 Fixed noise sources such as outdoor small-powered VRV for non-centralized air conditioning will be adopted. However, these VRVs are not noise intensive and are of limited provision, and thus, fixed noise impact associated with the operation of VRVs is expected to be minimal.

4.5.23 Since air conditioning system will be provided to all noise sensitive uses (i.e., classrooms of training centre), where they will not rely on openable window/door for natural ventilation. Thus, adverse fixed noise impact on the proposed development is not anticipated.

4.6 CONCLUSION

4.6.1 No site formation and infrastructure works would be expected for the proposed development, and thus, no construction noise impact is anticipated.

4.6.2 For traffic noise impact and fixed noise impact during operation phase, as all noise sensitive uses (i.e., classrooms of training centre) will be served with air conditioning (A/C) units and openable window/door will not rely on natural ventilation. Therefore, no potential traffic noise from the nearby road networks and fixed noise impact to the Project Site is anticipated.

4.6.3 With the implementation of practical mitigation measures including use of movable noise barrier for option 2, the planned fixed noise impacts at all of the nearby existing residential noise sensitive uses would be controlled to acceptable levels. With the recommended mitigation measures in place, fixed noise impacts of the proposed development on all representative NSRs would comply with the relevant criteria.

4.6.4 Based on the above, no adverse noise impact for option 1, 2 and 3 is therefore anticipated to the proposed development during construction and operation stages.

5 WATER QUALITY

5.1 INTRODUCTION

5.1.1 This section reviews the findings and recommendations of the assessment for water quality impacts associated with the construction and operation of the proposed development. Any likely impacts from the implementation of the proposed Project on the water sensitive receivers (WSRs) have been identified and mitigation measures are proposed to avoid or minimise these impacts where necessary.

5.2 RELEVANT LEGISLATION, GUIDELINES AND CRITERIA

5.2.1 The relevant legislation, guidelines and criteria on water quality assessment include:

- Water Pollution Control Ordinance (WPCO, Cap 358);
- Technical Memorandum for Effluents Discharge into Drainage and Sewerage Systems, Inland & Coastal Waters (TM-DSS);
- Environmental Impact Assessment Ordinance (EIAO, Cap. 499), Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), Annexes 6 and 14;
- Practice Note for Professional Persons ProPECC PN 5/93 “Drainage Plans Subject to Comment by the Environmental Protection Department";
- Professional Persons Environmental Consultative Committee Practice Note 1/94 Construction Site Drainage (ProPECC PN 1/94)
- Hong Kong Planning Standards and Guidelines (HKPSG); and
- Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 5/2005: Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works.

5.3 WATER SENSITIVE RECEIVERS

5.3.1 The Site is located within the Deep Bay Water Control Zone (WCZ). Water Sensitive Receivers (WSR) within the 500 m assessment area are described below in **Table 5-1**. The Project Site, i.e., the San Tin Community Isolation Facility (CIF) located in the northwest of the San Tin Interchange, 500-m assessment area and identified Water Sensitive Receivers (WSRs) are illustrated in **Figure 5.1**.

Table 5-5.1 Summary of Water Sensitive Receivers

ID	Description	Type	Status	Estimated distance from Project Site
WSR01	San Tin Wetland	Wetland	Active	310 m
WSR02	Nullah surrounding San Tin Wetland	Nullah	Active	310 m

ID	Description	Type	Status	Estimated distance from Project Site
WSR03	Pond next to San Tin Stormwater Pumping Station	Pond	Active	180 m
WSR04	San Tin Tsuen Road Nullah	Nullah	Active	Immediate vicinity
WSR05	San Tin Tsuen Road / Tun Yu Road Nullah	Nullah	Active	35 m
WSR06	Nullah next to Lok Ma Chau Control Point	Nullah	Active	250 m
WSR07	Pond	Pond	Active	330 m
WSR08	Nullah Connecting Lok Ma Chau Road and San Sham Road (north)	Nullah	Active	300 m
WSR09	Nullah Connecting Lok Ma Chau Road and San Sham Road (south)	Nullah	Active	120 m
WSR10	Nullah	Nullah	Active	270 m
WSR11	Pond next to Chau Tau Tsuen Stormwater Pumping Station	Pond	Active	460 m
WSR12	Conservation Area Next to Lok Ma Chau Control Point	Conservation Area	Active	280 m
WSR13	Conservation Area South of Sam Tin Interchange	Conservation Area	Active	330 m
WSR14	Watercourses surrounding Chau Tau Tsuen Stormwater Pumping Station	Watercourse	Active	380 m
WSR15	Watercourse north of Chau Tau West Road	Watercourse	Active	320 m

5.4 BASELINE CONDITIONS

5.4.1 The Site is situated within the inland waters of Deep Bay WCZ and the Water Quality Objectives (WQOs) designated for the whole zone are thus relevant to this Project. There are no existing EPD marine or river water quality monitoring stations within immediate vicinity or 500 m from the Project boundary. The closest river water quality monitoring stations are located along Kam Tin River and Fairview Park Nullah, marine water quality monitoring stations closest to Project Boundary are DM1 and DM2 of Deep Bay WCZ. Locations of river and marine water quality monitoring stations are shown in **Figure 5.2**.

Baseline River Water Quality

5.4.2 Kam Tin River has two monitoring stations (KT1 and KT2), which are 7.13 km and 6.78 km southwest of the Project Site; while the monitoring station on Fairview Park Nullah (FVR1) is 3.88 km southwest of the Project Site.

5.4.3 The overall Water Quality Objectives (WQO) compliance rate of Kam Tin River in 2021 was 38%, as compared with 21% in 1991, including Water Quality Index (WQI) gradings of KT1 and KT2 achieved in 2021 were at "Bad" and "Very Bad" respectively. Whereas at Fairview Park Nullah (FVR1), the overall Water Quality Objectives (WQO) compliance rate in 2021 was 55%, as compared with 50% in 2011, including the WQI grading remained "Fair" in 2021.

5.4.4 The latest river water quality data reported in the Annual River Water Quality Report are presented in **Table 5-2**.

Table 5-5.2 Summary of River Water Quality Monitoring Data collected by EPD River Water Quality Monitoring Programme for Inland Water in the Deep Bay WCZ (2021)

Parameter	Kam Tin River		Fairview Park Nullah
	KT1	KT2	FVR1
Dissolved Oxygen (mg/L)	4.0 (2.0 – 6.5)	2.4 (1.4 – 4.0)	7.5 (4.4 - 11.0)
pH	7.5 (7.2 – 8.1)	7.5 (7.4 – 7.7)	7.6 (7.2 - 8.4)
Suspended Solids (SS) (mg/L)	7.5 (2.5 – 53.0)	24.0 (3.6 – 120.0)	29.0 (12.0 - 77.0)
5-day Biochemical Oxygen Demand (BOD_5) (mg/L)	7.2 (3.7 – 34.0)	27.0 (7.3 – 160.0)	8.6 (5.2 – 12.0)
Chemical Oxygen Demand (mg/L)	21 (14 – 70)	58 (14 – 200)	28 (21 – 44)
Oil & Grease (mg/L)	<0.5 (<0.5 – 1.4)	<0.5 (<0.5 – 2.9)	<0.5 (<0.5 - <0.5)
E. coli (count/100ml)	46 000 (13 000 – 250 000)	120 000 (39 000 – 1 600 000)	33 000 (1 700 – 580 000)
Fecal Coliforms (count/100ml)	160 000 (47 000 – 600 000)	240 000 (79 000 – 2 400 000)	120 000 (18 000 – 1 100 000)
Ammonia-Nitrogen (mg/L)	6.600 (2.300 – 12.000)	9.800 (4.800 – 36.000)	1.400 (0.610 – 2.900)
Nitrate Nitrogen (mg/L)	0.820 (0.054 – 1.700)	0.007 (<0.002 – 0.480)	0.430 (0.230 – 1.000)
Total Kjeldahl Nitrogen (mg/L)	12.50 (7.70 – 14.00)	19.00 (11.00 – 44.00)	3.30 (3.20 – 5.40)
Orthophosphate Phosphorus (mg/L)	0.880 (0.530 – 2.600)	1.600 (1.100 – 2.700)	0.350 (0.220 – 0.590)
Total Phosphorus (mg/L)	1.75 (1.20 – 3.00)	2.80 (1.70 – 4.50)	0.60 (0.44 – 0.92)
Sulphide (mg/L)	<0.02 (<0.02 – 0.12)	0.04 (<0.02 – 0.18)	0.02 (<0.02 – 0.04)
Aluminum (µg/L)	<50 (<50 – <50)	<50 (<50 – <50)	<50 (<50 - <50)
Cadmium (µg/L)	<0.1 (<0.1 – < 0.1)	<0.1 (<0.1 – < 0.1)	<0.1 (<0.1 - <0.1)
Chromium (µg/L)	<1 (<1 – <1)	<1 (<1 – <1)	<1 (<1 – 2)
Copper (µg/L)	2 (2 – 4)	<1 (<1 – 2)	2 (<1 – 3)
Lead (µg/L)	<1 (<1 – <1)	<1 (<1 – <1)	<1 (<1 - <1)

Parameter	Kam Tin River		Fairview Park Nullah
	KT1	KT2	FVR1
Zinc (µg/L)	<10 (<10 – 17)	<10 (<10 – 11)	<10 (<10 – 20)
Flow (m^3/s)	0.462 (0.259 – 1.153)	0.290 (0.193 – 1.451)	NM

Notes:

i) Data source: EPD River Water Quality in Hong Kong in 2021.
ii) Data presented are in annual medians of monthly samples; except those for faecal coliforms and *E. coli* which are in annual geometric means.
iii) Figures in brackets are annual ranges.
iv) NM indicate no measurement taken.
v) Values at or below laboratory reporting limits are presented as laboratory reporting limits.
vi) Equal values for annual median (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

Baseline Marine Water Quality

5.4.5 There are nine marine monitoring station within Deep Bay WCZ. The closest marine water quality monitoring stations in the Deep Bay WCZ are DM1 and DM2, with their marine water quality monitoring data summarised in **Table 5-3**.

5.4.6 In 2021, overall WQO compliance rate of Deep Bay WCZ was 60%, comparing with the ten-year average of 47% between 2009 – 2018. Through implementation of the Deep Bay Water Pollution Control Joint Implementation Programme overseen by the governments of Hong Kong and Shenzhen, significant improvements in water quality has been observed within the Deep Bay area, predominantly achieving full compliance of NH_3-N WQOs in the last seven years.

5.4.7 Even though as compared with other WCZs, Deep Bay has recorded higher nutrient levels with annual depth-averaged TIN levels exceeding the respective TIN WQOs, an evident continuous decrease in TIN level since the mid-2000s has been noticed.

Table 5.3 Summary of Marine Water Quality Monitoring Data collected by EPD Marine Water Quality Monitoring Programme in the Deep Bay WCZ (2021)

Parameter		Inner Deep Bay	
		DM1	DM2
Temperature (°C)		26.4 (17.6 – 32.6)	26.7 (18.2 – 32.9)
Salinity		16.2 (9.4 – 22.2)	18.8 (9.8 – 26.5)
Dissolved Oxygen (DO) (mg/L)	Depth-averaged	5.5 (4.0 – 7.7)	6.0 (4.4 – 10.1)
	Bottom	N/A N/A	N/A N/A
Dissolved Oxygen (DO) (% Saturation)	Depth-averaged	74 (56 – 101)	83 (65 – 125)
	Bottom	N/A N/A	N/A N/A
pH		7.3 (6.9 – 7.8)	7.4 (6.9 – 7.9)
Secchi Disc Depth (m)		1.0 (0.9 – 1.3)	1.1 (0.7 – 1.5)
Turbidity (NTU)		23.6 (9.8 – 38.0)	33.6 (10.7 – 146.0)
Suspended Solids (SS) (mg/L)		29.5 (13.0 – 57.0)	29.0 (6.4 – 70.0)
5-day Biochemical Oxygen Demand (BOD_5) (mg/L)		2.5 (1.1 – 12.0)	2.4 (0.4 – 9.0)
Ammonia Nitrogen (mg/L)		0.417 (0.150 – 0.950)	0.267 (0.041 – 1.000
Unionised Ammonia (UIA) (mg/L)		0.005 (0.002 – 0.009)	0.004 (<0.001 – 0.011)
Nitrite Nitrogen (mg/L)		0.152 (0.060 – 0.260)	0.102 (0.026 – 0.180)
Nitrate Nitrogen (mg/L)		1.260 (0.490 – 2.700)	0.965 (0.350 – 2.400)
Total Inorganic Nitrogen (TIN) (mg/L)		1.83 (0.82 – 3.41)	1.33 (0.50 – 2.81)
Total Kjeldahl Nitrogen (mg/L)		0.75 (0.51 – 0.86)	0.63 (0.40 – 0.94)
Total Nitrogen (mg/L)		1.95 (1.55 – 2.23)	1.48 (1.19 – 2.33)
Orthophosphate Phosphorus (mg/L)		0.159 (0.110 – 0.220)	0.110 (0.056 – 0.170)
Total Phosphorus (mg/L)		0.20 (0.14 – 0.26)	0.18 (0.11 – 0.28)
Silica (as SiO_2) (mg/L)		6.18 (1.40 – 11.00)	4.68 (0.70 – 8.50)
Chlorophyll-*a* (µg/L)		8.3 (1.7 – 15.0)	11.0 (2.1 – 43.0)
E. coli (count/100ml)		160 (23 – 1600)	56 (9 – 3200)
Fecal Coliforms (count/100ml)		400 (86 – 3000)	120 (11 – 6000)

Notes:

i) Data source: EPD Marine Water Quality in Hong Kong in 2021.
ii) Except as specified, data presented are depth-averaged values calculated by taking the means of three depths: surface, mid-depth, bottom.
iii) Data presented are annual arithmetic means of the depth-averaged results except for *E. coli* and fecal coliforms which are annual geometric means.
iv) Data in brackets indicate the ranges.

5.5 EVALUATION OF WATER QUALITY IMPACTS

5.5.1 Minor works at the proposed development shall include removal of Modular Integrated Construction (MiC) units and fences, road marking painting, utility diversion, providing loading / unloading bays for coaches, and creating additional recreational facilities.

5.5.2 As the Project only involves converting from an isolation facility to temporary training centre, therefore, there shall not be any site formation and infrastructure works, nor alterations to the existing drainage and sewerage system which has already been built within the Site, the expected impacts on water quality during construction and operation phases shall be minimal.

Potential Impacts During Construction Phase

5.5.3 The minor works will involve utilities diversion, removal of fences and existing MiC units and road marking painting. Foundation works shall not be performed. No diversion works and river training of the existing streams are required.

5.5.4 However, potential water quality impacts arising from the construction may be due to following:

- General construction activities;
- Construction site runoff;
- Sewage effluent; and
- Accidental spillage of chemicals.

5.5.5 Since the Site in close proximity of the San Tin Wetland, nullahs and ponds, there could be potential impact on these locations through the release of discharges and runoff laden with suspended solids and other polluting characteristics such as high pH. However, considering the sewerage system, including a sewage pumping station and 1.8-km twin rising mains, that was already built within the Community Isolation Facility (CIF) in March 2022 to convey sewage from the CIF to the sewage treatment facility at Lok Ma Chau Control Point, which would be utilised by construction workforce; as well as existing road drainage system of the CIF, will both be sustained to curtail water quality impacts to nearby waterbodies. No direct disturbance to the identified WSRs is expected.

5.5.6 With implementation of recommended mitigation measures as described in **Section 5.6**, it is unlikely that there would be any adverse water quality impacts on these watercourses during construction phase.

Potential Impacts During Operation Phase

5.5.7 The potential water quality would be mainly road surface runoff, sewage and drainage discharge.

5.5.8 Surface runoff may contain grit, oil and debris from the road users including vehicles and pedestrians. The existing road drainage system will receive road run-off.

5.5.9 Existing road drainage outfall locations will be maintained to receive road drainage, avoiding impacts to the waterbodies.

5.5.10 Sewage generated from the proposed development shall be directed to the nearby existing public sewerage system at the Lok Ma Chau Control Point.

5.5.11 With proper implementation of recommended mitigation measures, it is expected that the impact on water quality will be minimal.

5.6 MITIGATION MEASURES

Mitigation Measures During Construction Phase

5.6.1 While no site formation and infrastructure works would be expected for the proposed development. Any close proximity of the construction works to inland watercourses has the potential to impact the receiving water quality near the Project Site. Mitigation measures listed in ProPECC Note PN1/94 on Construction Site Drainage and ETWB TC (Works) No. 5/2005 on Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works should be implemented.

5.6.2 Mitigation measures of relevance from ETWB TC (Works) No. 5/2005 include:

- Stockpiling of construction materials and spoil, should be properly covered and located away from any natural stream/river.
- Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.
- Construction works close to the inland waters should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low.
- Removal of existing vegetation alongside the riverbanks should be avoided or minimised. When disturbance to vegetation is unavoidable, all disturbed areas should be hydroseeded or planted with suitable vegetation to blend in with the natural environment upon completion of works.

5.6.3 Site practices outlined in ProPECC PN 1/94 on "Construction Site Drainage should be considered to minimise surface runoff and wastewater produced from construction activities:

- Wastewater produced during construction, including cleaning, should not be discharged into the stormwater drainage system.
- Silt removal facility, with pH adjustment where necessary, should be considered to remove settleable solids prior to discharge.
- Channels and manholes should be maintained, with removal of silt and grit deposits performed regularly, especially at the onset of and after rainstorms.
- EPD licensing of discharge from construction activities into any drainage or sewerage systems, or inland or coastal waters, or into the ground within the Water Control Zone, *except discharge of domestic sewage into foul sewers or discharge of unpolluted water into storm drains or into the waters of Hong Kong*, shall be required, in case there is any discharge of effluent from the construction site under the WPCO.

5.6.4 Given that no site formation and infrastructure works would be expected for the proposed development, adverse water quality impact during construction phase is not anticipated.

Mitigation Measures During Operation Phase

5.6.5 A surface water drainage system is being provided to collect road runoff. Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish is being provided at the inlet of drainage system.

5.6.6 Road gullies with standard design of silt traps and oil interceptors to remove silt and grit before entering the public storm water drainage system is being provided.

5.6.7 The silt traps and oil interceptors should be regularly cleaned and maintained in good working condition.

5.6.8 Sewage generated during operation phase shall be connected and conveyed to nearby existing sewerage system the nearby Lok Ma Chau Control Point Sewage Treatment Plant for treatment.

5.6.9 With the implementation of the above-mentioned mitigation measures, adverse water quality impact during the operation phase is not anticipated.

5.7 CONCLUSION

5.7.1 The key water quality impacts during construction is not anticipated as no site formation and infrastructure works would be expected for the proposed development.

5.7.2 As a sewerage system has already been in place and sewage produced during construction phase and operation phase shall be conveyed to nearby existing public sewerage system, no adverse water quality impacts is anticipated**.**

6 WASTE MANAGEMENT

6.1 INTRODUCTION

6.1.1 This section presents the review and findings of waste management implications associated with the construction and operation of the proposed development.

6.2 LEGISLATION, STANDARDS AND GUIDELINES

6.2.1 The following legislation, circulars and guidelines are applicable to waste management and disposal in Hong Kong:

- Waste Disposal Ordinance (Cap. 354);
- Public Health and Municipal Services Ordinance (Cap. 132);
- Environmental, Transport and Works Bureau Technical Circular (Works) No. 19/2005 – Environmental Management on Construction Sites;
- Development Bureau Technical Circular (Works) No. 8/2010 – Enhanced Specification for Site Cleanliness and Tidiness; and
- Development Bureau Technical Circular (Works) No. 2/2011 – Encouraging the Use of Recycled and other Green Materials in Public Works Projects.

6.3 ASSESSMENT APPROACH AND METHODOLOGY

6.3.1 The assessment on waste management implications is based on the following:

(i) Estimation of types and quantities of the wastes generated;

(ii) Identification of disposal options for each type of waste;

(iii) Assessment of potential environmental impacts from the handling (including stockpiling, labelling, packaging and storage), collection, transportation and disposal of the identified wastes; and

(iv) Evaluation of the opportunity for reducing waste generation, maximizing reuse and recycling and minimising waste disposal.

6.4 IDENTIFICATION OF POTENTIAL SOURCES AND TYPES OF WASTES

Construction Phase

6.4.1 The Site has been formed and existing modular MiC units have been placed at the Project Site since 2022 for the purpose of a community isolation facility. Occupancy for the training centre is expected in October 2023.

6.4.2 Since the site formation has already been completed and existing modular units will be utilized for the proposed development, no site formation and infrastructure works, and/or demolition works would be expected for the proposed development. Limited amount of general refuse from local workforce (at most 10 workers) is anticipated for the maintenance of the MiC units for the proposed development.

6.4.3 The estimated quantity of wastes anticipated during construction phase is summarised in **Table 6-1** below.

Table 6.1 Summary of Wastes Anticipated during Construction Phase and Disposal Outlets

Work Activities	Waste Type	Amount in m^3 unless otherwise stated	Management Options		Total Amount Disposed in m^3 unless otherwise stated
			Recommended Outlets	Amount Reused / Recycled (m^3)	
Maintenance of MiC units	General refuse from local workforce	5.9 kg/day[i]	Recycle as far as practicable prior to disposal to landfill		5.9 kg/day

Notes:
[i] Based on the commercial and industrial waste generation rate of 0.59 kg/person/day and local work force of 10 during construction phase; Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2021, EPD.

6.4.4 The general refuse generated from local workforce should be stored in enclosed bins separated from other waste types. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean before disposed to landfill via waste transfer facilities.

6.4.5 Mitigation measures are required to ensure the proper handling, storage, transportation and disposal of waste is carried out during construction phase. Other mitigation measures, including good site practices, waste reduction measures, for all categories of waste have been recommended as below:

Good Site Practices

6.4.6 Appropriate waste handling, transportation and disposal methods the different types of wastes generated from construction activities should be implemented to ensure these waste streams do not enter the nearby water sensitive receivers.

6.4.7 Adverse impacts related to waste management such as dust, odour, noise and wastewater discharge will not be expected to arise, provided that good site practices will be strictly followed. Recommendations for good site practices during the construction activities include:

- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;
- Training of site personnel in proper waste management handling procedures;
- Provision of sufficient waste disposal points and regular collection of waste;
- Appropriate measures to minimise windblown litter and dust / odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and
- Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads.

Waste Reduction Measures

6.4.8 Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Sorting wastes to recover any recyclable portions such as metals, plastics and paper;

- Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal;
- Encourage collection of recyclable waste such as waste paper and aluminum cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force; and
- Proper site practices to minimise the potential for damage or contamination waste material.

6.4.9 In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.

Storage, Collection and Transportation of Waste

6.4.10 Storage of general refuse onsite may induce adverse environmental implications if not properly managed. The following recommendation should be implemented to minimise the impacts:

- All waste should be handled and stored properly to prevent leakage or overflow. An enclosed and covered area is preferred to reduce the occurrence of wind-blown light material; and
- Designation of waste collection points to enhance recycling.

6.4.11 The collection and transportation of waste from works area to respective disposal sites may also induce adverse environmental impacts if not properly managed. The following recommendation should be implemented to minimise the impacts:

- Remove waste in a timely manner;
- Employ trucks with cover or enclosed containers for waste transportation;
- Obtain relevant waste disposal permits from the appropriate regulatory authorities; and
- Disposal of waste should be done at licensed waste disposal facilities.

General Refuse

6.4.12 The number of workforce to be employed for the Project is expected to be no more than 10 workers. Based on the industrial waste generation rate of about 0.59 kg/person/day[1], the total refuse generated per day would be 5.9 kg/day.

6.4.13 Such refuse will be properly managed so that intentional or accidental release to the surrounding environment will be avoided. Disposal of refuse at sites other than approved waste transfer or disposal facilities will be prohibited. Effective collection of site wastes will be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, or creating an odour nuisance or pest/ vermin problem. Waste storage areas will be well maintained and cleaned regularly.

6.4.14 Provided that the mitigation measures are adopted, the potential environmental impacts caused by the storage, handling, transportation and disposal of general refuse are expected to be minimal. It is recommended that general refuse should be collected on a daily basis for disposal.

<u>Operation Phase</u>

6.4.15 Most of the wastes generated during operation phase would be general refuse generated from the students and staff at the training centre. The quantity of general refuse is expected to be reasonable with implementation of appropriate control measures identified below.

[1] Plate 2.7 Per capita disposal rates of MSW, domestic waste and commercial & industrial waste from 2011 to 2021. Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2021; Environmental Protection Department, The Government of the Hong Kong Special Administrative Region.

6.4.16 With reference to the data from *Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2021*[2] by EPD, which contains the latest information available, the commercial and industrial waste generation was 0.59 kg/person/day. The estimated waste arising from the students and staff is summarised in **Table 6-2**, showing about 0.059 tpd of domestic refuse would be generated during the full operation phase.

Table 6.2 Waste Types and Sources in the Operation Phase of the Project

Site	Planned Occupancy during Full Operation	EPD's Domestic Refuse Generation Rate	Estimated Domestic Refuse Arising	Example of Wastes Found in Domestic Refuse
Students and staff	Around 100	0.59kg/person/day	0.059 tpd[i] (equivalent to 21.5 tpa[ii])	• Mixed refuse • Recyclable waste
Notes: [i] tpd denotes tonnes per day. [ii] tpa denotes tonnes per annum, assuming 365 days per annum.				

Waste Recycling

6.4.17 This estimate assumed no waste reduction measure to reduce the demand for valuable landfill space. Based on information from EPD, the major components of domestic refuse in Hong Kong included glass, metals, paper, plastics and putrescible. Most of these materials are recyclable which could significantly reduce the amount of the general refuse for final disposal.

6.4.18 To facilitate effectual waste recycling, future management of the proposed development is recommended to implement a waste recycling programme, such as a 4-bin recycling system for paper, metal, glass and plastic, alongside with a general refuse bin, and collection of food wastes. They should be placed in prominent places with clear indications to promote waste separation at source.

6.4.19 Recyclable materials should be segregated into different containers to avoid potential odour nuisance to people and the surrounding environment during transport of waste. Enclosed waste containers should be used, the collection route and time should be properly planned.

Waste Collection and Disposal

6.4.20 An effective and efficient waste handling system is essential in order to minimise potential environmental impacts for the general refuse storage, collection and transport, as such impacts may include odour if waste is not collected frequently; water quality if waste enter storm water drains; aesthetics and vermin problems if the waste storage area is not well maintained and cleaned regularly. The waste handling system may also facilitate materials recovery and recycling.

6.4.21 The wastes should be collected at least once a day and must be disposed at approved waste transfer or disposal facilities by a reputable waste collector. With the proper implementation of the recommended mitigation measures, adverse impacts from waste management during operation phase are not anticipated.

6.4.22 As mentioned in this section, wastes arised during construction and operation phase will be transported or disposed of at the designated landfill(s). **Table 6-3** summarised the information on waste facilities serving the Project.

Table 6.3 Information of Waste Facility Serving the Project

Waste Facility	Location
Strategic Landfill	
North East New Territories (NENT) Landfill	Ta Kwu Ling, New Territories

6.5 CONCLUSION

6.5.1 Small amount of general refuse is expected to generate during the construction phase from local workforce but with the implementation of recommended mitigation measures which include appropriate waste control and management, good site practices and waste reduction measures, no adverse environmental impact is anticipated from the handling (including stockpiling, labelling, packaging and storage), collection, transportation and disposal of general refuse.

6.5.2 During the operation phase, no significant waste implication is expected from the students and staff. The quantity of general refuse arising from the operation phase can be minimised by implementing an effectual waste handling system, a waste reduction programme, and by hiring a reputable waste collector to collect the wastes on a daily basis.

6.5.3 Recyclable materials should be segregated into different containers to avoid potential odour nuisance to the public and surrounding environment during transport of waste. Enclosed waste containers should be used, the collection route and time should be properly planned.

6.5.4 Provided that the wastes are managed by implementing all the recommended mitigation measures, no significant environmental impact is anticipated during the construction and operation phases of the proposed development.

7 LAND CONTAMINATION

7.1 INTRODUCTION

7.1.1 This section presents the review and findings of contaminated land management associated with proposed development.

7.2 LEGISLATION, STANDARDS AND GUIDELINES

7.2.1 The following legislation, standards and guidelines are relevant to the assessment of land contamination:

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

7.3 APPROACH AND METHODOLOGY

7.3.1 The guidelines for evaluating and assessing potential land contamination issue stated in EPD's Guidance Note for Contaminated Land Assessment and Remediation, Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management and Practice Guide for Investigation and Remediation of Contaminated Land were followed.

7.3.2 The assessment area for contaminated land assessment shall cover the entire area of the Project Site. Desktop review, site reconnaissance and a review of historical and current land uses will provide information and guidance to characterise and identify if potential contamination exists or may be present during the construction and operation of the Project. Under the Guidance Note, a land contamination assessment shall include at minimum the following:

a) Provide a clear and detailed account of present land use and relevant past land use activities that may lead to potential land contamination;

b) Visual site inspection to identify areas of potential contamination and associated impacts, risks or hazards to human health and the environment; and

c) Conclude and provide recommendation if further works regarding land contamination issues are required for the Project.

7.4 PROJECT DESCRIPTION

7.4.1 The Site is surrounded predominantly by a residential area (village-type houses) to the south and west, open areas with densed vegetation to the north and road network to the east. A location plan of the Site is illustrated in **Figure 2.1.**

7.4.2 Previous land use was the San Tin Community Isolation Facility (CIF) and it has been placed in standby mode. The proposed development will fully utilise existing MiC structures, and no site formation or infrastructure works would be expected for the proposed development.

7.5 REVIEW OF SITE HISTORY

7.5.1 The development history of the Site was reviewed with the aid of aerial photographs and historical land uses to identify known or potential environmental concerns. Historical aerial photographs are included in **Appendix 7.1** and summarised in **Table 7-1**.

Table 7.1 Historical Land Use Summary

Year	Height (Feet)	Photo Reference Number	Site Description
1945	20,000	681_4-3076	Project Site is located on vegetated agricultural land.
1956	16,700	F22-561-0129	No changes to land use between 1945 to 1955.
1964	12,500	1964-2807RM	No changes to land use between 1956 to 1963. In 1964, Project Site and the surroundings were excavated and filled with water, where some were converted into fishponds.
1974	12,500	10011RM	No changes to land use between 1964 to 1973. In 1974, Project Site and the surroundings were excavated and filled with water, where some were converted into fishponds. A road was seen cutting through the Project Site from east to west.
1984	4,000	55858	No changes to land use between 1975 to 1983. In 1984, some fishponds within the Project Site were observed.
1989	4,000	A18206	Backfilling of fishponds observed within the Project Site. Construction of San Tin Highway and San Sham Road were in progress.
1992	2,000	CN02860	Backfilling of fishpond commenced in 1989 and completed in 1992. Some temporary containers (seacan) were observed at the Site. Construction of San Tin Highway and San Sham Road were completed.
2001	4,000	CN30028	No changes to Project Site except paving within the Project Site started in the eastern corner. San Tin Tsuen Road was constructed to the north of Project Site.
2008	6,000	CS18195	Paving within the Project Site was completed between 2003 and 2008. Temporary site office with a roof observed (in yellow) within north of the Project Site.
2013	2,300	CW102213	Another site office with roof (in green) was established within Project Site.
2016	2,500	E005049C	Previous temporary structures at The Boxes were completely removed.
2018	6,900	E040602C	The Boxes (shopping mall) in portable units was established at Project Site.
2022	6,900	E153622C	According to historical sources, The Boxes was closed in 2019. In 2022, Portable units at The Boxes were removed and seen replaced by the San Tin Community Isolation Facility (also in portable units) and it resembles to present day.

7.5.2 Based on the first aerial photograph in 1945, the Site was located in vegetated agricultural land. No land use changes were observed from 1946 to 1973. In 1974, the Site was excavated and a road was seen cutting through from east to west. Fishponds within the Project Site were observed in 1984 but then backfilled in 1989.

7.5.3 From 1992, temporary containers in the open area were seen and more buildings with roof were observed within the Project Site in 2008, and until in 2016, all temporary structures were removed from the Project Site and the whole Project Site was re-paved. The observations from review of aerial photographs indicated that there were no potential sources or signs of contamination such as chemicals, oils and hazardous waste handling and storage locations at the Project Site.

7.5.4 The complete structures of The Boxes (shopping mall) was seen in 2018 and according to historical resource, The Boxes ceased its operation in 2019. In 2022, the Project Site is completely replaced by the portable / modular units (MiC units) and is known as the San Tin Community Isolation Facility (CIF).

7.5.5 In retrospect, there is no land use change from 1989 where fishponds within the Project Site were backfilled. The Project Site has been an open area since 1992 and the review of aerial photographs did not identify any potentially contaminating land uses within Project Site and/or activities in the surrounding area of the Site. Potential contamination from surrounding land uses is not anticipated.

7.6 SITE INSPECTION

7.6.1 Current land use at the Project Site is the San Tin Community Isolation Facility (CIF). The facility completed its construction in March 2022. Surrounding land uses include road network, open storages and vegetated land. The CIF has been put into standby mode.

7.6.2 WSP Land Contamination Specialist (Specialist) conducted a site visit to ascertain the latest site condition in order to identify whether contamination exists at the Site. Site inspection photos are illustrated in **Appendix 7.2.** Upon site inspection, it is a gated facility and fenced perimeter (**Photos 1, 4 and 9**).

7.6.3 The ground condition of the facility is concrete-paved, elevated and stain-free are observed (**Photos 2 to 3**). Modular units and stormwater drainages are observed (**Photo 5 to 7**) at the facility. DSD drainage pipes are also observed (**Photo 8**) within Project Site. It is not anticipated that the proposed development during construction and operation stages will lead to any potential contamination of soil and/or groundwater.

7.6.4 A structure is identified as the existing transformer room (according to the Site Plan) within the Site boundary during site visit (**Photo 10 to 12**). The structure is inaccessible and locked away from public access. Existing water tanks are also observed adjacent to the transformer room. The ground condition at the transformer room is concrete-paved and well-maintained, no cracks or oil stains are observed. In addition, there is an absence of aboveground storage tanks (ASTs), underground storage tanks (USTs) and/or any DG storerooms, which would cause pollution activities leading to potential contamination to the Site. Potential contamination from transformer-use activities is not anticipated provided that the transformer is to be retained and no development is to be carried out at the transformer room structure.

7.6.5 Land use outside Project Site are residential area (village-type houses), road network and open space consists of densed vegetation and trees (**Photos 13 to 16**). There is an absence of industrial and/or pollution activities leading to potential contamination the Site. Potential contamination from surrounding land uses is not anticipated.

7.6.6 However, if there are any other areas that are to be acquired as part of the works sites for this Project, site re-appraisal is required to be carried out at these areas to determine the extent and potential land contamination.

7.7 EVALUATION OF LAND CONTAMINATION ISSUES

7.7.1 Based on review of historical aerial photos of the Application Site by WSP's Land Contamination Specialist, land contamination of the Application Site is not anticipated. It is understood that the existing transformer room is to be retained *in-situ* and no development is to be carried out around the transformer room structure, potential contamination from transformer-use activities is therefore not anticipated.

7.7.2 Surrounding land uses with potentially contaminating activities leading to potential contamination of soil and/or groundwater are not observed from current operations during site inspection, and a review of historical aerial photographs. Potential contamination from surrounding land uses is not anticipated.

7.7.3 However, any potential change of land uses may result in potential land contamination and re-appraisal of these areas are also required when they become part of the land requirement to determine the extent and potential land contamination.

7.8 CONCLUSION

7.8.1 WSP’s Land Contamination Specialist conducted a site inspection to ascertain the latest site condition. The surface is concrete-paved, stain-free and appeared well-maintained; drains are labelled clearly and observed within the Site. Based on review of historical aerial photos of the Application Site by WSP's Land Contamination Specialist, land contamination of the Application Site is not anticipated.

7.8.2 One structure identified as the transformer room is observed and it is to be retained *in-situ* and no development is to be carried out around the transformer room structure, potential contamination from transformer-use activities is therefore not anticipated.

7.8.3 No presence of industrial-related activities or building structures, underground storage tanks (USTs), chemical drums or oil stains, unnatural colours / odours and abandoned piping / mechanical components are observed at the Site during site inspection. Potential land contamination at the Site is not anticipated.

7.8.4 Surrounding land uses include existing road network, residential area and open space with densed vegetation and trees; potentially contaminating activities and industrial land uses leading to potential contamination of soil and/or groundwater are not observed from current operations during site inspection and review of historical aerial photographs. Potential contamination from surrounding land uses is not anticipated.

8 ECOLOGY

8.1 INTRODUCTION

8.1.1 This section reviews the ecological baseline based on the existing literature, and provides the ecological impact assessment on the proposed development.

8.2 REVIEW OF ENVIRONMENTAL LEGISLATIONS

8.2.1 The HKSAR ordinances and regulations relevant to the Ecological Assessment for the proposed development include:

- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations (Cap. 96A);
- Town Planning Ordinance (Cap. 131);
- Wild Animals Protection Ordinance (WAPO, Cap. 170);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586); and
- Environmental Impact Assessment Ordinance ("the EIAO", Cap. 499) and the associated Technical Memorandum (TM-EIAO).

8.2.2 The Ecological Assessment also made reference to the following guidelines and standards as well as international conventions, including but not limited to Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10, "Conservation"; Ecological Baseline Survey For Ecological Assessment (EIAO Guidance Note No. 7/2010); Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys (EIAO Guidance Note No. 10/2010). The species identified as having conservation importance are further categorized in accordance with their relevancy with the identified impacts, and the potential impacts in them were assessed in accordance with the TM-EIAO criteria.

8.3 APPLICATION SITE AND STUDY AREA

8.3.1 The Application Site is located adjacent to San Sham Road leading to the Lok Ma Chau Boundary Crossing. The Study Area for ecological assessment covered the Application Site and area within 500m from the Application Site boundary (**Figure 8.1**).

8.4 REVIEW OF EXISTING INFORMATION

8.4.1 A literature review was conducted to characterize the existing conditions within the Application Site and the Study Area, and to identify habitats and species of potential importance in the area. Reviewed information included, but not be limited to, the following:

- Outline Zoning Plan;
- Historical and latest government aerial photos;
- Hong Kong Biodiversity Information Hub;
- Rare and Precious Plant of Hong Kong (AFCD 2003);
- Hong Kong Biodiversity – Newsletter of AFCD;

- Memoirs of Hong Kong Natural History Society;
- Porcupine! – Newsletter of Department of Ecology and Biodiversity, University of Hong Kong;
- Ecological Impact Assessment Report for the Planning Application No. A/YL-ST/477

8.5 RESULTS OF LITERATURE REVIEW

STATUTORY ZONING PLAN

8.5.1 The Study Area (including the Application Site) and the surrounding habitats are covered by the Approved San Tin Outline Zoning Plan No. S/YL-ST/8, and the Application Site is within OU(Service Stations)' ("OU(SS)") zone.

8.5.2 According to the Explanatory Statement of the OZP, the OU(SS) zone is intended primarily for providing support service facilities such as eating places, petrol filling stations, etc. for the cross-boundary traffic and the container related facilities nearby.

RECOGNISED SITES OF CONSERVATION IMPORTANCE

8.5.3 The recognised sites of conservation importance within the Study Area or are likely to be impacted include the following:

- Wetland Conservation Area;
- Wetland Buffer Area;
- Priority Site for Enhanced Conservation: Deep Bay Wetland outside Ramsar Site;
- Conservation Area;
- Mai Po Lung Egretry;
- Mai Po Village Egretry (Mai Po Village Site of Special Scientific Interest).

8.5.4 The recognised sites of conservation importance in close proximity to the Application Site or within the Study Area are indicated in **Figure 8.1**. Other recognised sites of conservation importance in Northwest New Territories include the Ramsar Site, which are all located away and outside the Study Area.

ECOLOGICAL BASELINE

8.5.5 The Application Site of the Planning Application No. A/YL-ST/477 was the same as the present Application Site boundary. As the habitats within the Study Area remain similar over the years, the ecological baseline for that Planning Application is adopted for the present ecological assessment. The survey period and the taxa groups of the ecological surveys for A/YL-ST/477 are summarized in **Table 8-1**. Habitats within the Study Area including the Application Site were updated based on aerial photos and ground truthing in July 2023.

Table 8-1 The Survey Period of the Ecological Surveys of the Planning Application A/YL-ST/477

Year	2013		2014									
Month	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Habitat and Vegetation		√										√

Bird	√	√	√	√	√	√	√	√	√	√	√	√
Mammal	√		√				√			√		
Herpetofauna	√	√			√	√	√			√	√	
Night Survey	√					√	√	√		√		
Butterfly & Dragonfly	√			√	√	√	√			√	√	√
Stream and Freshwater Fauna		√								√		

Note: Update surveys were also performed in December 2015 to January 2016 to update the site conditions and ecological baseline

HABITATS AND VEGETATION

8.5.6 The Study Area covers 11 types of habitats identified in the literature review (Planning Application No. A/YL-ST/477 as well as from aerial photos and ground truthing conducted in July 2023), namely agricultural land, developed area, flood storage pond, grassland, mitigation wetland, plantation, pond, shrubland, watercourse, wasteland, and woodland (**Figure 8.2**). As the Application Site has already been occupied as cabin hospital, all habitats within the Application Site are identified as developed area as shown in **Figure 8.2**.

8.5.7 A total of 199 plant species were identified within the Study Area. No flora species of conservation importance was recorded within the Application Site and the Study Area. The overall floral diversity was low.

TERRESTRIAL FAUNA

8.5.8 The faunal species of conservation importance identified in the Study Area in the EcoIA Report for A/YL-ST/477 are summarized and evaluated in **Appendix 8.1**.

MAMMAL

8.5.9 It was reported that 6 mammal species were recorded within the Study Area in the EcoIA report for A/YL-ST/477. Species of conservation importance include Japanese Pipistrelle, and Pomona Leaf-nosed Bat, but none of them was found within the Application Site.

AVIFAUNA

8.5.10 It was reported that a total of 90 bird species were recorded within the Study Area of EcoIA report for A/YL-ST/477, including 27 species of conservation importance. Among these, 17 avifauna species were recorded within the Application Site, of which 6 species are of conservation importance. Most of the recorded species within the Application Site are common and widespread in Hong Kong. The 6 species of conservation importance recorded within the Application Site were all waterbirds, but the Application Site now is all paved area without wetland habitats, which is not a typical habitat for wildlife including waterbirds.

HERPERTOFAUNA

8.5.11 It was reported that 8 species of reptiles were recorded within the Study Area from the EcoIA report for A/YL-ST/477, including 1 species of conservation importance i.e., Common Rat Snake in the EcoIA report for A/YL-ST/477, which was recorded outside the Application Site near On Lung Tsuen. Seven species of amphibians were recorded within the Study Area. None of the recorded species is of conservation importance.

ODONATA

8.5.12 Twenty-four species of dragonfly were recorded within the Study Area according to the EcoIA report for A/YL-ST/477. Only one individual of species of conservation importance i.e., Scarlet Basker was recorded in the San Tin Eastern Channel which is outside the Application Site.

BUTTERFLIES

8.5.13 Forty-seven species of butterfly were recorded within the Study Area according to the EcoIA report for A/YL-ST/477. The recorded species are mostly common in Hong Kong. Only 1 individual of species of conservation importance i.e., Grass Demon was recorded in agricultural land in Chau Tau (outside Application Site).

AQUATIC FAUNA

8.5.14 It is reported that a total of 3 species were recorded within the Study Area of the EcoIA report for A/YL-ST/477. None of them were of conservation importance.

8.6 EVALUATION OF HABITATS

8.6.1 The habitats within the Study Area and the Application Site are evaluated in **Table 8-2** and **Table 8-3**, respectively.

