此文件 2024年 (18月 19日 故市規劃委員會 只會在收到所有必要的資料及文件後才正式確認收到 諸的日期 19 AUG 2024 Form No. S16-I This document is received on 13 HUU LULY The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt 表格第 S16-I 號 of all the required information and documents. 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 田 Applicable to proposals not involving or not only involving: 適用於建議不涉及或不祇涉及: Construction of "New Territories Exempted House(s)"; (i) 興建「新界豁免管制屋宇」; Temporary use/development of land and/or building not exceeding 3 years in (ii) rural areas or Regulated Areas; and 位於鄉郊地區或受規管地區土地上及/或建築物內進行為期不超過三年的臨時 用途/發展;及 (iii) Renewal of permission for temporary use or development in rural areas or **Regulated** Areas 位於鄉郊地區或受規管地區的臨時用途或發展的許可續期

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

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

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

1.

- "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

2401996

For Official Use Only 請 勿 填 寫 此 欄	Application No. 申請編號	A/TM-SEM/128
	Date Received 收到日期	19 AUG 2C24

By Hand

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- 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。

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)

Host Duty Limited

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱(如適用)

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

Llewelyn-Davies Hong Kong Ltd.

3.	Application Site 申請地點	
(a)	Full address / location / demarcation district and lot number (if applicable) 詳細地址/地點/丈量約份及 地段號碼(如適用)	Government land in Tai Lam Chung, Tuen Mun, New Territories
(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
(c)	Area of Government land included (if any) 所包括的政府土地面積(倘有)	sq.m 平方米 ☑About 約

Parts 1, 2 and 3 第1、第2及第3部分

Form No. S16-I 表格第 S16-I 號

(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	Approved So Kwun Wat Outline Zoning Pla	an No. S/TM-SKW/15
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Green Belt" ("GB")	
(f)	Current use(s) 現時用途	The Application Site is currently covered by (If there are any Government, institution or community 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	facilities, please illustrate on
4.	"Current Land Owner" of A	pplication Site 申請地點的「現行土均	也擁有人」
The	applicant 申請人 -	2	. 75
	is the sole "current land owner" ^{#&} (pl 是唯一的「現行土地擁有人」 ^{#&} (語	ease proceed to Part 6 and attach documentary proof 青繼續填寫第 6 部分,並夾附業權證明文件)。	of ownership).
	is one of the "current land owners" ^{# &} 是其中一名「現行土地擁有人」 ^{# &}	⁴ (please attach documentary proof of ownership). (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 Go 申請地點完全位於政府土地上(請	vernment land (please proceed to Part 6). :繼續填寫第 6 部分)。	,
5.	Statement on Owner's Conse 就土地擁有人的同意/通		
(a)	involves a total of	年 月	
(h)	The applicant 申請人 -		
(b)		"current land owner(s)"#. 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
	Land Owner(s) 「珀行士地擁有 Registry wh	/address of premises as shown in the record of the Land here concent(s) has/have been obtained 註冊處記錄已獲得同意的地段號碼/處所地址	Date of consent obtained (DD/MM/YYYY) 取得同意的日期 (日/月/年)
/	(Please use separate sheets if the sp	ace of any box above is insufficient. 如上列任何方格的空	[] E間不足,請另頁說明)

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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 Date of notification No. of 'Current Lot number/address of premises as shown in the record of the given Land Owner(s)' Land Registry where notification(s) has/have been given (DD/MM/YYYY) 「現行土地擁 根據土地註冊處記錄已發出通知的地段號碼/處所地址 通知日期(日/月/年) 有人」數目 (Please use separate sheets if the space of any box above is insufficient. 如上列在何方格的空間不足,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)#& (日/月/年)向每一名「現行土地擁有人」"郵遞要求同意書。 於 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 (DD/MM/YYYY)& published notices in local newspapers on (日/月/年)在指定報章就申請刊登一次通知* 於 posted notice in a prominent position on or near application site/premises on (DD/MM/YYYY)[&] (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& 於 sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on (DD/MM/YYYY)& (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 於 處,或有關的鄉事委員會* Others 其他 others (please specify) 其他(讀指明) Note: May insert more than one [V] . Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application. 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

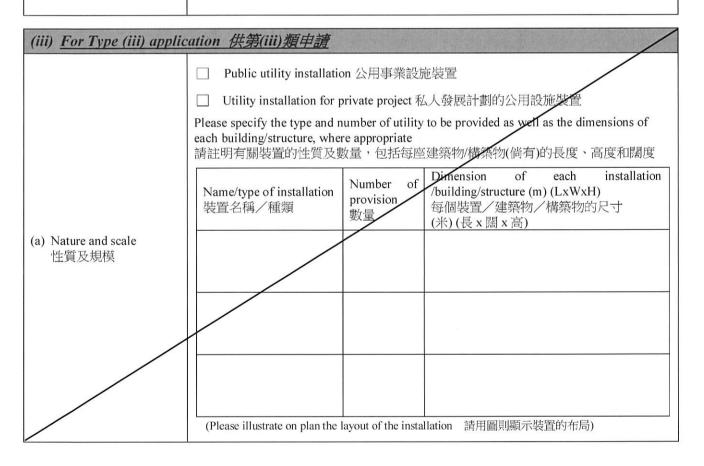
Part 5 (Cont'd) 第5部分(續)

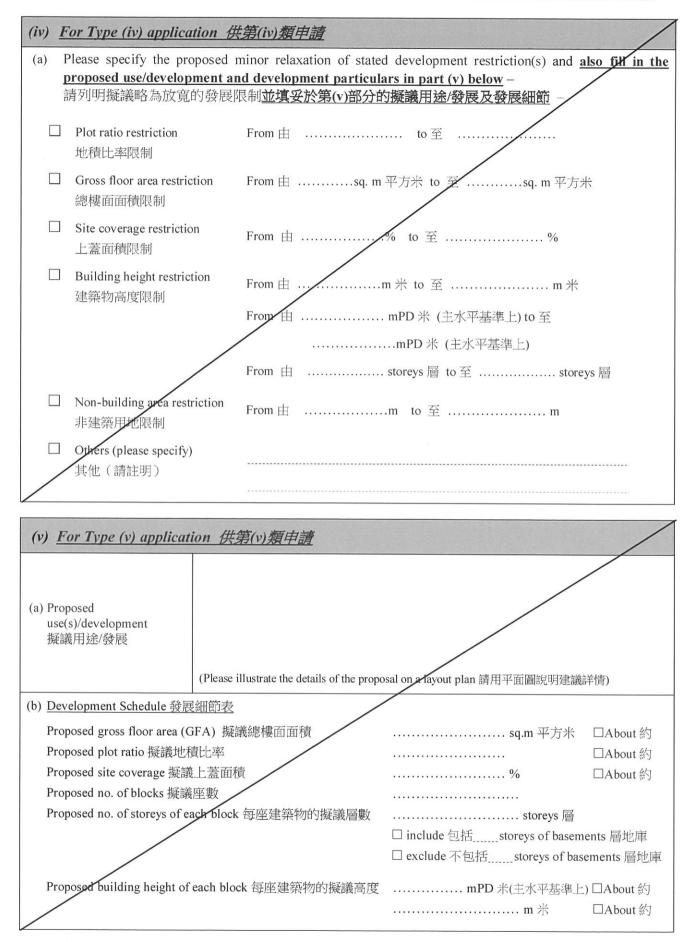
6.	Type(s) of	of Application	申請類	別			
	Type (i) 第(i)類	Change of use w 更改現有建築物		building or part the 的用途	reof		
	Type (ii)	Plan(s)			nder Notes of Statutory		
	第(ii)類			要求的河道改道/		唐工程	
	Type (iii) 第(iii)類			lity installation for j 影計劃的公用設施裝			
	Type (iv) 第(iv)類			elopment restriction 》內列明的發展限制		nder Notes of Sta	tutory Plan(s)
	Type (v) 第(v)類	Use / developme 上述的(i)至(iii)					
註1	: 可在多於-	more than one「✓ 一個方格內加上「	✓」號				
		ment involving colun 及靈灰安置所用途		se complete the table in t 件的表格。	he Appendix.		
(i)	For Typ	e (i) application	on 供第(i);	<u>類申請</u>			/
(a) ⁷	Total floo	or area					
i	involved 涉及的總樓正					sq.m 平方≯	*
			and the state of the second			/	/
(h) 1							
1	Proposed use(s)/develo						
擬議用途/發展		(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施,請在圖別上顯示,並註明用途及總樓面面積)					
	Number of st 涉及層數	toreys involved	т. Га	Nu 涉	mber of units invo 反單位數目	olved	
			Domestic pa	rt 住用部分		sq.m 平方米	□About 約
	Proposed floc 擬議樓面面種		Non-domest	part 非住用部分。		sq.m 平方米	□About 約
			Totat 總計			sq.m 平方米	□About 約
		es of different	Floor(s) 樓層	Current use(s)	現時用途	Proposed	use(s) 擬議用途
2	floors (if appl 不同樓層的抽 用)	licable) 疑議用途(如適					
(arate sheets if the					
		『不足,請另頁說					
	(**)						

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(ii) For Type (ii) applied	ation	供第(ii)類申請	
(a) Operation involved 涉及工程	of fill	Diversion of stream 河道改道 Filling of pond 填塘 Area of filling 填塘面積	
(b) Intended use/development 有意進行的用途/發展	h	roposed Excavation of Land (ground investigation works for natur azard study in accordance with draft lease of adjoining approved r evelopment (under Planning Application No. A/TM-SKW/32-1))	15 62 925 VS





Domes	stic part 住用部分			Λ
G	FA總樓面面積		sq. m 平方米	□About 約
nı	umber of Units 單位數目			
av	verage unit size 單位平均面	積	sq. m 平方米	□About 約
es	stimated number of residents	估計住客數目		
Non-de	omestic part 非住用部分		GFA 總樓面面	積
🗌 ea	ating place 食肆		sq. m 平方米	□About 約
h h	otel 酒店		sq. m 平方米	□About 約
			(please specify the number of rooms	
			請註明房間數目)	
of	ffice 辦公室		sq.m 平方米	□About 約
sh	hop and services 商店及服務	衍業	sq. m 平方米	□About 約
G	overnment, institution or con	mmunity facilities	(please specify the use(s) and	concerned land
武	牧府、機構或社區設施		area(s)/GFA(的請註明用途及有關的	的地面面積/總
			樓面面積)	<u>a</u>
ot ot	ther(s) 其他		(please specify the use(s) and	concerned land
		/	area(s)/GFA(s) 請註明用途及有關的	的地面面積/總
			樓面面積)	
Open s	space 休憩用地		(please specify land area(s) 請註明均	Internet of the contract of th
🗌 рі	rivate open space 私人休憩	用地	sq. m 平方米 🛛 Not l	
pi	ublic open space 公眾休憩戶	月地	sq. m 平方米 🛛 Not l	ess than 不少於
(c) Use(s) of	f different floors (if applicat	/ le) 各樓層的用途 (如述	適用)	
[Block num	/	na oraș recenștităță son Antărilă, 1996 - 51	[Proposed use(s)]	
[座數]			[擬議用途]	12
			[]//()//]/[]/[]	
	/			
(d) Proposed	d yse(s) of uncovered area (i	fany) 霞天地方(倘右)的擬議用途	
(u) rroposee	d use(s) of uncovered area (f) H JJACH42 (1) 200	
/				
/				
/				
/				
/				

 Anticipated Completion Time of the Development Proposal 擬議發展計劃的預計完成時間
Anticipated completion time (in month and year) of the development proposal (by phase (if any)) (e.g. June 2023) 擬議發展計劃預期完成的年份及月份 (分期 (倘有))(例: 2023 年 6 月)
(Separate anticipated completion times (in month and year) should be provided for the proposed public open space and Government, institution or community facilities (if any)) (申請人須就擬議的公眾休憩用地及政府、機構或社區設施(倘有)提供個別擬議完成的年份及月份)
The entire GI works will last for 6 months.

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8. Vehicular Access Arra 擬議發展計劃的行		it of the Development Proposal 安排
Any vehicular access to the site/subject building? 是否有車路通往地盤/有關 建築物?	Yes 是	 There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。(請在圖則顯示,並註明車路的闊度)
Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車 位?	No 否 Yes 是 No 否	 □ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Private Car Parking Spaces 私家車車位 Motorcycle Parking Spaces 電單車車位 Light Goods Vehicle Parking Spaces 輕型貨車泊車位 Medium Goods Vehicle Parking Spaces 中型貨車泊車位 Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 Others (Please Specify) 其他 (請列明)
Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客 貨車位?	Yes 是 No 否	 □ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明)

9. Impacts of De	evelopme	nt Proposal 擬議發展計劃的影響
justifications/reasons for	or not prov	sheets to indicate the proposed measures to minimise possible adverse impacts or give ding such measures. 法减少可能出現不良影響的措施,否則請提供理據/理由。
Does the development proposal involve alteration of existing building? 擬議發展計劃是否 包括現有建築物的 改動? Does the development proposal involve the operation on the right? 擬議發展是否涉及 右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註: 如申請涉及第 (ii)類申請,請跳至下 一條問題。)	Yes 是 No 否 No 否	 Please provide details 請提供詳情 Please provide details 請提供詳情 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) (請用地盤平面醫顯示有關土地/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
Would the development proposal cause any adverse impacts? 擬議發展計劃會否 造成不良影響?	On traffi On water On drain On slope Affected Landscaj Tree Fell Visual In Others (I Please st diameter 請註明量 直徑及品 No tree	onment 對環境 Yes 會 □ No 不會 ☑ : 對交通 Yes 會 □ No 不會 ☑ supply 對供水 Yes 會 □ No 不會 ☑ age 對排水 Yes 會 □ No 不會 ☑ s 對斜坡 Yes 會 □ No 不會 ☑ by slopes 受斜坡影響 Yes 會 □ No 不會 ☑ by slopes 受斜坡影響 Yes 會 □ No 不會 ☑ ing 砍伐樹木 Yes 會 □ No 不會 ☑ npact 構成浸鬱響 Yes 會 □ No 不會 ☑ lease Specify) 其他 (請列明) Yes 會 □ No 不會 ☑ ite measure(s) to minimise the impact(s). For tree felling, please state the number, at breast height and species of the affected trees (if possible) B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 b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 J種(倘可) felling is involved

Part 9 第9部分

10. Justifications 理由
The applicant is invited to provide justifications in support of the application. Use separate sheets if necessary. 現請申請人提供申請理由及支持其申請的資料。如有需要,請另頁說明。
Please refer to the Supporting Planning Statement
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Part 10 第 10 部分

11. Declaration 聲明
I hereby declare that the particulars given in this application are correct and true to the best of my knowledge and belief. 本人謹此聲明,本人就這宗申請提交的資料,據本人所知及所信,均屬真實無誤。
I hereby grant a permission to the Board to copy all the materials submitted in this application and/or to upload such materials to the Board's website for browsing and downloading by the public free-of-charge at the Board's discretion.本人現准許委員會酌情將本人就此申請所提交的所有資料複製及/或上載至委員會網站,供公眾免費瀏覽或下載。
Signature 簽署 ん 加 加 加 の の し Applicant 申請人 / ☑ Authorised Agent 獲授權代理人
Winnie W.Y. WU Planning Director
Name in Block LettersPosition (if applicable)姓名(請以正楷填寫)職位 (如適用)
Professional Qualification(s) ✓ Member 會員 / □ Fellow of 資深會員 專業資格 ✓ 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 香港國境師學會 / □ HKIUD 香港城市設計學會 □ RPP 註冊專業規劃師 Others 其他 ● MRTPI ● MRTPI
on behalf of 仕事 Llewelyn-Davies Hong Kong Ltd Hong Kong Limited Authorized Signature
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✓ Company 公司 / □ Organisation Name and Chop (if applicable) 機構名稱及蓋章(如適用)
Date 日期 14/08/2024 (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。
the flat
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
 The personal data subinitied to the Board in this application will be used by the secretary of the Board and Seventhead 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

- (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
- 医理道示中請,包括公布道示中請供公私宣國,同時公布中請入的建名供公私宣國,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。
- 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。

sh interment capacity 骨灰安放容量@	
Maximum number of sets of ashes that may be interred in the niches 在龕位內最多可安放骨灰的數量	
Maximum number of sets of ashes that may be interred other than in niches	
在非龕位的範圍內最多可安放骨灰的數量	
otal number of niches 龕位總數	
Total number of single niches	
單人龕位總數	
Number of single niches (sold and occupied) 單人龕位數目 (已售並佔用)	
半八龍位數曰(二昏亚伯用) Number of single niches (sold but unoccupied)	
單人龕位數目 (已售但未佔用)	
Number of single niches (residual for sale)	
單人龕位數目 (待售)	
Total number of double niches	
雙人龕位總數	
Number of double niches (sold and fully occupied)	
雙人龕位數目 (已售並全部佔用) Number of double niches (sold and partially occupied)	
雙人龕位數目 (已售並部分佔用)	
Number of double niches (sold but unoccupied)	
雙人龕位數目 (已售但未佔用) Number of double niches (residual for sale)	
雙人龕位數目 (待售)	
Total no. of niches other than single or double niches (please specify type) 除單人及雙人龕位外的其他龕位總數 (請列明類別)	
Number. of niches (sold and fully occupied)	
龕位數目 (已售並全部佔用)	
Number of niches (sold and partially occupied)	
龕位數目 (已售並部分佔用) Number of niches (sold but unoccupied)	
龕位數目 (已售但未佔用)	
Number of niches (residual for sale)	
龕位數目 (待售)	
oposed operating hours 擬議營運時間	
Ash interment capacity in relation to a columbarium means -	
就靈灰安置所而言, 骨灰安放容量指: - the maximum number of containers of ashes that may be interred in each niche in the columbarium;	
每個龕位內可安放的骨灰容器的最高數目;	10-1 - 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
 the maximum number of sets of ashes that may be interred other than in niches in any area in the colu 在該靈灰安置所並非龕位的範圍內,總共最多可安放多少份骨灰;以及 	moarium; and

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Gist of Application 申請摘要

(Please provide details in both English and Chinese <u>as far as possible</u>. 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

下戰又於祝蓟者規讀		间處供一般參阅。				
Application No. 申請編號	(For Of	ficial Use Only) (請᠀	刀填寫此欗)		. 8	
Location/address 位置/地址		ment Land in Tai La 門大欖涌的政府土地	am Chung, Tuen Mun g	, New Territor	ies	
Site area 地盤面積		, E		226 s	q. m 平方米	☑ About 約
	(includ	es Government land	of包括政府土地	226 8	sq. m 平方米	☑ About 約)
Plan 圖則			utline Zoning Plan No]編號 S/TM-SKW/15	. S/TM-SKW/1	15	
Zoning 地帶	"Green 「綠化:					
Applied use/ development 申請用途/發展	Natural	Terrain Hazard Stu	坡風險評估的土地勘測	则工作)	for	
(i) Gross floor ar			sq.m 平方	5米	Plot Rat	io 地積比率
and/or plot ratio 總樓面面積及/或 地積比率		Domestic 住用	נ 🗆	About 約 Not more than 不多於		□About 約 □Not more than 不多於
		Non-domestic 非住用	1	About 約 Not more than 不多於		□About 約 □Not more than 不多於
(ii) No. of blocks 幢數		Domestic 住用				
		Non-domestic 非住用			4	
		Composite 綜合用途		~		

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

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(vii) No. of parkin spaces and lo unloading sp 停車位及上 車位數目	ading / uces Private Car Parking Spaces 私家車車位	

Submitted Plans, Drawings and Documents 提交的圖則、繪圖及文件		
	<u>Chinese</u>	English
	中文	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) 圜境設計總圖/園境設計圖		
Others (please specify) 其他 (請註明)		\checkmark
Location Plan for Proposed Trial Pits and Drill Holes 擬議鑽孔和試井位置圖		
Overall Plan of Proposed Ground Investigation Works 擬議土地勘測工作總體規劃圖		
Blow-up Plans, of Proposed Ground Investigation Works 擬議土地勘測工作放大圖 Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據		\checkmark
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)		\checkmark
Ecological Inspection Report 生態評估報告		
Note: May insert more than one「✔」. 註:可在多於一個方格內加上「✔」號		

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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

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註· 上她申請摘要的資料是田申請入提供以方便市民大眾參考。對於所載資料任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。 此為空白頁。

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Section 16 Planning Application for

Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun

Planning Statement

(August 2024)



ARCHITECTS PLANNERS DESIGNERS Llewelyn-Davies Hong Kong Ltd

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Hazard Study

EXECUTIVE SUMMARY

PURPOSE OF SUBMISSION

This planning application is submitted to seek permission from the Town Planning Board (the Board) in support of proposed excavation of land in "Green Belt" zone on the Approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/15 for Ground Investigation (GI) works for a Natural Terrain Hazard Study (NTHS) on Government Land in Tai Lam Chung, Tuen Mun (hereafter referred to as the "Application Site") under Section 16 (S16) of the Town Planning Ordinance (the Ordinance) (CAP. 131). The GI works for the NTHS is in support of the implementation of an approved residential development (under Application No. A/TM-SKW/32-1) at various lots in D.D. 385 zoned "Comprehensive Development Area" in the vicinity.

INDICATIVE PROPOSAL OF GROUND INVESTIGATION WORKS

The proposed GI works involve drilling / excavation of a total of 13 drill holes and 4 trial pits which will be carried out by manpower using hand tools only. The total site area involved is about 226m², including the drill holes and trial pits, as well as the related temporary working platforms. As regards the operation hours, the proposed GI works will only be operated from 8 a.m. to 6 p.m. from Monday to Saturday. It is anticipated that the entire GI works will be carried out for 6 months. Upon completion, the Applicant will backfill and reinstate the excavated area in accordance with the government's relevant guidelines and requirements.

JUSTIFICATIONS OF PROPOSED GROUND INVESTIGATION WORKS

Justifications in support of this planning application are listed as follows:

- The proposed excavation of land serves as a genuine need for GI works to assess the stability of slope to prevent landslip and safeguard the properties and residents or occupiers of existing and future developments in the vicinity;
- The Applicant has duly completed the first round of GI works (approved under Application No. A/TM-SKW/106) under the NTHS as required under the draft land grant of the approved residential development, and this round of GI works as proposed under the subject planning application is to gather additional information on the geological profile and soil parameters for detailed design of appropriate hazard mitigation works;
- In line with the previous decision by the Board in approving the previous application (under Application No. A/TM-SKW/106) for excavation of land for GI works under the same "GB" zone. Approval of the subject planning application will not become an

undesirable precedent;

- The proposed excavation of land fully adheres to the Town Planning Board Guideline No.10, in the sense that the proposed works are essential and would not adversely affect slope stability (in fact, the proposed GI works are to ensure slope safety); and
- No adverse impact anticipated on vegetation, ecological, environmental and traffic terms.

In light of the supporting evidence presented in this Planning Statement, the Board is cordially invited to consider the planning application favourably.

行政摘要

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

申請目的

申請人現根據城市規劃條例第 16 條(第 131 章) · 向城市規劃委員會(下稱 「城規會」) 遞交規劃申請(下稱「本申請」) · 在掃管笏分區計劃大綱核准 圖編號 S/TM-SKW/15 上被劃作「綠化地帶」的政府土地上進行挖土工程 · 作現場土地勘測工作以評估斜坡穩定性(下稱「擬議挖土工程」)。擬議挖 土工程旨在蒐集土力工程數據作天然山坡風險研究 · 以推展位於丈量約份 第 385 約劃作「綜合發展區」地帶的已核准住宅發展(規劃申請編號 A/TM-SKW/32-1)。

發展計劃概覽

擬議挖土工程包括土地勘測工作·涉及人手操作的挖土/鑽探工序·包括 13 個鑽孔和 4 個試井。總申請地盤面積約 226 平方米·已包括鑽孔、試井及 其相關的臨時工作台。擬議挖土工程運作時間為每周一至六早上八時至下 午六時。擬議挖土工程預計會在 6 個月內完成,工序完畢後申請人將回填 申請地盤,及根據政府相關指引及規定恢復地盤原貌。

擬議挖土工程理據

以下為支持是次規劃申請的理據:

- 擬議挖土工程以評估斜坡穩定性有其實際需要,以防止山泥傾瀉,保 障相關住宅發展、住客以及隣近居民的安全;
- 申請人經已因應已核准住宅發展的擬議批地條款中,有關天然山坡風險研究的要求,完成第一期挖土工程(根據已核准規劃申請編號A/TM-SKW/106進行)。與本申請相關的擬議挖土工程目的是進一步蒐集更多地質和泥土參數,以支持天然山坡山泥傾風險緩減工程的深化設計。
- 城規會先前已就位於相同「綠化地帶」內作同類挖土工程的申請批出 規劃許可(規劃申請編號 A/TM-SKW/106)·因此本申請不會成為不良 先例;

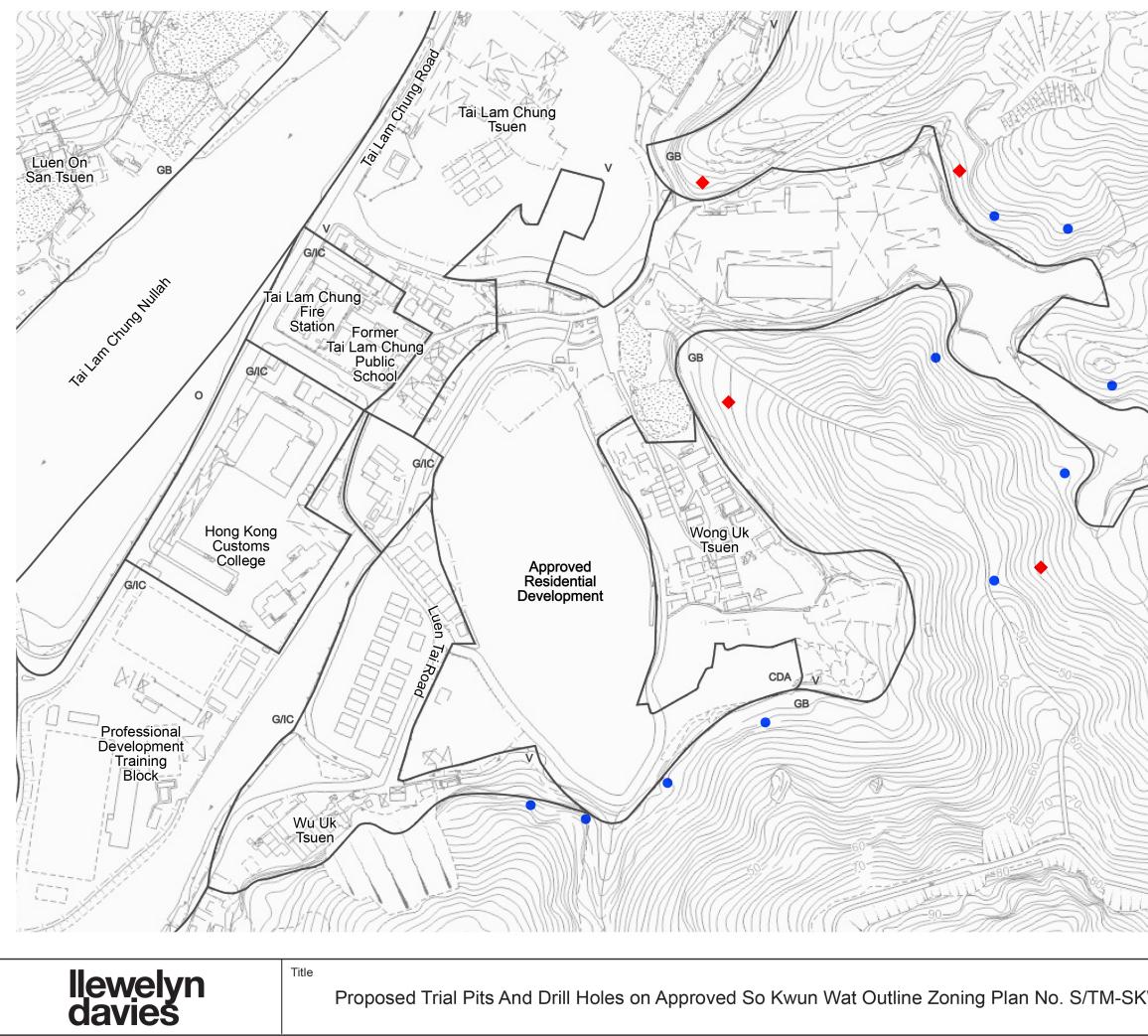
- 擬議挖土工程有其必要性,且不會對山坡穩定性造成不良影響(相反地, 擬議土地勘測是為了確保山坡安全),因此符合城市規劃委員會規劃指引(規劃指引編號10)訂定的發展限制;以及
- 擬議發展項目對樹木、生態、環境和交通方面均不會造成負面影響。

基於以上發展理據及規劃增益,現懇請城規會接納是次規劃申請。

SUPPLEMENTARY PLANNING STATEMENT

1 PURPOSE OF SUBMISSION

- 1.1 This planning application is submitted to seek permission from the Town Planning Board (the Board) in support of proposed excavation of land in "Green Belt" ("GB") zone on the Approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/15 on Government Land in Tai Lam Chung, Tuen Mun (hereafter referred to as the "Application Site") under Section 16 (S16) of the Town Planning Ordinance (the Ordinance) (CAP. 131).
- 1.2 The proposed excavation of land is for Ground Investigation (GI) works for a Natural Terrain Hazard Study (NTHS) of an approved residential development (under Application No. A/TM-SKW/32-1) at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417) in the vicinity. According to the relevant special condition (SC) under the draft Land Grant of Tuen Mun Town Lot No. 417, the Applicant is required to conduct GI for the purpose of studying the potential natural terrain landslide and boulder fall hazards. Therefore, the proposed excavation of land for GI works under the subject planning application is essential and for the fulfilment of relevant SC under the draft Land Grant.
- 1.3 The Application Site falls within an area zoned "GB", whereas the approved residential development is located in the adjacent "Comprehensive Development Area" ("CDA") zone on the Approved So Kwun Wat OZP No. S/TM-SKW/15 (Figure 1). The Application Site comprises 13 drill holes, each with a temporary working platform of size 4m (L) x 4m (W), and 4 trial pits, each with a size 1.5m (L) x 3m (W) including works area. In total, the area of the Application Site is approximately 226m².
- 1.4 According to the Notes for the "GB" zone, excavation of land, including that to effect the uses or developments as specified in Columns 1 and 2 or the uses and developments always permitted under the covering Notes, requires permission from the Board. In view of the above, a S16 application seeking the permission from the Board is required for the proposed excavation of land (for GI works for approved residential development under Application No. A/TM-SKW/32-1).



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2 PROPOSAL OF GROUND INVESTIGATION

2.1 Background

- 2.1.1 The proposed GI works for the NTHS of the approved residential development (Planning Application No. A/TM-SKW/32-1) aims to assess the slope stability of the approved residential site at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417) located in Tai Lam Chung Valley to the south of Tai Lam Chung Reservoir Main Dam.
- 2.1.2 Situated at the foot of hillslopes zoned "GB" to its immediate north and east, the residential site, together with the existing institutional buildings such as the Tai Lam Chung Fire Station and recognised villages in close vicinity to the residential site, may be affected by landslide and boulder fall hazards¹ arising in the area.



Natural Terrain facing Tai Lam Chung Valley

¹ Boulder falls is one of the most common types of natural terrain landslide in Hong Kong.

2.1.3 Hence, it is important to carry out GI works for the purpose of studying the natural terrain landslide and boulder fall hazards including the assessment of slope stability and any necessary mitigation / stabilisation works to protect any buildings and structures erected or to be erected on the approved residential site, as well as the existing developments in the vicinity, and the residents and occupiers therein and their bona fide guests, visitors and invitees from the hazards.

<u>Natural Terrain Hazard Study (NTHS) Requirement of Special Condition (SC) under</u> <u>Draft Land Grant for Approved Residential Development</u>

- 2.1.4 Prior to the commencement of the aforementioned approved residential development, it is necessary to carry out an assessment of slope stability as the approved residential housing site is in close vicinity of a slope. Based on the findings of the proposed GI works, the stability of slope can be assessed to see if any slope upgrading works will be required.
- 2.1.5 Under the Provisional Basic Terms Offer (PBTO) of the draft Land Grant presented in District Lands Conference on 7 July 2022, the extent of the study area (i.e. natural terrain catchment) for the Applicant to carry out a geotechnical investigation (under SC 71(b) of the draft Land Grant) on the natural terrain has been defined (green line in **Figure 2a** refers). GI works in forms of drill holes and trial pits would be required to study the underground geology profile for the NTHS.
- 2.1.6 The purpose of trial pits are to gather shallow soil / geological properties and parameter (such as fill depth and soil density) whereas drill holes are to gather deep soil / geological properties (such as soil parameters and rock head level).

Previous GI Works (approved under Planning Application No. A/TM-SKW/106)

2.1.7 A similar planning application for proposed excavation of land in the same "GB" zone was submitted by the current Applicant in 2020, which was to facilitate the first stage of GI works for NTHS in accordance with the SC under PBTO of the new lot. Covering a slightly larger site area of about 346.5m², a total of 32 drill holes and 13 trial pits were proposed under the previous planning application. As compared with the current application, most of the drill holes and trial pits were located farther from the approved residential development and scattered in the adjacent hillslopes. The planning application was approved by the Board on 15 September 2020. Please refer to Appendix A for the locations of drill holes and trial pits under the approved planning

application.

2.1.8 Subsequent to the approval of the planning application, the relevant GI works have been carried out. An associated NTHS Report which included the result of the completed GI works and recommendations was prepared. That NTHS Report has been submitted to the Buildings Department (BD) and Geotechnical Engineering Office of Civil Engineering and Development Department (GEO, CEDD) in November 2023. GEO, CEDD indicated no further geotechnical comments on the report in April 2024 (Appendix B refers).

Need for Further GI Works

2.1.9 As indicated in the abovementioned NTHS Report, it is recommended that additional GI works are necessary in order to obtain more thorough information on the geological profile and soil parameters to facilitate detailed design of Natural Terrain Hazard Mitigation Works and subsequent submission to BD and GEO, CEDD in future. Accordingly, the current planning application for proposed excavation of land for GI works, in addition to those already implemented under Application No. A/TM-SKW/106, is submitted.

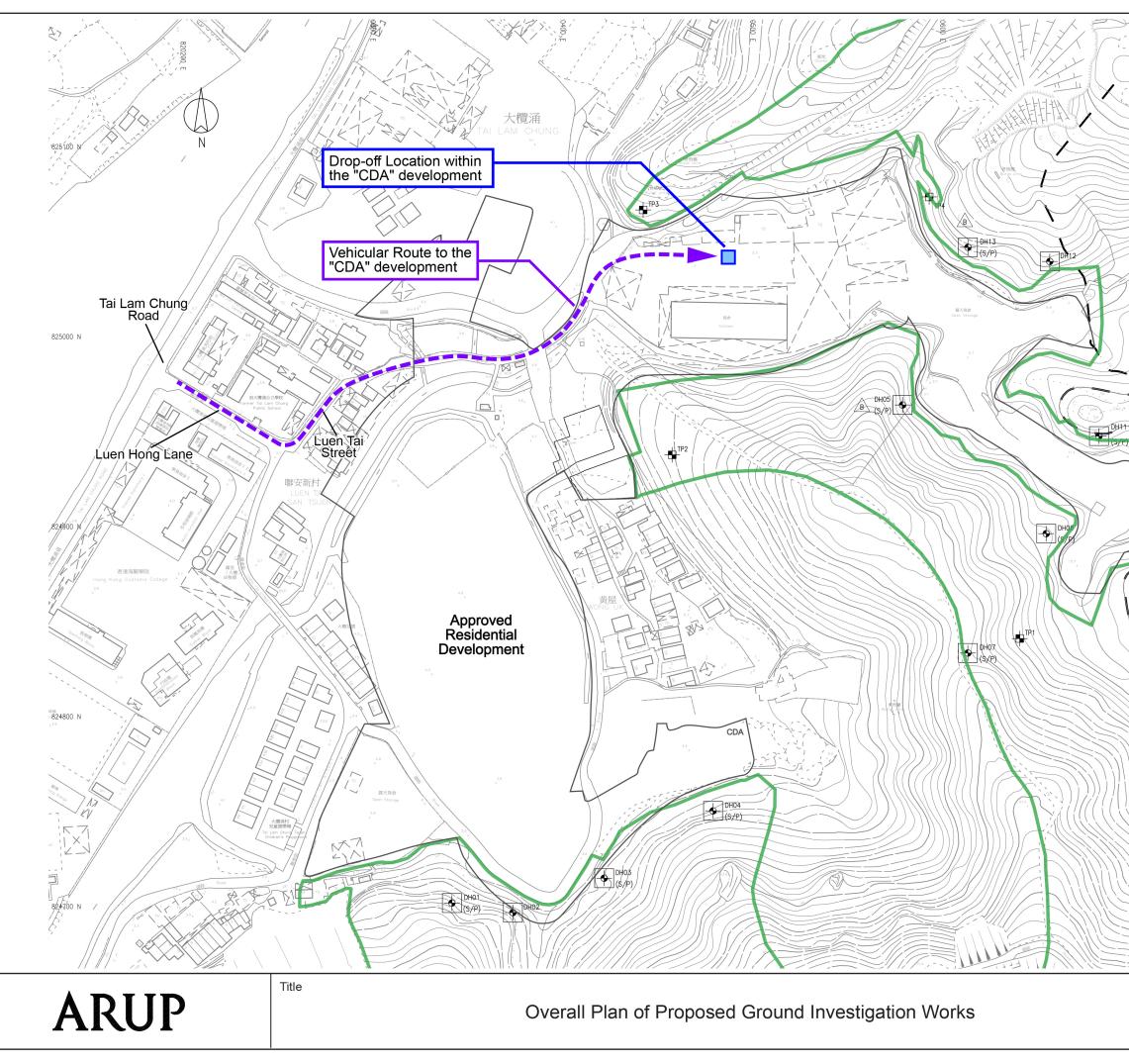
2.2 Proposed GI Works under Current Application

Proposed GI Works

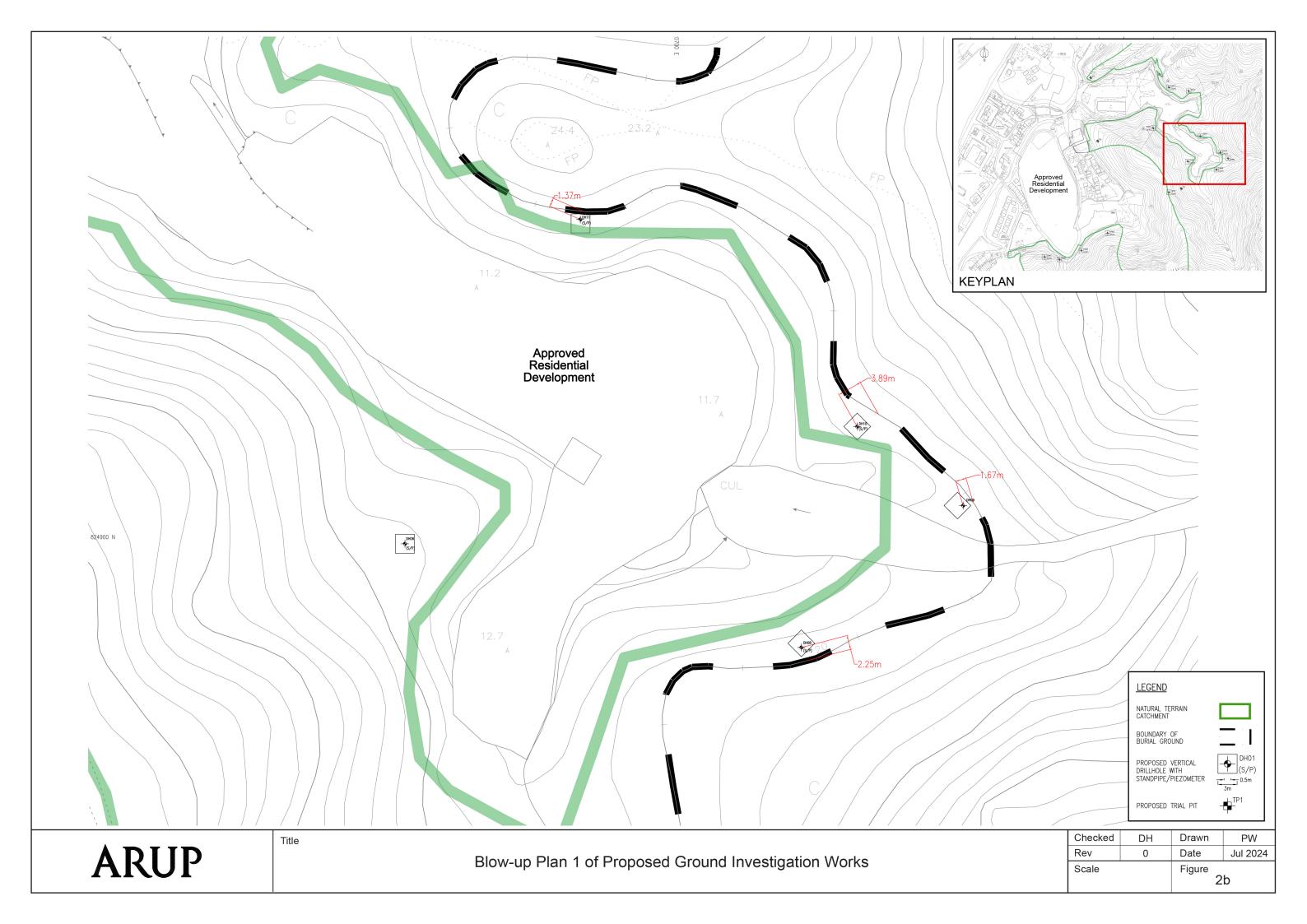
- 2.2.1 This proposal entails a total of 13 drill holes. For protection of the vegetated slopes, temporary bamboo and metal working platforms for the drill holes will be formed with size 4m x 4m and with least disturbance to the surrounding environment (**Appendix C** refers). The size of each drill hole is 150mm in diameter which will be drilled into the ground about 25m deep. A drilling rig along with drilling rods, samplers and casings are required, as well as water tanks and water pump for the drilling fluid. These equipment will be mobilized on the temporary platform for setting up.
- 2.2.2 A total of 4 trial pits with size 1.5m(L) x 3m(L) x 3m(D) will be carried out by man power using only hand tools. For a typical trial pit, the duration of works which include excavation using only hand tools with timber planking, taking soil samples and backfill lasts for approximately 3 days. Multiple trial pits can be dug simultaneously. Detailed method statement of the works will be submitted to relevant Government departments for comments and approval before commencement.
- 2.2.3 The total site area involved is about 226m², including the drill holes and trial pits, as well as the related temporary working platforms. The location of proposed drill holes and trial pits are shown in **Figures 2a 2c**.

