	e) E _{se}	2024年 4, ^{此文件在}	收到。城市規制	Paper	dix I of RNTP No. A/KTN/10
		申請的日期。 This document is rec The Town Planning F the dute of receipt of of all the required inf	Board will formally acknown the application only upon formation and documents	2024 owledge a receipt	_ <u>Form No. S1</u> <u>表格第 S16</u> -
				RMISSIO	N
		14	ECTION		
	THE TO	OWN PLA	INNING	ORDINAN	CE
		(C	AP. 131)	з	
根排	<i>素</i> 《城	市規畫	削條例	》(第13	1章)
	第 1	6 條 遞	交的許	二可申請	Ĵ
興建「 (ii) Tempor rural 位於编 用途/領	areas or Reg 鄭郊地區或受 發展;及	制屋宇」; velopment of julated Areas 規管地區土地	land and/or ; and 也上及/或建築	ouilding not exc 物内進行為期不	下超過三年的
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(ii) Tempore rural: 位於统 用途/ (iii) Renew Regula 位於统 (iii) Renew Regula 位於统 Applicant who Planning Board land owner, pl https://www.tp 申請人如欲在 土地擁有人	「新界豁免管 orary use/de areas or Reg 郊地區或受 發展;及 val of permi ated Areas 邓地區或受 o would like to p d's requirements lease refer to the b.gov.hk/en/plan 本地報章刊登月 所指定的其中	制屋宇」; velopment of gulated Areas; 規管地區土均 ssion for tem 規管地區的區 of taking reasona e following link re application/appli 目請通知,以採取	iland and/or l and 也上及/或建築 porary use o 临時用途或發) of application in ble steps to obtain egarding publishir y.html 城市規劃委員會 , 請 瀏覽以下	ouilding not exc 物内進行為期不 r development 医的許可續期	下超過三年的 in rural area meet one of the otification to the c designated newsp
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2400966

For Official Use Only	Application No. 申請編號	A/ KTN/ 107
請勿填寫此欄	Date Received 收到日期	Leichting auf der Leichter auf der APR 2024

BY

hand,

Form No. S16-I 表格第 S16-I 號

19/4

- 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 <u>http://www.tpb.gov.hk/</u>. 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 樓及新界沙田上禾輩路 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)

Civil Engineering and Development Department, North Development Office 土木工程拓展署, 北拓展處

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

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

3.	Application Site 申請地點	
(a)	Full address / location / demarcation district and lot number (if applicable) 詳細地址/地點/丈量約份及 地段號碼(如適用)	Government Land in D.D. 89 and D.D. 95, Kwu Tung, New Territories 新界古洞丈量約份第89及第95約地段政府土地
(b)	Site area and/or gross floor area involved 涉及的地盤面積及/或總樓面面 積	■Site area 地盤面積 12,400 sq.m 平方米■About 約 □Gross floor area 總樓面面積 sq.m 平方米□About 約
(c)	Area of Government land included (if any) 所包括的政府土地面積(倘有)	12,400 sq.m 平方米 ☑About 約

2

(1)		Approved Kwu Tung	Approved Kwu Tung North Outline Zoning Plan No. S/KTN/4			
(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	古洞北分區計劃大綱	核准圖編號 S/KTN/	4	е 	
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Agriculture (1)" ("AGR (1)")	"Open Space" ("O")	Area shown	as 'Road'	
		「農業(1)」	「休憩用地」	「道路」		
(f)	Current use(s) 現時用途	plan and specify the use	nment, institution or cor and gross floor area) 或社區設施,請在圖則		1	
4.	"Current Land Owner" of	Application Site 由	諸	后 一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一一	λ.	
		Application Site +		1 上 45 19世 7日 /		
	applicant 申請人 – is the sole "current land owner" ^{#&} 是唯一的「現行土地擁有人」 ^{#&}	please proceed to Part 6 a 請繼續填寫第 6 部分,	and attach documentar 並夾附業權證明文作	y proof of owner: ⊧) ∘	ship).	
	is one of the "current land owners" 是其中一名「現行土地擁有人」	* (please attach docume * (請夾附業權證明文件	ntary proof of owners =) •	hip).		
	is not a "current land owner" [#] . 並不是「現行土地擁有人」 [#] 。					
	The application site is entirely on G 申請地點完全位於政府土地上(0	
5.	Statement on Owner's Cons 就土地擁有人的同意/通		陳述			
(a)	According to the record(s) of the L involves a total of 根據土地註冊處截至 涉名「現行土	and Registry as at			C (245)	
(b)	The applicant 申請人 –					
~ /	A MARK AND A MARK A					
	has obtained consent(s) of	"current land o	wner(s)" [#] .			
	has obtained consent(s) of<已取得 名		and the three set of the set of t			
		「現行土地擁有人」#的	可同意。	擁有人」"同意的	勾詳情	
-	已取得名 Details of consent of "curren No. of 'Current Land Owner(s)' 「現行士地擁有	「現行土地擁有人」#的	n同意。 ed 取得「現行土地 hown in the record of th been obtained	e Land Date of (DD/MN 取得同時	consent obtained M/YYYY) 意的日期	
	已取得名 Details of consent of "curren No. of 'Current Land Owner(s)' 「現行土地擁有」Lot numb Registry w 相據土地	「現行土地擁有人」#的 t land owner(s)"# obtain er/address of premises as s where consent(s) has/have	n同意。 ed 取得「現行土地 hown in the record of th been obtained	he Land Date of (DD/MM) 上 取得同题	consent obtained M/YYYY) 意的日期	
	已取得名 Details of consent of "curren No. of 'Current Land Owner(s)' 「現行土地擁有」Lot numb Registry w 相據土地	「現行土地擁有人」#的 t land owner(s)"# obtain er/address of premises as s where consent(s) has/have	n同意。 ed 取得「現行土地 hown in the record of th been obtained	he Land Date of (DD/MM) 上 取得同题	consent obtained M/YYYY) 意的日期	

Form No. S16-I 表格第 S16-I 號

	No. of 'Current			
5	Land Owner(s)' 「現行土地擁 有人」數目	Land Registry where notifica	ises as shown in the record of the ation(s).has/have been given 出通知的地段號碼/處所地址	Date of notification given (DD/MM/YYYY) 通知日期(日/月/年)
			14	
. (F	lease use separate s	sheets if the space of any box abov	ve is insufficient. 如上列任何方格的空	 2間不足,請另頁說明)
		le steps to obtain consent of or 从取得土地擁有人的同意或向		
R	easonable Steps t	o Obtain Consent of Owner(s)	取得土地擁有人的同意所採取	的合理步驟
			owner(s)" on G「現行土地擁有人」 [#] 郵遞要求同	
<u>R</u>	easonable Steps t	o Give Notification to Owner(s) 向土地擁有人發出通知所採B	仅的合理步骤
		ices in local newspapers on (日/月/年)在指定著	(DD/MM/YY g章就申請刊登一次通知 ^{&}	YYY) ^{&}
	14 I MOURTAINOUS DESIGNATION CONTRACTOR C	in a prominent position on or (DD/MM/YYYY)&	near application site/premises on	
	於	(日/月/年)在申請地	也點/申請處所或附近的顯明位置	昆出關於該申請的通
	office(s) or ru 於	ral committee on	s)/owners' committee(s)/mutual aid (DD/MM/YYYY) ^{&} 寄往相關的業主立案法團/業主零	
<u>0</u>	thers <u>其他</u>			
	〕 others (please 其他(請指明			
	<u>.</u>		2	
	. <u></u>	*:	-	÷

6.	Type(s)	of Application	n 申請類	頁別	94) A			
	Type (i) 第(i)類		e of use within existing building or part thereof 自有建築物或其部分內的用途					
\checkmark	Type (ii)		Diversion of stream / excavation of land / filling of land / filling of pond as required under Notes of Statutory					
	第(ii)類	Plan(s) 根據法定圖則	《註釋》內戶	所要求的河道改善	道/挖土/填土/填	唐工程		
	Type (iii) 第(iii)類			tility installation 展計劃的公用影	for private project b施裝置			
	Type (iv) 第(iv)類			evelopment restr 睪》內列明的發展	iction(s) as provided u 展限制	nder Notes of Sta	tutory Plan(s)	
	Type (v) 第(v)類	Use / developm 上述的(i)至(iii)		n (i) to (iii) abov 途/發展	e	9 2		
		more than one「、 一個方格內加上「						
Note	2: For Develop	ment involving colur	nbarium use, pl		le in the Appendix.			
計乙	• 如發展涉)	及靈灰安置所用途	1. 前項安於1	们什时农格。				
(i)	For Typ	e (i) applicati	on 供第(i	<u>)類申請</u>				
i	Total floo involved					sq.m 平方米		
) 	涉及的總樓正	面面積		•	3	-		
			т ^{. ЭС}					
	Proposed							
	use(s)/develo 擬議用途/發		(If there are any Government, institution or community facilities, please illustrate on plan and specify					
			the use and	gross floor area)	設施,請在圖則上顯示	2		
	Number of st 涉及層數	toreys involved			Number of units inv 涉及單位數目	olved		
			Domestic p	oart 住用部分		sq.m 平方米	□About 約	
	Proposed floo 擬議樓面面和		Non-domestic part 非住用部分 sq.m 平方米 □About 約		□About 約			
2 	2*2 d	a a a	Total 總計			sq.m 平方米	□About 約	
		es of different	Floor(s) 樓層	Current u	se(s) 現時用途	Proposed u	use(s) 擬議用途	
	floors (if app 不同樓層的打	licable) 疑議用途(如適		9				
1.1	用) Please use seps	arate sheets if the						
s	space provided is							
2	知为fi定展的生产 明)	马工人 明力良吭						

Form No. S16-I 表格第 S16-I 號

(ii) For Type (ii) application	ation 供第(ii)類申請
	Diversion of stream 河道改道
	 □ Filling of pond 填塘 Area of filling 填塘面積 Depth of filling 填塘深度 m 米 □About 約
(a) Operation involved 涉及工程	 ✓ Filling of land 填土 Area of filling 填土面積 Depth of filling 填土厚度 06m米 ✓About 約
	 □ Excavation of land 挖土 Area of excavation 挖土面積
- 	(Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用圖則顯示有關土地/池塘界線,以及河道改道、填塘、填土及/或挖土的細節及/或範圍))
(b) Intended use/development 有意進行的用途/發展	Proposed Filling of Land for Site Formation Works for Permitted Agricultural Use 擬議填土以作土地平整工程作准許的農業用途
(iii) <u>For Type (iii)</u> applic	ation 供第(iii)類申請
	 Public utility installation 公用事業設施裝置 Utility installation for private project 私人發展計劃的公用設施裝置 Please specify the type and number of utility to be provided as well as the dimensions of each building/structure, where appropriate 請註明有關裝置的性質及數量,包括每座建築物/構築物(倘有)的長度、高度和闊度
	Name/type of installation 裝置名稱/種類 Number provision 數量 of provision 數量 Dimension /building/structure (m) (LxWxH) 每個裝置/建築物/構築物的尺寸 (米) (長 x 闊 x 高)
(a) Nature and scale 性質及規模	

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

(iv) <u>F</u>	For Type (iv) application #	<u>生第(iv)類申請</u>
I	proposed use/development ar	ninor relaxation of stated development restriction(s) and <u>also fill in the</u> ad development particulars in part (v) below – 艮制 <u>並填妥於第(v)部分的擬議用途/發展及發展細節</u> –
	Plot ratio restriction 地積比率限制	From 由 to 至
	Gross floor area restriction 總樓面面積限制	From 由sq. m 平方米 to 至sq. m 平方米
	Site coverage restriction 上蓋面積限制	From 由% to 至%
	Building height restriction 建築物高度限制	From 由m 米 to 至 m 米
		From 由 mPD 米 (主水平基準上) to 至
1. 32° -		mPD 米 (主水平基準上)
		From 由 storeys 層 to 至 storeys 層
	Non-building area restriction 非建築用地限制	From 由m to 至m
	Others (please specify) 其他(請註明)	

(v) For Type (v) applicat	ion 供第(v)類申請		
(a) Proposed use(s)/development 擬議用途/發展	**	а с	2
	(Please illustrate the details of the propo	sal on a layout plan 請用平面圖說明建議	詳情)
(b) Development Schedule 發展	細節表		
Proposed gross floor area (C	GFA) 擬議總樓面面積	sq.m 平方米	□About 約
Proposed plot ratio 擬議地和	責比率		□About 約
Proposed site coverage 擬議	上蓋面積	%	□About 約
Proposed no. of blocks 擬議	座數		
Proposed no. of storeys of ea	ach block 每座建築物的擬議層數	storeys 層	
		□ include 包括storeys of basem	ents 層地庫
8		□ exclude 不包括storeys of bas	ements 層地庫
Proposed building height of	each block 每座建築物的擬議高度	mPD 米(主水平基準上 m 米) □About 約 □About 約

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	part 住用部分			
GFA	總樓面面積		sq. m 平方米	□About 約
num	ber of Units 單位數目			
aver	age unit size 單位平均面	面積	sq. m 平方米	□About 約
estir	nated number of resident	s 估計住客數目		
Non-dom	estic part 非住用部分		<u>GFA</u> 總樓面面	面積
eatin	g place 食肆		sq. m 平方米	□About 約
hote	酒店		sq. m 平方米	□About 約
			(please specify the number of rooms	S
		57 57	請註明房間數目)	
□ offic	e 辦公室		sq. m 平方米	□About 約
Shop	and services 商店及服務	務行業	sq. m 平方米	□About 約
Gov	ernment, institution or co	ommunity facilities	(please specify the use(s) and	concerned land
政府	、機構或社區設施		area(s)/GFA(s) 請註明用途及有關	的地面面積/總
			樓面面積)	
			••••••	
ie.				
) 				
othe	:(s) 其他		(please specify the use(s) and	
			area(s)/GFA(s) 請註明用途及有關	的地面面積/總
			樓面面積)	
1				
		ş 98	·····	••••••
		· · ·		
	71.354 FT 1.1	2		
	ce休憩用地		(please specify land area(s) 請註明	地面面積)
□ priva	ite open space 私人休憩		(please specify land area(s) 請註明 sq. m 平方米 □ Not	地面面積) less than 不少於
□ priva			(please specify land area(s) 請註明	地面面積) less than 不少於
priva	ite open space 私人休憩 ic open space 公眾休憩)		(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not	地面面積) less than 不少於
priva	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not	地面面積) less than 不少於
prive publ (c) Use(s) of di	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用)	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)] [層數]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
priva publ (c) Use(s) of di [Block number	ite open space 私人休憩 ic open space 公眾休憩/ fferent floors (if applical r] [Floor(s)] [層數]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 猶用) [Proposed use(s)]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地 ble) 各樓層的用途 (如遼	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地 ble) 各樓層的用途 (如遼	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地 ble) 各樓層的用途 (如遼	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地 ble) 各樓層的用途 (如遼	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於
□ priva □ publ (c) Use(s) of di [Block numbe [座數]	ite open space 私人休憩 ic open space 公眾休憩) fferent floors (if applical [Floor(s)] [層數]	用地 ble) 各樓層的用途 (如遼	(please specify land area(s) 請註明 sq. m 平方米 □ Not sq. m 平方米 □ Not 適用) [Proposed use(s)] [擬議用途]	地面面積) less than 不少於

Part 6 (Cont'd) 第6部分 (續)

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7. Anticipated Completion Time of the Development Proposal 擬議發展計劃的預計完成時間 Anticipated completion time (in month and year) of the development proposal (by phase (if any)) (e.g. June 2023) 擬議發展計劃預期完成的年份及月份 (分期 (倘有)) (例: 2023 年 6 月) (Separate anticipated completion times (in month and year) should be provided for the proposed public open space and Government, institution or community facilities (if any)) (申請人須就擬議的公眾休憩用地及政府、機構或社區設施 (倘有) 提供個別擬議完成的年份及月份) December 2025 2025年12月

 Vehicular Access Arra 擬議發展計劃的行 	U	it of the Development Proposal 字相
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)) Ho Sheung Heung Road 河上鄉路 □ There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。(請在圖則顯示,並註明車路的闊度)
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 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 車型貨車車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明)

9. Impacts of De	evelopment Proposal 擬議發展計劃的影響
justifications/reasons for	e separate sheets to indicate the proposed measures to minimise possible adverse impacts or give or not providing such measures. 注明可盡量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,請跳至下 一條問題。)	Yes 是 Please provide details 請提供詳情 No 否 ✓ Yes 是 (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地/池塘界線,以及河道改道、填地、填土及/或挖土的細節及/或範 圖) Diversion of stream 河道改道 □ 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 environment 對環境 Yes 會 No 不會 No On traffic 對交通 Yes 會 No 不會 No On water supply 對供水 Yes 會 No 不會 No On drainage 對排水 Yes 會 No 不會 No On drainage 對排水 Yes 會 No 不會 No On slopes 對斜坡 Yes 會 No 不會 No Affected by slopes 受斜坡影響 Yes 會 No 不會 No Affected by slopes 受斜坡影響 Yes 會 No 不會 No Landscape Impact 構成景觀影響 Yes 會 No 不會 No Landscape Impact 構成景觀影響 Yes 會 No 不會 No Visual Impact 構成視覺影響 Yes 會 No 不會 No Visual Impact 構成視覺影響 Yes 會 No 不會 No Others (Please Specify) 其他 (請列明) Yes 會 No 不會 No Image: Image: No Yes No No Tep Image: Specify 其他 (請列明) Yes 會 No No Tep Image: Specify 其他 (請

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 Chapter 5 of the attached planning statement. 請參閱夾附的規劃綱領第五章.
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Form No. S16-I 表格第 S16-I 號

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 Signature 公 Applicant 申請人 / □ Authorised Agent 獲授權代理人 簽署				
LAM SHU, ALBERT Senior Engineer / 3 (N)				
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 香港園境師學會 / □ HKIUD 香港城市設計學會 □ RPP 註冊專業規劃師 Others 其他				
on behalf of 代表 Civil Engineering and Development Department, North Development Office 1000000000000000000000000000000000000				
□ Company 公司 / ✓ Organisation Name and Chop (if applicable) 機構名稱及蓋章(如適用)				
Date 日期 19/04/2024 (DD/MM/YYYY 日/月/年)				
<u>Remark 備註</u>				
The materials submitted in this application and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.				
委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下,有關申請 資料亦會上載至委員會網頁供公眾免費瀏覽及下載。				
Warning 警告				
Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance. 任何人在明知或故意的情況下,就這宗申請提出在任何要項上是虛假的陳述或資料,即屬違反《刑事罪行條例》。				
Statement on Personal Data 個人資料的聲明				
 The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes: 委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門,以根據《城市規劃條例》及相關的城市規 				
劃委員會規劃指引的規定作以下用途: (a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and 處理這宗申請,包括公布這宗申請供公眾查閱,同時公布申請人的姓名供公眾查閱;以及 (b) facilitating communication between the applicant and the Secretary of the Board/Government departments. 方便申請人與委員會秘書及政府部門之間進行聯絡。				
 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。				

Form No. S16-I 表格第 S16-I 號 Appendix 附件

For Developments involving Columbarium Use, please also complete the following: 如發展涉及靈灰安置所用途,請另外填妥以下資料:			
Ash interment capacity 骨灰安放容量 [@]			
Maximum number of sets of ashes that may be interred in the niches 在龕位內最多可安放骨灰的數量 Maximum number of sets of ashes that may be interred other than in niches 在非龕位的範圍內最多可安放骨灰的數量			
Total number of niches 龕位總數			
Total number of single niches 單人龕位總數			
Number of single niches (sold and occupied) 單人龕位數目 (已售並佔用) Number of single niches (sold but unoccupied) 單人龕位數目 (已售但未佔用) Number of single niches (residual for sale) 單人龕位數目 (待售)			
Total number of double niches 雙人龕位總數	7. 		
Number of double niches (sold and fully occupied) 雙人龕位數目 (已售並全部佔用) Number of double niches (sold and partially occupied) 雙人龕位數目 (已售並部分佔用) Number of double niches (sold but unoccupied) 雙人龕位數目 (已售但未佔用) Number of double niches (residual for sale) 雙人龕位數目 (待售)	· · · · · · · · · · · · · · · · · · ·		
Total no. of niches other than single or double niches (please specify type) 除單人及雙人龕位外的其他龕位總數 (請列明類別)			
Number. of niches (sold and fully occupied) 龕位數目 (已售並全部佔用) Number of niches (sold and partially occupied) 龕位數目 (已售並部分佔用) Number of niches (sold but unoccupied) 龕位數目 (已售但未佔用) Number of niches (residual for sale) 龕位數目 (待售)			
Proposed operating hours 擬議營運時間			
 a Ash interment capacity in relation to a columbarium means – 就靈灰安置所而言,骨灰安放容量指: the maximum number of containers of ashes that may be interred in each niche in the columbarium; 每個龕位內可安放的骨灰容器的最高數目; the maximum number of sets of ashes that may be interred other than in niches in any area in the 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 the total number of sets of ashes that may be interred in the columbarium. 在該骨灰安置所內,總共最多可安放多少份骨灰。 	mbarium; and		

Gist of Application 申請摘要

consultees, uploaded t available at the Plannin (請 <u>盡量</u> 以英文及中文 下載及於規劃署規劃	to the Town Planning Bo ng Enquiry Counters of the		downloading by the public and ormation.)
Location/address 位置/地址	New Territories	in D.D. 89 and D.D. 95, Kwu ⁻ 第89及第95約地段政府土地	Гung,
Site area 地盤面積	includes Government land		q.m 平方米 ☑ About 約 sq.m 平方米 ☑ About 約)
Plan 圖則	Approved Kwu Tung North Outline Zoning Plan No. S/KTN/4 古洞北分區計劃大綱核准圖編號 S/KTN/4		
Zoning 地帶	"Agriculture (1)" ("AGR (1)") 「農業(1)」		rn as 'Road' 路」
Applied use/ development 申請用途/發展	Permitted Ag	ling of Land for Site Formation ricultural Use ≅土地平整工程作准許的農業用	
i) Gross floor area		sq.m 平方米	Plot Ratio 地積比率
and/or plot ratio 總樓面面積及/ 地積比率		□ About 約 □ Not more than 不多於	□About 約 □Not more than 不多於
	Non-domestic 非住用	□ 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		
	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)
		9 19	mPD 米(主水平基準上) □ (Not more than 不多於)
		157	Storeys(s) 層 □ (Not more than 不多於)
~			(□Include 包括/□ Exclude 不包括 □ Carport 停車間 □ Basement 地庫 □ Refuge Floor 防火層 □ Podium 平台)
		Non-domestic 非住用	m 米□(Not more than 不多於)
			mPD 米(主水平基準上) □ (Not more than 不多於)
		* ×	Storeys(s) 層 □ (Not more than 不多於)
		a a t	(□Include 包括)□ Exclude 不包括 □ Carport 停車間 □ Basement 地庫 □ Refuge Floor 防火層 □ Podium 平台)
		Composite 綜合用途	m 米□(Not more than 不多於)
			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		a a
(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

(vii) No. of parking spaces and loading / unloading spaces 停車位及上落客貨 車位數目	Total no. of vehicle parking spaces 停車位總數 Private Car Parking Spaces 私家車車位 Motorcycle Parking Spaces 電單車車位 Light Goods Vehicle Parking Spaces 輕型貨車泊車位 Medium Goods Vehicle Parking Spaces 中型貨車泊車位 Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 Others (Please Specify) 其他 (請列明)	
	Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位/停車處總數 Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明)	

	<u>Chinese</u> 中文	<u>English</u> 英文
Plans and Drawings 圖則及繪圖 Master layout plan(s)/Layout plan(s) 總綱發展藍圖/布局設計圖 Block plan(s) 樓宇位置圖 Floor plan(s) 樓宇平面圖 Sectional plan(s) 截視圖 Elevation(s) 立視圖 Photomontage(s) showing the proposed development 顯示擬議發展的合成照片 Master landscape plan(s)/Landscape plan(s) 園境設計圖		8000008
Others (please specify) 其他(請註明)		
Reports 報告書 Planning Statement/Justifications 規劃綱領/理據 Environmental assessment (noise, air and/or water pollutions) 環境評估(噪音、空氣及/或水的污染) Traffic impact assessment (on vehicles) 就車輛的交通影響評估 Traffic impact assessment (on pedestrians) 就行人的交通影響評估 Visual impact assessment 視覺影響評估 Landscape impact assessment 景觀影響評估 Tree Survey 樹木調查 Geotechnical impact assessment 非小影響評估 Drainage impact assessment 排污影響評估 Sewerage impact assessment 排污影響評估 Risk Assessment 風險評估 Others (please specify) 其他 (請註明) Land Status Plan, Site Formation Plan, Location Plan with Vehicular access, Water Supply Impact Assessment and Ecological In		হ্য হা

Note: The information in the Gist of Application above is provided by the applicant for easy reference of the general public. Under no circumstances will the Town Planning Board accept any liabilities for the use of the information nor any inaccuracies or discrepancies of the information provided. In case of doubt, reference should always be made to the submission of the applicant.
 註: 上述申請摘要的資料是由申請人提供以方便市民大眾參考。對於所載資料在使用上的問題及文義上的歧異,城市規劃委員 會概不負責。若有任何疑問,應查閱申請人提交的文件。

Appendix Ia of RNTPC Paper No. A/KTN/104



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http://www.cedd.gov.hk

() in NDO-30-4160-LSF-00C

北拓展處

North Development Office

葵芳興芳路 223 號 新都會廣場第一座辦公大樓 15 樓 1501 室 Unit 1501, Level 15, Tower I, Metroplaza, 223 Hing Fong Road, Kwai Fong, New Territories, Hong Kong

17 June 2024

Urgent By Hand and Email

Town Planning Board 15/F, North Point Government Offices 333 Java Road, North Point, Hong Kong

Dear Sirs,

Web site

Facsimile

Our ref

Your ref

Telephone 電話

E-mail

網址

傳真

電子郵件

本署檔號

來承檔號

S.16 Planning Application No. A/KTN/104 Proposed Filling of Land for Site Formation Works for Permitted Agricultural Use

- 1 -

Further Information on the Planning Statement

I refer to our application dated 19 April 2024 for permission under Section 16 of the Town Planning Ordinance (Cap.131) with application no. A/KTN/104.

2. The Planning Statement and its appendices provided under this submission supersede the original version dated 19 April 2024, the revised version dated 30 April 2024 (i.e. the revised Planning Statement) and 2 May 2024 (i.e. replacement of page 17 of the Planning Statement), and the Further Information provided on 24 May 2024 (i.e. the replacement pages of the Planning Statement including its appendices and responses to departmental comments) and 14 June 2024 (i.e. full set of the Planning Statement including its appendices and responses to departmental comments).

3. Following the revisions to the Planning Statement, we would like to provide clarification on the statements entered into Section 9 of the Application Form regarding tree felling. The statements now refer to paragraph 3.8.1 of the Planning Statement, which state that approximately 44 trees are proposed to be felled. The detailed information about such trees is documented in Appendix L of the Planning Statement.

4. Regarding Appendix E to the Planning Statement, the Application Site can be primarily accessed by vehicles through the Ho Sheung Heung Road during construction phase 卓越工程 建設香港 We Engineer Hong Kong's Development

of the proposed land/pond filling. Given the ongoing and upcoming construction of the first and remaining phases of the Kwu Tung North and Fanling North New Development Areas (NDAs), the adjacent roads will be subject to detours. Therefore, the vehicle routing shown in Appendix E represents an access leading to the Application Site upon completion of the NDAs' works, and is for reference purpose only.

5. We would also like to provide Further Information on the Planning Statement and its appendices, following the receipt of comments from government departments and members of the public as summarized in the table below: -

Date	Department / Public	Changes to the Planning Statement	
13 May 2024	Leisure and Cultural	Nil.	
	Services Department		
14, 21 May	Urban Design &	Page 16 of the Planning Statement, and pages 1, 4 to	
& 4 June	Landscape Section,	6, as well as adding Figure 6.1 and Appendix A to	
2024	Planning Department	Appendix L.	
4 June 2024	Agriculture, Fisheries	Pages 13 and 15 of the Planning Statement.	
	and Conservation		
	Department		
2	2. **		
4 June 2024	Transport Department	Nil.	
3 June 2024	Geotechnical	Nil.	
	Engineering Office,		
	Civil Engineering and		
Yas	Development		
	Department		
29 May & 4	Drainage Services	Adding pages 11 and 12 to Appendix K.	
June 2024	Department		
5 June 2024	Planning Department	Pages 2, 4, 6, 7, 11 to 17, and 19 of the Planning	
	· · · ·	Statement, as well as Appendices E, G and M.	
23 May 2024	Ms. Mary Mulvihill	Nil.	
24 May 2024	Hong Kong Bird	Pages 10 to 14, 16 to 20, 23 to 25, 28 and 30 of	
	Watching Society	Appendix J.	
0434 0004			
24 May 2024	The Conservancy	Pages 10 to 14, 16 to 20, 23 to 25, 28 and 30 of	
	Association	Appendix J.	
24 May 2024	Kadoorie Farm &	Pages 10 to 14, 16 to 20, 23 to 25, 28 and 30 of	
24 Way 2024	Botanic Garden	Appendix J.	
	Corporation	Appendix J.	

6. I attach a copy of the latest Planning Statement including its appendices as well as a copy of the responses to the comments from government departments and members of the public on the application.

Yours faithfully,

(Bruce K YLEE)

(Bruce K Y LEE) for Project Manager (North) Civil Engineering and Development Department

Encl.

Internal (to note in file) SE/3(N), E/6(N), PC/5(N)

Section 16 Planning Application

Proposed Filling of Land/Pond for Site Formation Works for Permitted Agricultural Use

Planning Statement

EXECUTIVE SUMMARY

(In case of discrepancy between English and Chinese versions, English shall prevail)

This Planning Statement is submitted to the Town Planning Board (hereinafter referred to as "the Board") in support of a planning application (hereinafter referred to as "the application") for the **Proposed Filling of Land/Pond for Site Formation Works for Permitted** <u>Agricultural Use</u> (hereinafter referred to as "the proposed land/pond filling") at a site designated as "KTN-2" at Kwu Tung North, Sheung Shui, New Territories (hereinafter referred to as "the Application Site"). The Planning Statement serves to provide background information and planning justifications in support of the proposed land/pond filling in order to facilitate the consideration by the Board.

The Government has been taking forward various projects with a view to pressing ahead with the development of the Northern Metropolis. With the increasing number of projects being implemented, there is a rising number of livestock farms being affected. With the policy of the Environment and Ecology Bureau to maintain a steady number of livestock supply in Hong Kong, there is a need to ensure the continuous operation of existing livestock farms affected by the development of the Northern Metropolis. In order to provide a proper site for subsequent development of livestock farms, site formation works will have to be carried out involving land/pond filling at the Application Site of an area of approximately 12 400 m² with a filling depth ranging from about 0m to 5.8m.

The Application Site falls within an area zoned "Agriculture (1)" ("AGR (1)"), "Open Space" ("O"), and area shown as "Road" on the approved Kwu Tung North Outline Zoning Plan No. S/KTN/4 ("KTN OZP"). The future development of the multi-storey livestock farm will only fall within the "AGR (1)" zone where "Agricultural use" is always permitted. Yet, according to the Notes of the OZP, land/pond filling in "AGR (1)" requires planning permission from the Board. There are no restrictions on filling of land or pond within the "O" zone. In the area designated as 'Road', the existing road will be preserved, both during and after the construction. Any filling within the 'Road' area will be limited to the minimum required to bring the surface up to the level of the adjacent, established road. Hence, planning permission is solely sought for the filling of land/ pond in "AGR (1)" zone. As detailed throughout this Planning Statement, the proposed land/pond filling is well justified on the grounds that:-

- a) The proposed land/pond filling is supportive to the Government's policy intention to facilitate the relocation of the livestock farms affected by the Government's development projects;
- b) The proposed fill depth has been optimised;
- c) No adverse impacts on geotechnical, traffic, environment, ecological, drainage, sewerage, water supply, tree and landscape aspects are envisaged at the Application Site and its surrounding areas of the proposed land/pond filling activity by providing adequate protection and mitigation measures; and
- d) Policy support has been obtained for carrying out technical assessments and detailed designs for the proposed land/pond filling.

EXECUTIVE SUMMARY (Cont'd)

To enable the Government to timely implement proposed developments at the sites of the existing affected livestock farms, it is targeted to commence the site formation works at the Application Site in 2024 Q3 for completion in 2025/2026 to be followed by immediate handover of the formed site to Agriculture, Fisheries and Conservation Department for follow-up with the livestock farm trade to provide livestock farms therein for the relocation.

In view of the above and the list of detailed planning justifications in the Planning Statement, it is sincerely hoped that members of the Board will give favourable consideration to approve the current application for the proposed land/pond filling.

行政摘要

(如英文和中文版本有差異,以英文版本為準)

此規劃報告書提交給城市規劃委員會(以下簡稱「城規會」),以支持在新界上水古 洞北涉及指定地點「KTN-2」(以下簡稱「申請地點」)提出的擬議填土或填塘以作土 地平整工程作准許的農業用途(以下簡稱「擬議的填土或填塘」)的規劃申請(以下 簡稱「當前申請」)。此規劃報告書旨在提供背景信息和規劃理據,以支持擬議工程, 以便城規會進行考慮。

政府一直在推行各項項目,以推動北部都會區的發展。隨著實施項目數量的增加,受 影響的禽畜農場數量也在增加。根據環境及生態局的政策,為了維持香港禽畜供應的 穩定,必須確保北部都會區的發展不會影響現有禽畜農場的運作。為了禽畜農場的發 展提供適當的土地,本規劃需要在涉及面積約 12 400 平方米的申請地點進行填土或 填塘工程,填土或填塘深度約為0至5.8米。

申請地點位於古洞北分區計劃大綱核准圖編號 S/KTN/4 (下稱「大綱圖」)上劃定為 「農業(1)」、「休憩用地」和「道路」的區域內。未來發展的禽畜農場將僅限於 「農業(1)」區域內,而「農業用途」屬經常准許的用途。然而,根據「大綱圖」的 說明,在「農業(1)」區域內的填土或填塘工程需要城規會的規劃許可。在「休憩用 地」區域內,沒有對填土或填塘工程的限制。而在「道路」的區域內,現有道路將會 在施工期間和之後得以保留,任何填土或填塘工程都將被限制在使表面達到鄰近已建 道路的水平所需的最小程度。因此,本申請僅涉及在「農業(1)」區域內進行填土或 填塘工程的規劃許可。擬議的填土或填塘工程在以下幾個方面得到了充分的理據支持:

- 一.擬議的填土或填塘工程支持政府促進受政府發展項目影響的禽畜農場遷移的政策意圖;
- 二. 所擬議的填土或填塘深度已獲最優化;
- 三.通過提供足夠的保護及緩解措施,工程不會對土力、交通、環境、生態、排水、 排污、供水、樹木和園境方面產生不良影響;以及
- 四.就當前申請所提出的填土或填塘工程所進行的技術評估和詳細設計已獲得政策 支持。

為了使政府能夠及時在現有受影響的禽畜農場地點發展,當前申請計劃在 2024 年第三 季度開始在申請地點進行土地平整工程,預計於 2025/2026 年完成,然後將平整後的 土地交給漁農自然護理署與禽畜業界作跟進,以供禽畜農場遷移之用。

鑒於上述及本規劃報告書中的詳細規劃理據,誠摯希望城規會成員能就批准當前申請 的填土或填塘工程給予積極考慮。

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1. INTRODUCTION

1.1 Purpose

- 1.1.1 This Planning Statement is submitted to the Town Planning Board (hereinafter referred to as "the Board") in support of a planning application (hereinafter referred to as "the current application") for the Proposed Land/Pond Filling for Site Formation Works for Permitted Agricultural Use (hereinafter referred to as "the proposed land/pond filling") at a government land, designated as "KTN-2", at Kwu Tung North, Sheung Shui, New Territories (hereinafter referred to as "the Application Site"). The Planning Statement serves to provide background information and planning justifications in support of the proposed land/pond filling in order to facilitate the consideration by the Board. The Application Site has a total area of approximately 12 400 m² with a filling depth ranging from about $0m^1$ to 5.8m. Appendix A indicates the location and layout of the Application Site as well as the zoning of the local area in which the Application Site is located. The Application Site is generally covered by vegetation and, in the centre of the southern area of the Application Site, there appears to be a dried-up pond beneath the vegetation. However, a desk-top review suggests that no surface water has been present since 1999 and the dried-up pond has been obscured by vegetation since 2002, making it difficult to ascertain its precise dimensions or extent.
- 1.1.2 The Application Site falls within an area zoned "Agriculture (1)" ("AGR (1)"), "Open Space" ("O"), and area shown as "Road" on the approved Kwu Tung North Outline Zoning Plan ("KTN OZP") No. S/KTN/4 (please refer to Appendix A for the zoning). According to the Notes of the KTN OZP, permission from the Board is required for land/pond filling in "AGR(1)" zone. Therefore, this Section 16 planning application is submitted. Whilst the proposed land/pond filling involves three zones, i.e. "AGR(1)", "O" and area shown as "Road", the future development of the multi-storey livestock farm will only fall within the "AGR(1)" zone.
- 1.1.3 The purpose of this planning application is to seek approval from the Board under Section 16 of the Town Planning Ordinance (Cap. 131) to allow the proposed land/pond filling at the Application Site.

¹ Within the Application Site, there are inclined surfaces sloping downwards from near the boundary of the site towards the inner part of the site. The locations with 0m filling are where the soil filling of the proposed land/pond filling works will match with the highest part of such sloping surfaces near the site boundary.