Table 8-2 Evaluation of Overall Ecological Value of Habitats within the Study Area

Habitat	Cultivated Land	Drainage channels	Degraded watercourses	Fishpond	Flood Storage Pond	Grassland/Shrubland
Overall ecological value	Low	Low to moderate	Very low	Moderate	Low	Low
Habitat	**Mitigation Wetland**	**Plantation**	**Woodland**	**Urbanised/Disturbed Area**	**Wasteland**	
Overall ecological value	Moderate	Low	Low to moderate	Very low to low	Low	

Table 8-3 Evaluation of Habitats within the Application Site based on Current Application

Criterion	Developed Area
Naturalness	Predominately man-made, composed of cabin hospital
Size	3.85 ha
Diversity	Very low floral and faunal diversity
Rarity	Fauna species of conservation importance included Great Cormorant, Common Teal, Great Egret, Grey Heron, Little Egret and Chinese Pond Heron. These species merely flew over the Application Site without landing (from Planning Application A/YL-ST/477)
Re-creatability	Easy to recreate
Fragmentation	N/A
Ecological Linkage	Not functionally linked to habitats of conservation importance
Potential value	Low
Nursery/breeding ground	No significant observations. Developed area is limited as breeding habitat of wildlife due to high disturbance level, low habitat complexity and vegetation cover.
Age	N/A
Abundance/richness of wildlife	Very low abundance of wildlife.
Overall ecological value	Very low

8.7 IMPACT IDENTIFICATION AND EVALUATION

8.7.1 The potential impacts associated with the proposed development include the following but not limited to

- Disturbance impacts to surrounding habitats and fauna;
- Disturbance impacts to surrounding fauna, habitats and recognized sites of conservation importance during operation;
- Potential disturbance to flight paths of ardeids and other large-sized birds;
- Potential collision of birds; and
- Night-time light impacts.

8.7.2 The significance of ecological impacts has been evaluated based primarily on the criteria set out in Table 1 of Annex 8 of the Technical Memorandum for EIAO:

- Habitat quality;
- Species affected;
- Size/abundance of habitats/species affected;
- Duration of impacts;
- Reversibility of impacts; and
- Magnitude of environmental changes.

8.8 CONSTRUCTION PHASE IMPACTS

Direct Impact – Permanent Habitat Loss

8.8.1 The proposed development only utilises the developed area of **very low** ecological value and it does not encroach the wetland habitats in the vicinity of the Application Site. The potential impact of permanent loss of the developed area is considered **insignificant**.

Direct Impact – Temporary Habitat Loss

8.8.2 There will be neither off-site works area nor temporary access for the construction works. Hence, no temporary habitat loss is anticipated.

Fragmentation (habitats)

8.8.3 The Application Site is currently covered by habitats with **very low** ecological value. Movement of non-volant fauna (i.e., mammal, herpetofauna) through the Application Site is therefore limited under the existing condition. Hence, the potential impact due to habitat fragmentation is ranked as **insignificant**.

8.8.4 For birds, in particular waterbirds, due to the lack of sizable wetland habitat within the Application Site suitable for species that normally occur in significant numbers in Inner Deep Bay. Hence, it is considered that indirect impacts (loss of ecological linkage) on the Inner Deep Bay wetland ecosystem as a result of this development would be **negligible**.

Fragmentation (flight-lines)

8.8.1 As the existing cabin hospital is only one-storey high, and the proposed development will make use of existing cabins, potential impacts to the flight-line of breeding ardeids are not expected.

The proposed development within the Application Site is also not an obstacle to the flight-line of wintering birds. The potential fragmentation impacts to breeding ardeids at Mai po Lung Egretry and Mai Po Village Egretry, from the proposed development are considered **insignificant**.

Indirect Impacts – Construction Noise

8.8.2 The construction activities, including removal/rearrangement of existing MiC units, have the potential to produce noise and cause disturbance to wildlife. As the construction activities do not involve any noisy construction work (site formation or infrastructure works), the indirect impacts from construction phase are considered to be **insignificant**.

Indirect Impacts – Dust

8.8.3 Dust will increase during construction phase, and might temporarily reduce the abundance and distribution of fauna in habitats adjacent to the works area. Impacts from dust deposition of these types will, however, be temporary and reversible. Dust deposition impacts arising from the Project, therefore, are considered **insignificant**.

Indirect Impacts – Light glare

8.8.4 As there will be no additional lighting installations during construction phase, the potential impacts of lighting on ecology will be remained as the existing conditions. Besides, there are already existing street lights and constant traffic that are at and near the Application Site, potential light glare impacts to surrounding wildlife are considered **insignificant**.

Indirect Impacts – Water Quality and Site Run-off

8.8.5 During the construction phase, sediments from construction activities may also enter water bodies during heavy rain, leading to high turbidity, reduced light penetration, eutrophication, and oxygen depletion, which could adversely affect aquatic macrophytes and animals that prey on them. Potential impacts is considered **insignificant** due to the nature of works can be minimized and controlled through implementation of good site practices.

Impacts on Recognized Sites and Species of Conservation Importance

8.8.6 The Application Site is located within WBA, and other sites of conservation importance are either further away or separated by other land use and hence will not be affected much. Species of conservation importance identified in the proximity of the Study Area are either recorded away from the Application Site or very mobile species (e.g. bird and bat). Due to the absence of noisy construction works during the construction phase, the indirect impact on the surrounding recognized site and species of conservation importance is considered minor.

8.9 OPERATION PHASE IMPACTS

Direct Impact – Habitat Loss

8.9.1 No additional habitat loss will occur during operation phase; as the proposed development only utilises the developed area of **very low** ecological value and it does not encroach the wetland habitats in the vicinity of the Application Site. The potential impact of permanent loss of the developed area is considered **insignificant**.

Direct Impact – Fragmentation to Wetland Habitats

8.9.2 The Application Site is entirely a developed area and is already placed with MiC units, both are with very limited use by wetland-dependent fauna. The potential indirect impacts of habitat fragmentation during operational phase will be **insignificant**.

Direct impact – Fragmentation to Flight-line of Waterbirds

8.9.3 As discussed in the construction phase impact, no breeding ardeids were observed passing through the Application Site. Hence, the potential fragmentation impacts to breeding ardeids from Mai Po Lung Egretry and Mai Po Village Egretry is not expected, and on other waterbirds from the proposed development are considered **insignificant**.

Indirect Impact – Human Disturbance

8.9.4 During the operation phase, there may be indirect disturbance impacts to wildlife in the surrounding habitats due to an increased in human activity inside the Application Site. However, human activities will mainly be indoors and noise which will be screened by perimeter fencing elements of the Application Site. Hence, it is anticipated that any impacts of increased disturbance to these sites will be **minor**. As a precautionary measure, noise control measures will be implemented by the future operators.

Indirect Impact – Water Quality

8.9.5 The proposed development however is a temporary classroom, group activities areas and storages. Pollutants on road surface would be very limited, and significant bare grounds will be unlikely. The built-in structures of the drain system within the Application Site such as sand trap could also help isolate and collect sediment and pollutants. Point pollution would not be an issue for the proposed development as the sewerage will collect all domestic effluent and organic load. It is anticipated that any impacts of water quality changes will be **insignificant**.

Indirect Impact – Light Glare

8.9.6 There are already existing street lights along Castle Peak Road. The potential of light impact on the wildlife in the vicinity is considered **insignificant**.

Direct Impact – Bird Collision

8.9.7 Considering that the current residential development would not have extensive glass façade, and no major flightlines across or near the Application Site, the potential bird collision impact is considered **insignificant**.

Impact on Recognized Sites and Species of Conservation Importance

8.9.8 The Application Site is located within the WBA. However, the proposed development will not affect the ecological integrity of the wetlands within WBA or cause direct wetland habitat loss in WBA. Small area of very low ecological value within WBA will be permanently lost and hence is considered insignificant. The Study Area is already subjected to various level of human disturbance, and the fauna within the Study Area are considerably habituated to human disturbance. No additional ecological impacts are expected further to the evaluation as for the construction phase.

8.10 IMPACT AVOIDANCE, MINIMISATION & MITIGATION MEASURES

General

8.10.1 According to the principles in the TM-EIAO Annex 16 and EIAO Guidance Note 3/2010, ecological impacts on important habitats and the associated wildlife caused by the proposed Project should be avoided, minimized and mitigated where practicable. The potential impacts arising from the construction and operation of the proposed development have been assessed. Since most of the potential ecological impacts are of minor or insignificant levels, specific ecological mitigation measures are not required for most impacts.

Impact Avoidance

8.10.2 The Application Site has avoided habitats of higher ecological values, or other natural habitats. Only man-made/disturbed habitats of very low ecological value will be affected.

Impact Minimisation

8.10.3 No piling foundation or noisy construction works is required for the current Application Site. Fencing elements are present along the boundary of the Application Site, which could minimize the noise impact generated during the construction phase. This fence elements would serve as a buffer to shield potential noise, traffic and other human disturbance from the Proposed Development to the surrounding environment during the operational phase.

8.10.4 Considering the drainage system which has already been built within the CIF which includes toilets that can be provided to local work force during construction phase, and locations of existing road drainage outfall near waterbodies will be sustained to curtail water quality impacts. However, in order to minimise the contamination of wastewater discharge, accidental of chemical spillage and construction site run-off, the below general good practices shall be adopted:

- The good site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed to minimize surface runoff;
- Surface run-off from construction sites should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins;
- Open stockpiles of construction materials (i.e., aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms; and
- Good construction and site management practices should be observed to ensure that litter, paints, fuel or chemicals do not enter the storm water drains.

Precautionary Measures

8.10.5 Although mitigation measures would not be required for the potential light glare impact, it is recommended to maintain the security lighting angle during construction phase and avoid unnecessary external lighting during operational phase to further minimise any potential disturbance.

8.11 RESIDUAL IMPACTS

8.11.1 With the above-mentioned mitigation measures, no secondary / induced / additional / synergistic impacts, or residual impacts are anticipated.

8.12 CONCLUSION

8.12.1 Within the Application Site, the developed area will be lost directly. However, due to the very low ecological values of the habitat, the potential impacts due to loss of those habitats are considered **insignificant** during construction and operation phase.

9 CONCLUSION

9.1 AIR QUALITY IMPACT

9.1.1 No site formation or infrastructure works would be expected for the proposed development. Hence, construction dust impact arising from the construction phase of the proposed development is not anticipated.

9.1.2 During operation phase, separation distances between the nearby road and the proposed development could meet the buffer distance requirement of HKSPG, therefore no adverse impacts arising from the vehicular emission is anticipated. No active and no gaseous emission from these chimneys was identified within the 500m Study Area. In addition, the conditions of the proposed development will remain unchanged as that of the existing Yuen Long San Tin Community Isolation Facility and hence no adverse air quality impact arising from the industrial emission is anticipated.

9.1.3 No adverse air quality impact is therefore anticipated to the proposed development during construction and operation stages.

9.2 NOISE IMPACT

9.2.1 No site formation and infrastructure works would be expected for the proposed development, and thus, no construction noise impact is anticipated.

9.2.2 For traffic noise impact and fixed noise impact during operation phase, as all noise sensitive uses (i.e., training centre) will be served with air conditioning (A/C) units and openable window/door will not rely on natural ventilation. Therefore, no road traffic noise from the nearby road networks and fixed noise impact to the Project Site is anticipated.

9.2.3 With the implementation of practical mitigation measures including use of movable noise barrier for option 2, the planned fixed noise impacts at all of the nearby existing residential noise sensitive uses would be controlled to acceptable levels. With the recommended mitigation measures in place, fixed noise impacts of the proposed development on all representative NSRs would comply with the relevant criteria.

9.2.4 Based on the above, no adverse noise impact for option 1, 2 and 3 is therefore anticipated to the proposed development during construction and operation stages.

9.3 WATER QUALITY IMPACT

9.3.1 The key water quality impacts during construction phase associated with the proposed development of the Project include general construction activities, construction site run-off, accidental spillage and sewage effluent, could impact the water bodies.

9.3.2 Considering that a drainage and sewerage system have been constructed along the existing Community Isolation Facility (CIF), with proper implementation of the recommended mitigation measures, no adverse water quality impacts would be anticipated.

9.4 WASTE MANAGEMENT IMPACT

9.4.1 Small amount of general refuse is expected to generate during the construction phase from local workforce but with the implementation of recommended mitigation measures which

include appropriate waste control and management, good site practices and waste reduction measures, no adverse environmental impact is anticipated from the handling (including stockpiling, labelling, packaging and storage), collection, transportation and disposal of general refuse.

9.4.2 During the operation phase, no significant waste implication is expected from the students and staff. The quantity of general refuse arising from the operation phase can be minimised by implementing an effectual waste handling system, a waste reduction programme, and by hiring a reputable waste collector to collect the wastes on a daily basis.

9.4.3 Recyclable materials should be segregated into different containers to avoid potential odour nuisance to the public and surrounding environment during transport of waste. Enclosed waste containers should be used, the collection route and time should be properly planned.

9.4.4 Provided that the wastes are managed by implementing all the recommended mitigation measures, no significant environmental impact is anticipated during the construction and operation phases of the proposed development.

9.5 LAND CONTAMINATION IMPACT

9.5.1 WSP's Land Contamination Specialist conducted a site inspection to ascertain the latest site condition. The surface is concrete-paved, stain-free and appeared well-maintained; drains are also observed within the Site.

9.5.2 One structure identified as the transformer room is observed and it is to be retained in-situ and no development is to be carried out around the transformer room structure, potential contamination from transformer-use activities is therefore not anticipated.

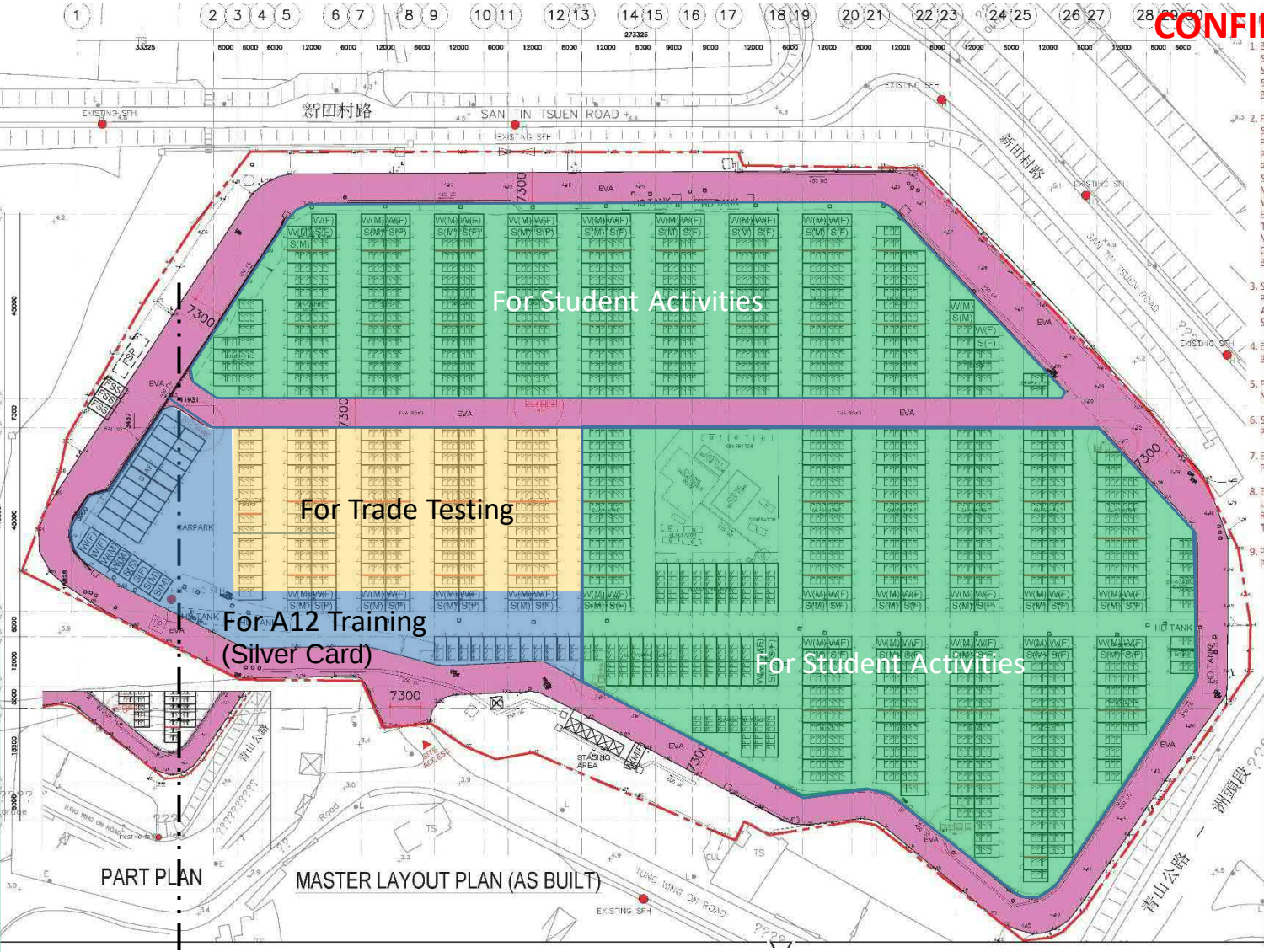
9.5.3 No presence of industrial-related activities or building structures, underground storage tanks (USTs), chemical drums or oil stains, unnatural colours / odours and abandoned piping / mechanical components are observed at the Site during site inspection. Potential land contamination at the Site from industrial-related activities is not anticipated.

9.5.4 Surrounding land uses include existing road network, residential area and open space with densed vegetation and trees; potentially contaminating activities and industrial land uses leading to potential contamination of soil and/or groundwater are not observed from current operations during site inspection and review of historical aerial photographs. Potential contamination from surrounding land uses is not anticipated.

9.6 ECOLOGICAL IMPACT

9.6.1 Within the Site, the developed area will be lost directly. Due to the very low ecological values of the habitat, the potential impacts due to loss of those habitats are considered insignificant during the construction and operation phase.

APPENDIX 4.1


For Student Activities
For Trade Testing
For A12 Training
(Silver Card)
For Student Activities
新田村路
SAN TIN TSUEN ROAD
PART PLAN
MASTER LAYOUT PLAN (AS BUILT)

APPENDIX 4.2

General	
Location	161 Wing Ping Tsuen
Date	04-Aug-23
Measurement Start Time	3:00 PM
Measurement End Time	4:00 PM
Equipment	
Noise Meter Model/Identification	Brüel & Kjær Type 2250, S/N: 3010691
Calibrator Model/Identification	Brüel & Kjær Type 4231, S/N: 3016988

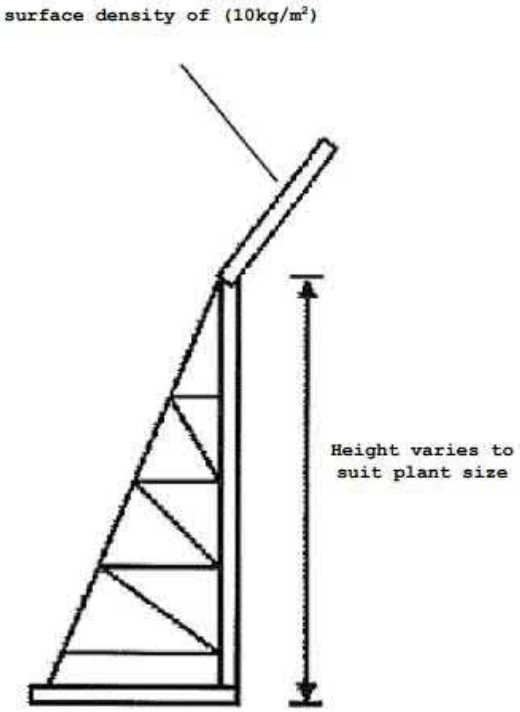
Measurement Result

Measurement Points	Measured SPL in L90 (1 Hour), dB(A)	
	Free-Field	With Façade Correction (+3 dB(A))
BN_01	55	58

Measurement Location

APPENDIX 4.3

Schematic Configurations of Movable Noise Barriers

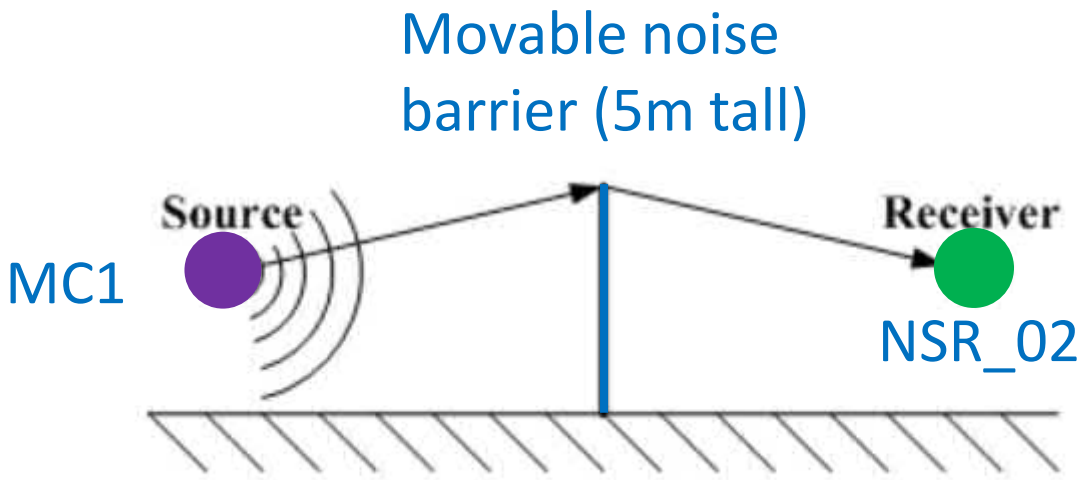


Typical Temporary Noise Barrier for Mobile Plant (~5m tall)

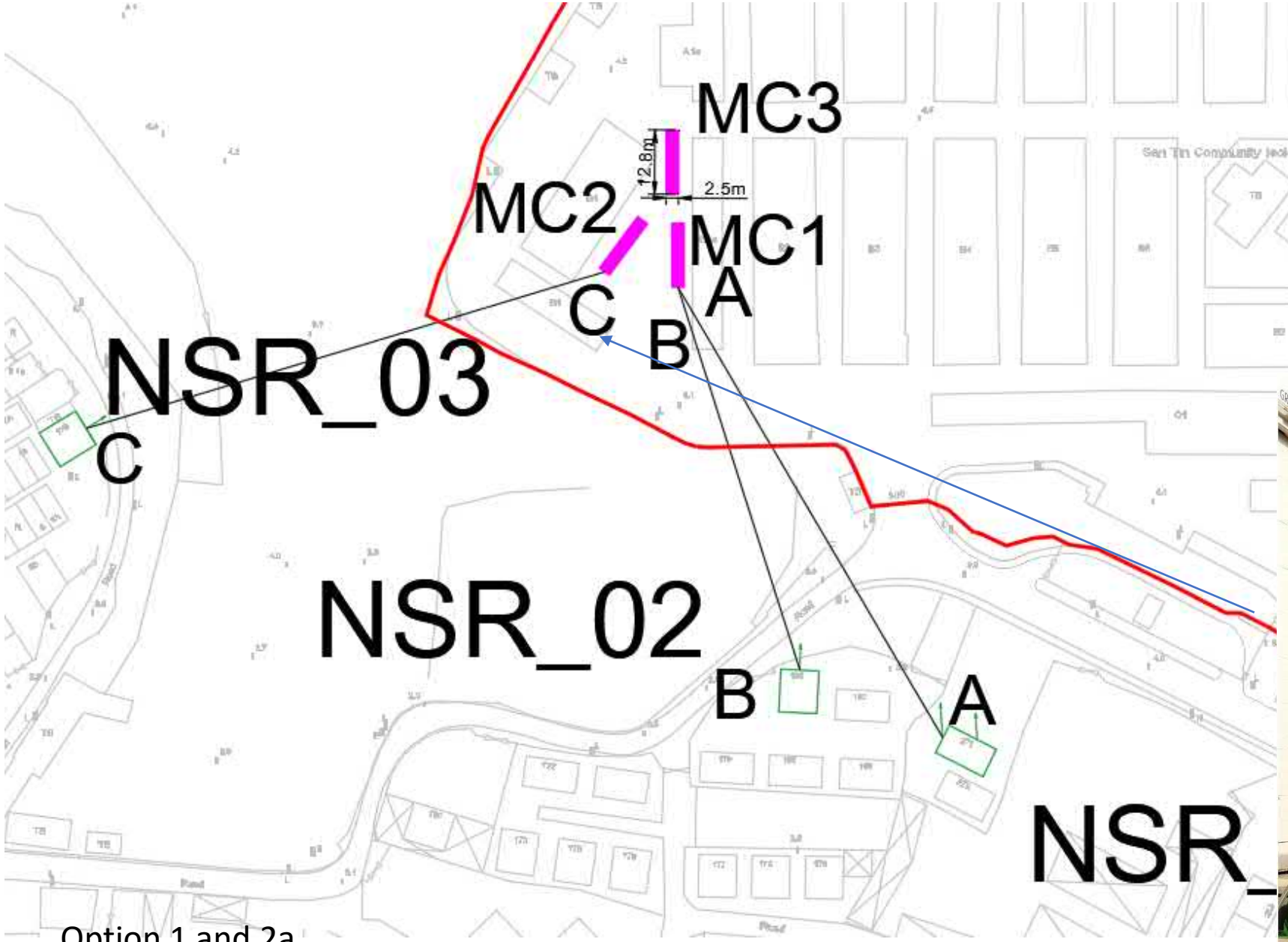
Due consideration should be given to the potential noise leakage/reflection, and the noise barrier should be fitted with absorptive material on the side facing the noise sources to minimize the impact.

Reference: Register No.: AEIAR-167/2012
Application No.: EIA-200/2011
EIA Report: Shatin to Central Link - Tai Wai to Hung Hom Section - Appendix 6.11D

Alteration of Noise Paths by a Noise Barrier



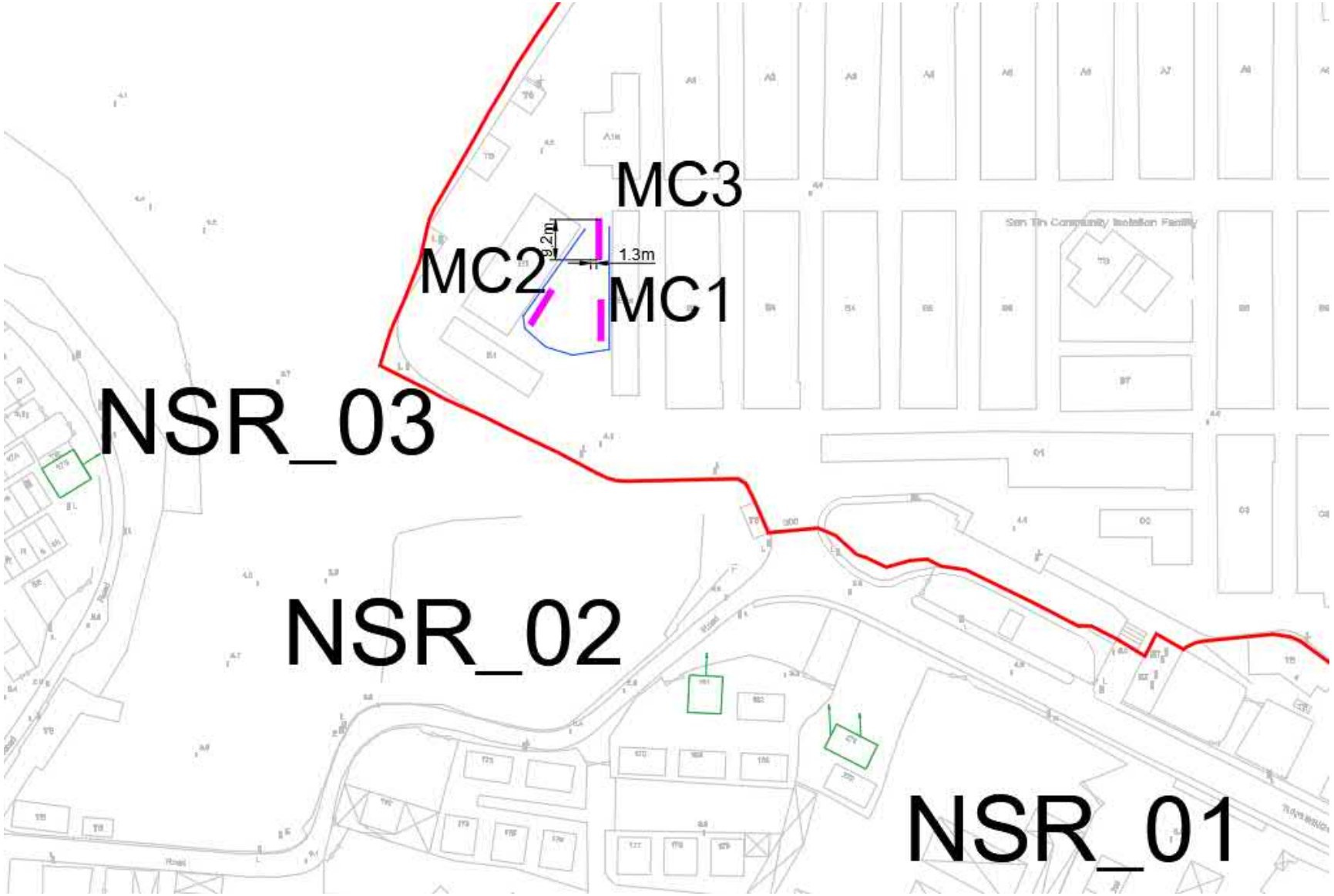
Reference: Malcolm J. Crocker, Handbook of Acoustics, John Wiley & Sons, February 1998



Proposed Movable noise barrier (5m height)

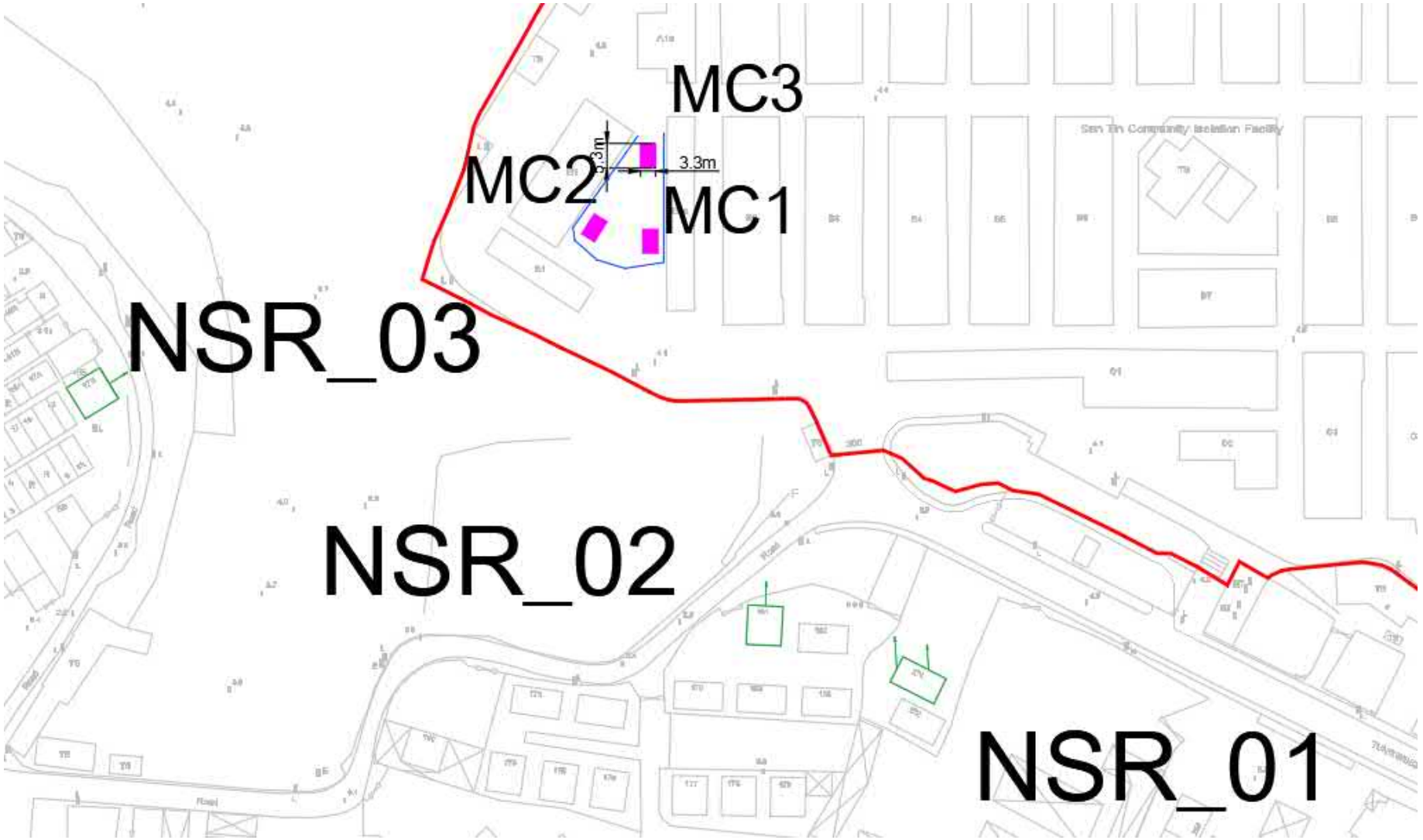
Reference: Wilson Acoustic Limited

Option 1 and 2a

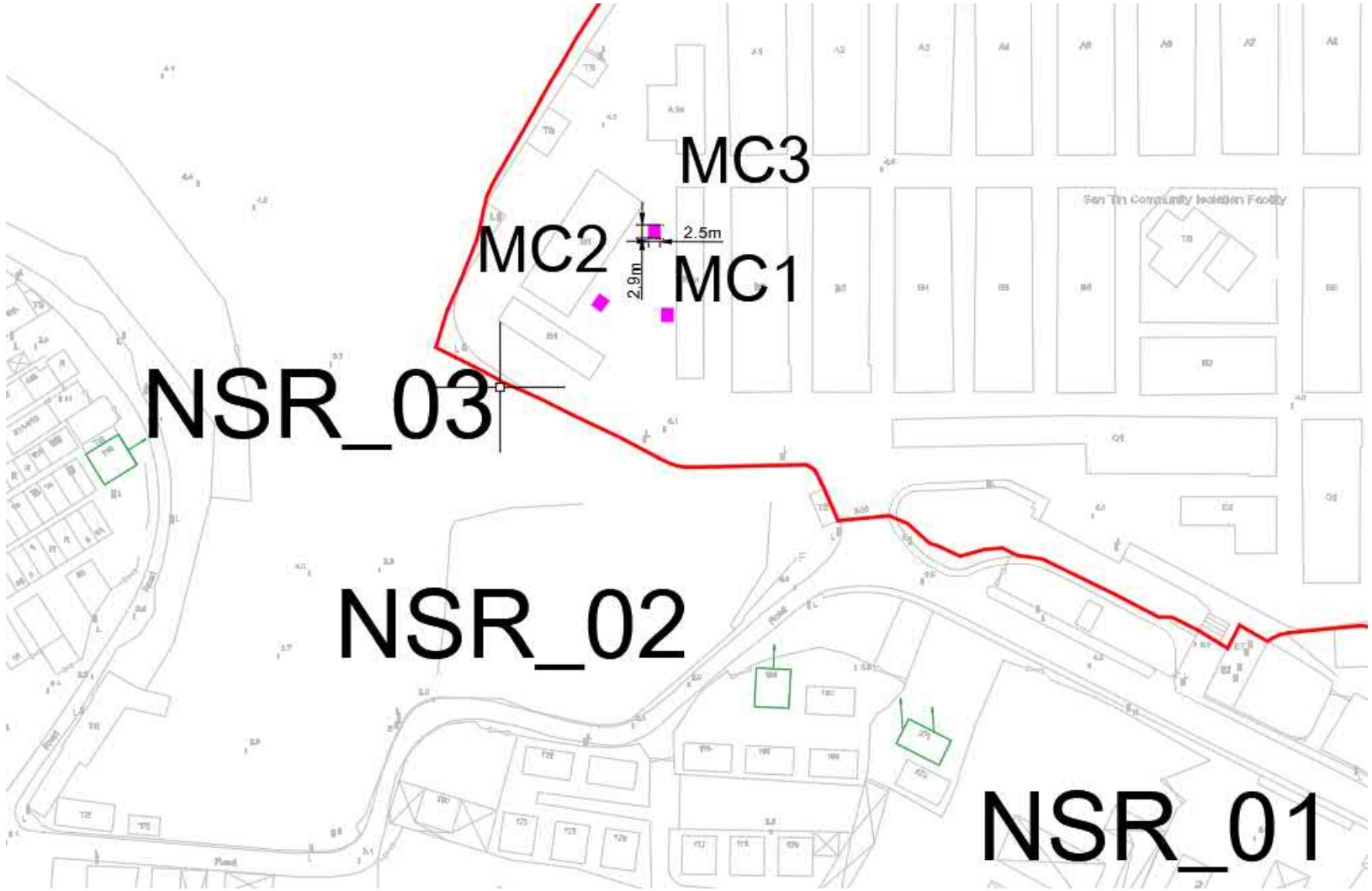


Proposed Movable noise barrier (5m height)

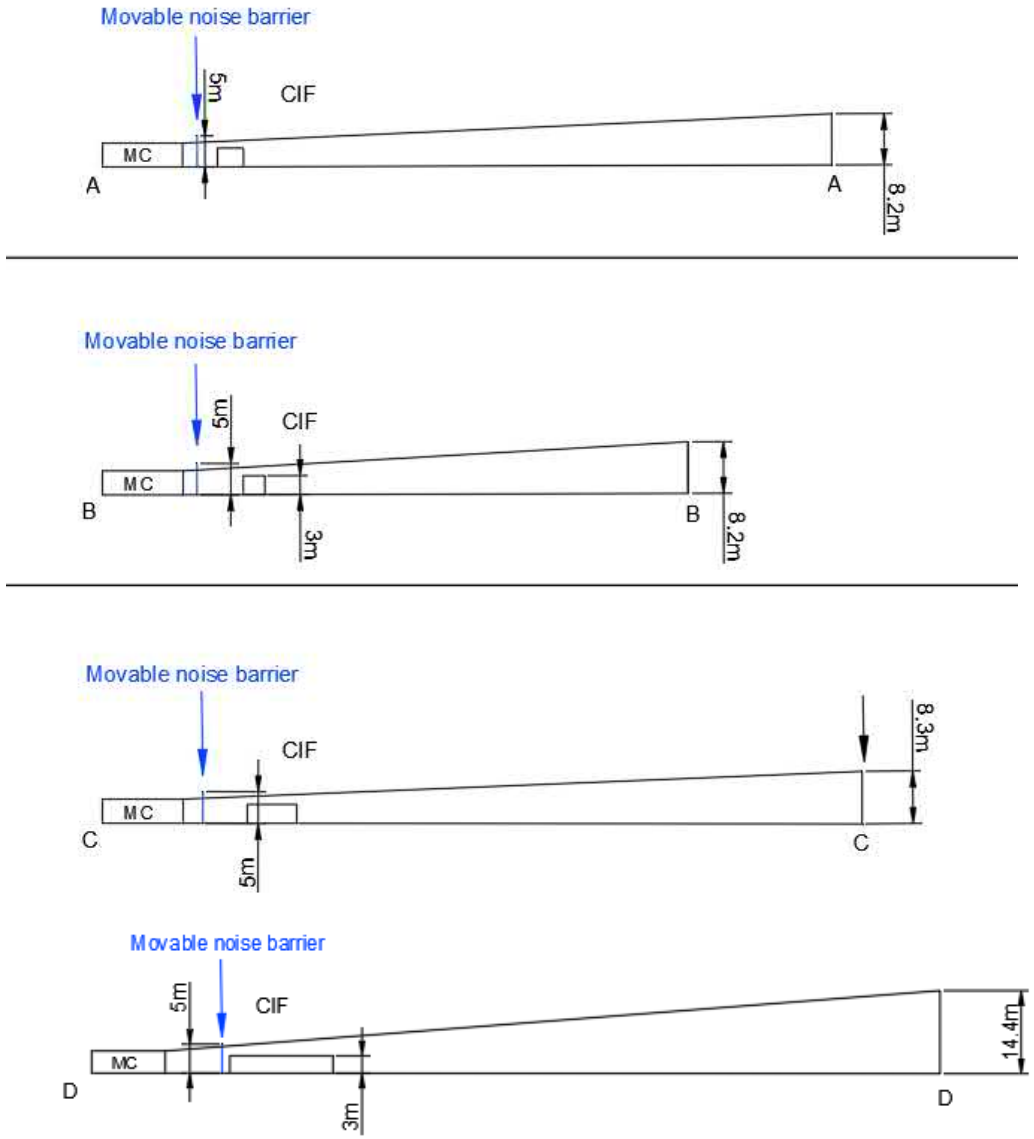
Option 2b


MC3
MC2
MC1
3.3m
3.3m
NSR_03
NSR_02
NSR_01
Proposed Movable noise barrier (5m height)

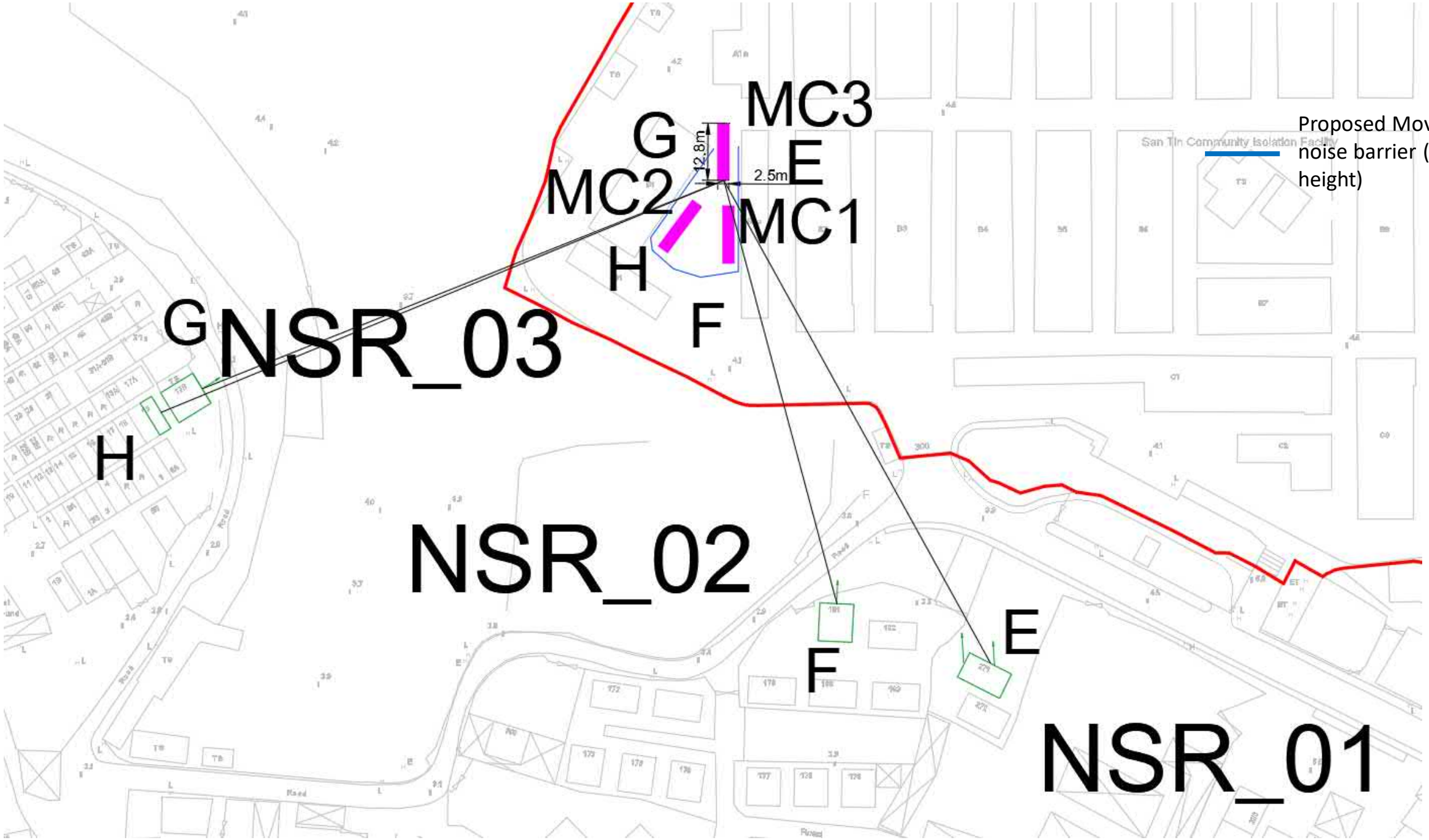
Option 2c

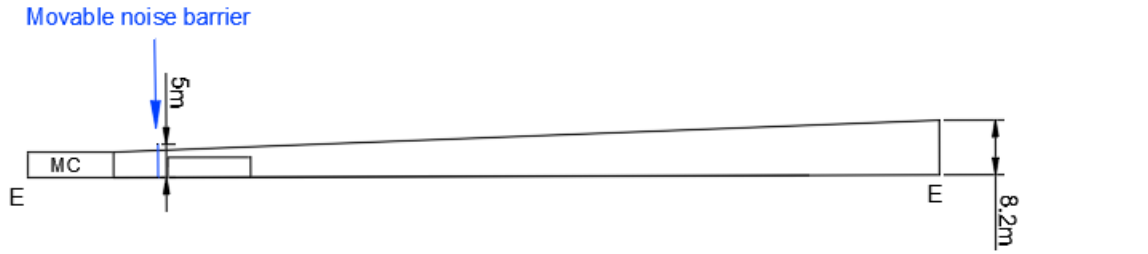


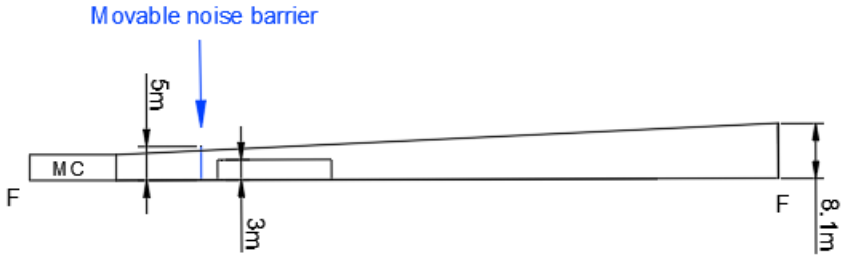
Option 3

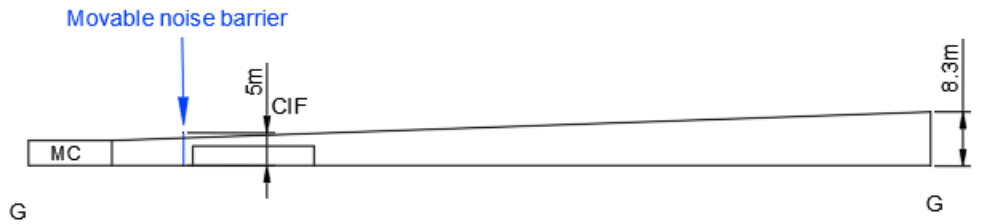


Note: The height of EPD-08025 (i.e. 3.82m) is used for illustration purpose as this model is with the highest height among the options.