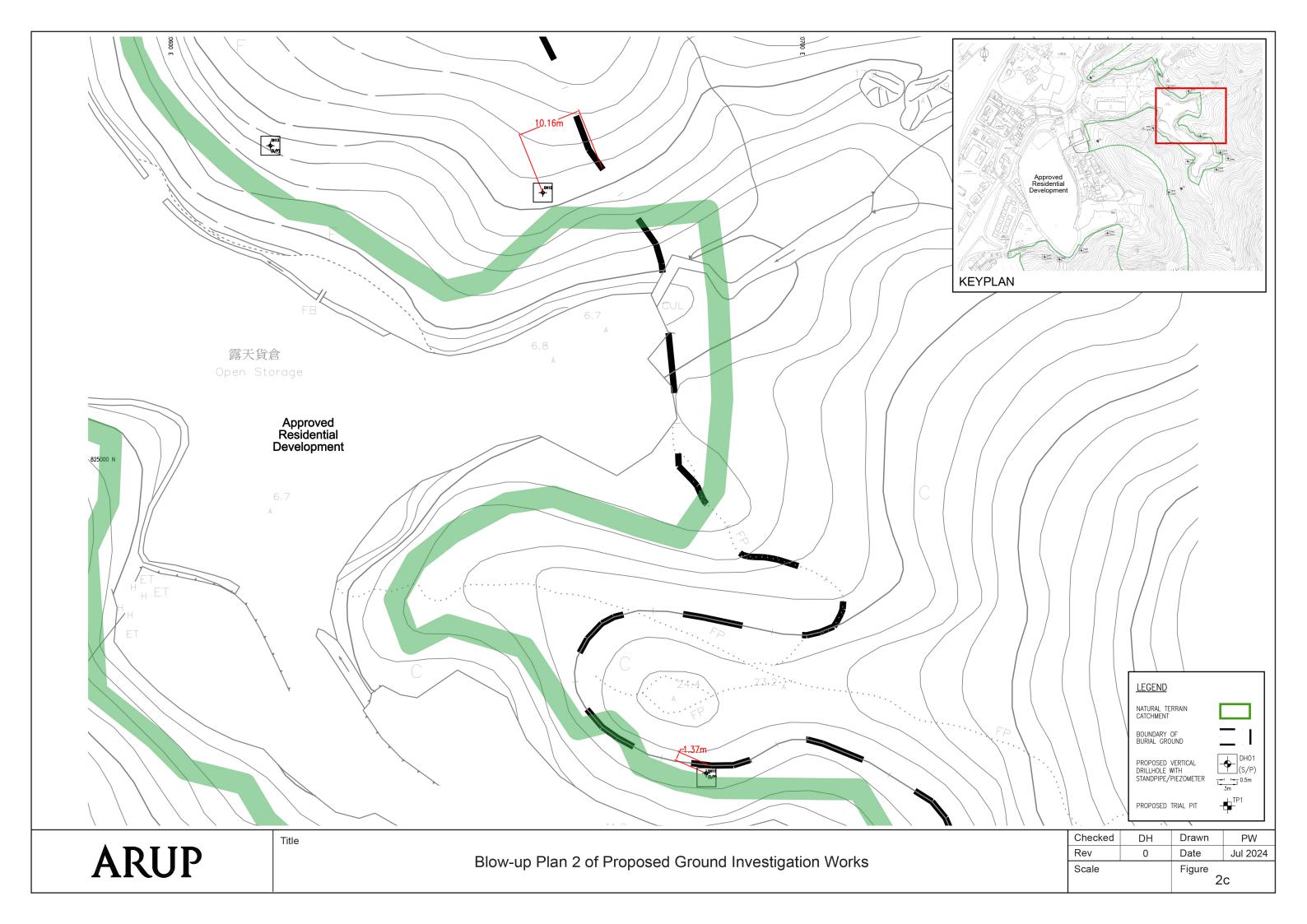
Existing Permitted Burial Ground Site and Felling of Trees Avoided

- 2.2.4 In determining the location of the proposed drill holes and trial pits, the boundary of Permitted Burial Ground Site No. BURGD16 located in the vicinity of the Application Site has also been taken into account. All drill holes and trial pits would not fall within the Permitted Burial Ground to avoid potential adverse impacts on the subject Burial Ground. Figures 2b & 2c show the separation distance between the Permitted Burial Ground and the nearby drill holes and trial pits.
- 2.2.5 The exact location and extent of drill holes and trial pits would be adjusted based on ecological field observations to avoid or minimize any potential ecological impacts to the existing trees found on site. No tree felling will be involved in the proposed GI works, minor vegetation clearing and trimming may be required at the work platforms and on access paths depending on the site conditions.



Tentative Coordinates							
for Ground Investigation							
	GI MAF		ΓING (m)		IING (m)		
	DH01 (S		344.840		5.320		
	DH02		376.970		0.270		
	DH03 (S	/P) 8204	425.000	82471	8.390		
	DH04 (S	/P) 8204	482.363	82475	53.846		
×	DH05 (S		582.184	82496	67.556		
6	DH06 (S		657.840		9.800		
OG	DH07 (S		616.590		6.950		
\sim	DH08 (S DH09		720.590 746.195		3.390 5.859		
\mathcal{D}	DH09 DH10 (S		729.430		8.373		
	DH11 (S	,	385.604		51.159		
2//	DH12	,	359.730		3.090		
	DH13 (S		516.608		0.534		
	TP01		643.920	82484	4.580		
	TP02	8204	460.850	82494	1.290		
J)	TP03		445.570		0.230		
((TP04	820	596.231	82507	7.075		
	LEGEND NATURAL TERRAIN						
CATCHMENT BOUNDARY OF BURIAL GROUND							
PROPOSED VERTICAL DRILLHOLE WITH STANDPIPE/PIEZOMETER							
	PROPOSED TRIAL PIT						
Checked DH Drawn PW							
		Rev	0	Date	Jul 2024		
		Scale		Figure			
				2	а		





Operation Hours

2.2.6 As regards the operation hour, the proposed GI works will only be operated from 8 a.m. to 6 p.m. from Monday to Saturday. The proposed GI works will follow the requirements stipulated in the relevant regulations and technical guidance notes. It is anticipated that the entire GI works will be carried out for 6 months.

Good Site Practices and Safety Measures

- 2.2.7 Good site practices will be adopted during the course of GI works, for example guidelines detailed in the ProPECC PN 1/94 'Construction Site Drainage' and 'Appendix 4.20: Guidelines on Planning and Implementation of Ground Investigation Projects in Ecologically Sensitive Areas' of the Project Administration Handbook for Civil Engineering Works will be followed.
- 2.2.8 Tarpaulin sheeting will be provided to cover up exposed and excavated earth to prevent washout. The working areas will be fenced off by metal railing during non-operation hours to prevent passer-bys from being trapped by the trial pits and drill holes during the GI works. Please refer to **Appendix C** for on-site photos taken from other work sites for similar GI works on vegetated slopes for reference.

Reinstatement

- 2.2.9 All drills holes and trial pits will be reinstated within seven days after completion of the GI works and will be inspected by Qualified Geologists. For drill holes, the empty borehole will be backfilled with grout upon completion, while the trial pits will be backfilled and compacted with the excavated materials. The Guide to Site Investigation (Geoguide 2) will be followed at reinstatement stage.
- 2.2.10 In situation where vegetated areas such as shrubs are inevitably affected, reinstatement of vegetation would be carried out at the concerned locations. Like-for-like species vegetation would be replanted, for instance, "shrubs" species as recommended in Table E4 of GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes (2011) by GEO upon the completion of the proposed GI works.

2.2.11 The reinstatement works (including the proposed GI works, excavation, erection of work platforms and access routes) will be carried out in accordance to the latest edition of "General Specification for Civil Engineering Works" together with the relevant corrigendum.

3 TECHNICAL CONSIDERATIONS

3.1 <u>Ecological Considerations</u>

- 3.1.1 In view that the Application Site is located in "GB" zone and on the lower hillslope area to the east of Tai Lam Chung River and away from Tai Lam Country Park, an Ecological Inspection Report has been prepared to assess the potential ecological impact and suggest mitigation measures to be adopted for the proposed GI works.
- 3.1.2 Based on the assessment results, with various mitigation measures proposed as well as strict adherence to relevant statutory requirements and guidelines, the potential impact on flora and fauna species, natural habitat and vegetation associated with the proposed GI works is anticipated to be low. Please refer to **Appendix D** for details.

3.2 <u>Environmental Considerations</u>

- 3.2.1 While carrying out the proposed works, Air Pollution Control Ordinance (APCO) and its subsidiary regulations including Air Pollution Control (Construction Dust) Regulation and Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will be strictly followed. Dust control measures as stipulated in the Regulation including but not limited to the followings would be implemented:
 - using low sulphur gasoline
 - covering dusty material stockpiles with tarpaulin sheet
 - carrying routine maintenance for the machinery on site
 - monitoring the emission levels of the machinery
- 3.2.2 The proposed GI works will only involve small scale machineries. Operation from these machineries would be in compliance with Air Pollution Ordinance. Moreover, the works would be implemented in compliance with the requirements and standards set out by relevant authorities. Therefore, no adverse air impact would be anticipated.
- 3.2.3 The diameter of drill holes is less than 150mm and the drill holes will be backfilled as soon as possible after sampling. Hence, no adverse water quality impacts on groundwater from the proposed GI works would be anticipated. Furthermore, Water Pollution Control Ordinance and its Technical Memorandum and ProPECC PN 1/94 "Construction Site Drainage" would be strictly followed for the effluent discharge from the proposed works.

3.2.4 Prevailing guidelines and legislative requirements on waste management issues arising from the proposed works would be observed and complied with.

3.3 <u>Traffic Consideration</u>

- 3.3.1 As the proposed GI works are in support of the approved residential development (Planning Application No. A/TM-SKW/32-1), the workers would make use of the public road named Tai Lam Chung Road, then turn into Luen Hong Lane and move northwards to Luen Tai Street before entering the approved residential development. The workers can park their vehicles and unload necessary hand-held tools at the site of the approved residential development, and then carrying the tools to the proposed trial pits / drill holes on foot. Please refer to the indicative access route in **Figure 2a**.
- 3.3.2 A maximum of 3 nos. of light vehicles carrying workers would enter the approved residential development at 8 a.m. and would leave the area at 6 p.m. from Monday to Saturday.
- 3.3.3 The proposed GI works, which is small-scale and temporary in nature, does not involve any developments and the workers involved in the proposed GI works would carry hand-held tools to access to the proposed location of trial pits / drill holes on foot. Hence, no adverse impact on the nearby road network would be anticipated.

4 JUSTIFICATIONS OF PROPOSED GROUND INVESTIGATION WORKS

4.1 Genuine Need for Ground Investigation Works to Assess the Stability of Slope

- 4.1.1 This planning application supports the NTHS of the approved residential development (Planning Application No. A/TM-SKW/32-1) at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417). Prior to the construction of the approved residential development, it is of vital importance to carry out an assessment of slope stability as the approved residential site is in close vicinity of a slope. In addition to the approved residential development, with GI works undertaken, public safety in the surrounding area including the nearby existing Tai Lam Chung Fire Station and recognised villages can be ensured.
- 4.1.2 Since the proposed GI works, as mentioned previously, are in fact under the NTHS as required under PBTO of the draft Land Grant of the approved residential development, the implementation of proposed GI works in the area is indeed necessary and required by relevant Government departments.

4.2 Proposed Ground Investigation Works under Subject Application for Detailed Design of Appropriate Hazard Mitigation Works

4.2.1 As mentioned in previous sections, the Applicant is required to carry out NTHS to assess the stability of slope in this area. In fact, the Applicant has duly completed the first round of GI works (approved under Application No. A/TM-SKW/106) under the NTHS as required under the draft land grant of the approved residential development, and relevant report has already been submitted to and acknowledged by relevant departments. This round of GI works as proposed under the subject planning application is to gather additional information on the geological profile and soil parameters for detailed design of appropriate hazard mitigation works.

4.3 In Line with the Previous Decision of the Board for Similar Application for GI Works in the Same "GB" Zone

4.3.1 The abovementioned planning application submitted by the same Applicant for excavation of land for GI works in the same "GB" zone (approved under Application No. A/TM-SKW/106) was approved by the Board on 15 September 2020 on the basis that:

- a) The proposed excavation of land for GI works in relation to an approved residential development to the west of the application site was not in conflict with the planning intention of "GB" zone;
- b) Only minor vegetation clearance and trimming might be required and the applicant would backfill the excavated area and reinstate the land with replanting with shrub species;
- c) The applicant had confirmed that no drill holes and trial pits within the application site would fall within the boundary of Tai Lam Country Park and Permitted Burial Ground; and
- d) No adverse department comment received on the application.
- 4.3.2 The current planning application proposes further GI works which are of similar nature to the previous planning approval and falls within the same "GB" zone as the approved Application No. A/TM-SKW/106. The site area involved under the current application (about 226m²) is also less than that under the approved Application No. A/TM-SKW/106 (about 346.5m²). With no change in planning circumstances, the current application should also warrant the same favourable consideration by the Board. The approval of the current application will not become an undesirable precedent.

4.4 Full Adherence to Town Planning Board Guidelines (TPB-PG NO.10)

- 4.4.1 The Application Site falls within the "GB" zone, the planning intention of which is to promote the conservation of the natural environment and to safeguard it from encroachment by urban-type developments. It is understood that there is a general presumption against development in "GB" zone. Hence, due consideration has been taken into account to minimize any adverse impacts on the "GB" zone.
- 4.4.2 According to Town Planning Board Guidelines (TPB-PG NO.10), the following assessment criteria are relevant to this subject planning application:
 - a) there is a general presumption against development (other than redevelopment) in "GB" zone. In general the Board will only be prepared to approve applications for development in the context of requests to rezone to an appropriate use;
 - b) an application for new development in "GB" zone will only be considered in exceptional circumstances and must be justified with very strong planning ground;
 - c) the design and layout of any proposed development should be compatible with the surrounding area. The development should not involve extensive clearance

of existing natural vegetation, affect the existing natural landscape, or cause any adverse visual impacts on the surrounding environment; and

- d) any proposed development on a slope or hillside should not adversely affect slope stability.
- 4.4.3 In view of the above criteria, it should be highlighted that the proposed GI works do not involve new developments, nor rezoning of uses in the "GB" zone, nor extensive clearance of any existing natural vegetation. Instead, the proposed GI works are intended to ensure slope stability and to carry out any slope stabilization works, if any, upon investigation. In this regard, this subject planning application is fully acceptable from planning point of view.

4.5 Acceptable Technical Terms

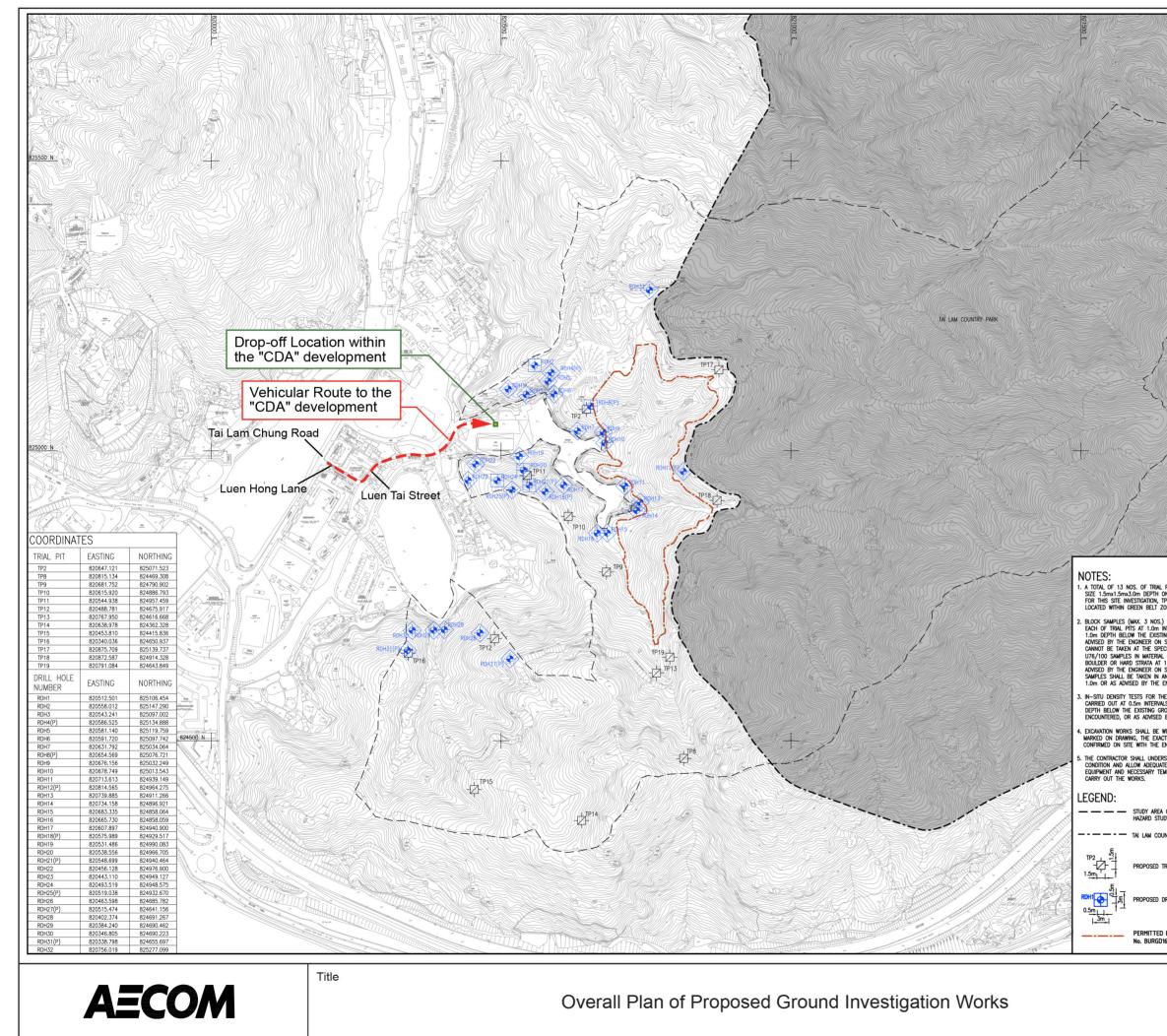
4.5.1 The proposed excavation of land is very small in scale with a total area of about 226m² only. It is temporary in nature with a works period of about 6 months. Only hand-tools with light machinery will be devised during the course of excavation work. All of the relevant good site practices, statutory requirements and regulations will be observed and strictly adhered to when carrying out the proposed GI works. In particular, the Ecological Inspection Report conducted has also concluded that the potential ecological impact associated with the proposed excavation works is considered to be low. Therefore, it is anticipated that the proposed excavation of land would be acceptable in vegetation, ecological, environmental and traffic terms.

5 CONCLUSION

5.1 In light of the supporting justifications presented above, the Board is cordially invited to consider this planning application favourably.

Appendix A

Location of Ground Investigation Works under Approved Planning Application No. A/TM-SKW/106



- PITS (TP2, TP8-TP19) OF ON PLAN ARE TO BE FORMED TI2 & TT8-TP19 ARE TO ALL AND AND AND AND AND AND AND AND TI2 & TT8-TP19 ARE TO ALL AND AND AND AND AND AND AND INTERNAS, COMMENCING AT SITE, TP8-TP19 ARE TO ALL AND AND AND AND AND INTERNAS, COMMENCING AT SITE, TP8-TP19 ARE SOLUTION AND		4		
a of Natural Terrain UDY				
UNTRY PARK BOUNDARY				
trial pit (total 13 nos.)				
DRILL HOLE (32 NOS.)				
d Burial Ground 116				
	Checked	DH	Drawn	PW
	Rev	0	Date	Aug 2020
	Scale		Figure	
			2	<u> </u>

Appendix B

Memo from Geotechnical Engineering Office of Civil Engineering and Development Department in April 2024 on Previous Natural Terrain Hazard Study

2024/04/11	11:41	(FAX)	P.0001/0001
		By Fax a	nd Despatch
	<u>_M</u>	EMO	
From	CGE/MW, GEO, CEDD	To CBS/	NTW,BD
Ref	/n MW-10-2010-4-9085/10	(Attn.:)
Tel .No		Your Ref. <u>(86)</u> inBI	0 2/9085/10(Pt.III)
Fax No		dated <u>12.1</u> 2.2023 Fax.	No.
Date	<u>10 April 2024</u>	Total Pages	1+Encl

Proposed Residential Development at Tai Lam Chung, Tuen Mun – TMTL 417

Submission of Natural Terrain Hazard Study (NTHS) Report

I refer to MUR enclosing the captioned NTHS report at $f(82)^1$ submitted under the RGE/RSE's letter ref. 293162/-0007-Let dated 17.11.2023. Subsequently, the AP/RSE/RGE's representative, Mr Stanley Lau of Ove Arup & Partners Hong Kong Ltd. sent me the revised hard copy of the captioned submission dated 6.3.2024.

<u>Recommendations</u> (to be transmitted to AP/RSE/RGE)

2. Please be informed that we have no further geotechnical comments to the revised report provided by the AP/RSE/RGE's representative on 6.3.2024.

3. Please request the AP/RSE/RGE to provide an extra signed hard copy of the revised report provided by the AP/RSE/RGE's representative on 6.3.2024, for our record.

<u>Comments</u> (not to be transmitted to AP/RSE/RGE)

4. Please note that the captioned submission has been agreed by our District Checking Panel on Natural Terrain Submissions dated 9.4.2024. Hence my recommendation in para.2 above.

5. Please copy your letter to the AP to GEO for record.

6. The report at $f(82)^{1}$ accompanying your referral, which was superseded, is returned herewith.



for Chief Geotechnical Engineer/Mainland West Geotechnical Engineering Office Civil Engineering and Development Department

Encl. c.c.	· · · · · ·			
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Appendix C

Reference Photos of On-site Works



Reference photos - For protection of the vegetated slopes, temporary bamboo and metal working platforms for the drill holes will be formed with least disturbance to the surrounding environment.

Appendix D Ecological Inspection Report



Host Duty Limited

S16 Planning Application for Proposed Excavation of Land for Ground Investigation Works for Natural Terrain Hazard Study at Government Land in Tai Lam Chung, Tuen Mun, New Territories

Ecological Inspection Report

	Name	Signature
Prepared & Checked:	Shirley Mak	
Reviewed & Approved:	Gigi Lam	

Version: 1

Date: 19 July 2024

Disclaimer

This report is prepared for Host Duty Limited and is given for its sole benefit in relation to and pursuant to S16 Planning Application for Proposed Excavation of Land for Ground Investigation Works for Natural Terrain Hazard Study at Government Land in Tai Lam Chung, Tuen Mun, New Territories and may not be disclosed to, quoted to or relied upon by any person other than Host Duty Limited without our prior written consent. No person (other than Host Duty Limited) into whose possession a copy of this report comes may rely on this report without our express written consent and Host Duty Limited may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd. 13/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong Tel: (852) 3922 9000 Fax: (852) 3922 9797 www.aecom.com

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1 INTRODUCTION

1.1 Background

- 1.1.1 This Ecological Inspection was carried out to support the Section 16 Planning Application for a proposed excavation of land in "Green Belt" zone for ground investigation (GI) works for a Natural Terrain Hazard Study (NTHS) at Government Land in Tai Lam Chung, Tuen Mun, New Territories. The proposed ground investigation works will commence in late 2024/early 2025 and be carried out for about six months.
- 1.1.2 The total works area of the works areas of trial pits (TP), works platforms of drill holes (DH), single row steel access ladder (AL) and double row steel AL is approximately 1,480 m², which falls within a "Green Belt" (GB) under the approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 (TPB, 2015). The area for proposed excavation of land under the subject application is only about 226m² which includes TP with works area and DH with works platform. The remaining area of about 1,254m² is included for providing access ladder to the proposed DH and TP with no excavation works involved. The western edge of the Natural Terrain Study Area is located next to Tai Lam Chung Tsuen and Wong Uk Tsuen (refer to **Drawing No. 60281828/GI/310**). Thirteen DHs and four TPs would be temporarily constructed within the NTHS Study Area with the excavation volume for TP and DH of approximately 55.5 m³. The DH and TP are proposed to be located at moderately vegetated areas.

Item	Nos.	Approximate Size	Approximate Area
Drill Hole (DH)	13	4.0 m x 4.0 m (Inclusive of the works platform)	208 m ²
<i>Trial Pit</i> (TP)	4	1.5 m x 3.0 m (Inclusive of the works area)	18 m ²
Single Row Steel Access Ladder	-	95 m x 1.2 m	114 m ²
Double Row Steel Access Ladder	-	570 m x 2 m	1,140 m ²
		Total	1,480 m ²

Table 1.1 The Breakdown of Works Area within the Ecological Assessment Area

- 1.1.3 For protection of the vegetated slopes, temporary bamboo and metal works platforms for DH will be formed with size 4 m x 4 m and with least disturbance to the surrounding environment. The size of the DH is 150 mm in diameter which will be drilled into the ground about 25 m deep. The drill rigs, generator, water tank and other equipment will be mobilized on the temporary platform for setting up. Excavation works for the proposed TP with size 1.5 m(L) x 1.5 m(L) x 3 m(D) will be carried out by man power using only hand tools, and works area of 1.5 m x 3 m will be reserved for each TP. The proposed locations of DH and TP would be adjusted based on ecological field observations to avoid or minimize potential ecological impacts to the existing trees found on site. No tree felling will be involved in the GI works, minor vegetation clearing and trimming may be required at the works areas, works platforms and along ALs depending on the site conditions. No haul road will be needed for access to the DHs and TPs. Proposed access will utilize existing roads and concrete area as much as practicable. Temporary single row steel AL or double row steel AL will be used for the transportation of workers, drill rigs and other equipment to the TPs and DHs. The maximum width of single row steel AL and double row steel AL is approximately 1.2 m and 2 m respectively, with an approximate length of 95 m and 570 m.
- 1.1.4 The DH and TP will be reinstated within seven days after completion of the GI works and will be inspected by qualified geologists. The reinstatement works will be carried out in accordance with *Guide to Site Investigation (Geoguide 2)* (CEDD, 2017).
- 1.1.5 The Study Area in this report represents the engineering study area of the GI works as shown in **Drawing No. 60281828/GI/310**. Whilst the NTHS Study Area covers a large area of well-

vegetated hillside terrain to the east of Tai Lam Chung, due to the small extent and scale of the proposed GI works, the Ecological Assessment Area for the ecological investigation was confined to the immediate surrounding (20m buffer) of the proposed DH and TP locations, temporary works platform and temporary access where direct and indirect impacts on ecological features are likely to occur from the GI works. Ecological Assessment Area refers to the area where ecological field survey has been undertaken around the location of DH and TP, temporary works platform and temporary access proposed to establish the ecological profile of the potentially impacted area (**Drawing Nos. 60281828/GI/311** to **314** refer). This report presents the results of the surveys conducted in May 2024, covering the habitat, vegetation and wildlife as described in the following sections.

2 ECOLOGICAL SURVEY METHODOLOGY

- 2.1.1 Relative abundance and growth forms of dominant and notable plant species were recorded at the Ecological Assessment Area. A flora list was generated to assist in habitat characterisation as well as to recognise plant species of conservation importance. The location of any plant species of conservation importance was recorded. Identification of flora species and status in Hong Kong was made with reference to Xing *et al.* (2000), Hu *et al.* (2003), Lai *et al.* (2008), Hong Kong Herbarium (2012), and Hong Kong Herbarium and South China Botanical Gardens (2007; 2008; 2009; 2011).
- 2.1.2 Wildlife including avifauna, herpetofauna, mammal, terrestrial insects (odonate, butterfly and fireflies) and freshwater fauna was surveyed both visually and aurally, in day-time and night-time. Active searching of potential habitats of herpetofauna and mammal habitats was undertaken, where accessible. Bat detector was deployed during night surveys to detect the presence of bat species. Any indirect sightings of terrestrial mammals such as droppings, footprints and burrows were recorded, if any. Camera traps were also set up to aide with the detection of terrestrial fauna.
- 2.1.3 Freshwater fish and invertebrate communities were surveyed through active searching and direct observation in watercourses that would likely be impacted by the proposed works within the Ecological Assessment Area. To avoid driving organisms (e.g. fish and shrimps) away, and avoid disturbing the bottom substrate, direct observation from a suitable distance was conducted before active searching and kick sampling. Boulders within the watercourse were turned over to locate any aquatic animals beneath. Hand net was used to collect organisms along the watercourse, and subsequently released following species identification. Organisms encountered were recorded and identified to the lowest possible taxon level.
- 2.1.4 For general distribution status of the species in Hong Kong, references were made to Fellowes et al. (2002) and the Hong Kong Biodiversity Information Hub (AFCD, 2022). For identification of specific fauna groups and assessment of their geographic distribution, the following resources were used: avifauna Carey et al. (2001) and Viney et al. (2005); odonates –Tam et al. (2011) and Reels (2019); butterflies Lo & Hui (2010) and Chan et al. (2012); fireflies Yiu (2020); amphibians and reptiles Chan et al. (2005) and Chan et al. (2006); terrestrial mammals Shek (2006); freshwater fish and invertebrate communities Lee et al. (2004) and Dudgeon (2003).

3 ECOLOGICAL PROFILE

3.1 Site of Conservation Importance

Country Park

3.1.1 Tai Lam Country Park (TLCP) is located at the east of the Natural Terrain Study Area (**Drawing No. 60281828/GI/310** refers). The Ecological Assessment Area falls completely outside TLCP and the nearest works area (i.e. the works platform of DH08) is over 100 m away from TLCP.

- 3.1.2 Designated in 1979, TLCP is the second largest country park in the territory, covering 5,412 hectares of natural terrain and housing seven reservoirs and settlement basins in Western New Territories. Through expansive efforts in afforestation work which allowed the once barren land to be colonised by vegetation, TLCP now harbours a high diversity of flora species, with a mix of common plantation species (e.g. *Acacia confusa, Lophostemon confertus, Pinus massoniana* and *Pinus elliottii*) and native species (e.g. Oak and Machilus species and *Castanopsis fissa*) (AFCD, 2023).
- 3.1.3 The Country Park is also home to a number of species of conservation importance across different animal groups, including Chinese Pangolin (*Manis pentadactyla*), Leopard Cat (*Prionailurus bengalensis*), Hong Kong Cascade Frog (*Amolops hongkongensis*), Chinese Cobra (*Naja atra*) and Rice Fish (*Oryzias curvinotus*) (AFCD, 2023).

3.2 Habitat/Vegetation

- 3.2.1 Due to the small extent and scale of the proposed GI works, the Ecological Assessment Area for the ecological investigation was confined to the immediate surrounding of the proposed DH and TP locations, works platforms and temporary access where direct and indirect impacts on ecological features are likely to occur from the GI works. The Ecological Assessment Area covers the west-facing lower hillslope that envelopes the open storage, Wong Uk Tsuen and Tai Lam Chung Tsuen, on the eastern side of Tai Lam Chung River. Photographs showing the locations of DH and TP are presented in **Appendix 1**.
- 3.2.2 Six major habitat types were recorded within the Ecological Assessment Area, which include other urban area, grassland, shrubland, woodland, modified watercourse and natural watercourse. The habitat map is presented in **Drawing Nos. 60281828/GI/311** to **314** and representative photographs of each recorded habitat are presented in **Appendix 1**.
- 3.2.3 A total of 167 flora species were recorded within the Ecological Assessment Area. A majority of which are common or very common in Hong Kong. Two flora species of conservation importance were recorded in the survey, all of which have a common and very common distribution in the territory. A complete list of recorded flora species is presented in Appendix
 2. The protection and distribution statuses and indicative location of the recorded flora species of conservation importance are respectively presented in Table 3.1 and Drawing No. 60281828/GI/311 to 314.

Species	Distribution in Hong Kong ⁽¹⁾	Protection Status	Habitat Recorded
Small Persimmon (Diospyros vaccinioides)	Common	Endangered ⁽²⁾ ; Critically Endangered ⁽³⁾	Woodland
Emarginate-leaved Ormosia (<i>Ormosia emarginata</i>)	Common	Category II (4)	Woodland

 Table 3.1 The Protection and Distribution Statuses of Recorded Flora Species of Conservation

 Importance within the Ecological Assessment Area

Notes:

(1) Xing et al. (2000) Gymnosperms and Angiosperms of Hong Kong

(2) Qin et al. (2017) Threatened Species List of China's Higher Plants

(3) International Union for the Conservation of Nature (IUCŇ) (2024) Red List of Endangered Species (Ver. 2023.1)

(4) List of Wild Plants under State Protection (2021) (promulgated by the Ministry of Forestry)

Other Urban Area – Access

3.2.4 Other urban area made up a large proportion of the Ecological Assessment Area, predominantly comprising open storage areas, vehicular roads, road-side waste grounds, construction sites and single-storey village housings. Exotic weedy species such as *Bidens alba*, Gairo Morning Glory (*Ipomoea cairica*), *Wedelia trilobata* were commonly encountered, and the flora composition is generally low in diversity and abundance.

Woodland - DH01,03,04,05,08,10,11,12,13, TP2,3,4 & AL

- 3.2.5 Woodlands within the Ecological Assessment Area were mainly recorded on the hillside behind other urban area, and along watercourses. These woodlands were noted to be relatively undisturbed and exhibited moderate density, abundance and floristic diversity. A closed canopy formed mostly by Ivy Tree (*Schefflera heptaphylla*), Lance-leaved Sterculia (*Sterculia lanceolata*) and Prickly Ash (*Zanthoxylum avicennae*) stood approximately at 6-8 m in height. The shaded understorey was open and comprised of shrub and herb species such as Wild Coffee (*Psychotria asiatica*) and Desmos (*Desmos chinensis*). Native climbers and vines such as Sandpaper Vine (*Tetracera asiatica*), Snail Seed (*Cocculus orbiculatus*), Shiny-leaved Prickly Ash (*Zanthoxylum nitidum*) were also commonly recorded within these woodlands.
- 3.2.6 A total of two flora species of conservation importance were recorded within the woodland habitat, namely Small Persimmon and Emarginate-leaved Ormosia. Saplings and mature individuals of Small Persimmon were frequently encountered within woodland habitat during the survey, along the ALs and around the DH and TP works areas. High recruitment rate (i.e. large number of seedlings and saplings on ground) of Small Persimmon was also observed.
- 3.2.7 Four individuals were recorded to the east of the proposed works area of TP4. One individual was recorded to the southwest of the proposed works area of DH05. Four individuals were recorded to the west of the proposed access leading towards DH12. Four individuals were recorded to the north of the proposed access towards DH10 (Drawing No. 60281828/GI/312 refers). Six individuals of Small Persimmon were recorded along the proposed access towards DH04 (Drawing No. 60281828/GI/314 refers). Small Persimmon is categorized as critically endangered in the IUCN Red List of Threatened Species (IUCN, 2024) and listed as endangered in Threatened Species of China's Higher Plant (Qin *et al.*, 2017).
- 3.2.8 One mature individual of Emarginate-leaved Ormosia was recorded near the proposed works area of TP4 (**Drawing No. 60281828/GI/312** refers). This species is listed as Category II under List of Wild Plants under State Protection.

Shrubland – DH02, 07, 09, TP1, & AL

- 3.2.9 Shrublands within the Ecological Assessment Area were found on the hillside, connected to woodlands. The overall vegetation density and diversity were low in these shrublands. Typical shrubland species such as Slash Pine (*Pinus elliotti*), Oblong-leaved Litsea (*Litsea rotundifolia var. oblongifolia*), Hong Kong Gordonia (*Polyspora axillaris*) and Rose Myrtle (*Rhodomyrtus tomentosa*) were recorded while the groundcover was found to be covered with common herb species such as Dichotomy Forked Fern (*Dicranopteris pedata*), Dianella (*Dianella ensifolia*) and Chinese Silvergrass (*Miscanthus sinensis*).
- 3.2.10 Two individuals of Small Persimmon were recorded to the southeast of the proposed works area of DH09 (**Drawing No. 60281828/GI/313** refers).

Grassland – DH06, & AL

3.2.11 Grassland habitats within the Ecological Assessment Area were recorded as strip along a vehicular road and patch next to open storage area. The latter had likely undergone vegetation clearance recently. Floristic diversity in these grasslands was very low and dominated by a Dichotomy Forked Fern (*Dicranopteris pedata*). Common native shrub species Wild Coffee (*Psychotria asiatica*), Varied-leaf Fig (*Ficus variolosa*) and Hong Kong Gordonia (*Polyspora axillaris*) were found sparsely distributed in grassland habitats.

Modified Watercourse – AL

3.2.12 Modified watercourses within the Ecological Assessment Area were recorded running along the boundary of the open storage area and vehicular road. The banks and bed of these modified watercourses were lined with concrete. Due to its close proximity to the open storage, those running along the boundary of the open storage were found to be exposed to high degree of pollution (e.g. surface runoff, oil spills, construction waste and trash). The water was turbid

but odorless, with gentle to rapid flow. The water quality is ranked as fair to poor. The general flora diversity and abundance was low due to limited space for vegetation growth. Herb species such as Giant Alocasia (*Alocasia macrorrhizos*), Wood-fern (*Cyclosorus parasiticus*) and Snail Seed (*Cocculus orbiculatus*) were encountered.

Natural Watercourse – AL

3.2.13 Three natural watercourses (W1-3) were recorded within the Ecological Assessment Area. The natural watercourses W1, lower section of W2, and W3 have similar substrate such as sands and gravels. Gentle water flow and odorless water were observed. These watercourses were slightly shaded by the nearby woodland and with dense woodland riparian zone, herb species such as Wood-fern (*Cyclosorus parasiticus*) and Freshy Lady-fern (*Callipteris esculenta*) and native tree species such as Common Yellow Steg-fig (*Ficus fistulosa*) and Common Red-stem Fig (*Ficus variegata*) were commonly encountered. For the upper section of natural watercourse W2, the substrate composed of mainly boulders. Gentle and odorless waterflow was observed. Native climber species such as Wood Gossip Caesalpinia (*Caesalpinia crista*) and Little-leaved Rourea (*Rourea microphylla*) were commonly encountered. Native shrub species from riparian shrubland such as Rose Myrtle (*Rhodomyrtus tomentosa*) and Wild Coffee (*Psychotria asiatica*) were widely encountered. The outlets of all of the natural watercourses were located at the boundary of the open storage, where signs of human disturbance and pollution were observed. The water quality was ranked as good to fair for all three natural watercourses.