1.2 Background

- 1.2.1 The Government has been taking forward various projects with a view to pressing ahead with the development of the Northern Metropolis. With the increasing number of projects being implemented, there is a rising number of livestock farms being affected. With the policy of the Environment and Ecology Bureau ("EEB") to maintain a steady number of livestock supply in Hong Kong, there is a need to ensure the continuous operation of existing livestock farms. As committed publicly, Development Bureau ("DEVB"), EEB, Agriculture, Fisheries and Conservation Department of Hong Kong ("AFCD") and the relevant departments formed an inter-departmental working group ("WG") in 2022 to, *inter alia*, formulate measures to facilitate the relocation of livestock farms by identifying suitable government should assist the affected livestock farmers by identifying suitable government sites and making them ready with provision of basic infrastructure such as site formation, water supply, electricity supply, road access and sewerage, etc. for relocation of livestock farms.
- 1.2.2 The Policy Address 2023 announced that the EEB, in collaboration with the trade, would publish the Blueprint for the Sustainable Development of Agriculture and Fisheries ("the Blueprint") by the end of 2023. The Blueprint was published in December 2023, of which a target was to embrace the opportunities arising from the development of the Northern Metropolis and encourage all local livestock farms to switch completely to modernised operation in multi-storey buildings with a view to producing quality branded livestock products.
- 1.2.3 The Application Site, situated in close proximity to Ho Sheung Heung Road ("HSH Road"), is considered suitable² as one of the relocation sites ("RS") to be taken forward to facilitate relocation of livestock farms to be displaced in the form of multi-storey livestock farm in light of EEB's policy initiative to switch livestock farms to modernised operation in multi-storey settings.
- 1.2.4 DEVB invited Civil Engineering and Development Department ("CEDD") as works agent for carrying out the technical assessments to support the s16 application for the proposed land/pond filling at the Application Site. CEDD will also be responsible for the subsequent design and construction of the proposed land/pond filling and associated site formation works for the Application Site. Upon completion of the site formation works, the site will be handed over to the AFCD for follow-up with the livestock industry on the development of the multi-storey livestock farm. AFCD will invite relevant Government departments to include various appropriate requirements in the

² The Application Site is suitable for the multi-storey livestock farm development for the following points:

i. within the Livestock Waste Control Area stipulated in Cap. 354;

ii. within land use zoning where "Agricultural Use" is a permitted use;

iii. no sensitive uses in the buffer distance stated in the Hong Kong Planning Standards and Guidelines;

iv. no development pressure foreseen in the next 20 years or more;

v. with adequate road access, electrical and water infrastructure, and potential connection to the existing (or planned) public sewerage system; and

vi. no other livestock farms within 500 m buffer distance for animal health and biosecurity reasons.

tenancy agreement for the future tenant to ensure proper control and management of the future development of the multi-storey livestock farm.

- 1.2.5 The proposed multi-storey pig farm tentatively consists of a six-storey high livestock farming building. The proposed building has a height of 22.5m, with each floor being 3.75m high. The total gross floor area ("GFA") is around 21,473 m², with a plot ratio of 2.361. The maximum number of animals that can be housed is approximately 18,385 pigs. In terms of staff and vehicles, due to the shift system for employees and the use of fully automated processes in certain farm operations, there will be no more than 10 people present at any one time and 26 vehicles movements per day.
- 1.2.6 Among the 26 vehicles traveling to and from the site, 9 are light vans, 5 are medium trucks, 2 are heavy goods vehicles, and the rest are private cars of the staff. Also, the farm will take steps to streamline the transport process to avoid peak hours, meal times and overnight periods. Furthermore, the trucks transporting the animals will be leak-proof, enclosed, and thoroughly cleansed when entering and leaving the farm. Therefore, the frequency and number of vehicles entering and leaving the site and the transport of animals will not cause any significant nuisance to neighbouring facilities.
- 1.2.7 As for the permitted multi-storey livestock farm use, with its indicative scheme for illustrative purpose at **Appendix B**, the final design of the multi-storey livestock farm would be subject to review by the relevant Government Departments at a later stage through a variety of means including, but not limited to, conditions imposed by the relevant Government Departments to be included in the tenancy agreement and funding agreement, and licence conditions to be imposed in relation to livestock keeping, public health and environmental protection. According to AFCD, it is tentatively tended to provide six storeys for the multi-storey livestock farm for the following reason:

"A six-storey building height is most suitable for the vertical farm project in KTN-2, as it can meet the anticipated production needs envisioned. At the same time, when considering construction and operational costs, the six-storey design has been proven to be more cost-effective than a three-storey design. This design allows for the utilization of vertical space to increase yield, while still maintaining structural stability and manageability, which is crucial for long-term maintenance."

1.2.8 It is worth noting that the multi-storey livestock farm development does not form any part of this Section 16 planning application which relates to the proposed land/pond filling only. All information about the multi-storey livestock farm development mentioned in this Planning Statement are indicative, non-binding and subject to change in the detailed design stage.

1.3 Objectives

- 1.3.1 The current application strives to achieve the following objectives:
 - a) The support the Government's policy intention to facilitate the relocation of the livestock farms affected by the Government's development projects;

b) To induce no adverse geotechnical, traffic, environmental, ecological, drainage, water supply, drainage, sewerage, tree and landscape impacts to the Application Site and its surrounding areas of the proposed land/pond filling activity by providing adequate protection and mitigation measures.

1.4 Structure of the Planning Statement

1.4.1 This Planning Statement is divided into 5 chapters. Chapter 1 is the above introduction outlining the purpose, background and objectives of the current application. Chapter 2 gives details of the Application Site in terms of current condition, land status, zoning and surrounding land-use characteristics. Chapter 3 provides details of the current application as well as the design and technical assessments for the proposed land/pond filling whilst planning justifications are given in Chapter 4. Chapter 5 summarizes the concluding remarks for the proposed land/pond filling.

2. SITE PROFILE

2.1 Location

2.1.1 The Application Site located between the east of Lo Wu Correctional Institution and the west of Sheung Yue River, has a total site area of approximately 12 400 m². It consists of two sites aligning north and south, separated by an unnamed road connecting to Ho Sheung Heung ("HSH") Road. Some registered and unregistered fill slopes are present within the site boundaries. The location and extent of the Application Site is shown in **Appendix A**.

2.2 Current Condition of the Application Site

- 2.2.1 The Application Site, currently vacant, is mostly covered in vegetation. In the northern part, there is an electricity pole and overhead power lines. These conditions within the Application Site are shown in the layout plan at **Appendix C**.
- 2.2.2 About 15 meters away from the southern boundary of the Application Site, towards the south, there is a pylon and overhead power lines. Laying of watermains is currently taking place on the road between the southern and northern parts of the Application Site and at two locations to the southwest of the Application Site. These characteristics outside the Application Site are shown in the layout plan at **Appendix C**.
- 2.2.3 The Application Site is wholly on government land. A layout plan showing the land status around the Application Site is at **Appendix D**.
- 2.2.4 The Application Site KTN-2 will be accessible to vehicular traffic commuting to and from Fanling Highway. One of such vehicular traffic routes is shown in **Appendix E**.
- 2.2.5 The northern part (Site A) of the Application Site is gently sloping towards northwest and the existing ground level slightly drops from +8mPD to +4mPD approximately. The southern part (Site B) of the Application Site is a slightly depressed area. The existing ground level varies from approximately +6mPD to -2mPD. A layout plan showing the existing levels of the Application Site is at **Appendix F**.

2.3 The Current OZP

2.3.1 The site falls within an area zoned "Agriculture (1)" ("AGR (1)"), "Open Space" ("O") and area shown as "Road" on the approved KTN OZP No. S/KTN/4 (the aforesaid zoning in shown in Appendix A). Whilst the proposed land/pond filling involves three zones such as "AGR (1)", "O" and area shown as "Road", the future development of the multi-storey livestock farm will only fall within the "AGR(1)" zone. According to the Notes of the KTN OZP, permission from the Board is required for land/pond filling in "AGR (1)" zone. Therefore, this Section 16 planning application is submitted.

2.4 Surrounding Land-use Characteristics

2.4.1 The area to the east of the Application Site is designated as "Open Space" ("O"), as indicated in the approved KTN OZP No. S/KTN/4. The area to the north of the Application Site is designated as a "Green Belt" ("GB") zone, as specified in the approved Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan ("MTLHHW OZP") No. S/NE-MTL/3. The area to the south of the Application Site is designated as a "Green Belt" ("GB") zone, as specified in the approved KTN OZP. The area to the west of the Application Site is designated as a "Government, Institution or Community" ("G/IC(1)") zone, as specified in the approved KTN OZP, where the Lo Wu Correctional Institution is located. These zonings are shown in **Appendix A**.

3. THE LAND/POND FILLING PROPOSAL

3.1 Site Configuration

- 3.1.1 The Application Site has a total site area of approximately 12 400 m² and the proposed land/pond filling under this application is to provide a formed platform at a level of approximately +7.8mPD with a filling depth ranging from about 0m to 5.8m for the multi-storey livestock farm to be developed. The proposed level of approximately +7.8mPD for the proposed land/pond filling can avoid flooding at the Application Site (see para. 3.5.2 for further details). Moreover, the said proposed level matches the existing road level immediately outside the proposed ingress/egress for the future development in the Application Site so that the land within the Application Site can be utilised efficiently. A layout plan showing the formation levels of the proposed land/pond filling is at **Appendix G**. It is planned to allocate the land of the site, upon completion of the site formation works therein, to AFCD, who will make suitable arrangements for the livestock farm trade to develop the multi-storey livestock farm thereon.
- 3.1.2 To accommodate the level differences between the formed platform and the adjoining ground outside the site at some locations, part of the formed platform will be laterally supported by retaining walls at locations where the adjoining ground outside the site is below +7.8mPD in level.
- 3.1.3 The estimation of long-term settlement is carried out based on the available ground information. The total settlement is estimated to be 195.62mm in 50 years of design life. Moreover, the time required for primary consolidation is approximately 3.7 months. In view of the result of settlement assessment, removal of that thin layer of soft material was proposed to be carried out to minimize the long-term settlement.
- 3.1.4 From the layout plans in **Appendices F** and **G**, the key parameters of the proposed land/pond filling are summarised in **Table 1**:

Key Parameters (Proposed Land/Pond Filling for Site Formation)			
	Northern Portion	Southern Portion	
Area of Filling (m ²)	1800	10,600	
Depth of Filling (m)	0 - 3.8	1.8 - 5.8	
Type of Filling Materials	Compact fill	Compact fill	
Existing Ground Level (mPD)	+4.0 - +8.0	+2.0 - +6.0	
		(locally down to -2mPD)	
Proposal Ground Level (mPD)	+7.8	+7.8	

Table 1: Key Parameters of the Proposed Land/Pond Filling (subject to detailed design)

3.2 Geotechnical Aspect

3.2.1 The proposed land/pond filling works would have interface with two existing slopes, or registered man-made features nos. 2SE-B/F103 and 2SE-B/FR106. A Geotechnical

Planning Review ("GPR") for the proposed land/pond filling has been conducted with details presented in the GPR Report in **Appendix H**. In gist, the GPR Report concludes that the proposed land/pond filling under this planning application is feasible from the geotechnical perspective.

3.3 Construction Traffic Aspect

- 3.3.1 To avoid over-congestion of traffic during peak hour, the number of construction vehicles will be restricted and such vehicles will be operated at day-time off-peak [i.e. 10:00 am to 4:00 pm (Mondays to Saturdays)] only. A total volume of construction vehicle of a maximum of 5 Medium Goods Vehicle/hr/direction (i.e. 30 trips of Medium Goods Vehicles ("MGV") per day) (or 10 passenger car unit/hr/direction) is anticipated.
- 3.3.2 Swept path analysis has been conducted to ensure safe and smooth manoeuvring of construction trucks to the site from HSH Road during construction stage, as shown in **Appendix I**.
- 3.3.3 As safety precaution measures, "slow" traffic sign, revolving lanterns and banksman will be provided near the site access to ensure pedestrian safety at the local access near the site.
- 3.3.4 Given the insignificant volume of construction vehicles and pedestrian demand of the existing HSH Road, potential conflict between vehicular and pedestrian traffics will be minimal.
- 3.3.5 The HSH Road is a single-2-way carriageway where there is a short section of single track access road at the end of the HSH Road near the Application Site. Given the minimal volume of construction vehicle (i.e. 5 MGV/hr/direction during construction of the proposed land/pond filling) plus the capacity of a single track road of accommodating 2-way traffic flows of 100 vehicles per hour based on the Transport Planning and Design Manual ("TPDM") Volume 2 Chapter 3.11, no capacity issue is anticipated at the critical section of the access road.
- 3.3.6 Given the above, the construction traffic impact of the proposed land/ pond filling is insignificant and upgrading works at HSH Road is not necessary.

3.4 Environmental and Ecological Aspects

- 3.4.1 An Environmental Assessment and Ecological Impact Assessment ("EA&EcoIA") has been carried out to examine the potential impacts associated with the proposed land/pond filling. Potential environmental impacts including water quality and ecology have been assessed. The details are presented in the EA&EcoIA Report in Appendix J. The findings of the EA&EcoIA are summarised in the ensuing paragraphs.
- 3.4.2 As far as water quality is concerned, potential impacts from general construction activities, construction site runoff, construction works near watercourses, removal / filling of wet area, accidental spillage and sewage from construction workforce are identified. Given the ordinary nature and minor scale of the proposed land/pond filling

works, with the adoption of recommended mitigation measures (e.g. good site practices, Best Management Practices, provision of proper drainage facilities, etc.) during the course of the proposed land/pond filling works, no adverse water quality impact to the identified water sensitive receiver is anticipated.

- As far as ecological impact is concerned, potential direct impacts arising from the 3.4.3 proposed land/pond filling works may include loss of habitats within recognised sites of conservation importance and key ecological resource (i.e. Long Valley and Ho Sheung Heung Priority Site and Important Bird and Biodiversity Area), habitat loss in marsh / reed, plantation and developed area / wasteland habitats, and potential direct harm to the recorded species of conservation importance of lower mobility (i.e. Taiwan Kukri Snake), within the Application Site . A detailed fauna survey to ascertain the presence of the species of conservation importance within the Application Site would be conducted before commencement of works, and appropriate mitigation measures would be proposed, approved and implemented if individuals of the species are recorded during the survey. On the other hand, indirect impacts arising from the proposed land/pond filling works may include disturbance impacts (i.e. glare, noise, air / dust) and water quality impact on habitats in vicinity and the associated wildlife. However, given that the majority of recorded habitats are developed area or plantation, and recorded species within the assessment area are generalist species which are habituated to disturbed habitats, the disturbance impact is considered as minor to moderate. Nonetheless, good site practices and appropriate mitigation measures according to relevant guidelines including provision of screening and use of quality powered mechanical equipment ("QPME") would be implemented as appropriate to minimise the disturbance impacts. Hence, no adverse indirect impacts would be anticipated.
- 3.4.4 Precautionary and mitigation measures such as pre-construction egretry and night roost surveys, monthly egretry and Ho Sheung Heung Ardeid Night Roost monitoring, good site practices, proper scheduling of construction activities as far as practicable and provision of screening, etc. would be implemented. With the adoption of the recommended precautionary and mitigation measures, no adverse ecological impact would be anticipated to arise from the proposed site formation works at Application Site .
- 3.4.5 As far as air and noise impacts are concerned, given the ordinary nature and minor scale of the proposed land/pond filling works, with the implementation of general good sites practices and appropriate mitigation measures according to relevant guidelines including provision of screening and use of QPME, no adverse air quality and noise impact from the proposed works will be anticipated.

3.5 Drainage Aspect

3.5.1 A Drainage Impact Assessment ("DIA") has been conducted, with details presented in **Appendix K**. In gist, the DIA concludes that the proposed land/pond filling will not cause adverse drainage impact by causing additional runoff.

3.5.2 The DIA has reviewed the water levels and the existing drainage system near the Application Site. Having regard to the adverse drainage effect due to climate change at the end of the 21^{st} century, a minimum site formation level of +7.44 mPD is suggested for the Application Site from flood prevention point of view. The proposed formation level of the proposed land/pond filling at the Application Site is +7.80 mPD, which is above the minimum flood prevention level of +7.44 mPD.

3.6 Sewerage Aspect

3.6.1 No sewerage demand will be generated by the proposed land/pond filling. Therefore, there is no sewerage impact arising from the proposed land/pond filling.

3.7 Water Supply Aspect

3.7.1 No water supply demand will be generated by the proposed land/pond filling. Therefore, there is no water supply impact arising from the proposed land/pond filling

3.8 Tree Survey and Landscape Review

- 3.8.1 A landscape review, including a tree survey, relating to the proposed land/pond filling have been conducted with findings presented in landscape review report at **Appendix** L. This also includes the approved Tree Preservation and Removal Proposal ("TPRP") under Agreement No. CE 19/2019 (CE) (i.e. Development of Kwu Tung North New Development Area, Remaining Phase Design and Construction), with the compensatory planting proposal approved by CEDD's Tree Works Vetting Panel.
- 3.8.2 No old and valuable tree or protected species have been identified in the Application Site. A total of approximately 237 trees within the Application Site have been surveyed, including 190 nos. of undesirable species *Leucaena leucocephala* (銀合歡). 1 no. of tree of particular interest (*Ficus microcarpa* (細葉榕), DBH>1000mm) is identified within the Application Site, which would be retained together with 2 other trees. The rest of the trees, which would be inevitably affected by the construction works and not suitable for transplantation, are of common species and would be felled and compensated in a ratio of 1:1 in terms of number. The compensation of the 44 nos. of trees to be removed is in accordance with the Approved TPRP by CEDD's Tree Works Vetting Panel.
- 3.8.3 Given that the whole area of the Application Site would be almost fully occupied by the multi-storey development, and as advised by AFCD, the provision of tall trees or other similar features in a livestock farm would potentially attract wild birds, which may carry unknown pathogens and would therefore inevitably increase the risk of transmission of various animal diseases to the animals in the farm. Therefore, the majority of the compensatory trees will be planted in an area near the Application Site as shown in the layout plan at Appendix M.

4. PLANNING JUSTIFICATIONS

4.1 The proposed land/pond filling is supportive to Government's Policy Intention

The Government has been taking forward various projects with a view to pressing ahead 4.1.1 with the development of the Northern Metropolis. With the increasing number of projects being implemented, there is a rising number of livestock farms being affected. With the policy of the EEB to maintain a steady number of livestock supply in Hong Kong, there is a need to ensure the continuous operation of existing livestock farms. As committed publicly, DEVB, EEB, AFCD and the relevant departments formed an interdepartmental WG in 2022 to, *inter alia*, formulate measures to facilitate the relocation of livestock farms concerned. The WG decided that the government should assist the affected livestock farmers by identifying suitable government sites and making them ready with provision of basic infrastructure such as site formation, water supply, electricity supply, road access and sewerage, etc. for relocation of livestock farms. Therefore, the proposed land/pond filling is supportive to the Government's policy intention to facilitate the relocation of the livestock farms concerned and to assist the livestock farmers affected by the Government's development projects. The proposed livestock farm in the form of multi-storey building, will adopt modernised, and environmentally friendly operation for livestock rearing, with enhanced farming efficiency and biosecurity levels. This initiative is highlighted as one of the policy initiatives in the Government's "Blueprint for the Sustainable Development of Agriculture and Fisheries" published in December 2023 and announced in the Policy Address 2023.

4.2 Fill Depth Optimised

4.2.1 The proposed land/pond filling is essential solely to facilitate permitted uses and to accommodate livestock farms affected by Government projects. The proposed fill depth has been optimised having regard to flood prevention and site utilisation efficiency as supported by the outcomes of technical assessments.

4.3 Technical Assessments Demonstration of No Adverse Impacts in terms of Geotechnical, Traffic, Environment, Ecology, Water Supply, Sewerage, Drainage, Tree and Landscape

4.3.1 Various technical assessments are conducted, including Geotechnical Planning Review, Traffic Impact Assessment*, Environmental Assessment and Ecological Impact Assessment, Drainage Impact Assessment, Sewerage Impact Assessment*, Water Supply Impact Assessment*, and Landscape Review including tree survey, in support of this application. From the findings of the assessments, it has been concluded that the proposed arrangements abovementioned have addressed key technical concerns and the proposed land/pond filling is sustainable with no adverse impacts. Government projects would still be subject to scrutiny of concerned ordinances/regulations in case relevant technical assessments do not form part of this s.16 application.

^{*}Assessments that are not included in the Appendices. However, the findings of such assessment have been summarised in Chapter 3 of this planning statement.

4.4 Policy Support

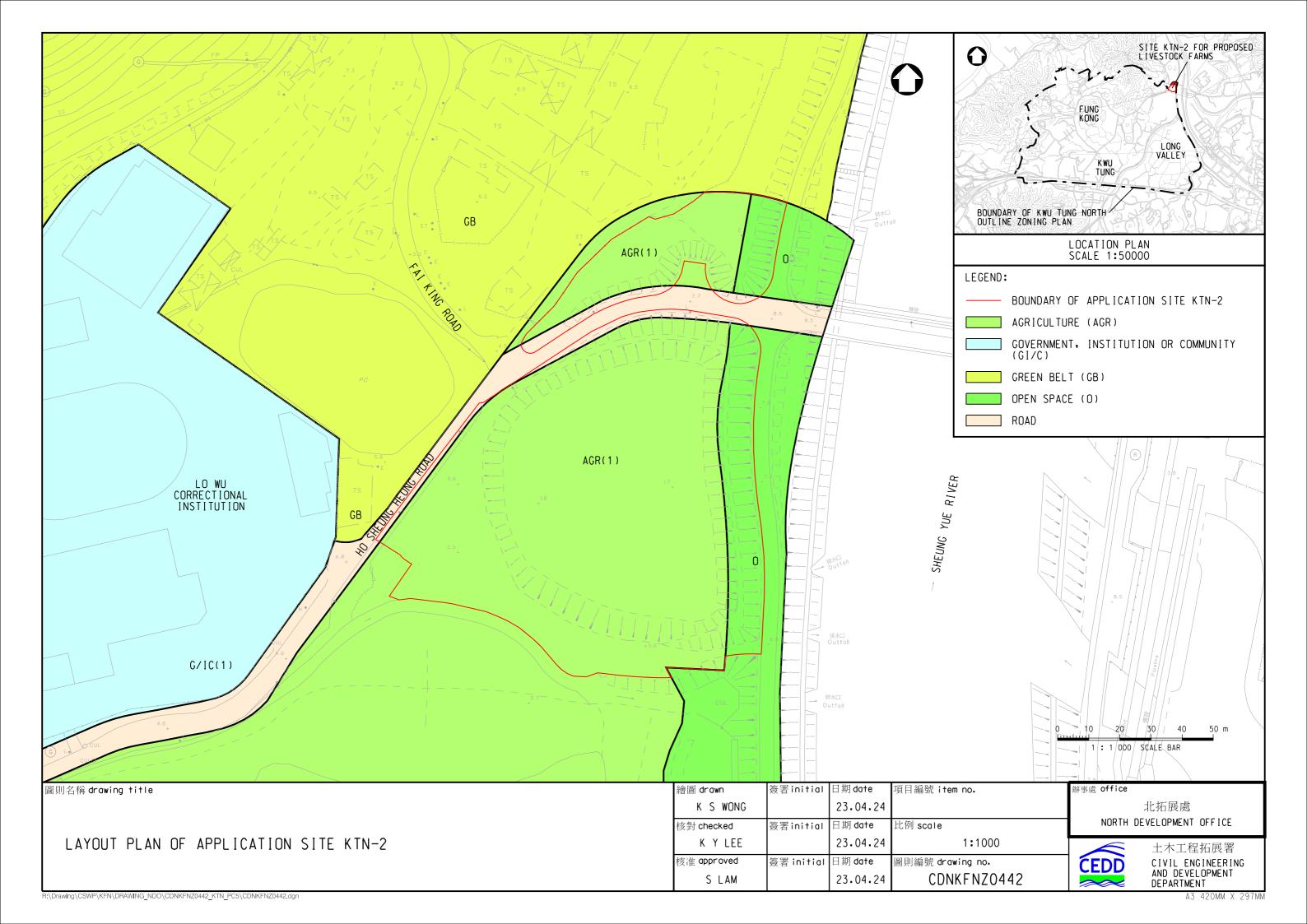
4.4.1 Policy support has been obtained from DEVB in consultation with EEB and AFCD for carrying out technical assessments and detailed designs for the proposed land/pond filling.

5. CONCLUSION

- 5.1 This Planning Statement is submitted to the Board in support of the application for the proposed land/pond filling at the Application Site in Kwu Tung North. The Planning Statement serves to provide background information and planning justifications in support of the proposed land/pond filling in order to facilitate the consideration by the Board.
- 5.2 The Application Site is of an area of approximately 12 400 m². This Application Site is intended to serve as a relocation site for livestock farms located within or on the periphery of the boundaries of New Development Areas, Potential Development Areas, and new lands under the Northern Metropolis. These farms are expected to be progressively affected by land clearance over the next 20 years.
- 5.3 The Application Site falls within an area zoned "AGR (1)", "O" and area shown as 'Road' on the approved KTN OZP. Yet, according to the Notes of the OZP, land/pond filling in "AGR (1)" requires planning permission from the Board. There are no restrictions on filling of land or pond within the "O" zone. In the area designated as 'Road', the existing road will be preserved, both during and after the construction. Any filling within the 'Road' area will be limited to the minimum required to bring the surface up to the level of the adjacent, established road. Hence, planning permission is solely sought for the filling of land/ pond in "AGR (1)" zone. As detailed throughout this Planning Statement, the proposed use is well justified on the grounds that:
 - a) The proposed land/pond filling is supportive to the Government's policy intention to facilitate the relocation of the livestock farms concerned and to assist the livestock farmers affected by the Government's developments;
 - b) The proposed fill depth has been optimised;
 - c) No adverse impacts on geotechnical, traffic, environment, ecology, drainage, sewerage, water supply, tree and landscape aspects are envisaged at the Application Site and its surrounding areas as revealed by technical assessments. Government projects would still be subject to scrutiny of concerned ordinances/regulations in case relevant technical assessments do not form part of this s.16 application; and
 - d) Policy support has been obtained for carrying out technical assessments and detailed designs for the proposed land/pond filling.
- 5.4 In view of the above and the detailed planning justifications in the Planning Statement, it is sincerely hoped that members of the Board will give favourable consideration to approving the proposed land/pond filling at the Application Site KTN-2 in Kwu Tung North.

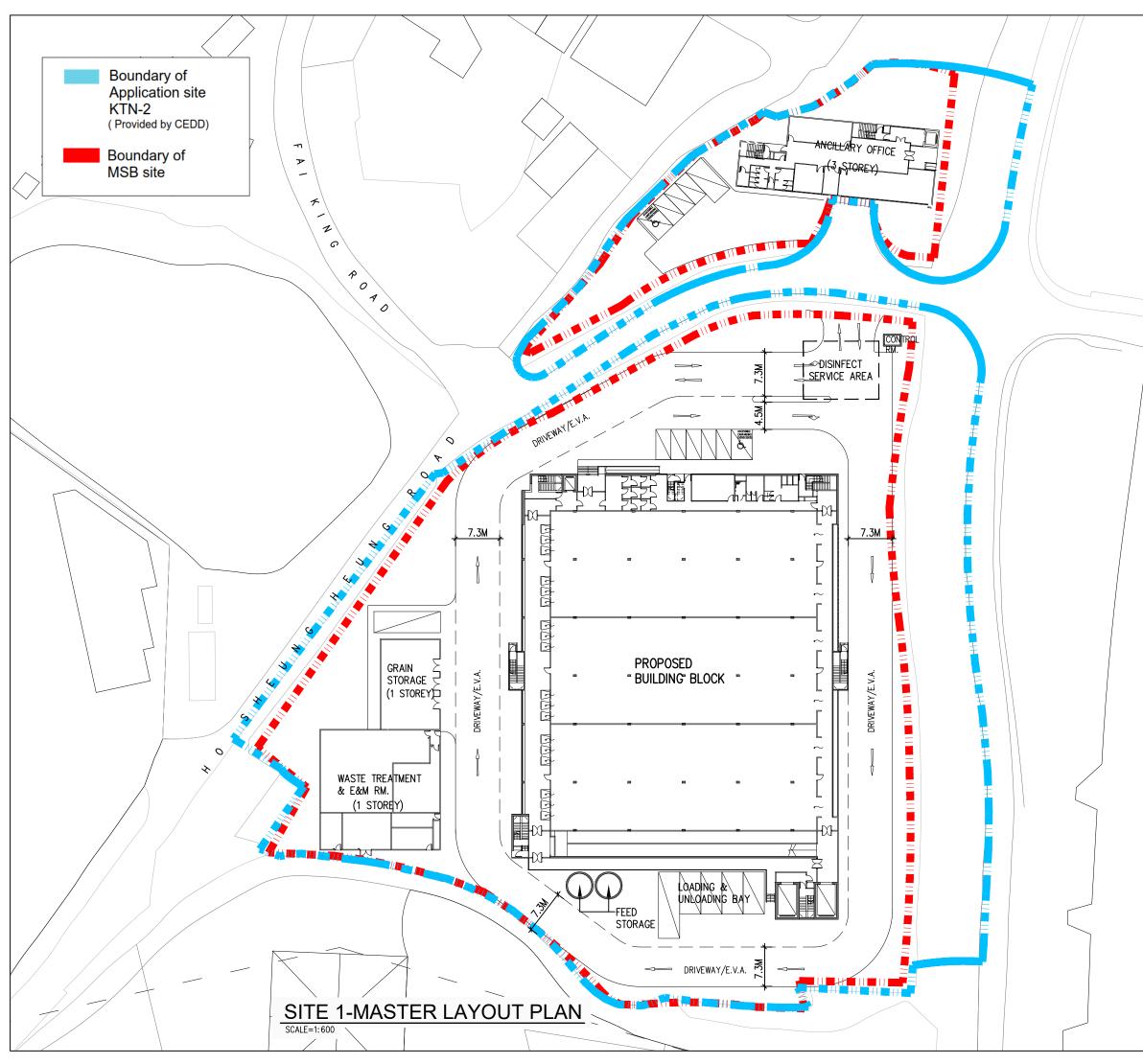
Appendix A

Location and Layout Plan of the Application Site with Zoning

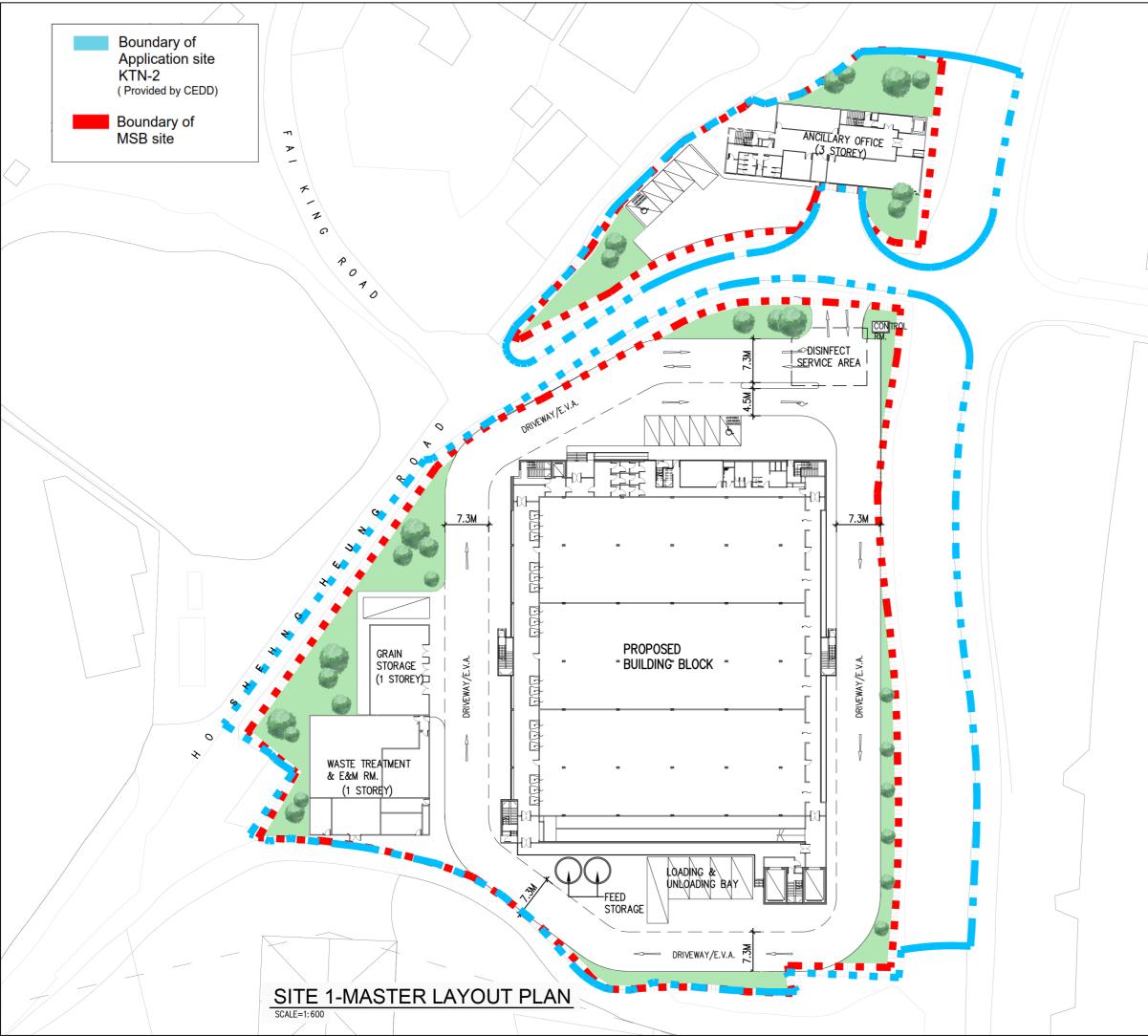


Appendix B

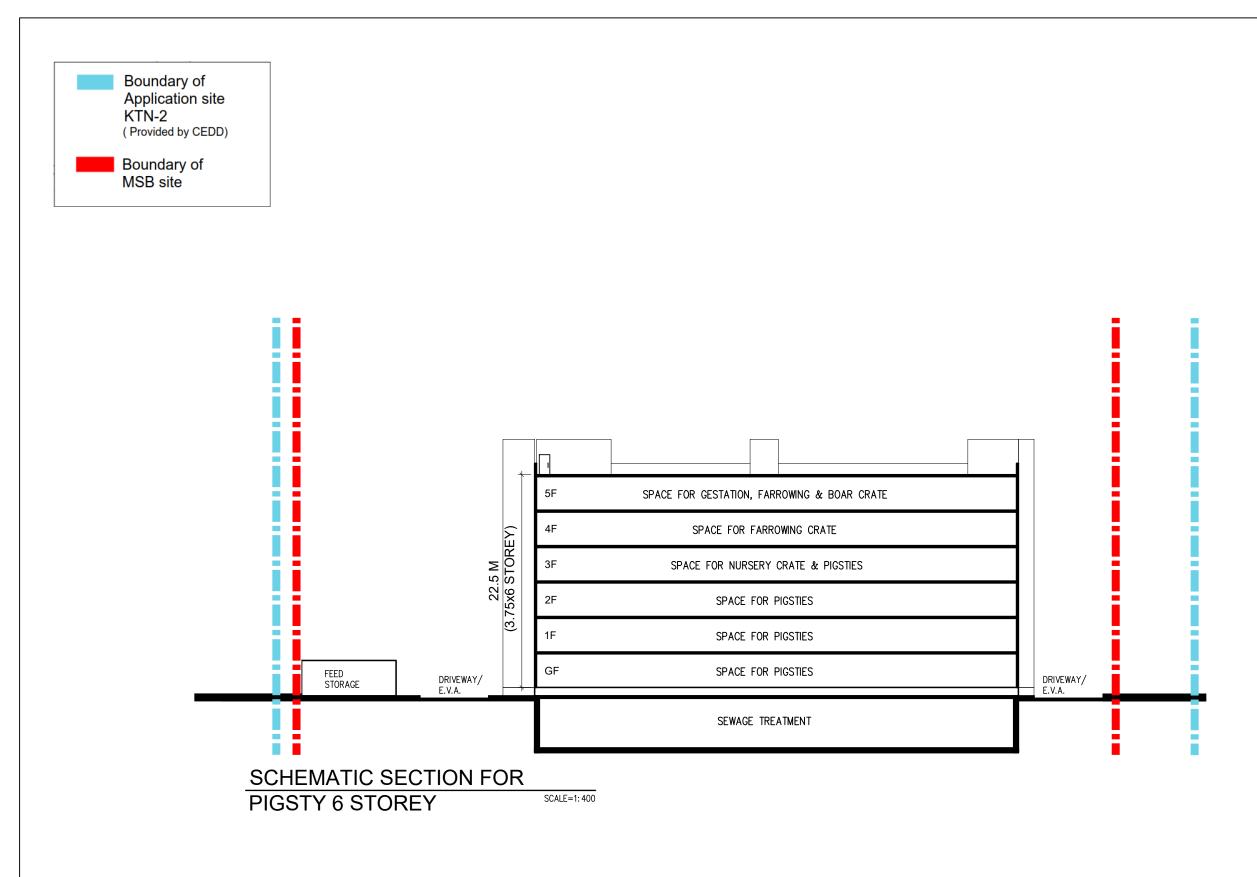
Indicative Scheme of Multi-storey Livestock Farm