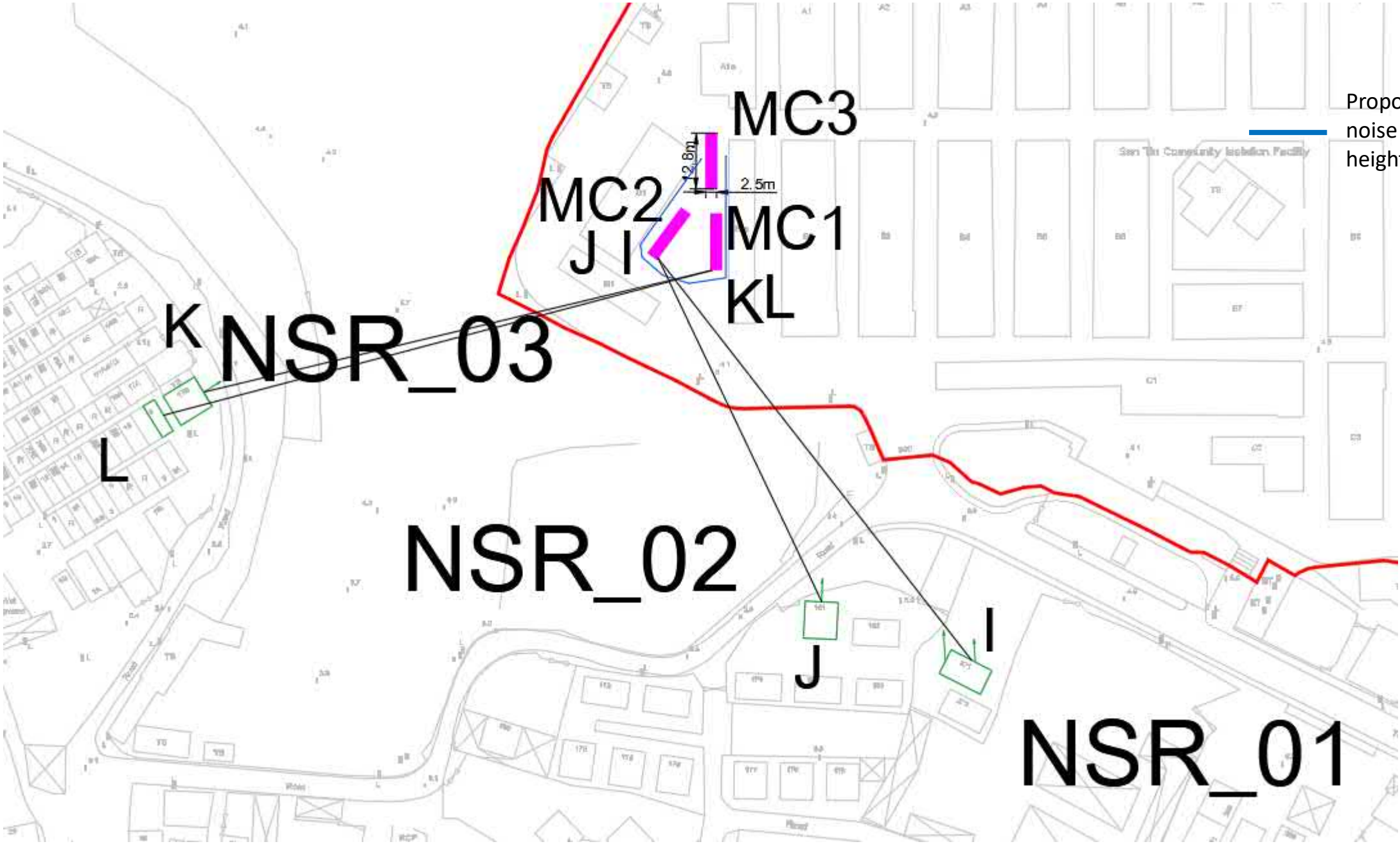

MC3
G
E
MC2
MC1
H
F
12.8m
2.5m
G
NSR_03
H
NSR_02
F
E
NSR_01
Proposed Movable noise barrier (5m height)

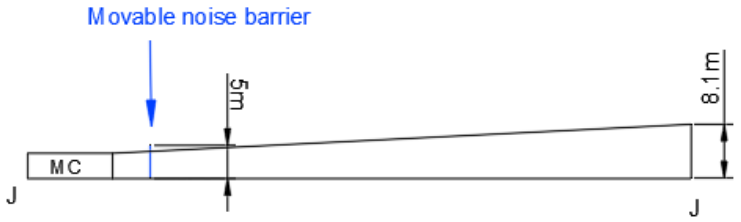


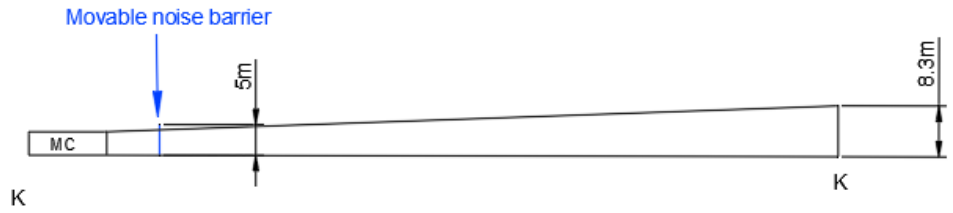


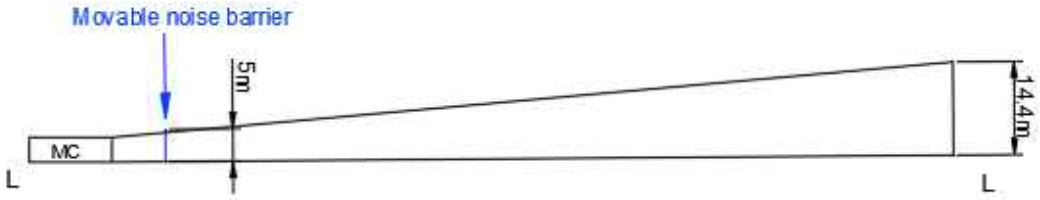


Note: The height of EPD-08025 (i.e. 3.82m) is used for illustration purpose as this model is with the highest height among the options.


MC3
MC2
MC1
12.8m
2.5m
J
I
KL
K
NSR_03
L
NSR_02
J
I
NSR_01
Proposed Movable noise barrier (5m height)







Note: The height of EPD-08025 (i.e. 3.82m) is used for illustration purpose as this model is with the highest height among the options.

APPENDIX 4.4

Detailed Calculation of Fixed Noise Impact Assessment

Option 1

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_01	NSR_01	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC3	EPD-08025	1	20%	107	0.0	100.0	Y	123	-49.8	0	3	53.2	53.2	Y

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 1

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_02	NSR_02	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC3	EPD-08025	1	20%	107	0.0	100.0	Y	97	-47.7	0	3	55.3	55.3	Y

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 1

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_03	NSR_03	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC3	EPD-08025	1	20%	107	0.0	100.0	Y	123	-49.8	0	3	53.2	53.2	Y

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2a

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_01	NSR_01	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-08025	1	10%	107	0.0	97.0	Y	104	-48.3	-5	3	46.7	52.8	Y
		MC2	EPD-08025	1	20%	107	0.0	100.0	Y	115	-49.2	-5	3	48.8		
		MC3	EPD-08025	1	20%	107	0.0	100.0	Y	121	-49.7	-5	3	48.4		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2a

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_02	NSR_02	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-08025	1	10%	107	0.0	97.0	Y	79	-46.0	-5	3	49.0	55.0	Y
		MC2	EPD-08025	1	20%	107	0.0	100.0	Y	87	-46.8	-5	3	51.2		
		MC3	EPD-08025	1	20%	107	0.0	100.0	Y	97	-47.7	-5	3	50.3		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2a

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_03	NSR_03	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-08025	1	10%	107	0.0	97.0	Y	121	-49.7	-5	3	45.3	52.8	Y
		MC2	EPD-08025	1	20%	107	0.0	100.0	Y	106	-48.5	-5	3	49.5		
		MC3	EPD-08025	1	20%	107	0.0	100.0	Y	123	-49.8	-5	3	48.2		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2b

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_01	NSR_01	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13564	1	30%	103	0.0	97.8	Y	104	-48.3	-5	3	47.4	53.0	Y
		MC2	EPD-13564	1	50%	103	0.0	100.0	Y	115	-49.2	-5	3	48.8		
		MC3	EPD-13564	1	50%	103	0.0	100.0	Y	121	-49.7	-5	3	48.3		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2b

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_02	NSR_02	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13564	1	30%	103	0.0	97.8	Y	79	-46.0	-5	3	49.8	55.2	Y
		MC2	EPD-13564	1	50%	103	0.0	100.0	Y	87	-46.8	-5	3	51.2		
		MC3	EPD-13564	1	50%	103	0.0	100.0	Y	97	-47.7	-5	3	50.3		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2b

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_03	NSR_03	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13564	1	30%	103	0.0	97.8	Y	121	-49.7	-5	3	46.1	52.9	Y
		MC2	EPD-13564	1	50%	103	0.0	100.0	Y	106	-48.5	-5	3	49.5		
		MC3	EPD-13564	1	50%	103	0.0	100.0	Y	123	-49.8	-5	3	48.2		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2c

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_01	NSR_01	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13684	1	60%	101	0.0	98.8	Y	104	-48.3	-5	3	48.4	52.9	Y
		MC2	EPD-13684	1	70%	101	0.0	99.5	Y	115	-49.2	-5	3	48.2		
		MC3	EPD-13684	1	70%	101	0.0	99.5	Y	121	-49.7	-5	3	47.8		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2c

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_02	NSR_02	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13684	1	60%	101	0.0	98.8	Y	79	-46.0	-5	3	50.8	55.2	Y
		MC2	EPD-13684	1	70%	101	0.0	99.5	Y	87	-46.8	-5	3	50.7		
		MC3	EPD-13684	1	70%	101	0.0	99.5	Y	97	-47.7	-5	3	49.7		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 2c

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_03	NSR_03	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13684	1	60%	101	0.0	98.8	Y	121	-49.7	-5	3	47.1	52.7	Y
		MC2	EPD-13684	1	70%	101	0.0	99.5	Y	106	-48.5	-5	3	48.9		
		MC3	EPD-13684	1	70%	101	0.0	99.5	Y	123	-49.8	-5	3	47.7		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 3

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_01	NSR_01	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13685	1	80%	95	0.0	94.0	Y	104	-48.3	0	3	48.7	53.1	Y
		MC2	EPD-13685	1	90%	95	0.0	94.5	Y	115	-49.2	0	3	48.3		
		MC3	EPD-13685	1	90%	95	0.0	94.5	Y	121	-49.7	0	3	47.9		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 3

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_02	NSR_02	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13685	1	80%	95	0.0	94.0	Y	79	-46.0	0	3	51.1	55.3	Y
		MC2	EPD-13685	1	90%	95	0.0	94.5	Y	87	-46.8	0	3	50.8		
		MC3	EPD-13685	1	90%	95	0.0	94.5	Y	97	-47.7	0	3	49.8		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

Detailed Calculation of Fixed Noise Impact Assessment

Option 3

Noise Sensitive Receiver	Notional NAP	Noise Criterion
NSR_03	NSR_03	55

Location	Fixed Noise Source	ID	QPME ref.[3]	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)	Sound Pressure Level at 1m (Free Field), dB(A)	Predicted Sub-total SWL, dB(A)	Direct Line of Sight (Y/N)	Horizontal Distance Between NAP and Fixed Noise Source, m	Distance Correction, dB(A)	Barrier Correction, dB(A)	Façade Correction, dB(A)	Predicted Noise Level, dB(A)	Cumulative Noise Level, dB(A)	Compliance (Y/N)
Training ground	Mobile Crane	MC1	EPD-13685	1	80%	95	0.0	94.0	Y	121	-49.7	0	3	47.4	52.9	Y
		MC2	EPD-13685	1	90%	95	0.0	94.5	Y	106	-48.5	0	3	49.0		
		MC3	EPD-13685	1	90%	95	0.0	94.5	Y	123	-49.8	0	3	47.7		

Note:
1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

APPENDIX 7.1

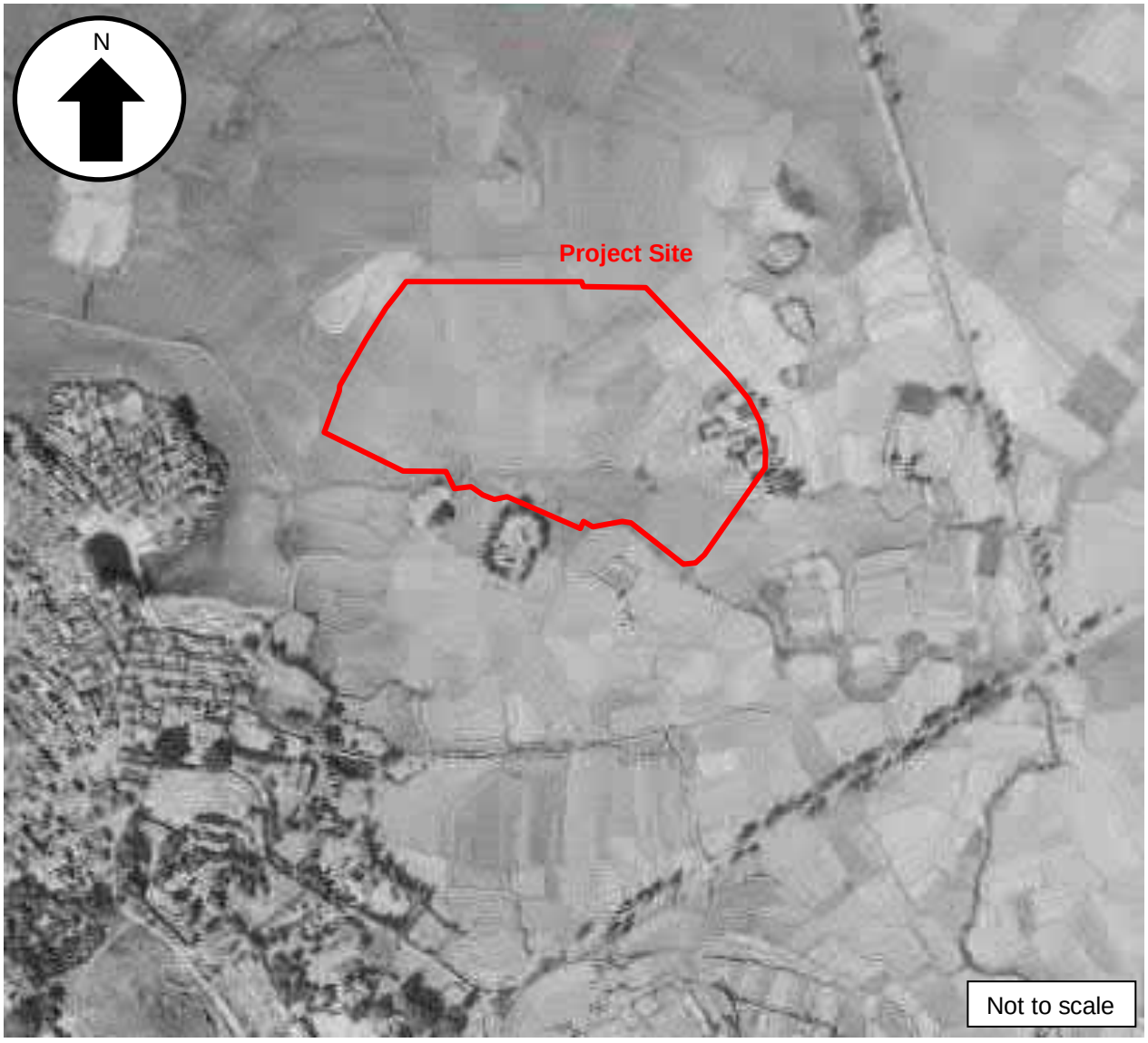
Aerial Photographs

1945 (Photo reference: 681_4-3076) 20,000 ft.

Observation: Project Site is located on vegetated agricultural land.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

1956 (Photo reference: F22_561-0129) 16,700 ft.



Observation: No changes to land use between 1945 to 1955.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

1964 (Photo reference: 1964-2807RM) 12,500 ft.

Observation: No changes to land use between 1956 to 1963. In 1964, Project Site and the surroundings were excavated and filled with water, where some were converted into fishponds.

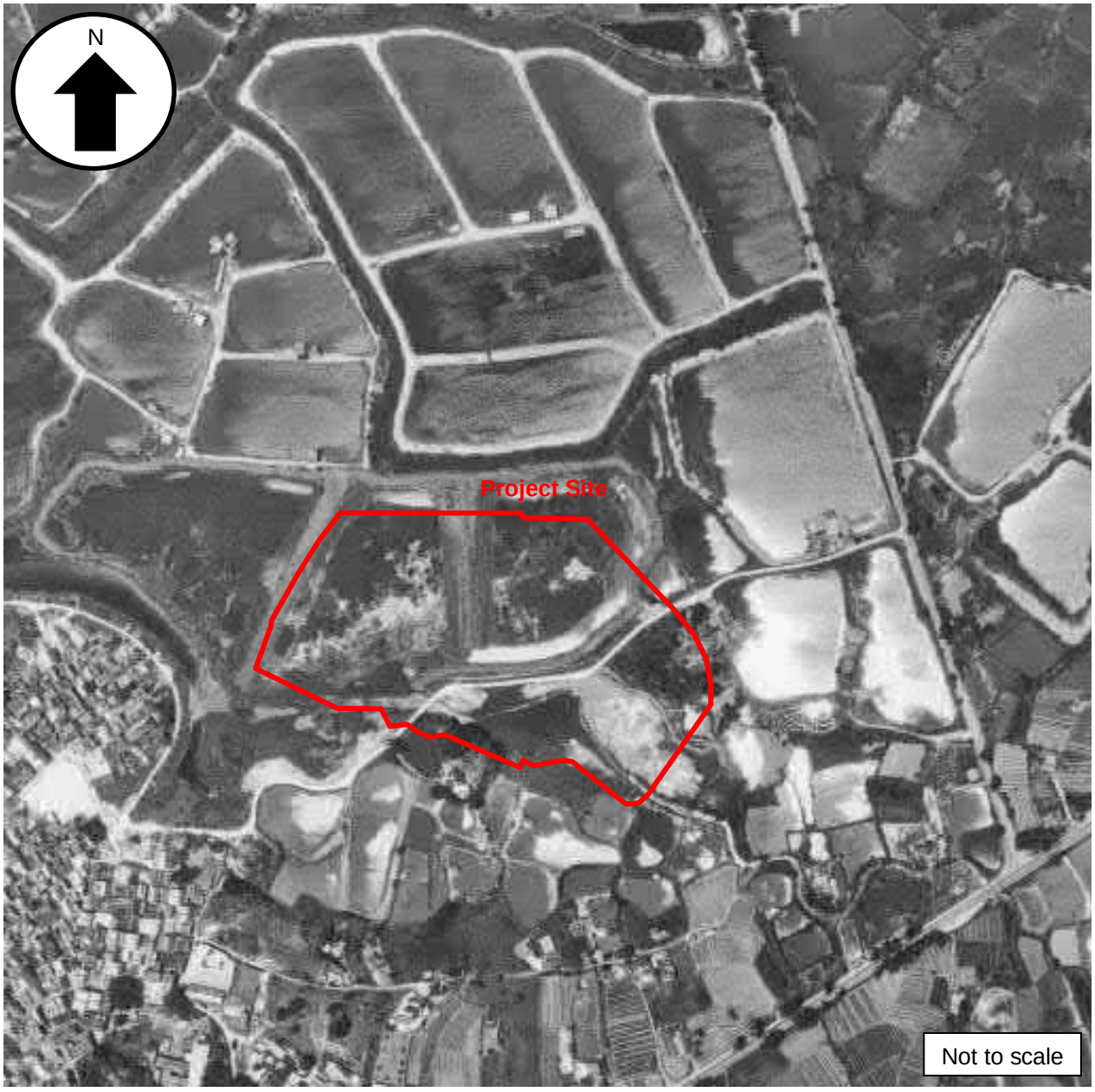
'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

1974 (Photo reference: 10011RM) 12,500 ft.

Observation: No changes to land use between 1964 to 1973. In 1974, Project Site and the surroundings were excavated and filled with water, where some were converted into fishponds. A road was seen cutting through the Project Site from east to west.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

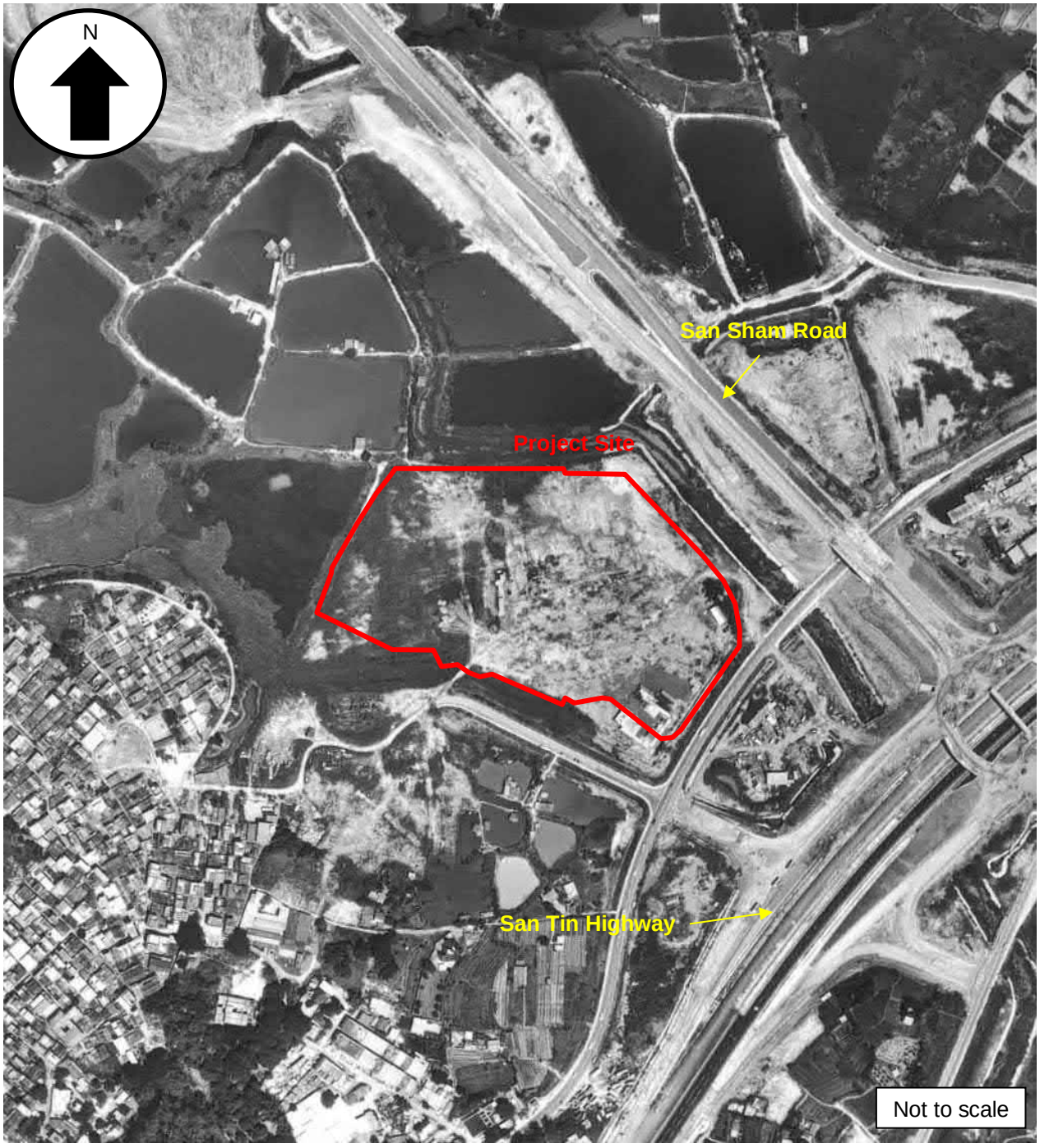
1984 (Photo reference: 55858) 4,000 ft.



Observation: No changes to land use between 1975 to 1983. In 1984, some fishponds within the Project Site were observed.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

1989 (Photo reference: A18206) 4,000 ft.



Observation: Backfilling of fishponds observed within the Project Site. Construction of San Tin Highway and San Sham Road were in progress.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

1992 (Photo reference: CN02860) 2,000 ft.

Observation: Backfilling of fishpond commenced in 1989 and completed in 1992. Some temporary containers were observed at the Site . Construction of San Tin Highway and San Sham Road were completed.

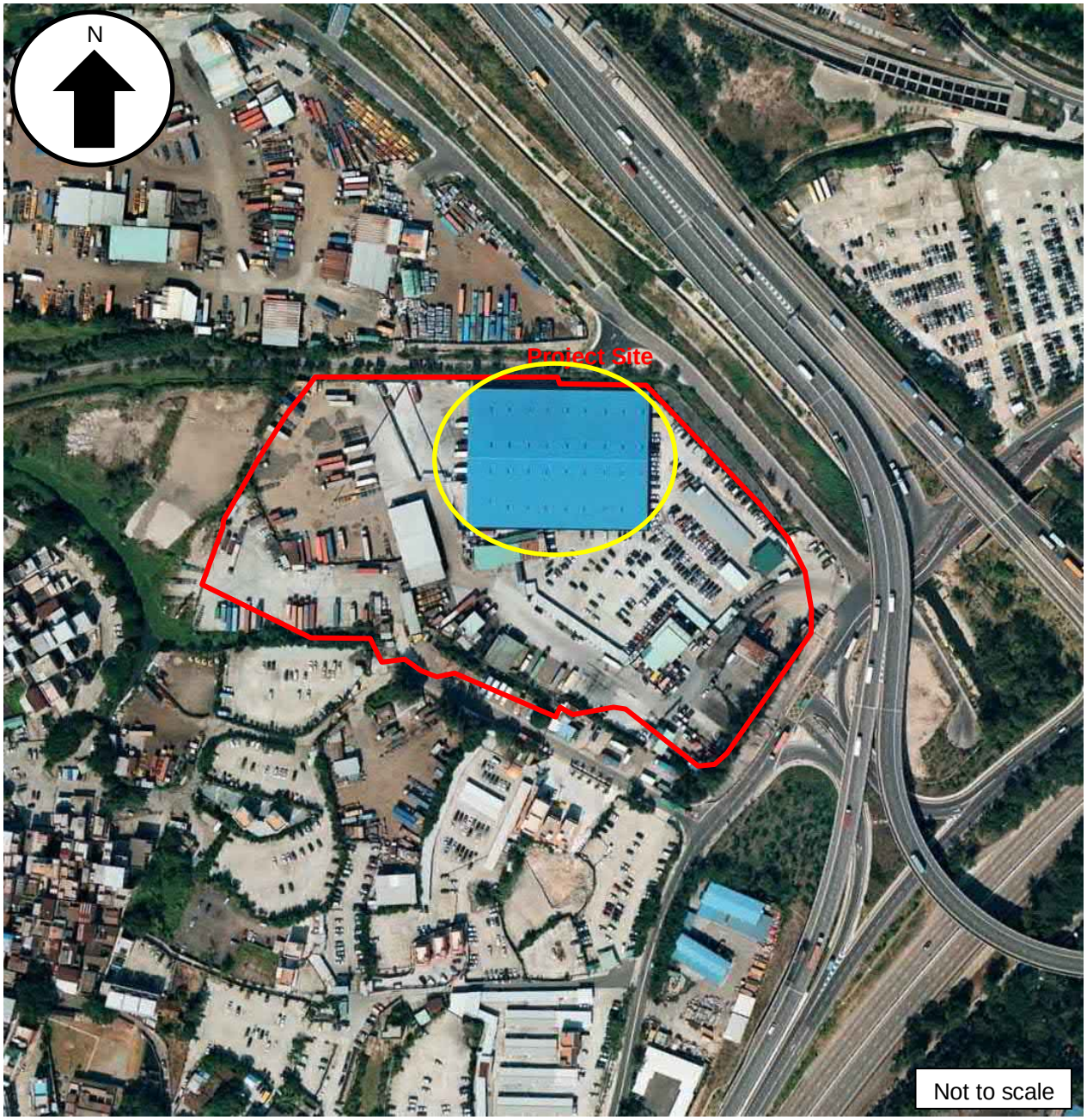
'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2001 (Photo reference: CN30028) 4,000 ft.

Observation: No changes to Project Site except paving within the Project Site started in the eastern corner. San Tin Tsuen Road was constructed to the north of Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

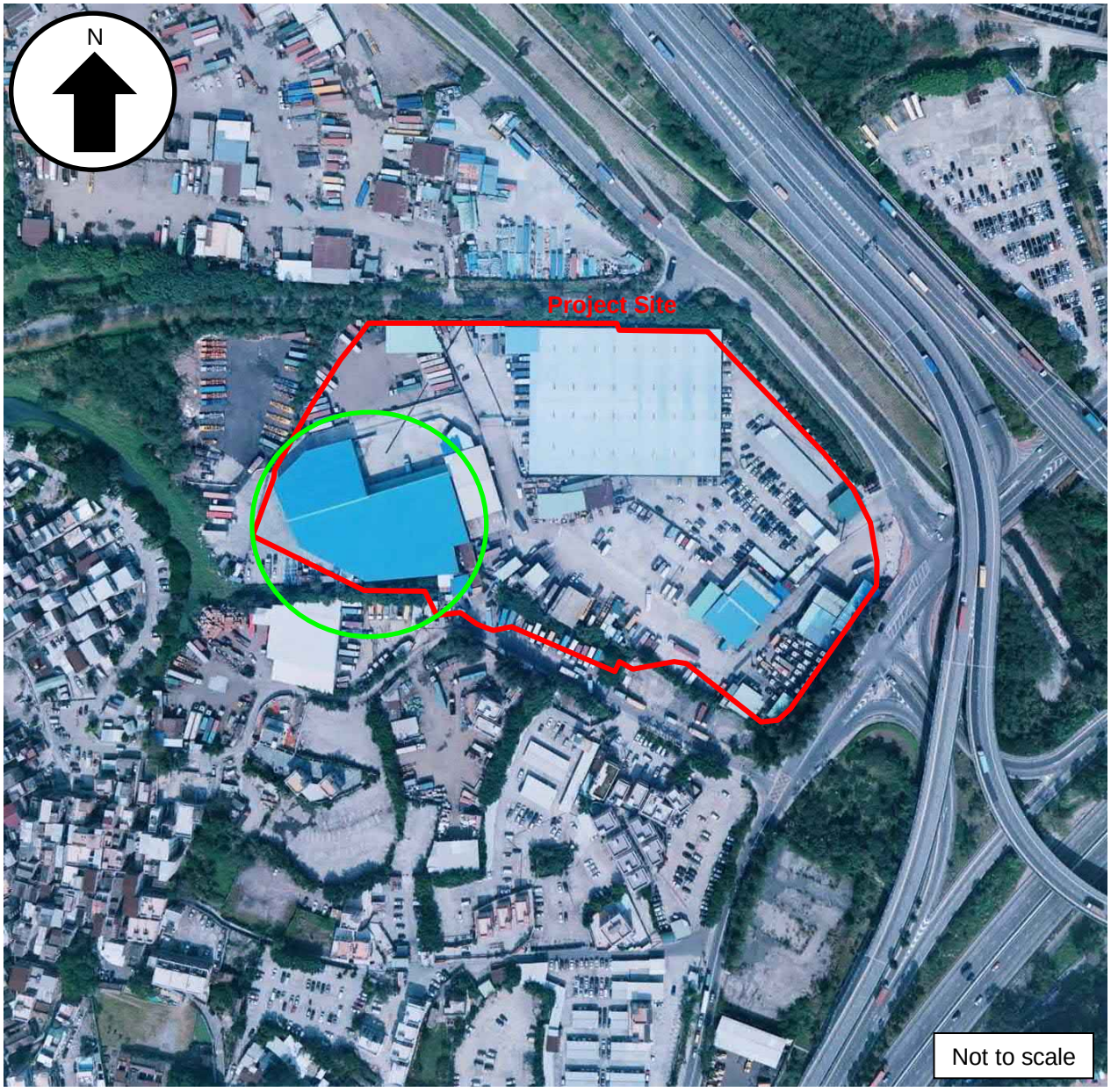
2008 (Photo reference: CS18195) 6,000 ft.



Observation: Paving within the Project Site was completed between 2003 and 2008. Temporary site office with a roof observed (in yellow) within north of the Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2013 (Photo reference: CW102213) 2,300 ft.



Observation: Another site office with roof (in green) was established within Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2016 (Photo reference: E005049C) 2,500 ft.

Observation: Previous temporary structures at The Boxes were completely removed.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2018 (Photo reference: E040602C) 6,900 ft.

Observation: The Boxes (shopping mall) in portable units was established at Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2022 (Photo reference: E153622C) 6,900 ft.

Observation: According to historical source, The Boxes was closed in 2019. In 2022, Portable units at The Boxes were removed and seen replaced by the San Tin Community Isolation Facility (also in portable units) and it resembles to present day.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

APPENDIX 7.2

Site Inspection Checklist

General Site Details:

Site Owner: N/A
Property Address: San Tin Community Isolation Facility

Person Conducting the Questionnaire

Name and Position: Cassie Chow, Principal Consultant
Date of Site Inspection: 23 June 2023
Interviewee: N/A; currently vacant

Site Activities

Number of employees: **Full-time:** 4 (security)
Part-time: 0
Temporary / Seasonal: 0

Maximum no. of people on site at any time: 0
Typical hours of operation: Vacant site
Number of shifts: Vacant site
Days per week: N/A
Weeks per year: N/A
Scheduled plant shut-down: No
Detail the main sources of energy at the site:
Gas No
Electricity Yes, transformer room identified but inaccessible
Coal No
Oil No
Other No

Site Description
What is the total site area: approximately 38,500 m^2
What area of the site is covered by buildings (%): 99%
Is a site plan available? Yes
Are there any other parties on site as tenants or sub-tenants? No

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.
Proposed Development Area:
North: San Tin Tsuen Road (road network)
South: Residential (village-type houses)
East: Castle Peak Road (San Tin) (road network)
West: Open area and residential (village-type houses)

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.). Flat terrain surrounded by majority residential area (village-type houses), open space, paved road network. Shenzhen-Hong Kong River is approximately 1.8 km away.

State the size and location of the nearest residential communities. San Tin Wing Ping Village is located approximately 25 m southwest of Project Site boundary.

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest? No.

Questionnaire with Existing / Previous Owner or Occupier: No occupier during site inspection.

	Yes / No	Notes
1. What the main activities/operations at the above address?		Community Isolation Facility made up of portable units
2. How long have you been occupying the site?		Since 2022
3. Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy.)	No	Shopping mall
4. Prior to your occupancy, who occupied the site?		Shopping mall owner
5. What were the main activities/operations during their occupancy?		Shopping mall
6. Have there been any major changes in operations carried out at the site in the last 10 years?	No	
7. Have any polluting activities been carried out in the vicinity of the site in the past?	No	
8. To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	No	
9. Are there any boreholes/wells natural springs either on the site or in the surrounding area?	No	
10. Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	No	
11. Are any chemicals used in your daily operations? (If yes, please provide details.) • Where do you store these chemicals?	No	
12. Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	No	
13. Has the facility produced a separate hazardous substance inventory?	No	
14. Have there ever been any incidents or accidents (i.e., spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No	
15. How are materials received (i.e., rail, truck, etc.) and stored on site (i.e., drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	N/A	
16. Do you have any underground storage tanks? • How many underground storage tanks do you have on site? • What are the tanks constructed of? • What are the contents of these tanks? • Are the pipelines above or below ground? • If the pipelines are below ground, has any leak and integrity testing been performed? • Have there been any spills associated with these tanks?	No	
17. Are there any disused underground storage tanks?	No	
18. Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	No	No chemicals onsite
19. How are the wastes disposed of?	Yes	Waste bins provided onsite and collected by waste collector
20. Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	No	
21. Have any spills occurred on site? (If yes, please provide details.)	No	

• When did the spill occur? • What were the substances spilled? • What was the quantity of material spilled? • Did you notify the relevant departments of the spill? • What were the actions taken to clean up the spill? • What were the areas affected?		
22. Do you have any records of major renovation of your site or re-arrangement of underground utilities, pipe work/underground tanks? (If yes, please provide details.)	No	
23. Have disused underground tanks been removed or otherwise secured (i.e., concrete, sand, etc.)?	No	
24. Are there any known contaminations on site? (If yes, please provide details.)	No	
25. Has the site ever been remediated? (If yes, please provide details.)	No	

Observations

	Yes / No	Notes
1. Are chemical storage areas provided with secondary containment (i.e., bund walls and floors)?	No	
2. What are the conditions of the bund walls and floors?	N/A	
3. Are any surface water drains located near to drum storage and unloading areas?	No	
4. Are any solid or liquid waste (other than wastewater) generated at the site?	Yes	General domestic waste
5. Is there a storage site for the wastes?	Yes	General bins inside the isolation facility
6. Is there an on-site landfill?	No	
7. Where any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8. Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9. Are there any potential off-site sources of contamination?	No	
10. Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11. Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12. Any noticeable odours during site walkover?	No	
13. Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservations and polyurethane foam?	No	

LEGEND :

PROJECT SITE BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

PROJECT SITE

Drawing no.

SITE INSPECTION PHOTOS

Rev.

Drawn	Date	Checked	Approved
	AUG2023		

Scale 1:1000@A3

Status –

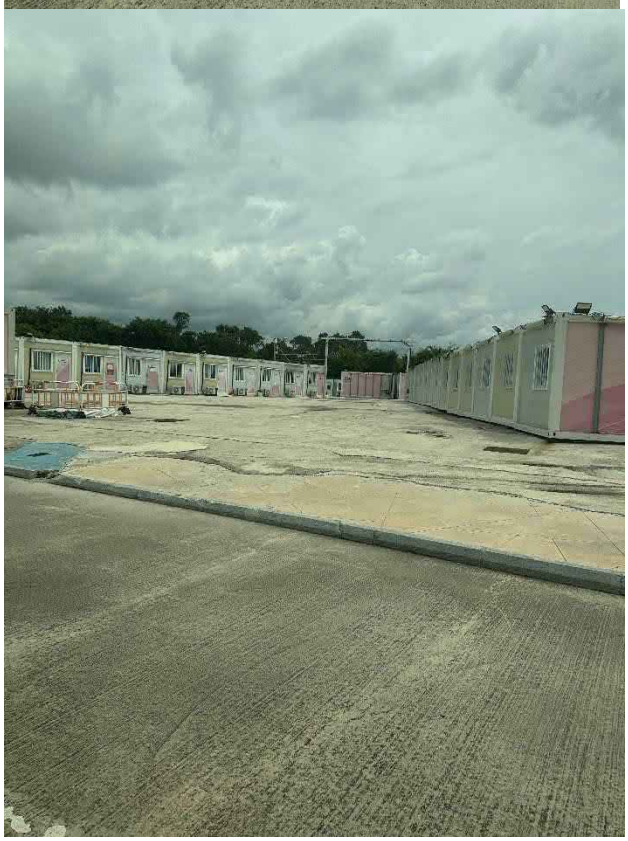
土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 2023-08-14
Filename : \\hkwn200dat16\SDE\=ENV=\7. Projects\Project_H321_ENV\San Tin CIF\Drawings\Fig_SanTin_20230814.dwg

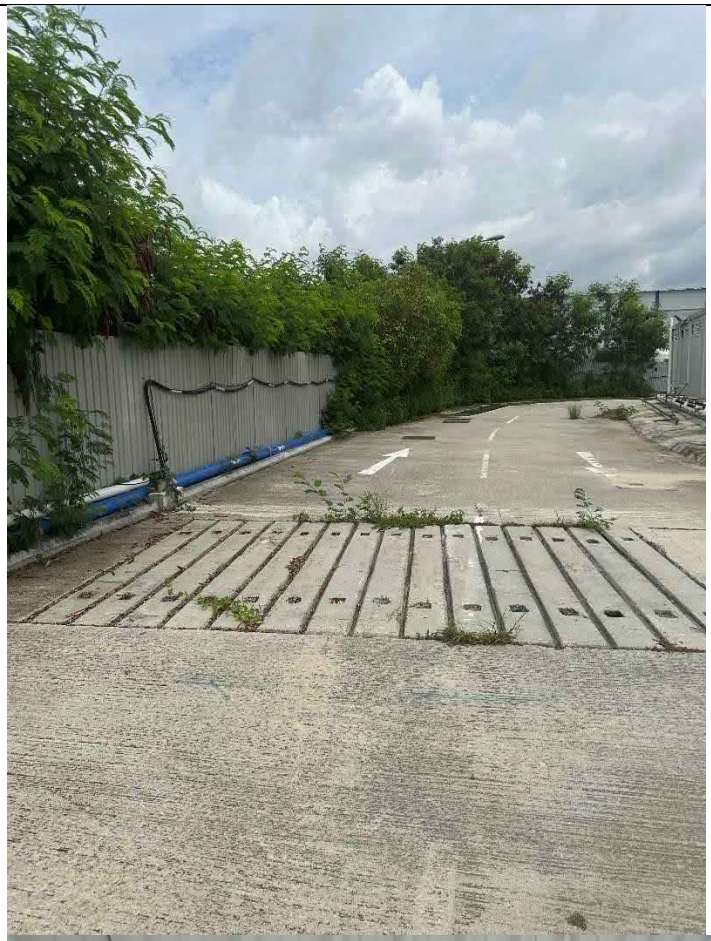
wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

Photo No.	Date	Photo and Description
1.	23 June 2023	 Gated entrance Tung Wing On Road
2.	23 June 2023	 Modular Integrated Construction (MiC) units and drains observed within Project Site.