3.3 Wildlife

- 3.3.1 A total of 63 fauna species were recorded within the Ecological Assessment Area, including 13 avifauna, two mammal, 23 butterfly, eight odonate, seven amphibian, one reptile and nine freshwater fauna species. All fauna sightings were made outside the DH and TP works area. A majority of these recorded species are common and widespread in Hong Kong. A full list of fauna species recorded is given in **Appendix 3**.
- 3.3.2 A total of seven fauna species of conservation importance were recorded, including Black Kite (*Milvus migrans*), Chinese Hwamei (*Garrulax canorus*), Greater Coucal (*Centropus sinensis*), Red Muntjac (*Muntiacus vaginalis*), Unknown Vespertilionidae species 1, Plain Hedge Blue (*Celastrina lavendularis*) and Emerald Cascader (nymph) (*Zygonyx iris insignis*). The occurrence of Emerald Cascader (nymph) in the natural watercourse W2 between DH08, DH09 and DH10 indicates the watercourse is likely a breeding and nursery ground for this species. The protection and distribution statuses and indicative location of the recorded species of conservation importance are respectively presented in **Drawing Nos. 60281828/GI/311** to **314** and **Table 3.2**.

Species Distribution in Hong Kong ⁽¹⁾		Protection Status	Habitat Recorded
<u>Avifauna</u>			
Black Kite (<i>Milvus migrans</i>) ⁽⁷⁾	Common resident and winter visitor. Widely distributed in Hong Kong.	Cap. 170 ⁽²⁾ ; Cap. 586 ⁽³⁾ ; (RC) ⁽⁴⁾ ; Class II ⁽⁵⁾	In Flight
Chinese Hwamei (<i>Garrulax canorus</i>)	Common resident. Widely distributed in hillside shrubland throughout Hong Kong.	Cap. 170 ⁽²⁾ ; Cap. 586 ⁽³⁾ ; Class II ⁽⁵⁾	Woodland
Greater Coucal (Centropus sinensis)	Common resident. Widely distributed in Hong Kong.	Cap. 170 ⁽²⁾ ; Class II ⁽⁵⁾ , Vulnerable ⁽⁶⁾	Woodland
<u>Mammal</u>			
Red Muntjac (<i>Muntiacus vaginalis</i>)	Very widely distributed in countryside areas throughout Hong Kong	PRC ⁽⁴⁾	Shrubland

 Table 3.2 The Protection and Distribution Statuses of Recorded Fauna Species of Conservation

 Importance within the Ecological Assessment Area

Species	Distribution in Hong Kong ⁽¹⁾	Protection Status	Habitat Recorded	
Unknown Vespertilionidae species 1	-	Cap. 170 ⁽²⁾	Woodland	
Butterfly				
Plain Hedge Blue (<i>Celastrina lavendularis</i>)	Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan	LC ⁽⁴⁾	Woodland	
Freshwater Community				
Emerald Cascader (nymph) (<i>Zygonyx iris insignis</i>)	Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong; Widespread ⁽⁸⁾	PGC ⁽⁴⁾	Natural Watercourse	

Notes:

- (1) Agriculture, Fisheries and Conservation Department (AFCD) (2022) Hong Kong Biodiversity Information Hub
- (2) Protected under the Wild Animals Protection Ordinance (Cap. 170)
- (3) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)
- (4) Fellowes et al. (2002) Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong – LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC= Potential Globally Concern (letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.)
- (5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 2021)
- (6) Zheng, G. M. and Wang, Q. S. (1998). China Red Data Book. Aves.
- (7) Wetland-dependent species (including wed-dependent species and waterbirds)
- (8) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. Journal of the International Dragonfly Fund 30: 1-49.

4 DISCUSSION AND MITIGATION

4.1.1 A total of 13 DHs and 4 TPs are proposed as part of the GI works for NTHS at Government Land in Tai Lam Chung, Tuen Mun, New Territories. The works area is located within the GB at the lower hill slope area to the east of Tai Lam Chung River and away from the TLCP. Ecological surveys were undertaken to establish the ecological profile of the potentially impacted areas.

Impact to Site of Conservation Importance

4.1.2 Given the considerable distance from the DHs, TPs, proposed access, ALs, works areas and works platforms to the TLCP, no impact to recognized site of conservation importance is anticipated.

Impact to Flora Species of Conservation Importance, Natural Habitats and Vegetation

4.1.3 During the design stage, the extent, location and aspect of proposed GI works areas, were carefully selected and adjusted to avoid direct impact to vegetation, the recorded flora species of conservation importance and their root system. No tree felling would be required. Existing footpaths would be utilized as much as practicable thus limited vegetation clearance would take place and would be restricted to the proposed GI works areas, including the TPs, DHs, the associated works areas and works platforms, and ALs. Elevated AL would be adopted to minimize the impact to the vegetation and natural habitats by reducing the vegetation trimming areas and minimise shading effects to the vegetation clearance, and that most of flora species recorded within the Ecological Assessment Area are common or very common, the ecological impact of vegetation clearance would be minor. The direct impact to natural habitats and vegetation is anticipated to be minor and acceptable.

4.1.4 Two flora species of conservation importance were recorded within the Ecological Assessment Area, namely Small Persimmon and Emarginate-leaved Ormosia. Both of which are commonly distributed in Hong Kong. Moreover, plant protection zone with robust fencing of at least 1 m setback from stems of tree seedlings, and at least 1.5 m from mature trees would be established prior to the commencement of works. Protection measures recommended in 'Tree Management Practice Note No.1: Tree Preservation during Construction' (DEVB, 2019) and 'Technical Circular (Works) No. 4/2020 – Tree Preservation' (DEVB, 2020) will also be referenced to minimise disturbance and avoid physical damage to these flora of conservation importance and their root systems. With the recommended mitigation measures in place, the ecological impacts on mature trees and flora of conservation importance are anticipated to be minor.

Impact on Fauna Species of Conservation Importance and Other Wildlife

4.1.5 All fauna species sightings were made outside the proposed works area. Most fauna species recorded within the Ecological Assessment Area are widespread and common in Hong Kong. Seven fauna species of conservation importance were recorded, including three avifauna, two mammal, one butterfly, and one freshwater community species. There would be temporary disturbance impacts from minor noise and dust emission to the wildlife inhabiting the habitats during GI works due to the operation of mechanical equipment. Except the freshwater community species which may be restricted to watercourse habitats (further discussion refers to S.4.1.6 and 4.1.7), majority of the recorded fauna species within the Ecological Assessment Area are highly mobile. Given their commonness, high mobility, and the distance between their recorded location and the works area, the ecological impacts of the proposed GI works on the fauna species of conservation importance and wildlife are anticipated to be low in general.

Impact to Watercourses and Associated Fauna Species

- 4.1.6 A few DH are proposed in the vicinity of modified and natural watercourses. Modified watercourses sampled within the Ecological Assessment Area recorded low diversity and abundance of fauna species, which are common and widely distributed in Hong Kong. They are of very low ecological value due to the high degree of pollution and modification. Thus the potential ecological impact on modified watercourses is anticipated to be minor.
- Natural watercourses within the Ecological Assessment Area, although had good to fair water 4.1.7 quality, showed signs of human disturbance and pollution at the outlets due to their close proximity to other urban area. Only a small number of very common freshwater fauna species were recorded in this habitat, though the nymph of Emerald Cascader, a species of conservation importance, was found in the natural watercourse W2 between DH08, 09 and DH10. In general, proposed GI works near natural watercourses (i.e. DH01, 02, 08, 09 and DH10) were relocated further upslope to avoid potential impact to the natural watercourses. No foundations of the ALs would be located directly on the natural watercourse to avoid impact on the watercourse. Furthermore, precautionary measures (provided in ETWB TWC No. 5/2005 -Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works (ETWB, 2005)) should be undertaken so as to minimise water quality impact on the natural watercourses, such as carrying out the works during dry season, placing of sandbags or silt curtains, locating excavated materials away from watercourses and general good site practice. The guidelines detailed in the ProPECC PN 2/23 'Construction Site Drainage' should be followed to prevent excavated soil from entering the nullah through construction runoff and potentially affect the water quality (EPD, 2023). Given the temporary nature and small extent of the proposed GI works, and with the implementation of the recommended mitigation measures, potential water quality impact to the watercourses thus secondary impact to the species of conservation importance is anticipated to be low.
- 4.1.8 A summary of identified potential ecological impacts of the proposed GI works is presented in **Table 4.1**.

Table 4.1 A Summary of Identified Potential Ecological Impacts of the Proposed GI Works

DH and TP	Impact to Flora Species of Conservation Importance	Impact to Vegetation	Impact to Natural Watercourse and Associated Fauna
DH03, DH06, DH07, DH11, DH13, TP1, TP2, TP3		\checkmark	
DH04, DH05, DH12, TP4	\checkmark	\checkmark	
DH09, DH10	\checkmark	\checkmark	\checkmark
DH01, DH02, DH08		\checkmark	\checkmark

- 4.1.9 In addition, the contractors should strictly follow the guidelines provided in 'Appendix 4.20: Guidelines on Planning and Implementation of Ground Investigation Projects in Ecologically Sensitive Areas' of the Project Administration Handbook for Civil Engineering Works (CEDD, 2014). The temporary structures and construction materials should be removed, and the site should be reinstated to its original condition upon completion of GI works.
- 4.1.10 While the footprint of the proposed GI works is located within well-vegetated areas and in the vicinity of watercourses, due to the small extent and temporary nature of the works, as well as the commonness of the species recorded within, no unacceptable potential ecological impacts are anticipated to arise from the works.

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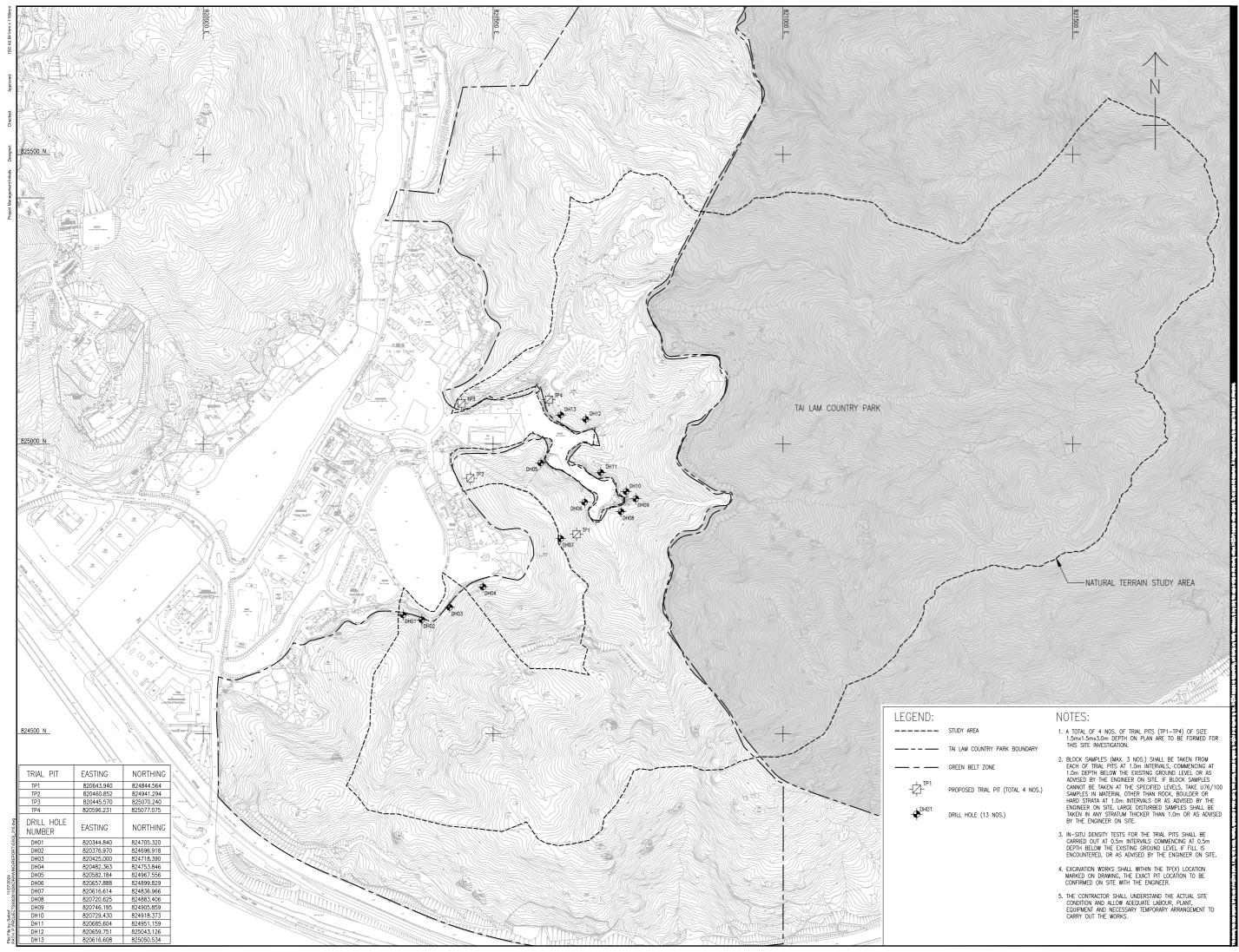
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Drawing No. 60281828/GI/310

Ground Investigation Plan



DEVELOPMENT AT TAI LAM CHUNG, TUEN MUN, NEW TERRITORIES

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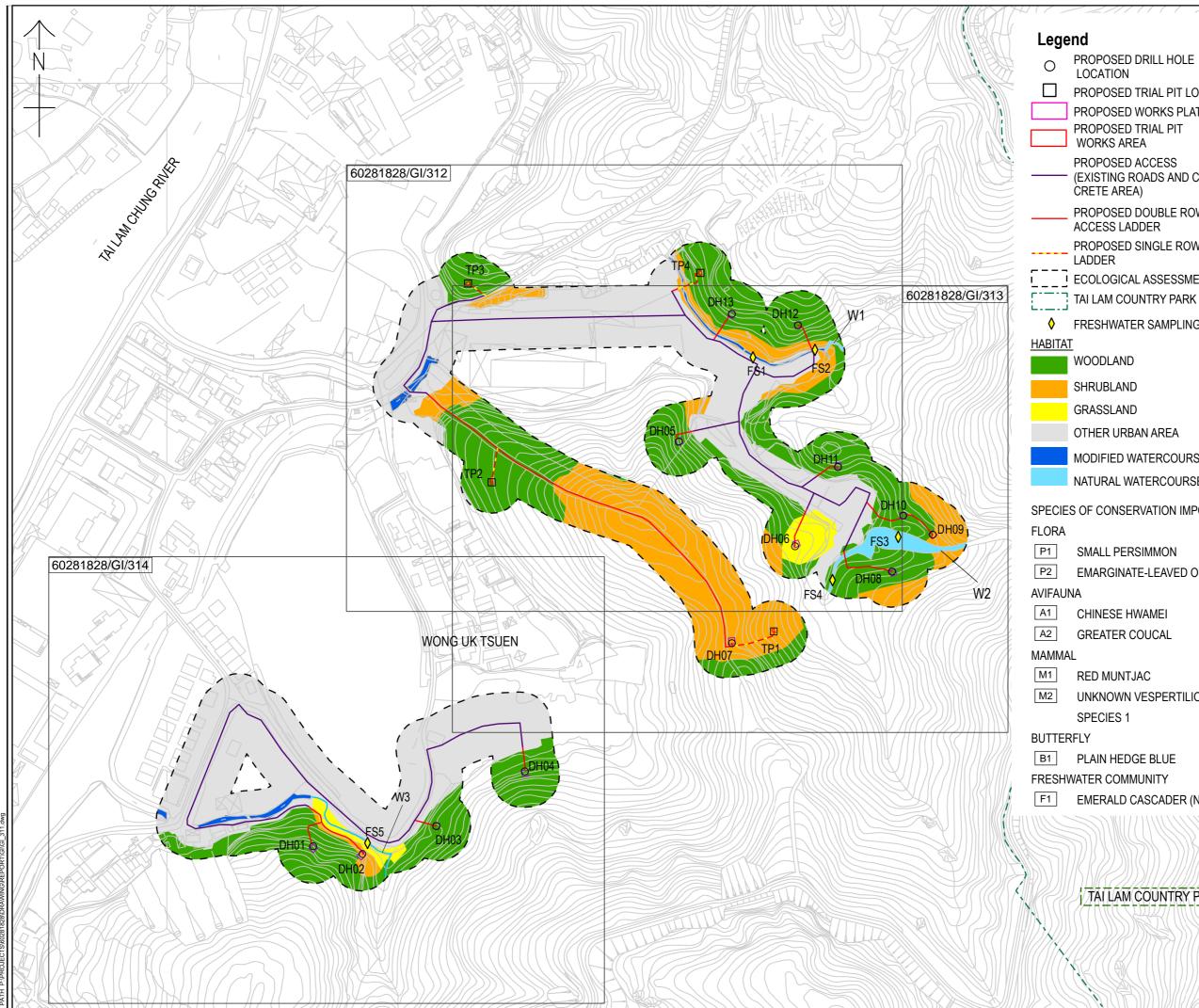
ECOLOGICAL SURVEY FOR GROUND INVESTIGATION

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Drawing No. 60281828/GI/311-314

Habitat Map



PROPOSED DRILL HOLE LOCATION PROPOSED TRIAL PIT LOCATION PROPOSED WORKS PLATFORM PROPOSED TRIAL PIT WORKS AREA PROPOSED ACCESS (EXISTING ROADS AND CON-CRETE AREA) PROPOSED DOUBLE ROW STEEL ACCESS LADDER PROPOSED SINGLE ROW STEEL LADDER ECOLOGICAL ASSESSMENT AREA

FRESHWATER SAMPLING POINT

WOODLAND

SHRUBLAND

GRASSLAND

OTHER URBAN AREA

MODIFIED WATERCOURSE

NATURAL WATERCOURSE

SPECIES OF CONSERVATION IMPORTANCE

SMALL PERSIMMON EMARGINATE-LEAVED ORMOSIA

CHINESE HWAMEI **GREATER COUCAL**

RED MUNTJAC UNKNOWN VESPERTILIONIDAE SPECIES 1 PLAIN HEDGE BLUE FRESHWATER COMMUNITY

EMERALD CASCADER (NYMPH)

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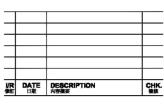


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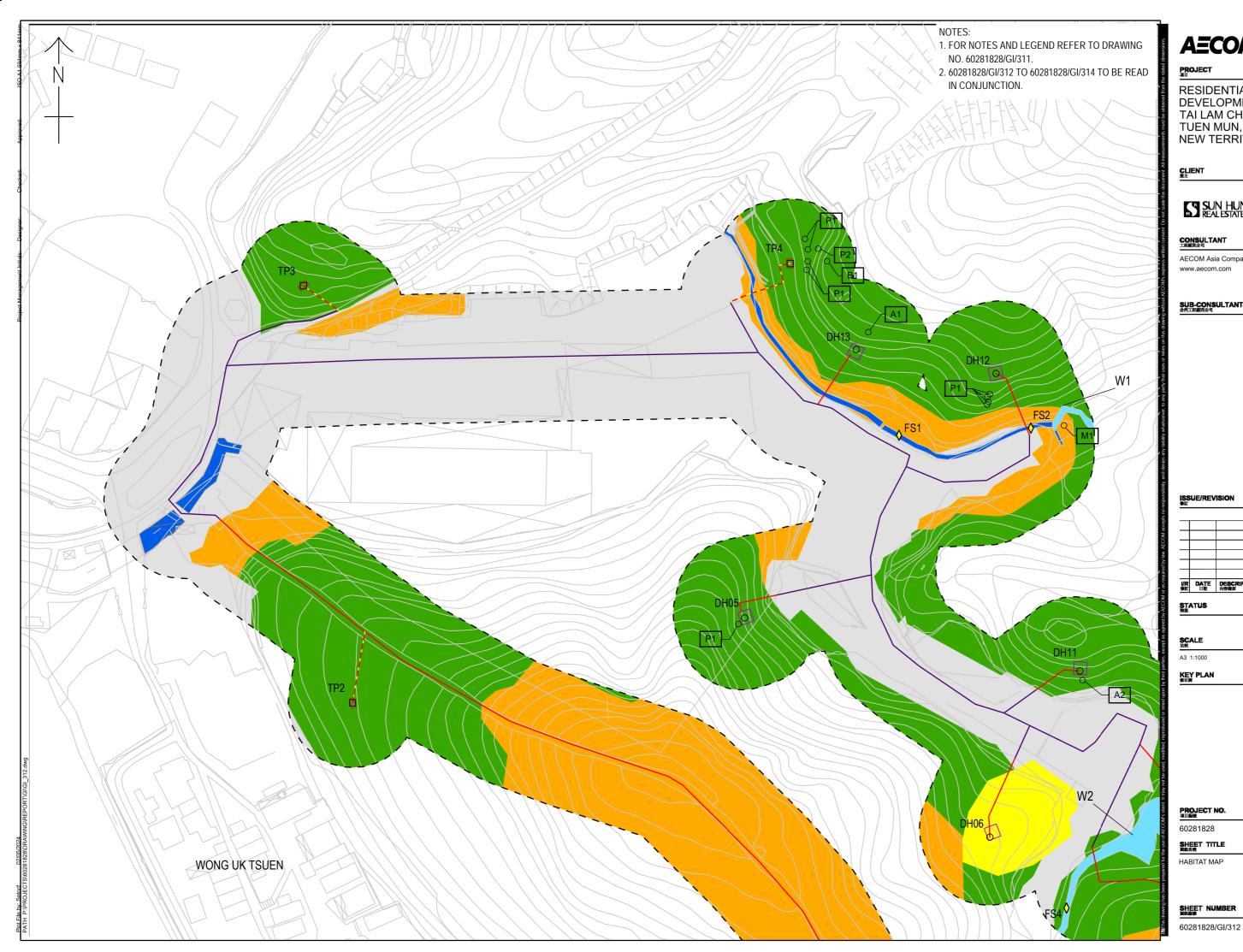
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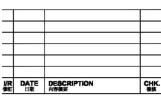


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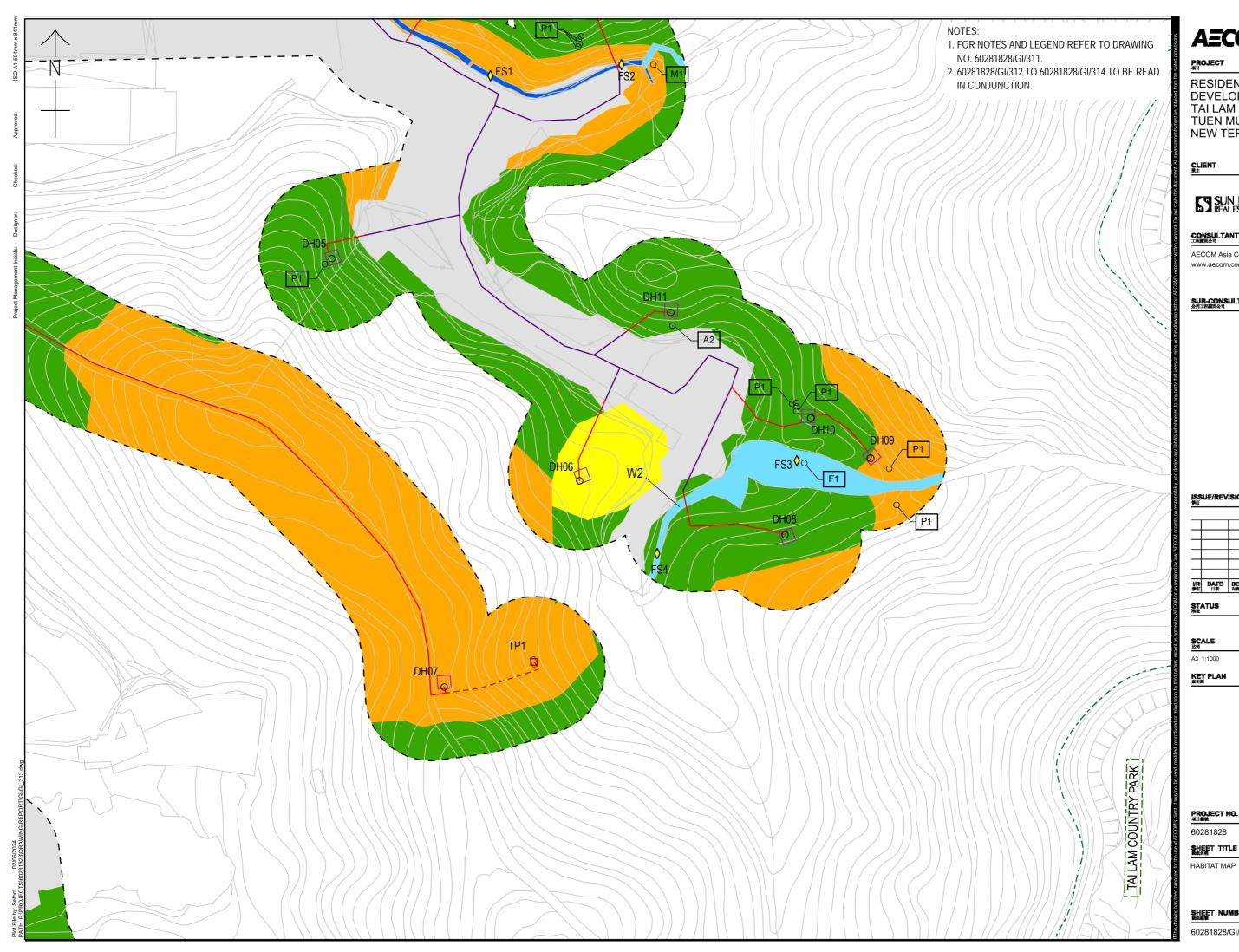
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PROJECT

RESIDENTIAL DEVELOPMENT AT TAI LAM CHUNG, TUEN MUN, NEW TERRITORIES

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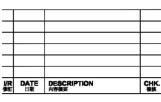


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SCALE 比例

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HABITAT MAP

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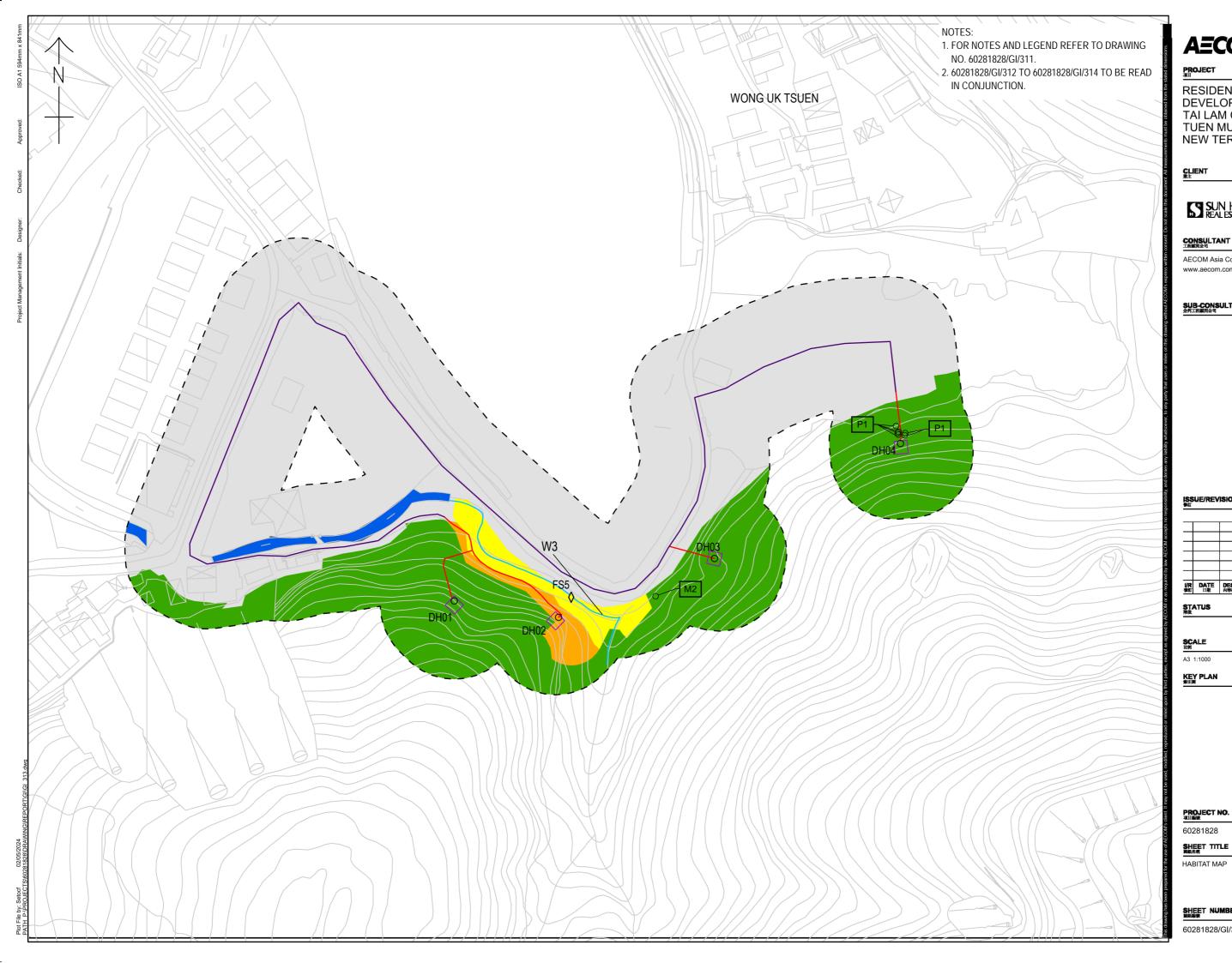
SHEET 2 OF 3

DIMENSION UNIT 尺寸單位

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60281828/GI/313





PROJECT

RESIDENTIAL DEVELOPMENT AT TAI LAM CHUNG, TUEN MUN, NEW TERRITORIES

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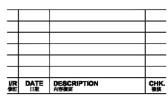


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STATUS

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HABITAT MAP

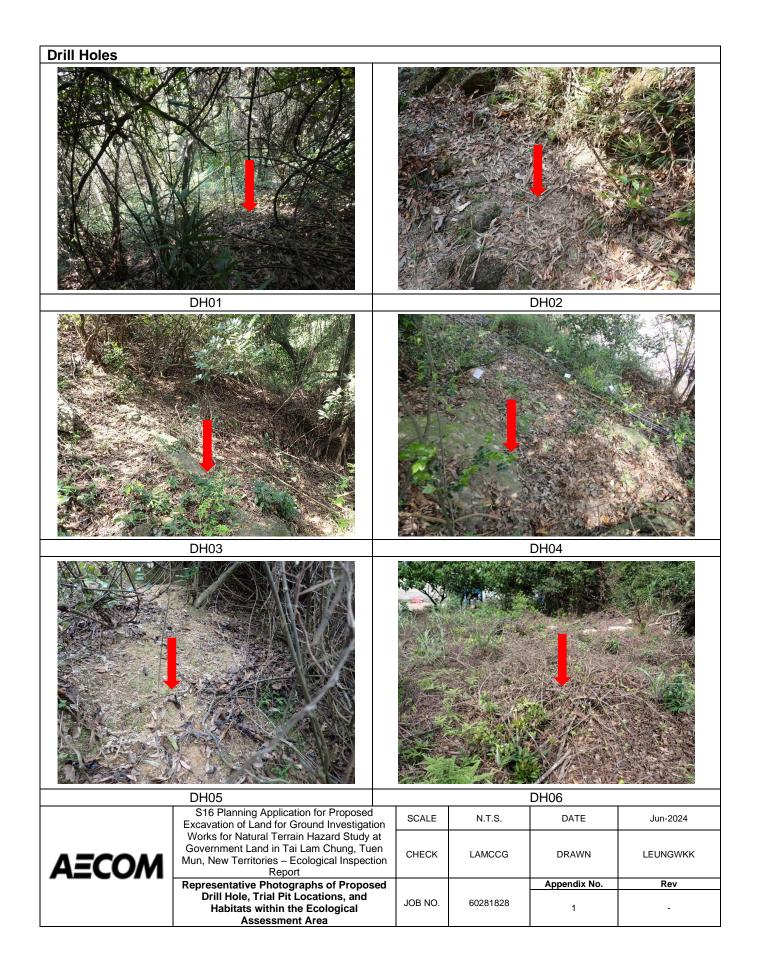
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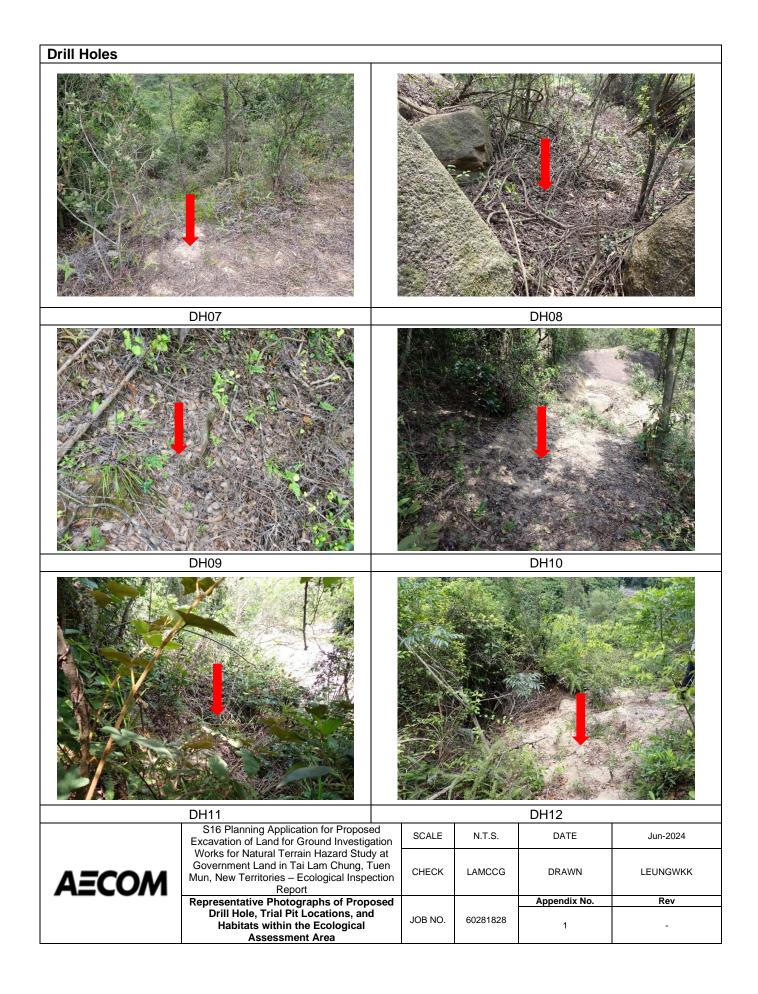
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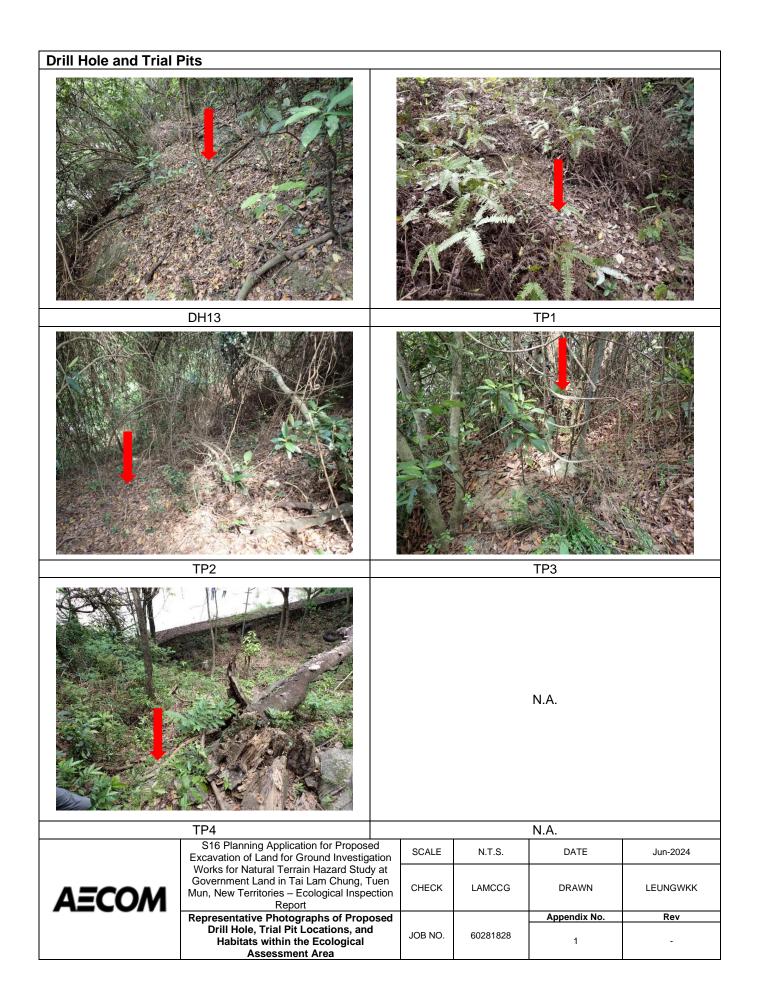
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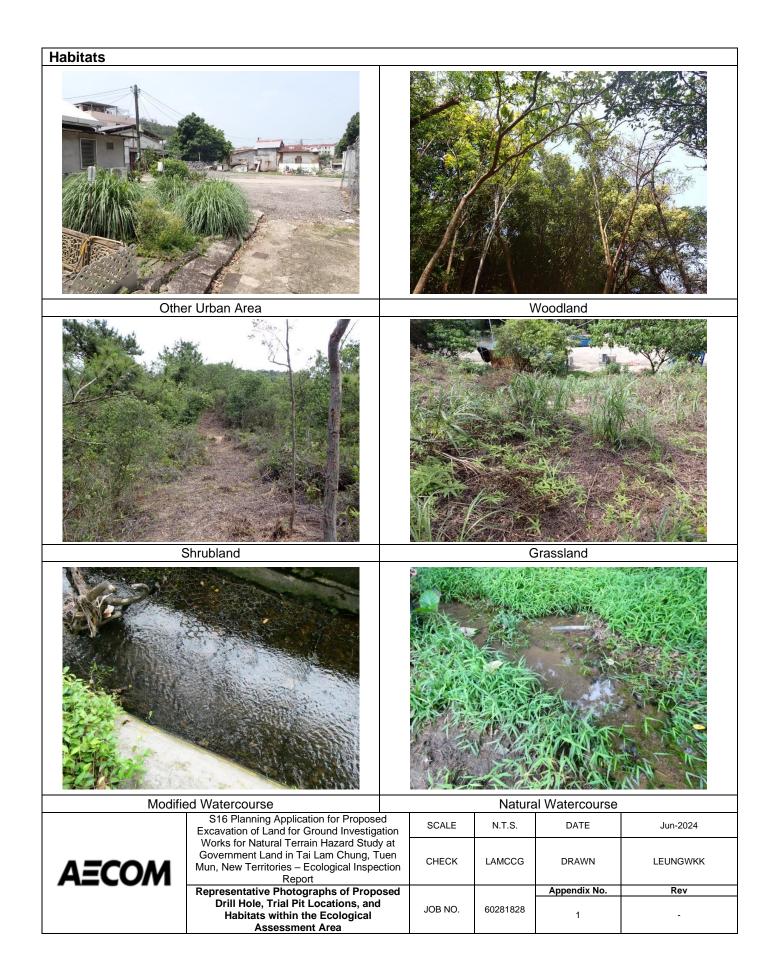
APPENDIX 1

Representative Photographs of Proposed Drill Hole and, Trial Pit Locations, and Habitats within the Ecological Assessment Area