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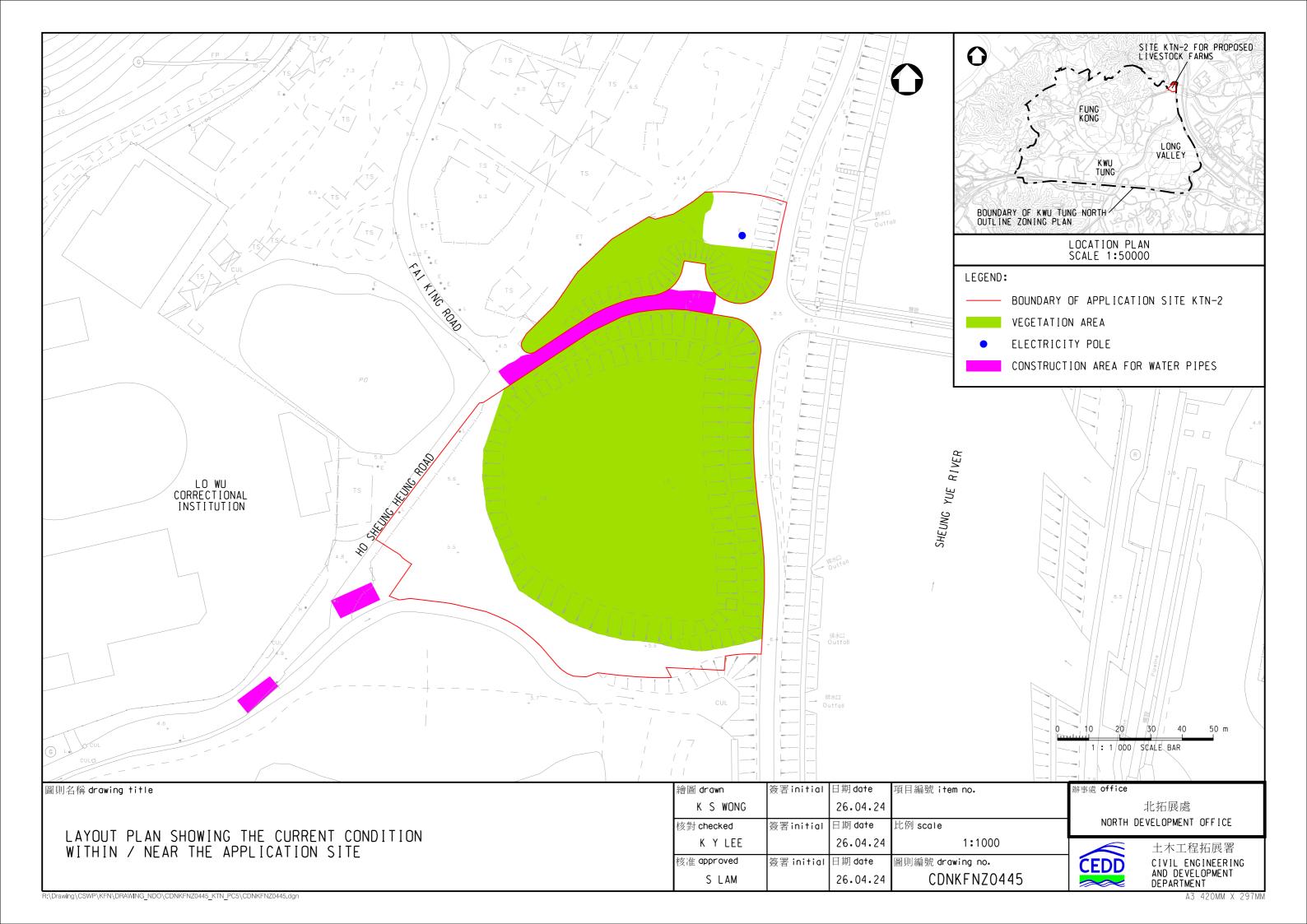
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Appendix C

Layout Plan Showing the Current Condition within / near the Application Site



Appendix D

Land Status Plan around Application Site



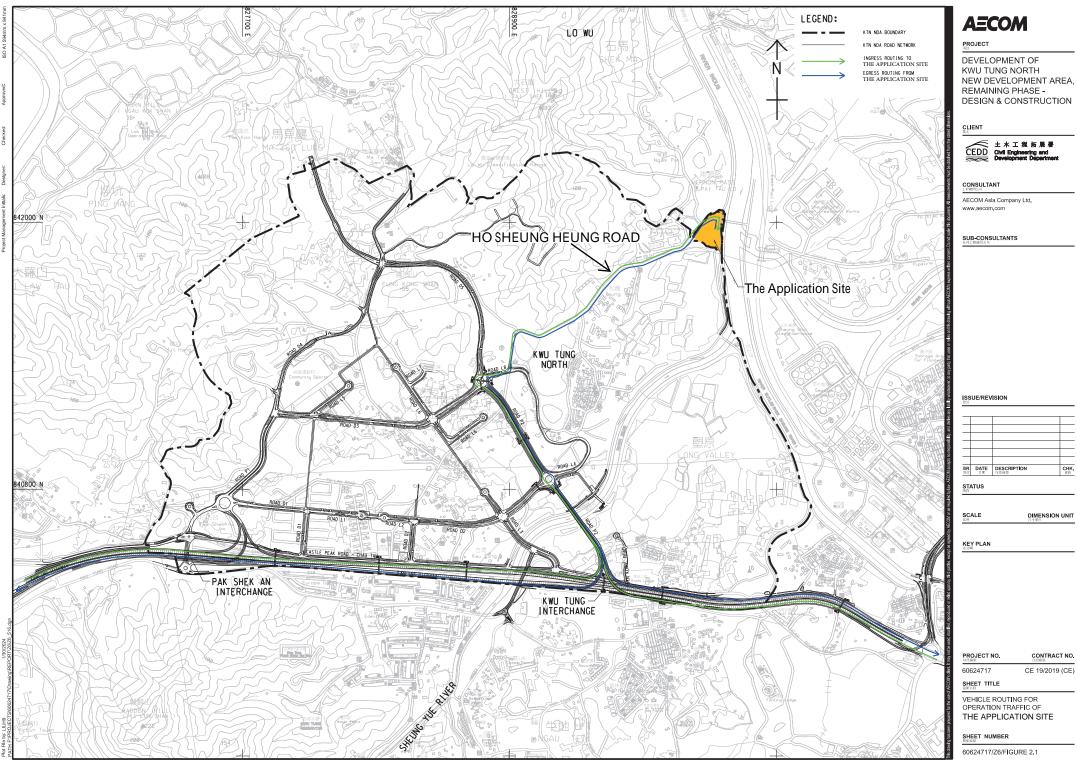
Legend 圖例

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****			Road
- ii	地段界線	r = = 1	道路 Ruin
	Stratum Lot Boundary	R	和垣
	內層地段		Sand Beach
<u>GLA</u>			沙灘
<u>政府援</u> 「「「」	anu G.L.A.		Slope 斜坡
i	政府撥地	. <u>ssle</u>	Swamp / Marsh
	Stratum G.L.A.	SALS THE	沼澤
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<u>Topog</u> 地形圖	r <u>aphic Map</u>		
00	Boulder		
5	大石		
	Buildings 建築物		
	Burial urn		
\bigcirc	骨殖甕		
	Catchwater 引水道		
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dende	峭壁		
100,	Contour Line 等高線		
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ET	Electrical Transformer		
•	電力變壓器 Floatrigity Pala		
•E	Electricity Pole 電線杆		
-1-1-	Fence		
	柵 Football Field		
	足球場		
	Free Standing Wall in Tenement Block / Free Standing Wall 牆		
Н	Fresh Water Fire Hydrant / Salt Water Fire Hydrant		
•	淡水消防栓 / 鹹水消防栓 Gate		
	閘		
G	Grave 墳墓		
L	項∞ Lamp Post 燈柱		
فكحة	Mangrove		
5° 2°	沼林 / 紅樹林		
	Pond / River 池塘 / 河流		
X	Power Line / Pylon 電纜 / 塔架		
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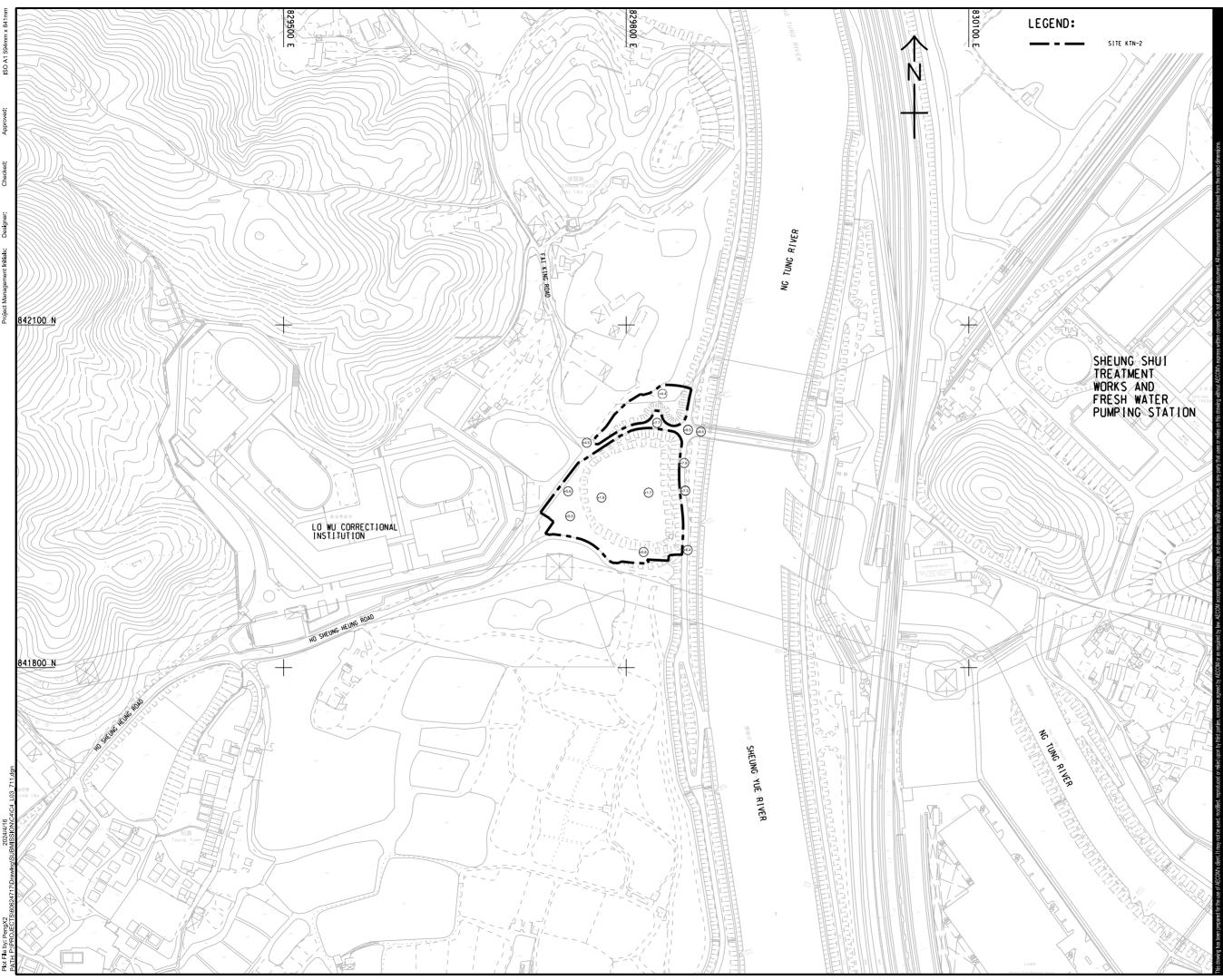
Appendix E

Vehicular Access to the Application Site



Appendix F

Layout Plan of Existing Levels





PROJECT

DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -DESIGN & CONSTRUCTION

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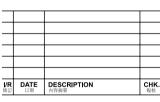
CEDD 土木工程拓展署 CEDD Civil Engineering and Development Department

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EXISTING LEVELS OF SITE

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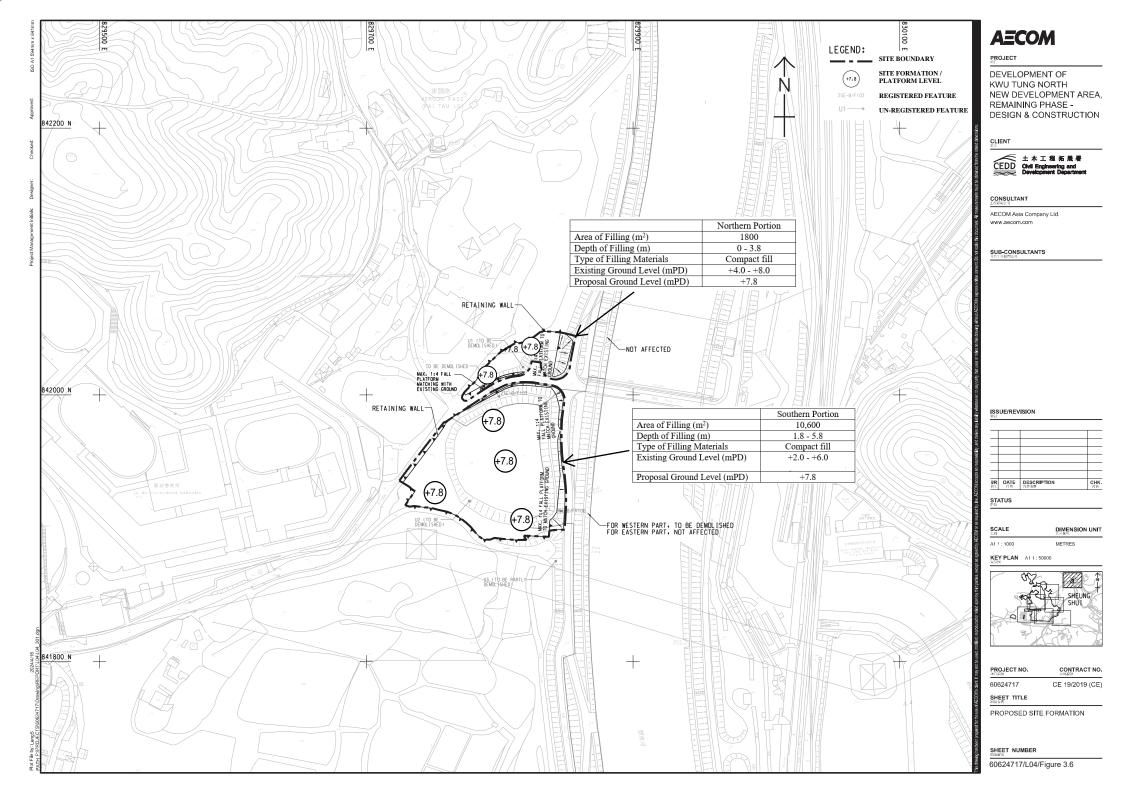
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Appendix G

Layout Plan of the Proposed Land/Pond Filling



Appendix H

Geotechnical Planning Review Report

Geotechnical Planning Review Report

March 2024

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Annex A

Aerial Photograph Interpretation

1 INTRODUCTION

1.1 Background

- 1.1.1 To provide appropriate support for livestock farms affected by the development of Northern Metropolis, Development Bureau (DEVB) and the relevant departments have set up an inter-departmental working group to draw up plans that will assist the affected livestock farmers, including identification of suitable government sites. The identified sites will be made ready with provision of basic infrastructure such as water supply, electricity supply, road access and sewerage, etc. to facilitate the relocation of livestock farms.
- 1.1.2 A site near the north-east boundary of Kwu Tung North New Development Area (KTN NDA) near Lo Wu Correctional Institution (i.e. Site KTN-2), inter alia, is identified as suitable to be used as multi-storey livestock farms by the industry for relocation of the affected livestock farms.
- 1.1.3 Considering that Site KTN-2 is located within KTN NDA, DEVB invited Civil Engineering and Development Department (CEDD) as works agent for the technical assessments to support the s16 application of land/pond filling. CEDD will also be responsible for the subsequent design and construction of the land/pond filling and associated infrastructure works for Site KTN-2. The formed site would be handed over to Agriculture, Fisheries and Conservation Department (AFCD) by end 2025 for further development.

1.2 Objectives of this Report

- 1.2.1 The boundary of Site KTN-2 contains or is close to some man-made slope features, which may affect or be affected by the proposed site formation works. Thus, there is a requirement to carry out a Geotechnical Planning Review Report (GPRR) to support the s16 application, according to the following requirements from GEO:
 - where a slope steeper than 30°, or retaining wall, or combination of the two with a height greater than 6m exists on the site or within 6m of the site
- 1.2.2 The scope of this GPRR comprises a review of how man-made slope features shown on plan may affect or be affected by the proposed site formation works and in relation to this an assessment of the geotechnical feasibility of the proposed works, including an outline of any further studies that may be required. The components of this review include:
 - Desk Study of existing information, including Aerial Photograph Interpretation (API);
 - Plans and maps showing the above features in relation to the proposed development.

2 SITE DESCRIPTION

2.1 General

- 2.1.1 The Site KTN-2 is approximately 12,400m² in total, located between the east of Lo Wu Correctional Institution and the west of Sheung Yue River. The Site is situated between Ng Tung River and Lo Wu Correctional Institution and is divided into two patches by Ho Sheung Heung Road. Some registered and unregistered fill slopes are present within the site boundaries. The location and extent of the Site KTN-2 is shown in Figure 2.1.
- 2.1.2 The Site KTN-2 is generally covered by vegetation. In the centre of the southern Site KTN-2, it appears to be a dried-up pond beneath the vegetation. Construction of water pipe works is in progress at southern to southwestern part of the Site at the time of report writing. An electricity pole and overhead power lines are observed in the northern Site KTN-2, while a pylon and overhead power lines are located at around 15m away from the nearest site boundary of the southern Site KTN-2 in the south.

2.2 Site Topography

2.2.1 The northern Site KTN-2 is gently sloping towards northwest and the existing ground level slightly drops from approximately +8mPD to +4mPD. The southern Site KTN-2 is a slightly depressed area where a dried-up pond is in the centre. The existing ground level varies from approximately +6mPD to +2mPD, and locally down to -2mPD within the dried-up pond. The topographical plan of the Site KTN-2 is shown in **Figure 2.2** based on the data from the 2020 LiDAR survey.

3 DESK STUDY REVIEW

3.1 Desk Study Extent

- 3.1.1 A review of the existing available geotechnical and geological information has been carried out. A number of sources covering a range of information have been consulted:
 - Geotechnical Information Unit (GIU);
 - Geotechnical Information Infrastructure (GInfo);
 - Surveying Office Lands Department;
 - Relevant Companies & Government Departments; and
 - Existing data including published geological data, existing ground investigation (GI) data and airborne Light Detection and Ranging (LiDAR) data.
- 3.1.2 The as-built drawing issued in November 1998 showing the river training works carried out under Contract No. FL 22/98 "Main Drainage Channels for Fanling, Sheung Shui and Hinterland River Training Works for Lower River Indus and River Beas" within and adjacent the Site KTN-2. A grass concrete access track was built across the northern Site, connecting to a maintenance access between the northern and southern Sites.

3.2 Geology

- 3.2.1 According to the Hong Kong Geological Survey (HKGS) Scale 1:20,000 Solid and Superficial Geology Map Sheet No. 2 Edition I San Tin (GCO, 1989), the Site KTN-2 is situated on a low-lying floodplain area where it is overlain by Holocene alluvium (Qa). The Holocene alluvium (Qa) incises into the surrounding Pleistocene terrace alluvium (Qpa). The site is located at the hanging wall of the San Tin Fault and predominantly underlain by mylonitized coarse ash crystal tuff of the Tai Mo Shan Formation (Jtm) of Upper Jurassic age. The published superficial and solid geology are presented in **Figures 3.1 and 3.2**
- 3.2.2 A layer of fill is expected within the Site KTN-2 as the area was largely modified in 1999 to accommodate the river training works at the Sheung Yue River on the east. Fill was also placed on sloping areas of unregistered and registered slopes along the site boundaries.

3.3 Existing Ground Investigation Records

- 3.3.1 A search for existing Ground investigation (GI) records in the vicinity of the Site KTN-2 has been carried out. The existing GI information is very limited in the study extent and no GI was conducted within the Site KTN-2. Locations of the archival GI are shown in **Figure 3.3**.
- 3.3.2 Based on GI record from adjacent drillhiles along the site boundary, the ground profile is typically fill to 3m depth, overlying alluvial clay and sand to 13.5m depth, overlying saprolite to a depth of 29m, where rockhead is encountered.

3.4 Existing Man-made Feature and Incident Records

- 3.4.1 According to the Slope Information System, there are three registered man-made features identified in the vicinity of the Site. Fill slope feature No. 2SE-B/F103 is within the Site, fill slope with retaining wall feature No. 2SE-B/FR106 is partially within the Site and fill slope with retaining wall feature No. 2SE-B/FR20 is just outside the Site. The location of the registered man-made features is presented in **Figure 3.4**.
- 3.4.2 No past instabilities were occurred and recorded for all features in vicinity to the site area.

3.5 Aerial Photograph Interpretation

- 3.5.1 Aerial photographs from 1924 to 2022 are reviewed for the overall development history of the Site KTN-2 with the finding summarized as below. The API report and selected annotated aerial photographs for overall history are presented in **Annex A**.
- 3.5.2 The earliest aerial photograph in 1924 indicates that the Site and its vicinity appeared to be occupied by agricultural land. The meandering Sheung Yue River and Ng Tung River were visible. In 1964, construction of bridge and weir across the Sheung Yue River were in progress. An unpaved road, traversing in the southern Site, was observed connecting to the construction site. To the west of the Site, structures belonging to the Lo Wu Saddle Club, which was relocated in association with the construction of the Lo Wu Correctional Institution in 2008, was visible.
- 3.5.3 By 1973, the northern Site was traversed by Ho Sheung Heung Road and straddled by a smaller pond whilst the southern Site was largely occupied by a larger pond. By 1976, a great deal of agricultural land to the south of the southern Site had been converted into ponds. By 1985, the small pond, straddling in the northern Site, was filled. Another elongated-shape pond was also filled to the northwest of the northern Site. North of the northern Site, some land had been converted into ponds. River training work on Ng Tung River had been carried out to the north of the bridge which was constructed during 1964 to 1973.
- 3.5.4 By 1990, to the north of the northern Site, all the ponds, which was first identified in 1985, had been filled. They were either abandoned or used as agricultural land. Some squatter structures were observed in the northwest of the northern Site. To the south of the southern Site, a pylon had been constructed. In 1999, river training work for Sheung Yue River and Ng Tung River were in progress. Surface water is believed to be drained away in the pond in the southern Site in association with the river training work. The pond area appeared to be dark and rather smooth.
- 3.5.5 By 2002, river training work for Sheung Yue River and Ng Tung River were completed. Unregistered Slope No. U1, U3 as well as Slope No. 2SE-B/F103 and 2SE-B/FR106 had been constructed. The pond was covered by vegetation in the southern Site. By 2004, a footpath and electricity pole had been erected in the northern Site.
- 3.5.6 Construction work for Lo Wu Correctional Institution was ongoing between 2008 and 2010. The Lo Wu Saddle Club was relocated in association with the construction work. A parcel of land had been used as a temporary storage site in the southern Site. The land previously used as a temporary storage site became abandoned in 2011. Unregistered Slope U2 had been formed in 2011.
- 3.5.7 Since 2021, construction work was visible along the southern boundary of southern Site.



4 METHODOLOGY

4.1 Site Formation

4.1.1 Site formation works are required for forming the land for future development. Level platform at approximately +7.8mPD will be formed with retaining walls along the perimeter to bridge the level difference with adjacent ground. At some local areas, maximum 1:4 gradient falling platform will be formed to match with adjacent ground. The existing level and schematic site formation layout are presented in **Figures 3.5** and 3.6.

4.2 Registered Man-made Features

4.2.1 As outlined in Section 3.4, three registered man-made features are identified in the vicinity of the Site and their details are given below.

Feature No. 2SE-B/F103

4.2.2 The feature is maintained by LandsD. It is located at the northern side of the Southern Site. The height, length and slope angle of the feature are 3.2m, 90m and 33 degree, respectively. The current Consequence-to-life (CTL) is classified as Category 3. In accordance with the development plan, this feature will be completely removed by the site formation work.

Feature No. 2SE-B/FR106

4.2.3 The feature is maintained by DSD. It is located at the eastern side of the Southern Site. The feature is divided into western and eastern portions by an existing road. The height, length and slope angle of the slope portion are 6.2m, 865m and 33 degree, and those for the wall portion are 2.4m, 15m and 90 degree, respectively. The current Consequence-to-life (CTL) is classified as Category 3. In accordance with the development plan, the western portion of the feature will be completely removed by the site formation work.

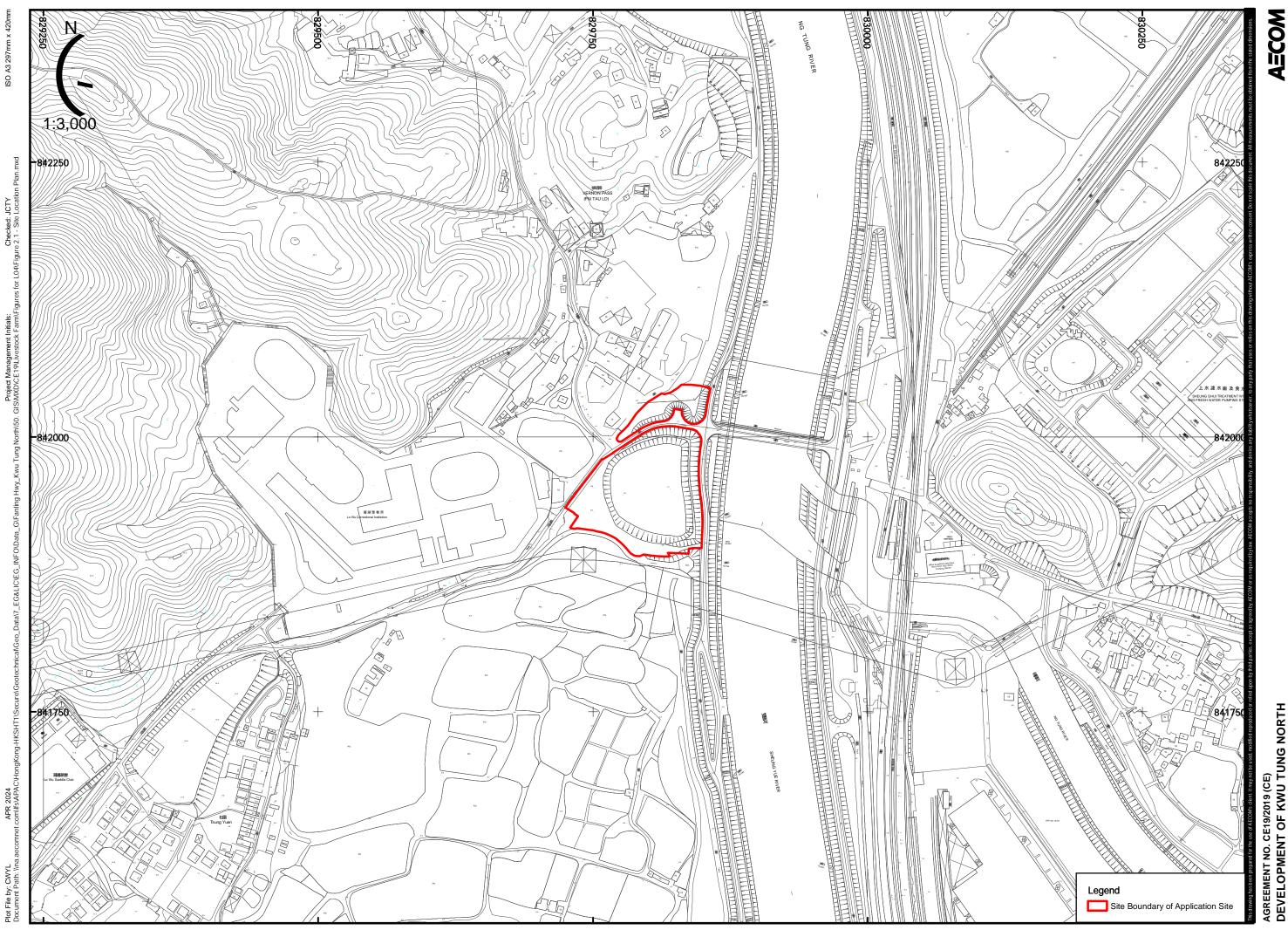
Feature No. 2SE-B/FR20

4.2.4 The feature is maintained by DSD. It is located at the eastern side of the Northern Site. The height, length and slope angle of the slope portion are 6.2m, 820m and 33 degree, and those for the wall portion are 2.1m, 15m and 90 degree, respectively. The current Consequence-to-life (CTL) is classified as Category 3. The slope is located at 14.5m away from the site and in accordance with the development plan, this feature is unlikely to be affected by the development.

5 CONCLUSION

- 5.1.1 In this Report, the geotechnical aspects of the proposed site formation works have been reviewed. For man-made features within the proposed site works, two features may be modified/removed. Should there be any modification to these features, further assessment, upgrading works and registration may be required.
- 5.1.2 New retaining walls should be required along the application perimeter for platform formation. Further assessment and detailed design of the retaining wall will be required.
- 5.1.3 In summary, it is considered that the proposed development is feasible in terms of potential geotechnical constraints.

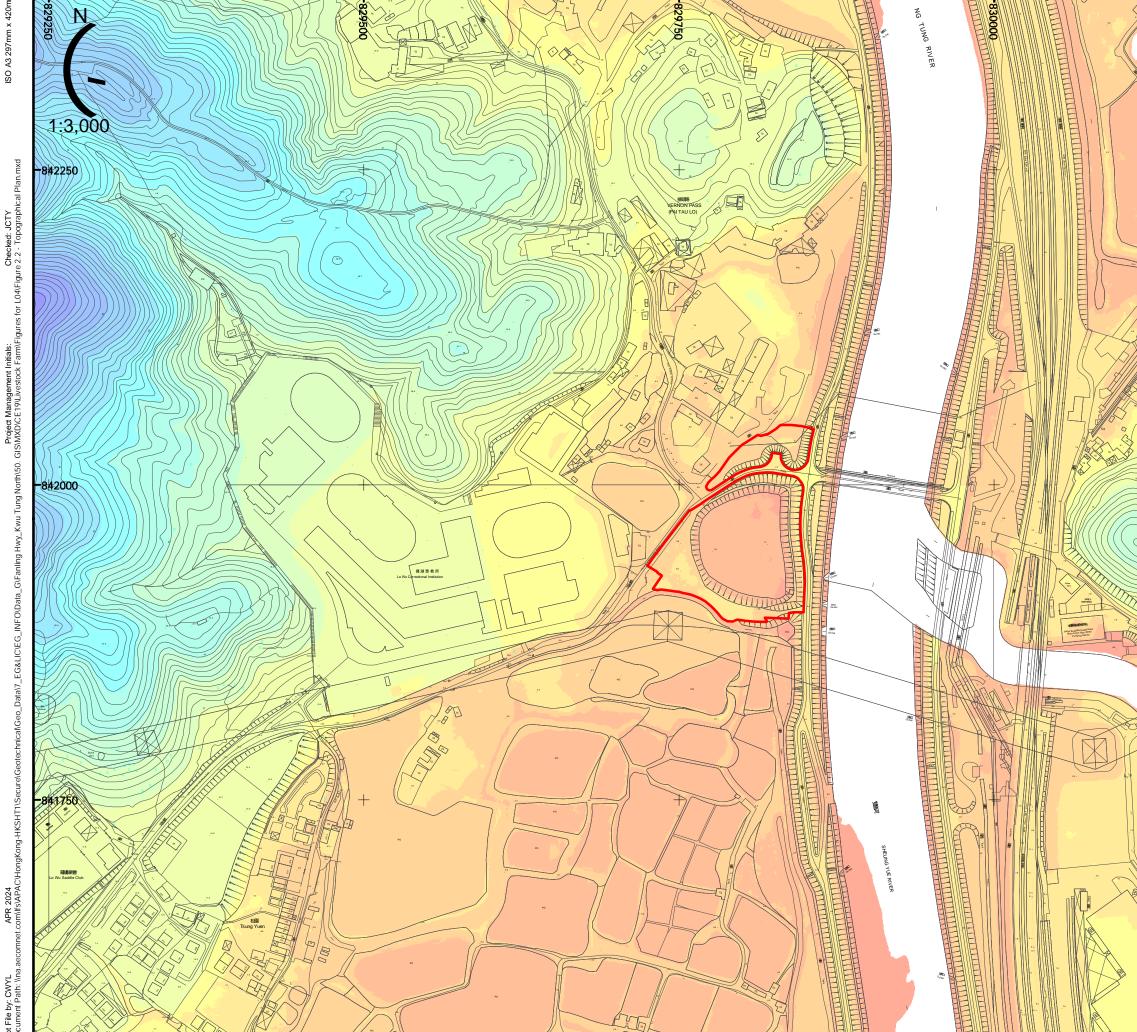
Figures



60624717/L04/FIGURE 2.1

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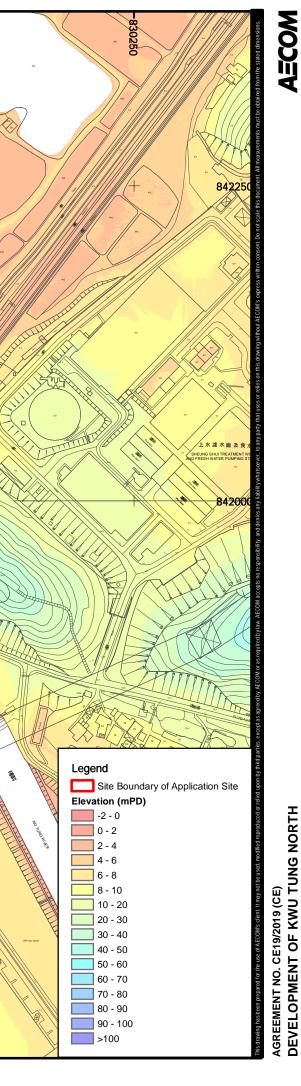
SITE LOCATION PLAN



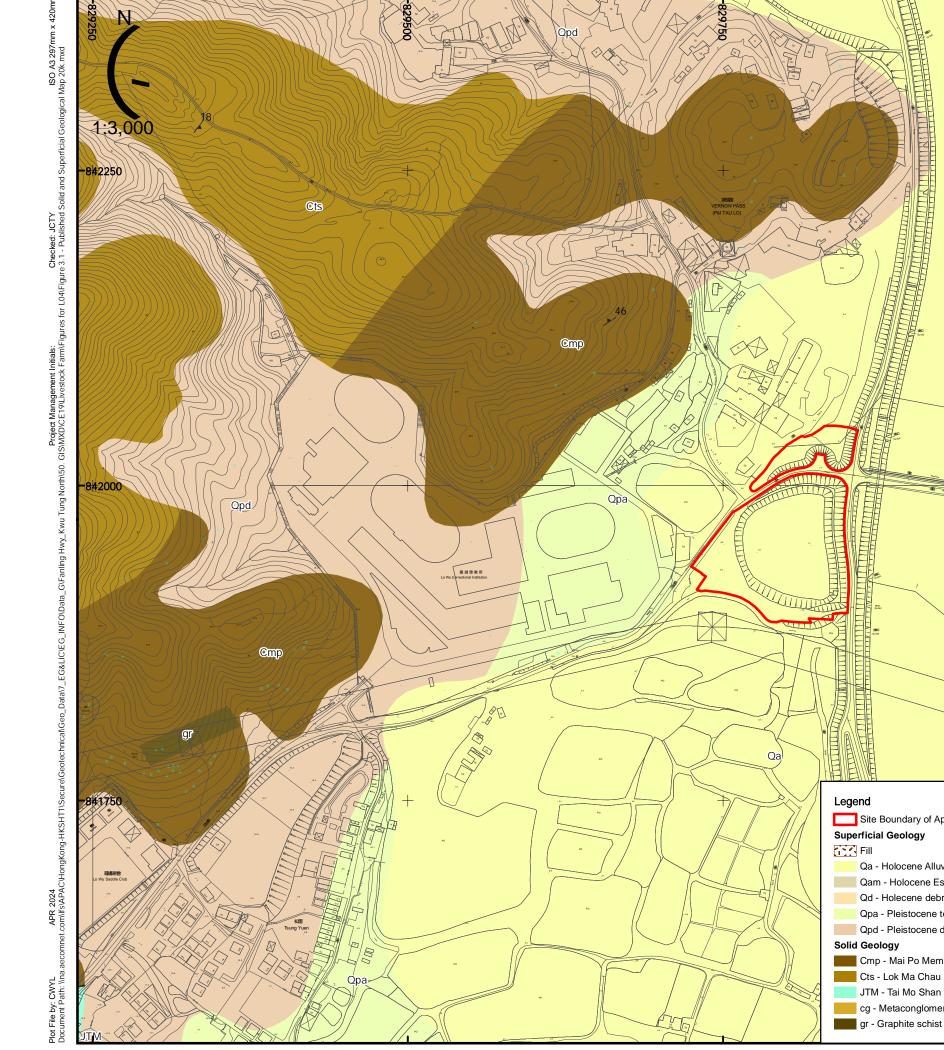


TOPOGRAPHICAL PLAN

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Site Boundary of Application Site Superficial Geology Qa - Holocene Alluvium - Clay/silt, sand and gravel; well-sorted to semi-sorted

- Qam Holocene Estaurine deposits Clayey silt or sand
- Qd Holecene debris flow deposits Unsorted sand, gravel, cobbles and boulders; clay/silt matrix

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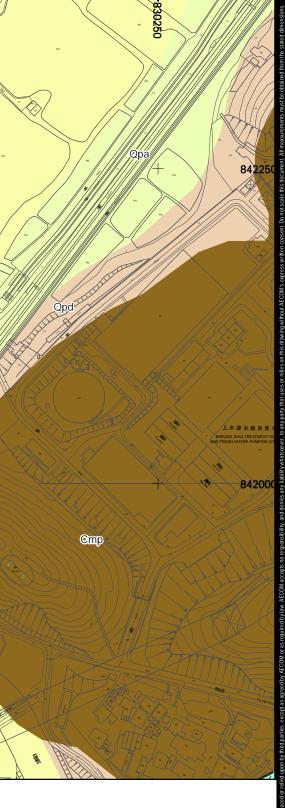
Qpa - Pleistocene terrace alluvium - Clay/silt, gravelly sandy, well-sorted to semi-sorted Qpd - Pleistocene debris flow deposits - Silt/Sand, gravelly, clayey with cobbles and boulders; unsorted

- Cmp Mai Po Member, Lok Ma Chau Formation mainly metasiltstone, metasandstone; graphite-bearing
- Cts Lok Ma Chau Formation Tai Shek Mo Member Metasandstone with metaconglomerate and phyllite
- JTM Tai Mo Shan Formation Coarse ash crystal tuff
- cg Metaconglomerate