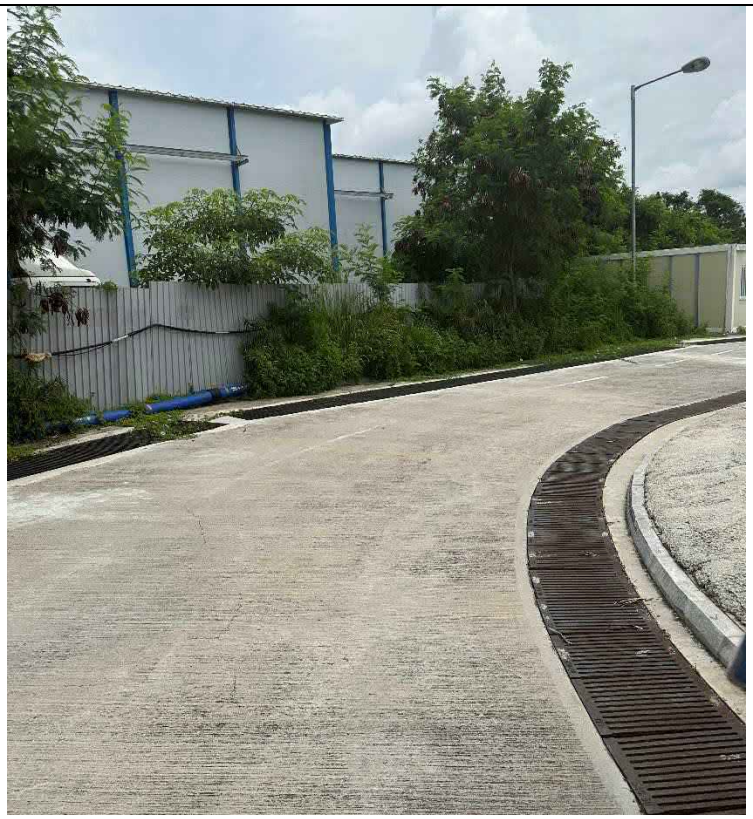
	PHOTOGRAPHIC LOG – Site Inspection	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

3.	23 June 2023	  MiC units observed on an elevated concrete within Project Site.

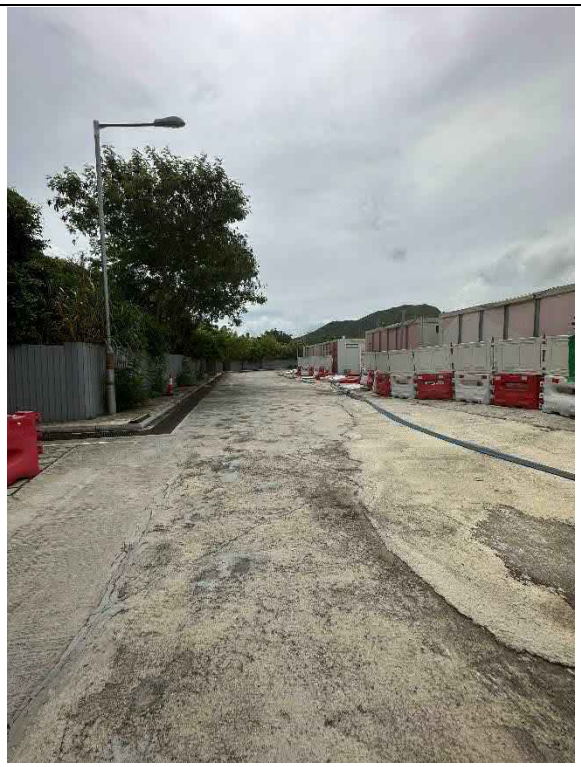
wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

4.	23 June 2023	  Top: Ground condition is well-maintained and paved. Bottom: DSD pipes observed in the Project Site and labelled clearly.

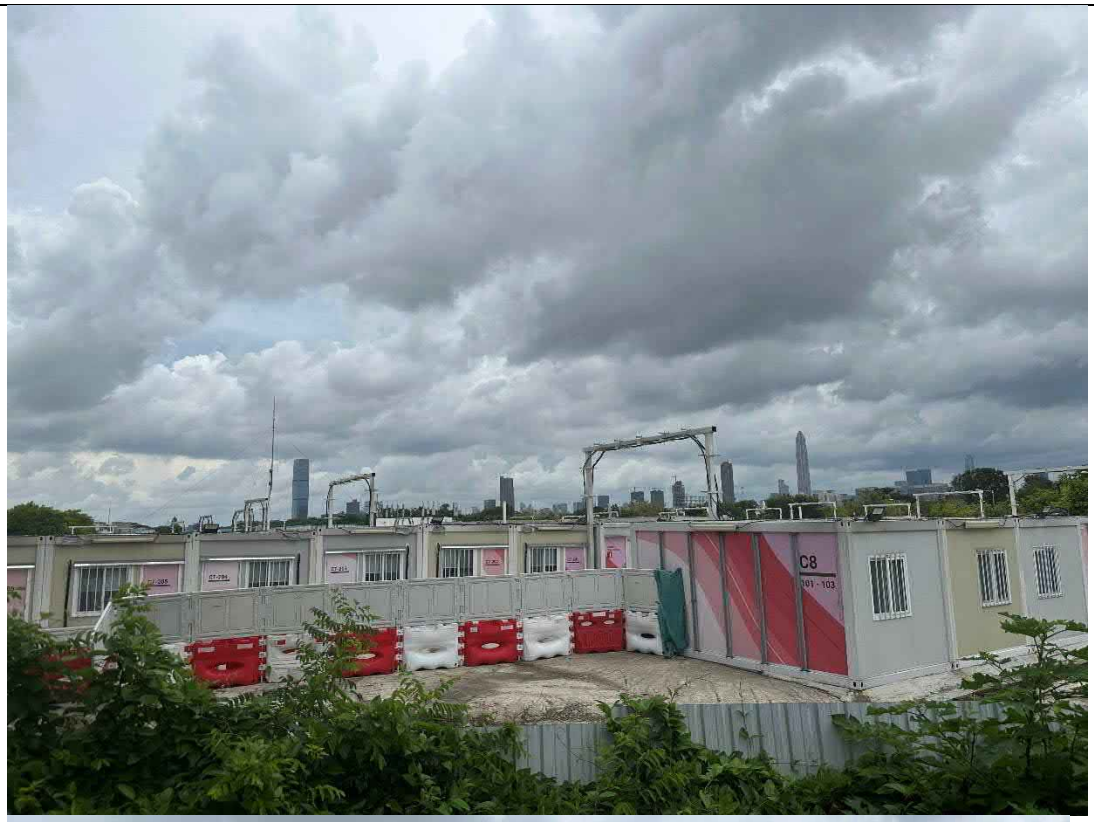
	PHOTOGRAPHIC LOG – Site Inspection	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

5.	23 June 2023	 Paved road and drains; paved road is stain-free and well-maintained, no cracks observed.
6.	23 June 2023	 Within the San Tin CIF are paved roads and MiC units with A/C, drainages observed. No stains and/or underground/above-ground storage tanks observed.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

7.	23 June 2023	 Inside of Project Site and fenced around the perimeter; MiC units, paved road and drains observed; potential contamination is anticipated as no stains and/or underground/above-ground storage tanks observed.
8.	23 June 2023	 DSD pipes observed along fences around the perimeter.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

9.	23 June 2023	  Top: Overview of the MiC units inside Project Site. Bottom: Site is surrounded by densed vegetation and trees.

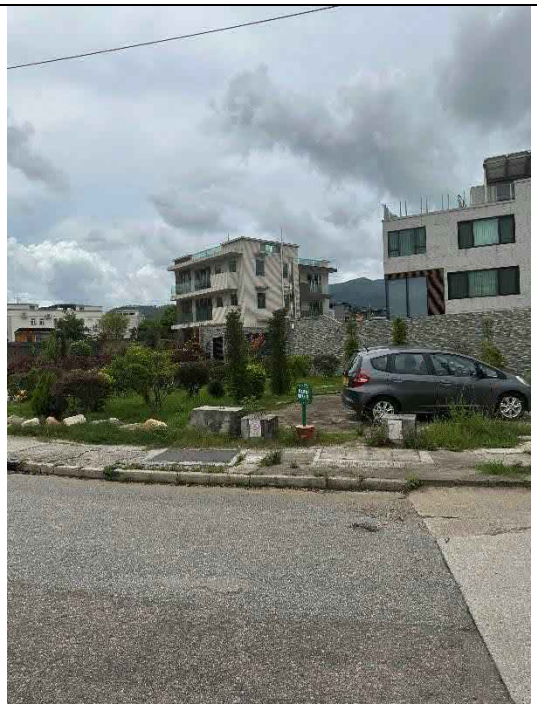
	PHOTOGRAPHIC LOG – Site Inspection	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

10.	23 June 2023	 Existing transformer room and water tanks located in the centre of the Project Site; area is fenced and inaccessible but is well-maintained. Ground condition is good, no water leakage or oil stains observed.
11.	23 June 2023	 Overview of the MiC units located next to the existing transformer room and water tanks.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

12.	23 June 2023	 Front view of the existing transformer room structure and water tank located next to the structure.
13.	23 June 2023	 Outside Project Site is Tung Wing On Road, residential area across from Project Site.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

14.	23 June 2023	 Village-type houses observed across from Project Site.
15.	23 June 2023	 Residential area, village-type houses and cars observed outside Project Site

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name CEDD	**Site Location** San Tin Community Isolation Facility	**Project No.** TO9

16.	23 June 2023	 Along San Tin Tsuen Road. Exterior of Project Site, fenced and surrounded by open space with densed vegetation and trees.

APPENDIX 8.1

Appendix 8.1 Species of conservation importance recorded within the Assessment Area

Common Name	Scientific name	Application Site	Assessment Area	Commonness & Distribution in Hong Kong	Conservation Status/Protection Status/level of Concern
Bird					
Little Grebe	*Tachybaptus ruficollis*		√	Common resident. Found in Deep Bay area	Fellowes et al. 2002:LC
Great Cormorant	*Phalacrocorax carbo*	√	√	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong	Fellowes et al. 2002:PRC
Grey Heron	*Ardea cinerea*	√	√	Common winter visitor. Mainly found in Deep Bay area	Fellowes et al. 2002:PRC
Great Egret	*Ardea alba*	√	√	Common resident and winter visitor. Widely distributed in Hong Kong	Fellowes et al. 2002:PRC, (RC)
Little Egret	*Egretta garzetta*	√	√	Common resident. Widely distributed in coastal area throughout Hong Kong	Fellowes et al. 2002:PRC, (RC)
Chinese Pond Heron	*Ardeola bacchus*	√	√	Common resident. Widely distributed in Hong Kong	Fellowes et al. 2002:PRC, (RC)
Black-crowned Night Heron	*Nycticorax nycticorax*		√	Common resident and winter visitor. Widely distributed in Hong Kong	Fellowes et al. 2002: (LC)
Northern Shoveler	*Anas clypeata*		√	Abundant winter visitor. Found in Deep Bay area	Fellowes et al. 2002:RC
Common Teal	*Anas crecca*	√	√	Common winter visitor. Mainly found in Deep Bay area	Fellowes et al. 2002:RC
Black Kite	*Milvus migrans*		√	Common resident and winter visitor. Widely distributed in Hong Kong	Class 2 Protected Animal of China;
Eastern Buzzard	*Buteo japonicis*		√	Appendix II of CITES	
Common	*Falco*		√	(RC)	

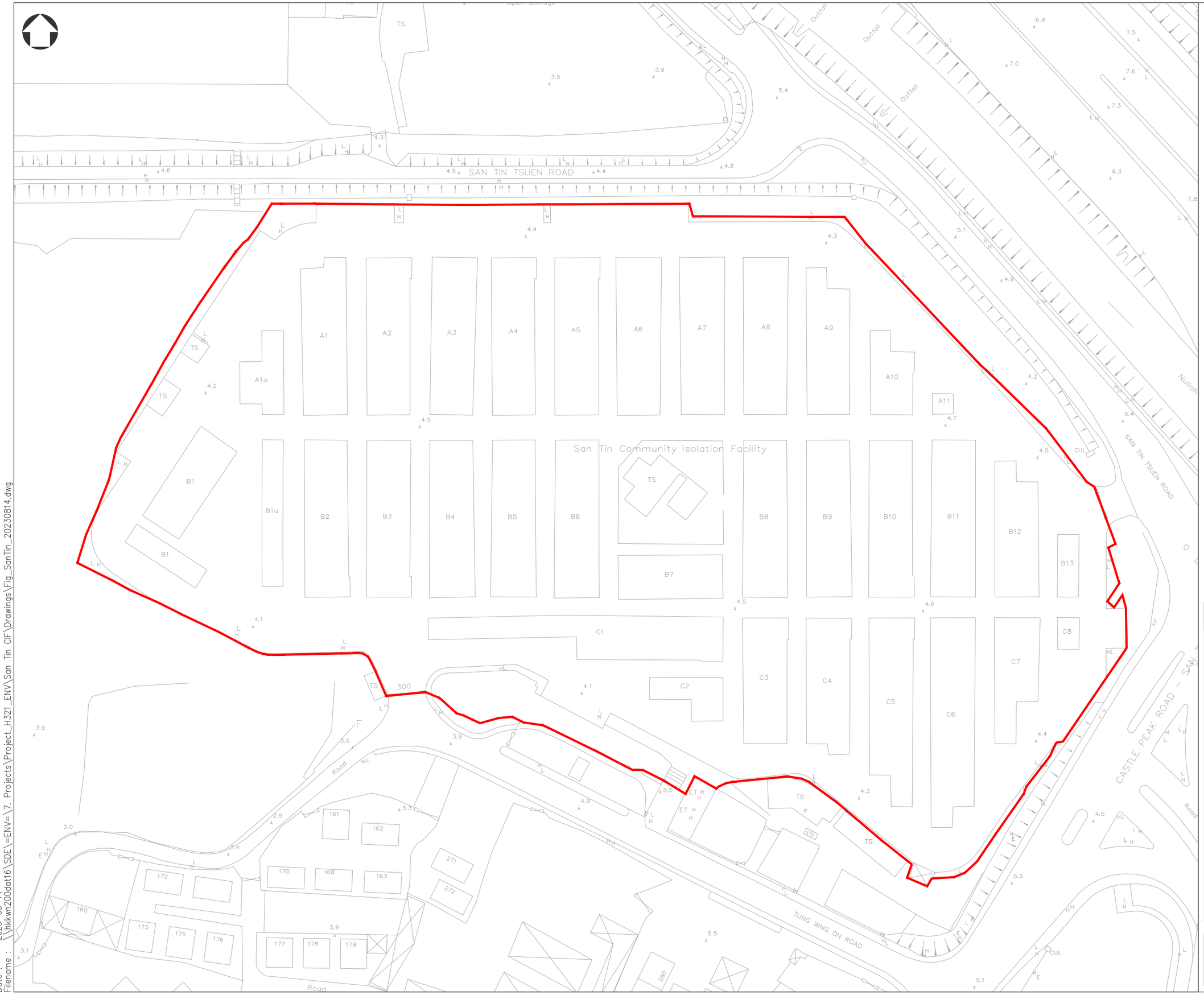
Common Name	Scientific name	Application Site	Assessment Area	Commonness & Distribution in Hong Kong	Conservation Status/Protection Status/level of Concern
Kestrel	*tinnunculus*				
Greater Spotted Eagle	*Clanga clanga*		√	Common winter visitor. Widely distributed in Hong Kong	Class 2 Protected Animal of China;
Black-winged Stilt	*Himantopus himantopus*		√	Common passage migrant. Mainly found in Deep Bay area	Fellowes et al. 2002:RC
Pied Avocet	*Recurvirostra avosetta*		√	Abundant winter visitor. Found in Deep Bay area	Fellowes et al. 2002:RC
Little Ringed Plover	*Charadrius dubius*		√	Common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong	Fellowes et al. 2002: (LC)
Common Redshank	*Tring totanus*		√	Common passage migrant. Found in Deep Bay area	Fellowes et al. 2002:RC
Common Greenshank	*Tringa nebularia*		√	Abundant passage migrant and winter visitor. Found in Deep Bay area	Fellowes et al. 2002:RC
Wood Sandpiper	*Tringa glareola*		√	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong	Fellowes et al. 2002:LC
Marsh Sandpiper	*Tringa stagnatilis*		√	Common winter visitor and passage migrant. Found in Deep Bay area	Fellowes et al. 2002:RC
Greater Coucal	*Centropus sinensis*		√	Common resident. Widely distributed in Hong Kong	Class 2 Protected Animal of China
White-throated	*Halcyon smyrnensis*		√	Common resident. Widely	Fellowes et al. 2002: (LC)

Common Name	Scientific name	Application Site	Assessment Area	Commonness & Distribution in Hong Kong	Conservation Status/Protection Status/level of Concern
Kingfisher				distributed in coastal areas throughout Hong Kong	
Grey-chinned Minivet	*Pericrocotus solaris*		√	Common in winter, scarce in summer. Found in well wooded areas	Fellowes et al. 2002:LC
Zitting Cisticola	*Cisticola juncidis*		√	Common passage migrant and winter visitor. Widely distributed in grassland throughout Hong Kong	Fellowes et al. 2002: LC
Common Starling	*Sturnus vulgaris*		√	Scarce winter visitor. Found in northwestern, northern and central New Territories	Fellowes et al. 2002: LC
Red-billed Starling	*Sturnus sericeus*		√	Common winter visitor. Widely distributed in Hong Kong	Fellowes et al. 2002: GC
White-shouldered Starling	*Sturnus sinensis*		√	Common passage migrant Found in widespread locations in Hong Kong	Fellowes et al. 2002: (LC)
Butterfly					
Grass Demon	*Udaspes folus*		√	-	R
Herpetofauna and Mammal					
Common Rat Snake	*Ptyas mucosus*		√	Widely distributed throughout Hong Kong	Appendix 2 of CITES; China Red Data Book: endangered; Fellowes et al. 2002: PRC
Japanese Pipistrelle	*Pipistrellus abramus*		√	Very common	WAPO
Pomona Leaf-nosed Bat	*Hipposideros pomona*		√	Very common	WAPO

Level of concern: LC = local concern; RC = regional concern; PRC = potential regional concern; GC = global concern. Letters in parentheses indicate that the assessment is based on restrictedness in breeding and/or roosting sites rather than in general occurrence

Commoness: VC = very common, C = common, UC = uncommon, R = rare, VR = very rare; follow Chan *et al*. 2011

FIGURES



LEGEND :

PROJECT SITE BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

PROJECT SITE

Drawing no. FIGURE 2.1 Rev.

Drawn	Date	Checked	Approved
	AUG2023		

Scale 1:1000@A3 Status –

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 2023-08-14
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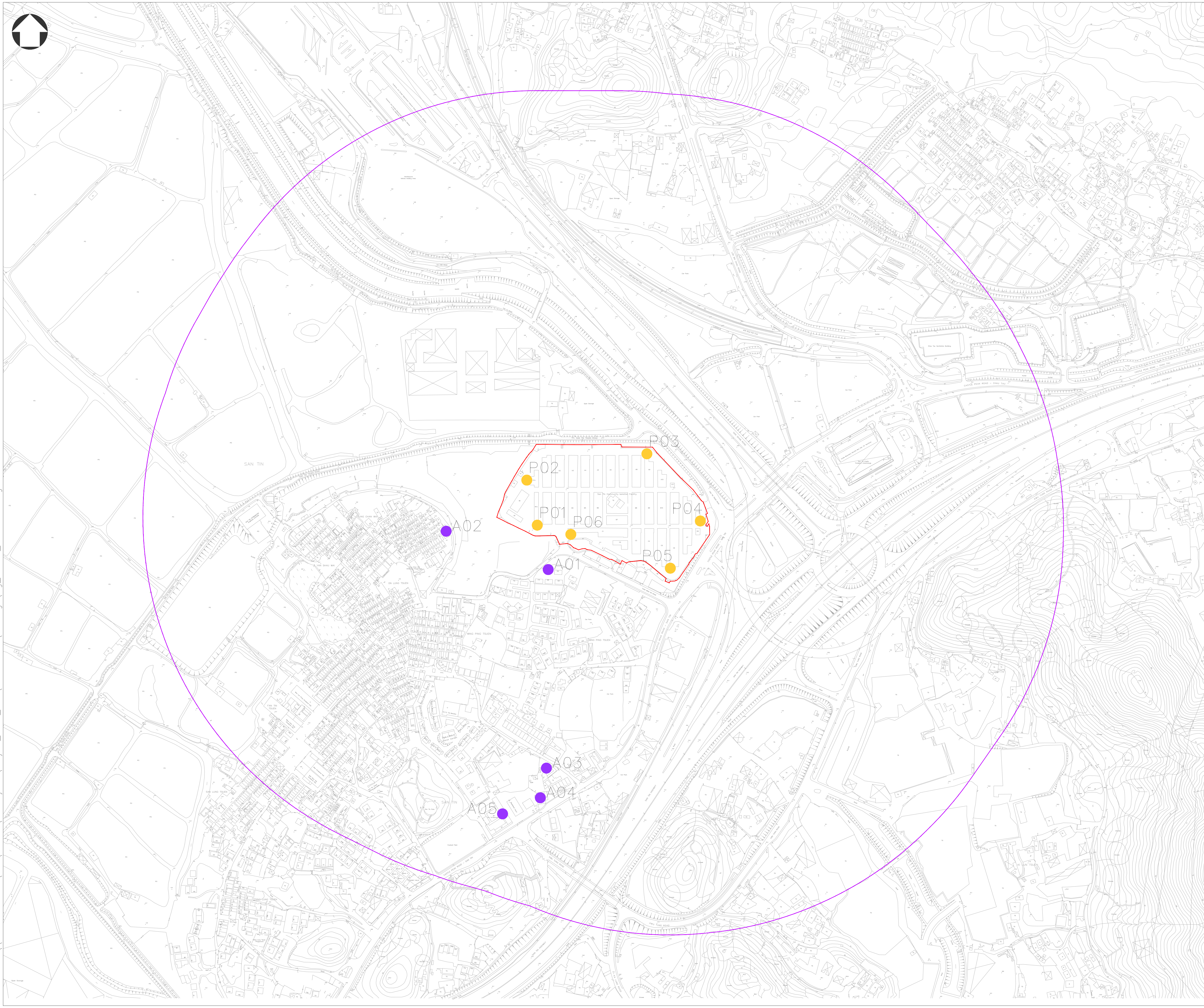

LEGEND :

- PROJECT SITE BOUNDARY
- 500M AIR ASSESSMENT AREA
- AIR SENSITIVE RECEIVERS WITHIN THE PROJECT SITES
- OFF-SITE AIR SENSITIVE RECEIVERS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

LOCATIONS OF THE REPRESENTATIVE AIR SENSITIVE RECEIVERS (ASRS)

Drawing no.			Rev.
FIGURE 3.1			
Drawn	Date AUG2023	Checked	Approved
Scale 1:5000@A3		Status –	

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 2023-08-14
Filename : \\hkkwn200dat16\SDE\=ENV=\7. Projects\Project_H321_ENV\San Tin CIF\Drawings\Fig_SanTin_20230814.dwg

LEGEND :

- PROJECT SITE BOUNDARY
- 5M BUFFER DISTANCE
- 10M BUFFER DISTANCE
- 20M BUFFER DISTANCE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

BUFFER DISTANCE BETWEEN THE NEARBY ROADS AND THE PROJECT BOUNDARY

Drawing no.			Rev.
FIGURE 3.2			
Drawn	Date	Checked	Approved
	AUG2023		
Scale		Status	
1: 20000@A3		–	

CEDD 土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 2023-08-16
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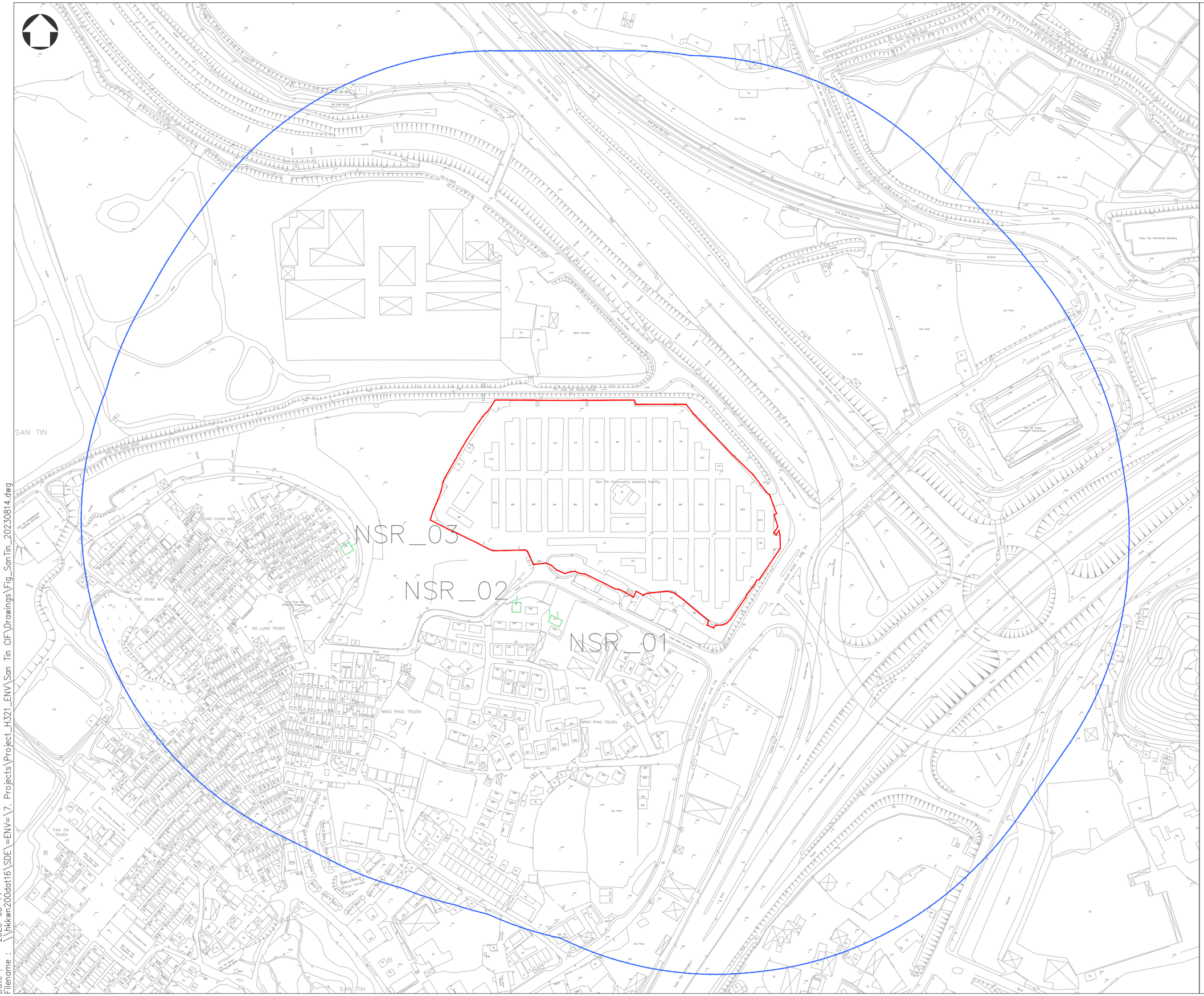

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- NOISE SENSITIVE RECEIVERS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

REPRESENTATIVE NOISE SENSITIVE RECEIVERS (NSRS)

Drawing no.		Rev.
FIGURE 4.1		
Drawn	Date: AUG2023	Checked / Approved
Scale: 1:3000@A3	Status: –	

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Date : 2023-08-14
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OS1

OS2

OS3

SAN TIN

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- FIXED NOISE SOURCE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

REPRESENTATIVE FIXED NOISE SOURCES

Drawing no.		Rev.
FIGURE 4.2		
Drawn	Date: AUG2023	Checked / Approved
Scale: 1:3000@A3	Status: –	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 2023-08-14
Filename : \\hkkwn200dat16\SDE\=ENV=\7. Projects\Project_H321_ENV\San Tin CIF\Drawings\Fig_SanTin_20230814.dwg

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

MC3
MC2
MC1
115mm
141mm
104mm
NSR_03
NSR_02
NSR_01
SAN TIN
YAN SHAU WAI
ON LUNG TSUEN
WING PING TSUEN
FAN TIN TSUEN
LUNG CHAN WAI
SAN TIN INTERCHANGE
CASTLE PEAK ROAD – SAN TIN
LOK MA CHAU ROAD
SAN WAI ROAD
FANLING HIGHWAY

Rev	Description	By	Date

Consultant

wsp

Project title
AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title
LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 4.3a		
Drawn	Date: AUG2023	Checked / Approved
Scale: 1:3000@A3	Status: –	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處 WEST DEVELOPMENT OFFICE

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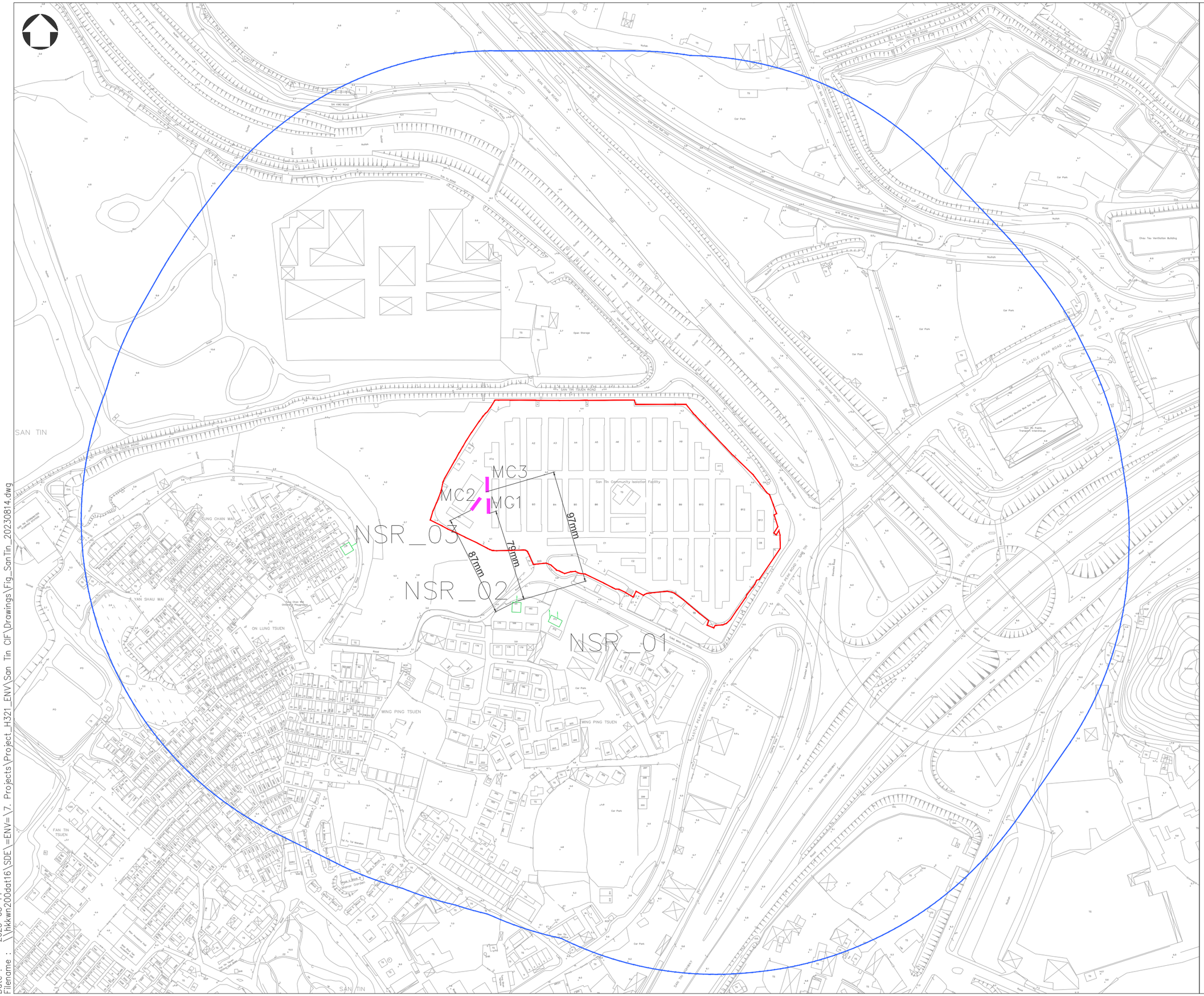

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.			Rev.
FIGURE 4.3b			
Drawn	Date	Checked	Approved
	AUG2023		
Scale		Status	
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CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

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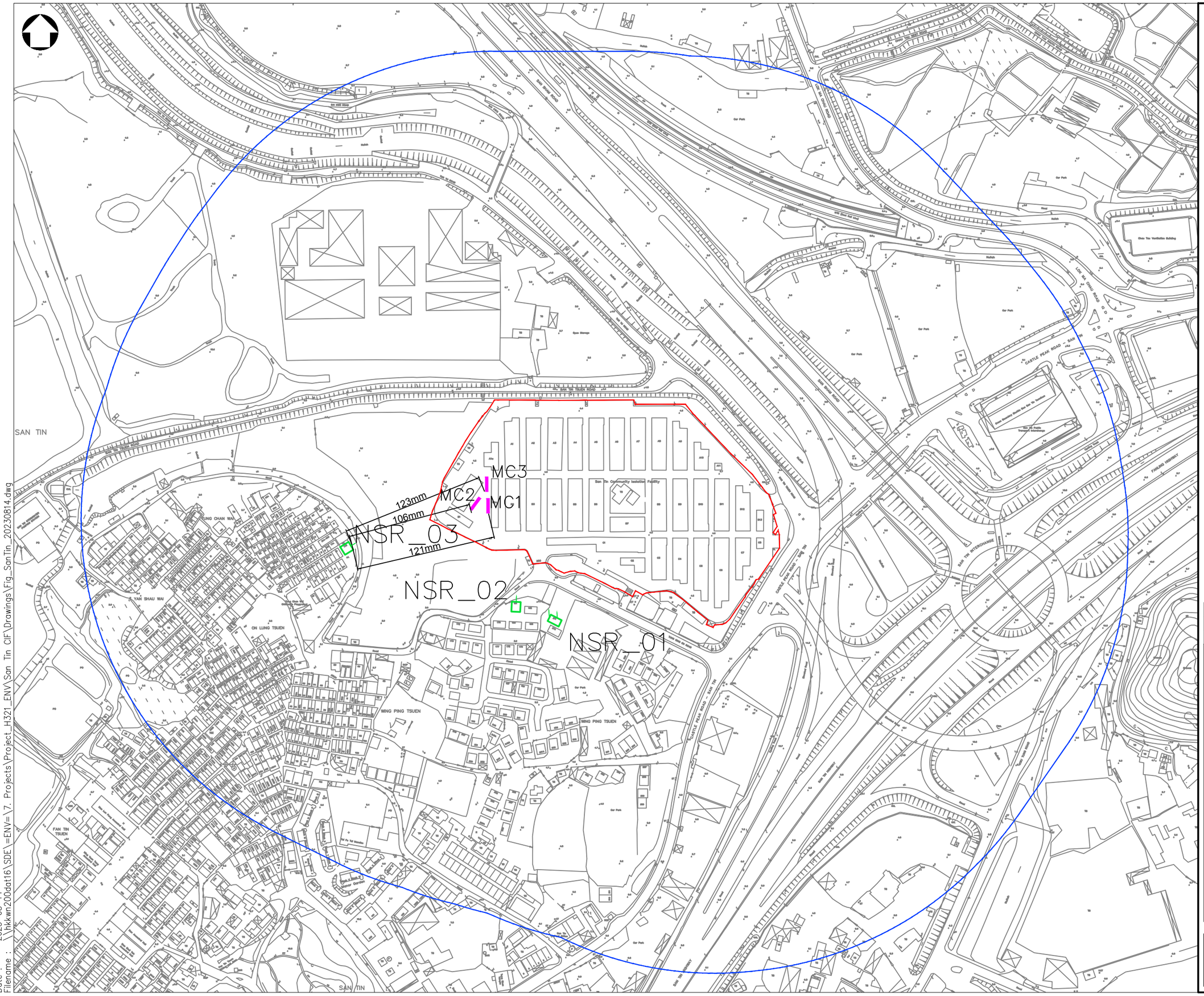

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 4.3c		
Drawn	Date: AUG2023	Checked / Approved
Scale: 1:3000@A3	Status: –	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處 WEST DEVELOPMENT OFFICE

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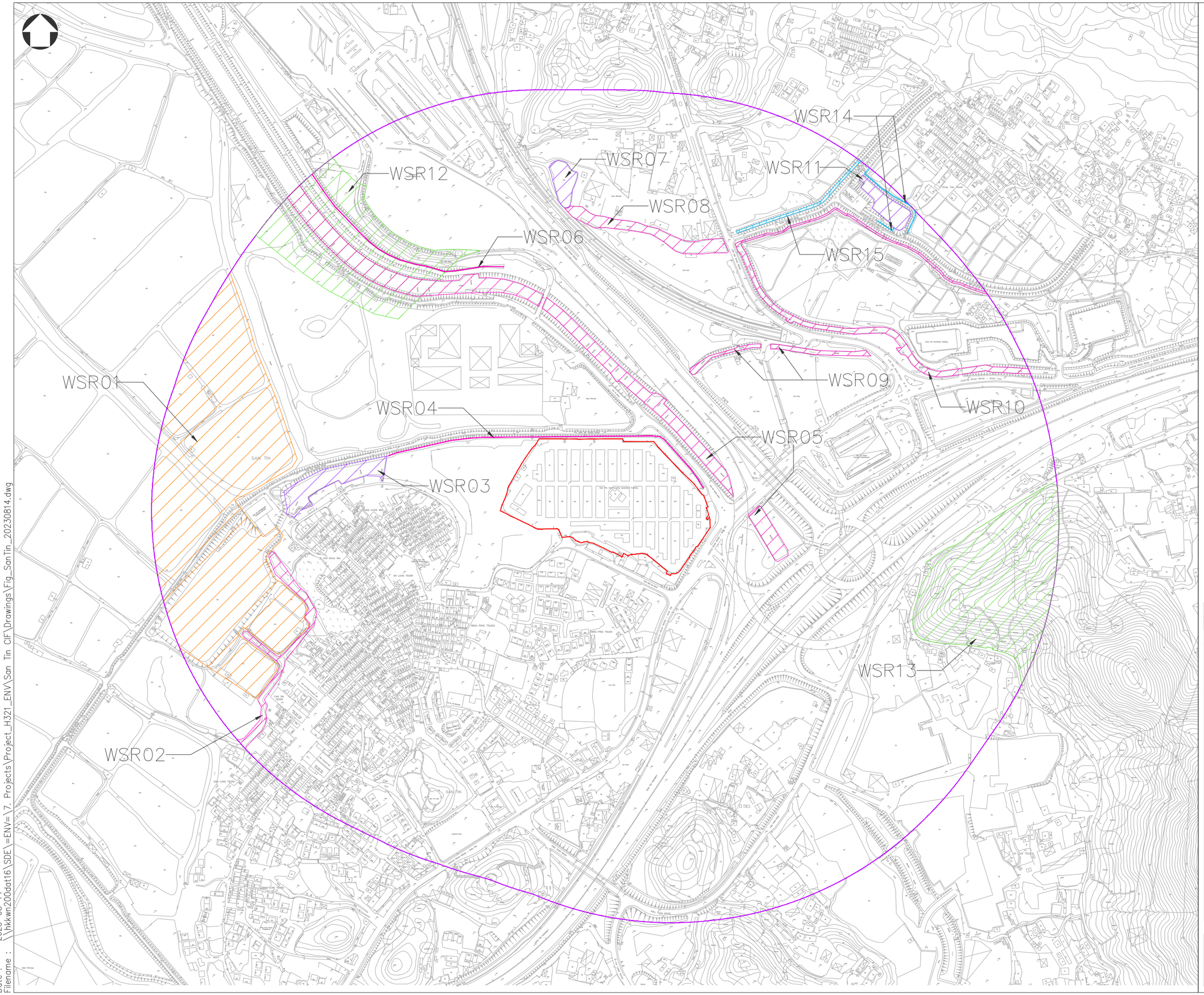

LEGEND :

- PROJECT SITE BOUNDARY
- 500M ASSESSMENT AREA

WATER SENSITIVE RECEIVERS

- WETLAND
- POND
- NULLAH
- CONSERVATION AREA
- WATERCOURSE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

WATER QUALITY IMPACTS ASSESSMENT
500M BOUNDARY

Drawing no.			Rev.
FIGURE 5.1			
Drawn	Date: AUG2023	Checked	Approved
Scale: 1:50000@A3		Status: –	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處 WEST DEVELOPMENT OFFICE

Date : 2023-08-14
Filename : \\hkwn200dat16\SDE\=ENV=\7. Projects\Project_H321_ENV\San Tin CIF\Drawings\Fig_SanTin_20230814.dwg

LEGEND :

- PROJECT SITE BOUNDARY
- EPD RIVER WATER MONITORING STATIONS
- EPD MARINE WATER QUALITY MONITORING STATIONS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) –
TASK ORDER NO. 9 – SAN TIN CIF

Drawing title

LOCATIONS OF WATER MONITORING STATIONS

Drawing no.			Rev.
FIGURE 5.2			
Drawn	Date	Checked	Approved
	AUG2023		
Scale		Status	
1:50000@A3		–	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 2023-08-14
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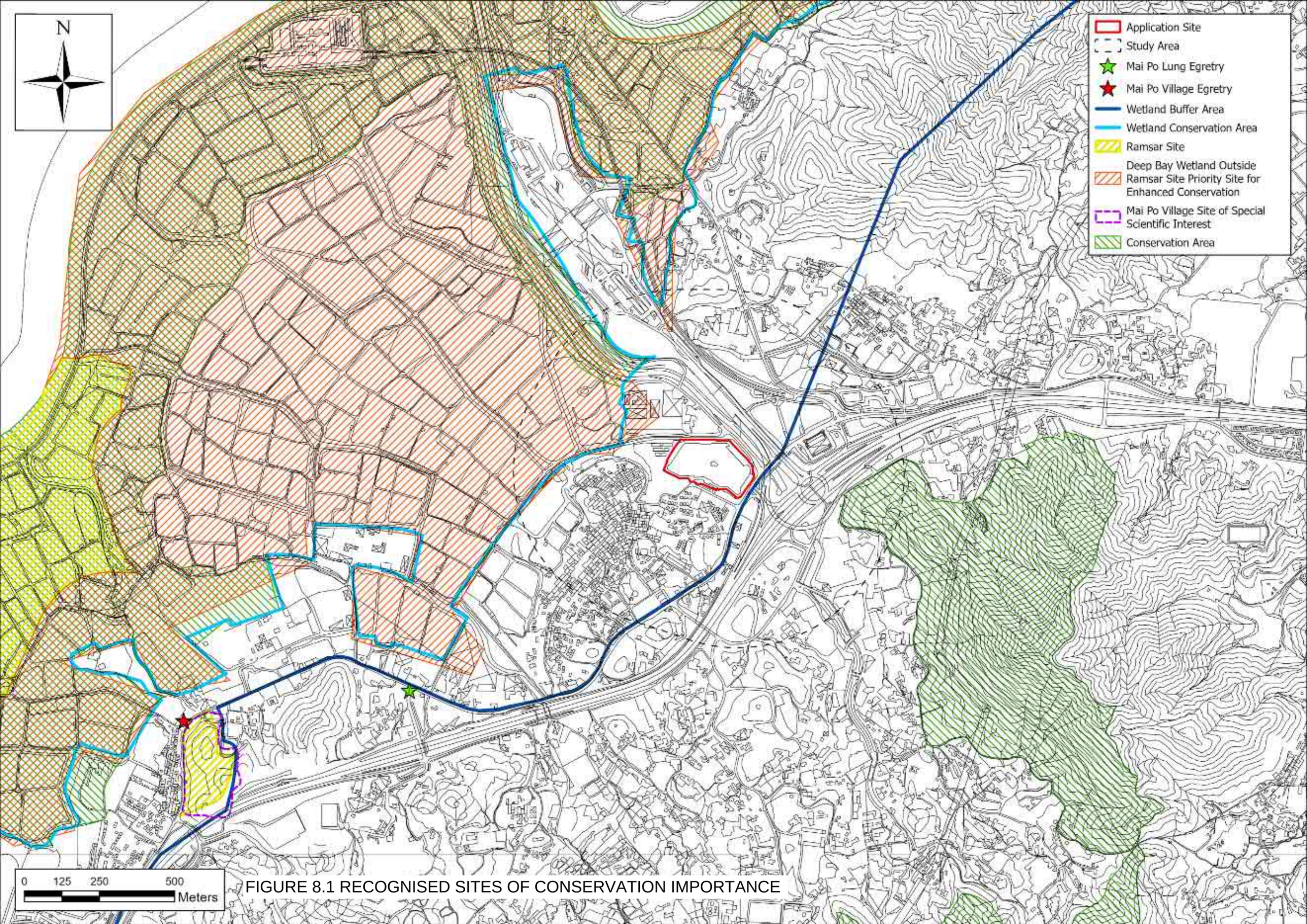


FIGURE 8.1 RECOGNISED SITES OF CONSERVATION IMPORTANCE

N

Application Site
Study Area
Agricultural Land
Developed Area
Flood Storage Pond
Grassland
Wasteland
Mitigation Wetland
Plantation
Pond
Shrubland
Watercourse
Woodland

0 50 100 200
Meters

FIGURE 8.2 HABITATS IDENTIFIED WITHIN AND OUTSIDE APPLICATION SITE

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Drainage Impact Assessment

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) –

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Drainage Impact Assessment (DIA) Report (Issue 1)

July 2023

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) – TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Drainage Impact Assessment (DIA) Report (Issue 1)

[CONFIDENTIAL]

PROJECT NO.: 2512219A

DATE: JULY 2023

WSP (ASIA) LTD.
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY
HONG KONG

PHONE: +852 3155-5805
FAX: +852 2856-9902
WSP.COM

REVISION HISTORY

REVISION	DATE	PREPARED BY	CHECKED BY	APPROVED BY
Issue 1	25 July 2023	Various	Vincent So	Emeric Wan

TABLE OF CONTENT

DRAWINGS

APPENDICES

ABBREVIATIONS

CEDD	Civil Engineering and Development Department
CIF	Community Isolation Facility
DSD	Drainage Services Department
EPD	Environmental Protection Department
EVA	Emergency Vehicular Access
GFA	Gross Floor Area
MiC	Modular Integrated Construction
SDM	Stormwater Drainage Manual
WSP	WSP (Asia) Limited

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 WSP (Asia) Ltd. (WSP) is commissioned by the Civil Engineering and Development Department (CEDD) to submit the Section 16 Planning Application to seek permission from the Town Planning Board (TPB/ the Board) for the Proposed Temporary Training Facilities (the proposed development) at the San Tin Community Isolation Facility (CIF) (Application Site/Site), on a temporary basis up to 31 October 2024.