APPENDIX 2

Flora Species Recoded within the Ecological Assessment Area

Appendix 2 Flora Species Re Scientific Name	Common	Growth Form	Native / Exotic to Hong		Protection / Conservation	OUA	WL	SL	GL	MWC	NWC
	Name Grass-leaved		Kong	Kong ⁽¹⁾ Tai Mo Shan, Tai Po Kau,	Status ⁽²⁾						
Acorus gramineus Acronychia pedunculata	Sweet Flag Acronychia	perennial herb tree	native	Ha Hang, Lantau Island Common in Hong Kong	-		+				+
Adiantum flabellulatum	Fan-leaved	herb	native	-	-		++	+			
Adina nikulifara	Maidenhair Chinese	shrub or tree	native	Common in Hong Kong							+
Adina pilulifera	Buttonbush Chinese				-						
Alangium chinense	Alangium	shrub or tree	native	Common in Hong Kong	-			+			
Alchornea trewioides	Christmas Bush	shrub	native	Common in Hong Kong	-		+	+			
Aleurites moluccana	Candlenut Tree	tree	exotic	Widely cultivated in Hong Kong	-		+				
Allamanda schottii	Small Allamanda	shrub	exotic	Commonly cultivated	-	+	+				
Alocasia macrorrhizos	Giant Alocasia	perennial herb	native	Common in Hong Kong	-	+ +				++	
Aloe vera Alyxia sinensis	Chinese Aloe Bead Vine	perennial herb woody vine	exotic native	Cultivated Common in Hong Kong	-	+	+	+			
Amaranthus viridis	Green Amaranth	herb	native	Common in Hong Kong	-	+					
Artemisia indica	Mugwort	herb	native	Hong Kong Island, Tai Mo Shan, Wu Kau Tang, Tai Po, Sheung Shui, High Island, Ping Chau, Lantau Island	-	+					
Artocarpus heterophyllus	Jackfruit	tree	exotic	Cultivated	-		+				
Asparagus cochinchinensis	Wild Asparagus	-	native	Common in Hong Kong	-		+	+			
Aster baccharoides	- Dwarf Mountain	perennial herb shrub or small	native	Common in Hong Kong	-			+			
Baeckea frutescens	Pine	tree clumped tree	native	Common in Hong Kong	-			+			
Bambusa spp.	-	bamboo	-	-	-		+				
Bauhinia corymbosa	Camel's Foot	climber: vine	exotic	Yim Tin Tsai, Lantau Island	-			+			
Bidens alba	-	herb	exotic	Naturalized and widely distributed in Hong Kong	-	+	+				+
Blechnum orientale	Oriental Blechnum	herb	native	-	-		+				
Bombax ceiba	Tree Cotton	tree	exotic	Cultivated	-	+					
Bothriochloa bladhii	Australian Bluestem	perennial herb	native	Common in Hong Kong	-	+					
Bougainvillea spectabilis	Brazil Bougainvillea	climbing shrub	exotic	Cultivated in gardens or as a pot plant	-	+					
Breynia fruticosa		shrub	native	Common in Hong Kong	-		+	+	+		
Bridelia tomentosa	Pop-gun Seed	shrub or small tree	native	Common in Hong Kong	-	+	+				
Caesalpinia crista	Wood Gossip Caesalpinia	climber: vine	native	Common in Hong Kong	-		+				+++
Caesalpinia vernalis	Spring Caesalpinia	climber: vine	native	Common in Hong Kong	-		+				
Cajanus scarabaeoides	Scarab-like Cajanus	climber: vine	native	Hong Kong Island, Ap Lei Chau, Stonecutters Island, Tsuen Wan, Tai Lam Chung, Tuen Mun, Pak Nai, Sha Po	-		+				
Callipteris esculenta	Freshy Lady- fern	herb	native	-	-						+
Celtis sinensis	Chinese	tree	native	Common in Hong Kong and	-		+		+		
Chloris barbata	Hackberry Peacock-plume	herb	native	widely planted Common in Hong Kong	-	+					
	Grass										
Clerodendranthus spicatus Cocculus orbiculatus	- Snail Seed	perennial herb climber: vine	exotic native	Cultivated Common in Hong Kong	-	+	+	+		++	+
Commelina diffusa	Diffuse Day-	herb	native	Common in Hong Kong	-						++
Conyza canadensis	flower	herb	exotic	Naturalized and widely		+					
	- Yellow Cow			distributed in Hong Kong	-						
Cratoxylum cochinchinense	Wood	shrub or tree	native	Common in Hong Kong	-		+		+		
Cyclosorus interruptus	Interrupted Tri- vein Fern	herb	native	-	-						+
Cyclosorus parasiticus Cynodon dactylon	Wood-fern Couch Grass	herb perennial herb	native native	- Common in Hong Kong	-	+	+			+	+
Cyperus difformis	Difformed Galingale	herb	native	Common in Hong Kong	-	+					
Dalbergia benthamii	Bentham's	climber: vine	native	Common in Hong Kong	-					+	
-	Rosewood Hong Kong	climber: vine	native	Common in Hong Kong			+				
Dalbergia millettii Daphniphyllum calycinum	Rosewood	tree	native	Common in Hong Kong	-		+				
Dendrotrophe varians	-	woody vine	native	Aberdeen, Findlay Rd., Mount Collinson Rd., Pok Fu Lam Reservoir, Stanley, Tai Mo Shan, Sha Tau Kok, Lantau Island	-			+			
Desmos chinensis	Desmos	woody vine	native	Common in Hong Kong	-		++	+			
Dianella ensifolia	Dianella Dichotomy	herb	native	Common in Hong Kong	-		+	+	+++		
Dicranopteris pedata Dimocarpus longan	Forked Fern	tree	exotic	Very common	- List of Wild Plants under State Protection: Category II; Threatened Species List of China's Higher Plants: Vulnerable; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened; IUCN Red List: Near Threatened	+	+				+
Dioscorea bulbifera	Air Potato	climber: vine	native	Hong Kong Island, Tai Po Kau, Lam Tsuen, Sham Tseng, Ta Kwu Ling	-		+				

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Diospyros vaccinioides	Small Persimmon	shrub	native	Common in Hong Kong	Threatened Species List of China's Higher Plants: Endangered; IUCN Red List:		++				
Diplospora dubia	Common Tricalysia	shrub or tree	native	Common in Hong Kong	Critically Endangered -		+				
Dracaena fragrans	Fragrant	shrub	exotic	Cultivated	-	+					
Elephantopus tomentosus	Dragon Tree	perennial herb		Common in Hong Kong	-		+				
Embelia ribes	White-flowered	climber: vine	native	Widely distributed in Hong	-		+	+			
Eriobotrya japonica	Embelia Loquat	small tree		Kong Cultivated	-	+	+				
Eupatorium odoratum	-	perennial herb		Naturalized	-	-	+				+
Euphorbia hirta	Garden Spurge	herb	exotic	Naturalized	-	+					
Euphorbia thymifolia	Thyme-leaved Spurge	herb	native	Stubbs Rd., Tai Hang Rd., Victoria Park, Sheung Pak Nai,Yuen Long, TsingYi	-	+					
Eurya nitida	Shining Eurya	shrub or small tree	native	Common in Hong Kong	-			+			
Ficus fistulosa	Common	tree	native	Common in Hong Kong	-						+
	Yellow Steg-fig	shrub or small	nauve								
Ficus hirta	Hairy Fig	tree	native	Common in Hong Kong	-		++				++
Ficus hispida	Opposite-leaved Fig	shrub or small tree	native	Common in Hong Kong	-		+				+
Ficus pumila	Creeping Fig	climbing woody	native	Common in Hong Kong	-		+	+			
Ficus subpisocarpa	Japanese	tree	native	Common in Hong Kong	-		+				
	Superb Fig Common Red-										
Ficus variegata	stem Fig	tree		Common in Hong Kong	-		+				+
Ficus variolosa Gardenia jasminoides	Varied-leaf Fig Cape Jasmine	shrub or tree shrub		Common in Hong Kong Common in Hong Kong	-			+ +	+		<u> </u>
	Luofushan Joint-				-						
Gnetum luofuense	fir	woody vine		Common in Hong Kong	-		++	++			
Hedychium coronarium	Ginger Lily Angle-stemmed	perennial herb		Cultivated	-	+					
Hedyotis acutangula	Hedyotis White Ox	herb climbing		Common in Hong Kong	-		+				+
Hedyotis hedyotidea	Creeper Narrow-leaved	subshrub		Common in Hong Kong	-		+				
Helicteres angustifolia	Screwtree	subshrub		Common in Hong Kong	-			+			
Heteropanax fragrans Heterosmilax japonica	- Heterosmilax	Tree climbing shrub		Cultivated Pok Fu Lam	-	+			+		
neterosmilax japonica			nauve	FORTULAIN	-						
Hylocereus undatus	Night-blooming Cereus Rough-leaved	perennial herb		Cultivated	-	+					
llex asprella	Holly	shrub	native	Very common	-		++				
llex pubescens	Downy Holly	shrub	native	Common in Hong Kong	-			+			<u> </u>
Indocalamus sinicus	Chinese Cane Gairo Morning	running shrubby bamboo climber: twining	native	Common in Hong Kong	-		+				
Ipomoea cairica	Glory	herb	exotic	Common in Hong Kong	-		+				
lpomoea triloba	-	herbaceous climber	exotic	Naturalized in Hong Kong	-	+					
Kyllinga nemoralis	Uni-spike Kyllinga	herb	native	Common in Hong Kong	-	+					
Lasianthus chinensis	Chinese Lasianthus	shrub	native	Hong Kong Island, Tai Mo Shan, Ma On Shan, Sai	-		+				
Leucaena leucocephala	White Popinac	small tree		Kung, Lantau Island Cultivated and naturalized	-	++					
Ligustrum lucidum	Glossy Privet	Tree	exotic	Cultivated	-		+				
Ligustrum sinense	Chinese Privet	shrub or small	exotic	Common in Hong Kong and	÷		+				
-	Orbicular	tree		widely cultivated							
Lindsaea orbiculata	Lindsaea	herb	native	-	-			+			
Liquidambar formosana	Sweet Gum	tree		Common in Hong Kong. Also widely planted	-		+				i l
Liriope spicata	Lily Turf	perennial herb		Common in Hong Kong	-		+	+			
Litsea cubeba	Fragrant Litsea	shrub or small tree	native	Common in Hong Kong	-			+			i l
Litsea rotundifolia var.	Oblong-leaved	shrub	native	Common in Hong Kong	-		+	++			
oblongifolia	Litsea Common										
Lophatherum gracile	Lophantherum	perennial herb		Common in Hong Kong	-		+			+	
Ludwigia erecta Lygodium japonicum	- Climbing Fern	herb climbing herb	exotic native	-	-			+		+	+
Lygodium scandens	Scansorial	climbing herb	native	-	-		+	+		+	
Macaranga tanarius var. tomentosa	Climbing Fern Elephant's Ear	tree		Common in Hong Kong	-	+	++			+	
tomentosa Macrothelypteris torresiana	Mariana Maiden Fern	herb	native		-		+				+
Mallotus paniculatus	Turn-in-the-wind	shrub or tree	native	Common in Hong Kong	-		+				
Melastoma dodecandrum	Twelve- stamened	diffuse subshrub		Common in Hong Kong	-			+			
Melastoma malabathricum	Melastoma Common	shrub		Common in Hong Kong	-		+				
Melastoma sanguineum	Melastoma Blood-red Melastema	shrub		Common in Hong Kong	-		+	+			
Melia azedarach	Melastoma China-berry	tree		Cultivated or naturalized	-		+				
Melinis repens	Redtop	perennial herb	exotic	Common in Hong Kong	-	+					
Microcos nervosa	Microcos	shrub or small	native	(naturalized) Common in Hong Kong	-		+				+
Microstegium ciliatum	Ciliate	tree perennial		Common in Hong Kong	-		+				
inici ostegium ciliatum	Microstegium	procumbent herb		Common in Hong Kong	-		-				

	Scientific Name	Common Name	Growth Form	Native / Exotic to Hong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Marge and and any and any	Mikania micrantha	Mile-a-minute	climbing herb	Kong exotic	Naturalized and widely	- Status		+			+	+
Mathem with a start of the		Many-flowered				-		+		+	+	
Name Name </td <td></td> <td>-</td> <td></td>		-										
Mathematic Mathem		-				-			**			
Barges	Morus alba	White Mulberry	shrub or tree	native		-	+					
Omes i Normal set i	Mussaenda pubescens		climbing shrub	native	Common in Hong Kong	-		+				
Contone Part of and part of a part	Ormosia emarginata	leaved	small tree	native	Common in Hong Kong			+				
opened symbolindex of a point	Oxalis corniculata		perennial herb	native		-	+					
Concernance Concernance <thconcernance< th=""> <thconcernance< th=""></thconcernance<></thconcernance<>	Oxalis debilis subsp. corymbosa	Lavender Sorrel	perennial herb	exotic		-	+					
Catania <	Paederia scandens		climber: vine	native	Common in Hong Kong	-		+				
Monumentany Implementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany 	Palhinhaea cernua		creeping herb	native	-	-				+		
Packade mode Note is a field of a set is a	Pandanus austrosinensis	-	herb	native	Tai Mo Shan	-		+				
marked basis Provided basis <br< td=""><td>Panicum maximum</td><td></td><td>-</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>++</td><td></td></br<>	Panicum maximum		-			-					++	
Partner with the problem of the pr						-						
example processing example processing example processing implementary metalements example processing		Passion Flower	nerbaceous vine	exotic	Naturalized	-	+					
physicher should physicher should between the should between t	Pericampylus glaucus	Pericampylus	woody vine	native	Mount Cameron, Tai Po	-		+				
hybrid or	Phyllanthus reticulatus		shrub	native	Rd., DeepWater Bay, Lam Tsuen, Ma On Shan, Tai O,	-		+			+	
Name Participant Participant Participant 	Phyllanthus urinaria		herb	native	Pok Fu Lam Reservior Rd., Stubbs Rd., Ling Nam San Tsuen, Kowloon Reservoir, Fanling, Sha Tin, Lantau	-			+			
InstructureInstructu		A 171										
minine modeljoint<	Pilea microphylla		herb	exotic		-	+					
Photose Photose PhotosePhoto PhotosePhoto Photose Photose Photose Photose Photose Photose 	Pinus elliottii	Slash Pine	tree	exotic		-			++			
number horsport and horsport and	Piper sarmentosum		herb	native	Peak, Tai Mo Shan, Sha	-		+				
Conduct ContinueInterime Common in Frag. Korg Fordices alreased Produces alreased Prod	Plectranthus amboinicus	Fragrant Coleus	herb	-	-	-	+					
Pendies derives Pendies without Network Networ	Polyspora axillaris			native	Common in Hong Kong	-		+	+	+		
Perchalacy places Party Perchal space Tang Tau, Pair J, Cheurg Pair Pair Pair Pair Pair Pair J, Pai	Portulaca oleracea			native	Common in Hong Kong	-	+					
Specharia Cenerging Paychoria semi-order antive Common Hong King Interactive Image Paychoria Here Interactive Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Here Interactive Paychoria	Portulaca pilosa		Herb	native	Tseng Tau, Pui O, Cheung	-	+					
Projectoria Induce Common in long Kong -	Psychotria asiatica	Wild Coffee	shrub or tree	native	Common in Hong Kong	-			+	+		+
Priori ansigning Seve Black Index Error	Psychotria serpens			native	Common in Hong Kong	-		+	++			
Press Semi-primate Barke Info native - - - + L <thl< th=""> L L <thl< td=""><td>Pteris ensiformis</td><td>Sword Brake</td><td>herb</td><td></td><td>-</td><td>-</td><td></td><td>+</td><td></td><td></td><td></td><td></td></thl<></thl<>	Pteris ensiformis	Sword Brake	herb		-	-		+				
Datase Datase <thdatase< th=""> <thdatase< t<="" td=""><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td>+</td></thdatase<></thdatase<>					-	-						+
montane moltane Nucleo name Common in Hong Kong -<						-						
Handback Induct Hawkhorn tree Indure Common Hong Kong - - - - <td>montana</td> <td></td> <td></td> <td>native</td> <td>Common in Hong Kong</td> <td>-</td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td>	montana			native	Common in Hong Kong	-		+				
Rhu schinensisSumashrub or small the or small shrub or small the shrub or small the shr	Rhaphiolepis indica	Hawthorn	tree			-						
IntegeInte						-			++	+		+
Wrake Tree Inalive Common in Hong Kong -	Rnus chinensis					-		+				
Rourse Rourse Control in Nacional Sinuo Indive Control in Nong Nong - +	Rhus succedanea			native	Common in Hong Kong	-			+			
Ragberry Climping shrub Native Common in Hong Kong - +	Rourea microphylla	Rourea	climbing shrub	native	Common in Hong Kong	-		+	+	+		+
Sansevieria trifasciata Snake Plant perennial herb exotic Cuttivated - + + + Image: Common in Common in Nong Kong. Also planted Sapium discolor Tree mountain Tailow mail tree native Common in Hong Kong. Also planted - - ++ Image: Common in Hong Kong. Also planted ++ Image: Common in Hong Kong. Also planted ++ + Image: Common in Hong Kong. Also planted ++ Image: Common in Hong Kong. Also planted ++ + + + Image: Common in Hong Kong. Also planted ++ ++ + ++ Image: Common in Hong Kong. Also planted ++ <td>Rubus reflexus</td> <td></td> <td>climbing shrub</td> <td>native</td> <td>Common in Hong Kong</td> <td>-</td> <td></td> <td>+</td> <td></td> <td>+</td> <td></td> <td></td>	Rubus reflexus		climbing shrub	native	Common in Hong Kong	-		+		+		
Sapium discording TreeMountain Tailow Treesmall treenativeCommon in Hong Kong. Also planted.Image: Common in Hong Kong. Also planted<	Rumex japonicus					-						
Sapular decorr Tree Small tree Native Also planted - - - + -<						-	+	+				
Scleria ciliaris Razorsedge Razorsedge Rozorsedge Scoparia dulcisCiliate Razorsedge Rezorsedge BroomwortherbnativeCommon in Hong Kong-+++++111 <td>Sapium discolor</td> <td>Tree</td> <td>small tree</td> <td></td> <td>Also planted</td> <td>-</td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td></td>	Sapium discolor	Tree	small tree		Also planted	-			+			
Radius and base in the second of the secon	Schefflera heptaphylla Scleria ciliaris	Ciliate				-			+	+		
Scoparia duicisBroomwortNerbexoticNaturalized in Hong Kong-+<												
Sessering available Java Sessering Nerb Nalive Tuen Mun - - + - <		Broomwort				-						
Schnlag glabra Greenbrier Climbing sinub native Common in Hong Kong - +<					Tuen Mun	-	+					
Solarium americanium Nightshade Nerb exotic Naturalized in Hong Kong - + -	Smilax glabra	Greenbrier	climbing shrub	native	Common in Hong Kong	-		+	+	+		
Spathodea campanulata African Tulip Tree tree exotic Cultivated - + Image: Constraint of the state of t	Solanum americanum	Nightshade				-						
Spheindbed campaindial Tree use exact Cultivated - <td>Solanum torvum</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Solanum torvum					-						
Stephania longa Long Stephania climber: vine native Aberdeen, Tai Po Kau, Ma Mong Shui, Tai - Long Stephania + Long Long <thlong< th=""> <thlong< th=""> Long <thlong< t<="" td=""><td></td><td>Tree</td><td></td><td></td><td>Cultivated</td><td>-</td><td>+</td><td></td><td></td><td></td><td></td><td></td></thlong<></thlong<></thlong<>		Tree			Cultivated	-	+					
Sterculia lance-leaved Sterculia Lance-leaved streculia semi-deciduous tree native Common in Hong Kong - + + Strychnos angustifiora Narrow- nut Narrow- nut woody vine native Hong Kong Island, Sha Tin, Ma On Shan, Sam A Tsuen, Tai Wan, Lantau Island, Lamma Island, Beaufort Island, Ching Chau - +<	Sphenomeris chinensis Stephania longa				On Shan, Sheung Shui, Tai	-						
Sterculia tree native Contributi in Hong Kong - + + Strychnos angustifiora Narrow- nut Narrow- nut native Hong Kong Island, Sha Tin, Ma On Shan, Sam A Tsuen, Lamma Island, Beaufort Island, Ching Chau +	Sterculia Janceolato			native								
Strychnos angustifiora nut end poison- woody vine native native native taikand, beaufort Island, Ching Chau + + + + + + + + + + + + + + + + + + +	Sterculla lanceolata			nauve	Common in Hong Kong	-		+				
Syzygium jambos Rose Apple tree exotic Cultivated & naturalized - +	Strychnos angustiflora	flowered Poison-	woody vine	native	Ma On Shan, Sam A Tsuen, Tai Wan, Lantau Island, Lamma Island, Beaufort	-		+				
	Syzygium jambos	Rose Apple	tree	exotic	Cultivated & naturalized	-		+				

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Tetracera asiatica	Sandpaper Vine	woody vine	native	Common in Hong Kong	-		+				+
Thysanolaena latifolia	Tiger-grass	herb	native	Common in Hong Kong	-	+	+				[
Tylophora ovata		slender woody vine	native	Common in Hong Kong	-		+	+	+		
Uvaria macrophylla	Uvaria	woody climbing shrub	native	Common in Hong Kong	-		+				
Vernonia amygdalina	-	shrub	exotic	-	-	+					
Wedelia biflora	-	perennial herb	native	Common in Hong Kong	-					+	
Wedelia trilobata	-	perennial herb	exotic	Naturalized and widely cultivated	-					+	
Youngia japonica	Hawk's Beard	herb	native	Common in Hong Kong	-	+					
Zanthoxylum avicennae	Prickly Ash	tree	native	Common in Hong Kong	-		+	+			
Zanthoxylum nitidum	Shiny-leaved Prickly Ash	climbing shrub	native	Common in Hong Kong	-		+				

Notes: (1) Distribution in Hong Kong follows: Flora of Hong Kong Volume 1.4. (2007-2011). Wu, S.+H. & Lee, T.-C. W. (2000). Prehidophytes of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:5-20. Xing, F.-W., Ng, S.C. & Chau, L.K.-C. (2000). Gymnosperms and Angiosperms of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:21-136. Siu, L.-P.G. (2000). Orchidaceae of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:177-148. (2) Protection distalawse follow: Protected under the Forests and Countryside Ordinance (Cap. 96) Protected under the Forests and Countryside Ordinance (Cap. 96) Protected under the Forests and Countryside Ordinance and Plants Ordinance (Cap. 586) Hu, Q.M., Wu, T.L., Xia, N.H., Xing F.W., Lai, C.C.P. & Yip, K.W. (2003). Rare and Precious Plants of Hong Kong. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong. 234pp. List of Wild Plants Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021) Fu, K.L. (1992). China Plant Red Data Book. Vol. 1 - Rare and Endangered Plants. Science Press, Beijing. 738pp. (In Chinese only) Qin, et al. (2017). Threatened Species List of China's Higher Plants. Biodiversity Science 25(7):696-747 International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023 1. Feng, Z.-J., Li, Z.-K., Li, B.-T., Xue, C.-G., Liu, J.-B. & He, Y.-Q. (2002). Study on Rare and Endangered Plants and National Key Protected Plants in Guangdong. Journal of South China Agricultural University3:24-27. Wu, D.L. & Hu, C.X. (1988). Illustrations of Rare and Endangered Plants in Guangdong Province. China Environmental Science Press, Beijing. 46pp. (In Chinese only).

Abbreviation for Habitats: OUA=Other Urban Area; WL = Woodland; SL = Shrubland; GL=Grassland; MWC=Modified Watercourse; and NWC=Natural Watercourse Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce Species of conservation importance is in bold type face

APPENDIX 3

Fauna Species Recoded within the Ecological Assessment Area

Appendix 3 Fauna Species Recorded within the Ecological Assessment Area

Avifauna

Common Name ⁽¹⁾	Scientific Name	Distribution in Hong Kong ⁽³⁾	Principal Status ⁽⁴⁾	Level of Concern ⁽⁵⁾	Protection Status in China ⁽⁶⁾	China Red Data Book ⁽⁷⁾	Red List of China's Vertebrates ⁽⁸⁾	IUCN Red List ⁽⁹⁾	OUA	WL	SL	IF
Asian Koel	Eudynamys scolopaceus	Common resident. Widely distributed in Hong Kong.	Su,R	-	-	-	Least Concern	Least Concern		+		
Barn Swallow	Hirundo rustica	Abundant passage migrant and uncommon winter visitor. Widely distributed in Hong Kong.	SpM,Su	-	-	-	Least Concern	Least Concern	+			
Black Kite ⁽²⁾⁽¹⁰⁾	Milvus migrans	Common resident and winter visitor. Widely distributed in Hong Kong.	W,R	(RC)	Class II	-	Least Concern	Least Concern				+
Chinese Bulbul	Pycnonotus sinensis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Chinese Hwamei ⁽²⁾	Garrulax canorus	Common resident. Widely distributed in hillside shrubland throughout Hong Kong.	R	-	Class II	-	Near Threatened	Least Concern		+		
Common Tailorbird	Orthotomus sutorius	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Eurasian Tree Sparrow	Passer montanus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Greater Coucal	Centropus sinensis	Common resident. Widely distributed in Hong Kong.	R	-	Class II	Vulnerable	Least Concern	Least Concern		+		
Oriental Magpie Robin	Copsychus saularis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	+	+		
Red-whiskered Bulbul	Pycnonotus jocosus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+	+	
Spotted Dove	Spilopelia chinensis	Abundant resident. Widely distributed in Hong Kong.	R	-		-	Least Concern	Least Concern		+		
Swinhoe's White-eye	Zosterops simplex	Abundant resident. Widely distributed in Hong Kong.	R,?W	-	-	-	Least Concern	Least Concern		+		
White Wagtail	Motacilla alba	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	W,R	-	-	-	Least Concern	Least Concern	+			

Notes:

(1) All wild birds are Protected under Wild Animals Protection Ordinance (Cap.170)

(2) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).

(3) AFCD (2022). Hong Kong Biodiversity Information Hub.

(4) Carey, G.J., Chalmers, M.L., Diskin, D.A., Leader, P.J., Leven, M.R., Lewthwaite, M.R., Melville, D.S., Turnbull, M. & Young, L. (2001). The Avifauna of Hong Kong. Hong Kong. Hong Kong. Bird Watcing Society, Hong Kong. R=resident; W=winter visitor; Su=summer visitor; M=migrant; A=autumn; P=present all year, exact composition unknown; ?W=extent of migration in winter is unclear.

(5) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern, Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(6) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(7) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).

(8) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(9) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

(10) Wetland-dependent species (including wetland-dependent species and waterbirds).

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; SL = Shrubland; IF = In Flight. Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face. Mammal

Common Name	Scientific Name	Distribution in Hong Kong ⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	China Red Data Book ⁽⁵⁾	Red List of China's Vertebrates ⁽⁶⁾	IUCN Red List ⁽⁷⁾	WL	SL
Unknown Vespertilionidae species 1 ⁽¹⁾	-	-	-	-	-	-	-	+	
Red Muntjac	Muntiacus vaginalis	Very widely distributed in countryside areas throughout Hong Kong	PRC	-	-	Near Threatened	Least Concern		+

Notes:

(1) Protected under Wild Animals Protection Ordinance (Cap. 170).

(2) AFCD (2022). Hong Kong Biodiversity Information Hub.

(3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) Wang, S. (1998). China Red Data Book of Endangered Animals. Mammalia. Science Press, Beijing, China. 417pp. (In Chinese only).

(6) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(7) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: WL = Woodland; SL = Shrubland.

Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face.

_			
R	itte	erfly	

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Local Restrictedness ⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	IUCN Red List ⁽⁵⁾	OUA	WL	SL	GL	NWC
-	Eurema spp.	-	-	-	-	-			+		
Blue-spotted Crow	Euploea midamus	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Chestnut Bob	lambrix salsala	Widely distributed throughout Hong Kong	Uncommon	-	-	-		+			1
Common Bluebottle	Graphium sarpedon	Widely distributed throughout Hong Kong	Very common	-	-	-	+		+		
Common Jay	Graphium doson	Widely distributed throughout Hong Kong	Common	-	-	-		+			
Common Mormon	Papilio polytes	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Common Sailer	Neptis hylas	Widely distributed throughout Hong Kong	Very common	-	-	-	+				
Dark-brand Bush Brown	Mycalesis mineus	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Five-bar Swordtail	Pathysa antiphates	Widely distributed throughout Hong Kong	Common	-	-	-					+
Great Eggfly	Hypolimnas bolina	Widely distributed throughout Hong Kong	Common	-	-	-	+				
Great Mormon	Papilio memnon	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Great Orange Tip	Hebomoia glaucippe	Widely distributed throughout Hong Kong	Common	-	-	-			+		
Lemon Pansy	Junonia lemonias	Wu Kau Tang, Shan Liu, Shui Long Wo, Tong Fuk, Pak Tam Chung	Common	-	-	-	+				+
Pale Grass Blue	Pseudozizeeria maha	Widely distributed throughout Hong Kong	Very common	-	-	-	+				+
Paris Peacock	Papilio paris	Widely distributed throughout Hong Kong	Very common	-	-	-	+			+	1
Plain Hedge Blue	Celastrina lavendularis	Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan	Very rare; Species of conservation concern	LC	-	-		+			
Plum Judy	Abisara echerius	Widely distributed throughout Hong Kong	Very common	-	-	-		+			T
Red Helen	Papilio helenus	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Red-base Jezebel	Delias pasithoe	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Rustic	Cupha erymanthis	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Shan Nawab	Polyura nepenthes	Cloudy Hill, Shing Mun, Tai Po Kau, Victoria Peak, Lai Chi Wo, Pak Sha O	Uncommon	-	-	-			+		
Spangle	Papilio protenor	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Tawny Rajah	Charaxes bernardus	Widely distributed throughout Hong Kong	Common	-	-	-			+		

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Chan, A, Cheung J., Sze, P., Wong, A., Wong, E. and Yau, E. (2011). A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity 21: 1-12.

(3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; SL = Shrubland; GL = Grassland; NWC = Natural Watercourse. Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face. Odonate

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	IUCN Red List ⁽⁵⁾	OUA	WL	SL	MWC	NWC
Black Threadtail	Prodasineura autumnalis	Often perches on the plants near streams. Widely distributed in streams throughout Hong Kong; Widespread	-	-	Least Concern		+			
Common Blue Skimmer	Orthetrum glaucum	Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong; Very Widespread	-	-	Least Concern	+				+
Common Red Skimmer	Orthetrum pruinosum neglectum	Widely distributed in slow streams, ponds, rain puddles and irrigation conduits; Widespread	-	-	Least Concern	+				
Crimson Dropwing	Trithemis aurora	Found in marshes, ponds, streams, andor even ornamental ponds in urban areas. Widely distributed throughout Hong Kong; Very Widepsread	-	-	Least Concern					+
Indigo Dropwing	Trithemis festiva	Favours sluggish sections of streams with a strong current or the small rock pools inof mountain streams. Widespread in Hong Kong; Widespread	-	-	Least Concern	+				+
Marsh Skimmer	Orthetrum luzonicum	Widely distributed in abandoned paddies, marshy swampy and boggy locations; Widespread	-	-	Least Concern				+	
Wandering Glider	Pantala flavescens	Widely distributed all over Hong Kong; Widespread	-	-	Least Concern			+		
Yellow Featherlegs	Copera marginipes	Widely distributded in lowland streams, ditches, and weedy margins of pond throughout Hong Kong; Widespread	-	-	Least Concern				+	+

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. Journal of the International Dragonfly Fund 30: 1-49. (3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; SL = Shrubland; MWC = Modified Watercourse; NWC = Natural Watercourse. Code for Abundance: ++++ = Dominant; +++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face.

Herpetofauna

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	(2)	Protection Status in China ⁽³⁾	China Red Data	Red List of China's	(6)	OUA	WL	MWC
Common Name	Scientific Name	Distribution in Hong Kong ^(*)	Level of Concern ⁽⁻⁾	China ⁽³⁾	Book ⁽⁴⁾	Vertebrates ⁽⁵⁾	IUCN Red List ⁽⁶⁾	UUA	VVL	WIVVC
Amphibian										
Asian Common Toad	Duttaphrynus melanostictus	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern	+	+	+
Asiatic Painted Frog	Kaloula pulchra pulchra	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern	+	+	
Brown Tree Frog	Polypedates megacephalus	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern		+	
Butler's Pigmy Frog	Microhyla butleri	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern			+
Greenhouse Frog	Eleutherodactylus planirostris	Widely distributed throughout Hong Kong	-	-	-	-	Least Concern	+	+	í I
Gunther's Frog	Sylvirana guentheri	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+
Paddy Frog	Fejervarya limnocharis	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+
Reptile										
Bowring's Gecko	Hemidactylus bowringii	Distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern	+		(

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(4) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).

(5) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(6) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; MWC = Modified Watercourse.

Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.

Species of conservation importance is in **bold** type face.

Freshwater Community

Common Name	Scientific Name		Level of Concern ⁽³⁾	Protection Status	China Red Data	IUCN Red List ⁽⁶⁾	M	WC		NWC	
Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Level of Concern [®]	in China ⁽⁴⁾	Book ⁽⁵⁾	IUCN Red List"	FW1 ⁽⁷⁾	FW2 ⁽⁷⁾	FW3 ⁽⁷⁾	FW4 ⁽⁷⁾	FW5 ⁽⁷⁾
-	Macrobrachium sp.	Very common	-	-	-	-					+
-	Varuna spp.	-	-	-	-	-					+
Backswimmer	Enithares sp.	Very common	-	-	-	-					+
Blood Worm	Chironomidae sp.	-	-	-	-	-		+			
Canton Bee Shrimp	Caridina cantonensis	Very common	-	-	-	Least Concern	+	++	++	++	+++++
Emerald Cascader (nymph)	Zygonyx iris insignis	Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong; Widespread ⁽²⁾	PGC	-	-	Least Concern			+		
Isopods	Unidentified sp.	-	-	-	-	-	+	+			
Prong-gilled Mayfly	-	Very common	-	-	-	-	+				
Waterskater/Water strider	Metrocoris sp.	Very common	-	-	-	-	+		+	+	+
Yellow Featherlegs (nymph)	Copera marginipes	Widely distributded in lowland streams, ditches, and weedy margins of pond throughout Hong Kong; Widespread ⁽²⁾	-	-	-	Least Concern		+			

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub. Dudgeon D. (2003

Dudgeon D. (2003). Hong Kong Field Guides: Hillstreams.

Lee, L. F., Lam, K. S., Ng, K. Y., Chan, K. T. and Young, L. C. (2004). Field Guide to the Freshwater Fish of Hong Kong. Friends of the Country Parks.

(2) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. Journal of the International Dragonfly Fund 30: 1-49.

(3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).

(6) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

(7) Refer to Figure 311-313 for locations of freshwater sampling locations.

Abbreviation for Habitats: MWC = Modified Watercourse; NWC = Natural Watercourse.

Code for Abundance: +++++ = Dominant; +++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.

Species of conservation importance is in **bold** type face.

Appendix Ib of RNTPC Paper No. A/TM-SKW/128



ARCHITECTS PLANNERS DESIGNERS Llewelyn-Davies Hong Kong Ltd

12 September 2024

By Hand and Email

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

Dear Sir

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No. A/TM-SKW/128)

Reference is made to the captioned application submitted to the Town Planning Board (the Board) on 14 August 2024, and the subsequent comments from District Planning Office/Tuen Mun and Yuen Long West of Planning Department (DPO/TM&YLW, PlanD) and Agriculture, Fisheries and Conservation Department (AFCD) received on 9 September 2024. The Applicant now wishes to herewith submit 4 copies of the current Further Information to substantiate the captioned application.

In particular, as requested by DPO/TM&YLW, PlanD, the graphic presentation of the proposed drill holes and trial pits on Figure 2a of the Planning Statement has been updated accordingly in **Attachment 1**. In response to the comments from AFCD, an RtoC table has been prepared in **Attachment 2**.

Please note that the enclosed information only serves as clarification, with no change to the locations, numbers and dimensions of the proposed drill holes and trial pits as submitted on 14 August 2024.

Thank you for your kind attention. Should there be any queries, please do not hesitate to contact the undersigned at a or our Mr Arnold Koon at a Mr Jason Chan at a state of the state of

Yours faithfully for Llewelyn-Davies Hong Kong Ltd

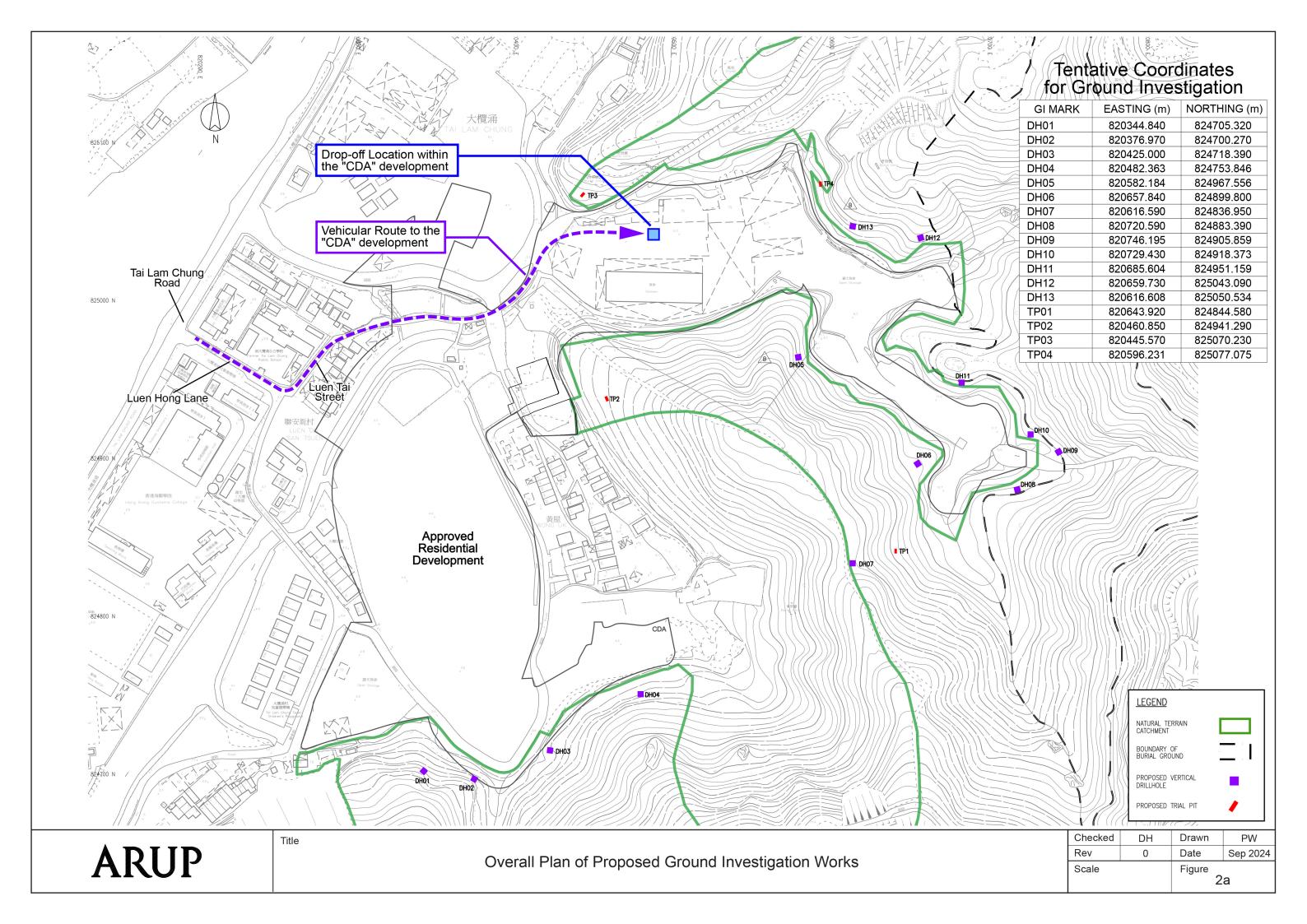
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Winnie Wu Planning Director

WW/AK/jc Encl

S:\85125 Tai Lam Chung S16 for GI Works in GB (2024)_FI\FI-1\20240910_letter to TPB_FI-1_TLC GI.doc

Revised Figure 2a of Planning Statement



Responses-to-Comments Table

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No.: A/TM-SKW/128)

	Departmental Comments	Responses to Comments
1.	Comments from Director of Agriculture, Fisheries and Conservation, Agriculture, Fisheries and Conservation Department	
	S.2.2.10 & 4.3.1(b) of Planning Statement	
1.1	Please clarify whether the shrub species for reinstatement should make reference to the native species recorded in the affected sites and their vicinity as far as technically practicable.	Please be clarified that the shrub species for reinstatement would make reference to the native species recorded in the affected sites and their vicinity, as well as Table E4 of GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes.
	S.4.1.4 of Ecological Inspection Report	
1.2	Please clarify whether the proposed plant protection zone will also be erected for Small Persimmon which is a shrub species of conservation importance.	Please be clarified that plant protection zone will also be erected for Small Persimmon.



ARCHITECTS PLANNERS DESIGNERS Liewelyn-Davies Hong Kong Ltd

17 September 2024

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

By Fax and Email (2877 0245)

Dear Sir

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No. A/TM-SKW/128)

Reference is made to the Further Information (FI) submitted to the Town Planning Board (the Board) on 12 September 2024, and the subsequent comments from the Agriculture, Fisheries and Conservation Department (AFCD) received on 17 September 2024. The Applicant now wishes to herewith submit the current Further Information to substantiate the captioned application.

In particular, while there are no further comments from AFCD on the previous FI submitted on 12 September 2024, as requested by AFCD, the corresponding sections of the Planning Statement and the Ecological Inspection Report incorporating the responses provided under the previous FI have been updated accordingly in **Attachment 1** and **Attachment 2** respectively.

Please note that the enclosed information only serves as clarification, with no change to the locations, numbers and dimensions of the proposed drill holes and trial pits as submitted on 14 August 2024.