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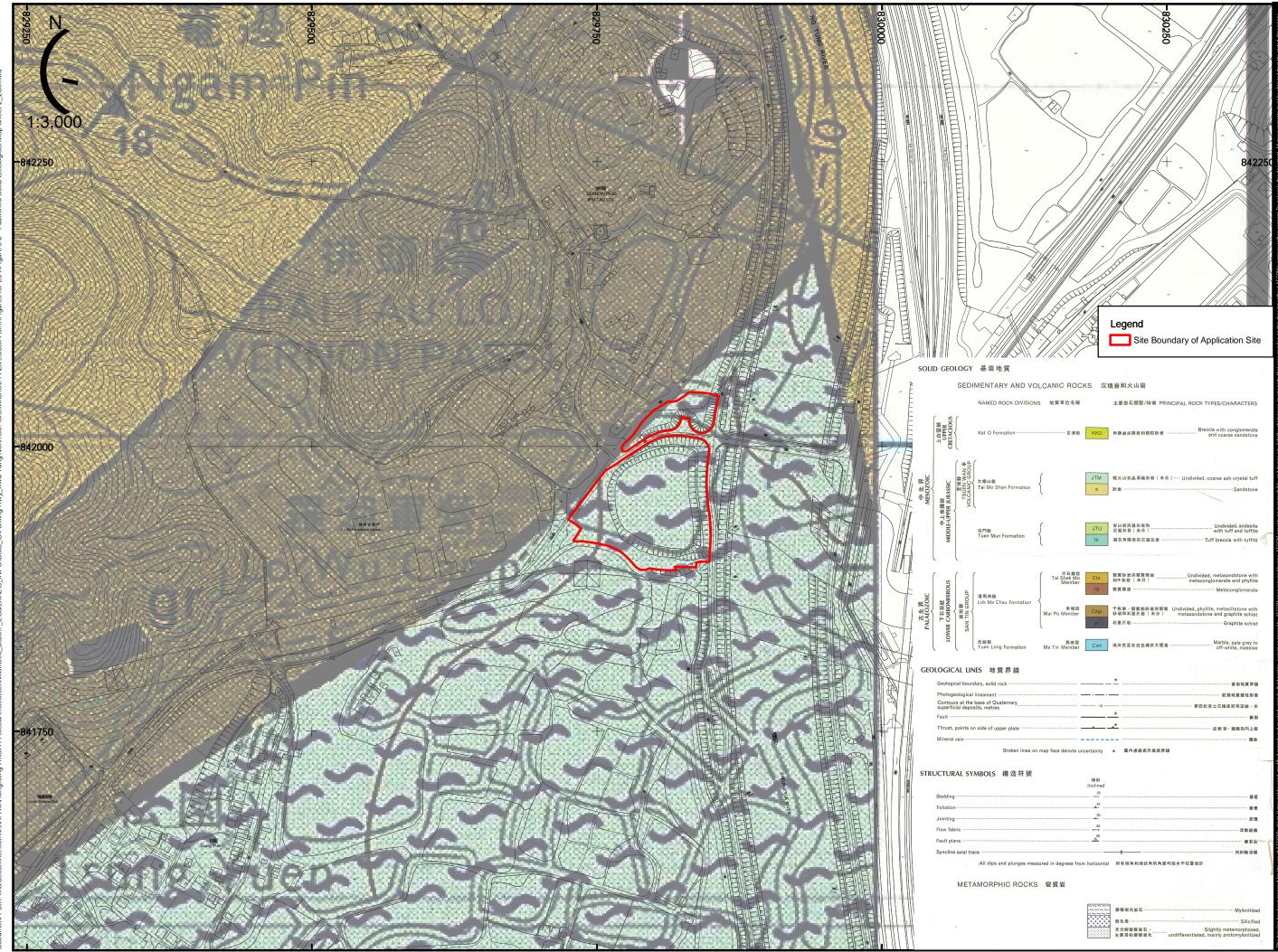
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Texture and Metamorphism

- Mylonitised : : Schist / Schistosity
- # # # # Silicified
- Slightly metamorphosed Structural Geology
- Fault (inferred)

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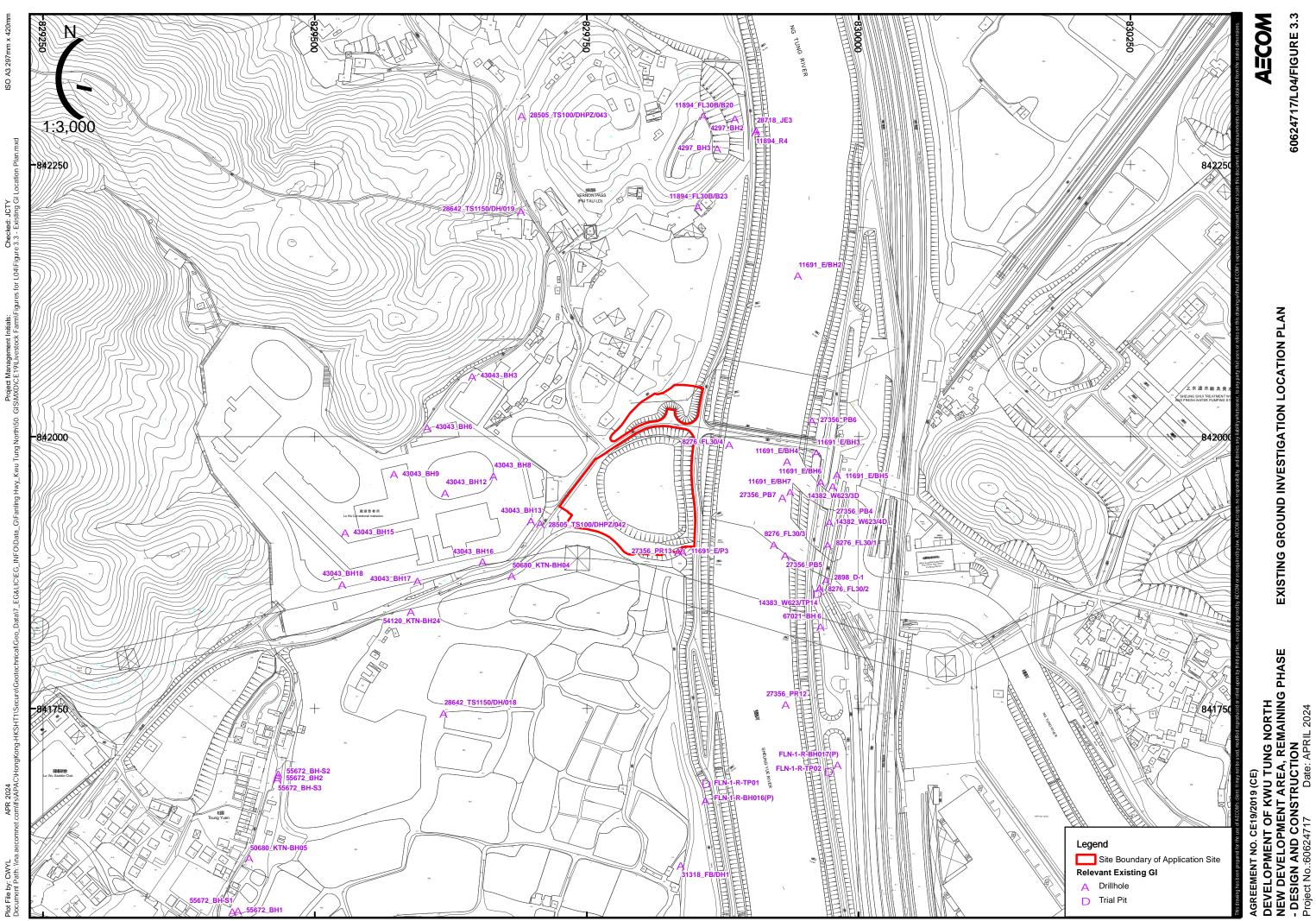


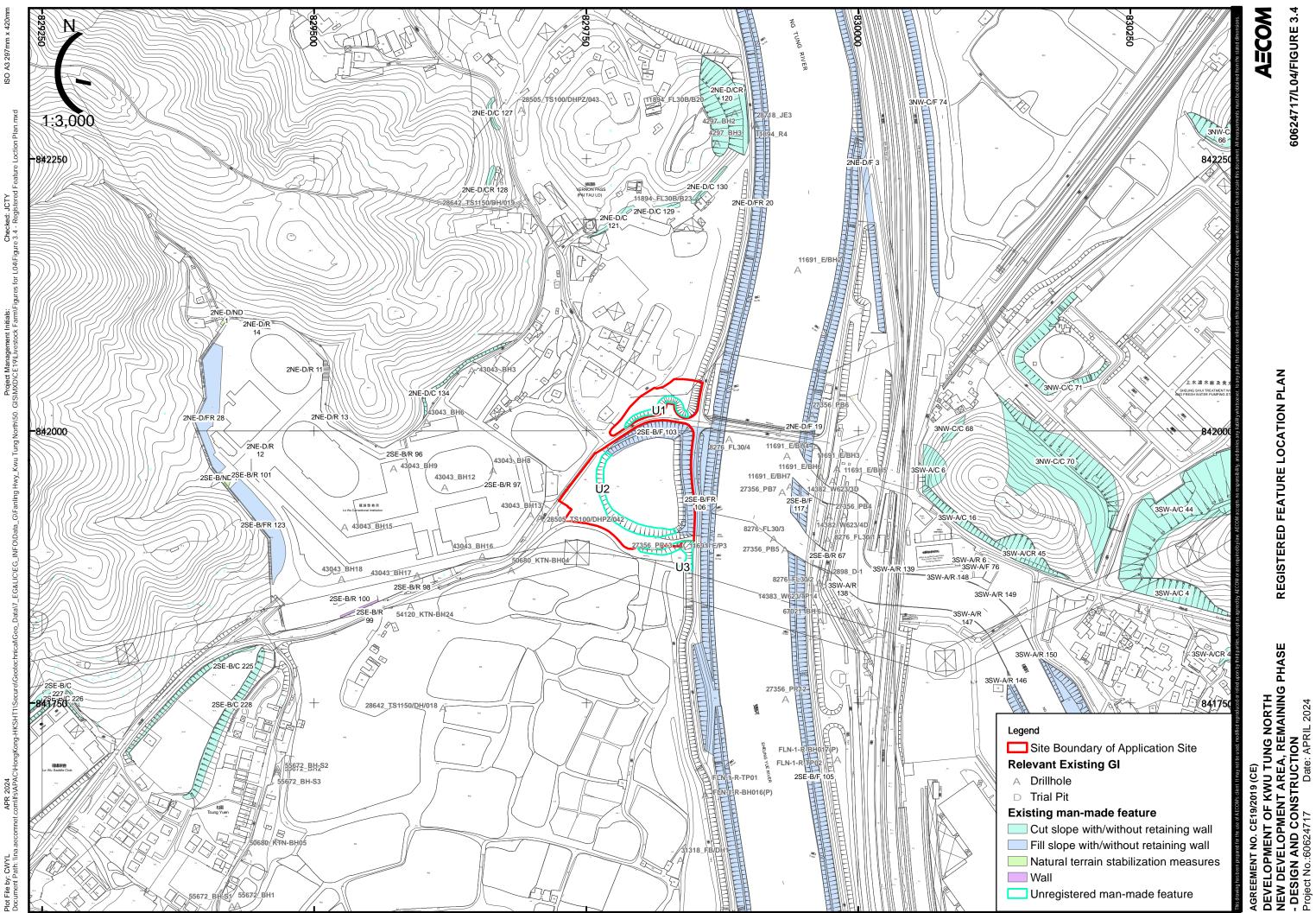
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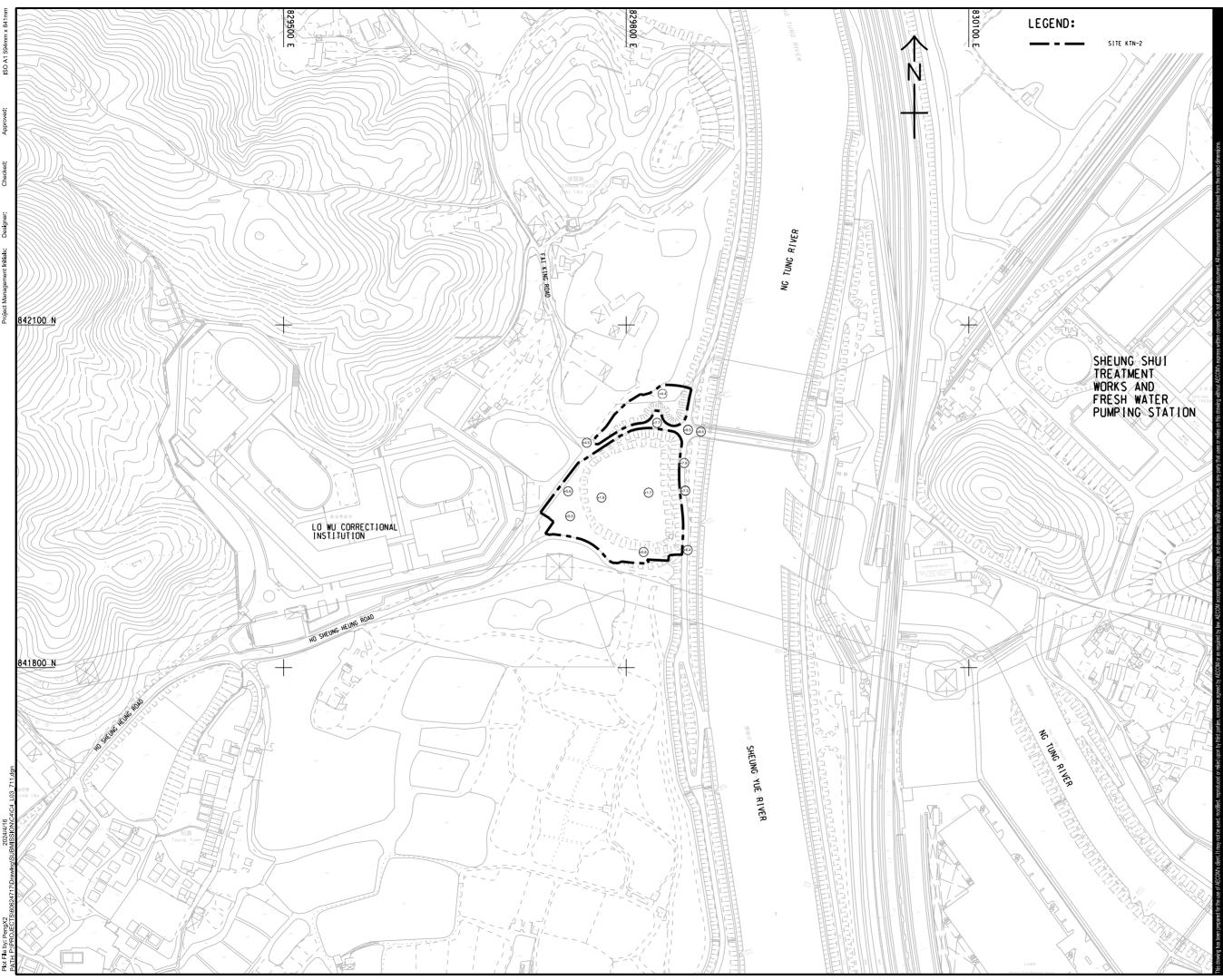




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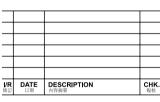
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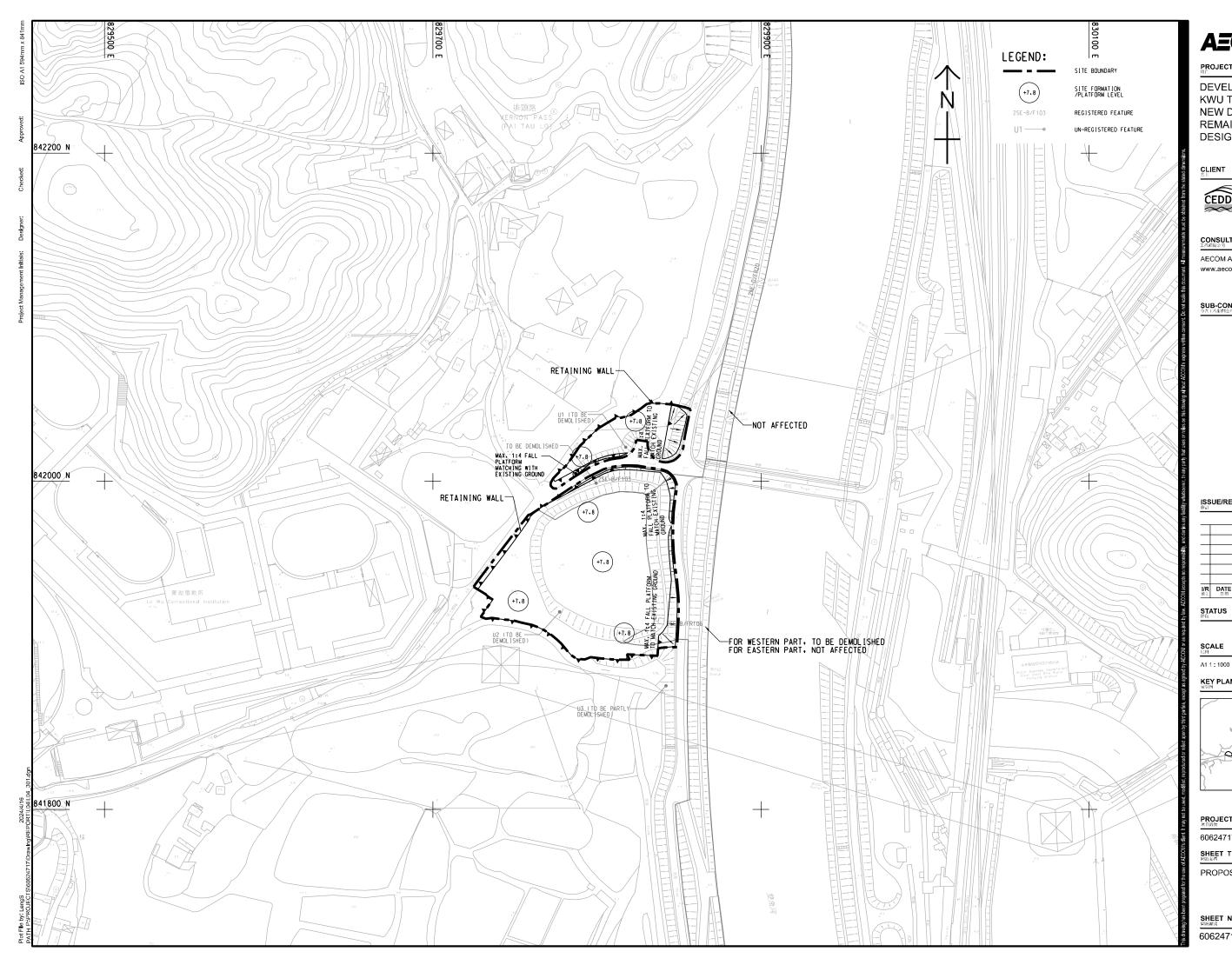
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DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, **REMAINING PHASE -DESIGN & CONSTRUCTION**

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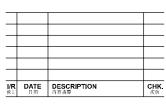
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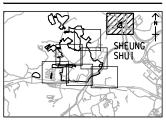
STATUS

SCALE

DIMENSION UNIT

METRES

KEY PLAN A1 1 : 50000



PROJECT NO. 项目编辑	CONTRACT NO 合約線號

60624717

CE 19/2019 (CE)

SHEET TITLE 問題名構

PROPOSED SITE FORMATION

SHEET NUMBER

60624717/L04/Figure 3.6

Annex A

B1 DETAILED OBSERVATIONS

Site KTN-2

A review of the available aerial photographs from 1924 to 2022 (supplemented by orthophotographs in the most recent years) has been carried out to determine the site development history of the Site KTN-2. The key observations from the year 1945, 1964,1973, 1976, 1985, 1990, 1999, 2002, 2004, 2008, 2010, 2012, 2021 and 2022 aerial photographs are highlighted in Plates B1 to B14.

AERIAL PHOTOS Year/Photo No./Altitude(ft) 1924	DETAILED OBSERVATIONS High-flight aerial photographs, which are of relatively poor
Y00167-18 11,500'	 resolution, precluded detailed interpretation. The Site and its vicinity appeared to be occupied by agricultural land. The meandering Sheung Yue River and Ng Tung River were visible.
1945* Y934-5 20,000'	 High-flight aerial photographs, which are of relatively poor resolution, precluded detailed interpretation. No significant changes to the Site were evident.
1954 Y02908-09 29,200'	High-flight aerial photographs, which are of relatively poor resolution, precluded detailed interpretation.No significant changes to the Site were evident.
1956 Y04354-55 16,700'	 High-flight aerial photographs, which are of relatively poor resolution, precluded detailed interpretation. No significant changes to the Site were evident.
1961 Y05537-38 3,0000'	 High-flight aerial photographs, which are of relatively poor resolution, precluded detailed interpretation. No significant changes to the Site were evident.
1963 V81A_857-0016R 13,500'	High-flight and single aerial photograph, which is of relatively poor resolution, precluded detailed interpretation.No significant changes to the Site were evident.
1964* Y12249-50 1,800'	 Low-flight aerial photographs of excellent resolution. The Site and its vicinity appeared to be occupied by agricultural land. The meandering Sheung Yue River and Ng Tung River were visible. Construction of bridge and weir were in progress. An unpaved road was visible in the southern Site. Structures belonging to the Lo Wu Saddle Club, which was relocated in association with the construction of the Lo Wu Correctional Institution in 2008, was visible.
1973*	Low-flight aerial photographs of excellent resolution.

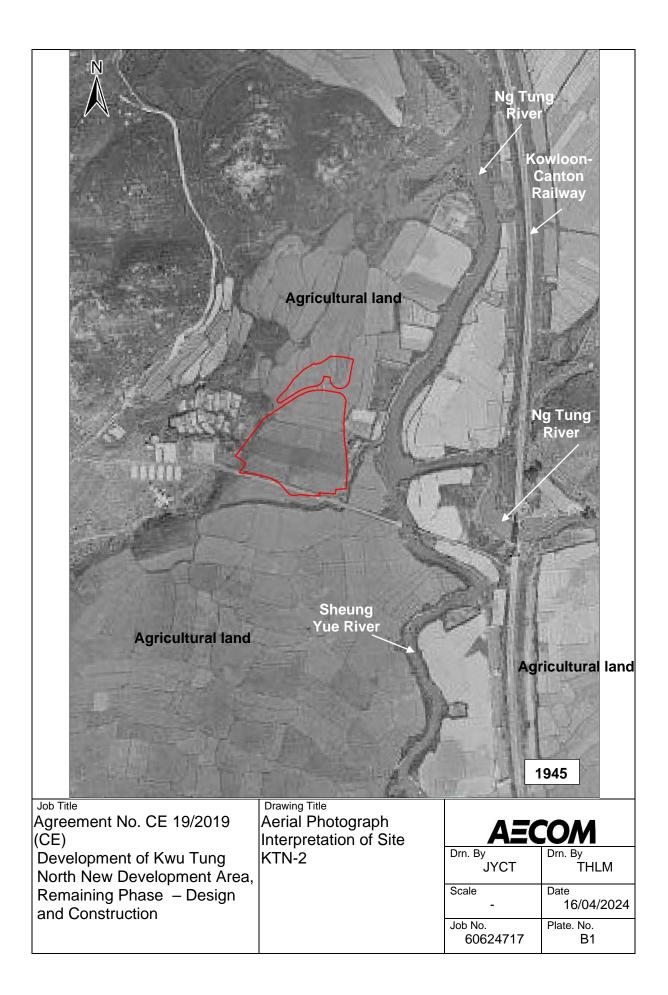
AERIAL PHOTOS Year/Photo No./Altitude(ft)	DETAILED OBSERVATIONS
07748-49 2,000'	 Some agricultural land had been converted into ponds. The northern Site was traversed by Ho Sheung Heung Road and straddled by a smaller pond whilst the southern Site was largely occupied by a larger pond. The bridge and weir across the Sheung Yue River had been completed.
1974 10017-18 12,500'	High-flight aerial photograph precludes detailed interpretationNo significant changes to the Site were evident.
1975 11904-05 12,500'	High-flight aerial photograph precludes detailed interpretationNo significant changes to the Site were evident.
1976* 16701-02 2,000'	 High-flight aerial photographs preclude detailed interpretation. A great deal of agricultural land to the south of the southern Site had been converted into ponds.
1977 20510-11 4,000' 1978 23412-13	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident. Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
4,000' 1979 27048-49 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1980 30373-74 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1981 39392-93 5,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1982 44149-50 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1983 52038-39 3,000'	Low-flight aerial photographs of excellent resolution.No significant changes to the Site were evident.
1984 55873-74 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1985* 66651-52 4,000'	Low-flight aerial photographs of excellent resolution.

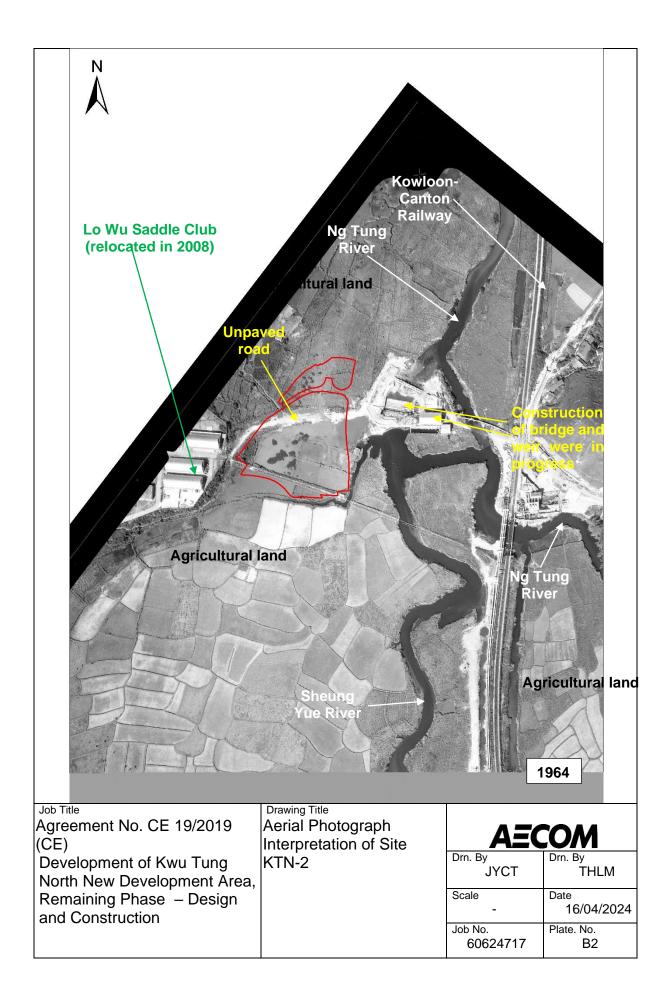
AERIAL PHOTOS Year/Photo No./Altitude(ft)	DETAILED OBSERVATIONS
	 The small pond, straddling in the northern Site, was filled. Another elongated-shape pond was also filled to the northwest of the northern Site. North of the northern Site, some land had been converted into ponds. River training work on Ng Tung River had been carried out to the north of the bridge. The weir had been demolished.
1986 A4644-45 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1987 A09759-60 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1988 A11673-74 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1989 A18166-67 20,000'	 High-flight aerial photographs of good resolution. No significant changes to the Site were evident.
1990* A22487-88 2,000'	 Low-flight aerial photographs of excellent resolution. To the north of the northern Site, all the ponds, which was first identified in 1985, had been filled. They were either abandoned or used as agricultural land. Some squatter structures were observed in the northwest of the northern Site. To the south of the southern Site, a pylon had been constructed.
1991 A25873-74 2,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1992 A32118-19 4,000	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1993 A36434-35 4,000	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1994 CN8656-57 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1995 CN10514-15 3,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1996 CN15327-28	Low-flight aerial photographs of excellent resolution.

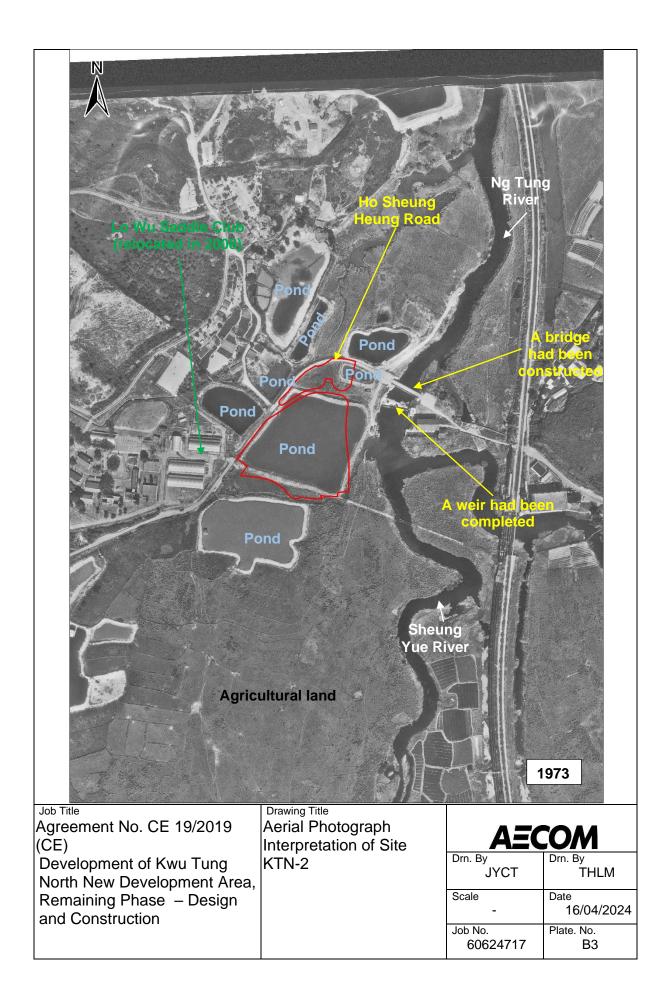
AERIAL PHOTOS Year/Photo No./Altitude(ft)	DETAILED OBSERVATIONS
3,000'	No significant changes to the Site were evident.
1997 CN16995-96 3,500'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
1998 CN19612-13 3,000'	Low-flight aerial photographs of excellent resolution.No significant changes to the Site were evident.
1999* CN23758-59 3,500'	 Low-flight aerial photographs of excellent resolution. River training work for Sheung Yue River and Ng Tung River were in progress. Some haul roads were visible. No surface water was observed in the pond in the southern Site. The pond area appeared to be dark and rather smooth.
2000 CN27690-91 3,000'	 Low-flight aerial photographs of excellent resolution. River training work for Sheung Yue River and Ng Tung River were in progress.
2001 CW33966-67 4,000'	 Low-flight aerial photographs of excellent resolution. River training work for Sheung Yue River and Ng Tung River were in progress.
2002* CW41534-35 3,000'	 Low-flight aerial photographs of excellent resolution. River training work for Sheung Yue River and Ng Tung River were in completed. Unregistered slope U1 had been formed in the northern Site in association with the river training work. Site clearance was visible in the northern Site. Unregistered slopes U3 as well as Slope Nos. 2SE-B/F103 and 2SE-B/FR106 had been formed in the southern Site in association with the river training work. The pond was covered by vegetation in the southern Site.
2003 CW46677-78 3,500'	Low-flight aerial photographs of excellent resolution.No significant changes to the Site were evident.
2004* CW58066-67 2,500'	 Low-flight aerial photographs of excellent resolution. Vegetation was re-established in the northern Site. Footpath and electricity pole were observed in the northern Site.
2005 CW65218-19 2,500'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.
2006 CW71041-42 4,000'	 Low-flight aerial photographs of excellent resolution. No significant changes to the Site were evident.

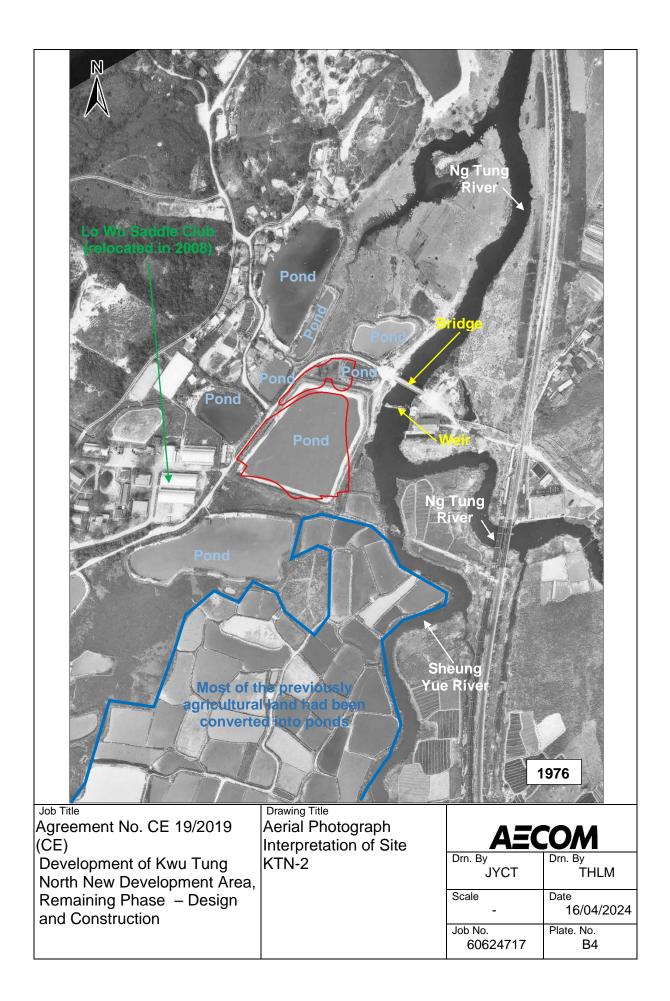
AERIAL PHOTOS	
Year/Photo	DETAILED OBSERVATIONS
No./Altitude(ft)	
2007	Low-flight aerial photographs of excellent resolution.
CW78319-20	 No significant changes to the Site were evident.
3,000'	
2008*	Low-flight aerial photographs of excellent resolution.
CS18416-17	 To the west of the southern Site, construction work for
6,000'	Lo Wu Correctional Institution was in progress. A parcel
-,	of land had been used as a temporary storage site in
	the southern Site. The Lo Wu Saddle Club was
	relocated in association with the construction work.
0000	
2009	Low-flight aerial photographs of excellent resolution.
CW82972-73	Construction work for Lo Wu Correctional Institution
3,000'	was in progress.
2010*	Low-flight aerial photographs of excellent resolution.
CW86574-75	Construction work for Lo Wu Correctional Institution
3,000'	was completed.
2011	Low-flight aerial photographs of excellent resolution.
CS34237-38	 The land previously used as a temporary storage site
6,000'	became abandoned.
2012*	Low-flight aerial photographs of excellent resolution.
CW93753-54	• The land previously used as a temporary storage site
1,000'	became abandoned. Unregistered Slope U2 had been
	formed.
2013	Low-flight aerial photographs of excellent resolution.
CW102046-47	 No significant changes to the Site were evident.
2,000'	
2014	Low-flight aerial photographs of excellent resolution.
CS48287-88	 No significant changes to the Site were evident.
3,000'	
2015	Low-flight aerial photographs of excellent resolution.
CS57098-99	 No significant changes to the Site were evident.
3,000'	
	Low-flight aerial photographs of excellent resolution.
E005858C-59C	 No significant changes to the Site were evident.
2,500' 2017	Low-flight aerial photographs of excellent resolution.
E015697-98	 No significant changes to the Site were evident.
2,000'	
2018	Low-flight aerial photographs of excellent resolution.
E039963C-64C	 No significant changes to the Site were evident.
6,900'	
2019	Low-flight aerial photographs of excellent resolution.
E059208C-09C	 No significant changes to the Site were evident.
3,000'	
2020	Low-flight aerial photographs of excellent resolution.

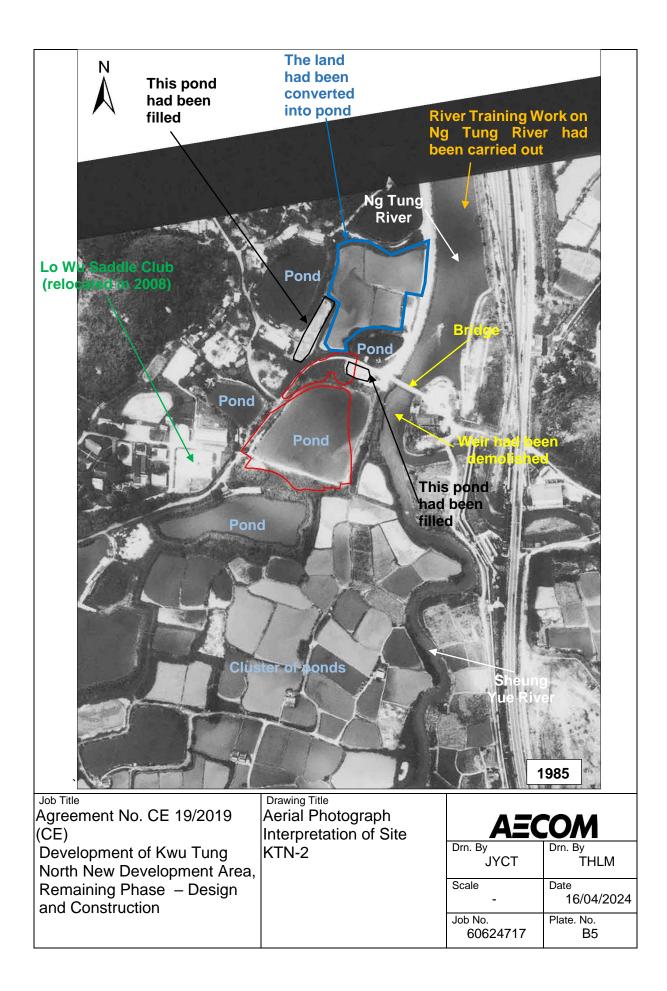
AERIAL PHOTOS Year/Photo No./Altitude(ft)	DETAILED OBSERVATIONS
E092967C-68C 6,900'	 No significant changes to the Site were evident.
2021* E124098C-99C 6,900'	 Low-flight aerial photographs of excellent resolution. Construction work was visible along the southern boundary of southern Site.
2022* E175121C-22C 6,900'	 Low-flight aerial photographs of excellent resolution. Construction work was visible along the southern boundary of southern Site.