1.1.2 The Applicant, CEDD, proposes a development on a temporary basis up to 31 October 2024. The Application Site falls within an area zoned for "Other Specified Uses (Services Stations)" under the Approved San Tin Outline Zoning Plan No. S/YL-ST/8 (OZP). In accordance with Clause No. (11) (b) of the covering Notes of the approved OZP, *"……temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board……*". Therefore, this planning application is submitted to the TPB under Section 16 of the Town Planning Ordinance for the proposed temporary development.

1.1.3 The Application Site is currently occupied by San Tin CIF. With the epidemic in Hong Kong having been brought under control gradually, the CIF have been put into standby mode. To fully utilize the existing resources and facilities, the Applicant intends to convert the existing San Tin CIF as the proposed temporary development up to 31 October 2024.

1.2 STRUCTURE OF THE REPORT

1.2.1 This DIA report contains the following sections in addition to this introduction: -

Section 2	Describe the existing site condition and after development condition.
Section 3	Discuss the methodology of the DIA.
Section 4	Present the flood susceptibility, catchment characteristics and condition of the existing drainage system; assesses the potential drainage impact arising from the proposed development; and formulate corresponding mitigation measures if necessary.
Section 5	Summarize the finding and provide conclusion of the DIA report.

2 SITE DESCRIPTION

2.1 DESCRIPTION OF THE SITE

2.1.1 The proposed development is located at the existing Yuen Long San Tin Community Isolation Facility which is bounded by Castle Peak Road – San Tin to the east, San Tin Tsuen Road to the north and Tung Wing On Road to the south.

2.2 DEVELOPMENT SCHEDULE

2.2.1 Taking into account the Site is previously used as CIF, the units and required infrastructure have already been constructed. The anticipated population intake would be October 2023 tentatively and the Site is intended to operate till 31 October 2024.

3 METHODOLGY AND DESIGN PARAMETERS FOR DRAINAGE IMPACT ASSESSMENT

3.1 GENERAL APPROACH

3.1.1 A desk study is carried out to identify the existing drainage system within and in vicinity of the Site by obtaining existing drainage plan from DSD. The existing drainage system is assessed in terms of capacity and flood protection level with respect to estimated peak flows.

3.1.2 The catchment areas of the existing drainage system have been delineated and reviewed. The following two Scenarios are considered:

Scenario 1: Existing Condition – existing drainage characteristic, including catchment, surface characteristic and drainage system in the vicinity of the Site; and

Scenario 2: After Development – future drainage characteristics, including catchment, surface characteristic and drainage system.

3.1.3 Following the review and assessment, the drainage improvement to support the Development is formulated and the mitigation measures, including improvement or upgrading of the existing drainage system, where appropriate and necessary, are proposed.

3.2 DESIGN CODE AND REFERENCES

3.2.1 The DIA will be conducted with reference to the following design code and references:-

i. Environment, Transport and Works Bureau Technical Circular (Works) No. 2/2006

ii. Environment, Transport and Works Bureau Technical Circular (Works) No. 5/2005

iii. EPD's Practice Note ProPECC PN1/94

iv. Stormwater Drainage Manual (SDM) (Fifth Edition, January 2018) issued by DSD

v. Drainage Services Department Technical Circular No. 1/2017

vi. Stormwater Drainage Manual (SDM) Corrigendum No. 1/2022 by DSD

4 DRAINAGE IMPACT ASSESSMENT

4.1 FLOOD SUSCEPTIBILITY

4.1.1 According to the latest review (July 2023) of the flooding black spots published on DSD website, there is no flooding blackspot within the subject drainage catchment. The current flooding susceptibility of the Site area is therefore considered low.

4.2 EXISTING SITE CONDITION AND DRAINAGE SYSTEM

4.2.1 As mentioned in Section 2.3, the Site is currently occupied by Yuen Long San Tin CIF. There are approximately 720 MiC units.

4.2.2 The Site are mostly paved with concrete with some greenings at its perimeter. The surface runoff at the site is currently being collected by 225mm – 900mm covered channels within site and eventually discharged into existing DSD 1400mm channel at the north of the site.

4.2.3 The hydraulic checking on the existing 1400mm channel can be referred to **Appendix A**.

4.3 PROPOSED WORKS

4.3.1 The proposed development will fully utilize the existing building structures and utilities, therefore, no major works are expected to be carried out within the Site.

Land Characteristics

4.3.2 The existing catchment characteristics will be maintained and there will be no change in surface characteristics.

Proposed Drainage Works

4.3.3 The existing drainage system will be maintained and there is no proposed drainage works.

Drainage Impact Assessment

4.3.4 As there is no change in surface characteristics or any increase in paved area in the site, no additional surface runoff is anticipated.

4.3.5 As the catchment plan will also be the same as that of the existing community isolation facility, adverse impact on the existing drainage system is not anticipated.

5 CONCLUSION

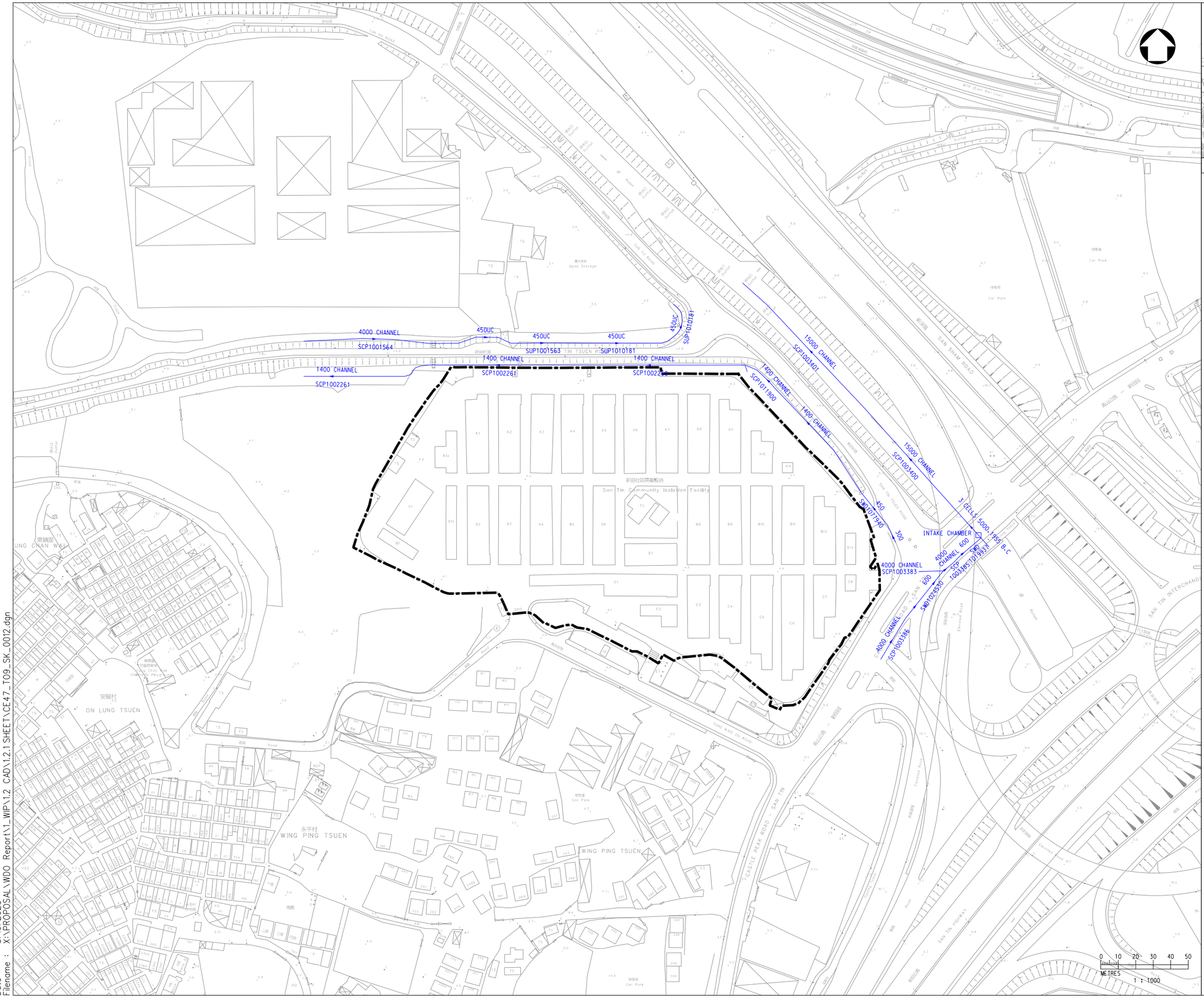
5.1 CONCLUSION

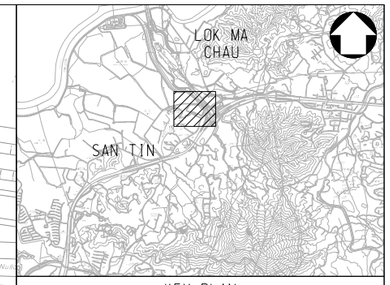
5.1.1 The existing CIF facilities and utilities will be fully utilised and no major works are expected to be carried out within the Site.

5.1.2 The surface runoff at the site is currently being collected by 225mm – 900mm covered channels within site and eventually discharged into existing DSD 1400mm channel at the north of the site.

5.1.3 There is no change in land characteristics, catchment plan or any additional flow. Therefore, no adverse drainage impact from the project is anticipated and no drainage works or mitigation measures are considered necessary.

DRAWINGS





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING STORMWATER DRAINS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING DRAINAGE LAYOUT PLAN

Drawing no.			Rev.
CE47/T09/SK/0012			-
Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY
Scale		Status	
1:1000 (A1)		-	

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 8/16/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0012.dgn

APPENDIX A

HYDRAULIC CALCULATION

Calculations for the Drainage System (U-Channel)

A. Rational method to estimate runoff and pipe sizes

1 in 50 year Design Event for sizing drainage network

1 in 50 year storm constants from DSD Stormwater Manual

Manning's Equation:

$$\bar{V} = \frac{R^{1/6}}{n}\sqrt{RS_f}$$

Storm Constants	**a**	**1167.6**	
	b	**16.76**	
	c	**0.56**	
Climate Change Factor		**0.00%**	
Runoff Coefficient	**Green**	**0.30**	
	Paved	**0.85**	
Manning Coefficient	**n**	**0.018**	**s/m$^{1/3}$**
Viscocity	**u**	**0.000001**	**m^2/s**
Reduction in Flow Area		**10.00%**	

UC ID	Length	UC Size	Gradient	Gradient	Sectional Area	Perimeter	R =A/P	Vel.@ full bore	Vel.@ full bore	Tf	Tc	Intensity	Drained Area	Surface Area		Total Q	Capacity	Remarks	% of Flow to UC Capacity
No.	(m)	(mm)		(1 in x)	(m^2)	(m)	(m)	(m/sec)	(mm/sec)	(mins)	(mins)	(mm/hr)	(m^2)	Green (m^2)	Paved (m^2)	(l/sec)	(l/sec)		
1400 Channel	140.00	1400	0.0040	250	1.575	3.60	0.44	2.03	2025.02	1.15	4.15	212	39672	504	39168	1972	3189	ok	62

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Sewerage Impact Assessment

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) –

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Sewerage Impact Assessment (SIA) Report (Issue 1)

July 2023

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) – TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Sewerage Impact Assessment (SIA) Report (Issue 1)

[CONFIDENTIAL]

PROJECT NO.: 2512219A

DATE: JULY 2023

WSP (ASIA) LTD.
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY
HONG KONG

PHONE: +852 3155-5805
FAX: +852 2856-9902
WSP.COM

REVISION HISTORY

REVISION	DATE	PREPARED BY	CHECKED BY	APPROVED BY
Issue 1	25 July 2023	Various	Vincent So	Emeric Wan

TABLE OF CONTENT

DRAWINGS

ABBREVIATIONS

ADWF	Average Dry Weather Flow
CEDD	Civil Engineering and Development Department
CIF	Community Isolation Facility
DSD	Drainage Services Department
EPD	Environmental Protection Department
GESF	Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning
GFA	Gross Floor Area
MiC	Modular Integrated Construction
UFF	Unit Flow Factor
WSP	WSP (Asia) Limited

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 WSP (Asia) Ltd. (WSP) is commissioned by the Civil Engineering and Development Department (CEDD) to submit the Section 16 Planning Application to seek permission from the Town Planning Board (TPB/ the Board) for the Proposed Temporary Training Facilities (the proposed development) at the San Tin Community Isolation Facility (CIF) (Application Site/Site), on a temporary basis up to 31 October 2024.

1.1.2 The Applicant, CEDD, proposes a development on a temporary basis up to 31 October 2024. The Application Site falls within an area zoned for "Other Specified Uses (Services Stations)" under the Approved San Tin Outline Zoning Plan No. S/YL-ST/8 (OZP). In accordance with Clause No. (11) (b) of the covering Notes of the approved OZP, *"……temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board……*". Therefore, this planning application is submitted to the TPB under Section 16 of the Town Planning Ordinance for the proposed temporary development.

1.1.3 The Application Site is currently occupied by San Tin CIF. With the epidemic in Hong Kong having been brought under control gradually, the CIF have been put into standby mode. To fully utilize the existing resources and facilities, the Applicant intends to convert the existing San Tin CIF as the proposed temporary development up to 31 October 2024.

1.2 STRUCTURE OF THE REPORT

1.2.1 This SIA report contains the following sections in addition to this introduction: -

Section 2 Describes the existing site conditions and presents the key development parameters of the Development for the SIA

Section 3 Discusses the methodology and design parameters for the SIA

Section 4 Presents the existing and planned sewerage system; estimates sewage flow from the Proposed Development and proposes the sewerage discharge points; assesses the potential sewerage impacts from the Proposed Development and proposes mitigation measures if necessary

Section 5 Summarizes the finding and provide conclusion of the SIA report

2 SITE DESCRIPTION

2.1 DESCRIPTION OF THE SITE

2.1.1 The proposed development is located at the existing Yuen Long San Tin Community Isolation Facility which is bounded by Castle Peak Road – San Tin to the east, San Tin Tsuen Road to the north and Tung Wing On Road to the south.

2.2 DEVELOPMENT SCHEDULE

2.2.1 Taking into account the Site is previously used as CIF, the units and required infrastructure have already been constructed. The anticipated population intake would be October 2023 tentatively and the Site is intended to operate till 31 October 2024.

3 METHODOLGY AND DESIGN PARAMETERS FOR SEWERAGE IMPACT ASSESSMENT

3.1 METHODOLOGY

Assessment Approach

3.1.1 The following approach and methodology have been adopted in this sewerage impact assessment:-

- Carry out the desktop study and site visit to collect relevant information for the assessment;
- Investigate and review the existing and planned sewerage networks and determine the sewage flow generated from the existing community isolation facility;
- Determine the potential sewage arising from the proposed development; and;
- Assess the sewerage impacts and recommend the mitigation measures if necessary

Information Collection

3.1.2 The following information is collected for the assessment:-

- Sewerage Record Plan in the vicinity of the Site;
- Topographic data at the Site;
- Sewage flow generation from the existing site; and
- Treatment capacity of the existing/planned pumping station and sewage treatment works.

Design Standards, Guidelines and Reference

3.1.3 The assessment is conducted in accordance with the following standards, guidelines and reference:-

- Sewerage Manual Part 1 – Key Planning Issues and Gravity Collection System, Third Edition, May 2013 published by DSD;
- Sewerage Manual Part 2 – Pumping Stations and Rising Mains, Second Edition, May 2013 published by DSD; and
- Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF) published by EPD.

Hydraulic Analysis

3.1.4 The sewage in the sewerage system is assumed to be in free-flow condition. The capacity for gravity sewers is assessed using the Colebrook–White equation.

Colebrook-White

$$\overline{V} = -\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}}\right]$$

3.2 DESIGN PARAMETERS AND ASSUMPTIONS

Unit Flow Factors

3.2.1 The Unit Flow Factors (UFF) has been adopted in accordance with Table T-1 and Table T-2 of the GESF. The Unit Flow Factor adopted in the assessment for the existing development is "Temporary and non-domestic" and the proposed development is "School student" as indicated in Table 3.2a below.

Table 3.2a – Unit Flow Factors

Component	Category/ Use	UFF (m^3/person/day)
Domestic Flow	Temporary and non-domestic	0.150
Student Flow	School student	0.040

3.2.2 The Catchment Inflow Factors (P_{cif}) cater for the net overall ingress of water or waste water to the sewerage system. They are catchment-dependent and applicable to major sewerage facilities of a catchment. They are not applicable to new catchments which are deemed to be free from misconnections and pipe defects. Therefore, the P_{cif} are not applicable in estimating the total flows from the new development areas.

3.2.3 For the existing sewerage system in Yuen Long District, P_{cif} of 1.00 will be adopted in accordance with Table T-4 of the GESF.

3.2.4 The average sewage flow, $Q_{average}$, is as follows:-

$$Q_{average} = (Q_{domestic} + Q_{commercial} + Q_{other}) \times P_{cif}$$

Peaking Factors

3.2.5 Peaking factors cater for seasonal / diurnal fluctuation and normal amount of infiltration and inflow. The peaking factors shall be in accordance with Table T-5 of GESF and are shown in the Table 3.2b. As the downstream sewers were designed to cater the sewage generated from the CIF only, the peaking factor (excluding stormwater allowance) will be adopted. As the design population of the existing community isolation facility and the proposed development are 2,800 (+280) and 100 respectively, the peaking factor will be taken as 5 and 6 respectively.

Table 3.2b – Peaking Factors for Various Population Ranges

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

N is the contributing population in thousands

3.2.6 Peaking factors (including stormwater allowance) are usually applied to assess and design sewers, as a measure to take into account the deterioration of pipe conditions with time despite that new sewerage systems are provided.

3.2.7 The peak sewage flow, Q_{peak}, is as follows:-

$$Q_{peak} = Q_{average} \times P$$

Material

3.2.8 The roughness coefficients used for Colebrook-White (ks) are based on values provided in the Table 5 of DSD Sewerage Manual Part 1 2013 and are summarized in Table 3.2c.

Table 3.2c – Roughness Coefficients for Sewerage Design

Material	Roughness Coefficients, ks
Concrete	3.0 mm (velocity approximately 0.75 m/s, normal condition)

Siltation

3.2.9 Suitable allowance is made for the deposition of sediment in existing sewers. 10% reduction in flow area is adopted to take into account the effects to flow capacity due to materials deposited on the sewer bed.

4 SEWERAGE IMPACT ASSESSMENT AND PROPOSED MITIGATION MEASURES

4.1 EXISTING SEWERAGE SYSTEM

4.1.1 The sewage of the Proposed Development was pumped to the San Tin CIF sewage pumping station (SPS) and then to the Sewage Treatment Facilities at Lok Ma Chau Control Point by two 1.8km-long DN200 rising mains via San Sham Road. The capacity of the existing sewerage facilities advised by DSD are summarized in Table 4.1.

Table 4.1 Current capacity of existing sewerage facilities

Sewerage Facilities	Design Capacity (m^3/day)
San Tin CIF SPS (Upstream of Lok Ma Chau Control Point Sewage Treatment Plant)	500
Lok Ma Chau Control Point Sewage Treatment Plant	498

4.1.2 The population of the community isolation facility is 2,800 and an additional 10% is assumed for staff operation. The design sewage flow is summarised in Table 4.2.

Table 4.2 Design Sewage Flow from the existing Community Isolation Facility

Type	Population	Unit Flow Factor (UFF) (m^3/h/d)	Average Dry Weather Flow (ADWF) (m^3/d)	Peak Flow (L/s)
Temporary and non-domestic	2,800 (Design Population) + 280 (Staff Operation)	0.15	462	22.92

4.2 SEWAGE GENERATION ESTIMATION

Sewage Generation from the Site

4.2.1 The anticipated population of the site is 100.

4.2.2 Based on the design population of the proposed development, the sewage flow from the Site is estimated and shown on Table 4.3.

Table 4.3 Estimated Sewage Flow from the Proposed development

Type	Population	Unit Flow Factor (UFF) (m^3/h/d)	Average Dry Weather Flow (ADWF) (m^3/d)	Peak Flow (L/s)
School Student	100	0.04	4	0.28

4.3 SEWERAGE IMPACT ASSESSMENT

Impact to Existing Sewer

4.3.1 The total ADWF and peak flow generated from the proposed development are estimated to be 4 m^3/day and 0.28 L/s which are only 0.9% and 1.2% of those of the previous community isolation facility respectively.

4.3.2 The capability of the existing sewerage system downstream to cater the sewage generation from the site will not be affected by the proposed development.

4.3.3 As the anticipated sewage discharge of the proposed development is minimal and significantly less than that of the previous community isolation facility, it is considered that the existing sewerage system at the site and at the downstream of the site would be capable of catering the sewage generation and there will be no sewerage impact due to the proposed development.

4.4 PROPOSED SEWERAGE DISCHARGE

4.4.1 The sewage generated will be collected and discharged in the same manner as the existing community isolation facility which is to be conveyed to the existing sewage treatment facilities at Lok Ma Chau Control Point via the existing twin DN200 rising mains.

4.4.2 An alternative method to cater the small sewage discharge is to employ vacuum tankers to tanker away the sewage during operation and deliver the sewage to the sewage treatment facilities at Lok Ma Chau Control Point. Detailed operational arrangement shall be agreed with DSD and EPD at later stage.

5 CONCLUSION

5.1 CONCLUSION

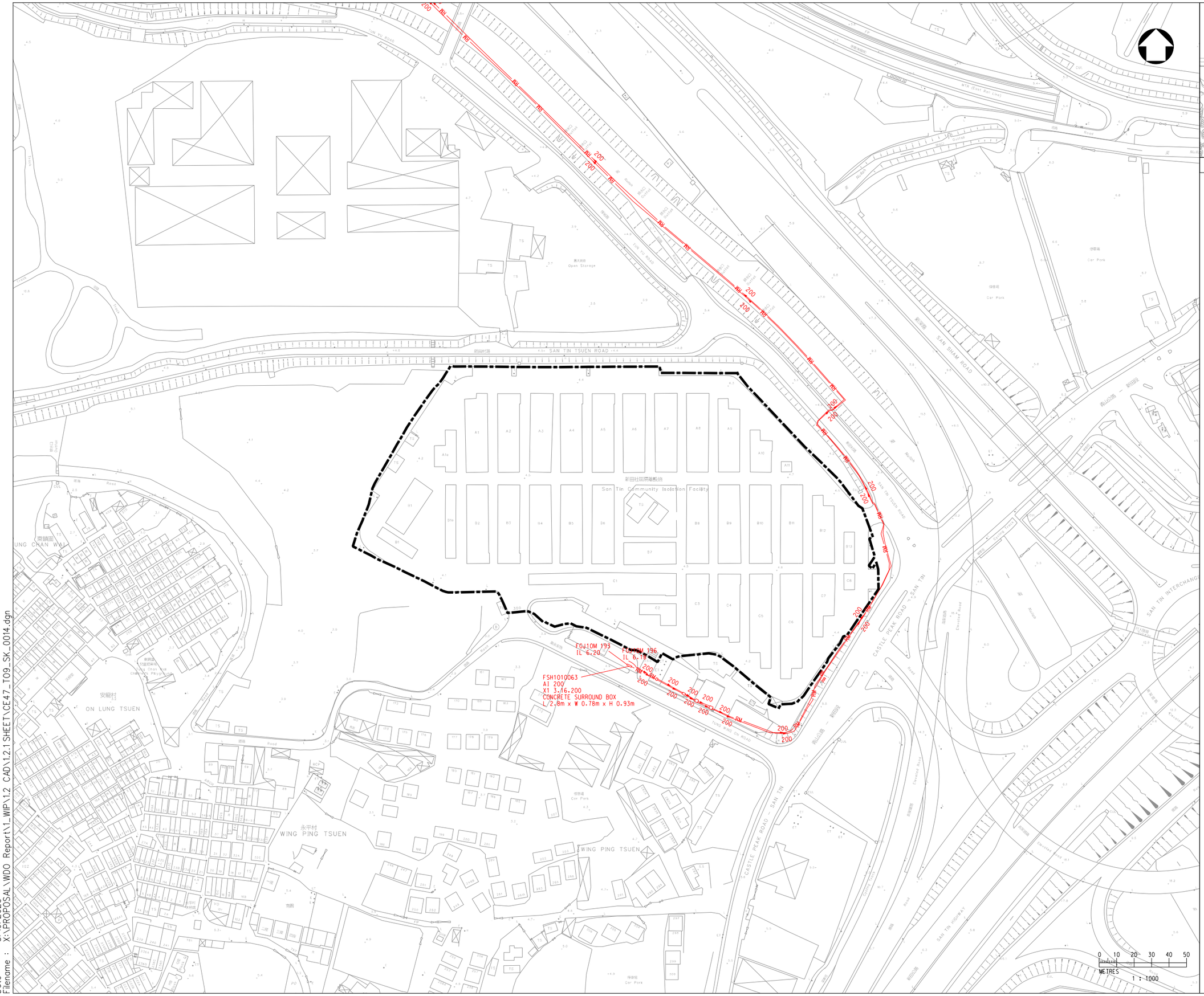
5.1.1 The total ADWF and peak flow generated from the proposed development are estimated to be 4 m^3/day and 0.28 L/s which would be significantly lower than those of the previous community isolation facility.

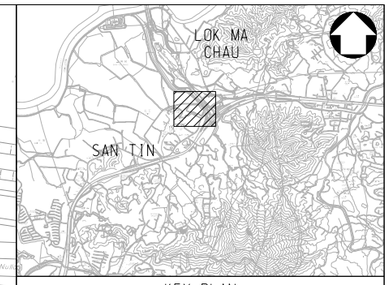
5.1.2 Therefore, it is considered that the existing sewerage system at the site and at the downstream of the site would be capable of catering the sewage generation and there will be no sewerage impact due to the proposed development.

5.1.3 The sewage generated will be collected and discharged in the same manner as the existing community isolation facility which is to be conveyed to the existing sewage treatment facilities at Lok Ma Chau Control Point via the existing twin DN200 rising mains.

5.1.4 An alternative method to cater the small sewage discharge is to employ vacuum tankers to tanker away the sewage during operation and deliver the sewage to the sewage treatment facilities at Lok Ma Chau Control Point. Detailed operational arrangement shall be agreed with DSD and EPD at later stage.

DRAWINGS





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING SEWERAGE LAYOUT PLAN

Drawing no.	Rev.
CE47/T09/SK/0014	-

Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY

Scale	Status
1:1000 (A1)	-

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 8/16/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0014.dgn

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Water Supply Impact Assessment

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) –
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Water Supply Impact Assessment (WSIA) Report (Issue 1)

JULY 2023

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

AGREEMENT NO. CE 47/2020 (CE) – TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 – 2024) – FEASIBILITY STUDY

TASK ORDER NO. 9 – SAN TIN

Water Supply Impact Assessment (WSIA) Report
(Issue 1)

[CONFIDENTIAL]

PROJECT NO.: 2512219A

DATE: JULY 2023

WSP (ASIA) LTD.
7/F ONE KOWLOON
1 WANG YUEN STREET
KOWLOON BAY
HONG KONG

PHONE: +852 3155-5805
FAX: +852 2856-9902
WSP.COM

REVISION HISTORY

REVISION	DATE	PREPARED BY	CHECKED BY	APPROVED BY
Issue 1	25 July 2023	Various	Vincent So	Emeric Wan

TABLE OF CONTENT

DRAWINGS

ABBREVIATIONS

CEDD	Civil Engineering and Development Department
CIF	Community Isolation Facility
EVA	Emergency Vehicular Access
GFA	Gross Floor Area
MiC	Modular Integrated Construction
WSD	Water Supplies Department
WSIA	Water Supply Impact Assessment
WSP	WSP (Asia) Limited

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 WSP (Asia) Ltd. (WSP) is commissioned by the Civil Engineering and Development Department (CEDD) to submit the Section 16 Planning Application to seek permission from the Town Planning Board (TPB/ the Board) for the Proposed Temporary Training Facilities (the proposed development) at the San Tin Community Isolation Facility (CIF) (Application Site/Site), on a temporary basis up to 31 October 2024.

1.1.2 The Applicant, CEDD, proposes a development on a temporary basis up to 31 October 2024. The Application Site falls within an area zoned for "Other Specified Uses (Services Stations)" under the Approved San Tin Outline Zoning Plan No. S/YL-ST/8 (OZP). In accordance with Clause No. (11) (b) of the covering Notes of the approved OZP, *"……temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board……*". Therefore, this planning application is submitted to the TPB under Section 16 of the Town Planning Ordinance for the proposed temporary development.

1.1.3 The Application Site is currently occupied by San Tin CIF. With the epidemic in Hong Kong having been brought under control gradually, the CIF have been put into standby mode. To fully utilize the existing resources and facilities, the Applicant intends to convert the existing San Tin CIF as the proposed temporary development up to 31 October 2024.

1.2 STRUCTURE OF THE REPORT

1.2.1 This WSIA report contains the following sections in addition to this introduction: -

Section 2	Describes the existing site conditions and presents the key development parameters of the Development for the WSIA
Section 3	Discusses the methodology and design parameters for the WSIA
Section 4	Presents the existing water works installations in the vicinity of the Site; water demand estimations; the proposed connection points to existing watermains; impact to existing water supply system; and proposes mitigation measures
Section 5	Summarizes the finding and provide conclusion of the WSIA report

2 SITE DESCRIPTION

2.1 DESCRIPTION OF THE SITE

2.1.1 The proposed development is located at the existing Yuen Long San Tin Community Isolation Facility which is bounded by Castle Peak Road – San Tin to the east, San Tin Tsuen Road to the north and Tung Wing On Road to the south.

2.2 DEVELOPMENT SCHEDULE

2.2.1 Taking into account the Site is previously used as CIF, the units and required infrastructure have already been constructed. The anticipated population intake would be October 2023 tentatively and the Site is intended to operate till 31 October 2024.

3 METHODOLGY AND DESIGN PARAMETERS FOR WATER SUPPLY IMPACT ASSESSMENT

3.1 METHODOLOGY

Design Guidelines and Reference

3.1.1 This report is prepared in accordance with WSD's Departmental Instruction No. 1309.

3.2 DESIGN PARAMETERS AND ASSUMPTIONS

3.2.1 The facilities and utilities including the existing waterworks and fire services system of the existing CIF will be fully utilised.

3.2.2 The potable and flushing unit water demands for the existing CIF are taken as 140 litres/ bed/day and 70 litres/bed/day respectively.

3.2.3 The potable and flushing unit water demands for the Proposed Development are taken as 25 litres/head/day and 25 litres/head/day respectively.

4 WATER SUPPLY IMPACT ASSESSMENT AND PROPOSED MITIGATION MEASURES

4.1 EXISTING WATERWORKS

Fresh Water Supply System

4.1.1 Existing fresh water mains and salt water mains record plans are obtained from WSD and ASD. Also, there are some existing Dia. 54 – 108mm PE fresh water mains within the Site, providing fresh water and fire services.

4.1.2 The existing site fresh water main connects to WSD's Existing DN150 fresh water mains at the eastern end of the site near San Tin Tsuen Road. The existing fresh water main is presented on the **Drawing No. CE47/TO9/SK/0011**.

4.1.3 Existing fresh water supply to the area is mainly supplied by Ngau Tam Mei Fresh Water Primary Service Reservoir and supported by the Au Tau Fresh Water Service Reservoir. The invert level of NTM FWPSR is +94.15mPD and top water level is +104.00mPD.

Salt Water Supply System

4.1.4 There is no existing salt water supply system in the vicinity of the Site. All water will be provided by the existing fresh water supply system.

4.2 WATER DEMAND ESTIMATION

Existing Water Demand

4.2.1 The major sources of the fresh water demand at the existing CIF are hand washing, shower and toilet flushing in the toilets and shower rooms at the site. No water tap or toilet is installed in the residential cells.

4.2.2 Existing fire hydrant are also identified around the existing Site.

4.2.3 The fresh water and flushing water demand for the CIF is estimated based on the residential population and land use. The breakdown of the demand projection is summarised in Table 4.1.

Table 4.1 Fresh Water Demand Project of Existing Community Isolation Facility

Development Type	Population (bed) [A]	Potable Water Demand (l/bed/d) [B]	Flushing Water Demand (l/bed/d) [C]	Mean Daily Fresh Water Demand (m^3/d) [D = A x (B+C)]	Peak Fresh Water Demand (l/s) [E = A x (3 x B + 2 x C)]
Community Isolation Facility	2,800	140	70	588	18.15

Water Demand from the Development

4.2.4 The estimated mean daily fresh water demand and peak fresh water demand for the CIF are 588 m^3/day and 18.15 l/s respectively.

4.3 PROPOSED WATER SUPPLY SYSTEM

4.3.1 The facilities and utilities of the existing CIF will be maintained. No waterworks are proposed under this project and the existing water supply system and fire services system will be maintained and utilised.

4.3.2 With no existing and planned salt water supply network near the Site, it is assumed that the existing fresh water main will serve for both potable and flushing purpose within the Site, which is in the same manner as previous CIF as shown in **Drawing No. CE47/TO9/SK/0011**.

4.3.3 The fresh water and flushing water demand for the proposed development is estimated based on the student population and land use. The breakdown of the demand projection is summarised in Table 4.2.

Table 4.2 Fresh Water Demand Project of Proposed Development

Development Type	Population (h) [A]	Potable Water Demand (l/h/d) [B]	Flushing Water Demand (l/h/d) [C]	Mean Daily Fresh Water Demand (m^3/d) [D = A x (B+C)]	Peak Fresh Water Demand (l/s) [E = A x (3 x B + 2 x C)]
Proposed Development	100	25	25	5	0.145

Water Demand from the Development

4.3.4 The estimated mean daily fresh water demand and peak fresh water demand for the proposed development are 5 m^3/day and 0.145 l/s respectively.

4.4 WATER SUPPLY IMPACT ASSESSMENT

4.4.1 The fresh water demand of the proposed development would be the significantly less than that of the existing CIF, therefore, it is considered that there will be no adverse impact on the existing Ngau Tam Mei Fresh Water Primary Service Reservoir and the existing water supply system would be capable of providing adequate potable and flushing supplies.

5 CONCLUSION

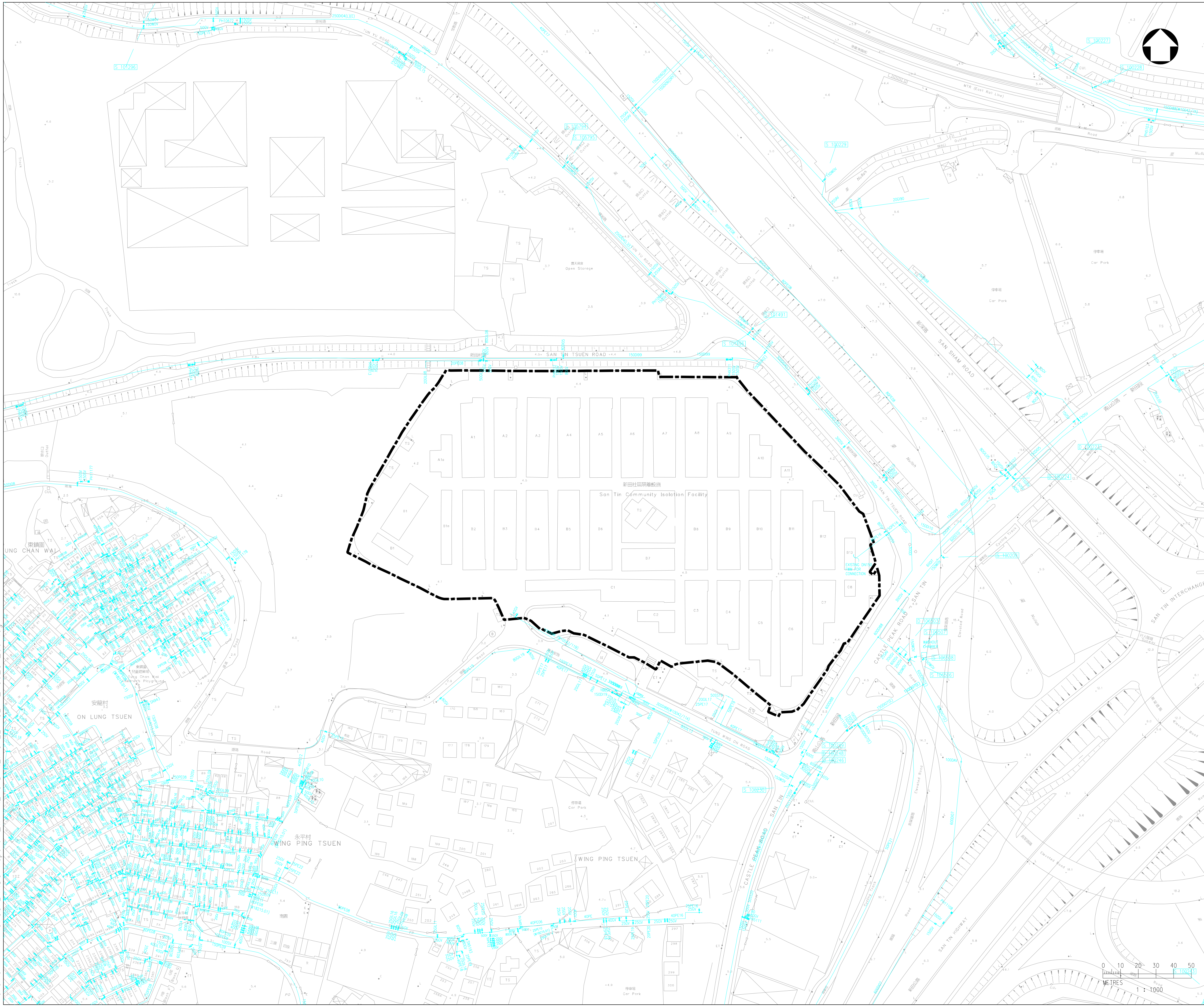
5.1 CONCLUSION

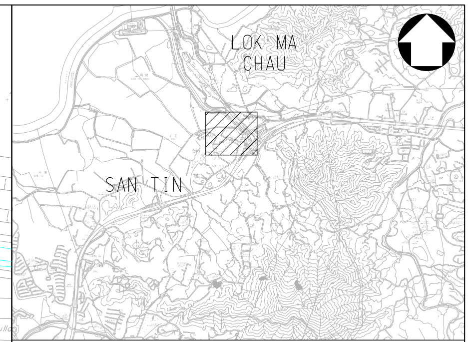
5.1.1 With no salt water main available near the development site, it is proposed that flushing water will be supplied by fresh water mains. The estimated mean daily fresh water demand and peak fresh water demand for the proposed development are 5 m^3/day and 0.145 l/s respectively.

5.1.2 The fresh water demand of the proposed development would be significantly less than that of the existing CIF, it is considered that there will be no adverse impact on the existing fresh water supply system.

5.1.3 It is considered that the water supply system would be capable of providing adequate potable and flushing supplies to the proposed development.

DRAWINGS





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING FRESH WATER MAIN

Rev	Description	By	Date

Consultant
wsp

Project title
AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title
TASK ORDER NO. 9 - SAN TIN EXISTING WATERWORK LAYOUT PLAN

Drawing no.			Rev.
CE47/T09/SK/0011			-
Drawn: CAD	Date: MAY 2023	Checked: VS	Approved: YWY
Scale: 1:1000 (A1)		Status: -	

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

Date : 8/16/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0011.dgn

Appendix B - Technical assessments conducted in the previously approved planning application No. A/YL-ST/658

Tree Survey Report

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Agreement No. CE 47/2020 (CE)

Term Consultancy for Site Formation and Infrastructure Works for Proposed Development in Zone 2 (2021 - 2024) - Feasibility Study

Task Order No. 9 – San Tin

Tree Survey Report

(Draft - Issue 1)

TREE SURVEY REPORT (DRAFT - ISSUE 1)

CONTENTS

1. TREE SURVEY METHODOLOGY

1.1 Tree Survey

1.1.1 A plant is considered as a “tree” if its trunk diameter measures 95mm or more at a height of 1.3m above the ground level.

1.1.2 Tree survey boundary is defined as the S16 Application Site Boundary.

1.1.3 The tree survey was carried out by registered Arborist under Development Bureau’s Registration Scheme for Tree Management Personnel.

1.1.4 This tree survey report includes the following information on each surveyed tree:

Tree Number	Tree numbers were determined by tree assessors and correspond to the tree survey plan.
Species	Tree species were identified with their Scientific and Chinese names.
Height	Tree heights were measured in meters and taken from ground level to the top of tree crown.
Trunk Diameter	Trunk diameter at breast height (DBH) as defined and measured in accordance with Agriculture, Fisheries and Conservation Department’s Nature Conservation Practice Note No.2.
Crown Spread	Crown spread of trees measured in meters.

1.2 Technical Circular, Practice Notes and Publications

The following ordinances, practice notes, technical circulars and other references were consulted in the preparation of this Proposal:

- Forests and Countryside Ordinance (Cap. 96);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Agriculture, Fisheries & Conservation Department – Nature Conservation Practice Note No. 02 (Rev. Jun 2006) – Measurement of Diameter at Breast Height (DBH);
- Agriculture, Fisheries & Conservation Department – Nature Conservation Practice Note No. 03 – The Use of Plant Names;
- Agriculture, Fisheries & Conservation Department Publication - 'Rare and Precious Plants of Hong Kong' (2003);

- Agriculture, Fisheries & Conservation Department Publication - 'Check List of Hong Kong Plants' (2012);
- Country Park Ordinance (Cap. 208);
- DEVB TCW No. 4/2020 – Tree Preservation;
- DEVB TCW No. 5/2020 - Registration and Preservation of Old and Valuable Trees;
- DEVB TC(W) No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features;
- DEVB TC(W) No. 2/2012 – Allocation of Space for Quality Greening on Roads;
- GEO Publication No. 1/2011 – Technical Guidelines on Landscaping Treatment for Slopes;
- Guidelines on Tree Transplanting (September 2014) – GLTM Section, DEVB;
- Guidelines on Tree Preservation during Development (April 2015) – GLTM Section, DEVB;
- Guidelines for Tree Risk Assessment and Management Arrangement (TRAM, 9th edition) – GLTM Section, DEVB;
- All relevant guidelines and proper planting practices published by GLTMS, DEVB.