Thank you for your kind attention. Should there be any queries, please do not hesitate to contact the undersigned at the second or our Mr Arnold Koon at the second of Mr Jason Chan at the second of the second of

Yours faithfully for Llewelyn-Davies Hong Kong Ltd

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Winnie Wu Planning Director

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Replacement Page of the Planning Statement

Operation Hours

2.2.6 As regards the operation hour, the proposed GI works will only be operated from 8 a.m. to 6 p.m. from Monday to Saturday. The proposed GI works will follow the requirements stipulated in the relevant regulations and technical guidance notes. It is anticipated that the entire GI works will be carried out for 6 months.

Good Site Practices and Safety Measures

- 2.2.7 Good site practices will be adopted during the course of GI works, for example guidelines detailed in the ProPECC PN 1/94 'Construction Site Drainage' and 'Appendix 4.20: Guidelines on Planning and Implementation of Ground Investigation Projects in Ecologically Sensitive Areas' of the Project Administration Handbook for Civil Engineering Works will be followed.
- 2.2.8 Tarpaulin sheeting will be provided to cover up exposed and excavated earth to prevent washout. The working areas will be fenced off by metal railing during non-operation hours to prevent passer-bys from being trapped by the trial pits and drill holes during the GI works. Please refer to **Appendix C** for on-site photos taken from other work sites for similar GI works on vegetated slopes for reference.

<u>Reinstatement</u>

- 2.2.9 All drills holes and trial pits will be reinstated within seven days after completion of the GI works and will be inspected by Qualified Geologists. For drill holes, the empty borehole will be backfilled with grout upon completion, while the trial pits will be backfilled and compacted with the excavated materials. The Guide to Site Investigation (Geoguide 2) will be followed at reinstatement stage.
- 2.2.10 In situation where vegetated areas such as shrubs are inevitably affected, reinstatement of vegetation would be carried out at the concerned locations. Like-for-like species vegetation would be replanted upon the completion of the proposed GI works. Shrub species for reinstatement would make reference to the native species recorded in the affected sites and their vicinity, as well as Table E4 of GEO Publication. No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes.

Replacement Page of the Ecological Inspection Report

S16 Planning Application for Proposed Excavation of Land for Ground Investigation Works for Natural Terrain Hazard Study at Government Land in Tai Lam Chung, Tuen Mun, New Territories

4.1.4 Two flora species of conservation importance were recorded within the Ecological Assessment Area, namely Small Persimmon and Emarginate-leaved Ormosia. Both of which are commonly distributed in Hong Kong. Moreover, plant protection zone with robust fencing of at least 1 m setback from stems of shrubs and the seedlings, and at least 1.5 m from mature trees would be established prior to the commencement of works. Protection measures recommended in Tree Management Practice Note No. 1. Tree Preservation during Construction (DEVB, 2019) and 'Technical Circular (Works) No. 4/2020 – Tree Preservation' (DEMB, 2020) will also be referenced to minimize disturbance and avoid physical damage to these flora of conservation importance and their root systems. With the recommended mitigation measures in place, the ecological Impacts on mature trees and flora of conservation importance are anticipated to be minior.

Impact on Fauna Species of Conservation Importance and Other Wildlife

4.1.5 All fauna species sightings were made outside the proposed works area. Most fauna species recorded within the Ecological Assessment Area are widespread and common in Hong Kong. Seven fauna species of conservation importance were recorded, including three avifauna, two mammal, one butterfly, and one freshwater community species. There would be temporary disturbance impacts from minor noise and dust emission to the wildlife inhabiting the habitats during GI works due to the operation of mechanical equipment. Except the freshwater community species which may be restricted to watercourse habitats (further discussion refers to S.4.1.6 and 4.1.7), majority of the recorded fauna species within the Ecological Assessment Area are highly mobile. Given their commonness, high mobility, and the distance between their recorded location and the works area, the ecological impacts of the proposed GI works on the fauna species of conservation importance and wildlife are anticipated to be low in general.

Impact to Watercourses and Associated Fauna Species

- 4.1.6 A few DH are proposed in the vicinity of modified and natural watercourses. Modified watercourses sampled within the Ecological Assessment Area recorded low diversity and abundance of fauna species, which are common and widely distributed in Hong Kong. They are of very low ecological value due to the high degree of pollution and modification. Thus the potential ecological impact on modified watercourses is anticipated to be minor.
- 4.1.7 Natural watercourses within the Ecological Assessment Area, although had good to fair water quality, showed signs of human disturbance and pollution at the outlets due to their close proximity to other urban area. Only a small number of very common freshwater fauna species were recorded in this habitat, though the nymph of Emerald Cascader, a species of conservation importance, was found in the natural watercourse W2 between DH08, 09 and DH10. In general, proposed GI works near natural watercourses (i.e. DH01, 02, 08, 09 and DH10) were relocated further upslope to avoid potential impact to the natural watercourses. No foundations of the ALs would be located directly on the natural watercourse to avoid impact on the watercourse. Furthermore, precautionary measures (provided in ETWB TWC No. 5/2005 -Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works (ETWB, 2005)) should be undertaken so as to minimise water quality impact on the natural watercourses, such as carrying out the works during dry season, placing of sandbags or silt curtains, locating excavated materials away from watercourses and general good site practice. The guidelines detailed in the ProPECC PN 2/23 'Construction Site Drainage' should be followed to prevent excavated soil from entering the nullah through construction runoff and potentially affect the water quality (EPD, 2023). Given the temporary nature and small extent of the proposed GI works, and with the implementation of the recommended mitigation measures, potential water quality impact to the watercourses thus secondary impact to the species of conservation importance is anticipated to be low.
- 4.1.8 A summary of identified potential ecological impacts of the proposed GI works is presented in **Table 4.1**.

Ilewelyn davies ARCHITECTS PLANNERS DESIGNERS Liewelyn-Davies Hong Kong Ltd

30 September 2024

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

By Fax and Email (2877 0245)

Dear Sir

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No. A/TM-SKW/128)

Reference is made to the Further Information (FI) submitted to the Town Planning Board (the Board) on 17 September 2024, and the subsequent comments from District Planning Office/Tuen Mun and Yuen Long West of Planning Department (DPO/TM&YLW, PlanD) received on 25 September 2024. The Applicant now wishes to herewith submit the current Further Information to substantiate the captioned application.

In particular, in response to comments by DPO/TM&YLW, PlanD, an RtoC table has been prepared in **Attachment 1**. The corresponding section of the Planning Statement incorporating the responses provided in the RtoC table has been updated accordingly in **Attachment 2**.

Please note that the enclosed information only serves as clarification, with no change to the locations, numbers and dimensions of the proposed drill holes and trial pits as submitted on 14 August 2024.

Thank you for your kind attention. Should there be any queries, please do not hesitate to contact the undersigned at **a second of the end of th**

Yours faithfully for Llewelyn-Davie, Hong Kong Ltd

Winnie Wu

Planning Director

WW/AK/jc Encl

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Responses-to-Comments Table

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No.: A/TM-SKW/128)

	Departmental Comments	Responses to Comments
1.	Comments from District Planning Office/Tuen Mun and Yuen Long West of Planning Department	
1.1	Please provide information on the completion year of the first stage of GI works.	The first stage of GI works was completed on 10.11.2022.
1.2	Please clarify the logistics arrangement / method of the proposed GI works.	The general ground investigation workflow for boreholes and trial pits are as follows:
		 Boreholes Setting out and confirmation of coordinates UU detection, Site clearance and construct temporary access as necessary Mobilize plant and equipment to works area Carry out inspection pit (max. 0.5m x 0.5m x 2m) Commence Drilling, Sampling and specified field tests/instrumentation installation. Reinstatement of drillhole and make good of the surrounding area Trial pits Setting out and confirmation of coordinates UU detection, Site clearance and construct temporary access as necessary Mobilize materials for temp support and required hand tools Carry out excavation of trial pit (max. 1.5m x 1.5m x 3m) and carry out field tests/ sampling as specified Reinstatement of trial pit and make good of the surrounding area

	Departmental Comments	Responses to Comments
		Typical light machinery used for the GI borehole works include the portable drilling rig with winch, water pump and water tank. For transportation of portable drill rig, it will be first dismantled as smaller component and then resembled at the works locations. Temporary access ladders will be erected for access of workers and transportation of tools, which will be removed immediately upon completion of GI works. In general, each portable drilling rig would be operated by two workers. Reference photos of the drilling rig are shown below:
		Access ladders for Natural TerrainImage: Note of the terrain of terrain o
		Typical Trial Pit carried out on Typical Drillhole with working platform carried Natural Terrain hillside out on Natural Terrain hillside
1.3	Please clarify if the locations of the drill holes and trial pits are determined by geologists and their source of information.	The locations for the drillholes and trial pits were determined by geotechnical engineers and relevant experts to enable detailed design works of the envisaged Natural Terrain Hazard Mitigation works, which were proposed based on the potential landslide hazards identified in the GEO-acknowledged Natural Terrain Hazard Study report.

	Departmental Comments	Responses to Comments
1.4	Please clarify the need of additional GI works as proposed under the subject application following the first stage of GI works and the accepted NTHS report.	The first stage of GI works implemented under the previously approved application No. A/TM-SKW/106 mainly served to study the general underground geology profile of the area for the preparation of the Natural Terrain Hazard Study (NTHS) report. It covered a broader investigation area with a larger amount of drillholes and trial pits situated at a further distance from the approved residential site (under Application No. A/TM-SKW/32-1).
		Building upon the findings of the NTHS report as per the data obtained under the first stage of GI works, which has been submitted to and accepted by GEO, the Applicant was able to narrow down the scope of the second stage of GI works, which focuses on investigating a selected number of drillholes and trial pits located closer to the approved residential site. This stage of additional GI works will serve to provide more thorough information on the geological profile and soil parameters in the immediate surroundings of the approved residential site to facilitate detailed design of Natural Terrain Hazard Mitigation Works and subsequent submission to BD and GEO, CEDD in future.
		Section 2.1.9 of the planning statement has been revised accordingly in Attachment 2 .
1.5	Please clarify whether reinstatement works will be checked by relevant government departments.	The reinstatement works will typically not undergo government department inspections. Nevertheless, the completion of reinstatement work will be certified by engineers, and photographic records of the reinstatement works will be retained.

Replacement Page of the Planning Statement application.

2.1.8 Subsequent to the approval of the planning application, the relevant GI works have been carried out. An associated NTHS Report which included the result of the completed GI works and recommendations was prepared. That NTHS Report has been submitted to the Buildings Department (BD) and Geotechnical Engineering Office of Civil Engineering and Development Department (GEO, CEDD) in November 2023. GEO, CEDD indicated no further geotechnical comments on the report in April 2024 (Appendix B refers).

Need for Further GI Works

2.1.9 The first stage of GI works implemented under the previously approved application No. A/TM-SKW/106 mainly served to study the general underground geology profile of the area for the preparation of the NTHS report. It covered a broader investigation area with a larger amount of drillholes and trial pits situated at a further distance from the approved residential site (under Application No. A/TM-SKW/32-1). Building upon the findings of the NTHS report as per the data obtained under the first stage of GI works, which has been submitted to and accepted by GEO, the Applicant was able to narrow down the scope of the second stage of GI works, which focuses on investigating a selected number of drillholes and trial pits located closer to the approved residential site. This stage of additional GI works will serve to provide more thorough information on the geological profile and soil parameters in the immediate surroundings of the approved residential site to facilitate detailed design of Natural Terrain Hazard Mitigation Works and subsequent submission to BD and GEO, CEDD in future. llewelyn davies

ARCHITECTS PLANNERS DESIGNERS Llewelyn-Davies Hong Kong Ltd

30 September 2024

By Hand and Email

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

Dear Sir

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No. A/TM-SKW/128)

Reference is made to the captioned application submitted to the Town Planning Board (the Board) on 14 August 2024, the consideration of which by the Board is now scheduled to be on 4 October 2024.

As requested by DPO/TM&YLW, PlanD, the Applicant herewith submits 1 hard copy of this consolidated planning statement, which covers all previous submissions in one report and serves to supersede all previous submissions to facilitate processing of this planning application by the Planning Department and for easy reference of the Board. It should be noted that, this enclosed set of documents mainly serves to consolidate all previously submitted Further Information. It does not contain new information nor make any revisions to the locations, numbers and dimensions of the proposed drill holes and trial pits. As all issues have been satisfactorily addressed, the Board is cordially invited to approve the captioned application at the meeting as scheduled on 4 October 2024.

Thank you for your kind attention. Should there be any queries, please do not hesitate to contact the undersigned at **attention** or our Mr Arnold Koon at **attention** / Mr Jason Chan at **attention**.

Yours faithfully for Llewelyn-Davies Hong Kong Ltd

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Planning Director

WW/AK/jc Encl

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Section 16 Planning Application for

Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun

Consolidated Planning Statement

(September 2024)



ARCHITECTS PLANNERS DESIGNERS Llewelyn-Davies Hong Kong Ltd

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Appendix B	Memo from Geotechnical Engineering Office of Civil Engineering and
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Appendix C	Reference Photos of On-site Works
Appendix D	Ecological Inspection Report

Appendix E Previous Responses-to-Comments

EXECUTIVE SUMMARY

PURPOSE OF SUBMISSION

This planning application was submitted to the Town Planning Board (the Board) under Section 16 (S16) of the Town Planning Ordinance (the Ordinance) (CAP. 131) in August 2024 to seek permission for proposed excavation of land in "Green Belt" zone on the Approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/15 for Ground Investigation (GI) works for a Natural Terrain Hazard Study (NTHS) on Government Land in Tai Lam Chung, Tuen Mun (hereafter referred to as the "Application Site"). The GI works for the NTHS was in support of the implementation of an approved residential development (under Application No. A/TM-SKW/32-1) at various lots in D.D. 385 zoned "Comprehensive Development Area" in the vicinity.

Subsequently, Further Information in response to departmental comments were submitted on 12 September, 17 September and 30 September 2024 respectively. This planning statement serves as a consolidated report to cover all previous submissions in one report to facilitate processing of this planning application by the Planning Department.

INDICATIVE PROPOSAL OF GROUND INVESTIGATION WORKS

The proposed GI works involve drilling / excavation of a total of 13 drill holes and 4 trial pits which will be carried out by manpower using hand tools only. The total site area involved is about 226m², including the drill holes and trial pits, as well as the related temporary working platforms. As regards the operation hours, the proposed GI works will only be operated from 8 a.m. to 6 p.m. from Monday to Saturday. It is anticipated that the entire GI works will be carried out for 6 months. Upon completion, the Applicant will backfill and reinstate the excavated area in accordance with the government's relevant guidelines and requirements.

JUSTIFICATIONS OF PROPOSED GROUND INVESTIGATION WORKS

Justifications in support of this planning application are listed as follows:

- The proposed excavation of land serves as a genuine need for GI works to assess the stability of slope to prevent landslip and safeguard the properties and residents or occupiers of existing and future developments in the vicinity;
- The Applicant has duly completed the first round of GI works (approved under Application No. A/TM-SKW/106) under the NTHS as required under the draft land grant of the approved residential development, and this round of GI works as proposed under the subject planning application is to gather additional information on the geological

profile and soil parameters for detailed design of appropriate hazard mitigation works;

- In line with the previous decision by the Board in approving the previous application (under Application No. A/TM-SKW/106) for excavation of land for GI works under the same "GB" zone. Approval of the subject planning application will not become an undesirable precedent;
- The proposed excavation of land fully adheres to the Town Planning Board Guideline No.10, in the sense that the proposed works are essential and would not adversely affect slope stability (in fact, the proposed GI works are to ensure slope safety); and
- No adverse impact anticipated on vegetation, ecological, environmental and traffic terms.

In light of the supporting evidence presented in this Planning Statement, the Board is cordially invited to consider the planning application favourably.

行政摘要

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

申請目的

申請人於 2024 年 8 月根據城市規劃條例第 16 條(第 131 章) · 向城市規劃 委員會(下稱「城規會」) 遞交規劃申請(下稱「本申請」) · 在掃管笏分區 計劃大綱核准圖編號 S/TM-SKW/15 上被劃作「綠化地帶」的政府土地上 進行挖土工程 · 作現場土地勘測工作以評估斜坡穩定性(下稱「擬議挖土 工程」) 。擬議挖土工程旨在蒐集土力工程數據作天然山坡風險研究 · 以推 展位於丈量約份第 385 約劃作「綜合發展區」地帶的已核准住宅發展(規劃 申請編號 A/TM-SKW/32-1) 。

之後,申請人分別於2024年9月12日、17日以及30日遞交補充資料, 以回應政府部門的意見。本規劃報告書整合了過往遞交的報告書及補充資料,以便規劃署處理是次規劃申請。

發展計劃概覽

擬議挖土工程包括土地勘測工作·涉及人手操作的挖土/鑽探工序·包括 13 個鑽孔和 4 個試井。總申請地盤面積約 226 平方米·已包括鑽孔、試井及 其相關的臨時工作台。擬議挖土工程運作時間為每周一至六早上八時至下 午六時。擬議挖土工程預計會在 6 個月內完成·工序完畢後申請人將回填 申請地盤·及根據政府相關指引及規定恢復地盤原貌。

擬議挖土工程理據

以下為支持是次規劃申請的理據:

- 擬議挖土工程以評估斜坡穩定性有其實際需要,以防止山泥傾瀉,保 障相關住宅發展、住客以及隣近居民的安全;
- 申請人經已因應已核准住宅發展的擬議批地條款中,有關天然山坡風險研究的要求,完成第一期挖土工程(根據已核准規劃申請編號A/TM-SKW/106進行)。與本申請相關的擬議挖土工程目的是進一步蒐集更多地質和泥土參數,以支持天然山坡山泥傾風險緩減工程的深化設計。
- 城規會先前已就位於相同「綠化地帶」內作同類挖土工程的申請批出 規劃許可(規劃申請編號 A/TM-SKW/106)·因此本申請不會成為不良

先例;

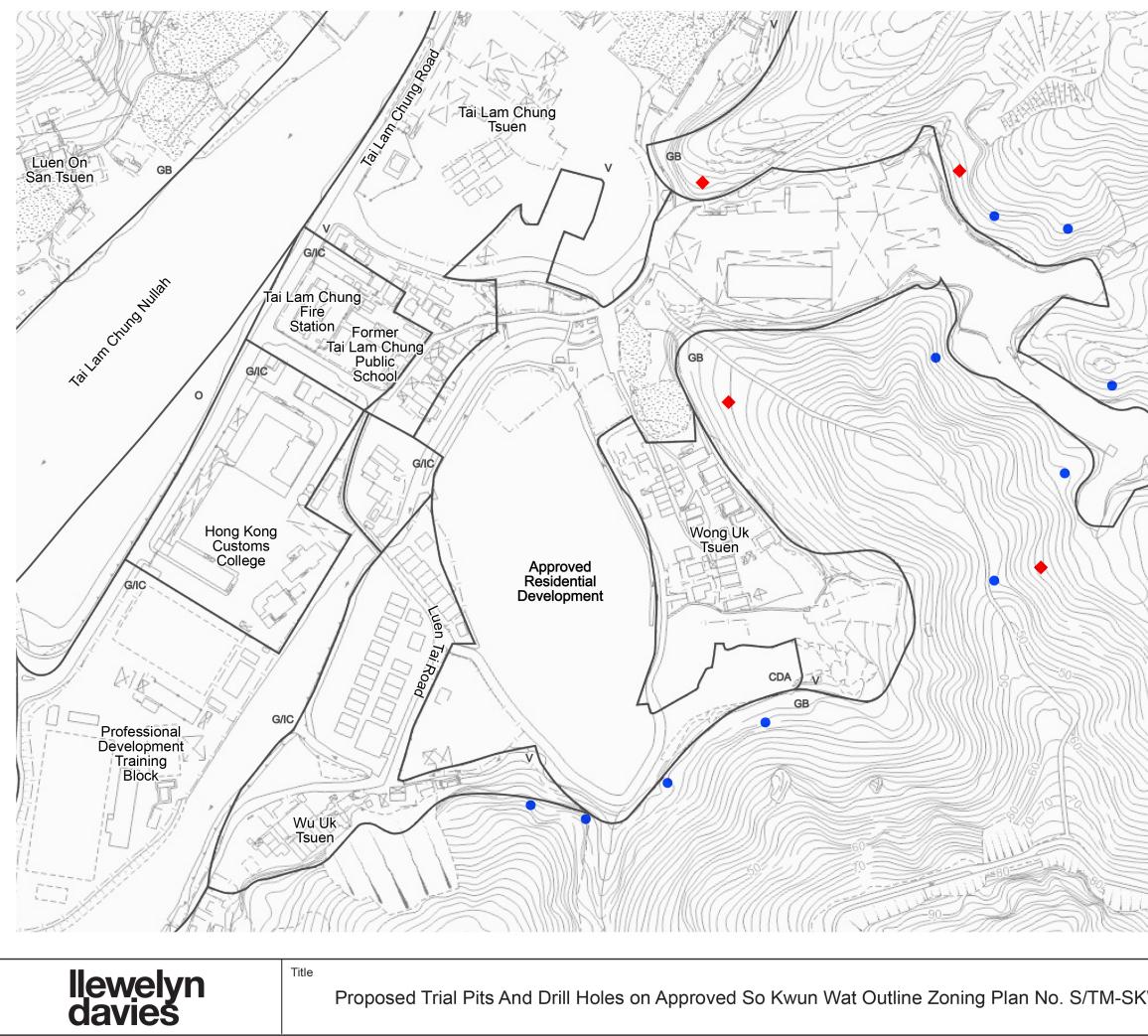
- 擬 議 挖 土 工 程 有 其 必 要 性 · 且 不 會 對 山 坡 穩 定 性 造 成 不 良 影 響 (相反 地 · 擬 議 土 地 勘 測 是 為 了 確 保 山 坡 安 全) · 因 此 符 合 城 市 規 劃 委 員 會 規 劃 指 引 (規 劃 指 引 編 號 10)訂 定 的 發 展 限 制 ; 以 及
- 擬議發展項目對樹木、生態、環境和交通方面均不會造成負面影響。

基於以上發展理據及規劃增益,現懇請城規會接納是次規劃申請。

SUPPLEMENTARY PLANNING STATEMENT

1 PURPOSE OF SUBMISSION

- 1.1 The current submission is intended to serve as a consolidated planning statement in support of the subject planning application (No. A/TM-SKW/128). This consolidated planning statement serves to supersede the earlier submissions to facilitate processing of this planning application by the Planning Department and for consideration by the Board. There are no change to the locations, numbers and dimensions of the proposed drill holes and trial pits as submitted in August 2024.
- 1.2 This planning application was submitted to seek permission from the Town Planning Board (the Board) in support of proposed excavation of land in "Green Belt" ("GB") zone on the Approved So Kwun Wat Outline Zoning Plan ("OZP") No. S/TM-SKW/15 on Government Land in Tai Lam Chung, Tuen Mun (hereafter referred to as the "Application Site") under Section 16 (S16) of the Town Planning Ordinance (the Ordinance) (CAP. 131).
- 1.3 The proposed excavation of land is for Ground Investigation (GI) works for a Natural Terrain Hazard Study (NTHS) of an approved residential development (under Application No. A/TM-SKW/32-1) at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417) in the vicinity. According to the relevant special condition (SC) under the draft Land Grant of Tuen Mun Town Lot No. 417, the Applicant is required to conduct GI for the purpose of studying the potential natural terrain landslide and boulder fall hazards. Therefore, the proposed excavation of land for GI works under the subject planning application is essential and for the fulfilment of relevant SC under the draft Land Grant.
- 1.4 The Application Site falls within an area zoned "GB", whereas the approved residential development is located in the adjacent "Comprehensive Development Area" ("CDA") zone on the Approved So Kwun Wat OZP No. S/TM-SKW/15 (Figure 1). The Application Site comprises 13 drill holes, each with a temporary working platform of size 4m (L) x 4m (W), and 4 trial pits, each with a size 1.5m (L) x 3m (W) including works area. In total, the area of the Application Site is approximately 226m².



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1.5 According to the Notes for the "GB" zone, excavation of land, including that to effect the uses or developments as specified in Columns 1 and 2 or the uses and developments always permitted under the covering Notes, requires permission from the Board. In view of the above, a S16 application seeking the permission from the Board is required for the proposed excavation of land (for GI works for approved residential development under Application No. A/TM-SKW/32-1).

2 PROPOSAL OF GROUND INVESTIGATION

2.1 Background

- 2.1.1 The proposed GI works for the NTHS of the approved residential development (Planning Application No. A/TM-SKW/32-1) aims to assess the slope stability of the approved residential site at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417) located in Tai Lam Chung Valley to the south of Tai Lam Chung Reservoir Main Dam.
- 2.1.2 Situated at the foot of hillslopes zoned "GB" to its immediate north and east, the residential site, together with the existing institutional buildings such as the Tai Lam Chung Fire Station and recognised villages in close vicinity to the residential site, may be affected by landslide and boulder fall hazards¹ arising in the area.



Natural Terrain facing Tai Lam Chung Valley

¹ Boulder falls is one of the most common types of natural terrain landslide in Hong Kong.

2.1.3 Hence, it is important to carry out GI works for the purpose of studying the natural terrain landslide and boulder fall hazards including the assessment of slope stability and any necessary mitigation / stabilisation works to protect any buildings and structures erected or to be erected on the approved residential site, as well as the existing developments in the vicinity, and the residents and occupiers therein and their bona fide guests, visitors and invitees from the hazards.

<u>Natural Terrain Hazard Study (NTHS) Requirement of Special Condition (SC) under</u> <u>Draft Land Grant for Approved Residential Development</u>

- 2.1.4 Prior to the commencement of the aforementioned approved residential development, it is necessary to carry out an assessment of slope stability as the approved residential housing site is in close vicinity of a slope. Based on the findings of the proposed GI works, the stability of slope can be assessed to see if any slope upgrading works will be required.
- 2.1.5 Under the Provisional Basic Terms Offer (PBTO) of the draft Land Grant presented in District Lands Conference on 7 July 2022, the extent of the study area (i.e. natural terrain catchment) for the Applicant to carry out a geotechnical investigation (under SC 71(b) of the draft Land Grant) on the natural terrain has been defined (green line in **Figure 2a** refers). GI works in forms of drill holes and trial pits would be required to study the underground geology profile for the NTHS.
- 2.1.6 The purpose of trial pits are to gather shallow soil / geological properties and parameter (such as fill depth and soil density) whereas drill holes are to gather deep soil / geological properties (such as soil parameters and rock head level).

Previous GI Works (approved under Planning Application No. A/TM-SKW/106)

2.1.7 A similar planning application for proposed excavation of land in the same "GB" zone was submitted by the current Applicant in 2020, which was to facilitate the first stage of GI works for NTHS in accordance with the SC under PBTO of the new lot. Covering a slightly larger site area of about 346.5m², a total of 32 drill holes and 13 trial pits were proposed under the previous planning application. As compared with the current application, most of the drill holes and trial pits were located farther from the approved residential development and scattered in the adjacent hillslopes. The planning application was approved by the Board on 15 September 2020. Please refer to Appendix A for the locations of drill holes and trial pits under the approved planning

application.

2.1.8 Subsequent to the approval of the planning application, the relevant GI works have been carried out. An associated NTHS Report which included the result of the completed GI works and recommendations was prepared. That NTHS Report has been submitted to the Buildings Department (BD) and Geotechnical Engineering Office of Civil Engineering and Development Department (GEO, CEDD) in November 2023. GEO, CEDD indicated no further geotechnical comments on the report in April 2024 (Appendix B refers).

Need for Further GI Works

2.1.9 The first stage of GI works implemented under the previously approved application No. A/TM-SKW/106 mainly served to study the general underground geology profile of the area for the preparation of the NTHS report. It covered a broader investigation area with a larger amount of drillholes and trial pits situated at a further distance from the approved residential site (under Application No. A/TM-SKW/32-1). Building upon the findings of the NTHS report as per the data obtained under the first stage of GI works, which has been submitted to and accepted by GEO, the Applicant was able to narrow down the scope of the second stage of GI works, which focuses on investigating a selected number of drillholes and trial pits located closer to the approved residential site. This stage of additional GI works will serve to provide more thorough information on the geological profile and soil parameters in the immediate surroundings of the approved residential site to facilitate detailed design of Natural Terrain Hazard Mitigation Works and subsequent submission to BD and GEO, CEDD in future.

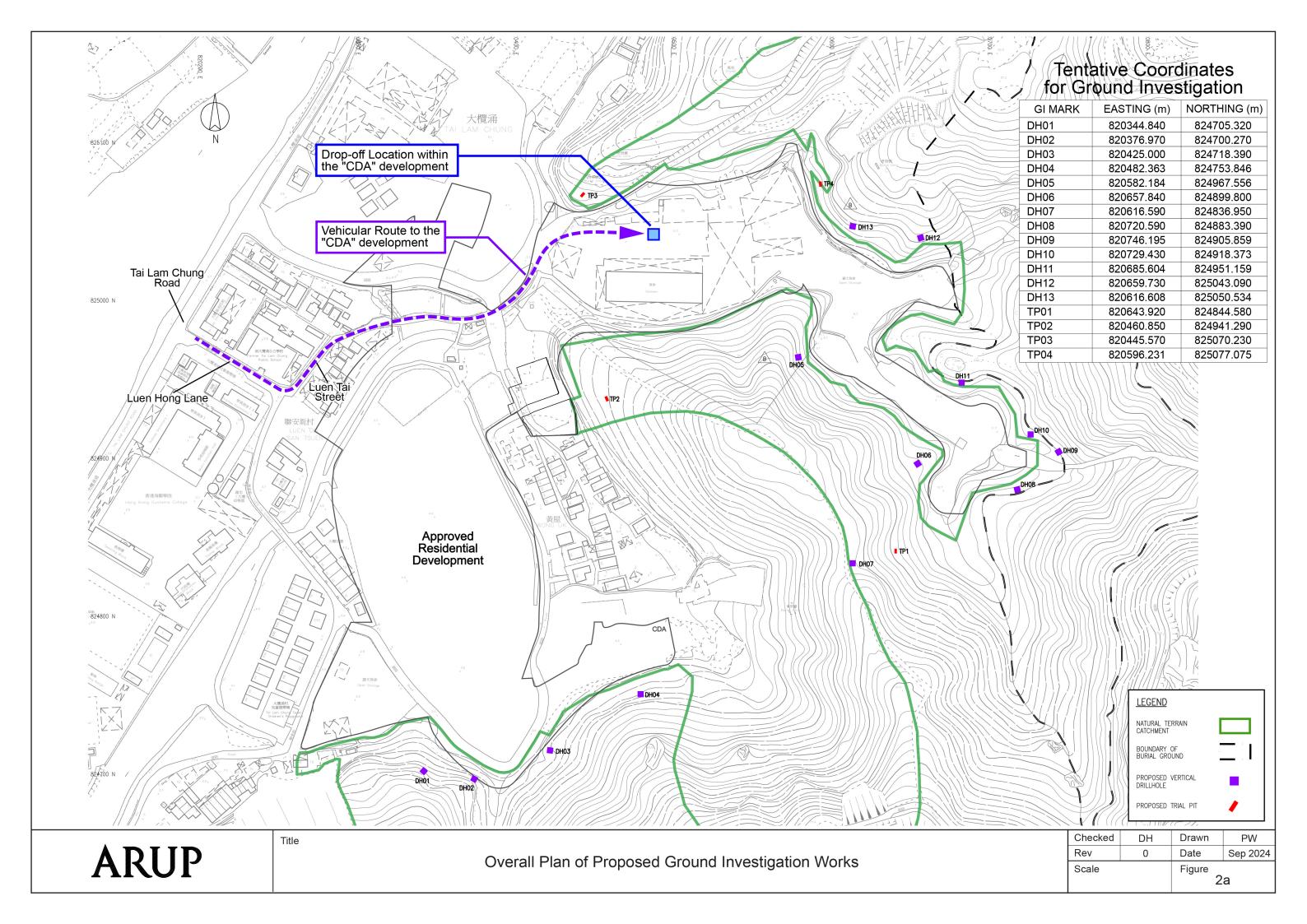
2.2 Proposed GI Works under Current Application

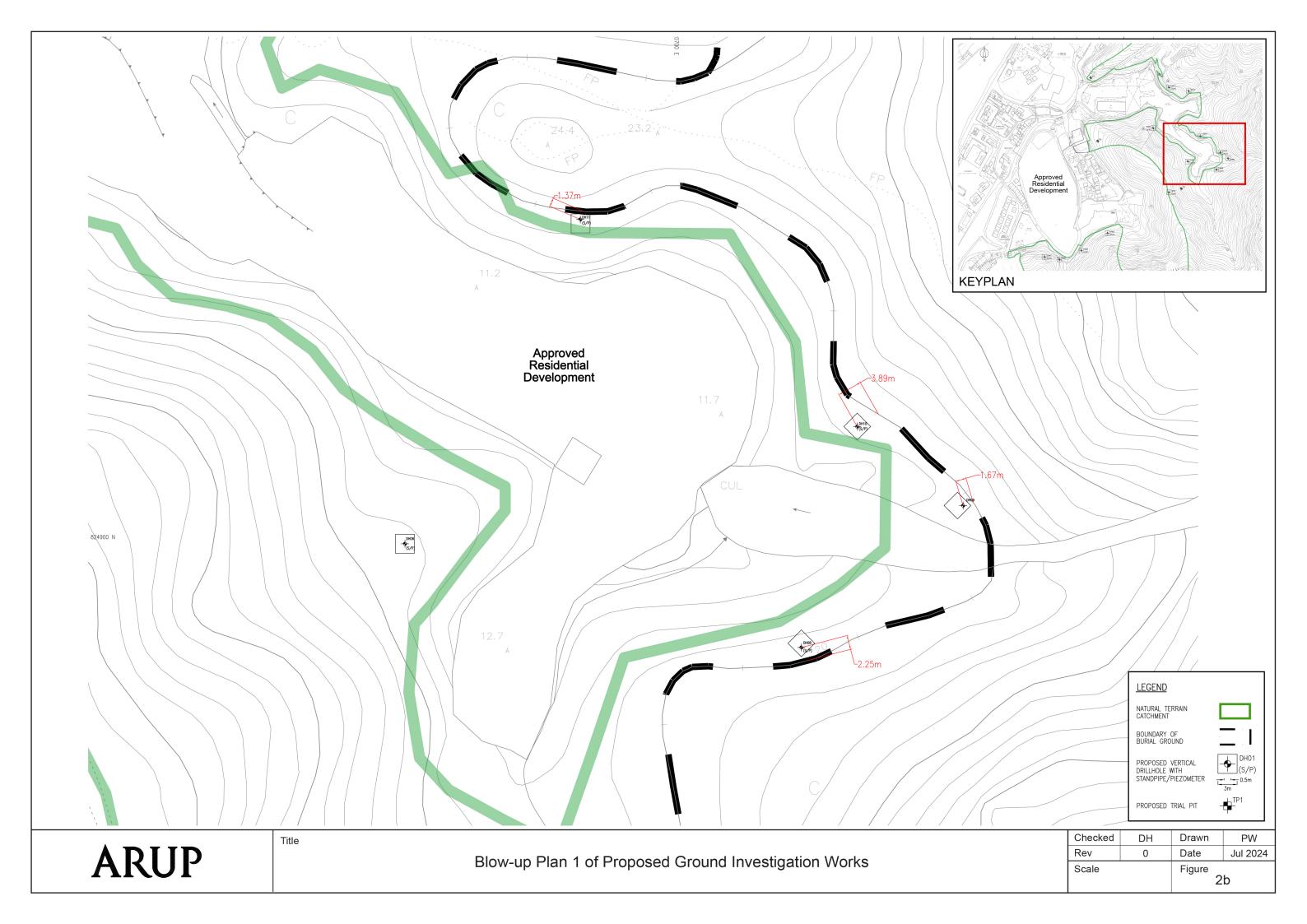
Proposed GI Works

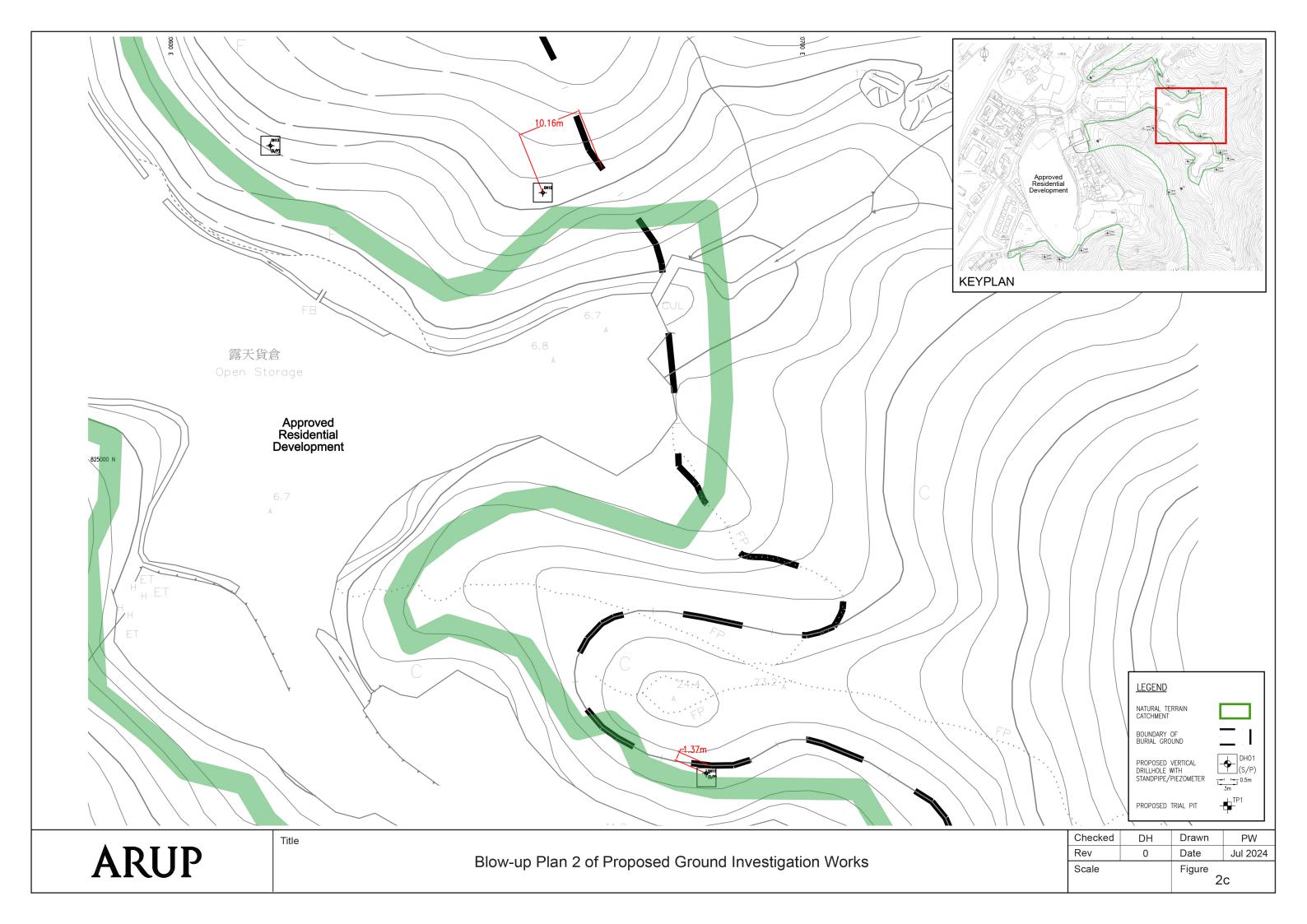
- 2.2.1 This proposal entails a total of 13 drill holes. For protection of the vegetated slopes, temporary bamboo and metal working platforms for the drill holes will be formed with size 4m x 4m and with least disturbance to the surrounding environment (Appendix C refers). The size of each drill hole is 150mm in diameter which will be drilled into the ground about 25m deep. A drilling rig along with drilling rods, samplers and casings are required, as well as water tanks and water pump for the drilling fluid. These equipment will be mobilized on the temporary platform for setting up.
- 2.2.2 A total of 4 trial pits with size 1.5m(L) x 3m(L) x 3m(D) will be carried out by man power using only hand tools. For a typical trial pit, the duration of works which include excavation using only hand tools with timber planking, taking soil samples and backfill lasts for approximately 3 days. Multiple trial pits can be dug simultaneously. Detailed method statement of the works will be submitted to relevant Government departments for comments and approval before commencement.
- 2.2.3 The total site area involved is about 226m², including the drill holes and trial pits, as well as the related temporary working platforms. The location of proposed drill holes and trial pits are shown in Figures 2a 2c.

Existing Permitted Burial Ground Site and Felling of Trees Avoided

- 2.2.4 In determining the location of the proposed drill holes and trial pits, the boundary of Permitted Burial Ground Site No. BURGD16 located in the vicinity of the Application Site has also been taken into account. All drill holes and trial pits would not fall within the Permitted Burial Ground to avoid potential adverse impacts on the subject Burial Ground. Figures 2b & 2c show the separation distance between the Permitted Burial Ground and the nearby drill holes and trial pits.
- 2.2.5 The exact location and extent of drill holes and trial pits would be adjusted based on ecological field observations to avoid or minimize any potential ecological impacts to the existing trees found on site. No tree felling will be involved in the proposed GI works, minor vegetation clearing and trimming may be required at the work platforms and on access paths depending on the site conditions.