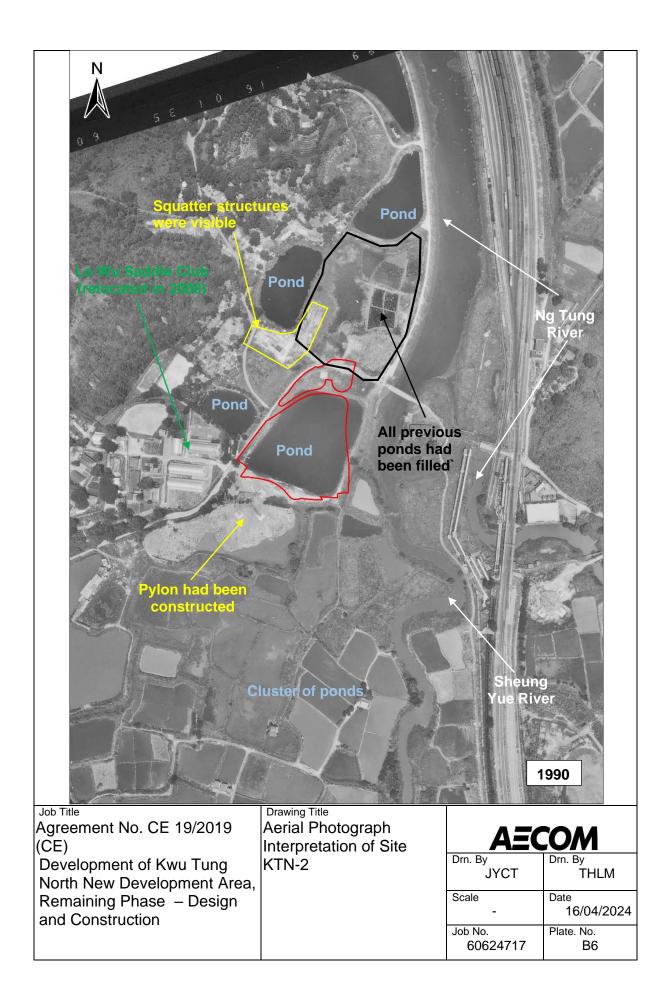


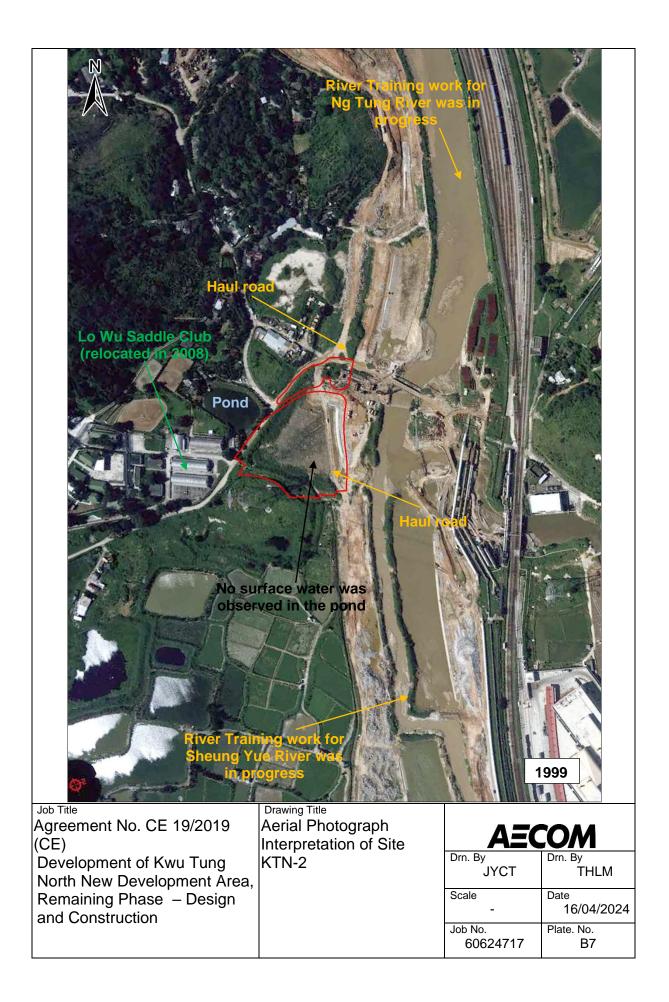


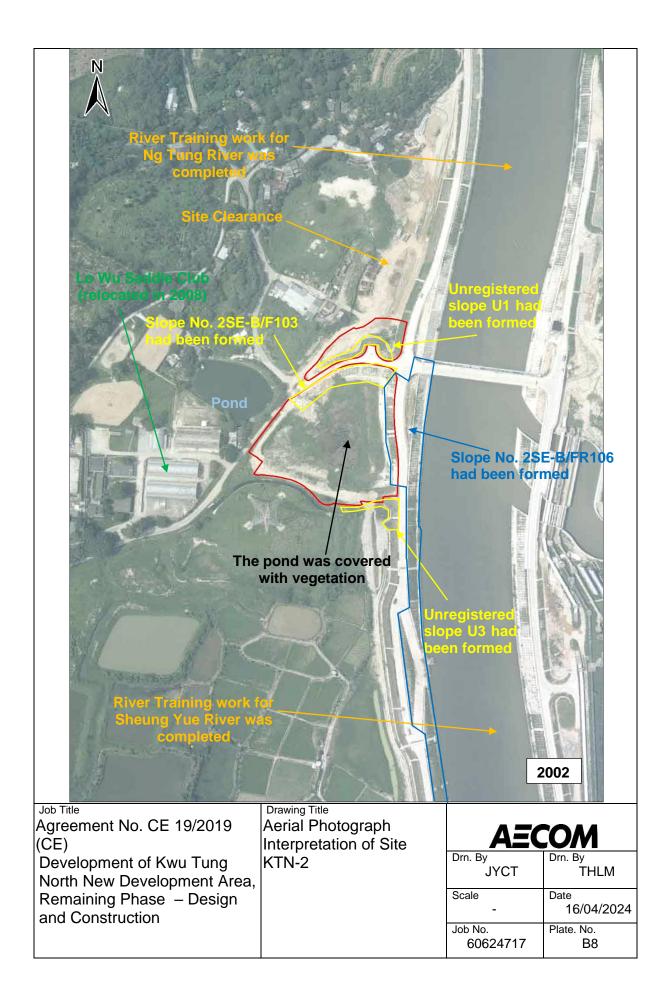


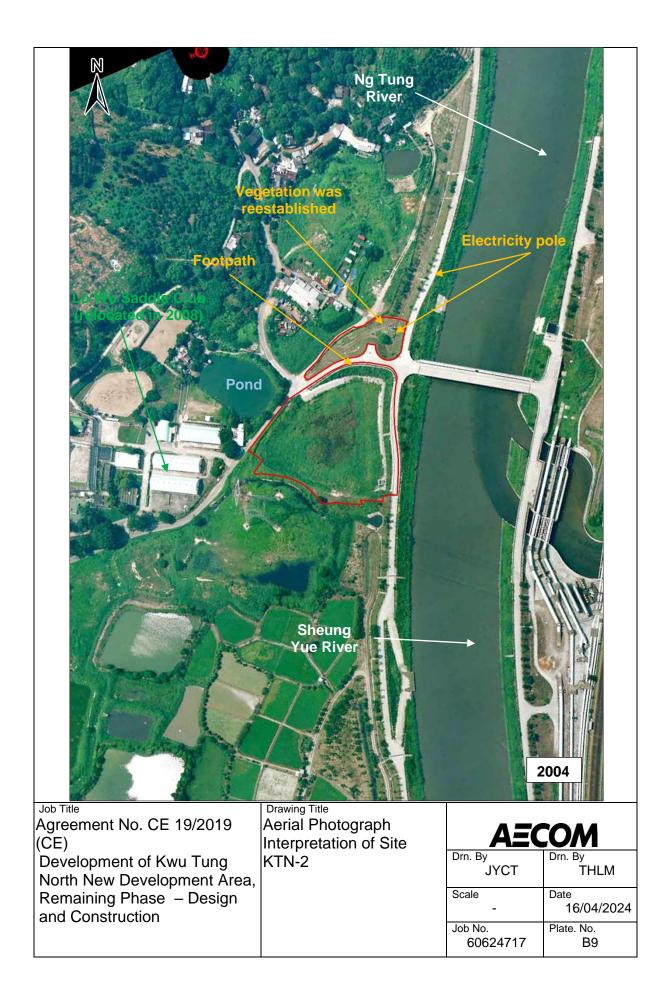


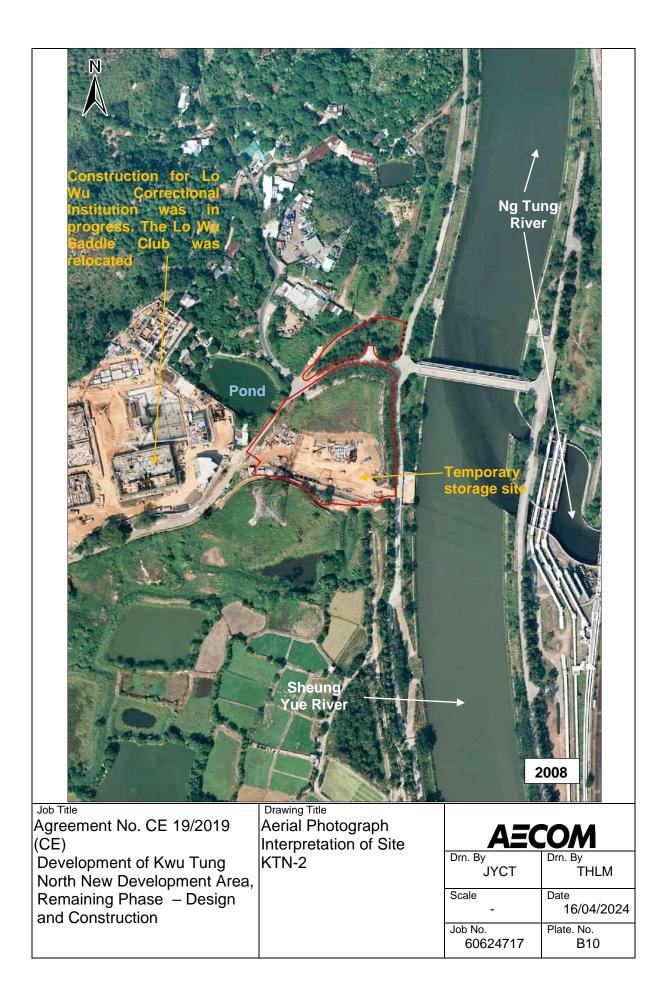


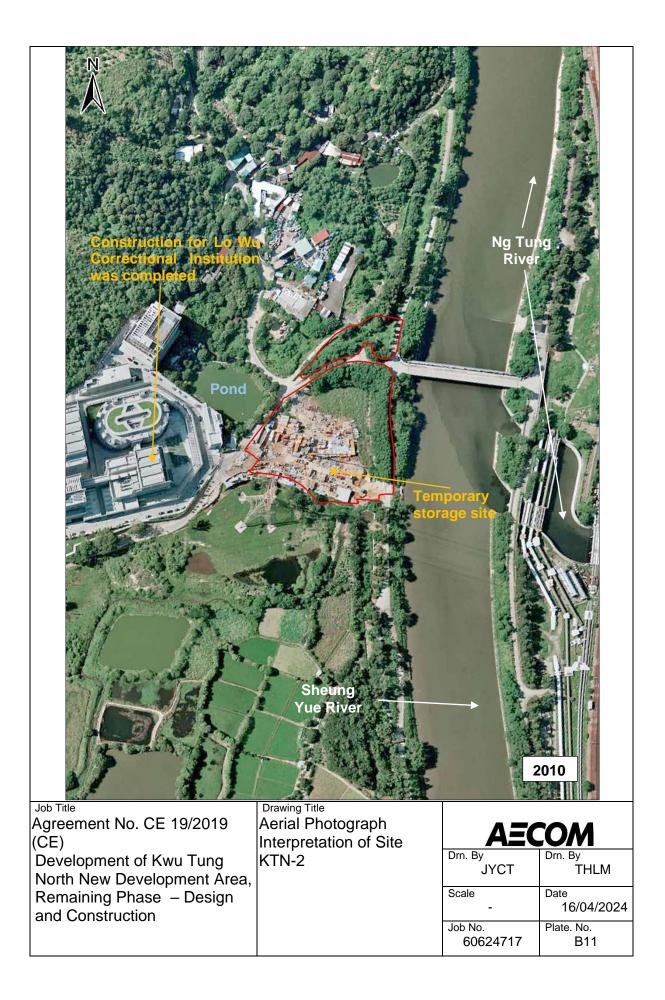


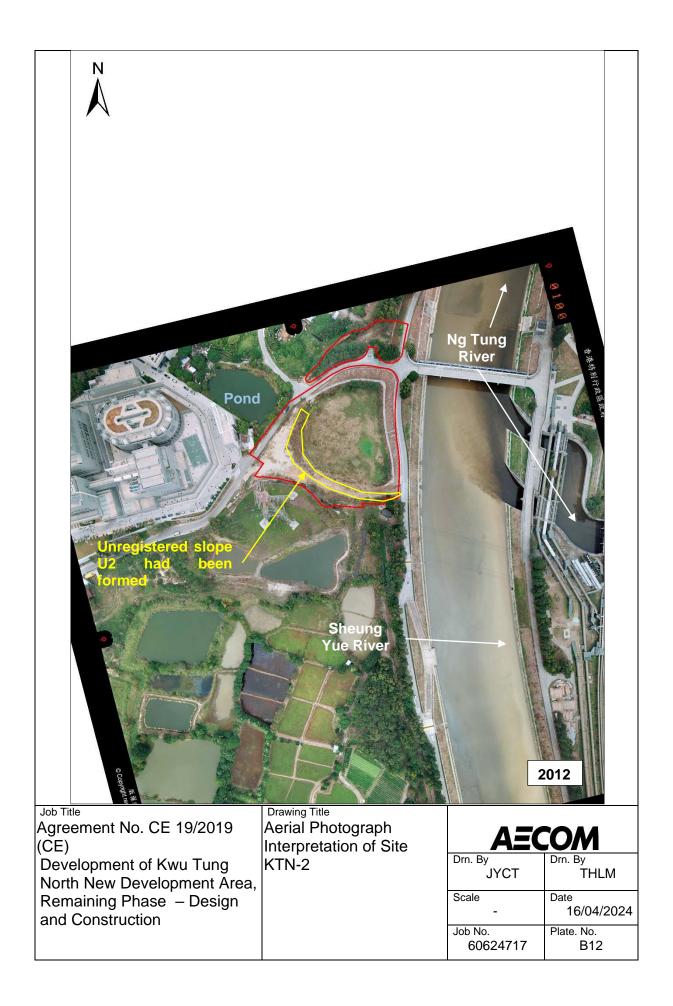


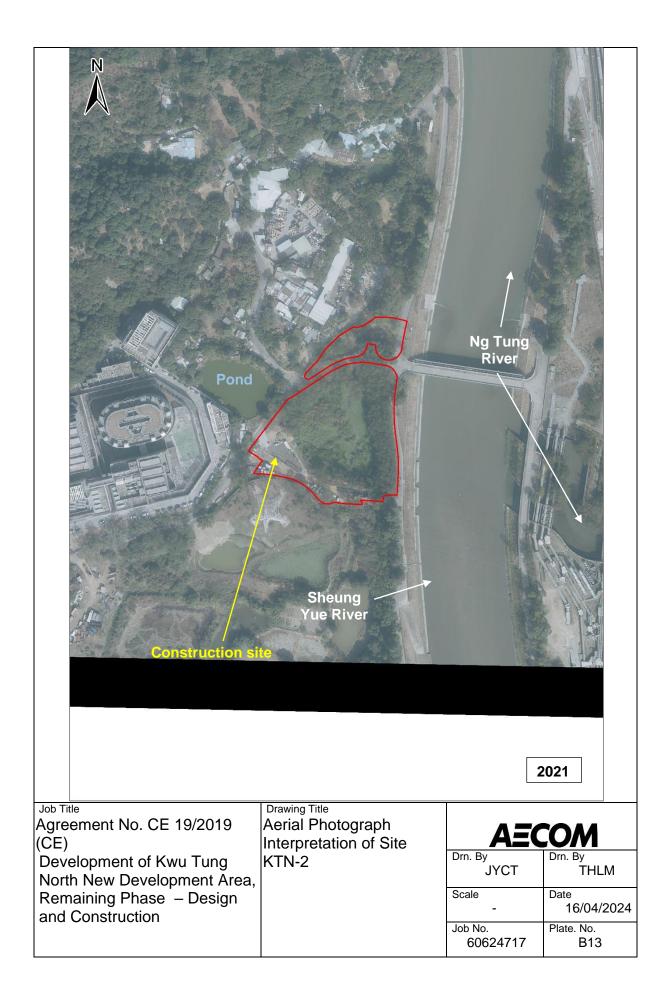


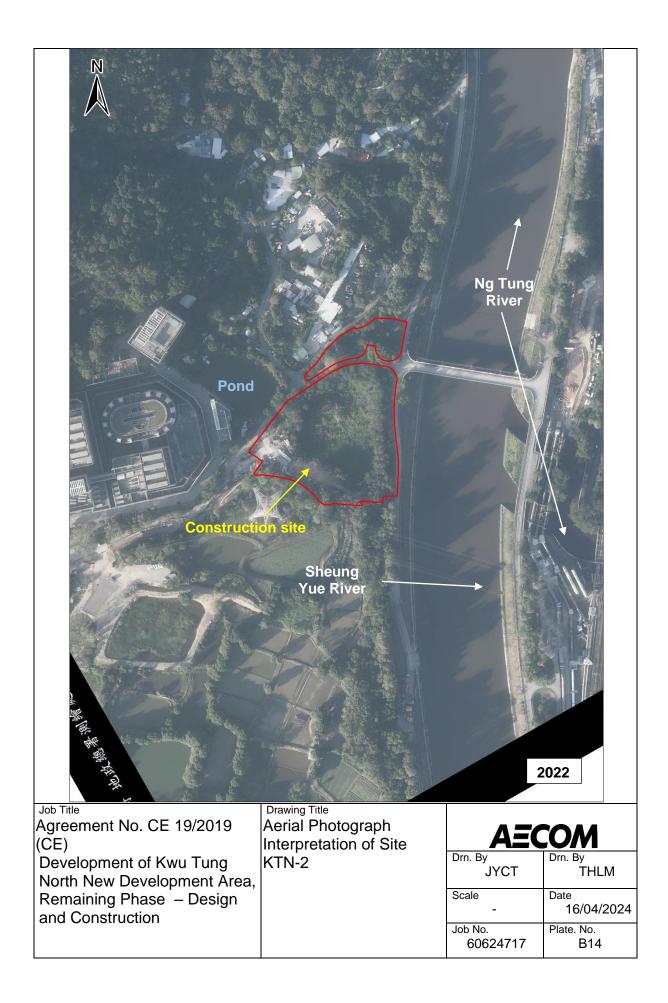






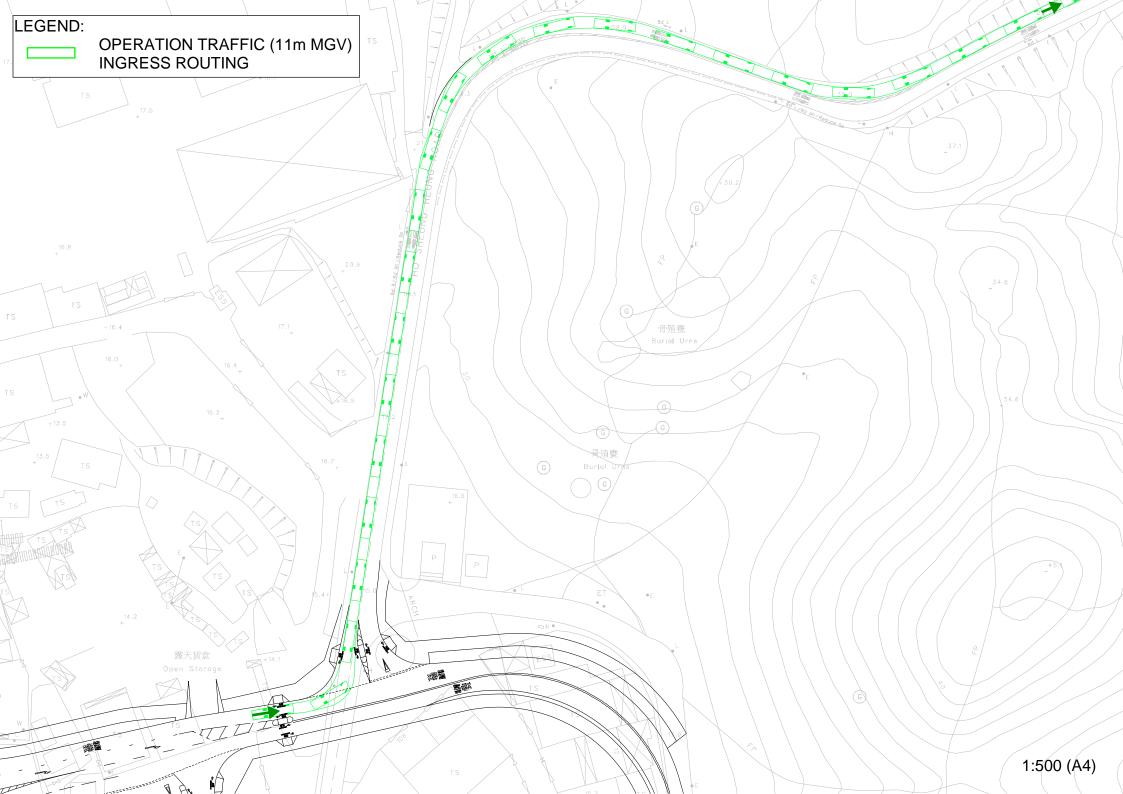


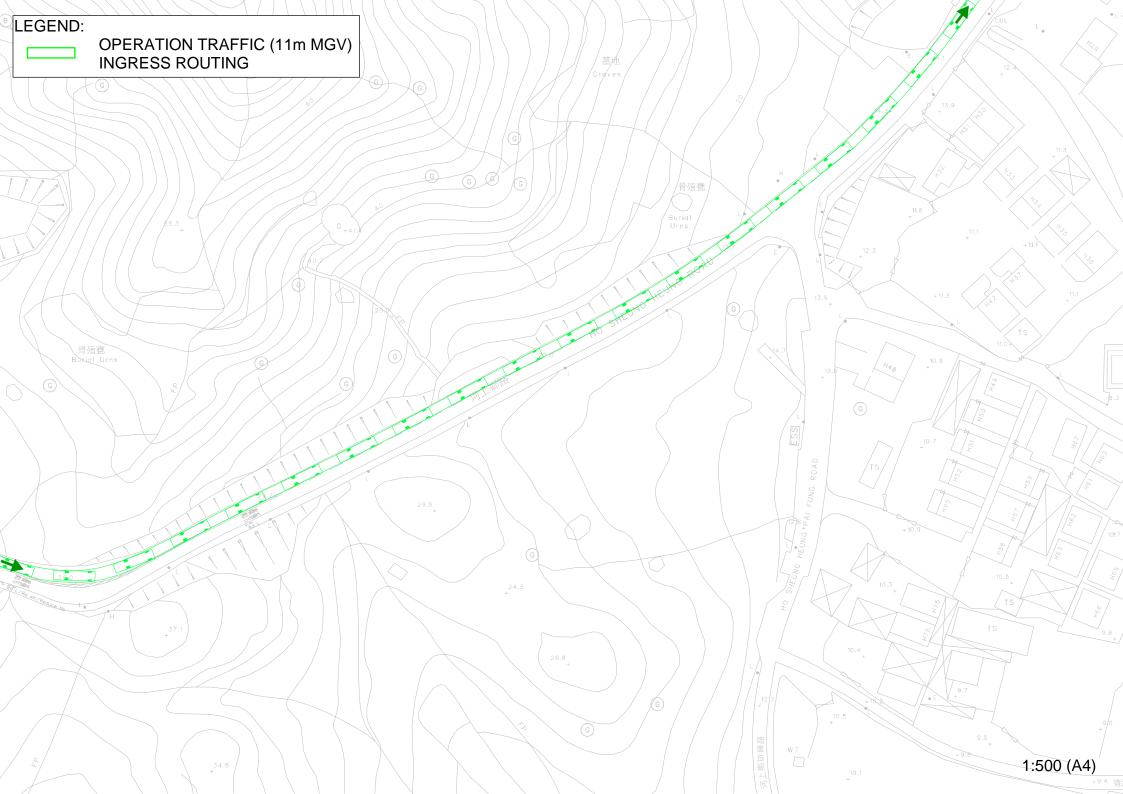


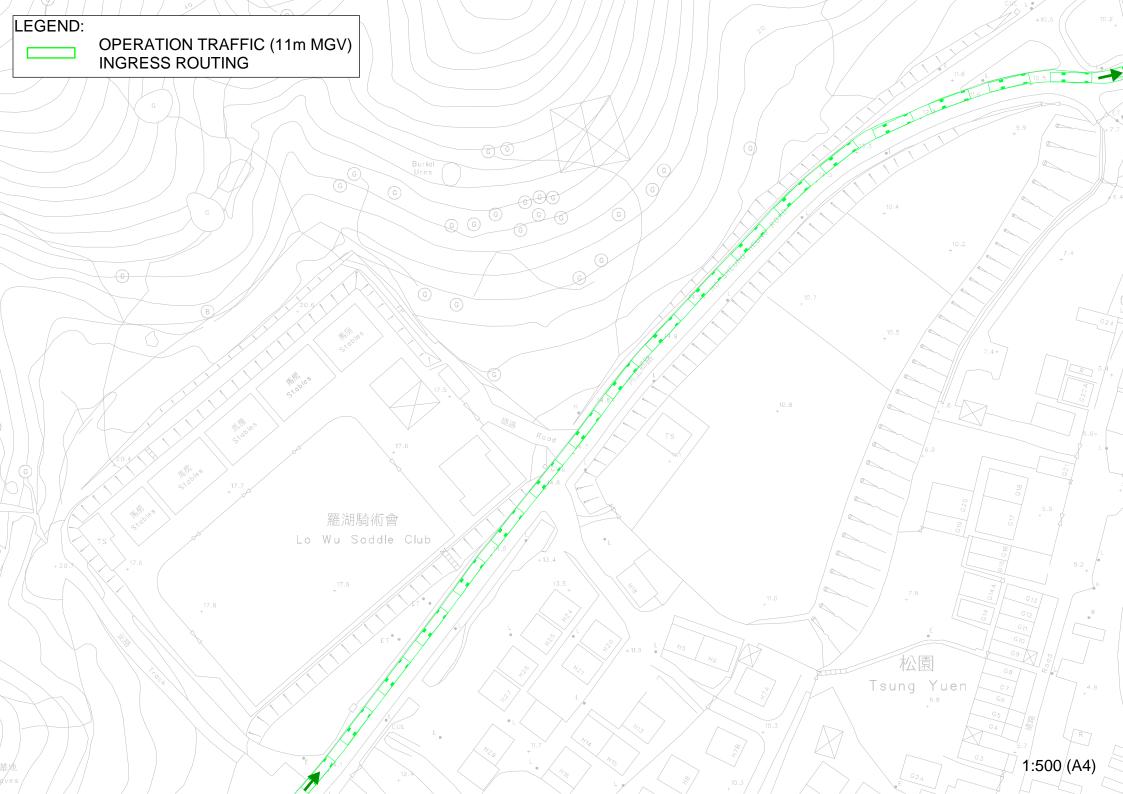


Appendix I

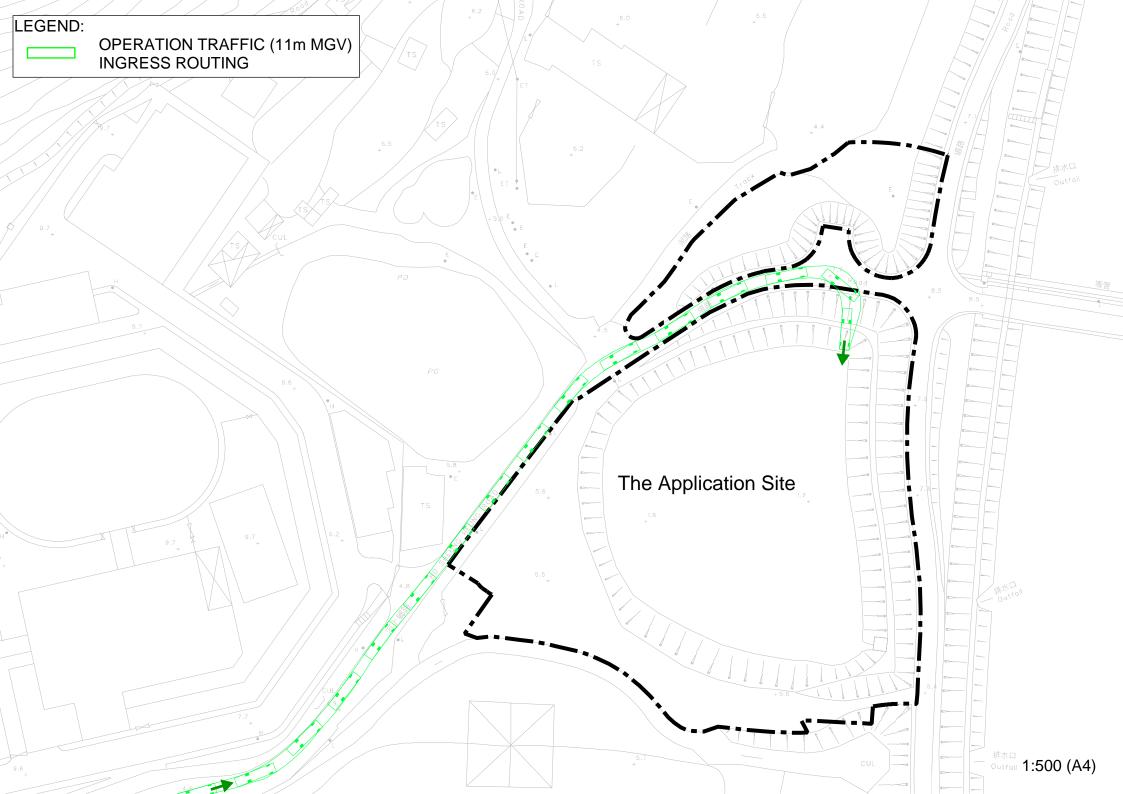
Swept Path Analysis

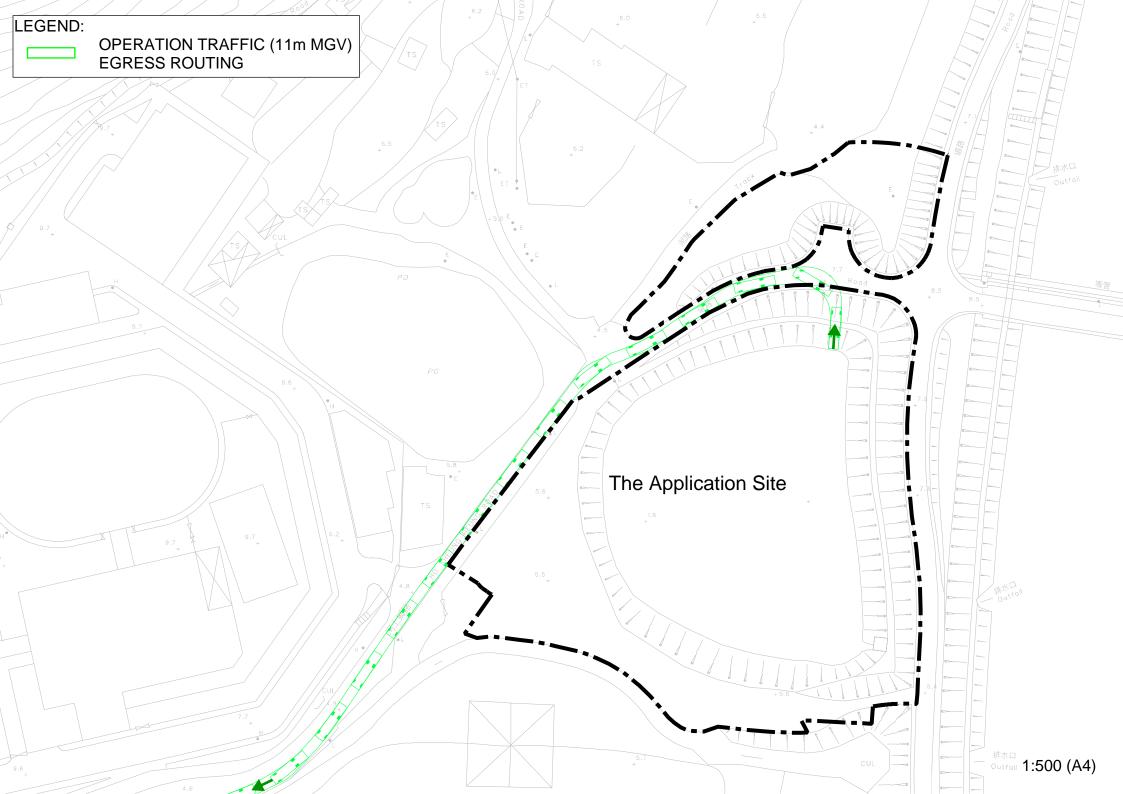


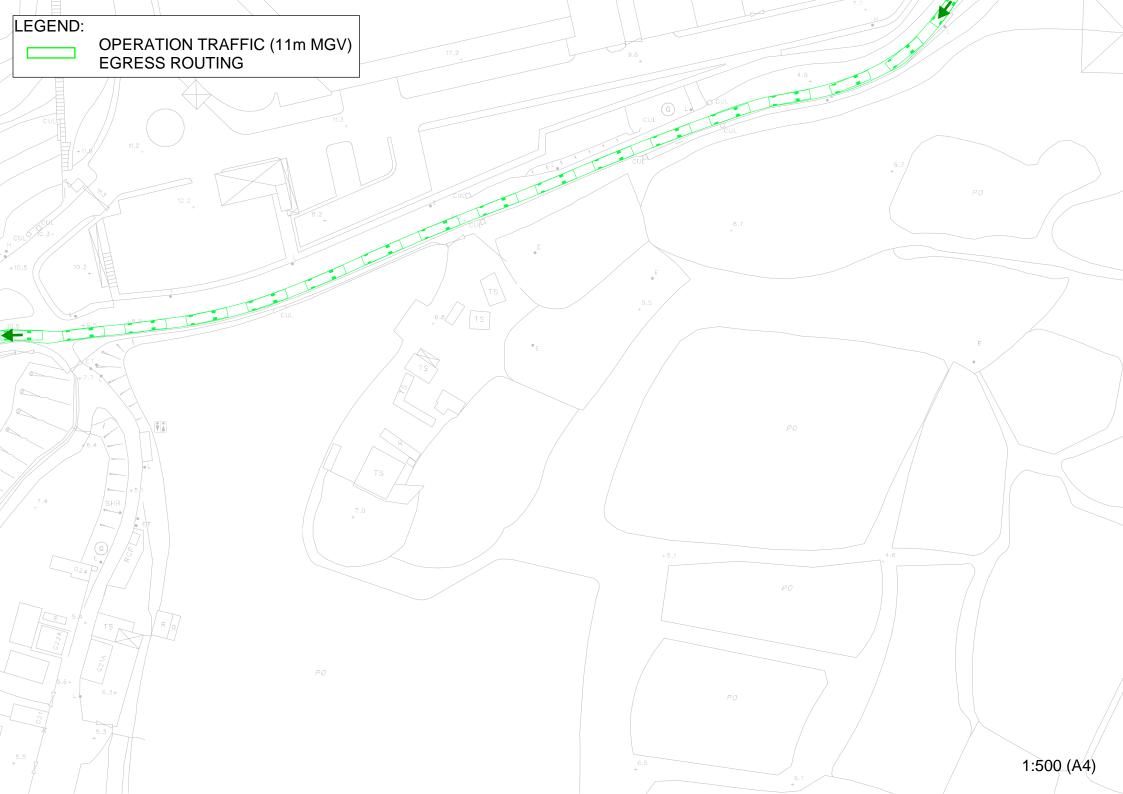


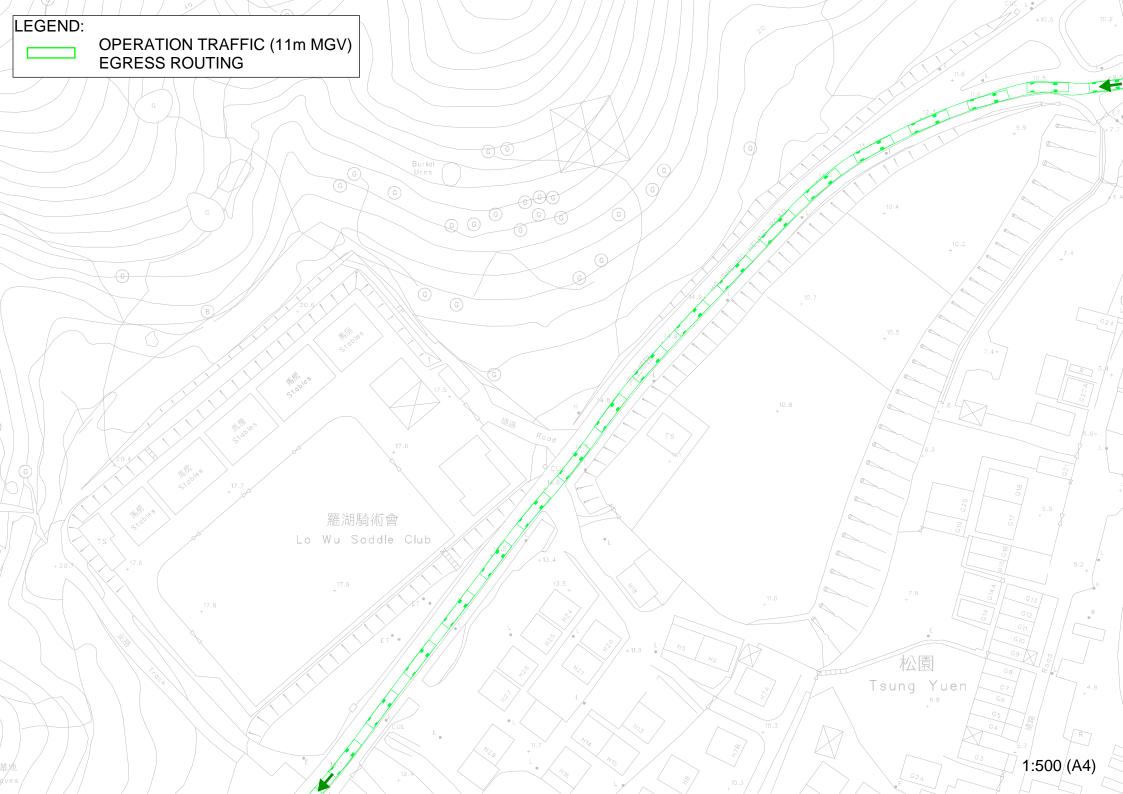




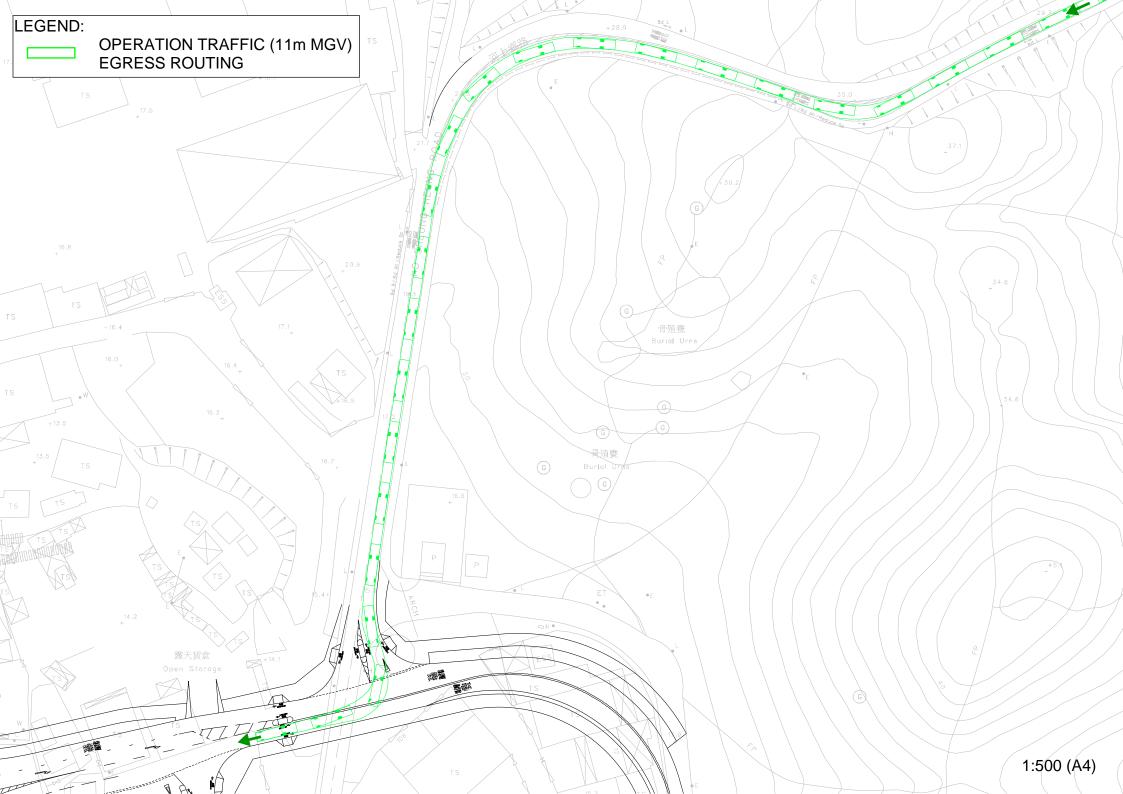












Appendix J

Environmental Assessment and Ecological Impact Assessment Report

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(Ref.: L03-05)

1 INTRODUCTION

1.1 Background

- 1.1.1.1 To provide appropriate support for livestock farms affected by the development of Northern Metropolis, the Development Bureau (DEVB) the Environment and Ecology Bureau, the Agriculture, Fisheries and Conservation Department (AFCD) and relevant departments have formed an interdepartmental working group to draw up plans that will assist the affected livestock farmers, including identification of suitable government sites for the relocation of livestock farms.
- 1.1.1.2 A site near the north-east boundary of Kwu Tung North New Development Area (KTN NDA) near Lo Wu Correctional Institution (i.e. "the Site" or "Site KTN-2"), inter alia, is identified as a suitable site for relocation of the affected livestock farms.
- 1.1.1.3 Considering that Site KTN-2 is located within KTN NDA, DEVB invited Civil Engineering and Development Department (CEDD) as works agent for the technical assessments to support the Section 16 Planning Application (hereafter referred to as s.16 Application) of the proposed site formation works (hereinafter referred as "the Project" or "the Proposed Works"). CEDD will also be responsible for the subsequent design and construction of the site formation and associated infrastructure works for Site KTN-2. The formed site would be handed over to Agriculture, Fisheries and Conservation Department (AFCD) by end 2025 for further development of a multi-storey building (MSB) to accommodate the affected livestock farms. Further studies (including environmental assessment and bio-security assessment) for the development of MSB will be carried out by Trade in a later stage.
- 1.1.1.4 AECOM has been commissioned to provide an Environmental Assessment and Ecological Impact Assessment Report to support the s.16 Application for of the proposed site formation works. In view of the minor nature and small scale of the Project (i.e. site formation works only), only potential water quality and ecological impacts associated with the site formation works will be anticipated. Hence, this Report presents a study of the potential water quality impact and ecological impact where necessary arising from the proposed works in order to confirm its environmental suitability.