1.3 Tree Assessment Schedule

1.3.1 The tree survey and assessment was conducted in accordance to the guidelines, practice notes and ordinances stated in Section 1.2.

1.3.2 Tree Survey and Tree Treatment Plan is provided in **Annex 1**. Tree Assessment Schedule is shown in **Annex 2** and provides the following information:

- Tree No. (numbers allocated to individual trees surveyed on site and photos in **Annex 3**);
- Scientific Name and Chinese Name of tree species;
- Size (DBH measured in millimetres, Height and Crown spread measured in metres);
- Amenity Value (of surveyed tree – **H**igh / **M**edium / **L**ow);
- Form (of surveyed tree – **G**ood / **A**verage / **P**oor);

- Health condition (of surveyed tree – **G**ood / **A**verage / **P**oor);
- Structural condition (of surveyed tree – **G**ood / **A**verage / **P**oor);
- Suitability for transplantation (of surveyed tree – **H**igh / **M**edium / **L**ow);
- Remarks - Justification of not suitable for transplanting;
- Conservation Status (**Y**es / **N**o);
- OVT or potential OVT (**Y**es / **N**o);
- Maintenance department to provide comments on Tree Survey Report (Before / After);
- Recommendation (of surveyed tree – **Retain / Transplant / Remove**);
- Additional Remarks - Trees location, maturity of trees and trees with ecological and historical significance (if any) of affected trees, rare species of fung shui significance whether tree has fallen/ collapsed etc.

1.3.3 Health, Form and Structural Condition of Tree:

The health, form and structural condition of each tree were evaluated according to the following criteria:

- **G** Trees of good form, moderate to large size and in good form, good health and good structural condition without any significant defects are classified as *Good*;
- **A** Trees of reasonable form, with few or no visible defects or health problems and reasonable tree form and structural condition with few defects, leading low tree failure potential are classified as being *Average;*
- **P** Trees that are of poor form, health and structural condition, badly damaged or clearly suffering from decay, dying back or the effects of very heavy vine growth are classified as *Poor*.

1.3.4 Amenity Value:

The tree was also evaluated and assessed by its amenity value. The factors that were 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 have conservation value (i.e. trees in the Register of Old and Valuable Trees as per DEVB TC(W) No. 5/2020, trees of particular interest as per TRAM (9th edition) and trees in rare or protected species as listed by the Agriculture, Fisheries & Conservation Department), Fung Shui *Significance* or have high visual impact, with

good form, health, and structural condition are classified as ***High*** in amenity value;

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

- **L** Trees that are common species with poor form, health or structural condition are classified as ***Low*** in amenity value.

1.3.5 Suitability for Transplanting:

The grade of survival rate after transplantation (High / Medium / Low) was evaluated under the following criteria:

- Condition of surveyed tree: Trees with balanced form, in good health and with high amenity value are considered for transplanting.

- Size and maturity: Small and younger trees have a better chance of surviving transplantation while larger, mature trees are difficult to transplant both logistically and have lower survival rate.

- Species: Different tree species have better chances of survival or are better suited to transplanting than other species.

- Accessibility: Large machinery is required to lift the trees. Steep slopes and rocky terrain make it difficult to access trees.

2.2.1 Recommendations:

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

- **Retain** Trees located on unaffected site areas are recommended to be ***retained*** and shall be protected during site formation and construction works in vicinity areas.

- **Transplant** Trees located on affected site areas but have a medium to high transplantation survival rate 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, then be transplanted back into the site.

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

2. TREE SURVEY FINDINGS

2.1 Tree Survey Findings

2.1.1 Tree survey was conducted on 23rd June 2023. A total of **38** nos. of existing trees were recorded within the tree survey boundary.

2.1.2 There were 8 identifiable tree species found within the tree survey boundary, excluding dead tree. The most dominant species are *Ficus microcarpa* (native, 11 nos.) and *Leucaena leucocephala* (exotic, 7 nos.). Tree information is summarized in **Table 1**.

2.1.3 The general health, structural condition and form of the surveyed trees were ranging from average to poor. Amenity value was rendered between low and high.

Table 1 - Summary of Tree Species

Scientific Name	Chinese Name	Origin	No. of Trees
Carica papaya	番木瓜	Exotic	2
Casuarina equisetifolia	木麻黃	Exotic	6
Ficus benjamina	垂葉榕	Exotic	4
Ficus microcarpa	榕樹(細葉榕)	Native	11
Leucaena leucocephala	銀合歡	Exotic	7
Macaranga tanarius var. *tomentosa*	血桐	Native	2
Platycladus orientalis	扁柏	Exotic	3
Syzygium cumini	海南蒲桃	Exotic	1
DEAD TREE	死樹	N.A.	2
		Total	**38**

2.2 Findings of Old and Valuable Tree & Tree of Particular Interest

2.2.1 With reference to DEVB TC(W) No. 5/2020, there are no Old or Valuable Trees (as listed in the Registration and Preservation of Old and Valuable Trees).

2.2.2 According to criteria set out in TRAM, two (2) nos. of trees were categorized as Tree of Particular Interest (TPI) due to their measured DBH exceeding 1m. Both trees (i.e. T10 and T20) are *Ficus microcarpa* - a common specimen in Hong Kong.

2.2.3 T10 does not have a main trunk leader, with its robust lignified aerial roots spanning around 2.5m. The tree was assessed to be average in terms of tree form, health condition and structural condition. Despite of being a tree of particular interest, the tree is rendered “Medium” in amenity value rather than “High” due to the prevalence of *Ficus microcarpa* in this large size.

2.2.4 Similar to T10, T20 do not possess a main trunk leader, while its lignified aerial roots are extending horizontally up to 4m, forming a wall-like shape. The tree was assessed to be average in terms of tree form, health condition and structural condition. The tree is considered “Medium” in amenity value.

3. EXISTING TREE TREATMENT STRATEGY AND PROPOSED TREE TREATMENT

3.1 Tree Treatment Strategy

3.1.1 From tree preservation's point of view, arduous effort should be exercised to preserve the existing trees on site.

3.1.2 Trees that are unavoidably affected by the works and need to be removed shall be first considered for transplanting instead of felling. Feasibility of transplanting have been carefully reviewed in accordance with the "Guidelines on Tree Transplanting" promulgated by the GLTMS/DEVB. In general, the following criteria would be considered for tree transplantation.

a) Form, Health and Structure are at least "Average";

b) Both criteria "Amenity value and "Suitability of Transplanting" are at least "Medium";

c) The tree is not on steeply sloping ground, and is feasible for root ball preparation;

d) There are no objects such as manholes, water points, hydrants etc. that would interfere with root ball preparation.

3.2 Proposed Tree Treatment

3.2.1 As all the **38** nos. surveyed trees are not affected by the proposed works, they would be retained *in situ,* tree transplantation or removal are not applicable in this tree survey. As such, no compensatory planting is required.

4. SPECIFICATION OF TREE PRESERVATION, PROTECTION AND TRANSPLANTATION WORKS

4.1.1 As required in Para. 49 of DEVB TC(W) No. 4/2020 – *Tree Preservation*, contractual requirements on tree preservation, protection and transplantation works should be incorporated into the Contracts, requiring the Contractor to adopt necessary measures to protect and preserve existing trees on Site.

4.1.2 The requirements of tree preservation and protection works of this project should comply with the Sections 3 and 26 of CEDD's *General Specification for Engineering Works*, and the requirements as stipulated in DEVB TC(W) No. 5/2020 – *Registration and Preservation of Old and Valuable Trees* and DEVB TC(W) No. 4/2020 – *Tree Preservation*.

4.1.3 All retained trees shall be treated with appropriate tree protection measures, including but not limited to setting up the tree protection zone (TPZ) under the tree(s)' dripline as far as practicable. No unnecessary entry into the TPZ should be allowed.

5. SUMMARY

5.1.1 This tree survey report was prepared in accordance with DEVB TC(W) No. 4/2020 – *Tree Preservation*.

5.1.2 A total of **38** nos. of existing trees were recorded within the tree survey boundary. Two (2) of Tree of Particular Interest (TPI) were found.

5.1.3 All these **38** surveyed trees are to be retained *in situ*. None of the trees are proposed to be transplanted or removed.

5.1.4 No compensatory planting is required.

ANNEX 1

Tree Survey and Tree Treatment Plan

LEGEND :

- APPLICATION SITE
- EXISTING TREE TO BE RETAINED
- TREE OF PARTICULAR INTEREST TO BE RETAINED

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9
SAN TIN
TREE SURVEY PLAN

Drawing no.			Rev.
CE47/T09/SK/0001			–
Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY
Scale		Status	
1:500 (A1)		–	

CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT 西拓展處 WEST DEVELOPMENT OFFICE

Date : 8/2/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0001.dgn

ANNEX 2

Tree Assessment Schedule

Tree Assessment Schedule
Project Title: CE47/2020 (CE) Term Consultancy for Site Formation and Infrastructure Works for Proposed Housing Developments in Zone 2 (2021 - 2024) - Feasibility Study
Task Order No. 9 - San Tin
Date of Survey: 23/6/2023

Tree No.	Species		Measurements			Amenity Value	Form	Health Condition	Structural Condition	Suitability for Transplanting		Conservation Status[#] (Yes/Yes(Cultivated)/No)	Recommendation	Maintenance Department to Provide Comments on TPRP		Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH (mm)	Crown Spread (m)	(High (H)/ Medium (M)/ Low (L))	(Good (G)/ Average (A)/ Poor (P))			(high (H)/medium (M)/low (L))	Remarks*		(Retain/ Transplant/ Remove)	Before	After	
T1	*Casuarina equisetifolia*	木麻黃	3.5	95	2	M	A	A	A	L	d,g	No	**Retain**			close to T3
T2	*Casuarina equisetifolia*	木麻黃	3.5	98	2	M	A	A	A	L	d,g	No	**Retain**			close to T3
T3	*Casuarina equisetifolia*	木麻黃	3.5	95	2	M	A	A	A	L	d,g	No	**Retain**			close to T2 and T1
T4	*Casuarina equisetifolia*	木麻黃	3.5	95	2	M	A	A	A	L	d,g	No	**Retain**			close to T3
T5	*Ficus microcarpa*	榕樹(細葉榕)	4	230	3.5	L	A	P	A	L	a,b,g	No	**Retain**			sign of infestation, dieback twigs, wound on trunk, close to hard-paved surface
T6	*Ficus microcarpa*	榕樹(細葉榕)	7	280	5	L	P	P	A	L	a,b,g	No	**Retain**			sign of infestation, dieback twigs, imbalanced crown, close to hard-paved surface
T7	*Ficus microcarpa*	榕樹(細葉榕)	8	420	6	M	A	A	A	L	c,g	No	**Retain**			close to hard-paved surface
T8	*Macaranga tanarius var. tomentosa*	血桐	6.5	370	5	L	P	A	A	L	a,b,d	No	**Retain**			imbalanced crown, bending upper trunk, broken branch
T9	DEAD TREE	死樹	4	240	1.5	L	P	P	P	L	a,b,f	No	**Retain**			dehydrated trunk, no live foliage
T10	*Ficus microcarpa*	榕樹(細葉榕)	9	1000	14	M	A	A	A	L	c	No	**Retain**			tree of particular interest (TPI), no main trunk, robust lignified aerial roots spanning 2.5m, slight climbers on trunk
T11	*Macaranga tanarius var. tomentosa*	血桐	5.5	280	4.5	L	P	P	A	L	a,b,d	No	**Retain**			co-dominant trunks, sparse foliage, suppressed by T10, imbalanced crown
T12	*Platycladus orientalis*	扁柏	3.5	100	2	L	P	A	A	L	a,b	No	**Retain**			excessive climbers covered on crown
T13	*Casuarina equisetifolia*	木麻黃	3.5	95	2	M	A	A	A	L	d	No	**Retain**			
T14	*Casuarina equisetifolia*	木麻黃	4	105	2.5	M	A	A	A	M	d	No	**Retain**			
T15	*Syzygium cumini*	海南蒲桃	4.5	130	3	M	A	A	A	L	g	No	**Retain**			close to other tree/shrub, close to hoarding
T16	*Ficus microcarpa*	榕樹(細葉榕)	7.5	270	5.5	L	P	P	A	L	a,b,c,g	No	**Retain**			imbalanced crown, sparse foliage, close to hard-paved surface
T17	*Ficus microcarpa*	榕樹(細葉榕)	7	600	4	M	A	A	A	L	g	No	**Retain**			close to T18, close to hard-paved surface
T18	*Ficus microcarpa*	榕樹(細葉榕)	7	450	5	M	A	A	A	L	g	No	**Retain**			close to T17, close to hard-paved surface
T19	*Platycladus orientalis*	扁柏	2	95	1.5	L	P	P	A	L	a,b	No	**Retain**			bushy form
T20	*Ficus microcarpa*	榕樹(細葉榕)	7	1200	9	M	A	A	A	L	c	No	**Retain**			tree of particular interest (TPI), no main trunk, robust lignified aerial roots extend horizontally up to 4m,
T21	*Carica papaya*	番木瓜	3.5	100	1.5	M	A	A	A	M	-	No	**Retain**			
T22	*Carica papaya*	番木瓜	3.5	98	1.5	M	A	A	A	M	-	No	**Retain**			
T23	*Ficus benjamina*	垂葉榕	4	130	2	L	P	A	A	L	a,b,g	No	**Retain**			close to T24, imbalanced crown
T24	*Leucaena leucocephala*	銀合歡	7	110	4	L	P	A	A	L	a,b,e	No	**Retain**			leaning trunk
T25	*Ficus benjamina*	垂葉榕	3.5	100	2.5	M	A	A	A	L	g	No	**Retain**			close to hoarding
T26	*Leucaena leucocephala*	銀合歡	7	140	4	L	P	A	A	L	a,b,e	No	**Retain**			leaning trunk
T27	*Leucaena leucocephala*	銀合歡	4.5	120	2.5	M	A	A	A	L	e,g	No	**Retain**			close to hoarding
T28	*Ficus benjamina*	垂葉榕	3.5	190	2	M	A	A	A	L	g	No	**Retain**			root restricted by T29
T29	*Leucaena leucocephala*	銀合歡	5	95	4.5	L	A	A	A	L	e	No	**Retain**			root restricted by T28
T30	*Leucaena leucocephala*	銀合歡	7	220	3.5	L	A	A	A	L	e,g	No	**Retain**			very close to hoarding
T31	*Leucaena leucocephala*	銀合歡	4.5	130	3	L	P	A	A	L	a,b,e	No	**Retain**			low branching with included bark
T32	*Leucaena leucocephala*	銀合歡	3	120	2.5	L	A	A	A	L	e,g	No	**Retain**			very close to hoarding
T33	*Ficus benjamina*	垂葉榕	3	110	2.5	L	P	A	A	L	a,b,g	No	**Retain**			leaning trunk, close to hoarding
T34	*Platycladus orientalis*	扁柏	2	95	1.5	L	P	P	A	L	a,b	No	**Retain**			yellowish foliage, bushy form
T35	*Ficus microcarpa*	榕樹(細葉榕)	3.5	400	4	M	A	A	A	M	-	No	**Retain**			robust aerial roots
T36	DEAD TREE	死樹	8	430	5	L	P	P	P	L	a,b,f	No	**Retain**			no live foliage, fungal fruiting bodies on crown and base
T37	*Ficus microcarpa*	榕樹(細葉榕)	7	300	6	M	A	A	A	L	c,g	No	**Retain**			close to T36, surface root restricted by T36
T38	*Ficus microcarpa*	榕樹(細葉榕)	7.5	420	7	L	A	P	A	L	a,b,c	No	**Retain**			sign of infestation

*Remarks for Unsuitability for Transplanting
a. Trees of low amenity value
b. Trees with poor form/health/structural condition.
c. Irrecoverable form after transplanting (e.g. transplanting requires substantial crown and root pruning);
d. Low chance of survival upon transplanting (species with low ability to tolerate transplant; senescent tree with low post-transplantation survival rate)
e. Undesirable species (e.g. *Leucaena leucocephala* which is an invasive, pretty and self-seeding tree)
f. Dead tree
g. Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on slope, close to utilities, close to other trees).
h. Not cost-effective due to large tree size (unless the feasibility to transplant has been considered financially reasonable and technically feasible)
i. Not cost-effective due to common species with low cultural, functional and ecological value, widely cultivated or self-seeded in urban or urban fringe area (unless high amenity value identified)

#Conservation status
(A) The Protection of Endangered Species of Animals and Plants Ordinance (Cap.586)
(B) Forests and Countryside Ordinance (Cap. 96)
(C) RPPHK - Rare and Precious Plants of Hong Kong
(D) CPRDB - China Plant Red Data Book

ANNEX 3

Photographic Record of Existing Trees

T1 （Retain)

T2 （Retain)

T3 （Retain)

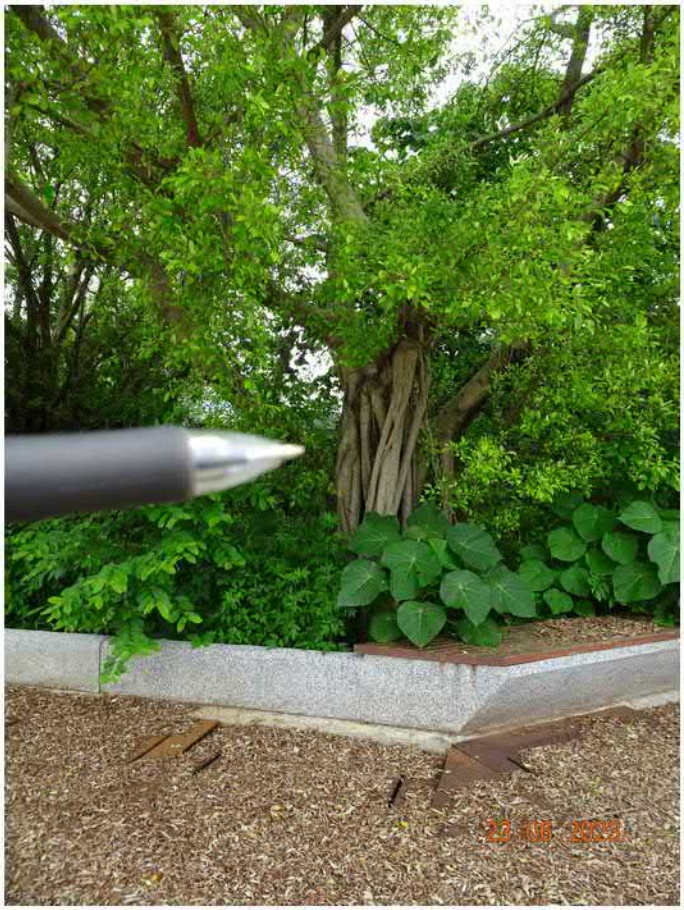
T4 （Retain)

T5 - sign of infestation （Retain)

T5 （Retain)

T6 - sign of infestation （Retain)

T6 （Retain)

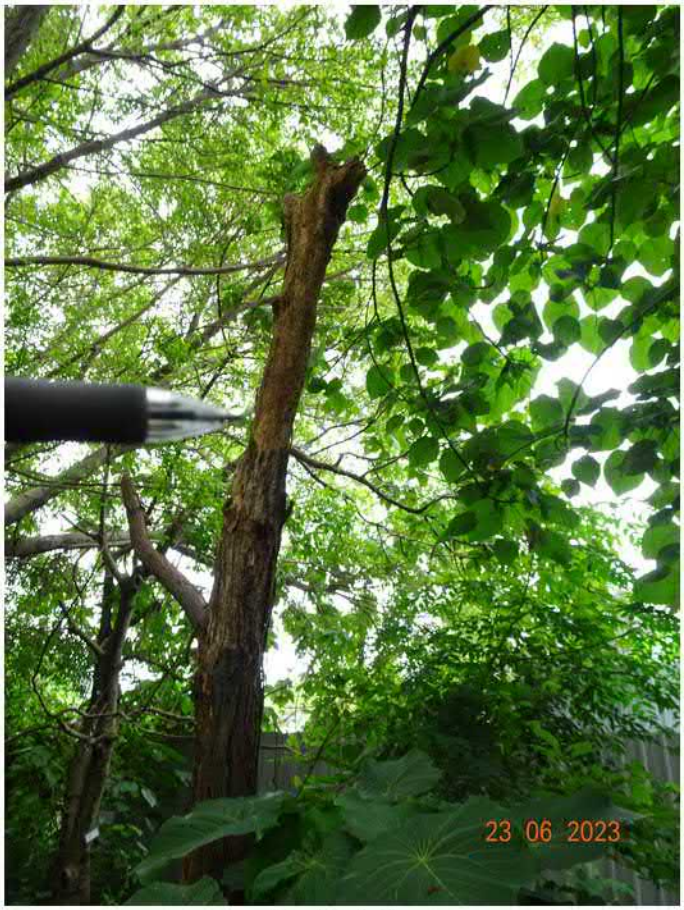


T7 （3） （Retain）

T7 （Retain）

T8 - crooked trunk （Retain）

T8 （Retain）



T9 （Retain)

T10 - base2 （Retain)

T10 - wholeview （Retain)

T10 - base （Retain)

T11 (Retain)

T12 (Retain)

T13 (Retain)

T14 (Retain)

T15 （Retain)

T16 （Retain)

T17 （Retain)

T18 （Retain)

T19 （Retain)

T20 - base （2) （Retain)

T20 - base （Retain)

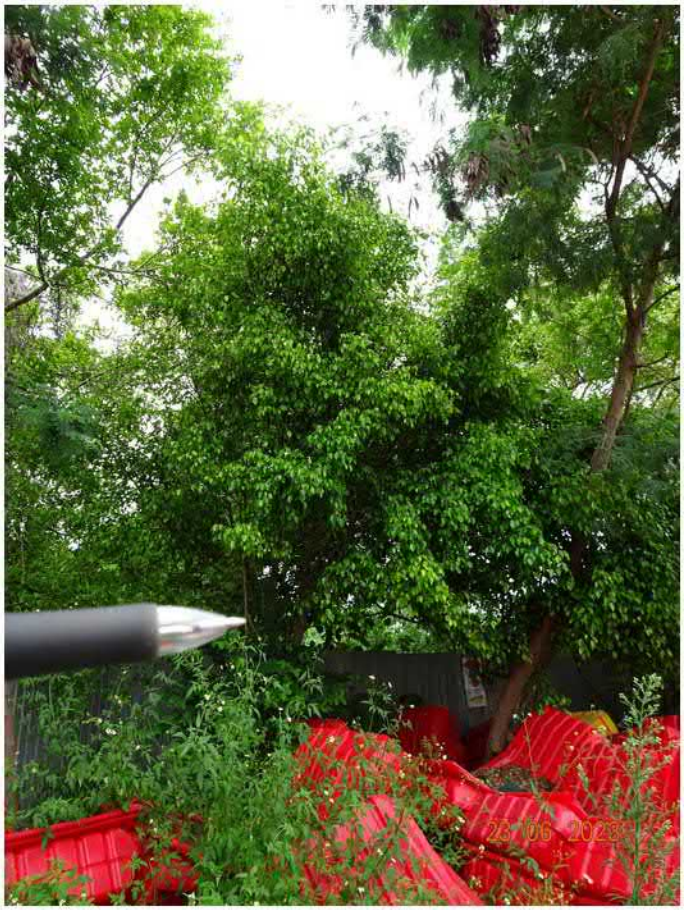
T20 - wholeview （Retain)

T21 (Retain)

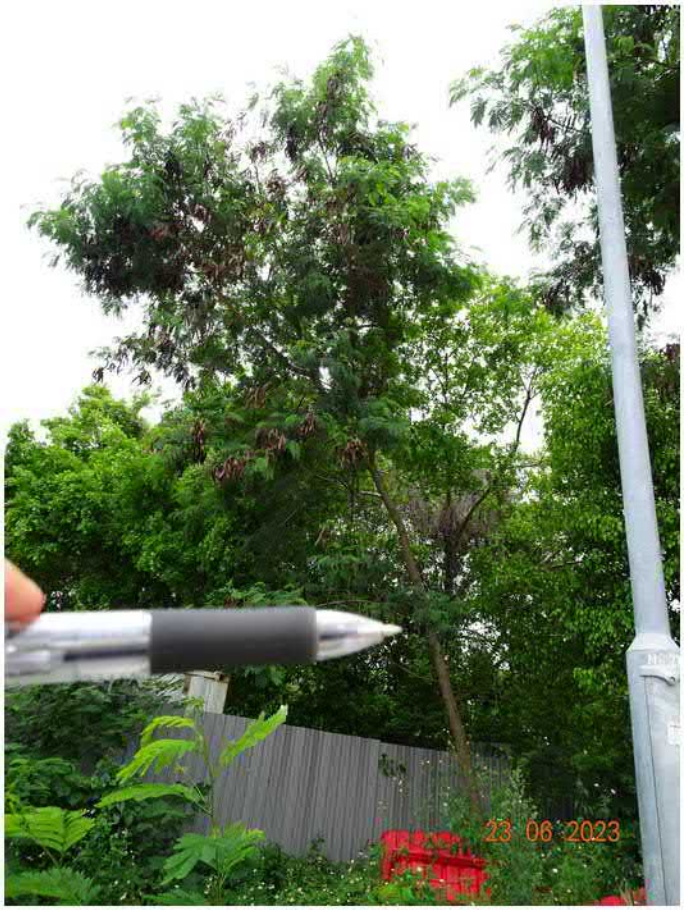
T22 (Retain)

T23 (Retain)

T24 (Retain)



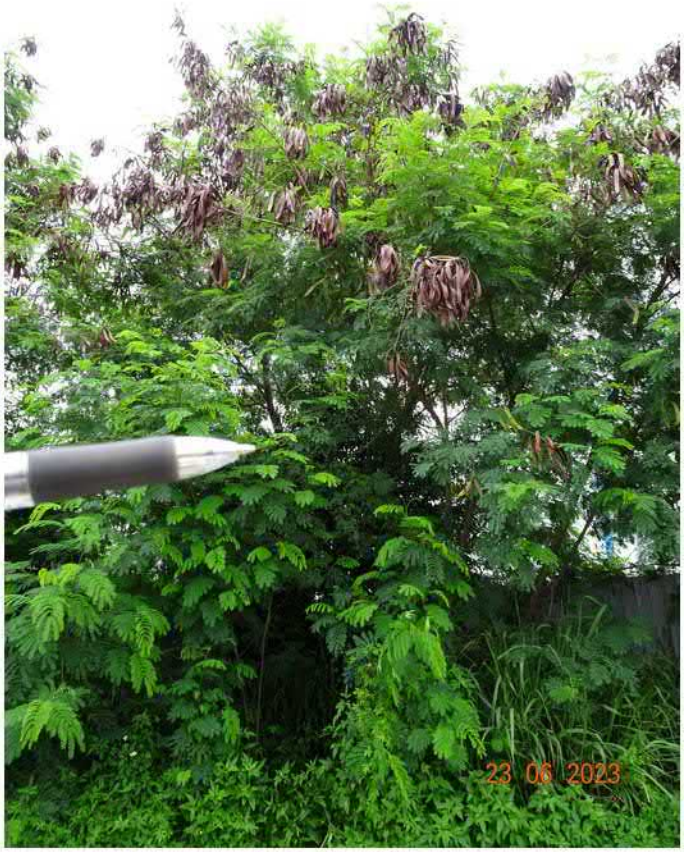
T25 （Retain)



T26 （Retain)

T27 （Retain)

T28 （Retain)



T29 (Retain)

T30 (Retain)

T31 (Retain)

T32 (Retain)

T33 (Retain)

T34 (Retain)

T35 (Retain)

T36 (Retain)

T37 （Retain)

T38 （Retain)

☐Urgent ☐Return receipt ☐Expand Group ☐Restricted ☐Prevent Copy ☐Confidential

From: [redacted]
Sent: 2024-12-02 星期一 12:14:16
To: tpbpd/PLAND <tpbpd@pland.gov.hk>
Cc: [redacted]
Subject: Fw: [Submission of FI] Planning Application No. S/STT/14 - Section 16 Planning Application for Temporary Training Facilities at HKIC San Tin Training Ground, San Tin, Yuen Long
Attachment: A_STT_14_FI(1)_Replacement_Pages_and_Supplementary_Information.pdf

Dear Tommy,

I refer to the Planning Application No. S/STT/14 and would like to submit the Further Information (FI), including replacement pages and supplementary information. The FI serves to correct some missing information on the drawings and to supplement the contents of the accepted FI submission for the previous planning application.

(See attached file: A_STT_14_FI(1)_Replacement_Pages_and_Supplementary_Information.pdf)

If you have any queries, please feel free to contact me. Thank you very much.

Regards,
Kelvin CHAN
E/44(N), NDO, CEDD
[redacted]

Section 16 Planning Application

Temporary Use of Land and Building
Not Exceeding 3 Years in Rural Areas

October 2024

Planning Application No. A/STT/14

Temporary Training Facilities
(Until 31 October 2026)

Submission of Further Information

Prepared by

Civil Engineering and Development Department

Summary of Further Information

No.	Replacement	Attachment
1	Planning Statement, Pages 8 & 16	Attachment 1
2	Figure 5	Attachment 2
3	Figure 10a & 10b	Attachment 3
4	Figure 12a to 12c	Attachment 4
5	Appendix B, Preliminary Environmental Review Report Pages 5, 8, 10-14, 16-23, & 47, Appendix 4.3, Figures 4.3a, 4.3b, & 4.3c	Attachment 5
6	Appendix B, Sewerage Impact Assessment (SIA) Report, Drawing – San Tin Existing Sewerage Layout Plan	Attachment 6

No.	Supplementary information	Attachment
7	Supplementary information to Appendix B, Preliminary Environmental Review Report, Section 3.6.2	Attachment 7

Attachment 1

List of Figures

List of Appendices

dismantled and removed after use. In light of the above, this application will not jeopardize the long-term land use planning intention for the existing zonings.

4.4. Compatible with Surrounding Development Context

4.4.1. The applied use is fully compatible with the existing and surrounding neighbourhood. The Application Site is located in a rural setting environment where low-rise residential developments and village houses such as Wing Ping Tsuen, Tung Chan Wai, and Yan Shau Wai are found. Besides, existing storage yards for vehicles and construction materials are also located to the north of the Application Site. To respect the overall rural setting, the existing modular units will remain in-situ and most of them will be kept at single-storey height only, which is with the similar height of the surrounding developments and thus compatible with the surrounding context.

4.5. Technical Assessments Demonstrating No Adverse Impacts in terms of Traffic, Environment, Ecology, Drainage, Sewerage, Water Supply, Tree and Landscape

4.5.1. There are no adverse impacts on traffic, environmental, ecological, drainage, sewerage, water supply, tree, and landscape aspects as confirmed in the technical assessments (including Traffic Impact Assessment, Environmental Review Report, Drainage Impact Assessment, Sewerage Impact Assessment, Water Supply Impact Assessment, and Tree Survey Report) conducted under the previously approved application. Relevant provision of facilities under the previous approval have been complied with to the satisfaction of the concerned Government departments.

4.5.2. As this application has no major changes in planning circumstances, no insurmountable impacts are anticipated. The ingress and egress routings for development traffic, existing drainage layout plan, existing sewerage layout plan and existing waterworks layout plan are provided in **Figure 8**, **Figure 9**, **Figures 10a & 10b** and **Figure 11** respectively.

4.5.3. The technical assessments conducted in the previously approved application is attached in **Appendix B** and are summarized in the following paragraphs, with justification of their validity in this application.

Traffic Impact

4.5.4. To serve the operational need, a total of 8 nos. of existing car park spaces (i.e. 5m x 2.5m) would be maintained for staff within the Application Site. 3 nos. of the existing loading/unloading bays of 11m heavy goods vehicles would be maintained for the use of refuse collection vehicles and refuse collection.

4.5.5. With limited parking spaces provided within the Site and no coach service provided to serve the staff and students to/from the proposed development, it is assumed that all staff and students would rely on public transport (PT) to/from the proposed development as a conservative approach. This tallies with the existing transportation mode selection observed after operating the Training Ground since November 2023.

Attachment 2

KEY PLAN

LEGEND :

- APPLICATION SITE
- PROPOSED FOOTPATH / EVA
- PROPOSED CLASSROOMS, STUDENT ACTIVITIES ROOMS, STAFF OFFICES
- EXISTING TOLIET FACILITIES, CHANGING ROOM, BUILDING SERVICES BUILDING AND FIRE SERVICES BUILDING TO BE PRESERVED
- EXISTING SITTING FACILITIES TO BE PRESERVED
- EXISTING TREE TO BE RETAINED
- EXISTING TPI TO BE RETAINED
- EXISTING VEGETATION TO BE RETAINED
- PROPOSED PEDESTRIAN ACCESS
- PROPOSED VECHICLAR ACCESS
- PARKING SPACES
- LOADING /UNLOADING BAYS (FOR REFUSE COLLECTION VEHICLES)

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
LANDSCAPE MASTER PLAN

Drawing no.		Rev.
FIGURE 5		
Drawn: CAD	Date: JUL 2024	Checked / Approved
Scale: 1:500@A1	Status: FOR INFORMATION	

LANDSCAPE COMPONENTS

1. MAIN ENTRANCE
2. PLANTING AREA
3. SITTING AREA

CEDD
土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
北拓展處
NORTH DEVELOPMENT OFFICE

Attachment 3

FOR CONTINUATION
SEE FIGURE 10b

MATCH LINE

FSH1010063
AI 200
X1 3.16.200
CONCRETE SURROUND BOX
L/2.8m x W 0.78m x H 0.93m

FOU10M 193
IL 6.20

FOU10M 196
IL 6.18

SAN TIN TSUEN ROAD

SAN SHAM ROAD

CASTLE PEAK ROAD - SAN TIN

SAN TIN INTERCHANGE

SAN TIN HIGHWAY

San Tin Community Isolation Facility

ON LUNG TSUEN

WING PING TSUEN

LUNG CHAN WAI

0 10 20 30 40 50
METRES
1 : 1000

LOK MA CHAU

SAN TIN

KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

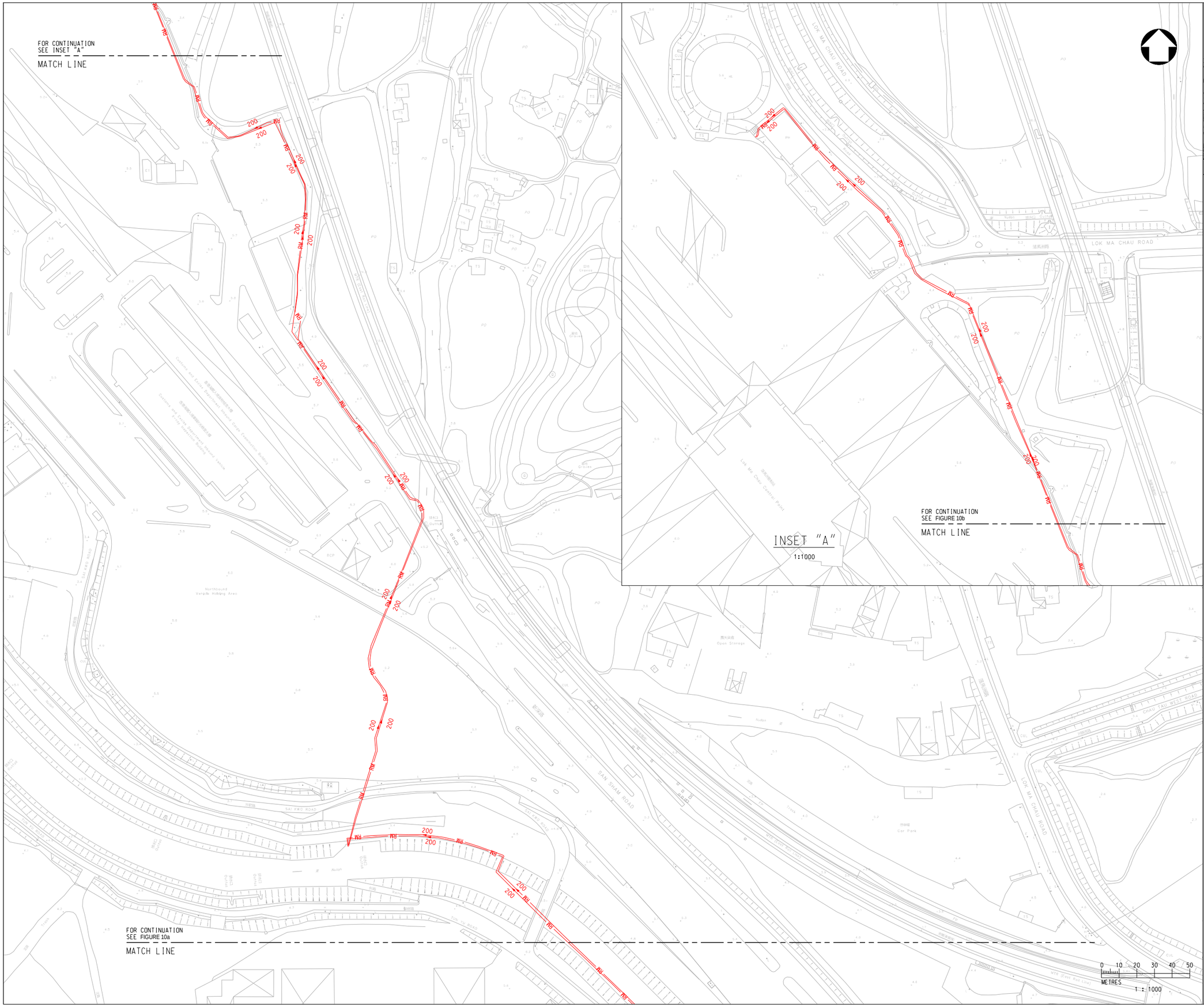
Project title

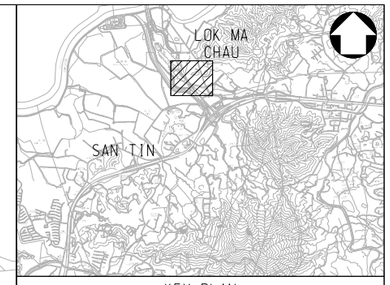
Drawing title
SAN TIN
EXISTING SEWERAGE LAYOUT PLAN

SHEET 1 OF 2

Drawing no.			Rev.
FIGURE 10a			–
Drawn	Date	Checked	Approved
Scale 1:1000 (A1)		Status –	

CEDD
土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
北拓展處
NORTH DEVELOPMENT OFFICE





KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

Project title

Drawing title

SAN TIN
EXISTING SEWERAGE LAYOUT PLAN

SHEET 2 OF 2

Drawing no.			Rev.
FIGURE 10b			–
Drawn	Date	Checked	Approved
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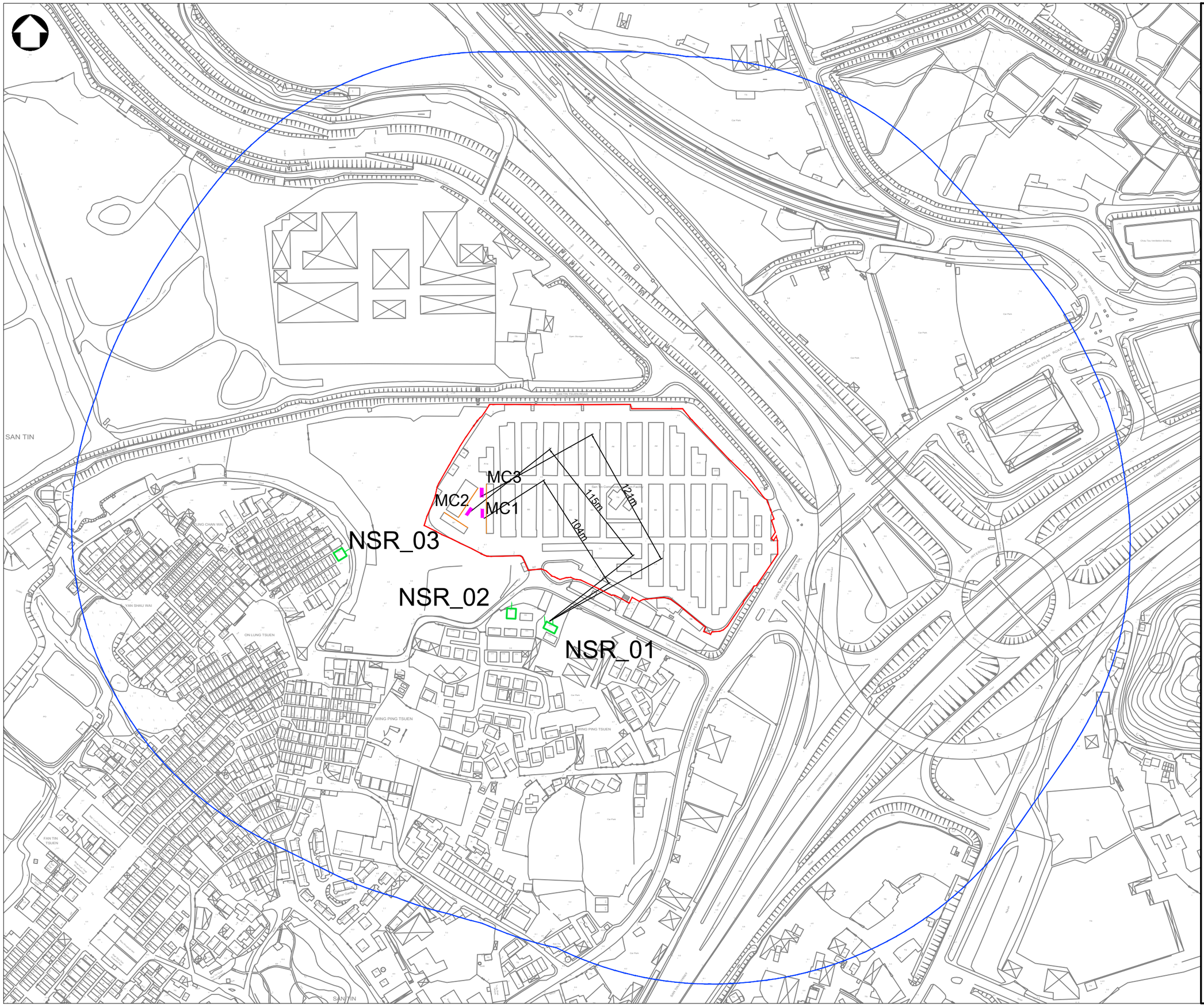
Attachment 4

Figure 12a to 12c

Location of Fixed Noise Source



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

Project title

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 12a		

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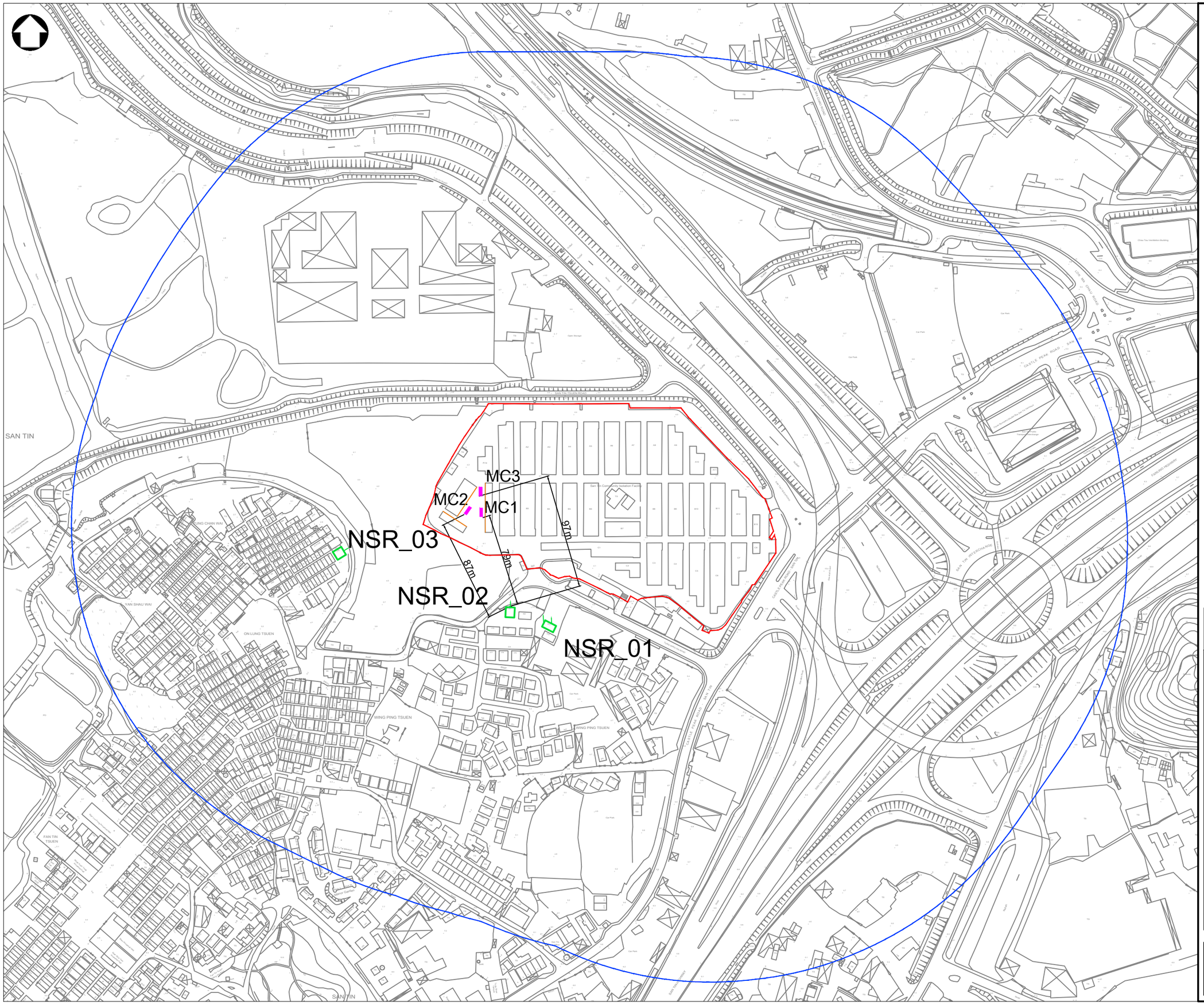

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

Project title

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 12b		
Drawn	Date / Checked / Approved	
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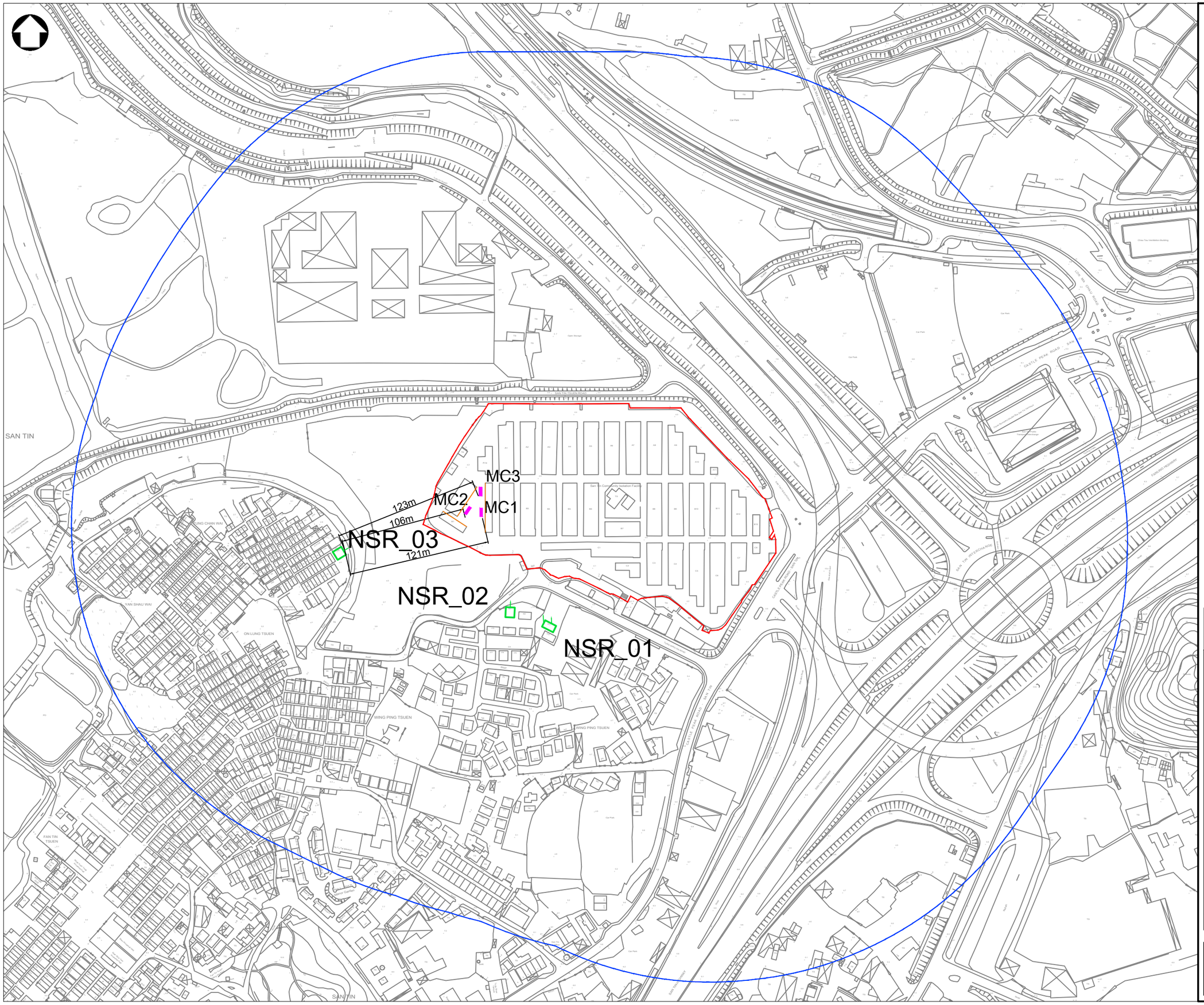

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

Project title

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no. FIGURE 12c Rev.