Operation Hours

2.2.6 As regards the operation hour, the proposed GI works will only be operated from 8 a.m. to 6 p.m. from Monday to Saturday. The proposed GI works will follow the requirements stipulated in the relevant regulations and technical guidance notes. It is anticipated that the entire GI works will be carried out for 6 months.

Good Site Practices and Safety Measures

- 2.2.7 Good site practices will be adopted during the course of GI works, for example guidelines detailed in the ProPECC PN 1/94 'Construction Site Drainage' and 'Appendix 4.20: Guidelines on Planning and Implementation of Ground Investigation Projects in Ecologically Sensitive Areas' of the Project Administration Handbook for Civil Engineering Works will be followed.
- 2.2.8 Tarpaulin sheeting will be provided to cover up exposed and excavated earth to prevent washout. The working areas will be fenced off by metal railing during non-operation hours to prevent passer-bys from being trapped by the trial pits and drill holes during the GI works. Please refer to **Appendix C** for on-site photos taken from other work sites for similar GI works on vegetated slopes for reference.

Reinstatement

- 2.2.9 All drills holes and trial pits will be reinstated within seven days after completion of the GI works and will be inspected by Qualified Geologists. For drill holes, the empty borehole will be backfilled with grout upon completion, while the trial pits will be backfilled and compacted with the excavated materials. The Guide to Site Investigation (Geoguide 2) will be followed at reinstatement stage.
- 2.2.10 In situation where vegetated areas such as shrubs are inevitably affected, reinstatement of vegetation would be carried out at the concerned locations. Like-for-like species vegetation would be replanted upon the completion of the proposed GI works. Shrub species for reinstatement would make reference to the native species recorded in the affected sites and their vicinity, as well as Table E4 of GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes.

2.2.11 The reinstatement works (including the proposed GI works, excavation, erection of work platforms and access routes) will be carried out in accordance to the latest edition of "General Specification for Civil Engineering Works" together with the relevant corrigendum.

3 TECHNICAL CONSIDERATIONS

3.1 <u>Ecological Considerations</u>

- 3.1.1 In view that the Application Site is located in "GB" zone and on the lower hillslope area to the east of Tai Lam Chung River and away from Tai Lam Country Park, an Ecological Inspection Report has been prepared to assess the potential ecological impact and suggest mitigation measures to be adopted for the proposed GI works.
- 3.1.2 Based on the assessment results, with various mitigation measures proposed as well as strict adherence to relevant statutory requirements and guidelines, the potential impact on flora and fauna species, natural habitat and vegetation associated with the proposed GI works is anticipated to be low. Please refer to **Appendix D** for details.

3.2 <u>Environmental Considerations</u>

- 3.2.1 While carrying out the proposed works, Air Pollution Control Ordinance (APCO) and its subsidiary regulations including Air Pollution Control (Construction Dust) Regulation and Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will be strictly followed. Dust control measures as stipulated in the Regulation including but not limited to the followings would be implemented:
 - using low sulphur gasoline
 - covering dusty material stockpiles with tarpaulin sheet
 - carrying routine maintenance for the machinery on site
 - monitoring the emission levels of the machinery
- 3.2.2 The proposed GI works will only involve small scale machineries. Operation from these machineries would be in compliance with Air Pollution Ordinance. Moreover, the works would be implemented in compliance with the requirements and standards set out by relevant authorities. Therefore, no adverse air impact would be anticipated.
- 3.2.3 The diameter of drill holes is less than 150mm and the drill holes will be backfilled as soon as possible after sampling. Hence, no adverse water quality impacts on groundwater from the proposed GI works would be anticipated. Furthermore, Water Pollution Control Ordinance and its Technical Memorandum and ProPECC PN 1/94 "Construction Site Drainage" would be strictly followed for the effluent discharge from the proposed works.

3.2.4 Prevailing guidelines and legislative requirements on waste management issues arising from the proposed works would be observed and complied with.

3.3 <u>Traffic Consideration</u>

- 3.3.1 As the proposed GI works are in support of the approved residential development (Planning Application No. A/TM-SKW/32-1), the workers would make use of the public road named Tai Lam Chung Road, then turn into Luen Hong Lane and move northwards to Luen Tai Street before entering the approved residential development. The workers can park their vehicles and unload necessary hand-held tools at the site of the approved residential development, and then carrying the tools to the proposed trial pits / drill holes on foot. Please refer to the indicative access route in **Figure 2a**.
- 3.3.2 A maximum of 3 nos. of light vehicles carrying workers would enter the approved residential development at 8 a.m. and would leave the area at 6 p.m. from Monday to Saturday.
- 3.3.3 The proposed GI works, which is small-scale and temporary in nature, does not involve any developments and the workers involved in the proposed GI works would carry hand-held tools to access to the proposed location of trial pits / drill holes on foot. Hence, no adverse impact on the nearby road network would be anticipated.

4 JUSTIFICATIONS OF PROPOSED GROUND INVESTIGATION WORKS

4.1 Genuine Need for Ground Investigation Works to Assess the Stability of Slope

- 4.1.1 This planning application supports the NTHS of the approved residential development (Planning Application No. A/TM-SKW/32-1) at various lots in D.D. 385 (Lot to be known as Tuen Mun Town Lot No. 417). Prior to the construction of the approved residential development, it is of vital importance to carry out an assessment of slope stability as the approved residential site is in close vicinity of a slope. In addition to the approved residential development, with GI works undertaken, public safety in the surrounding area including the nearby existing Tai Lam Chung Fire Station and recognised villages can be ensured.
- 4.1.2 Since the proposed GI works, as mentioned previously, are in fact under the NTHS as required under PBTO of the draft Land Grant of the approved residential development, the implementation of proposed GI works in the area is indeed necessary and required by relevant Government departments.

4.2 Proposed Ground Investigation Works under Subject Application for Detailed Design of Appropriate Hazard Mitigation Works

4.2.1 As mentioned in previous sections, the Applicant is required to carry out NTHS to assess the stability of slope in this area. In fact, the Applicant has duly completed the first round of GI works (approved under Application No. A/TM-SKW/106) under the NTHS as required under the draft land grant of the approved residential development, and relevant report has already been submitted to and acknowledged by relevant departments. This round of GI works as proposed under the subject planning application is to gather additional information on the geological profile and soil parameters for detailed design of appropriate hazard mitigation works.

4.3 In Line with the Previous Decision of the Board for Similar Application for GI Works in the Same "GB" Zone

4.3.1 The abovementioned planning application submitted by the same Applicant for excavation of land for GI works in the same "GB" zone (approved under Application No. A/TM-SKW/106) was approved by the Board on 15 September 2020 on the basis that:

- a) The proposed excavation of land for GI works in relation to an approved residential development to the west of the application site was not in conflict with the planning intention of "GB" zone;
- b) Only minor vegetation clearance and trimming might be required and the applicant would backfill the excavated area and reinstate the land with replanting with shrub species;
- c) The applicant had confirmed that no drill holes and trial pits within the application site would fall within the boundary of Tai Lam Country Park and Permitted Burial Ground; and
- d) No adverse department comment received on the application.
- 4.3.2 The current planning application proposes further GI works which are of similar nature to the previous planning approval and falls within the same "GB" zone as the approved Application No. A/TM-SKW/106. The site area involved under the current application (about 226m²) is also less than that under the approved Application No. A/TM-SKW/106 (about 346.5m²). With no change in planning circumstances, the current application should also warrant the same favourable consideration by the Board. The approval of the current application will not become an undesirable precedent.

4.4 Full Adherence to Town Planning Board Guidelines (TPB-PG NO.10)

- 4.4.1 The Application Site falls within the "GB" zone, the planning intention of which is to promote the conservation of the natural environment and to safeguard it from encroachment by urban-type developments. It is understood that there is a general presumption against development in "GB" zone. Hence, due consideration has been taken into account to minimize any adverse impacts on the "GB" zone.
- 4.4.2 According to Town Planning Board Guidelines (TPB-PG NO.10), the following assessment criteria are relevant to this subject planning application:
 - a) there is a general presumption against development (other than redevelopment) in "GB" zone. In general the Board will only be prepared to approve applications for development in the context of requests to rezone to an appropriate use;
 - b) an application for new development in "GB" zone will only be considered in exceptional circumstances and must be justified with very strong planning ground;
 - c) the design and layout of any proposed development should be compatible with the surrounding area. The development should not involve extensive clearance

of existing natural vegetation, affect the existing natural landscape, or cause any adverse visual impacts on the surrounding environment; and

- d) any proposed development on a slope or hillside should not adversely affect slope stability.
- 4.4.3 In view of the above criteria, it should be highlighted that the proposed GI works do not involve new developments, nor rezoning of uses in the "GB" zone, nor extensive clearance of any existing natural vegetation. Instead, the proposed GI works are intended to ensure slope stability and to carry out any slope stabilization works, if any, upon investigation. In this regard, this subject planning application is fully acceptable from planning point of view.

4.5 Acceptable Technical Terms

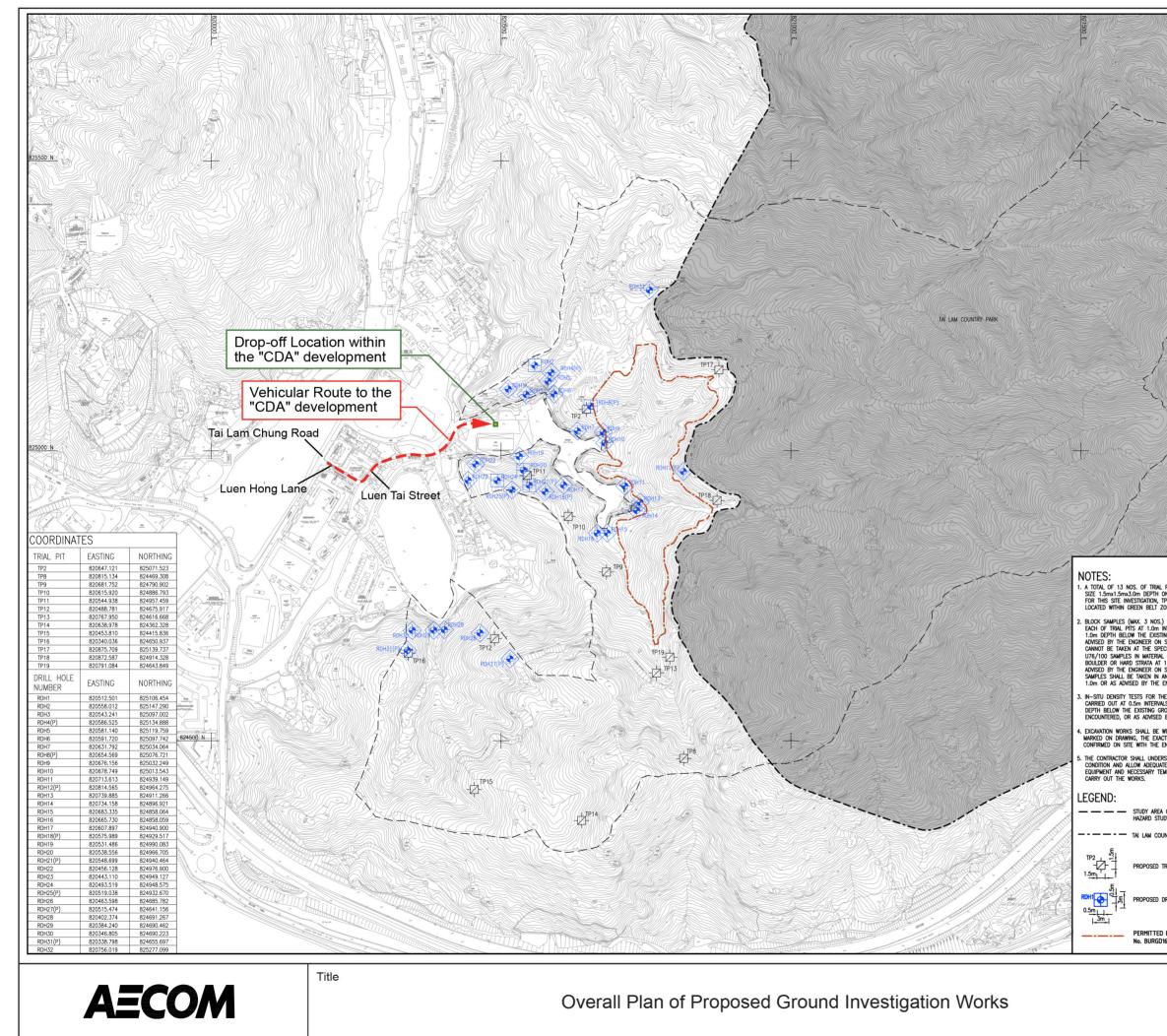
4.5.1 The proposed excavation of land is very small in scale with a total area of about 226m² only. It is temporary in nature with a works period of about 6 months. Only hand-tools with light machinery will be devised during the course of excavation work. All of the relevant good site practices, statutory requirements and regulations will be observed and strictly adhered to when carrying out the proposed GI works. In particular, the Ecological Inspection Report conducted has also concluded that the potential ecological impact associated with the proposed excavation works is considered to be low. Therefore, it is anticipated that the proposed excavation of land would be acceptable in vegetation, ecological, environmental and traffic terms.

5 CONCLUSION

5.1 In light of the supporting justifications presented above, the Board is cordially invited to consider this planning application favourably.

Appendix A

Location of Ground Investigation Works under Approved Planning Application No. A/TM-SKW/106



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d Burial Ground 116				
	Checked	DH	Drawn	PW
	Rev	0	Date	Aug 2020
	Scale		Figure	
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Appendix B

Memo from Geotechnical Engineering Office of Civil Engineering and Development Department in April 2024 on Previous Natural Terrain Hazard Study

2024/04/11	11:41	(FAX)	P.0001/0001
		By Fax a	nd Despatch
	<u>_M</u>	EMO	
From	CGE/MW, GEO, CEDD	To CBS/	NTW,BD
Ref	/n MW-10-2010-4-9085/10	(Attn.:)
Tel .No		Your Ref. <u>(86)</u> inBI	0 2/9085/10(Pt.III)
Fax No		dated <u>12.1</u> 2.2023 Fax.	No.
Date	<u>10 April 2024</u>	Total Pages	1+Encl

Proposed Residential Development at Tai Lam Chung, Tuen Mun – TMTL 417

Submission of Natural Terrain Hazard Study (NTHS) Report

I refer to MUR enclosing the captioned NTHS report at $f(82)^1$ submitted under the RGE/RSE's letter ref. 293162/-0007-Let dated 17.11.2023. Subsequently, the AP/RSE/RGE's representative, Mr Stanley Lau of Ove Arup & Partners Hong Kong Ltd. sent me the revised hard copy of the captioned submission dated 6.3.2024.

<u>Recommendations</u> (to be transmitted to AP/RSE/RGE)

2. Please be informed that we have no further geotechnical comments to the revised report provided by the AP/RSE/RGE's representative on 6.3.2024.

3. Please request the AP/RSE/RGE to provide an extra signed hard copy of the revised report provided by the AP/RSE/RGE's representative on 6.3.2024, for our record.

<u>Comments</u> (not to be transmitted to AP/RSE/RGE)

4. Please note that the captioned submission has been agreed by our District Checking Panel on Natural Terrain Submissions dated 9.4.2024. Hence my recommendation in para.2 above.

5. Please copy your letter to the AP to GEO for record.

6. The report at $f(82)^{1}$ accompanying your referral, which was superseded, is returned herewith.



for Chief Geotechnical Engineer/Mainland West Geotechnical Engineering Office Civil Engineering and Development Department

Encl. c.c.	, , , , , , , , , , , , , , , , , , ,			
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Appendix C

Reference Photos of On-site Works



Reference photos - For protection of the vegetated slopes, temporary bamboo and metal working platforms for the drill holes will be formed with least disturbance to the surrounding environment.

Appendix D Ecological Inspection Report

(Consolidated Report based on Further Information submitted on 12 & 17 September 2024)



Host Duty Limited

S16 Planning Application for Proposed Excavation of Land for Ground Investigation Works for Natural Terrain Hazard Study at Government Land in Tai Lam Chung, Tuen Mun, New Territories

Ecological Inspection Report

	Name	Signature
Prepared & Checked:	Shirley Mak	
Reviewed & Approved:	Gigi Lam	

Ver	sion:	2

Date: 10 September 2024

Disclaimer

This report is prepared for Host Duty Limited and is given for its sole benefit in relation to and pursuant to S16 Planning Application for Proposed Excavation of Land for Ground Investigation Works for Natural Terrain Hazard Study at Government Land in Tai Lam Chung, Tuen Mun, New Territories and may not be disclosed to, quoted to or relied upon by any person other than Host Duty Limited without our prior written consent. No person (other than Host Duty Limited) into whose possession a copy of this report comes may rely on this report without our express written consent and Host Duty Limited may not rely on it for any purpose other than as described above.

AECOM Asia Co. Ltd. 13/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong Tel: (852) 3922 9000 Fax: (852) 3922 9797 www.aecom.com

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1 INTRODUCTION

1.1 Background

- 1.1.1 This Ecological Inspection was carried out to support the Section 16 Planning Application for a proposed excavation of land in "Green Belt" zone for ground investigation (GI) works for a Natural Terrain Hazard Study (NTHS) at Government Land in Tai Lam Chung, Tuen Mun, New Territories. The proposed ground investigation works will commence in late 2024/early 2025 and be carried out for about six months.
- 1.1.2 The total works area of the works areas of trial pits (TP), works platforms of drill holes (DH), single row steel access ladder (AL) and double row steel AL is approximately 1,480 m², which falls within a "Green Belt" (GB) under the approved So Kwun Wat Outline Zoning Plan No. S/TM-SKW/13 (TPB, 2015). The western edge of the Natural Terrain Study Area is located next to Tai Lam Chung Tsuen and Wong Uk Tsuen (refer to **Drawing No. 60281828/GI/310**). Thirteen DHs and four TPs would be temporarily constructed within the NTHS Study Area with the excavation volume for TP and DH of approximately 55.5 m³. The DH and TP are proposed to be located at moderately vegetated areas.

Item	Nos.	Approximate Size	Approximate Area
Drill Hole (DH)	13	4.0 m x 4.0 m (Inclusive of the works platform)	208 m ²
Trial Pit (TP)	4	1.5 m x 3.0 m (Inclusive of the works area)	18 m ²
Single Row Steel Access Ladder	-	95 m x 1.2 m	114 m ²
Double Row Steel Access Ladder	-	570 m x 2 m	1,140 m ²
		Total	1,480 m ²

Table 1.1 The Breakdown of Works Area within the Ecological Assessment Area

- 1.1.3 For protection of the vegetated slopes, temporary bamboo and metal works platforms for DH will be formed with size 4 m x 4 m and with least disturbance to the surrounding environment. The size of the DH is 150 mm in diameter which will be drilled into the ground about 25 m deep. The drill rigs, generator, water tank and other equipment will be mobilized on the temporary platform for setting up. Excavation works for the proposed TP with size 1.5 m(L) x 1.5 m(L) x 3 m(D) will be carried out by man power using only hand tools, and works area of 1.5 m x 3 m will be reserved for each TP. The proposed locations of DH and TP would be adjusted based on ecological field observations to avoid or minimize potential ecological impacts to the existing trees found on site. No tree felling will be involved in the GI works, minor vegetation clearing and trimming may be required at the works areas, works platforms and along ALs depending on the site conditions. No haul road will be needed for access to the DHs and TPs. Proposed access will utilize existing roads and concrete area as much as practicable. Temporary single row steel AL or double row steel AL will be used for the transportation of workers, drill rigs and other equipment to the TPs and DHs. The maximum width of single row steel AL and double row steel AL is approximately 1.2 m and 2 m respectively, with an approximate length of 95 m and 570 m.
- 1.1.4 The DH and TP will be reinstated within seven days after completion of the GI works and will be inspected by qualified geologists. The reinstatement works will be carried out in accordance with *Guide to Site Investigation (Geoguide 2)* (CEDD, 2017).
- 1.1.5 The Study Area in this report represents the engineering study area of the GI works as shown in **Drawing No. 60281828/GI/310**. Whilst the NTHS Study Area covers a large area of well-vegetated hillside terrain to the east of Tai Lam Chung, due to the small extent and scale of the proposed GI works, the Ecological Assessment Area for the ecological investigation was confined to the immediate surrounding (20m buffer) of the proposed DH and TP locations,

temporary works platform and temporary access where direct and indirect impacts on ecological features are likely to occur from the GI works. Ecological Assessment Area refers to the area where ecological field survey has been undertaken around the location of DH and TP, temporary works platform and temporary access proposed to establish the ecological profile of the potentially impacted area (**Drawing Nos. 60281828/GI/311** to **314** refer). This report presents the results of the surveys conducted in May 2024, covering the habitat, vegetation and wildlife as described in the following sections.

2 ECOLOGICAL SURVEY METHODOLOGY

- **2.1.1** Relative abundance and growth forms of dominant and notable plant species were recorded at the Ecological Assessment Area. A flora list was generated to assist in habitat characterisation as well as to recognise plant species of conservation importance. The location of any plant species of conservation importance was recorded. Identification of flora species and status in Hong Kong was made with reference to Xing *et al.* (2000), Hu *et al.* (2003), Lai *et al.* (2008), Hong Kong Herbarium (2012), and Hong Kong Herbarium and South China Botanical Gardens (2007; 2008; 2009; 2011).
- 2.1.2 Wildlife including avifauna, herpetofauna, mammal, terrestrial insects (odonate, butterfly and fireflies) and freshwater fauna was surveyed both visually and aurally, in day-time and night-time. Active searching of potential habitats of herpetofauna and mammal habitats was undertaken, where accessible. Bat detector was deployed during night surveys to detect the presence of bat species. Any indirect sightings of terrestrial mammals such as droppings, footprints and burrows were recorded, if any. Camera traps were also set up to aide with the detection of terrestrial fauna.
- 2.1.3 Freshwater fish and invertebrate communities were surveyed through active searching and direct observation in watercourses that would likely be impacted by the proposed works within the Ecological Assessment Area. To avoid driving organisms (e.g. fish and shrimps) away, and avoid disturbing the bottom substrate, direct observation from a suitable distance was conducted before active searching and kick sampling. Boulders within the watercourse were turned over to locate any aquatic animals beneath. Hand net was used to collect organisms along the watercourse, and subsequently released following species identification. Organisms encountered were recorded and identified to the lowest possible taxon level.
- 2.1.4 For general distribution status of the species in Hong Kong, references were made to Fellowes et al. (2002) and the Hong Kong Biodiversity Information Hub (AFCD, 2022). For identification of specific fauna groups and assessment of their geographic distribution, the following resources were used: avifauna Carey et al. (2001) and Viney et al. (2005); odonates –Tam et al. (2011) and Reels (2019); butterflies Lo & Hui (2010) and Chan et al. (2012); fireflies Yiu (2020); amphibians and reptiles Chan et al. (2005) and Chan et al. (2006); terrestrial mammals Shek (2006); freshwater fish and invertebrate communities Lee et al. (2004) and Dudgeon (2003).

3 ECOLOGICAL PROFILE

3.1 Site of Conservation Importance

Country Park

- 3.1.1 Tai Lam Country Park (TLCP) is located at the east of the Natural Terrain Study Area (**Drawing No. 60281828/GI/310** refers). The Ecological Assessment Area falls completely outside TLCP and the nearest works area (i.e. the works platform of DH08) is over 100 m away from TLCP.
- 3.1.2 Designated in 1979, TLCP is the second largest country park in the territory, covering 5,412 hectares of natural terrain and housing seven reservoirs and settlement basins in Western New

Territories. Through expansive efforts in afforestation work which allowed the once barren land to be colonised by vegetation, TLCP now harbours a high diversity of flora species, with a mix of common plantation species (e.g. Acacia confusa, Lophostemon confertus, Pinus massoniana and Pinus elliottii) and native species (e.g. Oak and Machilus species and Castanopsis fissa) (AFCD, 2023).

3.1.3 The Country Park is also home to a number of species of conservation importance across different animal groups, including Chinese Pangolin (Manis pentadactyla), Leopard Cat (Prionailurus bengalensis), Hong Kong Cascade Frog (Amolops hongkongensis), Chinese Cobra (Naja atra) and Rice Fish (Oryzias curvinotus) (AFCD, 2023).

3.2 Habitat/Vegetation

- 3.2.1 Due to the small extent and scale of the proposed GI works, the Ecological Assessment Area for the ecological investigation was confined to the immediate surrounding of the proposed DH and TP locations, works platforms and temporary access where direct and indirect impacts on ecological features are likely to occur from the GI works. The Ecological Assessment Area covers the west-facing lower hillslope that envelopes the open storage, Wong Uk Tsuen and Tai Lam Chung Tsuen, on the eastern side of Tai Lam Chung River. Photographs showing the locations of DH and TP are presented in Appendix 1.
- 3.2.2 Six major habitat types were recorded within the Ecological Assessment Area, which include other urban area, grassland, shrubland, woodland, modified watercourse and natural watercourse. The habitat map is presented in Drawing Nos. 60281828/GI/311 to 314 and representative photographs of each recorded habitat are presented in Appendix 1.
- 3.2.3 A total of 167 flora species were recorded within the Ecological Assessment Area. A majority of which are common or very common in Hong Kong. Two flora species of conservation importance were recorded in the survey, all of which have a common and very common distribution in the territory. A complete list of recorded flora species is presented in Appendix 2. The protection and distribution statuses and indicative location of the recorded flora species of conservation importance are respectively presented in Table 3.1 and Drawing No. 60281828/GI/311 to 314.

Species	Distribution in Hong Kong ⁽¹⁾	Protection Status	Habitat Recorded
Small Persimmon (Diospyros vaccinioides)	Common	Endangered ⁽²⁾ ; Critically Endangered ⁽³⁾	Woodland
Emarginate-leaved Ormosia (<i>Ormosia emarginata</i>)	Common	Category II (4)	Woodland

Table 3.1 The Protection and Distribution Statuses of Recorded Flora Species of Conservation Importance within the Ecological Assessment Area

(1) Xing et al. (2000) Gymnosperms and Angiosperms of Hong Kong

(2) Qin et al. (2017) Threatened Species List of China's Higher Plants

International Union for the Conservation of Nature (IUCN) (2024) Red List of Endangered Species (Ver. 2023.1) (3)

(4) List of Wild Plants under State Protection (2021) (promulgated by the Ministry of Forestry)

Other Urban Area – Access

3.2.4 Other urban area made up a large proportion of the Ecological Assessment Area, predominantly comprising open storage areas, vehicular roads, road-side waste grounds, construction sites and single-storey village housings. Exotic weedy species such as Bidens alba, Gairo Morning Glory (Ipomoea cairica), Wedelia trilobata were commonly encountered, and the flora composition is generally low in diversity and abundance.

Woodland - DH01.03.04.05.08.10.11.12.13. TP2.3.4 & AL

- 3.2.5 Woodlands within the Ecological Assessment Area were mainly recorded on the hillside behind other urban area, and along watercourses. These woodlands were noted to be relatively undisturbed and exhibited moderate density, abundance and floristic diversity. A closed canopy formed mostly by Ivy Tree (*Schefflera heptaphylla*), Lance-leaved Sterculia (*Sterculia lanceolata*) and Prickly Ash (*Zanthoxylum avicennae*) stood approximately at 6-8 m in height. The shaded understorey was open and comprised of shrub and herb species such as Wild Coffee (*Psychotria asiatica*) and Desmos (*Desmos chinensis*). Native climbers and vines such as Sandpaper Vine (*Tetracera asiatica*), Snail Seed (*Cocculus orbiculatus*), Shiny-leaved Prickly Ash (*Zanthoxylum nitidum*) were also commonly recorded within these woodlands.
- 3.2.6 A total of two flora species of conservation importance were recorded within the woodland habitat, namely Small Persimmon and Emarginate-leaved Ormosia. Saplings and mature individuals of Small Persimmon were frequently encountered within woodland habitat during the survey, along the ALs and around the DH and TP works areas. High recruitment rate (i.e. large number of seedlings and saplings on ground) of Small Persimmon was also observed.
- 3.2.7 Four individuals were recorded to the east of the proposed works area of TP4. One individual was recorded to the southwest of the proposed works area of DH05. Four individuals were recorded to the west of the proposed access leading towards DH12. Four individuals were recorded to the north of the proposed access towards DH10 (Drawing No. 60281828/GI/312 refers). Six individuals of Small Persimmon were recorded along the proposed access towards DH04 (Drawing No. 60281828/GI/314 refers). Small Persimmon is categorized as critically endangered in the IUCN Red List of Threatened Species (IUCN, 2024) and listed as endangered in Threatened Species of China's Higher Plant (Qin *et al.*, 2017).
- 3.2.8 One mature individual of Emarginate-leaved Ormosia was recorded near the proposed works area of TP4 (**Drawing No. 60281828/GI/312** refers). This species is listed as Category II under List of Wild Plants under State Protection.

Shrubland – DH02, 07, 09, TP1, & AL

- 3.2.9 Shrublands within the Ecological Assessment Area were found on the hillside, connected to woodlands. The overall vegetation density and diversity were low in these shrublands. Typical shrubland species such as Slash Pine (*Pinus elliotti*), Oblong-leaved Litsea (*Litsea rotundifolia var. oblongifolia*), Hong Kong Gordonia (*Polyspora axillaris*) and Rose Myrtle (*Rhodomyrtus tomentosa*) were recorded while the groundcover was found to be covered with common herb species such as Dichotomy Forked Fern (*Dicranopteris pedata*), Dianella (*Dianella ensifolia*) and Chinese Silvergrass (*Miscanthus sinensis*).
- 3.2.10 Two individuals of Small Persimmon were recorded to the southeast of the proposed works area of DH09 (**Drawing No. 60281828/GI/313** refers).

Grassland – DH06, & AL

3.2.11 Grassland habitats within the Ecological Assessment Area were recorded as strip along a vehicular road and patch next to open storage area. The latter had likely undergone vegetation clearance recently. Floristic diversity in these grasslands was very low and dominated by a Dichotomy Forked Fern (*Dicranopteris pedata*). Common native shrub species Wild Coffee (*Psychotria asiatica*), Varied-leaf Fig (*Ficus variolosa*) and Hong Kong Gordonia (*Polyspora axillaris*) were found sparsely distributed in grassland habitats.

Modified Watercourse – AL

3.2.12 Modified watercourses within the Ecological Assessment Area were recorded running along the boundary of the open storage area and vehicular road. The banks and bed of these modified watercourses were lined with concrete. Due to its close proximity to the open storage, those running along the boundary of the open storage were found to be exposed to high degree of pollution (e.g. surface runoff, oil spills, construction waste and trash). The water was turbid

but odorless, with gentle to rapid flow. The water quality is ranked as fair to poor. The general flora diversity and abundance was low due to limited space for vegetation growth. Herb species such as Giant Alocasia (*Alocasia macrorrhizos*), Wood-fern (*Cyclosorus parasiticus*) and Snail Seed (*Cocculus orbiculatus*) were encountered.

Natural Watercourse – AL

3.2.13 Three natural watercourses (W1-3) were recorded within the Ecological Assessment Area. The natural watercourses W1, lower section of W2, and W3 have similar substrate such as sands and gravels. Gentle water flow and odorless water were observed. These watercourses were slightly shaded by the nearby woodland and with dense woodland riparian zone, herb species such as Wood-fern (*Cyclosorus parasiticus*) and Freshy Lady-fern (*Callipteris esculenta*) and native tree species such as Common Yellow Steg-fig (*Ficus fistulosa*) and Common Red-stem Fig (*Ficus variegata*) were commonly encountered. For the upper section of natural watercourse W2, the substrate composed of mainly boulders. Gentle and odorless waterflow was observed. Native climber species such as Wood Gossip Caesalpinia (*Caesalpinia crista*) and Little-leaved Rourea (*Rourea microphylla*) were commonly encountered. Native shrub species from riparian shrubland such as Rose Myrtle (*Rhodomyrtus tomentosa*) and Wild Coffee (*Psychotria asiatica*) were widely encountered. The outlets of all of the natural watercourses were located at the boundary of the open storage, where signs of human disturbance and pollution were observed. The water quality was ranked as good to fair for all three natural watercourses.

3.3 Wildlife

- 3.3.1 A total of 63 fauna species were recorded within the Ecological Assessment Area, including 13 avifauna, two mammal, 23 butterfly, eight odonate, seven amphibian, one reptile and nine freshwater fauna species. All fauna sightings were made outside the DH and TP works area. A majority of these recorded species are common and widespread in Hong Kong. A full list of fauna species recorded is given in **Appendix 3**.
- 3.3.2 A total of seven fauna species of conservation importance were recorded, including Black Kite (*Milvus migrans*), Chinese Hwamei (*Garrulax canorus*), Greater Coucal (*Centropus sinensis*), Red Muntjac (*Muntiacus vaginalis*), Unknown Vespertilionidae species 1, Plain Hedge Blue (*Celastrina lavendularis*) and Emerald Cascader (nymph) (*Zygonyx iris insignis*). The occurrence of Emerald Cascader (nymph) in the natural watercourse W2 between DH08, DH09 and DH10 indicates the watercourse is likely a breeding and nursery ground for this species. The protection and distribution statuses and indicative location of the recorded species of conservation importance are respectively presented in **Drawing Nos. 60281828/GI/311** to **314** and **Table 3.2**.

Species Distribution in Hong Kong ⁽¹⁾		Protection Status	Habitat Recorded
<u>Avifauna</u>			
Black Kite (<i>Milvus migrans</i>) ⁽⁷⁾	Common resident and winter visitor. Widely distributed in Hong Kong.	Cap. 170 ⁽²⁾ ; Cap. 586 ⁽³⁾ ; (RC) ⁽⁴⁾ ; Class II ⁽⁵⁾	In Flight
Chinese Hwamei (<i>Garrulax canorus</i>)	Common resident. Widely distributed in hillside shrubland throughout Hong Kong.	Cap. 170 ⁽²⁾ ; Cap. 586 ⁽³⁾ ; Class II ⁽⁵⁾	Woodland
Greater Coucal (Centropus sinensis)	Common resident. Widely distributed in Hong Kong.	Cap. 170 ⁽²⁾ ; Class II ⁽⁵⁾ , Vulnerable ⁽⁶⁾	Woodland
<u>Mammal</u>			
Red Muntjac (<i>Muntiacus vaginalis</i>)	Very widely distributed in countryside areas throughout Hong Kong	PRC ⁽⁴⁾	Shrubland

 Table 3.2 The Protection and Distribution Statuses of Recorded Fauna Species of Conservation

 Importance within the Ecological Assessment Area

Species	Distribution in Hong Kong ⁽¹⁾	Protection Status	Habitat Recorded
Unknown Vespertilionidae species 1	-	Cap. 170 ⁽²⁾	Woodland
Butterfly	·		
Plain Hedge Blue (<i>Celastrina lavendularis</i>)	Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan	LC ⁽⁴⁾	Woodland
Freshwater Community	· · · · · · · · · · · · · · · · · · ·		
Emerald Cascader (nymph) (<i>Zygonyx iris insignis</i>)	Widely distributed in moderately clean, rapidly flowing forested streams throughout Hong Kong; Widespread ⁽⁸⁾	PGC ⁽⁴⁾	Natural Watercourse

Notes:

- (1) Agriculture, Fisheries and Conservation Department (AFCD) (2022) Hong Kong Biodiversity Information Hub
- (2) Protected under the Wild Animals Protection Ordinance (Cap. 170)
- (3) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)
- (4) Fellowes et al. (2002) Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong – LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC= Potential Globally Concern (letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.)
- (5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 2021)
- (6) Zheng, G. M. and Wang, Q. S. (1998). China Red Data Book. Aves.
- (7) Wetland-dependent species (including wed-dependent species and waterbirds)
- (8) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. Journal of the International Dragonfly Fund 30: 1-49.

4 DISCUSSION AND MITIGATION

4.1.1 A total of 13 DHs and 4 TPs are proposed as part of the GI works for NTHS at Government Land in Tai Lam Chung, Tuen Mun, New Territories. The works area is located within the GB at the lower hill slope area to the east of Tai Lam Chung River and away from the TLCP. Ecological surveys were undertaken to establish the ecological profile of the potentially impacted areas.

Impact to Site of Conservation Importance

4.1.2 Given the considerable distance from the DHs, TPs, proposed access, ALs, works areas and works platforms to the TLCP, no impact to recognized site of conservation importance is anticipated.

Impact to Flora Species of Conservation Importance, Natural Habitats and Vegetation

4.1.3 During the design stage, the extent, location and aspect of proposed GI works areas, were carefully selected and adjusted to avoid direct impact to vegetation, the recorded flora species of conservation importance and their root system. No tree felling would be required. Existing footpaths would be utilized as much as practicable thus limited vegetation clearance would take place and would be restricted to the proposed GI works areas, including the TPs, DHs, the associated works areas and works platforms, and ALs. Elevated AL would be adopted to minimize the impact to the vegetation and natural habitats by reducing the vegetation trimming areas and minimise shading effects to the vegetation clearance, and that most of flora species recorded within the Ecological Assessment Area are common or very common, the ecological impact of vegetation clearance would be minor. The direct impact to natural habitats and vegetation is anticipated to be minor and acceptable.

4.1.4 Two flora species of conservation importance were recorded within the Ecological Assessment Area, namely Small Persimmon and Emarginate-leaved Ormosia. Both of which are commonly distributed in Hong Kong. Moreover, plant protection zone with robust fencing of at least 1 m setback from stems of shrubs and tree seedlings, and at least 1.5 m from mature trees would be established prior to the commencement of works. Protection measures recommended in 'Tree Management Practice Note No.1: Tree Preservation during Construction' (DEVB, 2019) and 'Technical Circular (Works) No. 4/2020 – Tree Preservation' (DEVB, 2020) will also be referenced to minimise disturbance and avoid physical damage to these flora of conservation importance and their root systems. With the recommended mitigation measures in place, the ecological impacts on mature trees and flora of conservation importance are anticipated to be minor.

Impact on Fauna Species of Conservation Importance and Other Wildlife

4.1.5 All fauna species sightings were made outside the proposed works area. Most fauna species recorded within the Ecological Assessment Area are widespread and common in Hong Kong. Seven fauna species of conservation importance were recorded, including three avifauna, two mammal, one butterfly, and one freshwater community species. There would be temporary disturbance impacts from minor noise and dust emission to the wildlife inhabiting the habitats during GI works due to the operation of mechanical equipment. Except the freshwater community species which may be restricted to watercourse habitats (further discussion refers to S.4.1.6 and 4.1.7), majority of the recorded fauna species within the Ecological Assessment Area are highly mobile. Given their commonness, high mobility, and the distance between their recorded location and the works area, the ecological impacts of the proposed GI works on the fauna species of conservation importance and wildlife are anticipated to be low in general.

Impact to Watercourses and Associated Fauna Species

- 4.1.6 A few DH are proposed in the vicinity of modified and natural watercourses. Modified watercourses sampled within the Ecological Assessment Area recorded low diversity and abundance of fauna species, which are common and widely distributed in Hong Kong. They are of very low ecological value due to the high degree of pollution and modification. Thus the potential ecological impact on modified watercourses is anticipated to be minor.
- 4.1.7 Natural watercourses within the Ecological Assessment Area, although had good to fair water quality, showed signs of human disturbance and pollution at the outlets due to their close proximity to other urban area. Only a small number of very common freshwater fauna species were recorded in this habitat, though the nymph of Emerald Cascader, a species of conservation importance, was found in the natural watercourse W2 between DH08, 09 and DH10. In general, proposed GI works near natural watercourses (i.e. DH01, 02, 08, 09 and DH10) were relocated further upslope to avoid potential impact to the natural watercourses. No foundations of the ALs would be located directly on the natural watercourse to avoid impact on the watercourse. Furthermore, precautionary measures (provided in ETWB TWC No. 5/2005 -Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works (ETWB, 2005)) should be undertaken so as to minimise water quality impact on the natural watercourses, such as carrying out the works during dry season, placing of sandbags or silt curtains, locating excavated materials away from watercourses and general good site practice. The guidelines detailed in the ProPECC PN 2/23 'Construction Site Drainage' should be followed to prevent excavated soil from entering the nullah through construction runoff and potentially affect the water quality (EPD, 2023). Given the temporary nature and small extent of the proposed GI works, and with the implementation of the recommended mitigation measures, potential water quality impact to the watercourses thus secondary impact to the species of conservation importance is anticipated to be low.
- 4.1.8 A summary of identified potential ecological impacts of the proposed GI works is presented in **Table 4.1**.