1.2 Site Location and Existing Land Use

1.2.1.1 Site KTN-2, with an approximate area of 1.3ha, is currently zoned as "Agriculture" ("AGR") and "Open Space" ("O") in the approved Kwu Tung North Outline Zoning Plan (OZP) (No. S/KTN/4). The Site is situated between Ng Tung River and Lo Wu Correctional Institution and is divided into two patches by Ho Sheung Heung Road. Industrial uses and active agricultural lands are identified at the north and south of the Site respectively. Most area of the Site is currently occupied by marsh and plantation. The location of Site KTN-2 is shown in **Figure 1.1**.

1.3 Proposed Works

1.3.1.1 As mentioned in **Section 1.1.1.3**, site formation works and the associated infrastructure works will be conducted by CEDD for future development of MSB. The proposed construction activities mainly comprise site clearance, filling and earthwork.

1.4 Environmental Assessments

- 1.4.1.1 In this EA, the identified key issues associated with the proposed works are addressed in the following sections:
 - Section 2: Water Quality;
 - Section 3: Ecology; and
 - Section 4: Conclusion.



2 WATER QUALITY

2.1 Introduction

2.1.1.1 This section discusses the potential water quality impact arising from the proposed works.

2.2 Environmental Legislation, Policies, Standards and Criteria

Water Quality Objectives under Water Pollution Control Ordinance (WPCO)

2.2.1.1 The Water Pollution Control Ordinance (WPCO) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs). Site KTN-2 is located within the Deep Bay WCZ. WQOs for Deep Bay WCZ relevant to this assessment are listed in **Table 2.1**.

Parameters	Objectives	Sub-Zone
Offensive Odour, Tints	Not to be present	Whole Zone
Visible foam, oil scum, litter	Not to be present	Whole Zone
Dissolved Oxygen (DO) within 2 m of the seabed	Not less than 2.0 mg/L for 90% of samples	Outer Marine Subzone excepting Mariculture Subzone
Dissolved Oxygen (DO) within 1 m below surface	Not less than 4.0 mg/L for 90% of samples	Inner Marine Subzone excepting Mariculture Subzone
	Not less than 5.0 mg/L for 90% of samples	Mariculture Subzone
Depth-averaged DO	Not less than 4.0 mg/L	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone, Water Gathering Ground Subzones and other inland waters of the Zone
	Not less than 4.0 mg/L for 90 % sample	Outer Marine Subzone excepting Mariculture Subzone
рН	To be in the range of $6.5 - 8.5$, change due to human activity not to exceed 0.2	Marine waters excepting Yung Long Bathing Beach Subzone
	To be in the range of 6.5 – 8.5	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	To be in the range of 6.0 – 9.0	Other Inland Waters
	To be in the range of $6.0 - 9.0$ for 95% samples, change due to waste discharges not to exceed 0.5	Yung Long Bathing Beach Subzone
Salinity	Change due to human activity not to exceed 10% of ambient	Whole Zone
Temperature	Change due to human activity not to exceed 2 °C	Whole Zone
Suspended solids (SS)	Not to raise the ambient level by 30% caused by waste discharges and shall not affect aquatic communities	Marine Waters
	Not to cause the annual median to exceed 20 mg/L	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Ganges Subzone, Indus Subzone, Water Gathering Ground Subzones and other inland waters
Unionized Ammonia (UIA)	Annual mean not to exceed 0.021 mg/L as unionized form	Whole Zone
Nutrients	Shall not cause excessive algal growth	Marine Waters

Table 2.1 Summary of Water Quality Objectives for Deep Bay Water Control Zone



(Ref.: L03-05)

Parameters	Objectives	Sub-Zone
Total Inorganic Nitrogen (TIN)	Annual mean depth-averaged inorganic nitrogen not to exceed 0.7 mg/L	Inner Marine Subzone
	Annual mean depth-averaged inorganic nitrogen not to exceed 0.5 mg/L	Outer Marine Subzone
Bacteria	Not exceed 610 per 100mL, calculated as the	Secondary Contact Recreation Subzones
	geometric mean of all samples collected in one calendar year	and Mariculture Subzones
	Should be zero per 100 mL, calculated as the running median of the most recent 5 consecutive samples taken between 7 and 21 days.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	Not exceed 1000 per 100 mL, calculated as the running median of the most recent 5 consecutive samples taken between 7 and 21 days	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
	Not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive. Samples should be taken at least 3 times in one calendar month at intervals of between 3 and 14 days.	Yung Long Bathing Beach Subzone
Colour	Not to exceed 30 Hazen units	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	Not to exceed 50 Hazen units	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
5-Day Biochemical Oxygen Demand (BOD ₅)	Not to exceed 3 mg/L	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	Not to exceed 5 mg/L	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Chemical Oxygen Demand (COD)	Not to exceed 15 mg/L	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground
	Not to exceed 30 mg/L	Yuen Long & Kam Tin (Lower) Subzone and Other Inland Waters
Toxins	Should not cause a risk to any beneficial uses of the aquatic environment	Whole Zone
	Waste discharge shall not cause the toxins in water significant to produce toxic carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms.	Whole Zone
Phenol	Quantities shall not be sufficient to produce a specific odour or more than 0.05 mg/L as C ₆ H₅OH	Yung Long Bathing Beach Subzone
Turbidity	Shall not reduce light transmission substantially from the normal level	Yung Long Bathing Beach Subzone

Source: Statement of Water Quality Objectives (Deep Bay Water Control Zone)

Professional Persons Environmental Consultative Committee Practice Notes (ProPECC PNs)

2.2.1.2 A "*Professional Persons Environmental Consultative Committee Practice Note*" (ProPECC PN) was issued by the EPD to provide guidelines for handling and disposal of construction

site discharges in order to control site runoff and wastewater generated during the construction phase of the Project. Practices given in the ProPECC PN 2/23 should be followed as far as possible during construction to minimise the water quality impact due to construction site drainage.

2.2.1.3 The ProPECC PN 1/23 "Drainage Plans subject to Comments by Environmental Protection Department" provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN 1/23.

ETWB Technical Circular (Works) No. 5/2005 Protection of Natural Streams / Rivers from Adverse Impacts Arising from Construction Works

2.2.1.4 Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) [ETWB TC(Works)] No. 5/2005 "Protection of natural streams / rivers from adverse impacts arising from construction works" provides an administrative framework to better protect all natural streams/rivers from the impacts of construction works. The procedures promulgated under this Circular aim to clarify and strengthen existing measures for protection of natural streams/rivers from government projects and private developments. The guidelines and precautionary mitigation measures given in the ETWB TC (Works) No. 5/2005 should be followed as far as possible to protect the inland watercourse at or near the Project area during the construction phase.

Technical Memorandum on Effluents Discharge Standards (TM-DSS)

2.2.1.5 Discharge of effluents is subject to control under the WPCO. The "*Technical Memorandum* on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters" (TM-DSS) gives guidance on the permissible effluent discharges based on the type of receiving waters (foul sewers, storm water drains, inland and coastal waters). The standards control the physical, chemical and microbial quality of effluents. Any sewage from the proposed construction and operation activities must comply with the standards for effluents discharged into the foul sewers, inland waters and coastal waters of Western Buffer WCZ, as stipulated in the TM-DSS.

2.3 Baseline Conditions

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- 2.3.1.1 As illustrated in **Figure 2.1**, the Project sites are situated within the catchment of within the catchments of Ng Tung River and Sheung Yue River. Ng Tung River is a major river in the North District. It runs through rural areas like Lung Yeuk Tau, collects runoff from the densely populated Fanling and Sheung Shui urban areas, meets with its tributary Sheung Yue River before draining into Shenzhen River. The water quality of both rivers is routinely monitored by EPD.
- 2.3.1.2 Ng Tung River reached an 84% WQO compliance in 2022 as compared with 28% in 1992. The three monitoring stations (i.e. IN1, IN2 and IN3) situated along the river maintained the Water Quality Index (WQI) gradings of "Good" to "Excellent" in 2022. The water quality at these three EPD monitoring stations in the River Indus is summarised in **Table 2.2**.
- 2.3.1.3 As a tributary of Ng Tung River, Sheung Yue River reached an 84% WQO compliance in 2022, compared with 26% in 1992. The three EPD stations at Sheung Yue River (i.e. RB1, RB2 and RB3) received from "Fair" to "Good" WQI gradings in 2022. The water quality at these three EPD monitoring stations in Sheung Yue River is summarised in **Table 2.3**.

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Table 2.2	EPD in 2022	Water Quality I	Data for Ng	lung River by

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Parameters	EPD Stations			WPCO WQO
Farameters	IN1	IN2	IN3	
Dissolved oxygen (DO) (mg/L)	5.9 (2.9 – 7.9)	6.4 (5.6 - 10.9)	0.7 (7 0 10 1)	Waste discharges shall not cause the level of dissolved oxygen to be less than 4 mg/L

(Ref.: L03-05)

Parameters	WPCO WQO			
Farameters	IN1	IN2	IN3	
рН	7.1 (6.9 - 7.4)	7.2 (7.0 - 7.7)	7.8 (7.2 - 8.0)	The pH of the water should be within the range of 6.0-9.0
Suspended solids (mg/L)	17.0 (2.6 - 26.0)	6.0 (1.8 - 73.0)	2.7 (1.2 - 27.0)	Waste discharges shall not cause the annual median of suspended solids to exceed 20mg/L
5-day Biochemical Oxygen Demand (BOD) (mg/L)	4.2 (1.7 - 9.6)	3.9 (1.4 - 12.0)	0.9 (0.6 - 4.0)	Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 5mg/L
Chemical Oxygen Demand (COD) (mg/L)	25 (5 – 47)	10 (6 – 32)	7 (3 – 15)	Waste discharges shall not cause the chemical oxygen demand to exceed 30mg/L
Oil & grease (mg/L)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	Not available
Faecal coliforms (counts/100mL)	28 000 (1 600 - 1 100 000)	9 000 (320 - 90 000)	2 500 (560 - 10 000)	Not available
<i>E. coli</i> (counts/100mL)	94 000 (11 000 - 3 000 000)	32 000 (2 100 - 560 000)	6 900 (760 – 25 000)	Not exceed 1000 per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days
Ammonia-nitrogen (mg/L)	1.050 (0.220 – 3.800)	0.620 (0.180 – 0.960)	0.049 (0.034 - 0.270)	Not available
Nitrate-nitrogen (mg/L)	2.050 (0.420 - 4.500)	0.790 (0.470 - 1.400)	0.490 (0.041 - 0.790)	Not available
Total Kjeldahl nitrogen (mg/L)	2.70 (0.81 - 5.30)	1.20 (0.68 - 2.10)	0.32 (0.17 - 1.50)	Not available
Ortho-phosphate (mg/L)	0.220 (0.049 - 0.470)	0.056 (0.032 - 0.075)	0.055 (0.017 - 0.099)	Not available
Total phosphorus (mg/L)	0.40 (0.15 - 0.73)	0.17 (0.11 - 0.22)	0.13 (0.09 - 0.32)	Not available
Total sulphide (mg/L)	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.02)	Not available
Aluminium (µg/L)	<50 (<50 - <50)	<50 (<50 - <50)	<50 (<50 - 59)	Not available
Cadmium (µg/L)	<0.1 (<0.1 - 0.3)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)	Not available
Chromium (µg/L)	<1 (<1 - 3)	<1 (<1 - <1)	<1 (<1 - <1)	Not available
Copper (µg/L)	2 (1 - 3)	1 (<1 - 4)	<1 (<1 - 2)	Not available
Lead (µg/L)	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)	Not available
Zinc (µg/L)	11 (<10 - 73)	<10 (<10 - 20)	<10 (<10 - 13)	Not available
Flow (L/s)	13.013	NM	0.069	Not available

(Ref.: L03-05)

Parameters	EPD Stations			
	IN1	IN2	IN3	WPCO WQO
	(3.850 - 25.025)		(0.036 - 0.153)	

Notes:

(1) Data source: River Water Quality in Hong Kong in 2022 (EPD).

Data presented are in annual medians of monthly samples; except those for faecal coliforms and E. coli which are in annual geometric means. <1 (2)

(3) Figures in brackets are annual ranges.(4) NM indicates no measurement taken.

Table 2.3	Summary Statistics of River Water Quality Data for Sheung Yue River
	by EPD in 2022

Parameters	EPD Stations			WPCO WQO
Farameters	RB1	RB2	RB3	
Dissolved oxygen (DO) (mg/L)	9.4 (8.3 - 11.4)	7.3 (6.4 - 9.9)	7.9 (4.7 - 13.3)	Waste discharges shall not cause the level of dissolved oxygen to be less than 4 mg/L
рН	8.0 (7.3 - 8.3)	7.3 (6.8 - 7.4)	7.4 (7.1 – 8.4)	The pH of the water should be within the range of 6.5-8.5
Suspended solids (mg/L)	5.2 (2.6 - 14.0)	4.0 (1.9 - 13.0)	19.0 (1.6 - 690.0)	Waste discharges shall not cause the annual median of suspended solids to exceed 20mg/L
5-day Biochemical Oxygen Demand (BOD) (mg/L)	2.0 (1.1 - 8.8)	5.0 (1.8 - 8.1)	6.1 (1.4 - 30.0)	Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 3mg/L
Chemical Oxygen Demand (COD) (mg/L)	9 (6 - 15)	12 (5 - 18)	15 (4 - 98)	Waste discharges shall not cause the chemical oxygen demand to exceed 15mg/L
Oil & grease (mg/L)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	<0.5 (<0.5 - <0.5)	Not available
Faecal coliforms (counts/100mL)	3 200 (800 - 9 600)	5 200 (380 - 24 000)	9 300 (530 - 57 000)	Not available
<i>E. coli</i> (counts/100mL)	14 000 (2 900 - 100 000)	25 000 (1 700 - 520 000)	38 000 (1 200 - 280 000)	Not exceed 1000 per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days
Ammonia-nitrogen (mg/L)	0.120 (0.070 - 0.730)	0.790 (0.120 - 2.600)	1.150 (0.130 - 4.100)	Not available
Nitrate-nitrogen (mg/L)	0.680 (0.260 - 1.100)	0.550 (0.081 - 0.920)	0.655 (0.330 - 1.700)	Not available
Total Kjeldahl nitrogen (mg/L)	0.66 (0.36 - 1.90)	1.50 (0.48 - 3.80)	2.40 (0.47 - 6.20)	Not available
Ortho-phosphate (mg/L)	0.160 (0.063 - 0.250)	0.110 (0.058 - 0.210)	0.110 (0.069 - 0.220)	Not available
Total phosphorus (mg/L)	0.29 (0.10 - 0.43)	0.24 (0.10 - 0.53)	0.36 (0.14 - 0.94)	Not available
Total sulphide (mg/L)	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - <0.02)	<0.02 (<0.02 - 0.02)	Not available



Parameters	EPD Stations			
Parameters	RB1	RB2	RB3	WPCO WQO
Aluminium (µg/L)	<50 (<50 - 140)	<50 (<50 - <50)	<50 (<50 - <50)	Not available
Cadmium (µg/L)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)	Not available
Chromium (µg/L)	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)	Not available
Copper (µg/L)	<1 (<1 - 1)	1 (<1 - 3)	1 (<1 - 3)	Not available
Lead (µg/L)	<1 (<1 - <1)	<1 (<1 - <1)	<1 (<1 - <1)	Not available
Zinc (µg/L)	<10 (<10 - <10)	<10 (<10 - 14)	<10 (<10 - 16)	Not available
Flow (L/s)	0.176 (0.081 - 3.339)	0.265 (0.010 - 33.600)	NM	Not available

Notes:

(1) (2) Data source: River Water Quality in Hong Kong in 2022 (EPD).

Data presented are in annual medians of monthly samples; except those for faecal coliforms and E. coli which are in annual geometric means. <1

(3) Figures in brackets are annual ranges.

(4) NM indicates no measurement taken.

2.4 Water Sensitive Receivers

Water sensitive receivers (WSRs) identified within 500m from the boundary of Site KTN-2 2.4.1.1 include Ng Tung River, Sheung Yue River, inland watercourses and ponds. The locations of WSRs are presented in Figure 2.1, with details presented as below.

Table 2.4 **Summary of Water Sensitive Receivers**

ID	Description	Approx. Nearest Distance from the boundary of Site KTN-2, m
CA1	Conservation Area at Vernon Pass	145
CA2	Conservation Area at the west of East Rail Line - Lo Wu Station	418
W1	Ng Tung River (Modified)	26
W2	Modified watercourse at the east of W1	239
W3	Modified watercourse at the northwest of Sheung Shui Treatment Works and Water Pumping Station	308
W4	Sheung Yue River (Modified)	19
W5	Shek Sheung River (Modified)	433
W6	Modified watercourse at the west of W4	26
W7	Modified watercourse at the south of PS4	91
W8	Modified watercourse between PS4 and Site KTN-2	0
W9	Modified watercourse at the northeast of P3	8
PS1	Ponds at the north edge of the 500m assessment area	360
P2	Pond at the immediate north of Site KTN-2	112
P3	Pond at the immediate west of Site KTN-2	8
PS4	Ponds at the immediate south of Site KTN-2	25
PS5	Ponds at the northeast of Ho Sheung Heung	169
P6	Pond at the northeast of Sheung Shui Slaughter House	474
PS7	Ponds at the northwest of Sheung Shui Treatment Works and Water Pumping Station	288

2.4.1.2 No alteration / removal / modification of watercourses / ponds will be proposed due to the site formation works.

2.5 Impact Assessment and Mitigation Measures

2.5.1.1 Potential sources of water quality impacts arising from the site formation works would include general construction activities, construction site runoff, construction works near watercourses, removal / filling of wet area, accidental spillage of chemicals and sewage from construction workforce.

General Construction Activities

- 2.5.1.2 Wastewater generated from construction activities, including general cleaning and polishing, wheel washing, dust suppression and utility installation may contain high SS concentrations. It may also contain a certain amount of grease and oil.
- 2.5.1.3 Potential water quality impacts due to the wastewater discharge can be minimised if construction and site management practices are implemented to ensure that litter, fuels, and solvents do not enter public drainage systems. It is expected that with the implementation of good site practice including but not limited to the provision of adequately designed sand / silt removal facilities with channels / earth bunds / sang bag barriers and covering open stockpiles of construction materials with tarpaulin / similar fabric during rainstorms, the potential water quality impacts associated with construction activities would be minimal.

Construction Site Runoff

- 2.5.1.4 Construction site runoff comprises runoff and erosion from site surfaces, drainage channels, earth working areas and stockpiles. Wash water from dust suppression sprays and wheel washing facilities and fuel, oil, solvents and lubricants from maintenance of construction machinery and equipment also contribute to the pollutant levels of the construction runoff. The potential water quality impact associated with proposed works would result from the runoff and erosion from site surfaces and earth working areas. Site runoff from construction sites that are subject to earthworks might lead to surface erosion and would carry a high level of sediment. Sediment in runoff may be eventually carried to adjacent waterbodies such as watercourses or ponds near the Site.
- 2.5.1.5 With the implementation of good site mitigation measures to control site runoff from working areas with practices outlined in ProPECC PN 2/23 "Construction Site Drainage", and with the provision of sediment removal facilities, no adverse water quality impacts from site runoff are anticipated to occur in the adjacent waterbodies or drainage systems.

Construction Works near Watercourses

- 2.5.1.6 Watercourses are located in the vicinity of the Site as identified in **Figure 2.1**. Construction works near watercourses may pollute the stormwater or inland waters due to the potential release of construction wastes. Construction wastes are characterised by high concentrations of SS and elevated pH.
- 2.5.1.7 Adoption of good housekeeping and mitigation measures would reduce the generation of construction wastes and potential water pollution. The implementation of measures to control run-off and drainage water will be important for the construction works adjacent to the inland water in order to prevent run-off and drainage water with high levels of SS from entering the water environment. With the implementation of adequate construction site drainage and Best Management Practices (BMPs), as well as the provision of mitigation measures as specified in ETWB TC (Works) No. 5/2005 "Protection of natural streams / rivers from adverse impacts arising from construction works", it is anticipated that water quality impacts would be minimised.



Removal / Filling of Wet Area

- 2.5.1.8 Due to the proposed works, marsh within the southern part of the Site (**Figure 3.1** refers) will be completely removed under the Project. The wet area to be removed should be isolated and not be connected to any existing watercourses. Before the commencement of any excavation and site formation works, removal of vegetation and draining the water (if any) from the wet area would be required. The water of the area to be drained would probably be sediment-laden and would carry a certain level of pollutants.
- 2.5.1.9 Direct discharge or dumping of the drained waters from the wet area to the nearby watercourse should not be allowed. The drained water generated from dewatering of the wet area should be temporarily stored in appropriate storage tanks or containers for reuse onsite as far as practicable and any surplus water should be tankered away and treated as necessary for disposal at the sewage treatment work in compliance with the TM-DSS. In order to further minimise the potential impacts, construction works at the wet area should be conducted only after the dewatering process is completed. Dewatering works in the wet area should be conducted during dry season as far as practicable to minimise the quantity of drained water.
- 2.5.1.10 If any excavated materials and sediment are to be generated from the construction works in wet area, they should be collected and handled in compliance with the Waste Disposal Ordinance. Direct disposal of the construction wastes or excavated materials into the stormwater drainage system and nearby waterbodies should not be allowed.
- 2.5.1.11 With neither direct discharge of drained water nor direct disposal of the construction wastes or excavated materials into the stormwater drainage system and nearby waterbodies, no unacceptable water quality impact would be expected.

Accidental Spillage of Chemicals

- 2.5.1.12 The use of chemicals (e.g. engine oil and lubricants) and their storage has the potential to create water quality impacts if spillage occurs and enters adjacent water environment. Waste oil may infiltrate into the surface soil layer, or runoff into adjacent waterbodies, increasing hydrocarbon levels.
- 2.5.1.13 The potential impacts could however be mitigated by handling the chemicals with practical mitigation measures and good site practices. Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes.

Sewage from Construction Workforce

2.5.1.14 Sewage effluents, which are characterised by high levels of BOD, ammonia and *E. coli* counts, will arise from the sanitary facilities provided for the on-site construction workforce. Discharge of sewage / wastewater generated during construction phase are subject to control under the WPCO. Sufficient portable chemical toilets should be provided for handling the construction sewage generated by the workforce. A licensed waste collector should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Provided that sewage will not be discharged directly into inland waters adjacent to the construction site, and temporary sanitary facilities will be provided and properly maintained, no adverse water quality impact would be anticipated.

3 ECOLOGICAL IMPACT ASSESSMENT

3.1 Introduction

3.1.1.1 The section is to review the potential ecological impacts that are likely to be resulted from the Proiect.

3.2 **Ecological Baseline Condition**

3.2.1.1 The ecological baseline within 300m from the boundary of Site KTN-2 presented in Sections 3.2.2 to 3.2.5 below were identified from literature and recent ecological surveys conducted from April to June 2023 and November 2023 to January 2024. A habitat map with recorded habitats, boundary of site of conservation importance and location of species of conservation importance recorded within the 300m assessment area are shown in Figure 3.1.

3.2.2 **Recognised Sites of Conservation Importance**

Conservation Area

3.2.2.1 A "Conservation Area" ("CA") of approximately 10.8ha is located at approximately 150m from Site KTN-2 at Vernon Pass (or Pai Tau Lo) (Figure 3.1 refers). This "CA" is gazetted under the approved Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/3 to retain the landscape and ecological features in the area with the presence of Ho Sheung Heung Egretry and its peripheral secondary woodland and fishponds.

Long Valley and Ho Sheung Heung Priority Site for Enhanced Conservation

- 3.2.2.2 The Long Valley and Ho Sheung Heung Priority Site for Enhanced Conservation (LVHSH Priority Site) coincides partially with the southern patch of site KTN-2 (Figure 3.1 refers) within the assessment area. The LVHSH Priority Site was established under the New Nature Conservation Policy, which aims to enhance the conservation of ecologically important sites through collaboration with private sectors and non-governmental organisations (AFCD, 2004a¹ and 2004b²). The Ho Sheung Heung area is currently managed by non-governmental organisations under the Nature Conservation Management Agreement Project (NCMAP) (i.e. EEB(EB) 27/24/8-17 - Nature and Human in Harmony - Nature Conservation Management for Ho Sheung Heung 2023 - 2026). The monitoring result from the previous NCMAP (i.e. Nature Conservation Management for Ho Sheung Heung 2020 - 2023) reflected that the ecological value of the managed areas was enhanced by the implementation of management practices (e.g. paddy rice planting, active management of ponds)³. The Long Valley area, which is located at more than 300m south from Site KTN-2, is zoned as "Other Specified Uses (Nature Park)" under the Approved Kwu Tung North Outline Zoning Plan No. S/KTN/4 for the development of Long Valley Nature Park (LVNP) to protect and enhance existing wetland habitats for the benefit of the local ecology and promotion of nature conservation and education. Part of the LVNP is currently managed by non-governmental organisation under "Long Valley Nature Park Habitat Management Service".
- 3.2.2.3 The LVHSH Priority Site covers mainly agricultural land, Fung Shui Wood and wetland habitats (e.g. pond, marsh, watercourse) located along and at the confluence of lower Ng Tung River, Shek Sheung River and Sheung Yue River. According to previous survey findings⁴, Long Valley reflects the diverse mosaic of habitats present, which are attractive to a broad range of fauna, most of the recorded species of conservation importance identified in that study occurred in wetland habitats (e.g. pond, agricultural land, marsh) and lowland areas at Long Valley. This area provides foraging, breeding, roosting and wintering habitats for a moderate diversity of faunal taxa, in particular wetland-dependent species and migratory

³Leung, H. N., Yeung, L. K., & Pang, C. C. (2023). Bird Monitoring Programme - Summary Report March 2022 to February

^{2023.} Nature and Human in Harmony - Nature Conservation Management for Ho Sheung Heung, Long Valley 2020-2023. ⁴ CEDD and PlanD (2013). EIA Report for North East New Territories New Development Areas Planning and Engineering Study - Investigation (AEIAR-175/2013)



¹ AFCD (2004a). List of Priority Sites for Enhanced Conservation: Long Valley and Ho Sheung Heung.

² AFCD (2004b). List of Priority Sites for Enhanced Conservation: Deep Bay Wetland outside Ramsar Site.

birds, such as Japanese Yellow Bunting (*Emberiza sulphurata*), Asian Dowitcher (*Limnodromus semipalmatus*), Eastern Imperial Eagle (*Aquila heliaca*). Other species of conservation importance include Common Pierrot (*Castalius rosimon*), Forget-me-not (*Catochrysops strabo*) and Lesser Bamboo Bat (*Tylonycteris fulvida*) were also recorded¹.

3.2.3 Other Key Ecological Resources

Important Bird Area

3.2.3.1 The Inner Deep Bay and Shenzhen River Catchment was recognised as one of the Hong Kong Important Bird Areas (IBA) with the area of 3,150 ha by the BirdLife International⁵. The IBA comprises various wetland and intertidal habitats including mudflats, fishponds, mangroves, gei wai (tidal shrimp pond) and farmlands⁶. It is also a globally important wetland site that supports a number of passage and wintering waterbirds including several vulnerable species such as Greater Spotted Eagle (*Clanga clanga*), Swinhoe's Egret (*Egretta eulophotes*) and Black-faced Spoonbill (*Platalea minor*). Site KTN-2 and the majority of the 300m assessment area fall within the IBA.

Ho Sheung Heung Egretry

3.2.3.2 Ho Sheung Heung Egretry is located to the west of the lower Ng Tung River and is approximately 140m north from Site KTN-2. The location of egretry recorded in previous studies⁷ is presented in **Figure 3.2**. The egretry was once one of the largest egretries in Hong Kong and held the highest number of nests of Eastern Cattle Egret (*Bulbulcus coromandus*), but the number of recorded nests at the egretry has been decreasing gradually since 2018. A total of 4 nests of Chinese Pond Heron (*Ardeola bacchus*) were recorded at the egretry in 2022⁸.

Ho Sheung Heung Ardeid Night Roost

3.2.3.3 Ho Sheung Heung Ardeid Night Roost is located in the pond to the southwest of Site KTN-2 (**Figure 3.1** refers). According to the observations of NTN Surveys⁹, it was mainly utilized by Little Egret (*Egretta garzetta*), Chinese Pond Heron, Eastern Cattle Egret and Great Egret (*Ardea alba*), with maximum individuals of ardeids (i.e. 345) counted in November 2022, and remained active throughout the survey period (i.e. April 2022 to January 2023). A total of six flight paths were identified from the flight path survey, with only one of which was observed flying the direction from Site KTN-2 to the night roost⁹. The favourable flight height of the ardeids among the recorded flight paths was 0-10m, followed by 11-20m and 21-30m⁹.

3.2.4 Terrestrial and Aquatic Ecological Resources from Literature Review

Habitats and Vegetation

3.2.4.1 A total of 10 habitats were previously recorded¹⁰ within the 300m assessment area, including shrubland, grassland / shrubland, grassland, plantation, agricultural land, developed area / wasteland, marsh, pond, natural watercourse and modified watercourse. The ecological values of the recorded habitats generally ranged from low to moderate, with some habitats in the "Long Valley area", such as agricultural land, pond and marsh in the LVHSH Priority Site, considered to have high ecological value, which takes into account a holistic evaluation of other habitats within the "Long Valley area". The northern part of Site KTN-2 was mostly covered by plantation with some developed area / wasteland, while the larger southern part

¹⁰ CEDD and PlanD (2013).



⁵ HKBWS (2004). Important Bird Areas (IBA) in Hong Kong.

⁶ Birdlife International (2000). Inner Deep Bay and Shenzhen River catchment area – Birdlife International IBA.

⁷ CEDD and PlanD (2013).

⁸ Anon (2022). Summer 2022 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site.

⁹ CEDD (2023). Ecological Survey Findings from "Remaining Phase Development of the New Territories North (NTN) – Planning and Engineering Study for NTN New Town and Man Kam To – Investigation" (NTN Surveys).

was covered by marsh which was generally wet and overgrown with tall exotic invasive species (e.g. Leucaena leucocephala) of over 3m in height.

- 3.2.4.2 Outside Site KTN-2, hilly area at the northern and north-western part of the 300m assessment area was mainly covered by shrubland and grassland / shrubland, with some grassland and plantation in the vicinity, which partially fall within the "CA". The southern part of the assessment area was covered by a matrix of wetland habitats which mostly fall within LVHSH Priority Site, including wet agricultural land, marsh, pond and watercourse together with grassland and plantation¹¹. A modified tributary of Ng Tung River is situated to the immediate south of the Site. This tributary flows eastwards and joins the modified channel of the lower Ng Tung River. The lower Ng Tung River receives water from different watercourses, including Sheung Yue River, before eventually run into the Shenzhen River and Deep Bay area. Developed area / wasteland (i.e. Lo Wu Correctional Institution) could also be found at the immediate west of the Site and east of Ng Tung River.
- 3.2.4.3 Majority of the floral species recorded within the 300m assessment area were common and widespread in Hong Kong, and typical to the habitats¹¹. For instance, the marsh was covered by exotic wetland plant species such as Brachiaria mutica and Sesbania cannabina, and exotic Leucaena leucocephala as well as some native wetland herbs Polygonum japonicum and Ludwigia octovalvis. Plantation habitat was mainly comprised of dominantly exotic tree species (e.g. Acacia confusa) and some native tree species (e.g. Ficus microcarpa and Ficus virens). Limited floral diversity and abundance were recorded in other habitats (e.g. wet agricultural land, pond, developed area / wasteland) within the 300m assessment area. No floral species of conservation importance was previously recorded within the 300m assessment area of Site KTN-2.

Fauna

- According to previous survey results^{12,13}, the mosaic of wetland habitats in Long Valley area, 3.2.4.4 including those in Ho Sheung Heung to the south of Lo Wu Correctional Institution within the 300m assessment area of current Study, supported and attracted a variety of wetland dependent fauna, especially waterbirds and wetland-associated bird species, including species of conservation importance such as Black-winged Stilt (*Himantopus himantopus*), Eurasian Teal (Anas crecca), Greater Painted-snipe (Rostratula benghalensis) and Woodland Sandpiper (Tringa glareola). It was also ecologically linked to Ng Tung River nearby, which being considered as movement corridor for breeding egrets in Ho Sheung Heung, and its tidal downstream also provided foraging opportunities to waterbirds.
- Other wetland or wetland-associated wildlife, including species of conservation importance 3.2.4.5 such as herpetofauna Chinese Bullfrog (Hoplobatrachus rugulosus) and Burmese Python (Python bivittatus) and odonate Scarlet Basker (Urothemis signata signata) were also previously recorded in Long Valley area. Mammals such as Greater Bandicoot Rat (Bandicota indica) and Leopard Cat (Prionailurus bengalensis) were also recorded. Besides, an aquatic fauna species namely Rose Bitterling (Rhodeus ocellatus) was newly recorded in the Ho Sheung Heung area¹⁴.
- 3.2.4.6 Habitats, e.g. agricultural lands with paddy rice planting and managed ponds, being actively managed under the NCMAP in the Ho Sheung Heung area have proven attractive to various types of birds, including buntings, crakes, and ardeids. Notably, species of conservation importance such as the Yellow-breasted Bunting (Emberiza aureola) and Slaty-breasted Rail (Lewinia striata) were recorded in these habitats¹⁵.
- 3.2.4.7 Other habitats within the 300m assessment area, such as developed area / wasteland, grassland / shrubland and plantation, only supported low faunal diversity in general. Majority

¹¹ CEDD and PlanD (2013).