Drawn	Date	Checked	Approved

Scale 1:3000@A3 Status -

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Attachment 5

Air Pollution Control (Fuel Restriction) Regulation

3.2.6 To minimize SO_2 emission from construction plants and equipment, requirements stipulated in the Air Pollution Control (Fuel Restriction) Regulation (Amendment) Regulation 2008, using liquid fuel with sulphur content of less than 0.005% by weight and viscosity less than 6 Centistokes at 40°C should be fulfilled.

Hong Kong Planning Standards and Guidelines (HKPSG)

3.2.7 In accordance with Chapter 9 Environment of Hong Kong Planning Standards and Guidelines (HKPSG), the minimum buffer distances are recommended between different types of roads and the active open spaces. The buffer distance requirements of HKPSG for different road types are listed in listed in **Table 3-2** below for reference:

Table 3.2 Setback Distances from Roads according to HKSPG Recommendation

Pollution Source	Type of Road	Buffer Distance	Permitted Uses
Road and Highways	Trunk Road and Primary Distributor	> 20m	Active and passive recreation uses
		3 – 20m	Passive recreational use
		< 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 use
	Under Flyovers	-	Passive recreational use

3.2.8 Chapter 9 of HKPSG also stipulates the minimum buffer distance between ASRs and industrial chimneys. The buffer distance requirements are shown in **Table 3-3** below.

Table 3.3 Required Minimum Buffer Distances between ASRs and Chimneys

Difference in Height between Industrial Chimney Exit and ASR (m)	Minimum Buffer Distance (m)	Permitted Uses
<20	>200	Active and passive recreational uses
	5 – 200	Passive recreational use
20 – 30	>100	Active and passive recreational uses
	5 – 100	Passive recreational us
30 – 40	>50	Active and passive recreational uses
	5 – 50	Passive recreational use
>40	>10	Active and passive recreational uses

3.3 BACKGROUND AIR QUALITY REVIEW

3.3.1 Existing air quality of the Study Area has been reviewed with reference to the EPD's routine air quality monitoring data collected in 2018 – 2022. The nearest EPD air quality monitoring station (AQMS) from the Project Site is the Yuen Long AQMS at Yuen Long District Office Building, 269 Castle Peak Road. Its most recent 5 years of air quality data records (i.e., Sulphur Dioxide, Nitrogen Dioxide, Respirable and Fine Suspended Particulates and Ozone) are summarized in **Table 3-4** to depict the trend of the local air quality.

3.6.2 The proposed development are bounded by a few roads including Tung Wing On Road, Castle Peak Road – San Tin, San Tin Tsuen Road, San Sham Road, San Tin Highway and Tun Yu Road. The road types which have been confirmed by Transport Department (TD) internally and their required buffer distances from the planned ASRs with reference to **Table 3-3** are listed below and are demonstrated in **Figure 3.2**.

(1) Tung Wing On Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of Transport Planning and Design Manual (TPDM) Vol. 2. Hence, a 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 5m buffer zone requirement.

(2) Castle Peak Road – San Tin is classified as Rural Road with reference to the Annual Traffic Census (ATC) in 2021. As Rural Road could be considered as either District Distributor (DD) or Local Distributor (LD), hence, a 10m buffer similar as a DD is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 10m buffer zone requirement.

(3) San Tin Tsuen Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of TPDM Vol. 2. A 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of San Tin Tsuen Road could meet 5m buffer zone requirement.

(4) San Sham Road is classified as Rural Road with reference to the Annual Traffic Census (ATC) in 2021. As Rural Road could be considered as either DD or LD, hence, a 10m buffer similar as a DD is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of San Sham Road could meet 10m buffer zone requirement.

(5) San Tin Highway is classified as Expressway with reference to ATC 2021. Hence, a buffer distance of 20m is considered applied. The separation distance between the proposed development and the road kerb of San Tin Highway could meet the 20m buffer zone requirement.

(6) Tun Yu Road is classified as Feeder Road based on assumption in accordance with Chapter 3.2 of TPDM Vol. 2. A 5m buffer similar as a local distributor is applied as a conservative approach. The shortest separation distance between the nearby planned development and the road kerb of this road could meet 5m buffer zone requirement.

3.6.3 Given separation distances between the nearby road and the proposed development could meet the buffer distance requirement of Table 3.1 in Chapter 9 of HKSPG, therefore no adverse impact arising from the vehicular emission is anticipated.

Industrial Emissions

3.6.4 According to review from survey maps of Lands Department and site visit carried out on 23 June 2023, open storage were found at the northern of the project site. It is observed that the industrial area is used as moto services centre and no chimney is identified within 200m away from the project site boundary. Therefore, no potential air quality impact is anticipated from the industrial emissions.

3.6.5 As no chimney within 200m sway from the project site is confirmed and verified by site visit, and the conditions of the proposed development will remain unchanged as that of the existing San Tin CIF, and thus, no change of existing air quality impact is expected after the operation of the proposed development as compared to the existing condition.

Odour Impact

4 NOISE

4.1 INTRODUCTION

4.1.1 The potential noise impacts associated with the construction and operation phases of the project have been assessed.

4.2 RELEVANT LEGISLATION, GUIDELINES AND CRITERIA

Construction Noise

4.2.1 Legislation, Standards, Guidelines and Criteria relevant to the consideration of construction noise impact under this Study include the following:

- Noise Control Ordinance (NCO);
- Technical Memoranda (TM) on Noise from Construction Work other than Percussive Piling (GW-TM);
- TM on Noise from Percussive Piling (PP-TM);
- TM on Noise from Construction Work in Designated Areas (DA-TM);
- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG);
- Recommended Pollution Control Clauses for Construction Contracts; and
- ProPECC PN 2/93 Environmental Protection Department Practice Note for Professional Persons: Noise from Construction Activities – Non-statutory Controls.

General Construction Activities during Non-Restricted Hours

4.2.2 ProPECC PN 2/93 provides assessment criteria as well as requirements relating to construction noise not currently controlled under the NCO. The Practice Note also provides information on noise abatement measures. Noise impacts arising from general construction activities other than percussive piling during the daytime period (07:00-19:00 hours on any day not being a Sunday or general holiday) would be assessed against the noise standards tabulated in **Table 4.1** below. Practicable direct mitigation measures will be evaluated and exhausted to maximise the protection of NSRs.

Table 4.1 Noise Standards for Daytime Construction Activities

Noise Sensitive Uses	0700 to 1900 hours on any day not being a Sunday or general holiday, L_{eq} (30 min), dB(A)
Residential	75
School	70 65 during examination

Source: Practice Note for Professional Persons (ProPECC) PN 2/93 "Noise from Construction Activities – Non-Statutory Controls" issued by EPD in 1993.

Note: The above noise standards apply to uses, which rely on opened windows for ventilation. The above standards shall be viewed as the maximum permissible noise levels assessed at 1 m from the external façade.

General Construction Activities during Restricted Hours

4.2.3 Noise impacts arising from general construction activities (excluding percussive piling) conducted during the restricted hours (19:00-07:00 hours on any day and anytime on Sunday or general holiday) and percussive piling during anytime are governed by the NCO.

4.2.4 For carrying out of any general construction activities involving the use of any Powered Mechanical Equipment (PME) within the restricted hours, a Construction Noise Permit (CNP) issued by the Authority must be obtained under the NCO. The noise criteria and the assessment procedures for issuing a CNP are specified in GW-TM published under the NCO.

4.2.5 Regardless of any description or assessment made in this section, in assessing a filed application for a CNP the Authority shall follow the relevant guidelines and requirements according to Technical Memoranda. The Authority will consider all the factors affecting their decision taking contemporary situations/ conditions into account. Nothing in this study shall pre-empt the Authority in making their decisions, and there is no guarantee that a CNP will be issued. If a CNP is to be issued, the Authority may include any conditions they consider appropriate and such conditions are to be followed while the works covered by the CNP are being carried out. Failing to do so may lead to cancellation of the CNP and prosecution action under the NCO.

4.2.6 No site formation and infrastructure works would be expected for the proposed development. In case of any construction activities during restricted hours, it is the contractor's responsibility to ensure compliance with the NCO and the relevant TMs. The Contractor will be required to submit CNP application to the Noise Control Authority and abide by any conditions stated in the CNP, should any be issued. No construction works in restricted hours will be required for the Project based on the currently envisaged programme.

Operation Phase

4.2.7 The noise criteria for evaluating noise impact of planning development with respect to road traffic noise are based on the HKPSG. The summary of noise criteria is given in **Table 4.2**.

Table 4.2 Relevant Road Traffic Noise Standards for Planning Purposes

Common Uses	**Road Traffic Noise Peak Hour Traffic $L_{10\ (1\ Hour)}$, dB(A)**
All domestic premises including temporary housing accommodation, offices	70
Educational institutions including kindergartens, childcare centres and all other where unaided voice communication is required	65
Diagnostic rooms and wards of hospitals, clinics, convalescences and homes for the aged	55

Notes:
(i) The above standards apply to uses which rely on opened windows for ventilation.
(ii) The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

Fixed Noise Sources

4.2.8 Fixed noise sources are controlled under NCO and the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM). More stringent criteria for assessing noise impacts of fixed plant are recommended in the HKPSG for planning purposes. A noise criterion of 5 dB(A) below the appropriate Acceptable Noise Levels (ANLs) shown in the IND-TM or the prevailing background

noise levels, whichever is the lower has been adopted for the assessment of fixed noise source impact in relation to operation of the Proposed Development. For a given Area Sensitivity Rating (ASR), the ANL, in dB(A), is given by **Table 4.3**.

4.2.9 In any event, the ASRs and the ANLs assumed in this report are indicative and are used for assessment only. It should be noted that noise from fixed noise sources is controlled under Section 13 of the NCO. Therefore, the ASRs and ANLs determined in this report shall not prejudice the Noise Control Authority's discretion to determine the noise impact due to fixed noise sources on the basis of prevailing legislation and practices being in force and taking account of contemporary conditions/ situations of adjoining land uses. Nothing in this report shall bind the Noise Control Authority in the context of law enforcement against any of the fixed noise sources being assessed.

Table 4.3 Acceptable Noise Level for Fixed Plant Noise

Time Period	Area Sensitivity Rating		
	A	B	C
Day-time (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)	60	65	70
Night-time (2300 to 0700 hours)	50	55	60

Note:
(i) The above standards apply to uses which rely on opened windows for ventilation
(ii) The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external façade

4.2.10 According to Outline Zoning Plan (S/YL-ST/8), the Proposed Development is located at "Other Specified Uses" while the "Village Type Development" ("V" type) is identified within 50m of the Proposed Development. Area Sensitivity Rating of "A" is adopted. The ANL in $L_{eq\ (30min)}$ dB(A) regarding to the ASR for both daytime and night-time are shown in **Table 4.4** below.

Table 4.4 Noise Criteria for Fixed Noise Impact Assessment

Area Sensitivity Rating	Time Period	ANL, $L_{eq\ (30min)}$, dB(A)
A	Day and evening time (0700 – 2300 hours)	60
	Night-time (2300 – 0700 hours)	50

4.2.11 For planned fixed sources, the noise criteria shall follow the requirements of Table 4.1 of Chapter 9 of HKPSG –

(a) 5 dB(A) below the appropriate ANLs shown in Table 2 of IND-TM, and

(b) the prevailing background noise levels

4.3 REPRESENTATIVE NOISE SENSITIVE RECEIVERS

4.3.1 The Assessment Area is defined as an area within 300m away of the Project Site boundary for noise impact assessment.

4.3.2 In accordance with HKPSG, Noise Sensitive Receivers (NSRs) refers to, but not limited to all domestic premises including temporary housing, education institutions, hospitals, medical clinics, homes for the aged, convalescent homes, places of public worship, libraries, courts of law, performing arts centres, auditoria, amphitheatres, hostels and country parks.

4.3.3 For the proposed development, air conditioning system with mechanical ventilation will be provided to all noise sensitive uses (i.e., training centre) where they will not rely on opened window/door for ventilation. Thus, adverse noise impact on the proposed development will not be anticipated and the noise standard will not be applicable.

4.3.4 A temporary container tractor/trailer park for a period of one year which located at the "V" zone is identified at the immediate southwest of the proposed development. Village houses at Wing Ping Tsuen and Tung Chan Wai have been identified as NSRs. The identified representative NSRs are listed in **Table 4.5** below, and their locations are illustrated in **Figure 4.1**. No planned or committed NSRs are identified within the Assessment Area.

Table 4.5 Representative Noise Sensitive Receivers

ID	Description	Type of Use	Existing/ Planned	Horizontal Distance from site boundary (m)
NSR_01	271 Wing Ping Tsuen	Residential	Existing	37
NSR_02	161 Wing Ping Tsuen	Residential	Existing	35
NSR_03	17B Tung Chan Wai	Residential	Existing	71

4.3.5 For the proposed development, A/C units will be provided for all noise-sensitive uses in the site and will not rely on opened windows / doors for natural ventilation. As such, there is no Noise Assessment Point (NAPs) identified within the Site and no adverse noise impact on the proposed development is anticipated.

4.4 CONSTRUCTION NOISE IMPACT ASSESSMENT

Evaluation of Construction Noise Impact

4.4.1 No site formation or infrastructure works would be expected for the proposed development. As mentioned in **Section 2.2.1**, some minor construction works would be carried out. However, the use of PME will be very limited during the construction phase and mitigation measures would be adopted as per established requirements and guidelines. Therefore, construction noise impact is not expected.

4.4.2 Current land use within the Site is the San Tin Community Isolation Facility (CIF) which was built for accommodating confirmed patients with mild or no symptoms to reduce the risk of transmission to the community. The San Tin CIF is converting to the proposed training school on a not more than 1-year temporary basis at the San Tin CIF.

4.4.3 The Applicant shall prioritize and adopt quieter construction methods/equipment as far as practicable, and incorporate EPD's "Recommended Pollution Control Clauses for Construction Contracts" into the construction works contract(s) to ensure the implementation of the noise mitigation measures for minimizing the potential construction noise impacts.

4.4.4 Considering that no site formation or infrastructure works would be expected for the proposed development, and thus, no insurmountable construction noise impact is anticipated.

4.5 OPERATION NOISE IMPACT ASSESSMENT

Road Traffic Noise

Identification and evaluation of Noise Sources

4.5.1 Road traffic noise from the nearby road network is anticipated. The nearby road network within the 300m Project Area is identified and showed in **Figure 4.1**. However, all noise sensitive use of the Project will be served with air conditioning (A/C) units and would not rely on opened window / door for ventilation. Therefore, no road traffic noise from the nearby road networks to our Project Site is anticipated.

4.5.2 The future population of not more 200 people are served for training every day, subject to the capacity of existing public transport. No coach service is currently planned for the proposed development. The primary means of transportation of staff and students will be the existing public transport at nearby locations of the Project. No change to the existing traffic (in terms of vehicle/hour for both light and heavy vehicles) due to the Project is anticipated. Hence, no additional traffic flow is anticipated due to the proposed development. Given that there will be only eight private car parking spaces allowed within the site, the potential of road traffic noise from our Project Site to the nearby NSRs will be limited. In case of coach service is required to be provided within the Site to serve the staff and students to/from the proposed development, the said 3 nos. of the existing loading/unloading bays could be used to accommodate 2 nos. of 60-seater coaches (i.e., 120 seats in total) which shall be sufficient to serve 100 staff and students. Under this scenario, it is anticipated that the majority of staff and students would take coach instead of public transport. Hence, the additional public transport demand generated by the proposed development would be minimal and the utilization of public transport would be very similar to the existing situation.

4.5.3 According to the Annual Traffic Census 2021, about 6,500 nos. of vehicles were recorded during AM and PM peak hour at San Tin Highway, Castle Peak Road and San Tam Road. The noise climate in San Tin is dominated by traffic noise impacts arising from San Tin Highway, which is next to Castle Peak Road – San Tin. The road traffic noise contributed from the Site shall be minimal. Thus, the potential traffic noise impacts induced from the Site to the nearby NSRs is limited.

Fixed Plant Noise

4.5.4 Based on the site visit conducted on 23 June 2023, the existing major fixed noise source within 300m from the Project Site is identified and tabulated in **Table 4.6**. The site layout plan which shows the exact type and location of the training activities/ demonstration to be carried out on-site is presented in **Appendix 4.1**. The locations and site photos of the fixed noise source are shown in **Figure 4.2**.

Table 4.6 Summary of Fixed Noise Source

Exiting NSRs		Distance from the Site Boundary (m)
ID	**Details**	
OS1	MAN Truck & Bus Hong Kong Limited	174
OS2	Dah Chong Motor Service Center Co., Ltd. Isuzu Service Center	210
OS3	中國重汽陳列室及服務中心	165

4.5.5 OS1 is identified as an open storage, which is located at the north of about 174m from the Site. As observed during site visit, it is used for parking of trucks and buses while no evidence of construction activities being carried out in the open storage area.

- Use standard acoustic principle for attenuation and directivity;
- Calculate the noise impacts for worst case scenario; and
- Cumulative impacts will be included.

4.5.12 Noise impact levels due to individual noise sources have been predicted at each NSR after the corrections for distance attenuation and screening effects as the PNL.

$$PNLi = SWLi + C_{dist} + C_{barrier}$$

4.5.13 For the mobile crane that will be carried out concurrently, the relevant individual PNLs are then summed logarithmically with correction for façade reflection for the overall impacts ("CNL") at each individual NSR:

$$CNL = \sum PNL_i + C_{facade}$$

where;

- PNL_i = Predicted noise level arising from various individual source after corrections for distance attenuation and screening
- SWL_i = Sound power level of individual noise sources
- C_{dist} = Correction for distance attenuation
- $C_{barrier}$ = Correction [-5 to -10 dB(A)] for barrier effects due to in-situ screening by obstacles, architectural features or purpose-built noise barrier
- $C_{façade}$ = Correction [+3 dB(A)] for façade reflection at NSR
- CNL = Corrected overall noise level being logarithmic sum of individual PNLs occurring at the same time together with correction for façade at the NSR

4.5.14 The distance attenuation was estimated using the standard acoustic equation which was presented in relevant appendices. As a conservative approach, horizontal distances between the Noise assessment points (NAPs) of the representative NSRs and the fixed noise sources were adopted for calculating the distance attenuation. Screening correction offered by buildings or other structures, if any, has been taken into account in calculating the predicted noise levels. A positive 3 dB(A) has been added to predicted noise levels at the NAPs due to the façade effect.

4.5.15 The predicted noise levels at NSRs from the fixed noise sources by adopting standard acoustics principles were compared with the noise criteria to determine whether mitigation measures shall be adopted.

Evaluation of Impact

4.5.16 The locations of the NAPs and distances between the fixed noise sources (planned) and NAPs are illustrated in **Figures 4.3a to 4.3c**. Three scenarios will be presented in this report and are listed below.

Option (1): 3 mobile cranes (SWL no greater than 95 dB(A) for each crane) at the locations of MC1, MC2 and MC3 as shown in **Drawing APP4.3a of Appendix 4.3**;

Option (2): 2 mobile cranes (SWL no greater than 98 dB(A) for each crane) at the locations of MC2 and MC3 as shown in **Drawing APP4.3b of Appendix 4.3**; and

Option (3): 1 mobile crane (SWL no greater than 101 dB(A)) at the location of MC3 as shown in **Drawing APP4.3c of Appendix 4.3**.

4.5.17 The % on-time in 30 minutes as advised by the project proponent, the type/model of the mobile cranes to be used and the SWLs of the mobile crane, are listed in **Table 4.8**. While the flexibility

would still be allowed on the crane arrangements, reference of mobile cranes is set out in **Appendix 4.3**. Details presentation for Options (1), (2) and (3) are shown in **Appendix 4.4.**

Table 4.8 Summary of fixed noise impact assessment for different options

Option	ID	QPME ref.	Quantity	% on-time in 30 min	PME Sound Power Level, dB(A)
1	MC1	EPD-13835	1	80%	95
	MC2	EPD-13835	1	90%	95
	MC3	EPD-13835	1	90%	95
2	MC2	EPD-06829R	1	70%	98
	MC3	EPD-06829R	1	70%	98
3	MC3	EPD-13684	1	80%	101

Note:

1. Sound Power Level of QPME (https://www.epd.gov.hk/epd/english/environmentinhk/noise/qpme/index.html)

4.5.18 The QPME label, i.e., EPD-13835, EPD-06829R or EPD-13684 for the mobile/crawler crane are adopted in the assessment for reference purposes only, and the future user shall be required to use mobile cranes with SWL equivalent or lower than the QPME reference on-site only and ensure the mobile/crawler crane would be regularly inspected and properly maintained for the controlled level of noise at all times. All the relevant assumptions/parameters taken in the assessment have been coordinated with the future user of the facilities.

4.5.19 In addition to the SWL of the mobile/crawler cranes to be used, noise mitigation measures in terms of operation requirements including:

(1) the % on-time in 30 minutes; and

(2) limiting the mobile cranes to be operated at the fixed locations shown in **Drawings APP4.3a to APP4.3c of Appendix 4.3**, shall be strictly followed by the future operator(s).

4.5.20 The initial draft assessment of unmitigated noise at the closest sensitive receiver (i.e., Wing Ping Tsuen) are predicted to comply with the noise criteria. However, due consideration should be given to the potential degradation caused by the reflections/reverberations of noise between the existing CIF buildings, and sound absorptive materials should be fitted/provided on the buildings' surfaces to minimize the impact. The mobile crane will be positioned as far away from the NSRs as possible. The locations of the sound absorptive materials are illustrated in **Figure 4.3a, b & c**. The predicted noise levels are summarized in **Table 4.9**. Detailed calculations are shown in **Appendix 4.4**.

4.5.21 Fixed noise sources such as outdoor small-powered VRV for non-centralized air conditioning will be adopted for the provision of air conditioning system to all noise sensitive uses. However, these VRVs are not noise intensive and are of limited provision, and thus, fixed noise impact associated with the operation of VRVs is expected to be minimal.

4.5.22 Since air conditioning system will be provided to all noise sensitive uses (i.e., classrooms of training centre), where they will not rely on opened window/door for natural ventilation. Thus, adverse fixed noise impact on the proposed development is not anticipated.

Table 4.9 Summary of Predicted noise levels

ID	Description	Noise Criterion[1], dB(A)	Cumulative Noise Level (Option 1), dB(A)	Cumulative Noise Level (Option 2), dB(A)	Cumulative Noise Level (Option 3), dB(A)	Compliance
NSR_01	271 Wing Ping Tsuen	55	53	53	53	Yes
NSR_02	161 Wing Ping Tsuen	55	55	55	55	Yes
NSR_03	17B Tung Chan Wai	55	53	53	53	Yes

Note[1]: Background noise level is higher than ANL – 5 dB(A). ANL- 5 dB(A) is adopted as noise criteria.

4.6 CONCLUSION

4.6.1 No site formation and infrastructure works would be expected for the proposed development, and thus, no insurmountable construction noise impact is anticipated.

4.6.2 For traffic noise impact and fixed noise impact during operation phase, as all noise sensitive uses (i.e., classrooms of training centre) will be served with air conditioning (A/C) units with mechanical ventilation and will not rely on opened window/door for ventilation. Therefore, no potential traffic noise from the nearby road networks and fixed noise impact to the Project Site is anticipated.

4.6.3 With the implementation of practical mitigation measures including use of sound absorptive materials, the planned fixed noise impacts at all of the nearby existing residential noise sensitive uses would be controlled to acceptable levels. With the recommended mitigation measures in place, fixed noise impacts of the proposed development on all representative NSRs would comply with the relevant criteria.

4.6.4 Based on the above, no adverse noise impact for operation arrangement Options 1, 2 and 3 are therefore anticipated to the proposed development during construction and operation stages.

5 WATER QUALITY

5.1 INTRODUCTION

5.1.1 This section reviews the findings and recommendations of the assessment for water quality impacts associated with the construction and operation of the proposed development. Any likely impacts from the implementation of the proposed Project on the water sensitive receivers (WSRs) have been identified and mitigation measures are proposed to avoid or minimise these impacts where necessary.

5.2 RELEVANT LEGISLATION, GUIDELINES AND CRITERIA

5.2.1 The relevant legislation, guidelines and criteria on water quality assessment include:

- Water Pollution Control Ordinance (WPCO, Cap 358);
- Technical Memorandum for Effluents Discharge into Drainage and Sewerage Systems, Inland & Coastal Waters (TM-DSS);
- Environmental Impact Assessment Ordinance (EIAO, Cap. 499), Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), Annexes 6 and 14;
- Practice Note for Professional Persons ProPECC PN 5/93 “Drainage Plans Subject to Comment by the Environmental Protection Department";
- Professional Persons Environmental Consultative Committee Practice Note 1/94 Construction Site Drainage (ProPECC PN 1/94)
- Hong Kong Planning Standards and Guidelines (HKPSG); and
- Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 5/2005: Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works.

5.3 WATER SENSITIVE RECEIVERS

5.3.1 The Site is located within the Deep Bay Water Control Zone (WCZ). Water Sensitive Receivers (WSR) within the 500 m assessment area are described below in **Table 5-1**. The Project Site, i.e., the San Tin Community Isolation Facility (CIF) located in the northwest of the San Tin Interchange, 500-m assessment area and identified Water Sensitive Receivers (WSRs) are illustrated in **Figure 5.1**.

Table 5.1 Summary of Water Sensitive Receivers

ID	Description	Type	Status	Estimated distance from Project Site
WSR01	San Tin Wetland	Wetland	Active	310 m
WSR02	Nullah surrounding San Tin Wetland	Nullah	Active	310 m

ID	Description	Type	Status	Estimated distance from Project Site
WSR03	Pond next to San Tin Stormwater Pumping Station	Pond	Active	180 m
WSR04	San Tin Tsuen Road Nullah	Nullah	Active	Immediate vicinity
WSR05	San Tin Tsuen Road / Tun Yu Road Nullah	Nullah	Active	35 m
WSR06	Nullah next to Lok Ma Chau Control Point	Nullah	Active	250 m
WSR07	Pond	Pond	Active	330 m
WSR08	Nullah Connecting Lok Ma Chau Road and San Sham Road (north)	Nullah	Active	300 m
WSR09	Nullah Connecting Lok Ma Chau Road and San Sham Road (south)	Nullah	Active	120 m
WSR10	Nullah	Nullah	Active	270 m
WSR11	Pond next to Chau Tau Tsuen Stormwater Pumping Station	Pond	Active	460 m
WSR12	Conservation Area Next to Lok Ma Chau Control Point	Conservation Area	Active	280 m
WSR13	Conservation Area South of Sam Tin Interchange	Conservation Area	Active	330 m
WSR14	Watercourses surrounding Chau Tau Tsuen Stormwater Pumping Station	Watercourse	Active	380 m
WSR15	Watercourse north of Chau Tau West Road	Watercourse	Active	320 m

5.4 BASELINE CONDITIONS

5.4.1 The Site is situated within the inland waters of Deep Bay WCZ and the Water Quality Objectives (WQOs) designated for the whole zone are thus relevant to this Project. There are no existing EPD marine or river water quality monitoring stations within immediate vicinity or 500 m from the Project boundary. The closest river water quality monitoring stations are located along Kam Tin River and Fairview Park Nullah, marine water quality monitoring stations closest to Project Boundary are DM1 and DM2 of Deep Bay WCZ. Locations of river and marine water quality monitoring stations are shown in **Figure 5.2**.

5.4.2 Kam Tin River has two monitoring stations (KT1 and KT2), which are 7.13 km and 6.78 km southwest of the Project Site; while the monitoring station on Fairview Park Nullah (FVR1) is 3.88 km southwest of the Project Site.

5.4.3 The overall Water Quality Objectives (WQO) compliance rate of Kam Tin River in 2022 was 46%, as compared with 18% in 1992, including Water Quality Index (WQI) gradings of KT1 and KT2 achieved in 2022 were at "Fair" and "Bad" respectively. Whereas at Fairview Park Nullah (FVR1), the overall Water Quality Objectives (WQO) compliance rate in 2022 was 69%, as compared with 47% in 2002, including the WQI grading remained "Fair" in 2022.

5.4.4 The latest river water quality data reported in the Annual River Water Quality Report are presented in **Table 5-2**.

Table 5.2 Summary of River Water Quality Monitoring Data collected by EPD River Water Quality Monitoring Programme for Inland Water in the Deep Bay WCZ (2022)

Parameter	Kam Tin River		Fairview Park Nullah
	KT1	KT2	FVR1
Dissolved Oxygen (mg/L)	5.4 (3.1 – 7.0)	3.7 (1.1 – 6.9)	6.4 (3.3 – 10.4)
pH	7.4 (7.1 – 7.9)	7.4 (7.2 – 8.0)	7.4 (6.9 – 8.6)
Suspended Solids (SS) (mg/L)	8.8 (1.5 – 27.0)	35.0 (3.8 – 58.0)	19.0 (1.2 – 83.0)
5-day Biochemical Oxygen Demand (BOD_5) (mg/L)	10.0 (5.2 – 14.0)	21.0 (3.2 – 150.0)	10.0 (5.5 – 16.0)
Chemical Oxygen Demand (mg/L)	20 (12 – 65)	52 (9 – 170)	29 (23 – 66)
Oil & Grease (mg/L)	<0.5 (<0.5 – 0.8)	1.1 (<0.5 – 2.4)	<0.5 (<0.5 – 0.7)
E. coli (count/100ml)	41 000 (5 000 – 340 000)	110 000 (24 000 – 1 700 000)	51 000 (5 900 – 1 100 000)
Fecal Coliforms (count/100ml)	150 000 (52 000 – 470 000)	270 000 (62 000 – 1 900 000)	120 000 (17 000 – 1 400 000)
Ammonia-Nitrogen (mg/L)	4.100 (0.670 – 10.000)	7.800 (0.480 – 25.000)	1.100 (0.320 – 2.900)
Nitrate Nitrogen (mg/L)	0.870 (0.410 – 3.300)	0.200 (<0.002 – 0.560)	0.470 (0.095 – 1.500)
Total Kjeldahl Nitrogen (mg/L)	5.45 (1.80 – 12.00)	9.00 (1.90 – 31.00)	3.00 (2.00 – 4.50)
Orthophosphate Phosphorus (mg/L)	0.770 (0.260 – 1.300)	0.830 (0.180 – 2.400)	0.260 (0.130 – 0.470)
Total Phosphorus (mg/L)	1.20 (0.40 – 1.60)	1.40 (0.44 – 3.80)	0.55 (0.35 – 0.71)
Sulphide (mg/L)	<0.02 (<0.02 – 0.04)	0.05 (<0.02 – 0.11)	<0.02 (<0.02 – 0.04)
Aluminum (µg/L)	<50 (<50 – <50)	<50 (<50 – 70)	<50 (<50 –<50)
Cadmium (µg/L)	<0.1 (<0.1 – < 0.1)	<0.1 (<0.1 – < 0.1)	<0.1 (<0.1 – <0.1)
Chromium (µg/L)	<1 (<1 – <1)	<1 (<1 – <1)	<1 (<1 – 1)
Copper (µg/L)	2 (1 – 7)	<1 (<1 – 4)	2 (<1 – 2)
Lead (µg/L)	<1 (<1 – <1)	<1 (<1 – <1)	<1 (<1 – <1)

Parameter	Kam Tin River		Fairview Park Nullah
	KT1	KT2	FVR1
Zinc (µg/L)	10 (<10 – 25)	<10 (<10 – 25)	11 (<10 – 20)
Flow (m^3/s)	0.462 (0.244 – 17.587)	0.414 (0.186 – 15.984)	NM

Notes:

i) Data source: EPD River Water Quality in Hong Kong in 2022.
ii) Data presented are in annual medians of monthly samples; except those for faecal coliforms and *E. coli* which are in annual geometric means.
iii) Figures in brackets are annual ranges.
iv) NM indicate no measurement taken.
v) Values at or below laboratory reporting limits are presented as laboratory reporting limits.
vi) Equal values for annual median (or geometric means) and ranges indicate that all data are the same as or below laboratory reporting limits.

Baseline Marine Water Quality

5.4.5 There are five marine monitoring station within Deep Bay WCZ. The closest marine water quality monitoring stations in the Deep Bay WCZ are DM1 and DM2, with their marine water quality monitoring data summarised in **Table 5-3**.

5.4.6 In 2022, overall WQO compliance rate of Deep Bay WCZ was 67%, comparing with the ten-year average of 47% between 2009 – 2018. Through implementation of the Deep Bay Water Pollution Control Joint Implementation Programme overseen by the governments of Hong Kong and Shenzhen, significant improvements in water quality has been observed within the Deep Bay area, predominantly achieving full compliance of NH_3-N WQOs in the last seven years.

5.4.7 Even though as compared with other WCZs, Deep Bay has recorded higher nutrient levels with annual depth-averaged TIN levels exceeding the respective TIN WQOs, an evident continuous decrease in TIN level since the mid-2000s has been noticed.

Table 5.3 Summary of Marine Water Quality Monitoring Data collected by EPD Marine Water Quality Monitoring Programme in the Deep Bay WCZ (2022)

Parameter		Inner Deep Bay	
		DM1	DM2
Temperature (°C)		24.8 (17.9 – 32.4)	25.0 (18.0 – 32.1)
Salinity		14.9 (0.5 – 23.3)	17.0 (0.4 – 25.8)
Dissolved Oxygen (DO) (mg/L)	Depth-averaged	6.5 (4.9 – 9.2)	6.0 (4.9 – 7.8)
	Bottom	N/A N/A	N/A N/A
Dissolved Oxygen (DO) (% Saturation)	Depth-averaged	85 (63 – 123)	80 (66 – 111)
	Bottom	N/A N/A	N/A N/A
pH		7.4 (7.0 – 8.5)	7.4 (6.9 – 8.3)
Secchi Disc Depth (m)		1.1 (0.9 – 1.6)	1.2 (0.9 – 1.5)
Turbidity (NTU)		85.9 (9.9 – 288.0)	90.0 (9.4 – 384.0)
Suspended Solids (SS) (mg/L)		27.6 (7.0 – 58.0)	26.2 (4.7 – 65.0)
5-day Biochemical Oxygen Demand (BOD_5) (mg/L)		1.8 (<0.1 – 6.0)	1.5 (0.4 – 3.2)
Ammonia Nitrogen (mg/L)		0.538 (0.088 – 1.200)	0.379 (0.050 – 1.400)
Unionised Ammonia (UIA) (mg/L)		0.008 (0.002 – 0.024)	0.007 (<0.001 – 0.043)
Nitrite Nitrogen (mg/L)		0.161 (0.094 – 0.420)	0.119 (0.067 – 0.200)
Nitrate Nitrogen (mg/L)		1.200 (0.840 – 1.800)	1.120 (0.510 – 2.300)
Total Inorganic Nitrogen (TIN) (mg/L)		1.90 (1.13 – 2.61)	1.61 (0.70 – 2.89)
Total Kjeldahl Nitrogen (mg/L)		0.93 (0.46 – 2.10)	0.73 (0.37 – 2.10)
Total Nitrogen (mg/L)		2.29 (1.40 – 3.37)	1.96 (0.95 – 3.59)
Orthophosphate Phosphorus (mg/L)		0.120 (0.018 – 0.180)	0.100 (0.014 – 0.130)
Total Phosphorus (mg/L)		0.26 (0.16 – 0.41)	0.22 (0.13 – 0.35)
Silica (as SiO_2) (mg/L)		5.74 (1.70 – 8.90)	5.17 (0.96 – 11.00)
Chlorophyll-*a* (µg/L)		8.8 (2.1 – 45.0)	8.9 (2.1 – 33.0)
E. coli (count/100ml)		500 (31 – 4900)	170 (3 – 10000)
Fecal Coliforms (count/100ml)		1200 (88 – 24000)	430 (9 – 18000)

Notes:

i) Data source: EPD Marine Water Quality in Hong Kong in 2022.
ii) Except as specified, data presented are depth-averaged values calculated by taking the means of three depths: surface, mid-depth, bottom.
iii) Data presented are annual arithmetic means of the depth-averaged results except for *E. coli* and fecal coliforms which are annual geometric means.
iv) Data in brackets indicate the ranges.

9 CONCLUSION

9.1 AIR QUALITY IMPACT

9.1.1 No site formation or infrastructure works would be expected for the proposed development. Hence, construction dust impact arising from the construction phase of the proposed development is not anticipated.

9.1.2 During operation phase, separation distances between the nearby road and the proposed development could meet the buffer distance requirement of HKSPG, therefore no adverse impacts arising from the vehicular emission is anticipated. No active and no gaseous emission from these chimneys was identified within the 500m Study Area. In addition, the conditions of the proposed development will remain unchanged as that of the existing Yuen Long San Tin Community Isolation Facility and hence no adverse air quality impact arising from the industrial emission is anticipated.

9.1.3 No adverse air quality impact is therefore anticipated to the proposed development during construction and operation stages.

9.2 NOISE IMPACT

9.2.1 No site formation and infrastructure works would be expected for the proposed development, and thus, no construction noise impact is anticipated.

9.2.2 For traffic noise impact and fixed noise impact during operation phase, as all noise sensitive uses (i.e., training centre) will be served with air conditioning (A/C) units and opened window/door will not rely on natural ventilation. Therefore, no road traffic noise from the nearby road networks and fixed noise impact to the Project Site is anticipated.