DH and TP	Impact to Flora Species of Conservation Importance	Impact to Vegetation	Impact to Natural Watercourse and Associated Fauna
DH03, DH06, DH07, DH11, DH13, TP1, TP2, TP3		\checkmark	
DH04, DH05, DH12, TP4	\checkmark	\checkmark	
DH09, DH10	\checkmark	\checkmark	\checkmark
DH01, DH02, DH08		\checkmark	\checkmark

Table 4.1 A Summary of Identified Potential Ecological Impacts of the Proposed GI Works

- 4.1.9 In addition, the contractors should strictly follow the guidelines provided in 'Appendix 4.20: Guidelines on Planning and Implementation of Ground Investigation Projects in Ecologically Sensitive Areas' of the Project Administration Handbook for Civil Engineering Works (CEDD, 2014). The temporary structures and construction materials should be removed, and the site should be reinstated to its original condition upon completion of GI works.
- 4.1.10 While the footprint of the proposed GI works is located within well-vegetated areas and in the vicinity of watercourses, due to the small extent and temporary nature of the works, as well as the commonness of the species recorded within, no unacceptable potential ecological impacts are anticipated to arise from the works.

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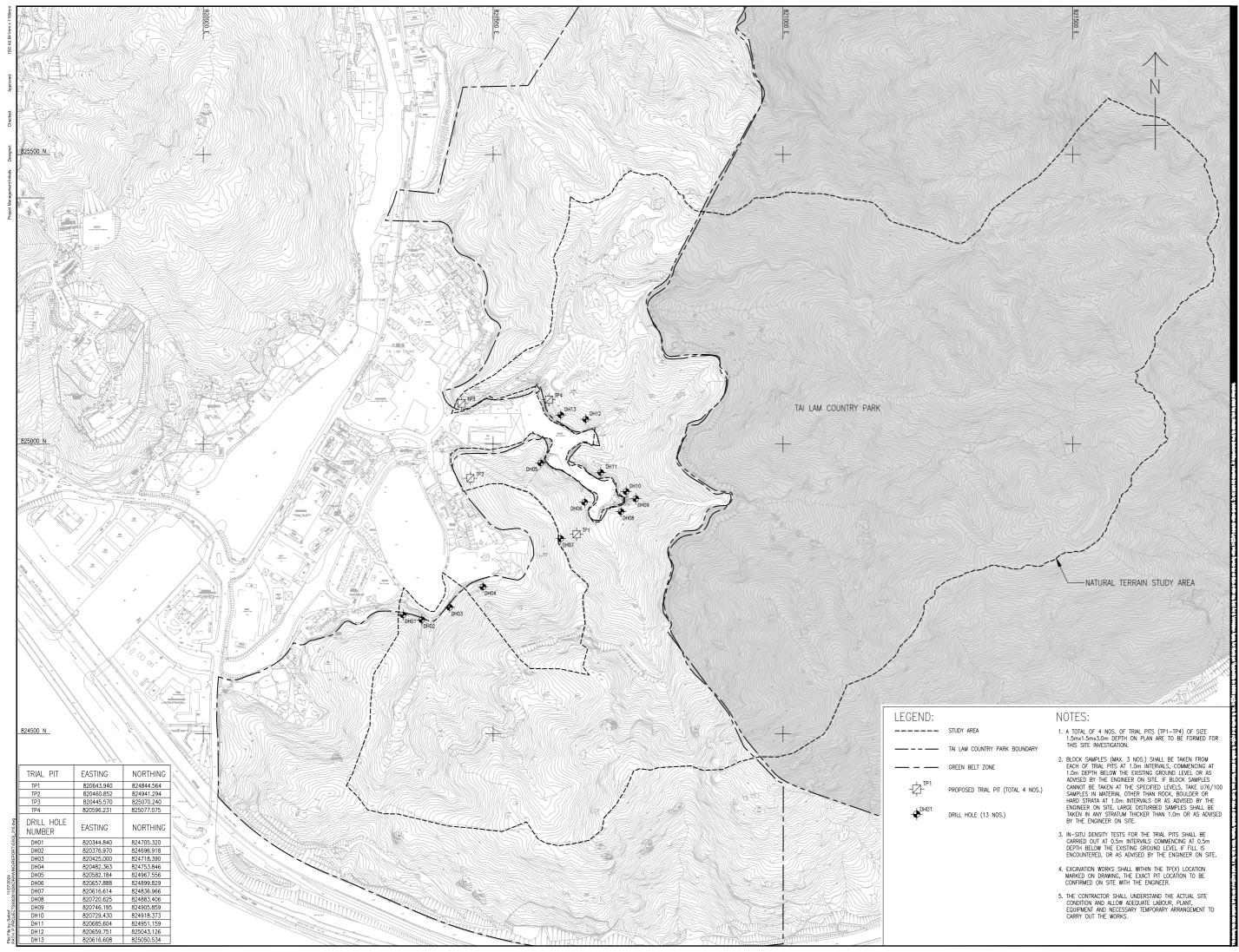
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Drawing No. 60281828/GI/310

Ground Investigation Plan



DEVELOPMENT AT TAI LAM CHUNG, TUEN MUN, NEW TERRITORIES

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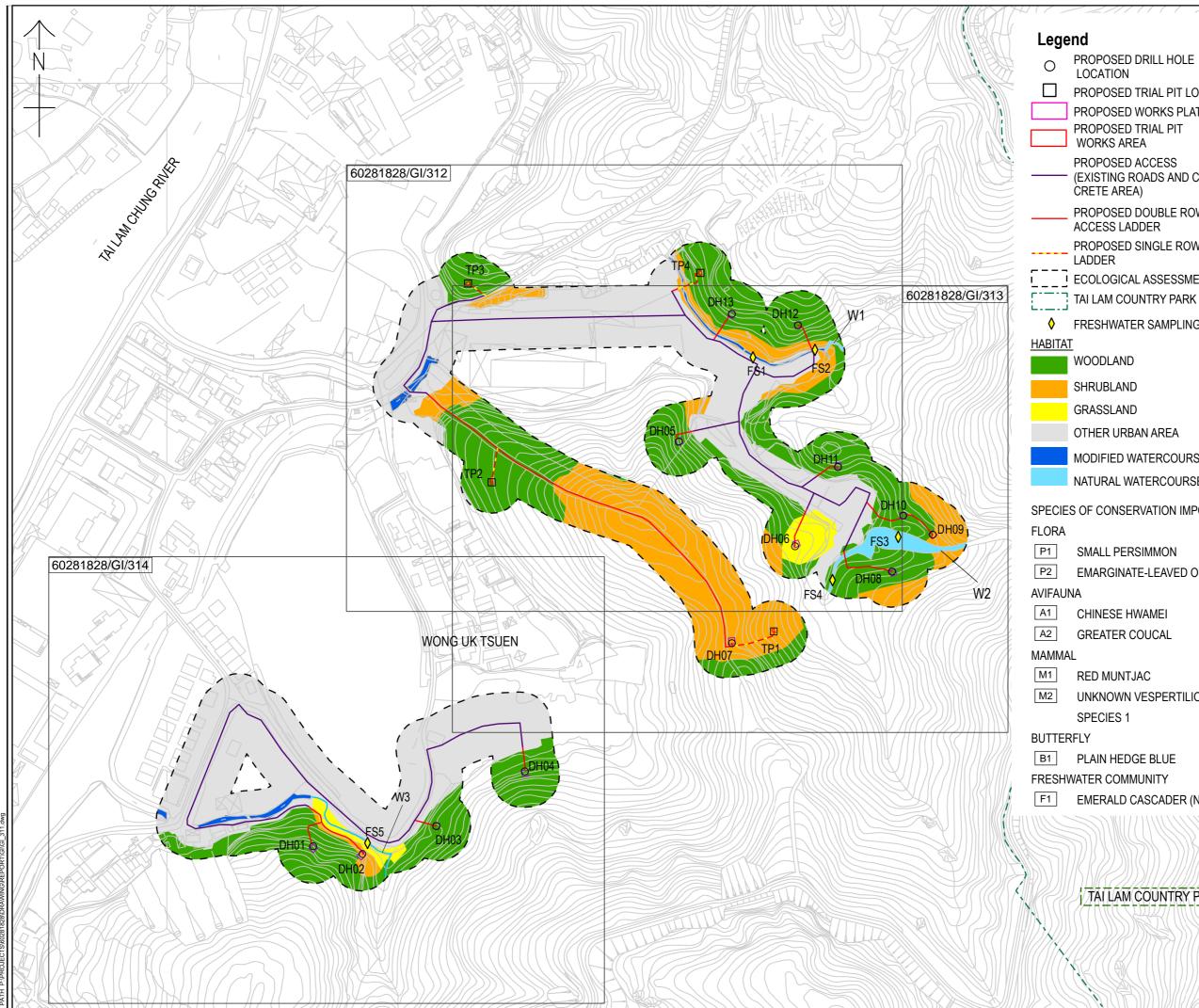
ECOLOGICAL SURVEY FOR GROUND INVESTIGATION

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Habitat Map



PROPOSED DRILL HOLE LOCATION PROPOSED TRIAL PIT LOCATION PROPOSED WORKS PLATFORM PROPOSED TRIAL PIT WORKS AREA PROPOSED ACCESS (EXISTING ROADS AND CON-CRETE AREA) PROPOSED DOUBLE ROW STEEL ACCESS LADDER PROPOSED SINGLE ROW STEEL LADDER ECOLOGICAL ASSESSMENT AREA

FRESHWATER SAMPLING POINT

WOODLAND

SHRUBLAND

GRASSLAND

OTHER URBAN AREA

MODIFIED WATERCOURSE

NATURAL WATERCOURSE

SPECIES OF CONSERVATION IMPORTANCE

SMALL PERSIMMON EMARGINATE-LEAVED ORMOSIA

CHINESE HWAMEI **GREATER COUCAL**

RED MUNTJAC UNKNOWN VESPERTILIONIDAE SPECIES 1 PLAIN HEDGE BLUE FRESHWATER COMMUNITY

EMERALD CASCADER (NYMPH)

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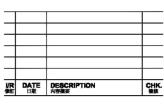


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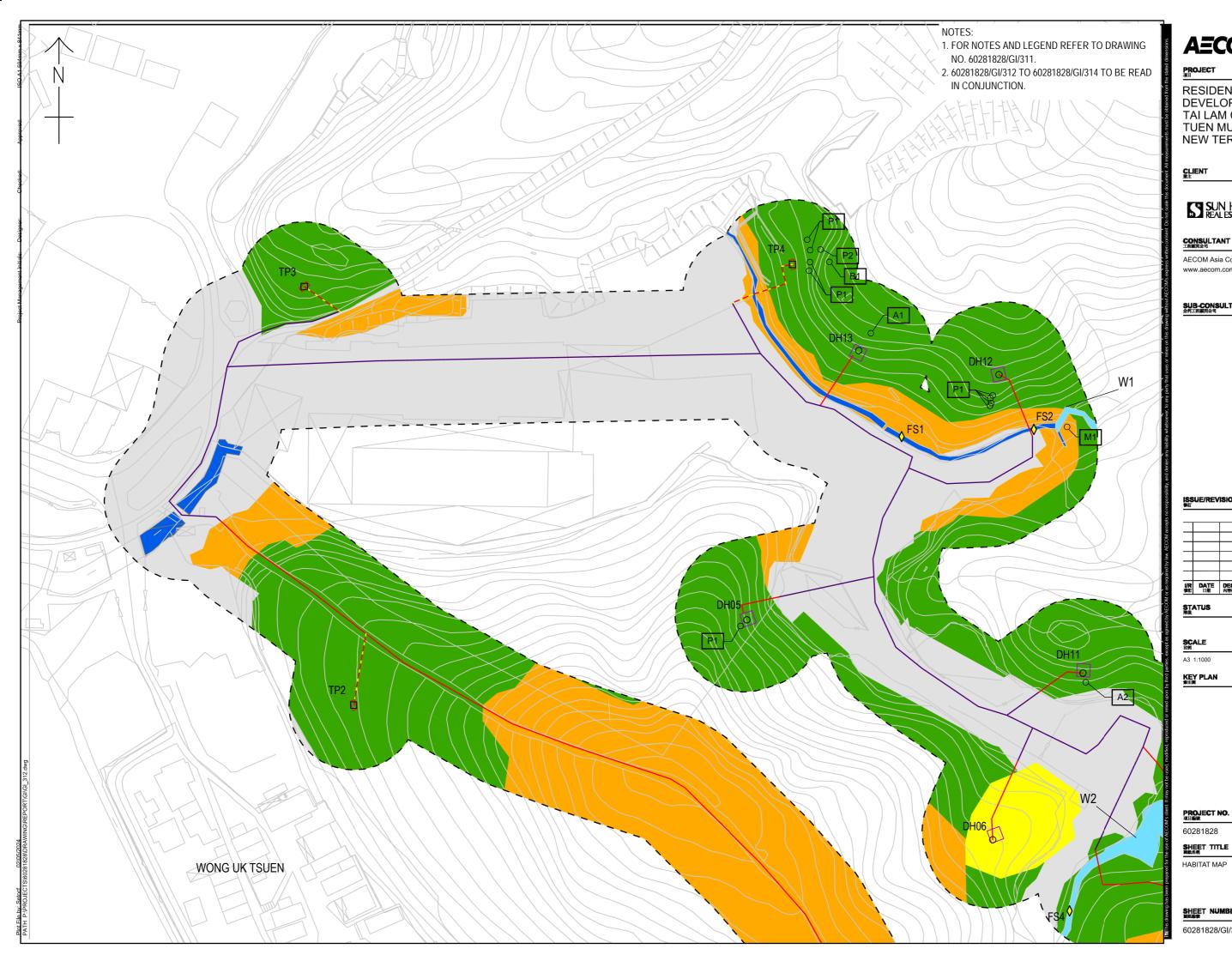
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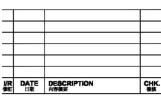


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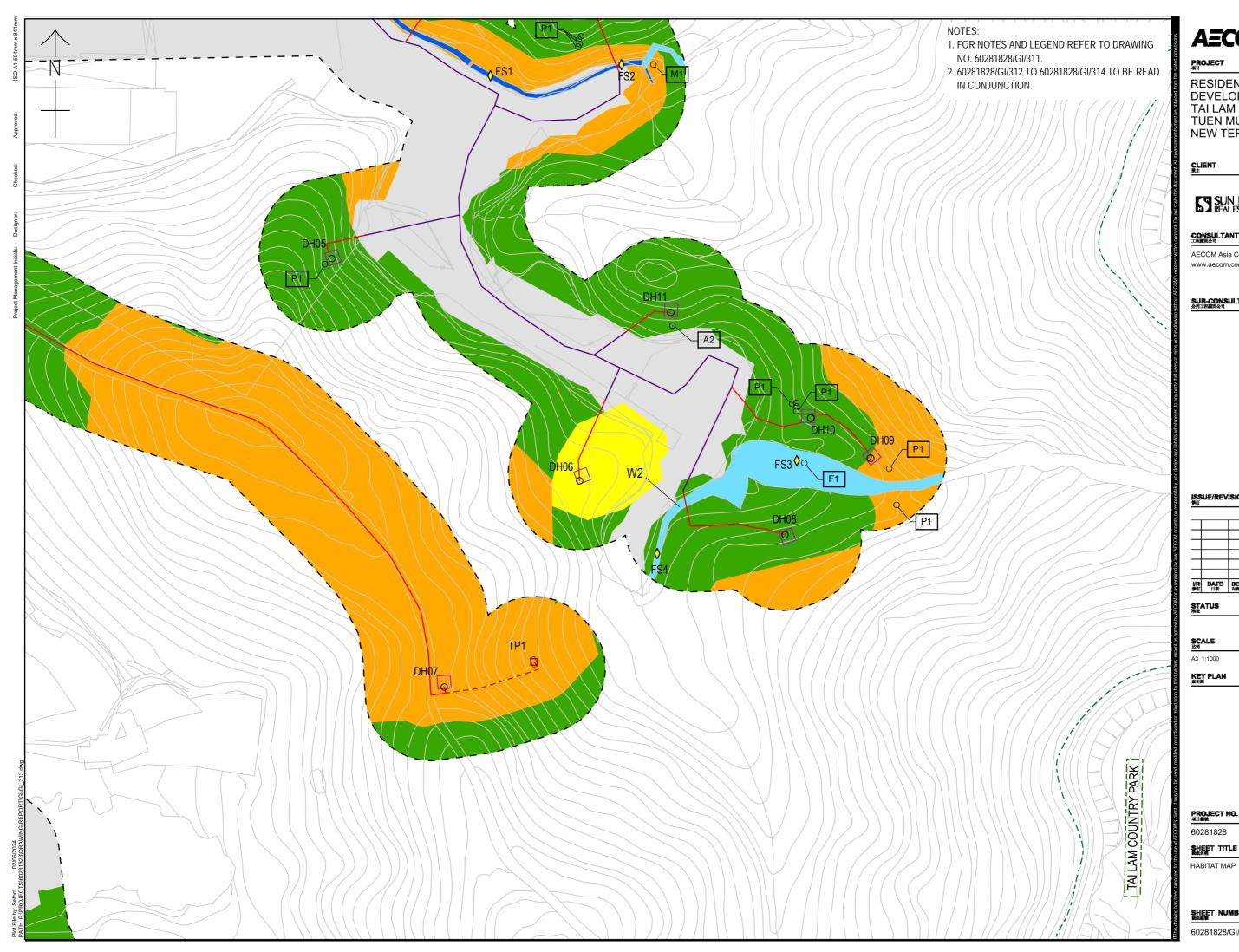
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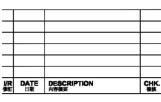


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60281828

HABITAT MAP

CONTRACT NO.

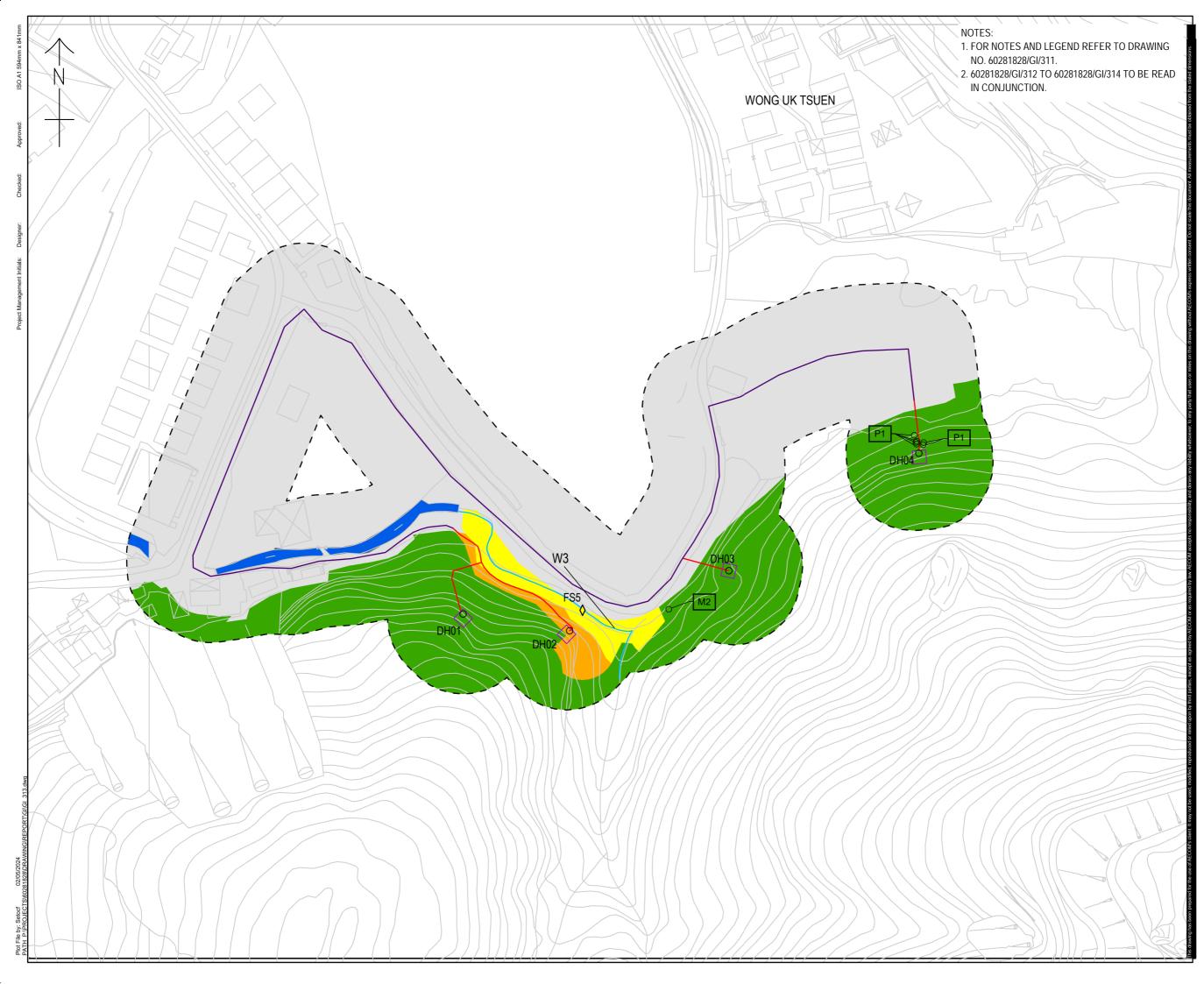
SHEET 2 OF 3

DIMENSION UNIT 尺寸單位

METRES

SHEET NUMBER

60281828/GI/313





PROJECT

RESIDENTIAL DEVELOPMENT AT TAI LAM CHUNG, TUEN MUN, NEW TERRITORIES

CLIENT

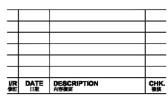


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STATUS

SCALE 比例

DIMENSION UNIT 尺寸單位

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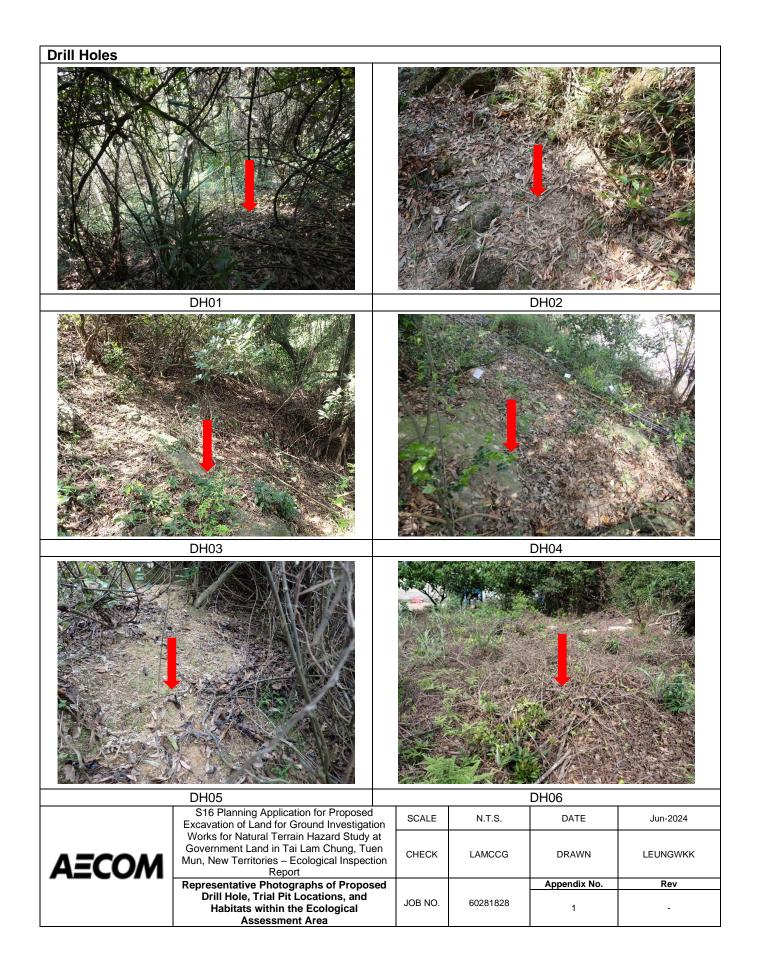
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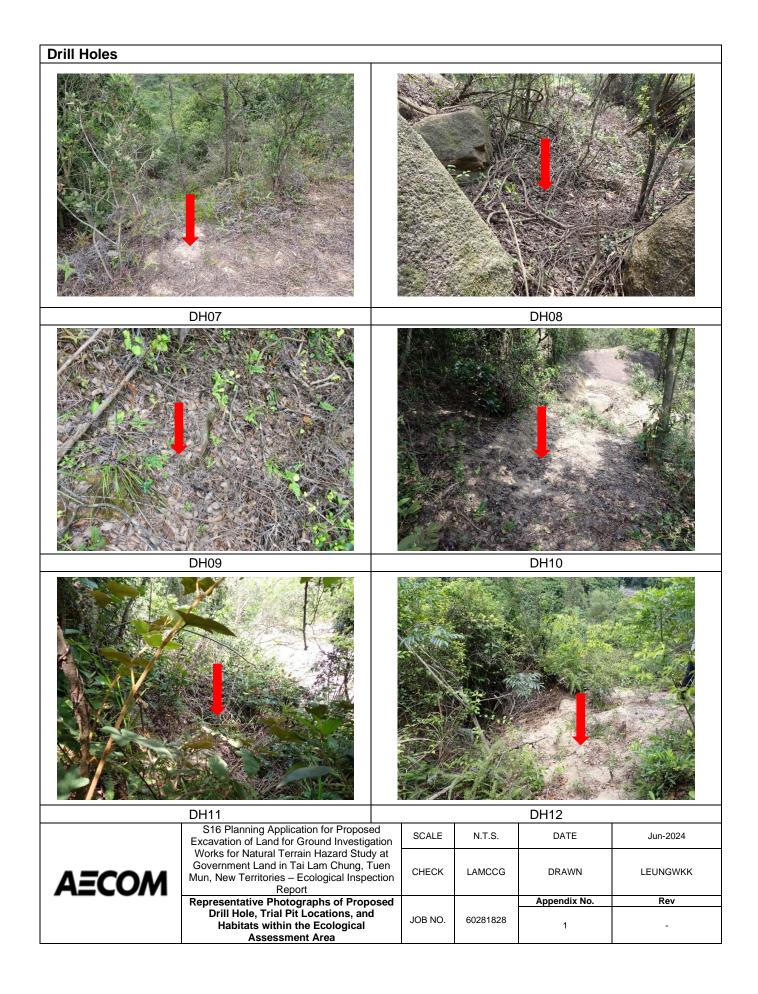
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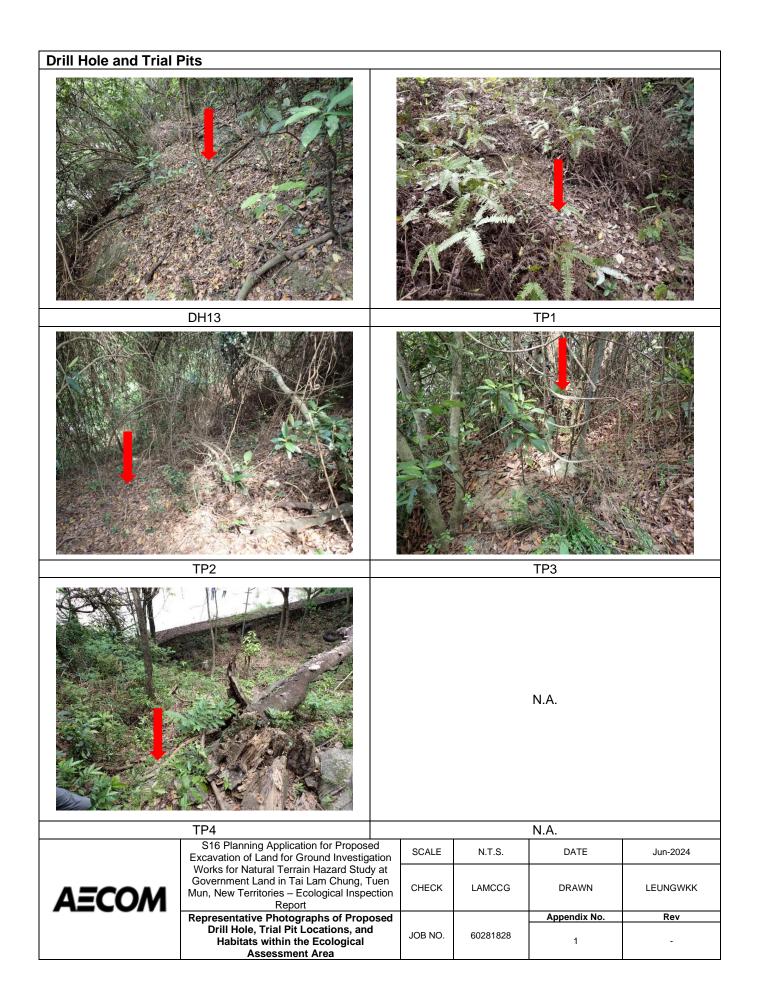
SHEET 3 OF 3

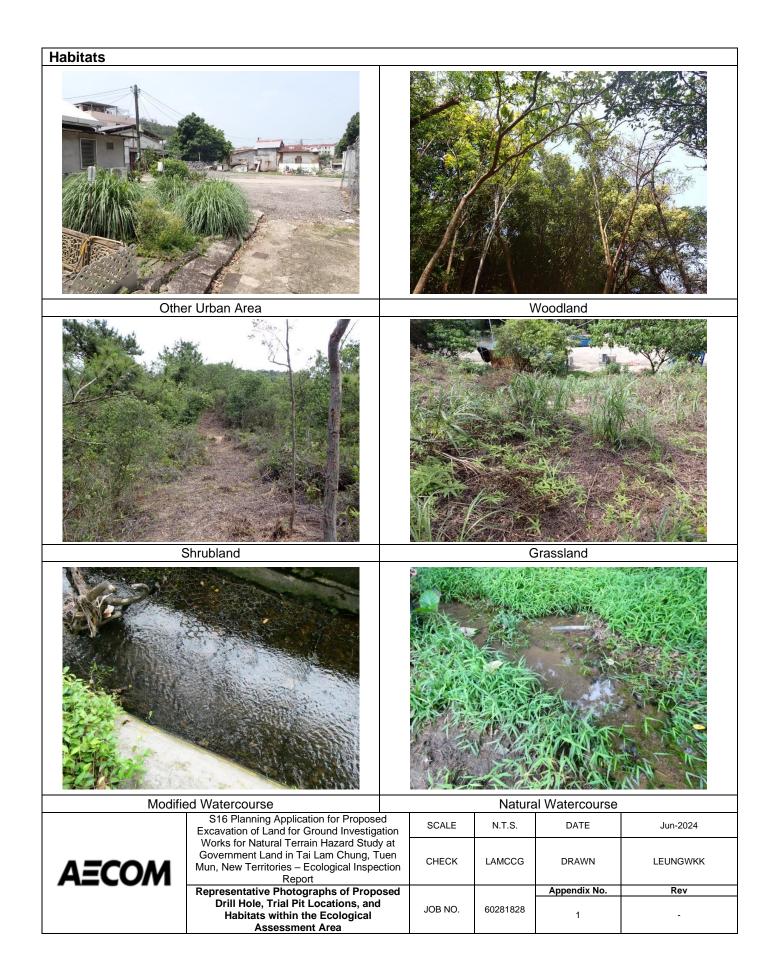
APPENDIX 1

Representative Photographs of Proposed Drill Hole and, Trial Pit Locations, and Habitats within the Ecological Assessment Area









APPENDIX 2

Flora Species Recoded within the Ecological Assessment Area

Appendix 2 Flora Species Re Scientific Name	Common	Growth Form	Native / Exotic to Hong		Protection / Conservation	OUA	WL	SL	GL	MWC	NWC
	Name Grass-leaved		Kong	Kong ⁽¹⁾ Tai Mo Shan, Tai Po Kau,	Status ⁽²⁾						
Acorus gramineus Acronychia pedunculata	Sweet Flag Acronychia	perennial herb tree	native	Ha Hang, Lantau Island Common in Hong Kong	-		+				+
Adiantum flabellulatum	Fan-leaved	herb	native	-	-		++	+			
Adina nikulifara	Maidenhair Chinese	shrub or tree	native	Common in Hong Kong							+
Adina pilulifera	Buttonbush Chinese				-						
Alangium chinense	Alangium	shrub or tree	native	Common in Hong Kong	-			+			
Alchornea trewioides	Christmas Bush	shrub	native	Common in Hong Kong	-		+	+			
Aleurites moluccana	Candlenut Tree	tree	exotic	Widely cultivated in Hong Kong	-		+				
Allamanda schottii	Small Allamanda	shrub	exotic	Commonly cultivated	-	+	+				
Alocasia macrorrhizos	Giant Alocasia	perennial herb	native	Common in Hong Kong	-	+ +				++	
Aloe vera Alyxia sinensis	Chinese Aloe Bead Vine	perennial herb woody vine	exotic native	Cultivated Common in Hong Kong	-	+	+	+			
Amaranthus viridis	Green Amaranth	herb	native	Common in Hong Kong	-	+					
Artemisia indica	Mugwort	herb	native	Hong Kong Island, Tai Mo Shan, Wu Kau Tang, Tai Po, Sheung Shui, High Island, Ping Chau, Lantau Island	-	+					
Artocarpus heterophyllus	Jackfruit	tree	exotic	Cultivated	-		+				
Asparagus cochinchinensis	Wild Asparagus	-	native	Common in Hong Kong	-		+	+			
Aster baccharoides	- Dwarf Mountain	perennial herb shrub or small	native	Common in Hong Kong	-			+			
Baeckea frutescens	Pine	tree clumped tree	native	Common in Hong Kong	-			+			
Bambusa spp.	-	bamboo	-	-	-		+				
Bauhinia corymbosa	Camel's Foot	climber: vine	exotic	Yim Tin Tsai, Lantau Island	-			+			
Bidens alba	-	herb	exotic	Naturalized and widely distributed in Hong Kong	-	+	+				+
Blechnum orientale	Oriental Blechnum	herb	native	-	-		+				
Bombax ceiba	Tree Cotton	tree	exotic	Cultivated	-	+					
Bothriochloa bladhii	Australian Bluestem	perennial herb	native	Common in Hong Kong	-	+					
Bougainvillea spectabilis	Brazil Bougainvillea	climbing shrub	exotic	Cultivated in gardens or as a pot plant	-	+					
Breynia fruticosa		shrub	native	Common in Hong Kong	-		+	+	+		
Bridelia tomentosa	Pop-gun Seed	shrub or small tree	native	Common in Hong Kong	-	+	+				
Caesalpinia crista	Wood Gossip Caesalpinia	climber: vine	native	Common in Hong Kong	-		+				+++
Caesalpinia vernalis	Spring Caesalpinia	climber: vine	native	Common in Hong Kong	-		+				
Cajanus scarabaeoides	Scarab-like Cajanus	climber: vine	native	Hong Kong Island, Ap Lei Chau, Stonecutters Island, Tsuen Wan, Tai Lam Chung, Tuen Mun, Pak Nai, Sha Po	-		+				
Callipteris esculenta	Freshy Lady- fern	herb	native	-	-						+
Celtis sinensis	Chinese	tree	native	Common in Hong Kong and	-		+		+		
Chloris barbata	Hackberry Peacock-plume	herb	native	widely planted Common in Hong Kong	-	+					
	Grass										
Clerodendranthus spicatus Cocculus orbiculatus	- Snail Seed	perennial herb climber: vine	exotic native	Cultivated Common in Hong Kong	-	+	+	+		++	+
Commelina diffusa	Diffuse Day-	herb	native	Common in Hong Kong	-						++
Conyza canadensis	flower	herb	exotic	Naturalized and widely		+					
	- Yellow Cow			distributed in Hong Kong	-						
Cratoxylum cochinchinense	Wood	shrub or tree	native	Common in Hong Kong	-		+		+		
Cyclosorus interruptus	Interrupted Tri- vein Fern	herb	native	-	-						+
Cyclosorus parasiticus Cynodon dactylon	Wood-fern Couch Grass	herb perennial herb	native native	- Common in Hong Kong	-	+	+			+	+
Cyperus difformis	Difformed Galingale	herb	native	Common in Hong Kong	-	+					
Dalbergia benthamii	Bentham's	climber: vine	native	Common in Hong Kong	-					+	
-	Rosewood Hong Kong	climber: vine	native	Common in Hong Kong			+				
Dalbergia millettii Daphniphyllum calycinum	Rosewood	tree	native	Common in Hong Kong	-		+				
Dendrotrophe varians	-	woody vine	native	Aberdeen, Findlay Rd., Mount Collinson Rd., Pok Fu Lam Reservoir, Stanley, Tai Mo Shan, Sha Tau Kok, Lantau Island	-			+			
Desmos chinensis	Desmos	woody vine	native	Common in Hong Kong	-		++	+			
Dianella ensifolia	Dianella Dichotomy	herb	native	Common in Hong Kong	-		+	+	+++		
Dicranopteris pedata Dimocarpus longan	Forked Fern	tree	exotic	Very common	- List of Wild Plants under State Protection: Category II; Threatened Species List of China's Higher Plants: Vulnerable; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened; IUCN Red List: Near Threatened	+	+				+
Dioscorea bulbifera	Air Potato	climber: vine	native	Hong Kong Island, Tai Po Kau, Lam Tsuen, Sham Tseng, Ta Kwu Ling	-		+				

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Diospyros vaccinioides	Small Persimmon	shrub	native	Common in Hong Kong	Threatened Species List of China's Higher Plants: Endangered; IUCN Red List:		++				
Diplospora dubia	Common Tricalysia	shrub or tree	native	Common in Hong Kong	Critically Endangered -		+				
Dracaena fragrans	Fragrant	shrub	exotic	Cultivated	-	+					
Elephantopus tomentosus	Dragon Tree	perennial herb		Common in Hong Kong	-		+				
Embelia ribes	White-flowered	climber: vine	native	Widely distributed in Hong	-		+	+			
Eriobotrya japonica	Embelia Loquat	small tree		Kong Cultivated	-	+	+				
Eupatorium odoratum	-	perennial herb		Naturalized	-	-	+				+
Euphorbia hirta	Garden Spurge	herb	exotic	Naturalized	-	+					
Euphorbia thymifolia	Thyme-leaved Spurge	herb	native	Stubbs Rd., Tai Hang Rd., Victoria Park, Sheung Pak Nai,Yuen Long, TsingYi	-	+					
Eurya nitida	Shining Eurya	shrub or small tree	native	Common in Hong Kong	-			+			
Ficus fistulosa	Common	tree	native	Common in Hong Kong	-						+
	Yellow Steg-fig	shrub or small	nauve								
Ficus hirta	Hairy Fig	tree	native	Common in Hong Kong	-		++				++
Ficus hispida	Opposite-leaved Fig	shrub or small tree	native	Common in Hong Kong	-		+				+
Ficus pumila	Creeping Fig	climbing woody	native	Common in Hong Kong	-		+	+			
Ficus subpisocarpa	Japanese	tree	native	Common in Hong Kong	-		+				
	Superb Fig Common Red-										
Ficus variegata	stem Fig	tree		Common in Hong Kong	-		+				+
Ficus variolosa Gardenia jasminoides	Varied-leaf Fig Cape Jasmine	shrub or tree shrub		Common in Hong Kong Common in Hong Kong	-			+ +	+		<u> </u>
	Luofushan Joint-				-						
Gnetum luofuense	fir	woody vine		Common in Hong Kong	-		++	++			
Hedychium coronarium	Ginger Lily Angle-stemmed	perennial herb		Cultivated	-	+					
Hedyotis acutangula	Hedyotis White Ox	herb climbing		Common in Hong Kong	-		+				+
Hedyotis hedyotidea	Creeper Narrow-leaved	subshrub		Common in Hong Kong	-		+				
Helicteres angustifolia	Screwtree	subshrub		Common in Hong Kong	-			+			
Heteropanax fragrans Heterosmilax japonica	- Heterosmilax	Tree climbing shrub		Cultivated Pok Fu Lam	-	+			+		
neterosmilax japonica			nauve	FORTULAIN	-						
Hylocereus undatus	Night-blooming Cereus Rough-leaved	perennial herb		Cultivated	-	+					
llex asprella	Holly	shrub	native	Very common	-		++				
llex pubescens	Downy Holly	shrub	native	Common in Hong Kong	-			+			<u> </u>
Indocalamus sinicus	Chinese Cane Gairo Morning	running shrubby bamboo climber: twining	native	Common in Hong Kong	-		+				
Ipomoea cairica	Glory	herb	exotic	Common in Hong Kong	-		+				
lpomoea triloba	-	herbaceous climber	exotic	Naturalized in Hong Kong	-	+					
Kyllinga nemoralis	Uni-spike Kyllinga	herb	native	Common in Hong Kong	-	+					
Lasianthus chinensis	Chinese Lasianthus	shrub	native	Hong Kong Island, Tai Mo Shan, Ma On Shan, Sai	-		+				
Leucaena leucocephala	White Popinac	small tree		Kung, Lantau Island Cultivated and naturalized	-	++					
Ligustrum lucidum	Glossy Privet	Tree	exotic	Cultivated	-		+				
Ligustrum sinense	Chinese Privet	shrub or small	exotic	Common in Hong Kong and	÷		+				
-	Orbicular	tree		widely cultivated							
Lindsaea orbiculata	Lindsaea	herb	native	-	-			+			
Liquidambar formosana	Sweet Gum	tree		Common in Hong Kong. Also widely planted	-		+				i l
Liriope spicata	Lily Turf	perennial herb		Common in Hong Kong	-		+	+			
Litsea cubeba	Fragrant Litsea	shrub or small tree	native	Common in Hong Kong	-			+			i l
Litsea rotundifolia var.	Oblong-leaved	shrub	native	Common in Hong Kong	-		+	++			
oblongifolia	Litsea Common										
Lophatherum gracile	Lophantherum	perennial herb		Common in Hong Kong	-		+			+	
Ludwigia erecta Lygodium japonicum	- Climbing Fern	herb climbing herb	exotic native	-	-			+		+	+
Lygodium scandens	Scansorial	climbing herb	native	-	-		+	+		+	
Macaranga tanarius var. tomentosa	Climbing Fern Elephant's Ear	tree		Common in Hong Kong	-	+	++			+	
tomentosa Macrothelypteris torresiana	Mariana Maiden Fern	herb	native		-		+				+
Mallotus paniculatus	Turn-in-the-wind	shrub or tree	native	Common in Hong Kong	-		+				
Melastoma dodecandrum	Twelve- stamened	diffuse subshrub		Common in Hong Kong	-			+			
Melastoma malabathricum	Melastoma Common	shrub		Common in Hong Kong	-		+				
Melastoma sanguineum	Melastoma Blood-red Melastema	shrub		Common in Hong Kong	-		+	+			
Melia azedarach	Melastoma China-berry	tree		Cultivated or naturalized	-		+				
Melinis repens	Redtop	perennial herb	exotic	Common in Hong Kong	-	+					
Microcos nervosa	Microcos	shrub or small	native	(naturalized) Common in Hong Kong	-		+				+
Microstegium ciliatum	Ciliate	tree perennial		Common in Hong Kong	-		+				
inici ostegium ciliatum	Microstegium	procumbent herb		Common in Hong Kong	-		-				