 ¹² CEDD and PlanD (2013); Leung, H. N., Yeung, L. K., & Pang, C. C. (2023).
 ¹³ Leung, H. N., Yeung, L. K., & Pang, C. C. (2023). Bird Monitoring Programme - Summary Report March 2022 to February 2023. Nature and Human in Harmony - Nature Conservation Management for Ho Sheung Heung, Long Valley 2020-2023.

¹⁴ So, K. (2023). Rose Bitterling Survey in Ho Sheung Heung - Final Report. Nature and Human in Harmony - Nature Conservation Management for Ho Sheung Heung, Long Valley (2020 – 2023).

¹⁵ Leung, H. N., Yeung, L. K., & Pang, C. C. (2023).

of the species are common and widespread in Hong Kong. Some species of conservation importance were also recorded outside the habitats within the 300m assessment area but outside Site KTN-2. For example, a butterfly species of conservation importance, i.e. Danaid Eggfly (*Hypolimnas misippus*), was recorded in the grassland / shrubland habitat in the northern part of the 300m assessment area while a herpetofauna species of conservation importance, Chinese Soft-shelled Turtle (*Pelodiscus sinensis*), was recorded in the modified Ng Tung River to the northwest of Site KTN-2.

3.2.4.8 A total of 63 avifauna (50 of which were recorded in habitats (e.g. pond / agricultural land) within the Ho Sheung Heung area under NCMAP)¹⁶, 6 mammal, 4 butterfly, 1 odonate, 14 herpetofauna and 1 aquatic fauna species of conservation importance were recorded by previous studies within or in the vicinity of the 300m assessment area of the Site. As per the study of Land Use Planning for the Closed Area in 2009¹⁷, a single sighting of Eurasian Otter (*Lutra lutra*) had been made at a fishpond to the southwest of Sandy Ridge outside the 300m assessment area.

3.2.5 Ecological Survey Findings

Habitats and Vegetation

- 3.2.5.1 A total of 11 habitats were preliminarily identified within the 300m assessment area during the present ecological surveys conducted from April to June 2023, and November 2023 to January 2024 (**Figure 3.1** and **Table 3.1** refer). Marsh / reed, plantation and developed area / wasteland habitats were identified within the Site.
- 3.2.5.2 Habitat maps and representative photographs of the habitats recorded within the 300m assessment area are shown in **Figure 3.2** and **Appendix 3.1**. The sizes of these habitats within the assessment area of site KTN-2 are summarized in **Table 3.1** below. The floral and fauna species recorded during the ecological surveys are listed in **Appendix 3.2** and **Appendix 3.3** respectively. A total of 2 floral species of conservation importance and 30 fauna species of conservation importance were recorded within the 300m assessment area, with their indicative locations and representative photographs presented in **Figure 3.2** and **Appendix 3.4** respectively. **Appendix 3.5** presents the description of the species of conservation importance recorded within the 300m assessment area. A summary of habitats identified within the assessment area is presented in **Table 3.1**, with the general descriptions of the recorded habitats presented in below sections.

Habitat Type	Within Site KTN-2 (ha)	Within 300m Assessment Area (ha)	Percentage of Area (%)
Marsh / Reed	0.46	1.63	3.7
Pond	-	2.24	5.1
Watercourse	-	6.15	14.1
Agricultural Land	-	2.76	6.3
Woodland	-	2.45	5.6
Mixed Woodland	-	2.03	4.7
Plantation	0.17	3.11	7.1
Shrubland	-	0.53	1.2
Grassland	-	0.55	1.3
Village / Orchard	-	1.85	4.2
Developed area / Wasteland	0.58	20.28	46.5
Total Area	1.21	43.58	100

Table 3.1Habitats Identified within 300m Assessment Area
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Marsh / Reed

¹⁶ Leung, H. N., Yeung, L. K., & Pang, C. C. (2023)

¹⁷ PlanD (2009). Land Use Planning for the Closed Area – Feasibility. Final Report.

- 3.2.5.3 Three patches of marsh / reed habitat were identified within the 300m assessment area (**Figure 3.1** refers). They were likely derived through natural succession from abandoned fishponds.
- 3.2.5.4 One of them was identified within the southern part of Site KTN-2, which was surrounded by developed area / wasteland habitat and located within IBA. It was observed to be brackish, subject to tidal influence and linked to Sheung Yue River via a culvert. While other 2 patches of freshwater marsh / reed habitat were located at the south of Lo Wu Correctional Institution within LVHSH Priority Site and IBA, which were linked to adjacent ponds. Vegetation recorded in this habitat were mostly common or very common herbs such as Diffuse Day-flower (*Commelina diffusa*), Narrow-leaved Cat-tail (*Typha angustifolia*), Giant Alocasia (*Alocasia macrorrhizos*) and Common Reedgrass (*Phragmites australis*). No floral species of conservation importance was recorded in this habitat.
 - Pond
- 3.2.5.5 This habitat was found among other wetlands such as watercourse, marsh / reed and agricultural land, with the majority located in the southern part of the 300m assessment area within LVHSH Priority Site and / or IBA. Most of the recorded ponds were fishponds (either active, inactive or abandoned) and some of which are actively managed under the NCMAP. Besides, a potential ardeid night roost was found at the pond bund at the south of Site KTN-2 (**Figure 3.1** refers). The vegetation on the bunds of ponds were dominated by common herbs such as Lesser Duck-weed (*Lemna minor*), Diffuse Day-flower and Hairy Knotweed (*Persicaria barbata*). Some fruit trees, such as Mango (*Mangifera indica*), Guava (*Psidium guajava*) and Longan (*Dimocarpus longan*), were also recorded at the bunds. No floral species of conservation importance was recorded in this habitat. In addition, there was a night roost (hereinafter referred to as Ho Sheung Heung Ardeid Night Roost) identified at the trees along the pond bund near the southern edge of the assessment area.
 - Watercourse
- 3.2.5.6 Watercourses of various scale and degrees of modification were recorded within the 300m assessment area, with the majority located within LVHSH Priority Site and IBA (**Figure 3.1** refers). Sheung Yue River and Ng Tung River were the major modified watercourses identified within the 300m assessment area. They were channelised with concrete base and the banks were covered with grasscrete, with certain sections covered with dense ruderal vegetation (e.g. *Bidens alba* and *Wedelia trilobata*) at the riverbanks. The floristic diversity was limited due to the artificial features of these watercourses. Regular vegetation maintenance was observed during the survey period.
- 3.2.5.7 A total four watercourses were identified at the south of Site KTN-2, water quality of which was inferior that whitish suspended solids were observed in the water rendering high turbidity due to the nearby construction activities and limited vegetation were recorded, particularly at the watercourse located at the southern edge of Site KTN-2. A short, concreted watercourse with limited vegetation was found to the west of Site KTN-2 along Fai King Road. Additionally, a natural watercourse was observed at the northeast edge of the assessment area, flowing between the grassland habitats. A floral species of conservation importance namely Prince's Feather (*Persicaria orientalis*) was recorded at the watercourse located between pond and marsh / reed habitats to the south of Site KTN-2.
 - Agricultural Land
- 3.2.5.8 Agricultural land is a dynamic habitat of which the status and types of crops growing would constantly change depending on the farming practices. The agricultural land habitat was concentrated at the southern portion of the 300m assessment area (**Figure 3.1** refers), all within LVHSH Priority Site and IBA, and is being actively managed under the NCMAP. This habitat is being used for cultivating both dry and wet farmed crops such as Water Spinach (*Ipomoea aquatica*), Rice (*Oryza sativa*), Egg-plant (*Solanum melongena*) and Tapioca Plant (*Manihot esculenta*). No floral species of conservation importance was recorded in this habitat.



- Woodland

- 3.2.5.9 Patches of woodlands were scattered in the north of Lo Wu Correctional Institution and in the vicinity of Vernon Pass (**Figure 3.1** refers). This habitat was surrounded by adjacent manmade habitats (i.e. plantation, village / orchard and developed area / wasteland), some patched of woodlands were connected to the hillside mixed woodland and shrubland. Vegetation within this habitat mainly includes mature native tree species with height of 10m to 15m. Canopy was generally closed and continuous, dominated by native tree species such as Common Red-stem Fig (*Ficus variegata*) and Chinese Hackberry (*Celtis sinensis*). Understory was also well developed, including shrubs and small trees such as Opposite-leaved Fig (*Ficus hispida*) and Wild Coffee (*Psychotria asiatica*). A few mature and young Incense Tree (*Aquilaria sinensis*) individuals, a floral species of conservation importance, ranging in height from 3m to 10m, were recorded in the woodland near Lo Wu Correctional Institution.
 - Mixed Woodland
- 3.2.5.10 Mixed woodland consisted of a mix of native and exotic species was identified on the hillside north of Lo Wu Correctional Institution (**Figure 3.1** refers). The canopy with a height of approximately 10m to 15m was typically dominated by pioneer tree species such as Elephant's Ear (*Macaranga tanarius var. tomentosa*) and exotic plantation tree species such as Taiwan Acacia (*Acacia confusa*). The understory was predominantly composed of seedlings and saplings of native plant species such as Opposite-leaved Fig (*Ficus hispida*), Oblong-leaved Litsea (*Litsea rotundifolia var. oblongifolia*) and Wild Coffee (*Psychotria asiatica*). No floral species of conservation importance was recorded in this habitat.
 - Plantation
- 3.2.5.11 A small patch of plantation habitat was recorded within site KTN-2. Plantation habitats were mainly found at roadside along Sheung Yue River and Ng Tung River, most of them recorded within LVHSH Priority Site and IBA. Additionally, Ho Sheung Heung Egretry was recorded in a small patch of plantation habitat that falls within CA and IBA (**Figure 3.1** refers). Besides, a potential ardeid night roost was found in the plantation at the south of Site KTN-2. A patch of hillside plantation was recorded at the eastern edge of the assessment area (**Figure 3.1** refers). This habitat comprising exotic or cultivated tree species, e.g. Taiwan Acacia, *Eucalyptus* spp. and Big-leaved Fig (*Ficus virens*), with canopy height of approximately 12m to 15m. Sparse understory was observed. A mature Incense Tree individual was recorded at the roadside plantation at the west of Ng Tung River.
 - Shrubland
- 3.2.5.12 A shrubland habitat was identified on the hillside to the north of Lo Wu Correctional Institution. Vegetation comprised predominantly of shrubs and herbs typical of this habitat such as Common Lophantherum (*Lophatherum gracile*) and Dichotomy Forked Fern (*Dicranopteris pedata*), interspersed with local shrub species such as Rough-leaved Holly (*Ilex asprella*) and Oblong-leaved Litsea, with no notable canopy formed. No floral species of conservation importance was recorded in this habitat.
 - Grassland
- 3.2.5.13 Grassland habitats were scattered at the east of Ng Tung River (**Figure 3.1** refers), some of them fall within IBA. This habitat demonstrates simple vegetation structure and relatively low floristic diversity, where limited shrubs and trees were observed growing. Herb species such as Blunt Signal-grass and Diffuse Day-flower were commonly recorded in this habitat. No floral species of conservation importance was recorded in this habitat.
 - Village / Orchard
- 3.2.5.14 Village / orchard habitat refers to areas with low-rise village houses and interspersed with patches of fruit tree cultivation. This habitat was located at the vicinity of Vernon Pass, few of them fall within CA and IBA (**Figure 3.1** refers). The floral composition was dominated by



common fruit trees, such as Common Banana (*Musa x paradisiaca*) and Night-blooming Cereus (*Hylocereus undatus*). Disturbance from regular human activities were notable in this habitat. No floral species of conservation importance was recorded in this habitat.

- Developed Area / Wasteland
- 3.2.5.15 Developed area / wasteland was the largest habitat type within the 300m assessment area, mainly comprising open storage, workshops, road and railway facilities. Heavy regular human disturbance is evident in this habitat, on-going construction works of different scale were observed, particularly along Ho Sheung Heung Road. Vegetation mainly consisted of both common native and exotic species such as Sorrel (*Oxalis corniculata*), White Popinac (*Leucaena leucocephala*) and Common Red-stem Fig.. No floral species of conservation importance was recorded in this habitat. In addition, Ho Sheung Heung Egretry was recorded in Vernon Pass (Pai Tau Lo).

Fauna

- 3.2.5.16 The below sections summarise the key findings of current fauna surveys. Lists of fauna species recorded within the 300m assessment area are provided in **Appendix 3.3**, the habitats in which the species of conservation importance were recorded, their protection status and distribution in Hong Kong are also presented. Their indicative locations are presented in **Figure 3.1**.
 - Avifauna
- 3.2.5.17 A total of 58 avifauna species were recorded within the assessment area during recent ecological surveys (Figure 3.1 refers). Most of the recorded species are generalist species with some waterbirds or wetland-dependent species, and were recorded at man-made habitats (e.g. agricultural land, developed area / wasteland and village / orchard). In general, the abundance and species diversity of avifauna were low to moderate within the assessment area. Majority of the recorded species are either abundant or common resident that are widely distributed throughout Hong Kong. Some uncommon species such as Grey-streaked Flycatcher (*Muscicapa griseisticta*) and Savanna Nightjar (*Caprimulgus affinis*) were also recorded. Additionally, Ho Sheung Heung Ardeid Night Roost was identified at the trees along the pond bund near the southern edge of the assessment area, detail of this night roost is presented in Section Error! Reference source not found..
- 3.2.5.18 A total of 17 avifauna species of conservation importance were recorded, most of which are waterbirds or wetland-dependent species. Among them, Chinese Pond Heron, Greater Coucal (*Centropus sinensis*), Little Egret and White-throated Kingfisher (*Halcyon smyrnensis*) were recorded at the marsh / reed habitat within Site KTN-2. No notable nursery and breeding behaviour was observed within the Site KTN-2.
 - Ho Sheung Heung Egretry
- 3.2.5.19 Ho Sheung Heung Egretry was identified within the "CA" in a patch of vegetation in developed area / wasteland near Vernon Pass. Only Chinese Pond Heron was observed nesting between May and June 2023 during the survey period, with a maximum number of three nests (**Table 3.2** refers). The flight line survey for Ho Sheung Heung Egretry was conducted at two vantage points, VP1 and VP2 (refer to **Figure 3.2**), and started half an hour before sunrise and ended an hour after sunrise. The majority of flight paths (i.e. E3 and E4) was heading north-eastwards with the flight height between 10m to 30m. Besides, the minor flight path E5 was heading south-eastwards to Site KTN-2. The location, extent, and number of flight path usage for the egretry is shown in **Figure 3.2** and **Appendix 3.6**.

Species	2023				2024	
Species	Apr	May	Jun	Nov	Dec	Jan
Chinese Pond Heron (Ardeola bacchus)	0	3	1	0	0	0
Total	0	3	1	0	0	0

Table 3.2 Number of Nests Recorded at Ho Sheung Heung Egretry

Ho Sheung Heung Ardeid Night Roost

- 3.2.5.20 According to the observations from recent surveys, the night roost was located at more than 250m from Site KTN-2, on the canopy of trees along a pond near the southern edge of the assessment area. General ardeid flight paths (i.e. 1, 2, 3, 4 and 5) were potentially utilized by ardeids flying toward the night roost (refer to **Figure 3.3**). The night roost supported ardeids including Chinese Pond Heron, Eastern Cattle Egret, Litte Egret, Great Egret and Grey Heron (*Ardea cinerea*).
 - General Ardeid Flight Path
- 3.2.5.21 The flight line survey for the general ardeids (including night roosting ardeids) at two vantage points, VP2 and VP3 (refer to **Figure 3.3**) started an hour before sunset and ended half an hour after sunset. The general ardeid flight paths recorded within the assessment area were mostly north-eastward and south-westward. Three flight paths (i.e. 1, 2 and 10 as shown in **Figure 3.3**) were observed to be utilized by ardeids flying across the Site KTN-2. Around 65% of the recorded ardeids flying across the assessment area with moderate height from about 11m to about 30m. Besides, some flight lines were likely made by ardeids returning / leaving the potential night roosts. Additionally, a few ardeids were observed to land at the watercourse habitat. The location, extent, and number of flight path usage recorded within the assessment area are shown in **Figure 3.3** and **Appendix 3.6**.
 - Mammal
- 3.2.5.22 A total of 10 mammal species were recorded within the 300m assessment area, which include 8 bat species. All bat species in Hong Kong are considered as species of conservation importance. The recorded bat species are common in Hong Kong and able to adapt urban and suburban environment. These bat species were all recorded in flight during night surveys, mostly flying above developed area / wasteland. 1 bat species namely Japanese Pipistrelle (*Pipistrellus abramus*) was recorded flying over Site KTN-2. The remaining 2 mammal species included Eurasian Wild Pig (*Sus scrofa*) and Pallas's Squirrel (*Callosciurus erythraeus*). Individuals of Pallas's Squirrel of conservation importance were recorded in the plantation, developed area / wasteland and village / orchard habitats. Camera trap had been deployed within the marsh / reed areas in Site KTN-2 to capture potential sightings of mammal species. However, no mammal species, including Eurasian Otter, were recorded by the camera traps during the ecological surveys.
 - Butterfly
- 3.2.5.23 A total of 27 butterfly species were recorded within the assessment area. General abundance and diversity of butterfly were low and low to moderate respectively. All of the recorded species are either very common or common such as Indian Cabbage White (*Pieris canidia*) and Pale Grass Blue (*Pseudozizeeria maha*) as well as wildly distributed throughout Hong Kong. Most of the butterfly species were recorded in marsh / reed and pond habitats. 2 butterfly species of conservation importance namely Small Cabbage White (*Pieris rapae*) and Metallic Cerulean (*Jamides Alecto*), were recorded at the riverbank of Ng Tung River and village / orchard habitat near Fai King Road respectively (**Figure 3.1** refers).
 - Odonate
- 3.2.5.24 A total of 15 odonate species were recorded within the 300m assessment area while no species of conservation importance were recorded during recent ecological survey. General abundance and diversity of odonate were low. All of the recorded species such as Common



Blue Skimmer (*Orthetrum glaucum*) and Variegated Flutterer (*Rhyothemis ariagate aria*) are either very widespread or widespread in Hong Kong. Most of the odonate species were recorded in agricultural land and pond habitats.

- Herpetofauna
- 3.2.5.25 A total of 15 herpetofauna species, which include 10 amphibian and 5 reptile species, were recorded within the 300m assessment area. All of the recorded species are widely distributed throughout Hong Kong. General abundance of herpetofauna was low. Most of the herpetofauna were recorded in agricultural land and plantation habitats. Among the recorded herpetofauna species, 1 amphibian and 1 reptile species were of conservation importance, which are Spotted Narrow-mouthed Frog (*Kalophrynus interlineatus*) and Taiwan Kukri Snake (*Oligodon formosanus*) respectively. The former was recorded at grassland habitat at the north-eastern edge of the assessment area, while the latter were recorded at developed area / wasteland and plantation habitat outside Site KTN-2 (**Figure 3.1** refers).
 - Aquatic Communities
- 3.2.5.26 A total of 12 aquatic fauna species were recorded within the 300m assessment area, none of which are species of conservation importance. The aquatic community was mainly dominated by fish and other aquatic macroinvertebrate species, most of them were recorded from watercourses. The diversity and abundance of the recorded aquatic fauna were considered as low. The recorded species comprised 4 fish species including Blotched Snakehead (*Channa maculata*), Nile Tilapia (*Oreochromis niloticus*), North African Catfish (*Clarias gariepinus*) and *Channa* sp. and other macroinvertebrates such as Apple Snail (*Pomacea analiculata*), *Orisarma dehaani* and Yellow Featherlegs (larvae) (*Copera marginipes*) were also found. All of these aquatic fauna species are either very common or common in Hong Kong.

3.3 Ecological Value of Habitats

3.3.1.1 The ecological importance of recorded habitats was evaluated in accordance with the EIAO-TM Annex 8 criteria and is presented in **Table 3.3** to **Table 3.8** below. Collaborative findings from literature review and recent surveys were considered in the habitat evaluation.

Criteria	Marsh / Reed	Pond
Naturalness	Moderate Succeeded from man-made habitats e.g. ponds and agricultural lands through natural processes	Low A man-made habitat actively managed under NCMAP
Size	Small (approx. 1.62 ha)	Small (approx. 2.28 ha)
Diversity	Low flora and fauna diversity	Low flora diversity and low to moderate fauna diversity
Rarity	An uncommon habitat in Hong Kong A total of four avifauna species of conservation importance (i.e. Chinese Pond Heron, Greater Coucal, Little Egret and White-throated Kingfisher) were recorded in recent ecological surveys	Uncommon. Mainly restricted to northwestern New Territories A total of 11 species of conservation importance were recorded in present survey, including eight avifauna species (i.e. Black-faced Spoonbill, Black-winged Stilt, Chinese Pond Heron, Eurasian Spoonbill, Great Egret, Greater Coucal, Little Egret and Northern Shoveler) and three mammal species (i.e. Japanese Pipistrelle, Lesser Bamboo Bat and Unknown Vespertilionidae species 2) Ardeids were observed roosting on vegetation at the pond bund in nighttime
Re-creatability	Low to moderate	High

Table 3.3Ecological Evaluation Marsh / Reed and Pond



(Ref.: L03-05)

Criteria	Marsh / Reed	Pond
Fragmentation	High	High
	This habitat is scattered throughout the	This habitat is scattered throughout the
	assessment area	assessment area
Ecological linkage	Most of them are located within LVHSH Priority	Most of them are located within LVHSH
	Site and IBA; and are structurally and	Priority Site and IBA; and are structurally
	functionally connect to adjacent wetland habitats	and functionally connect to adjacent
	(e.g. pond and watercourse) and agricultural	wetland habitats (e.g. marsh / reed,
	land	watercourse) and agricultural land
Potential value	Moderate	Moderate
		Ponds within LVHSH Priority Site are
		actively managed under the NCMAP
Nursery / Breeding	Potential breeding ground for wetland	No notable nursery / breeding behaviour
ground	dependent bird species, but no notable nursery	observed
	/ breeding behaviour was observed	
Age	N/A	N/A
Abundance / Richness	Low to moderate	Low to moderate
of Wildlife		
Ecological value	Low to moderate	Moderate

Table 3.4	Ecological Evaluation of Watercourse and Agricultural Land
	Ecological Evaluation of Watercourse and Agricultural Early

Criteria	Watercourse	Agricultural Land
Naturalness	Low	Low Active management was observed
Size	Moderate (approx. 6.17 ha)	Small (approx. 2.76 ha)
Diversity	Low flora and low to moderate fauna diversity	Low to moderate flora and fauna diversity
Rarity	Common habitat in Hong Kong A total of eleven species of conservation importance were recorded in recent ecological surveys, including one flora species (i.e. Prince's Feather), seven avifauna species (i.e. Chinese Pond Heron, Great Cormorant, Great Egret, Greater Coucal, Grey Heron, Little Egret and White-throated Kingfisher), one butterfly species (i.e. Small Cabbage White) and two mammal species (i.e. Japanese Pipistrelle and Unknown Vespertilionidae species 1)	Common habitat in Hong Kong A total of 12 species of conservation importance were recorded in recent ecological surveys, including nine avifauna species (i.e. Black-winged Stilt, Chestnut- eared Bunting, Chinese Pond Heron, Great Egret, Greater Coucal, Grey Heron, Little Egret, Pied Avocet and White-throated Kingfisher) and three mammal species (i.e. Chinese Noctule, Japanese Pipistrelle and Lesser Bamboo Bat)
Re-creatability	High	High
Fragmentation	Low	Low
Ecological linkage	Majority of watercourses fall within LVHSH Priority Site and IBA Sheung Yu River partially falls within LVHSH Priority Site and IBA; and connected to Ng Tung River; and structurally and functionally connected to adjacent marsh / reed and agricultural land Ng Tung River partially falls within LVHSH Priority Site and IBA; and connecting to Sheung Yu River	All recorded agricultural land fall within LVHSH Priority Site and IBA; and are structurally and functionally connected to adjacent wetland habitats (e.g. marsh / reed, watercourse)
Potential value	Moderate	Moderate to high Agricultural land within LVHSH Priority Site is actively managed under a NCMAP

(Ref.: L03-05)

Criteria	Watercourse	Agricultural Land
Nursery / Breeding ground	No notable nursery / breeding behaviour observed	No notable nursery / breeding behaviour observed
Age	Sheung Yu River – Young. Modification and channelisation of these watercourses occurred around 20 years ago Ng Tung River – Young. Modification and channelisation of Tung River occurred around 15-20 years ago Other watercourses – N/A	N/A
Abundance / Richness of Wildlife	Low	Low to moderate
Ecological value	Low to Moderate - Sheung Yu River and Ng Tung River Low – Other watercourses	High

Table 3.5Ecological Evaluation of Woodland and Mixed Woodland

Criteria	Woodland	Mixed Woodland
Naturalness	Moderate	Low to moderate
Size	Small (approx. 2.50 ha)	Small (approx. 2.06 ha)
Diversity	Low to moderate flora diversity and low fauna diversity	Low flora and fauna diversity
Rarity	Common habitat in Hong Kong A total of two species of conservation importance were recorded in recent ecological surveys, including one flora species (i.e. Incense Tree) and one mammal species (i.e. Lesser Bamboo Bat)	Common habitat in Hong Kong A total of three species of conservation importance were recorded in recent ecological surveys, including one avifauna species (i.e. Chinese Pond Heron) and two mammal species (i.e. Himalayan Leaf- nosed Bat and Lesser Bamboo Bat)
Re-creatability	Low	Moderate
Fragmentation	Low to moderate	Low to moderate
Ecological linkage	Woodland located at Vernon Pass (Pai Tau Lo) partially falls within Conservation Area and IBA; some woodland structurally and functionally linked to hillside mixed woodland and shrubland	Mixed woodland structurally and functionally linked with woodland and shrubland
Potential value	Low to moderate	Low to moderate
Nursery / Breeding ground	No notable nursery / breeding behaviour observed	No notable nursery / breeding behaviour observed
Age	N/A	N/A
Abundance / Richness of Wildlife	Low	Low
Ecological value	Low to moderate	Low

Criteria	Plantation	Shrubland
Naturalness	Low	Moderate
Size	Small (approx. 3.15 ha)	Small (approx. 0.58 ha)
Diversity	Low to moderate flora diversity and low fauna diversity	Low flora and fauna diversity
Rarity	Common habitat in Hong Kong A total of eight species of conservation importance were recorded in recent ecological surveys, including one flora species (i.e. Incense Tree), one avifauna species (i.e. Grey Heron), five mammal species (i.e. Intermediate Horseshoe Bat, Japanese Pipistrelle, Pallas's Squirrel, Short-nosed Fruit Bat and Unknown Vespertilionidae species 2) and one herpetofauna species (i.e. Taiwan Kukri Snake)	Common habitat in Hong Kong No species of conservation importance was recorded in recent ecological surveys
Re-creatability	High	Moderate
Fragmentation	High	Low
Ecological linkage	Plantation at Vernon Pass (Pai Tau Lo) fall within Conservation Area and IBA Plantation south of site KTN-2 fall within Priority Site and IBA	Structurally connected to adjacent wooded habitats (e.g. woodland, mixed woodland)
Potential value	Low	Low
Nursery / Breeding ground	No notable nursery / breeding behaviour observed	No notable nursery / breeding behaviour observed
Age	N/A	N/A
Abundance / Richness of Wildlife	Low	Low
Ecological value	Low	Low

Table 3.6	Ecological Evaluation of Plantation and Shrubland
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Table 3.7 Ecological Evaluation of Grassland and Village / Orchard

Criteria	Grassland	Village / Orchard
Naturalness	Moderate	Low
Size	Small (approx. 0.62 ha)	Small (approx. 1.90 ha)
Diversity	Low flora and fauna diversity	Low to moderate flora diversity and low fauna diversity
Rarity	Common habitat in Hong Kong. A total of two species of conservation importance were recorded in recent ecological surveys, including one mammal species (i.e. Japanese Pipistrelle) and one herpetofauna species (i.e. Spotted Narrow-mouthed Frog)	Common habitat in Hong Kong. A total of three species of conservation importance were recorded in recent ecological surveys, including one avifauna species (i.e. Greater Coucal), one mammal species (i.e. Pallas's Squirrel) and one butterfly species (i.e. Metallic Cerulean)
Re-creatability	Moderate	High
Fragmentation	Low	Low
Ecological linkage	Structurally linked to watercourse	No notable ecological linkage
Potential value	Low to moderate	Low to moderate



(Ref.: L03-05)

Criteria	Grassland	Village / Orchard
Nursery / Breeding ground	No notable nursery / breeding behaviour observed	No notable nursery / breeding behaviour observed
Age	N/A	N/A
Abundance / Richness of Wildlife	Low	Low to moderate
Ecological value	Low	Low

Table 3.8 Ecological Evaluation of Developed Area / Wasteland

Criteria	Developed Area / Wasteland	
Naturalness	Low	
Size	Moderate (approx. 20.52 ha)	
Diversity	Low to moderate flora diversity and low fauna diversity	
Rarity	Very common habitat in Hong Kong.	
	A total of seven species of conservation importance were recorded in recent ecological surveys, including one avifauna species (i.e. Collared Crow), five mammal species (i.e. Himalayan Leaf- nosed Bat, Japanese Pipistrelle, Lesser Bamboo Bat, Pallas's Squirrel and Unknown Vespertilionidae species 1) and one herpetofauna species (i.e. Taiwan Kukri Snake)	
Re-creatability	High	
Fragmentation	Low	
Ecological linkage	No notable ecological linkage	
Potential value	Low	
Nursery / Breeding ground	Ho Sheung Heung Egretry located in developed area / wasteland habitat at Vernon Pass (Pai Tau Lo) which is a nursery and breeding ground of ardeids	
Age	N/A	
Abundance / Richness of Wildlife	Low to moderate	
Ecological value	Low to moderate – for developed area / wasteland habitat at Vernon Pass (Pai Tau Lo) Low – for others	

3.4 Impact Assessment

3.4.1.1 As detailed in **Section 1.3.1.1**, the main proposed works within Site KTN-2 mainly comprise site clearance, filling and earthwork. Direct and indirect impacts arising from the Project are discussed in bellow sections.

3.4.2 Direct Impact

Direct Impact on Recognized Sites of Conservation Importance

3.4.2.1 The southern tip of Site KTN-2 would encroach onto the northern edge of the LVHSH Priority Site, a recognized site of conservation importance, while the majority of Site KTN-2 would fall within IBA. The directly affected habitat within the LVHSH Priority Site consisted of developed area / wasteland only, while the directly affected habitats within IBA include marsh / reed, plantation and developed area / wasteland. Given that the affected habitats within LVHSH Priority Site and IBA are not important foraging / roosting area for wildlife, and there are alternative habitats nearby, the direct impact on recognized sites of conservation importance is anticipated to be minor.



Habitat and Vegetation Loss

- 3.4.2.2 The proposed works would unavoidably lead to habitat and vegetation loss. Habitats within Site KTN-2 include marsh / reed, developed area / wasteland and plantation. Area of habitat loss arising from the proposed works are summarized in **Table 3.9**. A small proportion of vegetation in developed area / wasteland and plantation within the LVHSH Priority Site would be directly affected. These habitats were already subject to human disturbance from nearby development, roads / footpaths, they only supported low floral and faunal diversity and abundance. Most of the recorded flora and fauna species within Site KTN-2 are also common and widespread in Hong Kong.
- 3.4.2.3 Although the affected marsh / reed habitats could be a potential feeding and breeding ground for wetland-dependent bird species, which breeding records were made in wetland habitats within the LVHSH Priority Site. Given that the affected marsh / reed was brackish marsh which is subject to tidal influence, and other freshwater habitats including freshwater marsh and wet agricultural land were presented within the LVHSH Priority Site, the affected marsh / reed within Site KTN-2 is therefore unlikely to be the preferable feeding and breeding ground for wetland-dependent bird species, especially species that favour freshwater swamps. Moreover, as only low abundance of wildlife including avifauna was observed within Site KTN-2 during the ecological survey, the affected marsh / reed is unlikely to be an importance foraging ground for wildlife. Besides, similar habitats are also available in the vicinity of Site KTN-2 and could be utilized by wetland-dependent bird species, the potential impact from the loss of habitats and vegetations is expected to be low.

Habitat Type	Habitat Loss (ha)
Marsh / Reed	0.46
Plantation	0.20
Developed Area / Wasteland	0.64
Total	1.30

Table 3.9	Area of Habitat Loss arising from the Proposed Works
-----------	--

Impact on Species of Conservation Importance

3.4.2.4 No floral species of conservation importance were recorded within Site KTN-2. While 6 faunal species of conservation importance were recorded within Site KTN-2, 4 of them are avifauna species (i.e. Chinese Pond Heron, Greater Coucal, Little Egret and White-throated Kingfisher), 1 herpetofauna species (i.e. Taiwan Kukri Snake) and 1 mammal species (i.e. Short-nose Fruit Bat). The recorded avifauna and flying mammal species are highly mobile and habitats of the similar kind are readily available nearby. No notable behaviour including breeding and nursing was recorded within Site KTN-2. Thus, no direct impact to these species is anticipated. However, considering that the herpetofauna species, i.e. Taiwan Kukri Snake, is with lower mobility, the proposed works may have a direct impact on it, suitable mitigation measures (e.g. pre-construction survey, translocation, etc) would be required. With the implementation of the mitigation measures proposed in **Section 3.6.1.1**, no direct impact to this herpetofauna species is anticipated.

Harm / Mortality to Other Wildlife and Bird Collision

3.4.2.5 The proposed works (e.g. site clearance and formation) would have the potential to cause direct injury/mortality to wildlife. Species with higher mobility are not anticipated to be significantly impacted, but those with lower mobility would be subject to higher risk of injury or mortality, including species of conservation importance with relatively low mobility, e.g. the recorded Taiwan Kukri Snake. However, Site KTN-2 only supports low faunal diversity and abundance, and the recorded species are common in Hong Kong and adapted to urban environments. Besides, the proposed works be conducted are minor in nature and small scale with adoption of machines of limited heights. Hence, it is expected that the chance of injury or mortality to wildlife caused by the proposed works is expected to be minor.



3.4.3 Indirect Impacts

Disturbance Impact on Egretry and Ardeid Night Roost

3.4.3.1 Ho Sheung Heung Egretry and Ho Sheung Heung Ardeid Night Roost was located at approximately 140m northwest and 250m south of Site KTN-2 respectively. Construction activities in the vicinity could lead to disturbances from increased human activities, noise, and glare, which may affect the ardeids utilizing the egretry or night roost. Notably, both egretry and night roost in Ho Sheung Heung area have already experienced disruptions due to existing anthropogenic disturbance (e.g. culturing activities, construction activities, traffic on the adjacent local road) nearby. Given that the proposed works of this Project are unlikely to increase the disturbance magnitude significantly in view of the separation distances and partial screening from existing building structures to the north of Project, the anticipated disturbance impact on the ardeid night roost is expected to be minor.

Impact on Flight Path

3.4.3.2 Flight paths were observed above Site KTN-2 and the surrounding area. Potential disruption on the flight path during the proposed works could be possible if obstacles such as heavy construction equipment maybe intersect with the flight paths. It could potentially cause increase in energy exertion of ardeids, if they need to increase their flight height / distance to avoid obstacles, which may eventually affect their foraging and breeding success. According to the results of flight line surveys, the flight height of most ardeids flying across the Site KTN-2 was around 11-30m, while that of some ardeids was relatively low (i.e. at >0 - 10m). The ardeids flying at the height of >0 - 10m across Site KTN-2 may potentially disturbed by the proposed site formation works. Given that the proposed site formation works of minor scale would be conducted by limited no. of powered mechanical equipment with limited heights, impacts on ardeid flight path is therefore anticipated to be minor.

Disturbance Impact

- 3.4.3.3 According to **Section 1.3.1.1**, the proposed works include site clearance, filling works and earthwork. The proposed works would lead to increase of disturbance within and in the surrounding habitats of the Site, including those within LVHSH Priority Site and CA nearby.
- 3.4.3.4 The proposed works would lead to fugitive dust emissions that caused by earth movement activities and handling / transportation of excavated / fill materials, which could lead to indirect disturbance to vegetation in the surrounding habitats and associated wildlife.
- 3.4.3.5 Noise disturbance arising from increased road traffic during the proposed works is expected, the use of powered mechanical equipment (PME) for various construction activities would also result in noise disturbance, these could lead to reductions in wildlife density close to sources of disturbance.
- 3.4.3.6 Wastewater generated from land-based construction works, site runoff and excavation work for the proposed drainage outfall could potentially pose impacts on the water quality at watercourse and affect associated waterbirds and aquatic organisms. In general, construction works and dewatering works involving wetland type (i.e. marsh / reed) would be undertaken during dry season, where practicable. *Guidelines in Drainage Service Department Practice Note No. 3/2021 – Guidelines on Design for Revitalisation of River Channel and Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 5/2005 – Protection of Natural Streams / Rivers from Adverse Impacts Arising from Construction Works* set out for the protection of natural rivers and streams from adverse impacts arising from construction works should be followed. With the implementation of precautionary measures, no significant water quality impact is anticipated.
- 3.4.3.7 Unmitigated disturbance such as non-directional lights, excessive construction and traffic noise and dust emission would potentially affect adjacent habitats, especially agricultural land and pond habitats to the south of the Site and associated nocturnal species, and lead to decline in faunal diversity and abundance.



- 3.4.3.8 There may be potential disturbance impact to LVNP during the site formation works. However, given that the LVNP is located at more than 300m from Site KTN-2, and it is buffered by other habitats including agriculture land and ponds to the south of Site KTN-2. The magnitude of the indirect impact to the LVNP is expected to be minor.
- 3.4.3.9 Overall, the disturbance impact during the proposed works is expected to be minor to moderate. In view of the minor nature and small scale of the proposed works and with implementation of general mitigation measures and good site practices, no unacceptable direct and indirect ecological impact would be anticipated.