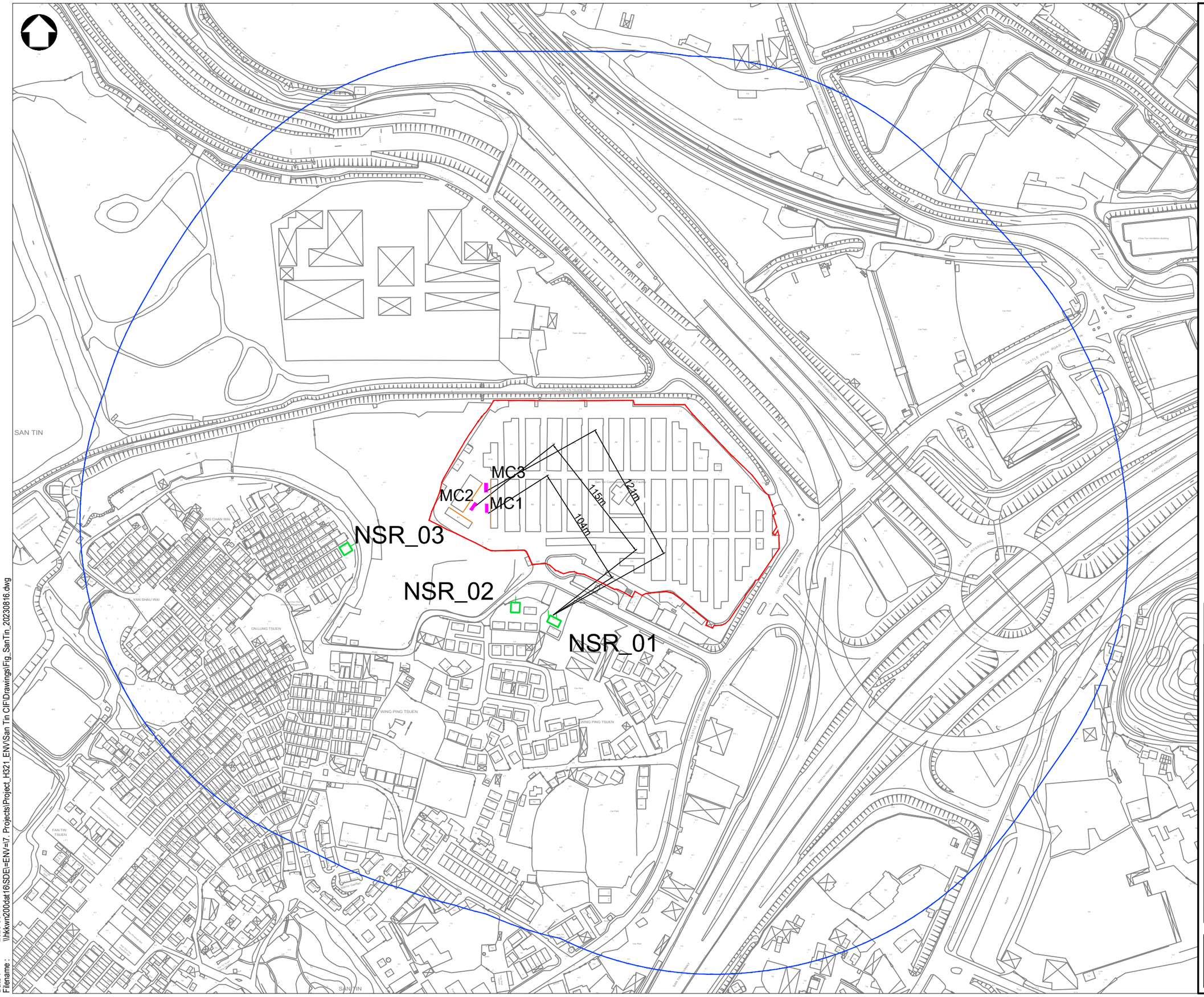
9.2.3 With the implementation of practical mitigation measures including use of sound absorptive materials, the planned fixed noise impacts at all of the nearby existing residential noise sensitive uses would be controlled to acceptable levels. With the recommended mitigation measures in place, fixed noise impacts of the proposed development on all representative NSRs would comply with the relevant criteria.

9.2.4 Based on the above, no adverse noise impact for operation arrangement Options 1, 2 and 3 are therefore anticipated to the proposed development during construction and operation stages.

9.3 WATER QUALITY IMPACT

9.3.1 The key water quality impacts during construction phase associated with the proposed development of the Project include general construction activities, construction site run-off, accidental spillage and sewage effluent, could impact the water bodies.

9.3.2 Considering that a drainage and sewerage system have been constructed along the existing Community Isolation Facility (CIF), with proper implementation of the recommended mitigation measures, no adverse water quality impacts would be anticipated.



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.	Rev.
FIGURE 4.3a	

Drawn	Date	Checked	Approved
	AUG2023		

Scale	Status
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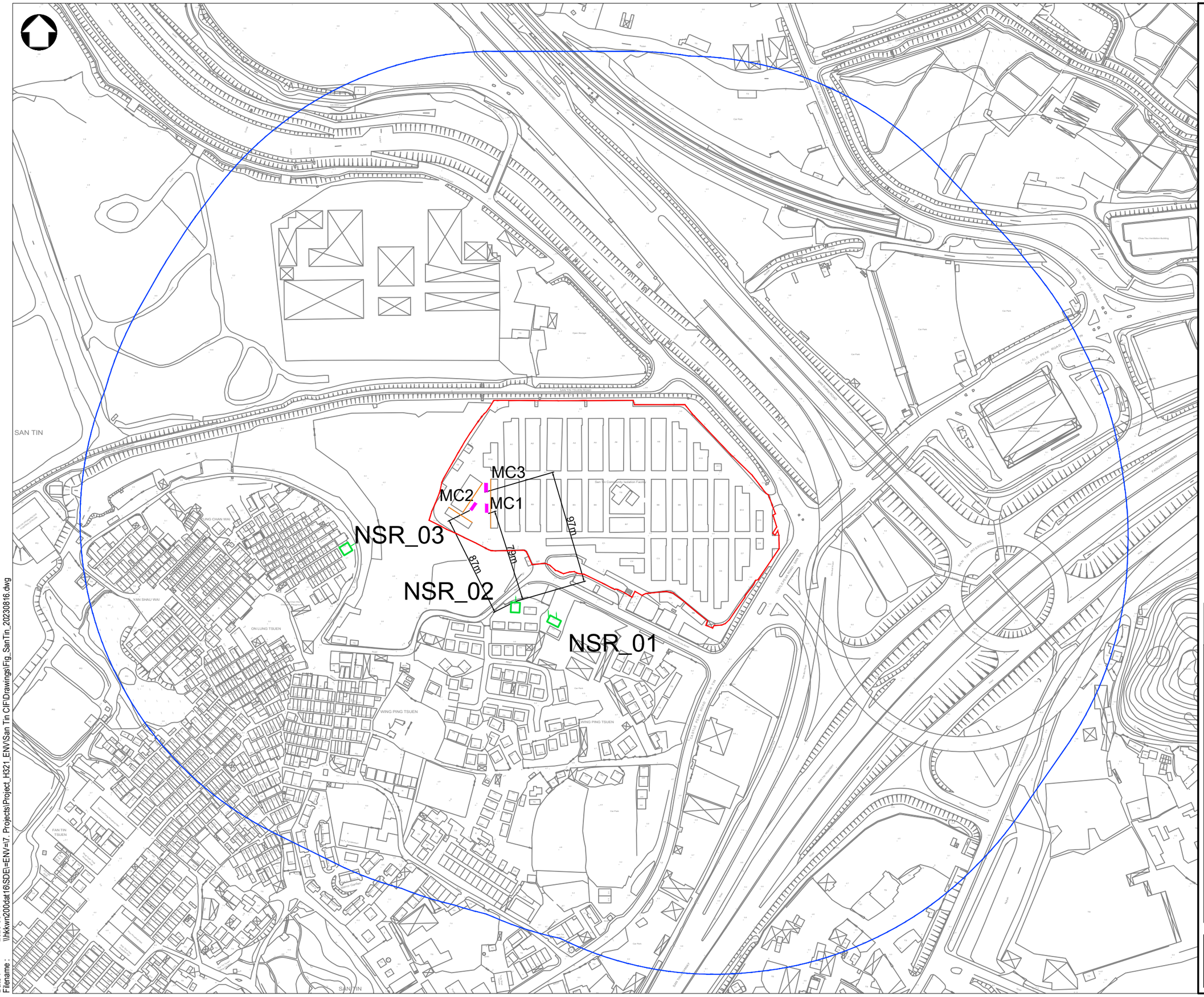

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 4.3b		
Drawn	Date: AUG2023	Checked / Approved
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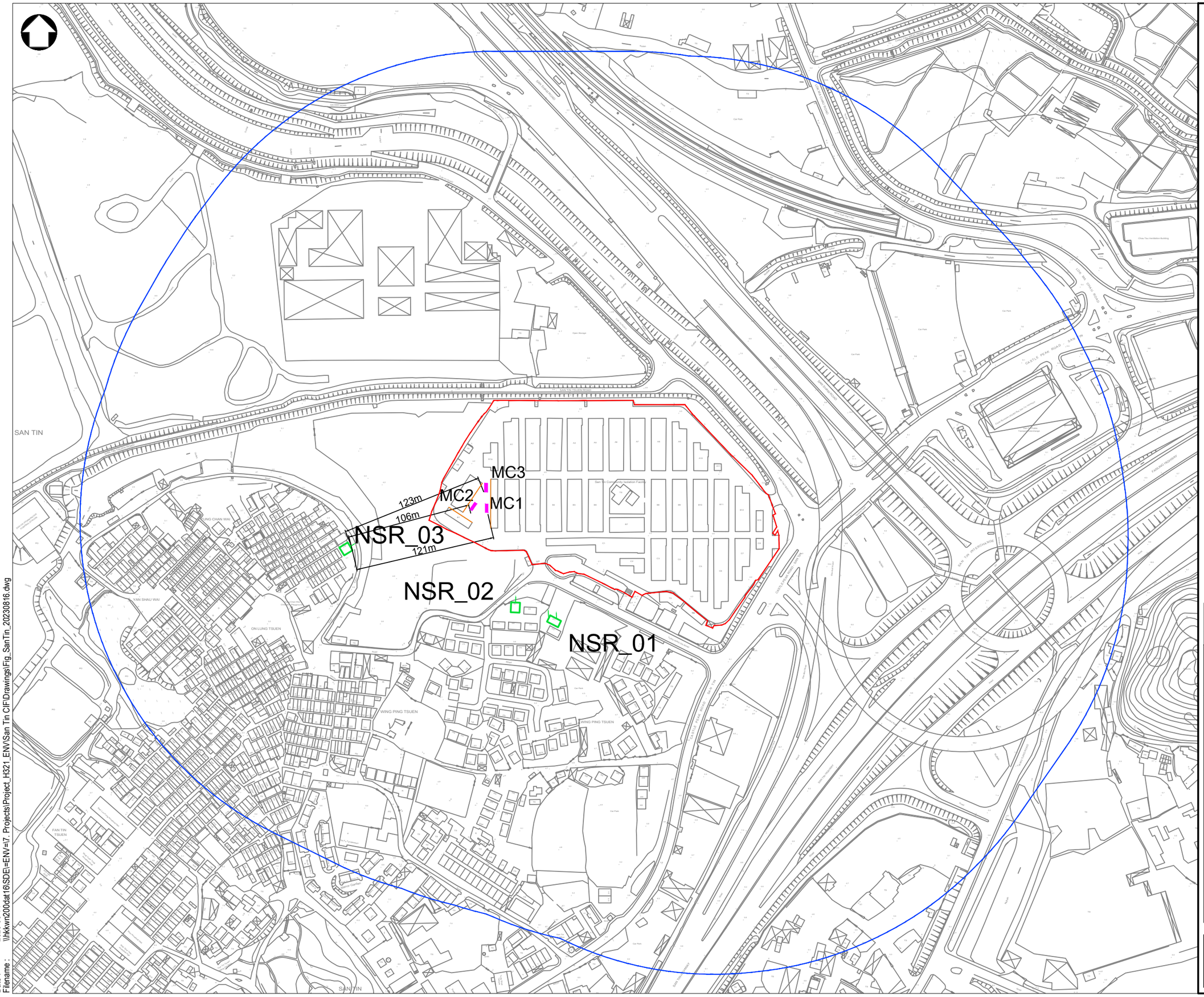

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY
- SOUND ABSORPTIVE MATERIALS

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs

Drawing no.		Rev.
FIGURE 4.3c		
Drawn	Date: AUG2023	Checked / Approved
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APPENDIX 4.3

Operation Arrangement

Option 1 **3 cranes with @SWL ≤ 95dB(A)**
Crane can be used

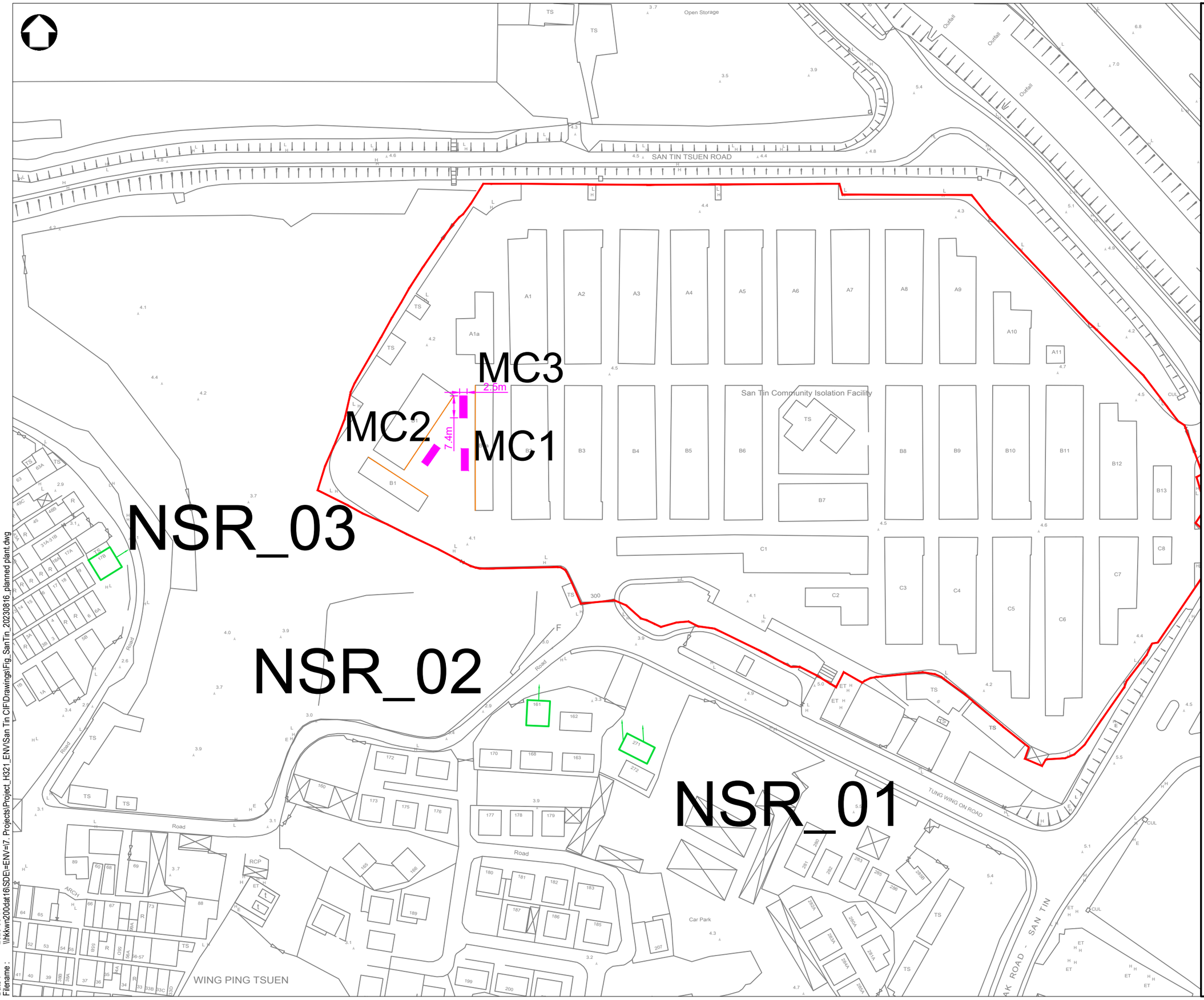
QPME ID Code	QPME Type	Manufacturer	Model	SWL, dB(A)
EPD-13835	Crane, mobile	MAEDA	CC1908S-1	95
EPD-08588	Crane, mobile	MAEDA	CC423S-1	93
EPD-07647	Crane, mobile	Kobelco	CK120UR-3	92

Option 2 **2 cranes with @SWL ≤ 98dB(A)**
Crane can be used

QPME ID Code	QPME Type	Manufacturer	Model	SWL, dB(A)
EPD-13835	Crane, mobile	MAEDA	CC1908S-1	95
EPD-06829R	Crane, mobile	Jekko	SPK60	98

Option 3 **1 crane with SWL ≤ 101dB(A)**
Crane can be used

QPME ID Code	QPME Type	Manufacturer	Model	SWL, dB(A)
EPD-13835	Crane, mobile	MAEDA	CC1908S-1	95
EPD-06829R	Crane, mobile	Jekko	SPK60	98
EPD-13330	Crane, mobile	SANY- WEICHAI	SCC850A-6	99
EPD-06876	Crane, mobile	Jekko	SPX527CDH	99
EPD-10143	Crane, mobile	SUNWARD - CUMMINS	SWTC10	100
EPD-13684	Crane, mobile	Kobelco	CKS900	101
EPD-13466	Crane, mobile	SANY	SCC1000A-5	101
EPD-13414	Crane, mobile	Kobelco	CKS800	101
EPD-10768	Crane, mobile	SENNEBOGEN	653	101
EPD-09893	Crane, mobile	Manitowoc	8500-1U	101
EPD-08838	Crane, mobile	MANITOWOC	11000-1U	101
EPD-08250	Crane, mobile	Kobelco	CKS1100	101
EPD-06830	Crane, mobile	Jekko	SPX424CDH	101



LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Note: Reference of machinery is EPD-13835.

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs - OPERATION OPTION 1

Drawing no.		Rev.
APP4.3a		
Drawn	Date	Checked / Approved
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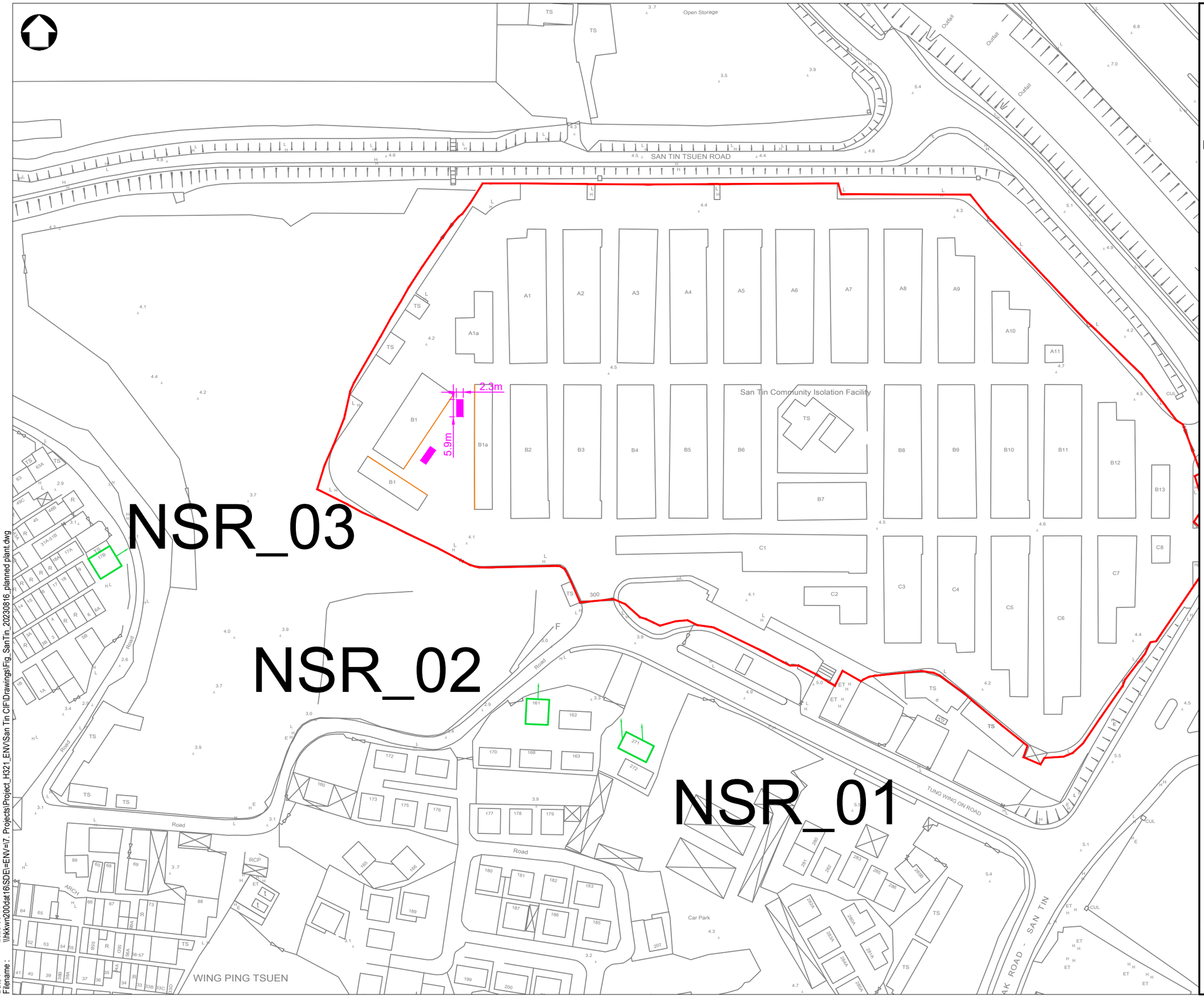

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Note: Reference of machinery is EPD-06829R.

Rev	Description	By	Date

Consultant

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Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs - OPERATION OPTION 2

Drawing no.		Rev.
APP4.3b		
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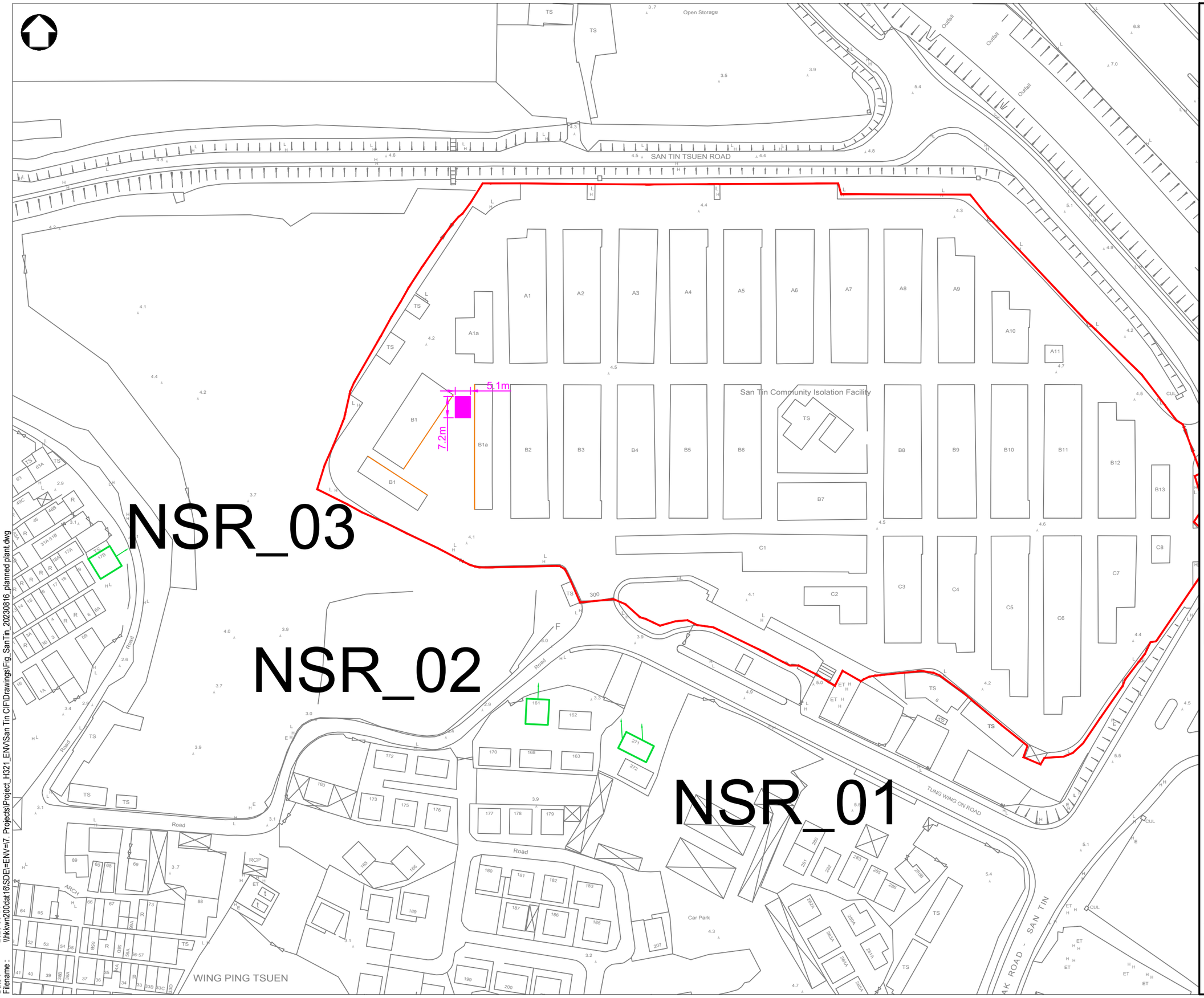

LEGEND :

- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT AREA
- REPRESENTATIVE NAPs
- MACHINERY

Note: Reference of machinery is EPD-13684.

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO. CE47/2020(CE) -
TASK ORDER NO. 9 - SAN TIN CIF

Drawing title

LOCATIONS OF REPRESENTATIVE FIXED NOISE SOURCES (PLANNED) AND DISTANCE TO REPRESENTATIVE NAPs - OPERATION OPTION 3

Drawing no.		Rev.
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Drawn	Date: AUG2023	Checked / Approved
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Attachment 6

FOR CONTINUATION
SEE DRG CW47/T09/SK/0015

MATCH LINE

FSH1010063
AI 200
X1 3.16.200
CONCRETE SURROUND BOX
L/2.8m x W 0.78m x H 0.93m

FOJ10M 193
IL 6.20

FOJ10M 196
IL 6.18

SAN TIN TSUEN ROAD

SAN SHAM ROAD

CASTLE PEAK ROAD - SAN TIN

SAN TIN INTERCHANGE

San Tin Community Isolation Facility

ON LUNG TSUEN

WING PING TSUEN

LUNG CHAN WAI

METRES 0 10 20 30 40 50
1 : 1000

LOK MA CHAU

SAN TIN

KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)
TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN
EXISTING SEWERAGE LAYOUT PLAN

SHEET 1 OF 2

Drawing no.			Rev.
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Drawn	Date	Checked	Approved
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WEST DEVELOPMENT OFFICE

Date : 9/5/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0014.dgn

FOR CONTINUATION
SEE INSET "A"

MATCH LINE

FOR CONTINUATION
SEE DRG CW47/T09/SK/0015

MATCH LINE

INSET "A"
1:1000

FOR CONTINUATION
SEE DRG CW47/T09/SK/0014

MATCH LINE

LOK MA CHAU ROAD

SAN SHAM ROAD

SAI KWO ROAD

SAN TIN

LOK MA CHAU

KEY PLAN

LEGEND :

SITE BOUNDARY OF PLANNED DEVELOPMENT

EXISTING SEWERAGE

Rev	Description	By	Date

Consultant

wsp

Project title

AGREEMENT NO.CE47/2020 (CE)

TERM CONSULTANCY FOR SITE FORMATION AND INFRASTRUCTURE WORKS FOR PROPOSED HOUSING DEVELOPMENTS IN ZONE 2 (2021 - 2024) - FEASIBILITY STUDY

Drawing title

TASK ORDER NO. 9 - SAN TIN EXISTING SEWERAGE LAYOUT PLAN

SHEET 2 OF 2

Drawing no.	Rev.
CE47/T09/SK/0015	-

Drawn	Date	Checked	Approved
CAD	JUN 2023	VS	YWY

Scale	Status
1:1000 (A1)	-

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
西拓展處
WEST DEVELOPMENT OFFICE

0 10 20 30 40 50
METRES
1 : 1000

Date : 9/5/2023
Filename : X:\PROPOSAL\WDO Report\1_WIP\1.2 CAD\1.2.1 SHEET\CE47_T09_SK_0015.dgn

Attachment 7

☐ Urgent ☑ Return Receipt ☑ Sign ☑ Encrypt ☐ Prevent Copy

Date: 02/08/2023 17:08:11
From: @td.gov.hk>
To: @cedd.gov.hk>
Cc: @cedd.gov.hk>, @td.gov.hk>
Bcc:
Subject: Re: CONFIDENTIAL: San Tin CIF s.16 application - TIA
File Ref:

Dear ,

I refer to the table from your preceding email, I have no comment on the road type of the concerned road sections.

Thank you.

Best Regards,

Transport Department
Tel.

	CONFIDENTIAL: San Tin CIF s.16 application - TIA	02/08/2023 14:24:07

From @cedd.gov.hk>
To @td.gov.hk>
Cc @cedd.gov.hk>, @td.gov.hk>
Date 02/08/2023 14:24:07
Subject CONFIDENTIAL: San Tin CIF s.16 application - TIA

Dear ,

Apart from the TIA, we are also preparing the Environmental Review on for the s.16 application. One of the EPD's comments is that
"Please seek TD's agreement on the road type of each concerned road, including Tung Wing On Road, Castle Peak Road – San Tin, San Tin Tsuen Road, San Sham Road and Tun Yu Road. Otherwise, please provide further justification to support their road type (e.g. no. of peak traffic per hour on these roads)."

In view of EPD's comments, we have prepared a table showing the road types. Grateful if you could let me know if you have any comments on it by **COP today (2 Aug)**.

Thank you and sorry for the rush.

Proposed road types:

No.	Road Name	Road Classification	
1.	Tung Wing On Road	Feeder Road	Based on as: TPDM Vol. 2
2.	Castle Peak Road - San Tin	Rural Road	With referer Census issue
3.	San Tin Tsuen Road	Feeder Road	Based on as: TPDM Vol. 2
4.	San Sham Road	Rural Road	With referer Census issue
5.	San Tin Highway	Expressway	With referer Census issue
6.	Tun Yu Road	Feeder Road	Based on as: TPDM Vol. 2

Regards,

, CEDD
Tel:

—— Forwarded by /CEDD/HKSARG on 02/08/2023 14:19:12 ——

	CONFIDENTIAL: San Tin CIF s.16 application - TIA	31/07/2023 23:57:39

From @td.gov.hk>
To @cedd.gov.hk>
Cc @td.gov.hk>, @cedd.gov.hk>, @cedd.gov.hk>, @cedd.gov.hk>, @td.gov.hk>
Date 31/07/2023 23:57:39
Subject CONFIDENTIAL: San Tin CIF s.16 application - TIA

Dear ,

We have the following comments on the TIA report:-

(i) The existing PT shown in drawing no. CE47/T09/TIA/308 (page 33 of the pdf) should cover those regular routes only, those special routes like X43, R41 should be taken out to avoid confusion.

(ii) It is noted that the footpath outside the pedestrian access on San Tin Tsuen Road is blocked by exposed pipelines. Please review the suitability of the proposed access.

Relevant Extracts of the Town Planning Board Guidelines for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance (TPB PG-No. 12C)

According to TPB PG-No. 12C, the Site falls within the Wetland Buffer Area (WBA). Extracts of land use concept and development guidelines are summarised as follows:

Wetland Buffer Area

(a) The intention of the WBA is to protect the ecological integrity of the fish ponds and wetland within the Wetland Conservation Area (WCA) and prevent development that would have a negative off-site disturbance impact on the ecological value of fish ponds.

(b) Within the WBA, for development or redevelopment which requires planning permission, an ecological impact assessment (EcoIA) would need to be submitted. Some local and minor uses (including temporary uses) are exempted from the requirement of EcoIA.

Appendix A

List of Uses Exempted from Ecological Impact Assessment within the Wetland Buffer Area

For planning applications involving uses/development within the Wetland Buffer Area, the following uses/development are exempted from the requirement of ecological impact assessment as part of the submission to the Board :

- Temporary Uses
- Agricultural Use (except in SSSI Zone)
- Ancestral Hall
- Bank#
- Barbecue Spot
- Barber Shop#
- Beauty Parlour#
- Burial Ground
- Clinic/Polyclinic*
- Electricity Substation of single storey
- Government Refuse Collection Point^
- House (Alteration, modification and/or redevelopment to the existing building bulk only)
- New Territories Exempted Houses
- Off-Course Betting centre#
- On-farm Domestic Structure
- Photographic Studio#
- Playground/Playing Field in "V" and "R(D)" zones
- Police Post/Police Reporting Centre
- Post Office*
- Private Club#
- Public Convenience
- Public Library*
- Public Utility Installation (electricity mast, lamp pole, pipeline and telephone booth only)^
- Pumping Station of single storey
- Refreshment Kiosk
- Retail Shop#
- School*
- Showroom excluding Motor-vehicle Showroom#
- Shrine
- Social Welfare Facility*
- Tent Camping Site

Note:
other than free-standing building
* other than free-standing building exceeding 3 storeys
^ not applicable to the "Other Specified Uses" annotated "Eco-lodge" zone on the Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan

Previous s.16 Applications covering the Application Site

Approved Applications

No.	Application No.	Proposed Use(s)/Development(s)	Date of Consideration (RNTPC)
1.	A/YL-ST/36	Cross-border Traffic Service Station (including Canteen, Container Freight Station, Container Repair Workshop, Office and Services Trades) for a Period of 3 Years	19.9.1997
2.	A/YL-ST/275*	Temporary Cross-border Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Tyre Repair Workshop, Office and Services Trades) for a Period of 3 Years	15.4.2005 [Revoked on 15.6.2007]
3.	A/YL-ST/342*	Temporary Cross-border Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Tyre Repair Workshop, Office and Services Trades) for a Period of 3 Years	12.10.2007 (2 years) [Revoked on 12.4.2009]
4.	A/YL-ST/354	Temporary Cross-border Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Office and Services Trades) for a Period of 3 Years	17.4.2009
5.	A/YL-ST/424*	Temporary Cross-border Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Office and Services Trades) for a Period of 3 Years	5.10.2012 [Revoked on 5.4.2013]
6.	A/YL-ST/445*	Temporary Cross-boundary Traffic Service Station (including Public Car Park, Container Freight Station, Container Storage, Container Tractor/Trailer Park, Vehicle Repair Workshop, Office) with Ancillary Services Trades (including Handling In and Out of Container Freight, Arrival and Departure of Goods Vehicles) and Staff Canteen for a Period of 3 Years	26.9.2014 [Revoked on 26.12.2015]
7.	A/YL-ST/476	Temporary Cross-boundary Shopping Centre with Ancillary Car Park, Eating Place, Shop and Services (Fast Food Shop), Office and Storage of Consumer Goods for a Period of 3 Years	18.9.2015
8.	A/YL-ST/503	Proposed Commercial Development (Eating Place, Place of Entertainment, and Shops and Services) with Minor Relaxation of Height Restriction and Excavation of Land	26.1.2018
9.	A/YL-ST/529*	Renewal of Planning Approval for Temporary Cross-Boundary Shopping Centre with Ancillary Car Park, Eating Place, Shop and Services (Fast Food Shop), Office and Storage of Consumer Goods for a Period of 3 Years	7.9.2018 [Revoked on 19.2.2021]
10.	A/YL-ST/595*	Proposed Temporary Open Storage of Construction Machinery and Materials for a Period of 3 Years	12.11.2021 [Revoked on 24.12.2021]
11.	A/YL-ST/658	Proposed Temporary Training Facilities until 31 October 2024	22.9.2023

* denotes permission revoked.

Rejected Applications

No.	Application No.	Proposed Use(s)/Development(s)	Date of Consideration (RNTPC)	Rejection Reason(s)
1.	A/YL-ST/192	Temporary cross boundary traffic service station (including car park, container freight station, container storage, container tractor/trailer park, tyres repair workshop, office and service trades) for a period of 3 years	15.3.2002	(1)
2.	A/YL-ST/262	Temporary cross-border traffic service station (including public car park, container tractor/trailer park, container freight station, container storage, tyre repair areas, ancillary site office and service trades) for a period of 3 years	14.5.2004	(1) & (2)

Rejection Reasons:

(1) Insufficient information to demonstrate that the development would not result in adverse impacts including drainage, traffic, sewerage, environment and ecology on the surroundings and the nearby residents.

(2) Not in line with both the TPB Guidelines for "Application for Developments within Deep Bay Area" and the TPB Guidelines for "Temporary Open Storage and Port Back-up Uses".

Government Departments' General Comments

1. Land Administration

Comments of the District Lands Officer/Yuen Long, Lands Department (LandsD):

- no objection to the application;
- the Site comprises private lots in D.D. 99 and adjoining Government Land (GL). The concerned private lots are old schedule agricultural lots held under Block Government Lease. As quoted by the applicant, the Site has an area of about 38,700m^2 (including about 1,870m^2 of GL), which should be subject to further verification and survey.

2. Traffic

Comments of the Commissioner for Transport:

- no comment on the application from traffic engineering point of view; and
- advisory comments are detailed in **Appendix V**.

Comments of the Chief Highway Engineer/New Territories West of Highways Department (HyD):

- no in-principle objection to the application; and
- advisory comments are detailed in **Appendix V**.

Comments of the Chief Engineer/Railway Development 1-1, Railway Development Office of HyD:

- the Site is found to be in conflict with the proposed location of Chau Tau Station of Northern Link Spur Line, which would be located underneath the proposed Road L14; and
- advisory comments are detailed in **Appendix V**.

3. Environment

Comments of the Director of Environmental Protection:

- the current application maintains within the same site boundary and for the same use (as training facilities) as the previous application (No. A/YL-ST/658), it is expected that with implementation of the same set of environmental mitigation measures recommended in the Environmental Review Report (ERR) and Sewerage Impact Assessment (SIA) (conducted in the previously approved planning application), the applied use would unlikely be subject to/cause adverse environmental impacts that exceeding the Hong Kong Planning Standards and Guidelines (HKPSG) criteria. The key mitigation measures recommended in the ERR/SIA are highlighted below:

(a) noise mitigation measures (i.e. (i) the operation of the mobile cranes for training use will be limited at fixed locations as shown in Figures 4.3a to 4.3c of the ERR (**Appendix Ib of RNTPC paper**), with their operation on-time % be limited to 70%-90% depending on the machine used (Table 4.8 of the ERR at **Appendix Ib of RNTPC paper**); and fitting sound absorptive materials on the existing Community Isolation Facility (CIF) buildings to avoid noise reflection; (ii) provision of air-conditioning system with mechanical ventilation for the noise sensitive uses of the development) implemented under the previous application (No. A/YL-ST/658) will continue to be provided to ensure that the fixed noise impacts on nearby village houses and the predicted traffic impact on future noise sensitive uses will comply with the noise criteria under HKPSG; and

(b) the Site is connected to the nearby public sewerage system for sewage disposal;

- based on the above consideration, he has no objection to the application;
- there was no environmental complaint related to the Site in the past 3 years; and
- advisory comments are detailed in **Appendix V**.

4. <u>Landscape</u>

Comments of the Chief Town Planner/Urban Design and Landscape of Planning Department:

- no adverse comment on the application from landscape planning perspective;
- according to the aerial photo of February 2024, the Site is situated in an area of miscellaneous urban fringe landscape character comprising of temporary structures, car parks, vacant lands, tree groups, open storages, etc. The Site was occupied by the San Tin CIF before September 2023 and then modified and used as temporary training facilities under the planning permission of the last application No. A/YL-ST/658, which was approved on 22.9.2023 and valid until 31.10.2024. With reference to the aerial photos taken in February 2024 and October 2023, there is no significant change to the landscape character of the surrounding areas since the last application No. A/YL-ST/658 was approved. The applied use is considered not incompatible with the surrounding landscape character;
- according to the Planning Statement, the major development parameters, including site area, layout, existing building and number of parking spaces, remain unchanged. Further adverse landscape impact within the Site arising from the applied use is not anticipated; and
- advisory comments are detailed in **Appendix V**.

5. <u>Drainage</u>

Comments of the Chief Engineer/Mainland North of Drainage Services Department:

- no in-principle objection to the application from drainage operation and maintenance point of view;
- the implementation of the drainage facilities on the Site is considered satisfactory;

- all the proposed drainage facilities should be constructed and maintained by the applicant at his own cost. The applicant should ensure and keep all drainage works on site under proper maintenance at all times; and

- advisory comments are detailed in **Appendix V**.

6. Fire Safety

Comments of the Director of Fire Services:

- no in-principle objection to the application subject to fire service installations and water supplies for firefighting being provided to his satisfaction. Detailed fire safety requirements will be formulated upon receipt of formal submission of general building plans; and

- advisory comments are detailed in **Appendix V**.

7. Other Departments

The following government departments have no objection to/no adverse comment on the application:

(a) Director of Agriculture, Fisheries and Conservation;
(b) Chief Estate Surveyor/Acquisition of LandsD;
(c) Chief Engineer/Construction of Water Supplies Department;
(d) Chief Architect/Advisory and Statutory Compliance of Architectural Services Department;
(e) Chief Building Surveyor/New Territories West of Buildings Department;
(f) Director of Electrical and Mechanical Services;
(g) Commissioner of Police; and
(h) District Officer (Yuen Long) of Home Affairs Department.

Recommended Advisory Clauses

(a) The application site (the Site) falls within the boundary of San Tin Technopole. The Site may be resumed by the Government and that the proposed operation at the Site may be terminated at any time during the planning approval period for implementation of government projects. The applicant/occupant is required to further liaise with the Government for the interface issues related to the applied use and the development of the Technopole;

(b) to note the comments of the Commissioner for Transport that:

- no vehicle is allowed to queue back to or reverse onto/from public road at any time during the planning approval period;

(c) to note the comments of the Chief Highway Engineer/New Territories West of Highways Department (HyD) that:

- HyD shall not be responsible for the maintenance of the proposed access, if any, connecting the Site to Tung Wing On Road; and

- adequate drainage measures shall be provided to prevent surface water running from the Site to the nearby public roads and drains;

(d) to note the comments of the Chief Engineer/Railway Development 1-1, Railway Development Office of HyD that:

- the Site is found to be in conflict with the proposed location of Chau Tau Station of Northern Link (NOL) Spur Line. The proposed Chau Tau Station would be located underneath the proposed Road L14 which is under the jurisdiction of the Civil Engineering and Development Department;

- the applicant is required to consult Mass Transit Railway Corporation Limited (MTRCL) with respect to the design and construction of the proposed works, in the vicinity of the NOL Spur Line; and

- deep foundation such as piling is not permitted at the application site unless MTRCL's agreement is sought;

(e) to note the comments of the Director of Environmental Protection to maintain the implemented mitigation measures as per the revised Ecological Review Report and Sewerage Impact Assessment (paragraphs 3(a) and (b) of **Appendix IV** of RNTPC Paper) to ensure that the development will unlikely be subject to/cause adverse environmental impacts exceeding the criteria under the Hong Kong Planning Standards and Guidelines;

(f) to note the comments of the Chief Town Planner/Urban Design and Landscape of Planning Department that:

- the applicant should observe the Development Bureau Technical Circular (Works) No. 4/2020 and the Guidelines for Tree Risk Assessment and Management

Arrangement regarding the requirements on removal of dead trees and trees of undesirable species (i.e. Leucaena leucocephala) to ensure public safety; and

- approval of the application does not imply approval of tree works, if any, such as pruning, transplanting and felling. Application for any tree works should be submitted to relevant authority(ies) for approval;

(g) to note the comments of the Chief Engineer/Mainland North of Drainage Services Department (DSD) that:

- the Temporary Government Land Allocation (TGLA) site of the sewage pumping station which is allocated to DSD will end on 4.3.2025. The applicant shall be aware that the sewage disposal by using the existing pumping station is subject to the approval for extension of TGLA from Lands Department (LandsD) thereafter;

- the applicant shall ascertain that all existing flow paths would be properly intercepted and maintained without increasing the flooding risk of the adjacent areas. It is noted that existing drains are running through the Site. The flow should remain unobstructed during the period;

- the applicant should consult District Lands Officer/Yuen Long of LandsD regarding all the proposed drainage works outside the lot boundary in order to ensure the unobstructed discharge from the Site in future; and

- all the proposed drainage facilities should be constructed and maintained by the applicant at his own cost. The applicant should ensure and keep all drainage works on site under proper maintenance at all times; and

(h) to note the comments of the Director of Fire Services that:

- detailed fire service requirements will be formulated upon receipt of formal submission of general building plans; and

- as no details of the emergency vehicular access (EVA) have been provided, the applicant is advised to observe the requirements of EVA as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Building 2011, which is administered by the Building Authority.