	Scientific Name	Common Name	Growth Form	Native / Exotic to Hong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Marge and and any and any	Mikania micrantha	Mile-a-minute	climbing herb	Kong exotic	Naturalized and widely	- Status		+			+	+
Mathem with a start of the		Many-flowered				-		+		+	+	
Name Name </td <td></td> <td>-</td> <td></td>		-										
Mathematic Mathem		-				-			**			
Barges	Morus alba	White Mulberry	shrub or tree	native		-	+					
Omes i Normal set i	Mussaenda pubescens		climbing shrub	native	Common in Hong Kong	-		+				
Contone Part of and part of a part	Ormosia emarginata	leaved	small tree	native	Common in Hong Kong			+				
opened symbolindex of a point	Oxalis corniculata		perennial herb	native		-	+					
Concernance Concernance <thconcernance< th=""> <thconcernance< th=""></thconcernance<></thconcernance<>	Oxalis debilis subsp. corymbosa	Lavender Sorrel	perennial herb	exotic		-	+					
Catania <	Paederia scandens		climber: vine	native	Common in Hong Kong	-		+				
Monumentany Implementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany Symplementany 	Palhinhaea cernua		creeping herb	native	-	-				+		
Packade mode Note is a field of a set is a	Pandanus austrosinensis	-	herb	native	Tai Mo Shan	-		+				
marked basis Provided basis <br< td=""><td>Panicum maximum</td><td></td><td>-</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>++</td><td></td></br<>	Panicum maximum		-			-					++	
Partner with the problem of the pr						-						
example processing example processing example processing implementary metalements example processing		Passion Flower	nerbaceous vine	exotic	Naturalized	-	+					
physicher should physicher should between the should between t	Pericampylus glaucus	Pericampylus	woody vine	native	Mount Cameron, Tai Po	-		+				
hybrid or	Phyllanthus reticulatus		shrub	native	Rd., DeepWater Bay, Lam Tsuen, Ma On Shan, Tai O,	-		+			+	
Name Participant Participant Participant 	Phyllanthus urinaria		herb	native	Pok Fu Lam Reservior Rd., Stubbs Rd., Ling Nam San Tsuen, Kowloon Reservoir, Fanling, Sha Tin, Lantau	-			+			
InstructureInstructu		A 171										
minine modeljoint<	Pilea microphylla		herb	exotic		-	+					
Photose Photose PhotosePhoto PhotosePhoto Photose Photose Photose Photose Photose Photose 	Pinus elliottii	Slash Pine	tree	exotic		-			++			
number horsport and horsport and	Piper sarmentosum		herb	native	Peak, Tai Mo Shan, Sha	-		+				
Conduct ContinueInterime Common in Frag. Korg Fordices alreased Produces alreased Prod	Plectranthus amboinicus	Fragrant Coleus	herb	-	-	-	+					
Pendies derives Pendies without Network Networ	Polyspora axillaris			native	Common in Hong Kong	-		+	+	+		
Perchalacy places Party Perchal space Tang Tau, Pair J, Cheurg Pair Pair Pair Pair Pair Pair J, Pai	Portulaca oleracea			native	Common in Hong Kong	-	+					
Specharia Cenerging Paychoria semi-order antive Common Hong King Interactive Image Paychoria Here Interactive Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Interactive Paychoria Here Interactive Paychoria Interactive Paychoria Here Interactive Paychoria	Portulaca pilosa		Herb	native	Tseng Tau, Pui O, Cheung	-	+					
Projectoria Induce Common in long Kong -	Psychotria asiatica	Wild Coffee	shrub or tree	native	Common in Hong Kong	-			+	+		+
Priori ansigning Seve Black Index Error	Psychotria serpens			native	Common in Hong Kong	-		+	++			
Press Semi-primate Barke Info native - - - + L <thl< th=""> L L <thl< td=""><td>Pteris ensiformis</td><td>Sword Brake</td><td>herb</td><td></td><td>-</td><td>-</td><td></td><td>+</td><td></td><td></td><td></td><td></td></thl<></thl<>	Pteris ensiformis	Sword Brake	herb		-	-		+				
Datase Datase <thdatase< th=""> <thdatase< t<="" td=""><td></td><td></td><td></td><td></td><td>-</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td>+</td></thdatase<></thdatase<>					-	-						+
montane moltane Nucleo name Common in Hong Kong -<						-						
Handback Induct Hawkhorn tree Indure Common Hong Kong - - - - <td>montana</td> <td></td> <td></td> <td>native</td> <td>Common in Hong Kong</td> <td>-</td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td>	montana			native	Common in Hong Kong	-		+				
Rhu schinensisSumashrub or small the or small shrub or small the shrub or small the shr	Rhaphiolepis indica	Hawthorn	tree			-						
IntegeInte						-			++	+		+
Wrake Tree Inalive Common in Hong Kong -	Rnus chinensis					-		+				
Rourse Rourse Control in Nacional Sinuo Indive Control in Nong Nong - +	Rhus succedanea			native	Common in Hong Kong	-			+			
Ragberry Climping shrub Native Common in Hong Kong - +	Rourea microphylla	Rourea	climbing shrub	native	Common in Hong Kong	-		+	+	+		+
Sansevieria trifasciata Snake Plant perennial herb exotic Cuttivated - + + + Image: Common in Common in Nong Kong. Also planted Sapium discolor Tree mountain Tailow mail tree native Common in Hong Kong. Also planted - - ++ Image: Common in Hong Kong. Also planted ++ Image: Common in Hong Kong. Also planted ++ + Image: Common in Hong Kong. Also planted ++ Image: Common in Hong Kong. Also planted ++ + + + Image: Common in Hong Kong. Also planted ++ ++ + ++ Image: Common in Hong Kong. Also planted ++ <td>Rubus reflexus</td> <td></td> <td>climbing shrub</td> <td>native</td> <td>Common in Hong Kong</td> <td>-</td> <td></td> <td>+</td> <td></td> <td>+</td> <td></td> <td></td>	Rubus reflexus		climbing shrub	native	Common in Hong Kong	-		+		+		
Sapium discording TreeMountain Tailow Treesmall treenativeCommon in Hong Kong. Also planted.Image: Common in Hong Kong. Also planted<	Rumex japonicus					-						
Sapular decorr Tree Small tree Native Also planted - - - + -<						-	+	+				
Scleria ciliaris Razorsedge Razorsedge Rozorsedge Scoparia dulcisCiliate Razorsedge Rezorsedge BroomwortherbnativeCommon in Hong Kong-+++++111 <td>Sapium discolor</td> <td>Tree</td> <td>small tree</td> <td></td> <td>Also planted</td> <td>-</td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td></td>	Sapium discolor	Tree	small tree		Also planted	-			+			
Radius and base in the second of the secon	Schefflera heptaphylla Scleria ciliaris	Ciliate				-			+	+		
Scoparia duicisBroomwortNerbexoticNaturalized in Hong Kong-+<												
Sessering available Java Sessering Nerb Nalive Tuen Mun - - + - <		Broomwort				-						
Schnlag glabra Greenbrier Climbing sinub native Common in Hong Kong - +<					Tuen Mun	-	+					
Solarium americanium Nightshade Nerb exotic Naturalized in Hong Kong - + -	Smilax glabra	Greenbrier	climbing shrub	native	Common in Hong Kong	-		+	+	+		
Spathodea campanulata African Tulip Tree tree exotic Cultivated - + Image: Constraint of the state of t	Solanum americanum	Nightshade				-						
Spheindbed campaindial Tree use exact Cultivated - <td>Solanum torvum</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Solanum torvum					-						
Stephania longa Long Stephania climber: vine native Aberdeen, Tai Po Kau, Ma Mong Shui, Tai - Long Stephania + Long Long <thlong< th=""> <thlong< th=""> Long <thlong< t<="" td=""><td></td><td>Tree</td><td></td><td></td><td>Cultivated</td><td>-</td><td>+</td><td></td><td></td><td></td><td></td><td></td></thlong<></thlong<></thlong<>		Tree			Cultivated	-	+					
Sterculia lance-leaved Sterculia Lance-leaved streculia semi-deciduous tree native Common in Hong Kong - + + Strychnos angustifiora Narrow- nut Narrow- nut woody vine native Hong Kong Island, Sha Tin, Ma On Shan, Sam A Tsuen, Tai Wan, Lantau Island, Lamma Island, Beaufort Island, Ching Chau - +<	Sphenomeris chinensis Stephania longa				On Shan, Sheung Shui, Tai	-						
Sterculia tree native Contributi in Hong Kong - + + Strychnos angustifiora Narrow- nut Narrow- nut native Hong Kong Island, Sha Tin, Ma On Shan, Sam A Tsuen, Lamma Island, Beaufort Island, Ching Chau +	Sterculia Janceolato			native								
Strychnos angustifiora nut end poison- woody vine native native native taikand, beaufort Island, Ching Chau + + + + + + + + + + + + + + + + + + +	Sterculla lanceolata			nauve	Common in Hong Kong	-		+				
Syzygium jambos Rose Apple tree exotic Cultivated & naturalized - +	Strychnos angustiflora	flowered Poison-	woody vine	native	Ma On Shan, Sam A Tsuen, Tai Wan, Lantau Island, Lamma Island, Beaufort	-		+				
	Syzygium jambos	Rose Apple	tree	exotic	Cultivated & naturalized	-		+				

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽²⁾	OUA	WL	SL	GL	MWC	NWC
Tetracera asiatica	Sandpaper Vine	woody vine	native	Common in Hong Kong	-		+				+
Thysanolaena latifolia	Tiger-grass	herb	native	Common in Hong Kong	-	+	+				[
Tylophora ovata		slender woody vine	native	Common in Hong Kong	-		+	+	+		
Uvaria macrophylla	Uvaria	woody climbing shrub	native	Common in Hong Kong	-		+				
Vernonia amygdalina	-	shrub	exotic	-	-	+					
Wedelia biflora	-	perennial herb	native	Common in Hong Kong	-					+	
Wedelia trilobata	-	perennial herb	exotic	Naturalized and widely cultivated	-					+	
Youngia japonica	Hawk's Beard	herb	native	Common in Hong Kong	-	+					
Zanthoxylum avicennae	Prickly Ash	tree	native	Common in Hong Kong	-		+	+			
Zanthoxylum nitidum	Shiny-leaved Prickly Ash	climbing shrub	native	Common in Hong Kong	-		+				

Notes: (1) Distribution in Hong Kong follows: Flora of Hong Kong Volume 1.4. (2007-2011). Wu, S.+H. & Lee, T.-C. W. (2000). Prehidophytes of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:5-20. Xing, F.-W., Ng, S.C. & Chau, L.K.-C. (2000). Gymnosperms and Angiosperms of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:21-136. Siu, L.-P.G. (2000). Orchidaceae of Hong Kong. Memoirs of the Hong Kong Natural History Society 23:177-148. (2) Protection distalawse follow: Protected under the Forests and Countryside Ordinance (Cap. 96) Protected under the Forests and Countryside Ordinance (Cap. 96) Protected under the Forests and Countryside Ordinance (Cap. 986) Hu, Q.M., Wu, T.L., Xia, N.H., Xing F.W., Lai, C.C.P. & Yip, K.W. (2003). Rare and Precious Plants of Hong Kong. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong. 234pp. List of Wild Plants Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021) Fu, K.L. (1992). China Plant Red Data Book. Vol. 1 - Rare and Endangered Plants. Science Press, Beijing. 736pr. (In Chinese only) Qin, et al. (2017). Threatened Species List of China's Higher Plants. Biodiversity Science 25(7):696-747 International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023 1. Feng, Z.-J., Li, Z.-K., Li, B.-T., Xue, C.-G., Liu, J.-B. & He, Y.-Q. (2002). Study on Rare and Endangered Plants and National Key Protected Plants in Guangdong. Journal of South China Agricultural University3:24-27. Wu, D.L. & Hu, C.X. (1988). Illustrations of Rare and Endangered Plants in Guangdong Province. China Environmental Science Press, Beijing. 46pp. (In Chinese only).

Abbreviation for Habitats: OUA=Other Urban Area; WL = Woodland; SL = Shrubland; GL=Grassland; MWC=Modified Watercourse; and NWC=Natural Watercourse Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce Species of conservation importance is in bold type face

APPENDIX 3

Fauna Species Recoded within the Ecological Assessment Area

Appendix 3 Fauna Species Recorded within the Ecological Assessment Area

Avifauna

Common Name ⁽¹⁾	Scientific Name	Distribution in Hong Kong ⁽³⁾	Principal Status ⁽⁴⁾	Level of Concern ⁽⁵⁾	Protection Status in China ⁽⁶⁾	China Red Data Book ⁽⁷⁾	Red List of China's Vertebrates ⁽⁸⁾	IUCN Red List ⁽⁹⁾	OUA	WL	SL	IF
Asian Koel	Eudynamys scolopaceus	Common resident. Widely distributed in Hong Kong.	Su,R	-	-	-	Least Concern	Least Concern		+		
Barn Swallow	Hirundo rustica	Abundant passage migrant and uncommon winter visitor. Widely distributed in Hong Kong.	SpM,Su	-	-	-	Least Concern	Least Concern	+			
Black Kite ⁽²⁾⁽¹⁰⁾	Milvus migrans	Common resident and winter visitor. Widely distributed in Hong Kong.	W,R	(RC)	Class II	-	Least Concern	Least Concern				+
Chinese Bulbul	Pycnonotus sinensis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Chinese Hwamei ⁽²⁾	Garrulax canorus	Common resident. Widely distributed in hillside shrubland throughout Hong Kong.	R	-	Class II	-	Near Threatened	Least Concern		+		
Common Tailorbird	Orthotomus sutorius	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Eurasian Tree Sparrow	Passer montanus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		
Greater Coucal	Centropus sinensis	Common resident. Widely distributed in Hong Kong.	R	-	Class II	Vulnerable	Least Concern	Least Concern		+		
Oriental Magpie Robin	Copsychus saularis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	+	+		
Red-whiskered Bulbul	Pycnonotus jocosus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+	+	
Spotted Dove	Spilopelia chinensis	Abundant resident. Widely distributed in Hong Kong.	R	-		-	Least Concern	Least Concern		+		
Swinhoe's White-eye	Zosterops simplex	Abundant resident. Widely distributed in Hong Kong.	R,?W	-	-	-	Least Concern	Least Concern		+		
White Wagtail	Motacilla alba	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	W,R	-	-	-	Least Concern	Least Concern	+			

Notes:

(1) All wild birds are Protected under Wild Animals Protection Ordinance (Cap.170)

(2) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).

(3) AFCD (2022). Hong Kong Biodiversity Information Hub.

(4) Carey, G.J., Chalmers, M.L., Diskin, D.A., Leader, P.J., Leven, M.R., Lewthwaite, M.R., Melville, D.S., Turnbull, M. & Young, L. (2001). The Avifauna of Hong Kong. Hong Kong. Hong Kong. Bird Watcing Society, Hong Kong. R=resident; W=winter visitor; Su=summer visitor; M=migrant; A=autumn; P=present all year, exact composition unknown; ?W=extent of migration in winter is unclear.

(5) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern, Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(6) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(7) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).

(8) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(9) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

(10) Wetland-dependent species (including wetland-dependent species and waterbirds).

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; SL = Shrubland; IF = In Flight. Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face. Mammal

Common Name	Scientific Name	Distribution in Hong Kong ⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	China Red Data Book ⁽⁵⁾	Red List of China's Vertebrates ⁽⁶⁾	IUCN Red List ⁽⁷⁾	WL	SL
Unknown Vespertilionidae species 1 ⁽¹⁾	-	-	-	-	-	-	-	+	
Red Muntjac	Muntiacus vaginalis	Very widely distributed in countryside areas throughout Hong Kong	PRC	-	-	Near Threatened	Least Concern		+

Notes:

(1) Protected under Wild Animals Protection Ordinance (Cap. 170).

(2) AFCD (2022). Hong Kong Biodiversity Information Hub.

(3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) Wang, S. (1998). China Red Data Book of Endangered Animals. Mammalia. Science Press, Beijing, China. 417pp. (In Chinese only).

(6) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(7) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: WL = Woodland; SL = Shrubland.

Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face.

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R	itte	erfly	

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Local Restrictedness ⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	IUCN Red List ⁽⁵⁾	OUA	WL	SL	GL	NWC
-	Eurema spp.	-	-	-	-	-			+		
Blue-spotted Crow	Euploea midamus	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Chestnut Bob	lambrix salsala	Widely distributed throughout Hong Kong	Uncommon	-	-	-		+			1
Common Bluebottle	Graphium sarpedon	Widely distributed throughout Hong Kong	Very common	-	-	-	+		+		
Common Jay	Graphium doson	Widely distributed throughout Hong Kong	Common	-	-	-		+			
Common Mormon	Papilio polytes	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Common Sailer	Neptis hylas	Widely distributed throughout Hong Kong	Very common	-	-	-	+				
Dark-brand Bush Brown	Mycalesis mineus	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Five-bar Swordtail	Pathysa antiphates	Widely distributed throughout Hong Kong	Common	-	-	-					+
Great Eggfly	Hypolimnas bolina	Widely distributed throughout Hong Kong	Common	-	-	-	+				
Great Mormon	Papilio memnon	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Great Orange Tip	Hebomoia glaucippe	Widely distributed throughout Hong Kong	Common	-	-	-			+		
Lemon Pansy	Junonia lemonias	Wu Kau Tang, Shan Liu, Shui Long Wo, Tong Fuk, Pak Tam Chung	Common	-	-	-	+				+
Pale Grass Blue	Pseudozizeeria maha	Widely distributed throughout Hong Kong	Very common	-	-	-	+				+
Paris Peacock	Papilio paris	Widely distributed throughout Hong Kong	Very common	-	-	-	+			+	1
Plain Hedge Blue	Celastrina lavendularis	Chuen Lung, Kap Lung, Tai Po Kau, Shing Mun Country Park, Tai Lam Country Park, Kadoorie Farm and Botanic Garden, Ngau Ngak Shan	Very rare; Species of conservation concern	LC	-	-		+			
Plum Judy	Abisara echerius	Widely distributed throughout Hong Kong	Very common	-	-	-		+			T
Red Helen	Papilio helenus	Widely distributed throughout Hong Kong	Very common	-	-	-		+	+		
Red-base Jezebel	Delias pasithoe	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Rustic	Cupha erymanthis	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Shan Nawab	Polyura nepenthes	Cloudy Hill, Shing Mun, Tai Po Kau, Victoria Peak, Lai Chi Wo, Pak Sha O	Uncommon	-	-	-			+		
Spangle	Papilio protenor	Widely distributed throughout Hong Kong	Very common	-	-	-		+			
Tawny Rajah	Charaxes bernardus	Widely distributed throughout Hong Kong	Common	-	-	-			+		

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Chan, A, Cheung J., Sze, P., Wong, A., Wong, E. and Yau, E. (2011). A Review of the Local Restrictedness of Hong Kong Butterflies. Hong Kong Biodiversity 21: 1-12.

(3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

Abbreviation for Habitats: OUA = Other Urban Area; WL = Woodland; SL = Shrubland; GL = Grassland; NWC = Natural Watercourse. Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce. Species of conservation importance is in **bold** type face. Odonate

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾⁽²⁾	Level of Concern ⁽³⁾	Protection Status in China ⁽⁴⁾	IUCN Red List ⁽⁵⁾	OUA	WL	SL	MWC	NWC
Black Threadtail	Prodasineura autumnalis	Often perches on the plants near streams. Widely distributed in streams throughout Hong Kong; Widespread	-	-	Least Concern		+			
Common Blue Skimmer	Orthetrum glaucum	Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong; Very Widespread	-	-	Least Concern	+				+
Common Red Skimmer	Orthetrum pruinosum neglectum	Widely distributed in slow streams, ponds, rain puddles and irrigation conduits; Widespread	-	-	Least Concern	+				
Crimson Dropwing	Trithemis aurora	Found in marshes, ponds, streams, andor even ornamental ponds in urban areas. Widely distributed throughout Hong Kong; Very Widepsread	-	-	Least Concern					+
Indigo Dropwing	Trithemis festiva	Favours sluggish sections of streams with a strong current or the small rock pools inof mountain streams. Widespread in Hong Kong; Widespread	-	-	Least Concern	+				+
Marsh Skimmer	Orthetrum luzonicum	Widely distributed in abandoned paddies, marshy swampy and boggy locations; Widespread	-	-	Least Concern				+	
Wandering Glider	Pantala flavescens	Widely distributed all over Hong Kong; Widespread	-	-	Least Concern			+		
Yellow Featherlegs	Copera marginipes	Widely distributded in lowland streams, ditches, and weedy margins of pond throughout Hong Kong; Widespread	-	-	Least Concern				+	+

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. Journal of the International Dragonfly Fund 30: 1-49. (3) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(5) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

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Herpetofauna

Common Name	Scientific Name		(2)	Protection Status in China ⁽³⁾	China Red Data	Red List of China's	(6)	OUA	14/1	MWC
Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Level of Concern ⁽²⁾	China ⁽³⁾	Book ⁽⁴⁾	Vertebrates ⁽⁵⁾	IUCN Red List ⁽⁶⁾	UUA	WL	WIVVC
Amphibian										
Asian Common Toad	Duttaphrynus melanostictus	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern	+	+	+
Asiatic Painted Frog	Kaloula pulchra pulchra	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern	+	+	
Brown Tree Frog	Polypedates megacephalus	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern		+	
Butler's Pigmy Frog	Microhyla butleri	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern			+
Greenhouse Frog	Eleutherodactylus planirostris	Widely distributed throughout Hong Kong	-	-	-	-	Least Concern	+	+	
Gunther's Frog	Sylvirana guentheri	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+
Paddy Frog	Fejervarya limnocharis	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+
Reptile										
Bowring's Gecko	Hemidactylus bowringii	Distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern	+		

Notes:

(1) AFCD (2022). Hong Kong Biodiversity Information Hub.

(2) Fellowes, J.R. et al. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. Memoirs of the Hong Kong Natural History Society 25:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern, PGC=Potential Global Concern, GC=Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).

(4) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).

(5) Jiang et al. (2016). Red List of China's Vertebrates. Biodiversity Science 24(5): 500-551.

(6) International Union for the Conservation of Nature (IUCN) (2024). The IUCN Red List of Threatened Species. Version 2023-1.

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Species of conservation importance is in **bold** type face.

Appendix E Previous Responses-to-Comments

(Previously submitted under Further Information dated 12 & 30 September 2024)

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No.: A/TM-SKW/128)

	Departmental Comments	Responses to Comments
1.	Comments from Director of Agriculture, Fisheries and Conservation, Agriculture, Fisheries and Conservation Department	
	S.2.2.10 & 4.3.1(b) of Planning Statement	
1.1	Please clarify whether the shrub species for reinstatement should make reference to the native species recorded in the affected sites and their vicinity as far as technically practicable.	Please be clarified that the shrub species for reinstatement would make reference to the native species recorded in the affected sites and their vicinity, as well as Table E4 of GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes.
	S.4.1.4 of Ecological Inspection Report	
1.2	Please clarify whether the proposed plant protection zone will also be erected for Small Persimmon which is a shrub species of conservation importance.	Please be clarified that plant protection zone will also be erected for Small Persimmon.

Under Further Information Submitted on 30.9.2024

S16 Planning Application for Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) on Government Land in Tai Lam Chung, Tuen Mun (Application No.: A/TM-SKW/128)

	Departmental Comments	Responses to Comments
1.	Comments from District Planning Office/Tuen Mun and Yuen Long West of Planning Department	
1.1	Please provide information on the completion year of the first stage of GI works.	The first stage of GI works was completed on 10.11.2022.
1.2	Please clarify the logistics arrangement / method of the proposed GI works.	The general ground investigation workflow for boreholes and trial pits are as follows:
		 Boreholes Setting out and confirmation of coordinates UU detection, Site clearance and construct temporary access as necessary Mobilize plant and equipment to works area Carry out inspection pit (max. 0.5m x 0.5m x 2m) Commence Drilling, Sampling and specified field tests/instrumentation installation. Reinstatement of drillhole and make good of the surrounding area Trial pits Setting out and confirmation of coordinates UU detection, Site clearance and construct temporary access as necessary Mobilize materials for temp support and required hand tools Carry out excavation of trial pit (max. 1.5m x 1.5m x 3m) and carry out field tests/ sampling as specified Reinstatement of trial pit and make good of the surrounding area

	Departmental Comments	Responses to Comments
		Typical light machinery used for the GI borehole works include the portable drilling rig with winch, water pump and water tank. For transportation of portable drill rig, it will be first dismantled as smaller component and then resembled at the works locations. Temporary access ladders will be erected for access of workers and transportation of tools, which will be removed immediately upon completion of GI works. In general, each portable drilling rig would be operated by two workers. Reference photos of the drilling rig are shown below:
		Access ladders for Natural TerrainImage: Note of the terrain of terrain o
		Typical Trial Pit carried out on Typical Drillhole with working platform carried Natural Terrain hillside out on Natural Terrain hillside
1.3	Please clarify if the locations of the drill holes and trial pits are determined by geologists and their source of information.	The locations for the drillholes and trial pits were determined by geotechnical engineers and relevant experts to enable detailed design works of the envisaged Natural Terrain Hazard Mitigation works, which were proposed based on the potential landslide hazards identified in the GEO-acknowledged Natural Terrain Hazard Study report.

	Departmental Comments	Responses to Comments
1.4	Please clarify the need of additional GI works as proposed under the subject application following the first stage of GI works and the accepted NTHS report.	The first stage of GI works implemented under the previously approved application No. A/TM-SKW/106 mainly served to study the general underground geology profile of the area for the preparation of the Natural Terrain Hazard Study (NTHS) report. It covered a broader investigation area with a larger amount of drillholes and trial pits situated at a further distance from the approved residential site (under Application No. A/TM-SKW/32-1).
		Building upon the findings of the NTHS report as per the data obtained under the first stage of GI works, which has been submitted to and accepted by GEO, the Applicant was able to narrow down the scope of the second stage of GI works, which focuses on investigating a selected number of drillholes and trial pits located closer to the approved residential site. This stage of additional GI works will serve to provide more thorough information on the geological profile and soil parameters in the immediate surroundings of the approved residential site to facilitate detailed design of Natural Terrain Hazard Mitigation Works and subsequent submission to BD and GEO, CEDD in future.
		Section 2.1.9 of the planning statement has been revised accordingly in Attachment 2 .
1.5	Please clarify whether reinstatement works will be checked by relevant government departments.	The reinstatement works will typically not undergo government department inspections. Nevertheless, the completion of reinstatement work will be certified by engineers, and photographic records of the reinstatement works will be retained.

Relevant Extracts of Town Planning Board Guidelines for Application for Development within Green Belt Zone <u>under Section 16 of the Town Planning Ordinance</u> (TPB PG-No.10)

The relevant assessment criteria are as follows:

- (a) an application for new development in a "GB" zone will only be considered in exceptional circumstances and must be justified with very strong planning grounds. The scale and intensity of the proposed development including the plot ratio, site coverage and building height should be compatible with the character of surrounding areas;
- (b) the design and layout of any proposed development should be compatible with the surrounding area. The development should not involve extensive clearance of existing natural vegetation, affect the existing natural landscape, or cause any adverse visual impact on the surrounding environment; and
- (c) any proposed development on a slope or hillside should not adversely affect slope stability.

Similar s.16 Application involving the Same "GB" Zone

Approved Application

Application No.	Proposed/ Applied Use(s)/Development(s)	Zoning(s)	Date of	
			Consideration	
A/TM-SKW/106	Proposed Excavation of Land (for Ground	"GB"	15.9.2020	
	Investigation Works for Natural Terrain			
	Hazard Study)			

Government Department's General Comments

1. Land Administration

Comments of the District Lands Officer/Tuen Mun, Lands Department:

• No adverse comment on the application.

2. <u>Traffic</u>

Comments of the Commissioner for Transport:

• No adverse comment on the application.

Comments of the Chief Highway Engineer/NT West, Highways Department:

• No comment on the application.

3. Environment

Comments of the Director of Environmental Protection (DEP):

• No objection to the application.

4. <u>Urban Design and Landscape</u>

Comments of the Chief Town Planning/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD):

• The Sites are situated in an area of settled valleys landscape character predominated by woodland as observed in the aerial photo enclosed in **Plan A-3**, the proposed GI works are considered not incompatible with the surrounding setting and landscape character of the area due to the limited size of the Sites. No significant landscape resources/vegetation are observed at the Sites. Given that no tree feeling will be involved while the exact location and extent of the drill holes and trial pits will be adjusted based on ecological field observations to avoid or minimise the potential ecological impact to existing trees and reinstatement of vegetation will be carried out upon completion, she has no comment on the captioned application from landscape planning perspective.

5. <u>Drainage</u>

Comments of the Chief Engineer/Mainland North, Drainage Services Department:

• No objection in principle to the application.

6. <u>Geotechnical</u>

Comments of the Head of Geotechnical Engineering Office, Civil Engineering Development Department (CEDD):

• No adverse geotechnical comment on the application.

7. <u>Nature Conservation</u>

Comments of the Director of Agriculture, Fisheries and Conservation:

• No adverse comment on the application from nature conservation perspective given that all drill holes and trial pits will be reinstated by native plant species upon completion of the proposed GI works.

8. Other Departments

The following Government departments have no comment on the application, including the Director of Fire Services; Chief Building Surveyor/New Territories West, Buildings Department; Project Manager (West), CEDD; Chief Engineer/Development (2), Water Supplies Department; and Commissioner of Police.

Recommended Advisory Clauses

(a) to note the comments of District Lands Officer, Tuen Mun, Lands Department:

- all the Geotechnical Works (GI) works are situated on Government land covered by trees and vegetation. The applicant should avoid interfering with any of the trees and is reminded that no trees growing on Government land shall be removed or interfered with unless prior written approval has been obtained from the Lands Department. Government takes a very serious view on any unauthorized felling of trees;
- some GI works fall within/are in proximity to burial ground. The applicant is reminded that no grave/urn shall be interfered with; and
- in the event that the planning application is approved and the applicant intends to carry out the proposed GI works on Government land before execution of the land exchange document of the proposed Tuen Mun Town Lot 417, the applicant will need to submit an application to LandsD for permission. The applicant shall also submit tree felling application if applicable. The applications, upon receipt will be considered by the LandsD at its sole discretion and there is no guarantee that any of the applications will be subject to such terms and conditions as the Government shall deem fit, including charging of fees. There is also no guarantee that any right-of-way will be given to the Sites and the applicant shall make his own arrangement for access to the Sites;
- (b) to note the comments of the Commissioner for Transport (C for T) that the applicant should be reminded that the "Comprehensive Development Area" ("CDA") development site is connected to the public road network via a section of a local access road which is not managed by the Transport Department. The land status of the local access road should be checked with LandsD. Moreover, the management and maintenance responsibilities of the local access road should be clarified with the relevant lands and maintenance authorities accordingly. Sufficient maneuvering space shall be provided within the "CDA" site and 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 Director of Environmental Protection (DEP) to implement relevant pollution control measures during the works to minimise the potential environmental nuisances;
- (d) to note the comments of the Chief Town Planner/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD) that approval of the planning application by the Town Planning Board does not imply approval of the tree works such as pruning, transplanting and/or felling under lease. Applicant is reminded to approach the authority/government department(s) direct to obtain the necessary approval on tree works;

- (e) to note the comments of Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) that all the existing flow paths as well as the runoff falling onto and passing through the Sites should be intercepted and disposed of via proper discharge points. Free flow conditions and the capacity of adjacent drains and channels should be maintained at all times during and after the proposed works;
- (f) to note the comments of the Director of Fire Services that the applicant is advised that any excavation/construction works shall under no circumstances cause obstruction to nearby fire hydrants and their control valves in-situ. Should any relocation/blanking-off of fire hydrants be necessary, prior consent from his department has to be sought;
- (g) to note the comments of the Head of the Geotechnical Engineering Office, Civil Engineering and Development Department (H(GEO), CEDD) that it is the applicant's responsibility to ensure that adequate and sufficient GI works are carried out to substantiate and justify the geotechnical assessment and design in the detailed design stage. The proposed GI works should be carried out according to Geoguide 2: Guide to Site Investigation;
- (h) to note the comments of the Director of Agriculture, Fisheries and Conservation (DAFC) that the applicant is reminded to implement good site practices and all the proposed mitigation measures to avoid potential impacts on the trees, the floral species of conservation importance and the natural watercourses near the works sites and minimise damage on vegetation as far as technically practicable;
- (i) to note the comments of Director of Food and Environmental Hygiene (DEFH) that the works and the equipment and vehicles involved in the operation shall not cause nuisance to the surrounding environment or be injurious or dangerous to the public health and safety. The associated works and operations shall not cause any environmental nuisance, pest infestation and obstruction to the surrounding. For any waste generated from the operations and works, the applicant should arrange its proper disposal at their own expenses. The applicant shall also ensure that any material likely to result in littering or injuring the surface of street or public place, which is adhering to the wheels, framework or body of vehicles involved in their operation, has been previously removed and any load likely to result in littering or injuring the surface of street or public place which is carried thereon is so secure and packed that no part or content thereof may fall, escape or be blown therefrom, onto the street or public place;
- (j) to note the comments of the Executive Secretary (Antiquities and Monuments), Antiquities and Monuments Office (ES(A&M), AMO) that the applicant is required to inform AMO immediately when any antiquities or supposed antiquities are discovered in the course of the proposed works; and
- (k) to note the comments of the Director of Electrical and Mechanical Services (DEMS) that in the interests of public safety and ensuring the continuity of electricity supply, the parties concerned with planning, designing, organizing and supervising any activity near the underground cable or overhead line under the application should approach the electricity supplier (i.e. CLP Power) for the requisition of cable plans

(and overhead line alignment drawings, where applicable) to find out whether there is any underground cable and/or overhead line within and/or in the vicinity of the Sites. Applicant should also be reminded to observe the Electricity Supply Lines (Protection) Regulation and the "Code of Practice on Working near Electricity Supply Lines" established under the Regulation when carrying out works in the vicinity of the electricity supply lines. □Urgent □Return receipt □Expand Group □Restricted □Prevent Copy

From: Sent: To: Subject: Attachment:

2024-09-16 星期一 16:17:19 tpbpd/PLAND <tpbpd@pland.gov.hk> KFBG's comments on three planning applications 240916 s16 CWBS 50.pdf; 240916 s16 SKW 128.pdf; 240916 s16 PH 1028.pdf

Dear Sir/ Madam,

Attached please see our comments regarding three applications. There are three pdf files attached to this email. If you cannot see/ download/ open these files, please notify us through email.

Also, please do not disclose our email address.

Thank You and Best Regards,

Ecological Advisory Programme Kadoorie Farm and Botanic Garden

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嘉道理農場暨植物園公司 Kadoorie Farm & Botanic Garden Corporation

The Secretary, Town Planning Board, 15/F, North Point Government Offices, 333, Java Road, North Point, Hong Kong. (Email: tpbpd@pland.gov.hk)

16th September, 2024.

By email only

1

Dear Sir/ Madam,

Proposed Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study) (A/TM-SKW/128)

1. We refer to the captioned.

2. We visited the slope of concern and it is in general well vegetated. We recommend that the footprints of the works sites including the temporary access should be kept as minimum as possible and should avoid directly affecting trees/ plants of conservation concern (if any).

3. We also urge the project proponent to remove all works materials and garbage (if any) from the site after the works are completed.

4. Thank you for your attention.

Ecological Advisory Programme Kadoorie Farm and Botanic Garden From: Sent: To: Subject:

2024-09-16 星期一 02:56:19 tpbpd/PLAND <tpbpd@pland.gov.hk> A/TM-SKW/128 Tai Lam Chung GB NTH Study

A/TM-SKW/128 SHK

Government Land in Tai Lam Chung, Tuen Mun

Site area: About 226sq.m

Zoning: "Green Belt"

Applied development: Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study)

Dear TPB Members,

When the developer applied for the same use under 106 it stated that approval would not set an undesirable precedent. But it clearly has.

"Situated at the foot of hillslopes zoned "GB" to its immediate north and east, the residential site, together with the existing institutional buildings such as the Tai Lam Chung Fire Station and recognised villages in close vicinity to the residential site, may be affected by landslide and boulder fall hazards arising in the area."

So the location of the proposed residential development has significant issues. These were brushed under the carpet under the mantra of need for more housing. But that ship has long sailed and now Hong Kong faces a prolong period of excessive supply of private units and weak demand. While the media concentrates on the 20,000+ unsold units in recently launched developed, there are thousands more empty home all over the city.

The developers own Victoria Harbour development in North Point has many unsold units, one tower appears to be still completely unoccupied.

It is therefore unconscionable that in view of the unpredictable climatic conditions, more units are to be built at locations where there is clearly a danger of landslides and hazards triggered by torrential rains and possible earthquakes.

Now that there is more than sufficient supply of private residential units, it is time for some of the more dodgy developments to be halted. The degradation of ecosystems, including topsoil erosion, deforestation, biodiversity loss, and climate change, affect economic security that in turn impacts national security.

The need for additional ground investigation should be a matter of concern.

Mary Mulvihill

2

From:

To: tpbpd <<u>tpbpd@pland.gov.hk</u>> Date: Sunday, 12 July 2020 3:06 AM HKT Subject: Re: A/TM-SKW/106 Tai Lam Chung GB NTH Study

Dear TPB Members,

Location of burial grounds provided but no other data with regard to impact on terrain and the justification for multiple invasive excavation of what is clearly country park buffer GB.

Previous objections upheld.

Mary Mulvihill

From: '

To: "tpbpd" <<u>tpbpd@pland.gov.hk</u>> Sent: Wednesday, April 22, 2020 3:01:24 AM Subject: A/TM-SKW/106 Tai Lam Chung GB NTH Study

A/TM-SKW/106

Government Land in Tai Lam Chung, Tuen Mun

Site area : About 346.5sq.m

Zoning : "Green Belt"

Applied development : Excavation of Land (for Ground Investigation Works for Natural Terrain Hazard Study)

Dear TPB Members,

Strongly object to the number and locations, particularly those close to Tai Lam Country Park.

This study is obviously intended to push for further encroachment into sensitive country park buffer zones. The likelihood of landslides on well vegetated and wooded slopes is minimal.

No data provided on the number of trees to be felled or the impact on flora, fauna, birds and small animals that inhabit the GB. Their habitat would be disturbed by the noise and intrusion of the drilling work.

The current health crisis should be a wake up call that we cannot continue to encroach on nature and avoid the inevitable consequences.

Mary Mulvihill

3