3.5 Evaluation of Potential Ecological Impacts

3.5.1.1 Potential ecological impacts on the identified habitats within the Assessment Area associated with the construction of the Project were evaluated in accordance with the Annex 8 of the EIAO-TM, and are presented in **Table 3.10** to **Table 3.15**.

Criteria	Marsh / Reed	Pond
Habitat Quality	Low to moderate	Moderate
Species /	Low flora and fauna diversity	Low flora diversity and low to moderate fauna
Ecological	A total of four species of conservation	diversity
Resources	importance were recorded in recent ecological	A total of 11 species of conservation importance
	surveys	were recorded in recent ecological surveys
		Ardeids were observed roosting at the pond
Cize / Abundance	0.46 he would be permanently effected	bund in nighttime
Size / Abundance	0.46 ha would be permanently affected	Habitat would not be directly affected
Duration	<u>Direct Impact</u>	Indirect Impact
	Direct impact from construction phase (i.e.	Indirect impact (e.g. noise, air / dust) during
	habitat loss) would be permanent	construction phase would be temporary
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during	
D	construction phase would be temporary	
Reversibility	<u>Direct Impact</u>	Indirect Impact
	Direct impact from construction phase (i.e.	Indirect impact (e.g. noise, air / dust) during
	habitat loss) would be irreversible	construction phase would be reversible
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during	
	construction phase would be reversible	
Magnitude	Low	Low
Overall Impact	Low	Minor
Significance		

 Table 3.10
 Evaluation of Potential Ecological Impacts to Marsh / Reed and Pond

Table 3.11Evaluation of Potential Ecological Impacts to Watercourse and
Agricultural Land

Criteria	Watercourse	Agricultural Land
Habitat Quality	Low to Moderate - Sheung Yu River and Ng	Moderate
	Tung River	
	Low – Other watercourses	
Species /	Low flora and low to moderate fauna diversity	Low to moderate flora and fauna diversity
Ecological	A total of nine species of conservation	A total of 12 species of conservation importance
Resources	importance were recorded in recent ecological	were recorded in recent ecological surveys
	surveys	
Size / Abundance	Habitat would not be directly affected	Habitat would not be directly affected
Duration	Indirect Impact	Indirect Impact
	Indirect impact (e.g. noise, air / dust) during	Indirect impact (e.g. noise, air / dust) during
	construction phase would be temporary	construction phase would be temporary
Reversibility	Indirect Impact	Indirect Impact



Criteria	Watercourse	Agricultural Land
	Indirect impact (e.g. noise, air / dust) during	Indirect impact (e.g. noise, air / dust) during
	construction phase would be reversible	construction phase would be reversible
Magnitude	Low	Low
Overall Impact	Insignificant	Minor
Significance	-	

Table 3.12 Evaluation of Potential Ecological Impacts to Woodland and Mixed Woodland Voodland

Criteria	Woodland	Mixed Woodland
Habitat Quality	Low to moderate	Low to moderate
Species /	Low to moderate flora diversity and low fauna	Low flora and fauna diversity
Ecological	diversity	A total of three species of conservation
Resources	A total of two species of conservation	importance were recorded in recent ecological
	importance were recorded in recent ecological	surveys
	surveys	
Size / Abundance	Habitat would not be directly affected	Habitat would not be directly affected
Duration	Indirect Impact	Indirect Impact
	Indirect impact (e.g. noise, air / dust) during	Indirect impact (e.g. noise, air / dust) during
	construction phase would be temporary	construction phase would be temporary
Reversibility	Indirect Impact	Indirect Impact
	Indirect impact (e.g. noise, air / dust) during	Indirect impact (e.g. noise, air / dust) during
	construction phase would be reversible	construction phase would be reversible
Magnitude	Low	Low
Overall Impact	Insignificant	Insignificant
Significance		

Table 3.13 Evaluation of Potential Ecological Impacts to Plantation and Shrubland

Criteria	Plantation	Shrubland
Habitat Quality	Low	Low
Species /	Low to moderate flora diversity and low fauna	Low flora and fauna diversity
Ecological	diversity	No species of conservation importance was
Resources	A total of eight species of conservation	recorded in recent ecological surveys
	importance were recorded in recent ecological	
	surveys	
Size / Abundance	0.20 ha would be permanently affected	Habitat would not be directly affected
Duration	Direct Impact	Indirect Impact
	Direct impact from construction phase (e.g.	Indirect impact (e.g. noise, air / dust) during
	habitat loss) would be permanent	construction phase would be temporary
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during	
	construction phase would be temporary	
Reversibility	<u>Direct Impact</u>	Indirect Impact
	Direct impact from construction phase (e.g.	Indirect impact (e.g. noise, air / dust) during
	habitat loss) would be irreversible	construction phase would be reversible
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during	
	construction phase would be reversible	
Magnitude	Low	Low
Overall Impact	Minor	Insignificant
Significance		

Table 3.14 Evaluation of Potential Ecological Impacts to Grassland and Village / Orchard

Criteria	Grassland	Village / Orchard
Habitat Quality	Low	Low
Species / Ecological Resources	Low flora and fauna diversity A total of two species of conservation importance were recorded in recent ecological surveys	Low to moderate flora diversity and low fauna diversity A total of three species of conservation importance were recorded in recent ecological surveys
Size / Abundance	Habitat would not be directly affected	Habitat would not be directly affected
Duration	<u>Indirect Impact</u> Indirect impact (e.g. noise, air / dust) during construction phase would be temporary	<u>Indirect Impact</u> Indirect impact (e.g. noise, air / dust) during construction phase would be temporary
Reversibility	Indirect Impact Indirect impact (e.g. noise, air / dust) during construction phase would be reversible	Indirect Impact Indirect impact (e.g. noise, air / dust) during construction phase would be reversible
Magnitude	Low	Low
Overall Impact Significance	Insignificant	Insignificant

Table 3.15 Evaluation of Potential Ecological Impacts to Developed Area / Wasteland

Criteria	Developed Area / Wasteland	
Habitat Quality	Low to moderate – for developed area/wasteland habitat at Vernon Pass (Pai Tau Lo)	
	Low – for others	
Species /	Low to moderate flora diversity and low fauna diversity	
Ecological	A total of seven species of conservation importance were recorded in recent ecological surveys	
Resources	Ho Sheung Heung Egretry located in developed area / wasteland habitat at Vernon Pass (Pai Tau Lo)	
Size / Abundance	0.64 ha would be permanently affected	
Duration	Direct Impact	
	Direct impact from construction phase (i.e. habitat loss) would be permanent	
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during construction phase would be temporary	
Reversibility	Direct Impact	
	Direct impact from construction phase (i.e. habitat loss) would be irreversible	
	Indirect Impact	
	Indirect impact (e.g. noise, air / dust) during construction phase would be reversible	
Magnitude	Low	
Overall Impact Significance	Minor	

3.6 **Precautionary and Mitigation Measures**

Faunal Species of Conservation Importance

3.6.1.1 To avoid adverse direct impact on the slow-moving faunal species of conservation importance, it is recommended that a detailed fauna survey within Site KTN-2 should be conducted before the commencement of the proposed works as to ascertain, locate and quantify the number of the species that may be affected. Based on the survey findings, if any, appropriate mitigation measures such as translocation would be proposed. A detailed



Fauna Survey and Mitigation Plan would be prepared and submitted by the Contractor to obtain AFCD's approval prior to the commencement of proposed works.

Monitoring of Egretry and Night Roost

- 3.6.1.2 As the status and location of egretry and night roost can change from time to time even under the absence of human disturbance. Pre-construction surveys are therefore recommended to confirm the location and status of the Ho Sheung Heung Egretry and Ho Sheung Heung Ardeid Night Roost within 300m from Site KTN-2, and mitigation measures, if required, should be developed based on the survey findings.
- 3.6.1.3 The pre-construction surveys should be carried out at least once per month before the commencement of the proposed site formation works. Surveys on egretry should cover the breeding season (i.e. between March and August). According to the current implementation programme of the Project as confirmed by the Project Engineer, the pre-construction surveys would only be able to commence from July 2024. As it was observed that the egretry was remained active in July 2021 and 2022¹⁸, the pre-construction surveys in July and August are still able to cover the active period of the Ho Sheung Heung Egretry. For the Ho Sheung Heung Ardeid Night Roost, according to NTN survey findings⁸, the night roost was observed to be active in July to September 2022. Hence, the pre-construction surveys between July and September 2024 are able to cover its active period.
- 3.6.1.4 As a precautionary measure, monthly egretry and night roost monitoring would be conducted, covering the breeding season (i.e. March to August) and the overwintering season (i.e. October to March), during site formation works to prevent any adverse indirect impacts on the Ho Sheung Heung Egretry and Ardeid Night Roost. The location and status (e.g. active / inactive, number of nests / ardeid utilizing the night roost) of the concerned egretry and night roost would be recorded. Monthly inspection within 100m from Site KTN-2 is also recommended during the breeding season (i.e. March to August) and overwintering season (i.e. October to March) throughout the site formation work, as to confirm the presence of any nesting and roosting ardeids within Site KTN-2 and its immediate surroundings.
- 3.6.1.5 In case any signs of suspected egretry (e.g. presence of nests) and/or night roost are observed within Site KTN-2 and its immediate surroundings (within 100m from the Site) during the pre-construction survey and/or monthly inspection, AFCD should be informed. Appropriate mitigation measures, such as proper scheduling of works and provision of additional barriers to minimise disturbance, should be implemented, as agreed with AFCD. Direct impact to egretry and night roost should be avoided.

Potential Bird Collision

3.6.1.6 To minimise potential obstacles along the flight path of ardeids, it is recommended to consider construction / working methods that involve fewer high-rising machines. Proper scheduling of construction activities should be undertaken to avoid heavily disruptive activities during the dry season. Additionally, implementing restrictions on working hours, particularly during the peak hours of ardeid movements, i.e. early morning and evening, can help minimise disturbance impacts on their flight path.

Minimising Disturbance Impacts

3.6.1.7 Considering that the surrounding habitats including watercourses and agricultural land which are commonly utilised by avifauna including species of conservation importance (e.g. Little Egret, Pied Avocet, etc.), and ecological sensitive site including the Ho Sheung Heung Egretry and Ardeid Night Roost, the proposed works would potentially cause disturbance impact to these avifauna species. Provision of screening (e.g. site hoardings) and good site practices as stated in **Sections 3.6.1.8** to **3.6.1.9** below would be implemented to reduce the indirect impact on avifauna caused by the proposed works. Proper scheduling of working

¹⁸ Anon (2022) and Anon (2021) Summer 2021 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site.



activities to avoid the most active hours of avifauna (i.e. early morning and evening) could also minimise the disturbance impacts.

- 3.6.1.8 Appropriate measures and good site practices would be implemented to minimise the disturbance impacts to the surrounding habitats and associated wildlife to the lowest possible level. Construction activities should be restricted within demarcated works areas and provision of screening (e.g. site hoardings) should be properly implemented. Quiet construction methods, Quality PME (QPME) and other noise control requirements stated in "Recommended Pollution Control Clauses for Construction Contracts" would be adopted as far as practicable.
- 3.6.1.9 To alleviate dust emission, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation (Cap. 311) as general practices should be implemented to avoid and minimise impacts to the surrounding habitats and the associated wildlife arising from the construction activities to the lowest possible level.
- 3.6.1.10 As discussed in **Section 4.2**, no unacceptable water quality impact is anticipated during the proposed works with the implementation of adequate construction site drainage and good site practices, such as erosion and sedimentation control, runoff quantity and quality control, etc. Potential water quality impact from uncontrolled runoff and release of contaminants would be minimised.
- 3.6.1.11 The intensity of light should also be controlled to the lowest possible level. Unnecessary lighting should be turned off outside working hours of the construction sites. A balance between lighting for safety and avoiding excessive lighting can be achieved through the use of directional lighting.

4 CONCLUSIONS

4.1 Introduction

4.1.1.1 An Environmental Assessment has been carried out to examine the impacts associated with the proposed works at Site KTN-2. Potential environmental impacts including water quality and ecology have been assessed. The findings are summarised below.

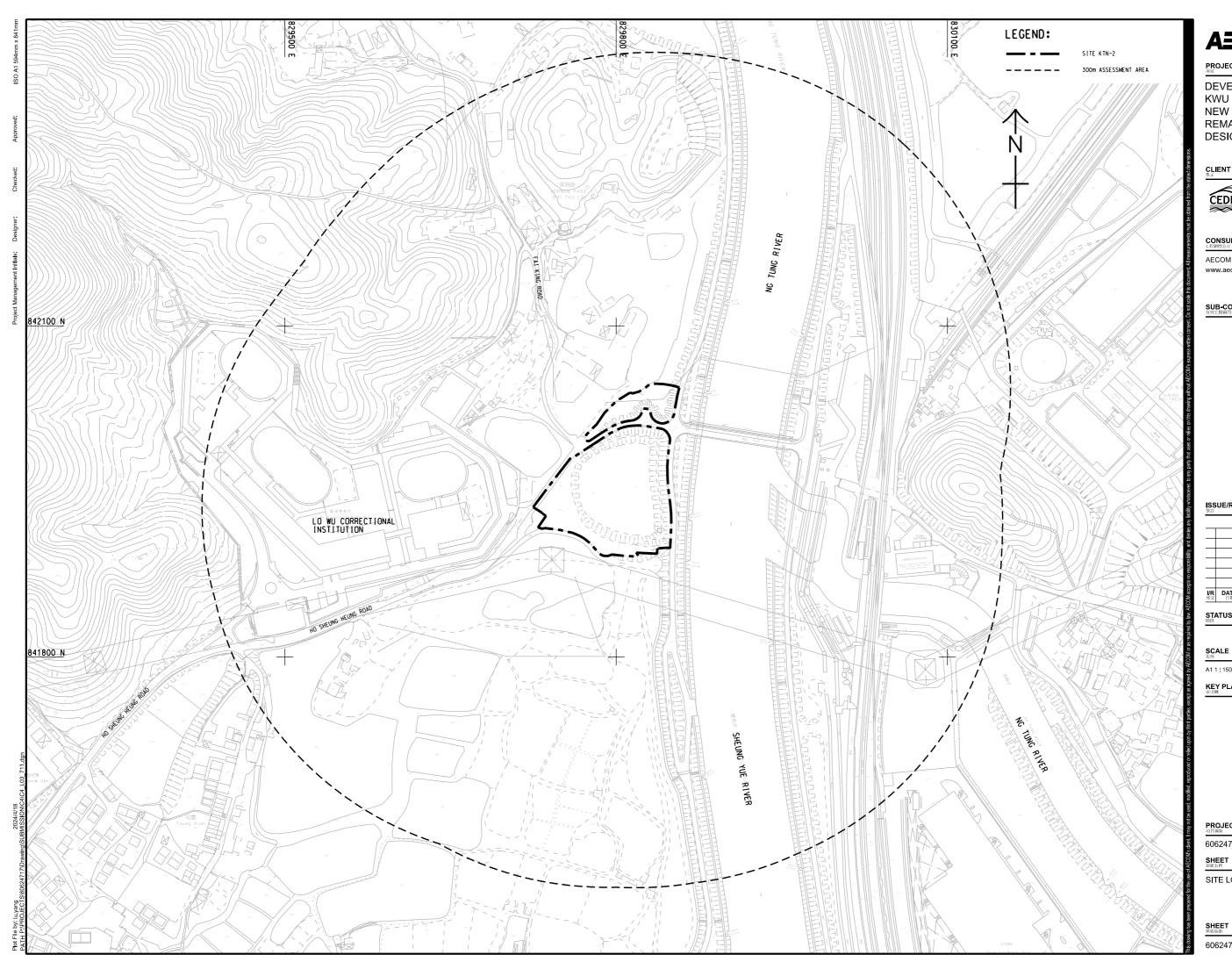
4.2 Water Quality

4.2.1.1 Potential water quality impacts from general construction activities, construction site runoff, construction works near watercourses, removal / filling of wet area, accidental spillage and sewage from construction workforce are identified. In view of the minor nature and small scale of the proposed works, with the adoption of recommended mitigation measures (e.g. good site practice, BMPs, provision of proper drainage facilities) during the proposed works, no adverse water quality impact to the identified WSRs is anticipated.

4.3 Ecology

- 4.3.1.1 Potential direct impacts arising from the proposed works included the loss of habitats within recognized sites of conservation importance and key ecological resource (i.e. LVHSH Priority Site and IBA), habitat loss in marsh / reed, plantation and developed area / wasteland habitats, and potential direct harm to the recorded species of conservation importance of lower mobility (i.e. Taiwan Kukri Snake), within Site KTN-2. A detailed fauna survey to ascertain the presence of the species of conservation importance within the Site would be conducted before the commencement of works, and appropriate mitigation measures would be proposed if individuals of the species are recorded during the survey.
- 4.3.1.2 Indirect impacts arising from the Project included disturbance impacts (i.e. glare, noise, air / dust) and water quality impact on habitats in vicinity and the associated wildlife. However, given the majority of recorded habitats were developed area or plantation, and recorded species within the assessment area were generalist species which are habituated to disturbed habitats, the disturbance impact is considered as minor to moderate. Nevertheless, good site practice and appropriate mitigation measures according to relevant guidelines including provision of screening and use of QPME would be implemented when appropriate to minimize the disturbance impacts. Hence, no adverse indirect impacts would be anticipated.
- 4.3.1.3 Precautionary and mitigation measures such as pre-construction egretry and night roost surveys, monthly egretry monitoring, good site practices, proper scheduling of construction activities as far as practicable and provision of screening, etc would be implemented. With the adoption of the recommended precautionary and mitigation measures, no adverse ecological impact would be anticipated to arise from the proposed site formation works at Site KTN-2.

FIGURES





PROJECT

DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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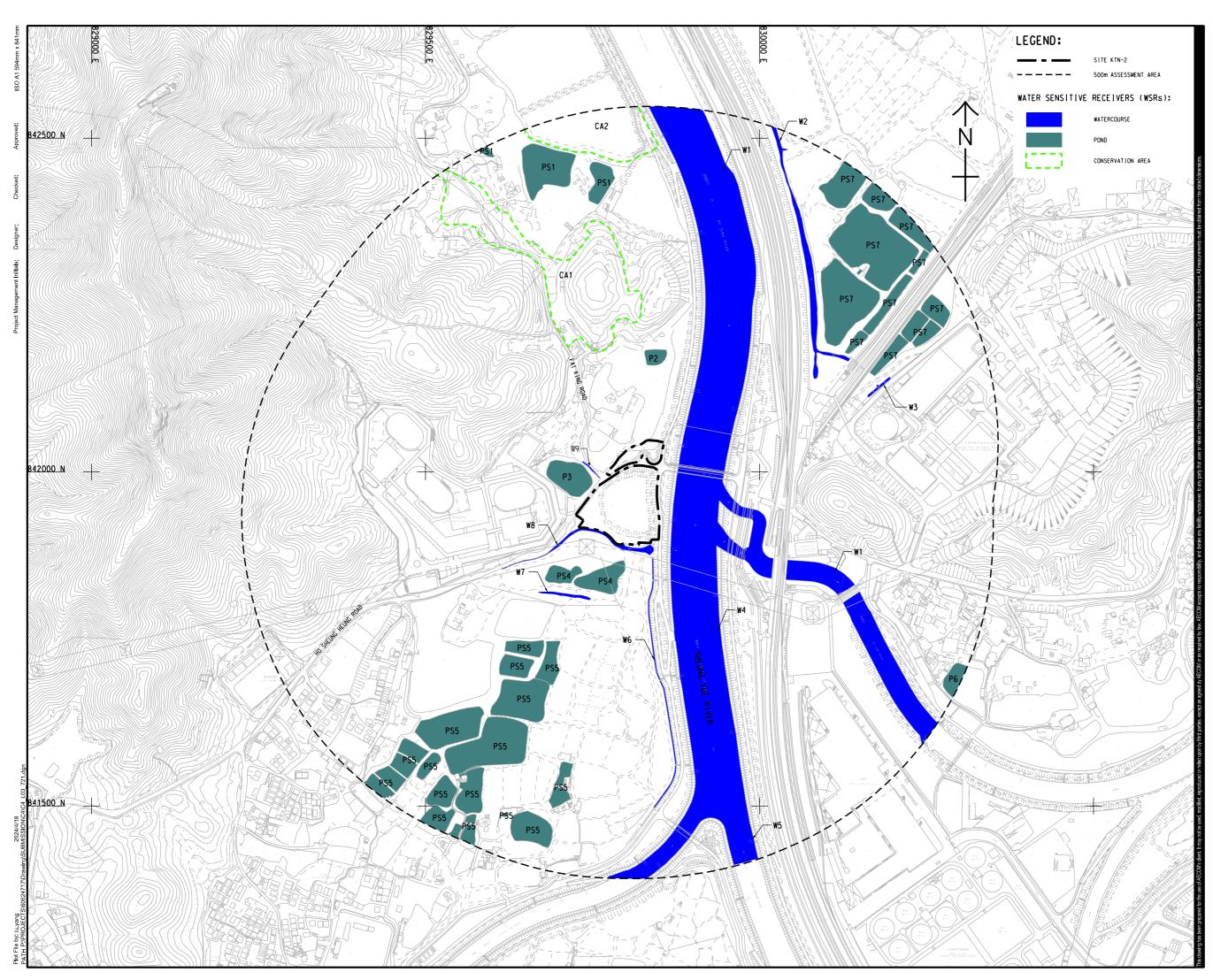
ROJECT NO.	CONTRACT NO. ^{合約編號}
624717	CE 19/2019 (CE)

SHEET TITLE

SITE LOCATION PLAN

SHEET NUMBER

60624717/C4/L03/FIGURE 1.1





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

CLIENT



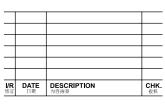
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SCALE

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KEY PLAN

PROJECT NO.

CONTRACT NO.

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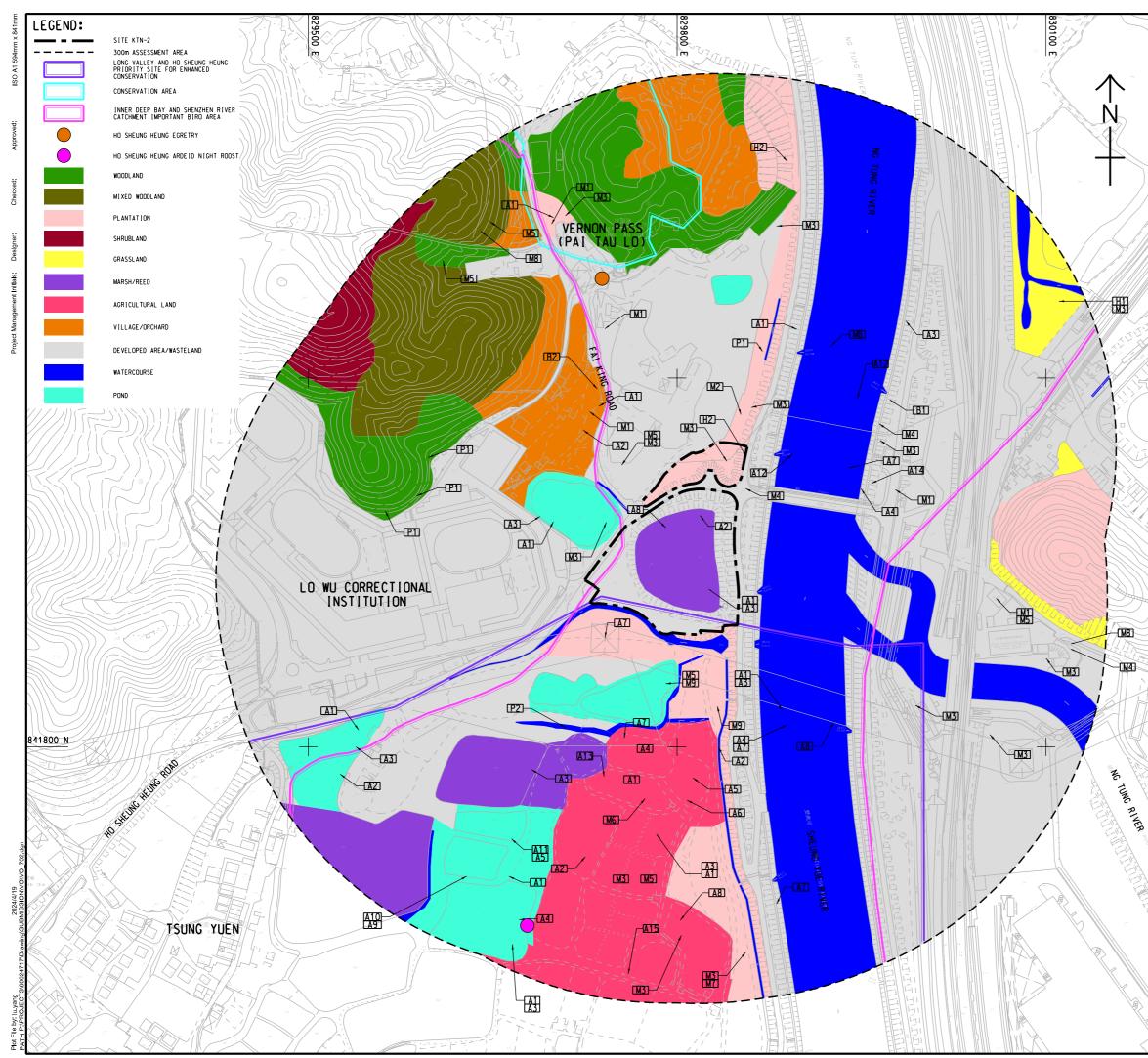
SHEET TITLE

CE 19/2019 (CE)

LOCATIONS OF WATER SENSITIVE RECEIVERS

SHEET NUMBER

60624717/C4/L03/FIGURE 2.1



	IES OF CONSERVATION
EL OR	\:
[P1]	INCENSE TREE
[P2]	PRINCE'S FEATHER
AVIE	AUNA:
[A1]	CHINESE POND HERON
A2	GREATER COUCAL
A3	LITTLE EGRET
A4	GREAT EGRET
[A5]	BLACK-WINGED STILT
A6	PIED AVOCET
[A7]	GREY HERON
A8	WHITE-THROATED KINGFISHER
A9	EURASIAN SPOONBILL
A10	BLACK-FACED SPOONBILL
A11	NORTHERN SHOVELER
A12	GREAT CORMORANT
A13	CHESTNUT-EARED BUNTING
A14	COLLARED CROW
A15	RED-THROATED PIPIT
MAMM	l.
M1	PALLAS'S SOUIRREL
M2	SHORT-NOSE FRUIT BAT
M3	JAPANESE PIPISTRELLE
M4	UNKNOWN VESPERTILIONIDAE SPECIES 1
M5	LESSER BAMBOD BAT
M6	CHINESE NOCTULE
M7	INTERMEDIATE HORSESHOE BAT
M8	HIMALAYAN LEAF-NOSED BAT
M9]	UNKNOWN VESPERTILIONIDAE SPECIES 2
BUTTE	RFLY:
(B1)	SMALL CABBAGE WHITE
B2	METALLIC CERULEAN
HERPE	TOF AUNA:
H1	SPOTTED NARROW-MOUTHED FROG
(H2)	TA[WAN KUKR] SNAKE



DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, **REMAINING PHASE -DESIGN & CONSTRUCTION**

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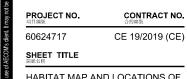
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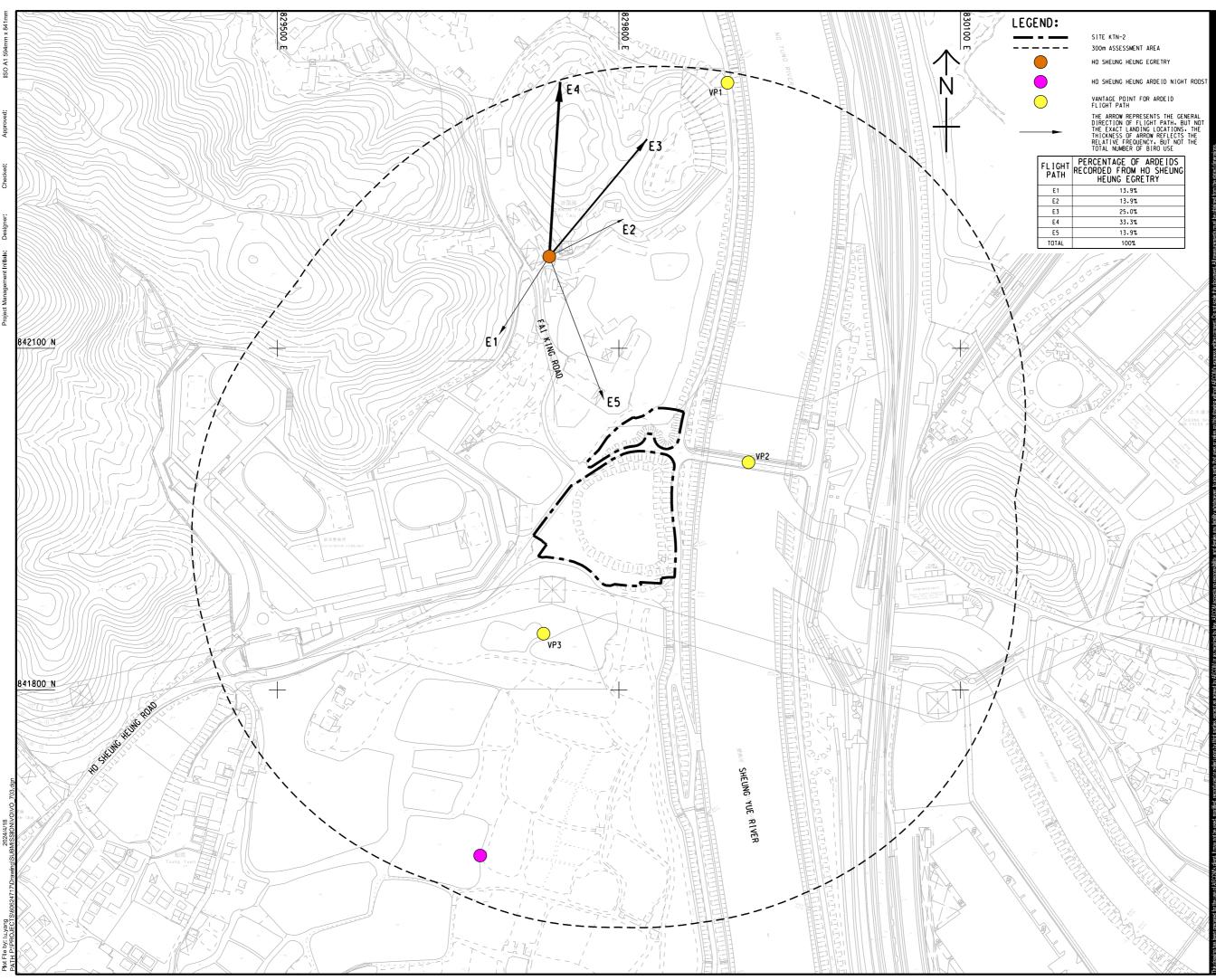
KEY PLAN



HABITAT MAP AND LOCATIONS OF SPECEIS OF CONSERVATION IMPORTANCE RECORDED

SHEET NUMBER

60624717/C4/L03/FIGURE 3.1





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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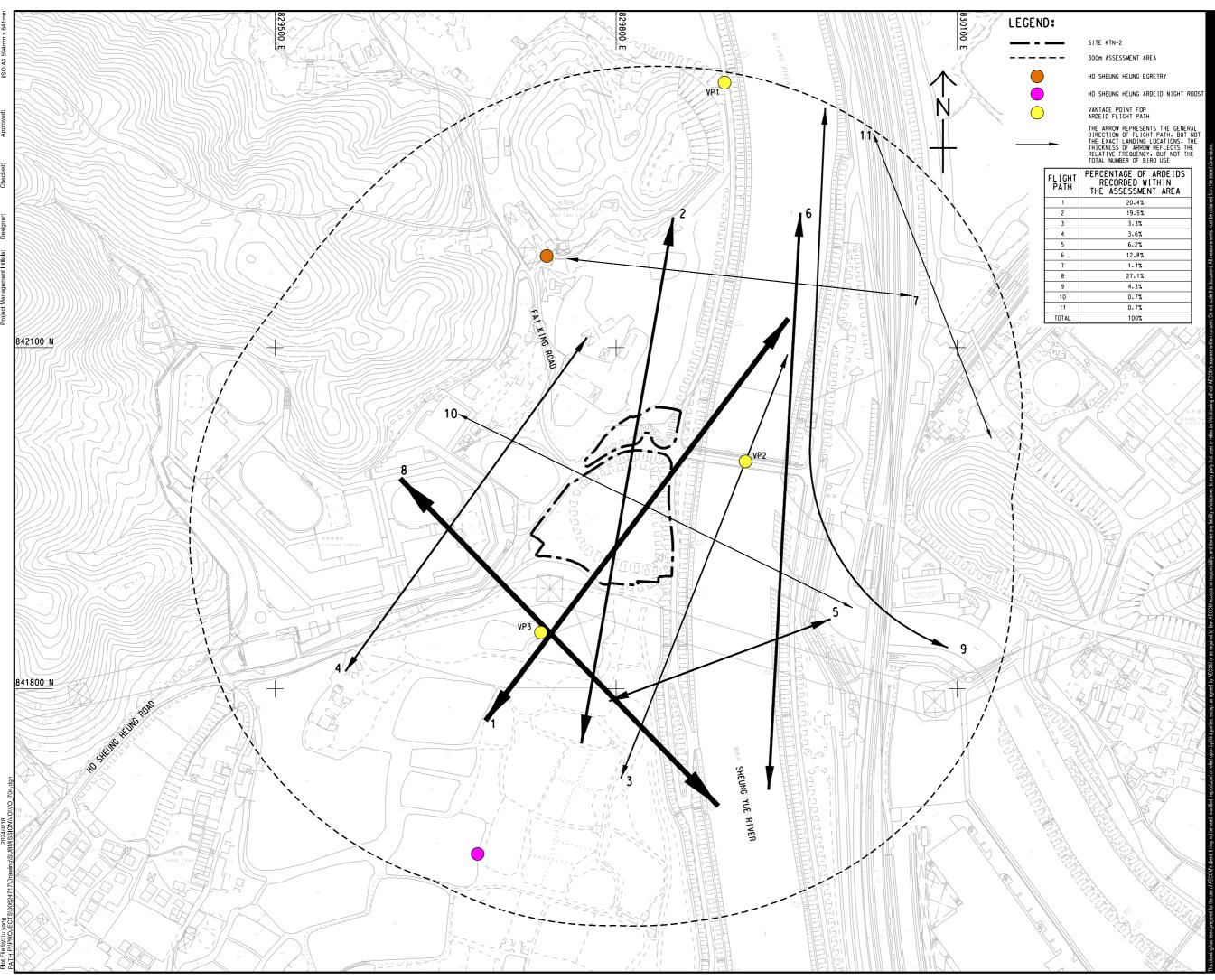
SHEET TITLE

SHEET NUMBER

PROJECT NO. CONTRACT NO. CE 19/2019 (CE) 60624717

FLIGHT PATHS OF ARDEIDS IN HO SHEUNG HEUNG EGRETRY

60624717/C4/L03/FIGURE 3.2



FLIGHT PATH	PERCENTAGE OF ARDEIDS RECORDED WITHIN THE ASSESSMENT AREA	
1	20.4%	
2	19.5%	
3	3.3%	
4	3.6%	
5	6.2%	
6	12.8%	
7	1.4%	
8	27.1%	
9	4.3%	
10	0.7%	
11	0.7%	
TOTAL	100%	
16721	/ // // X =	· Y/



DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

CLIENT



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

CONSULTANT

AECOM Asia Company Ltd. www.aecom.com

SUB-CONSULTANTS 分判工程範疇公司

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KEY PLAN

PROJECT NO.

60624717

CONTRACT NO.

CE 19/2019 (CE)

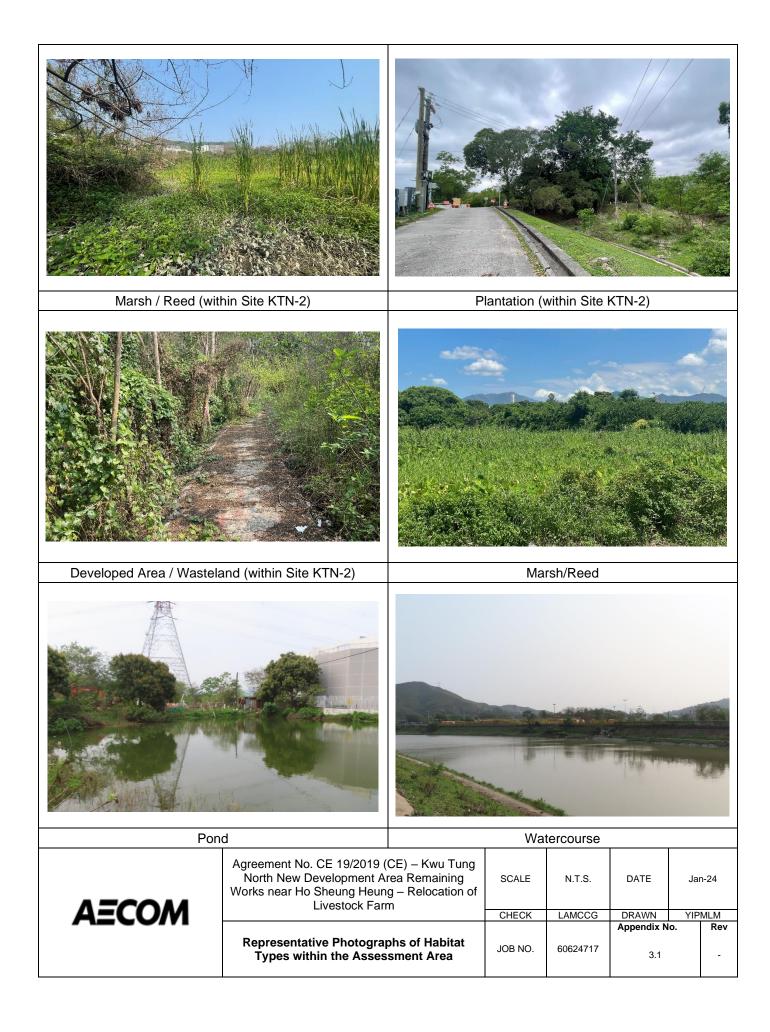
SHEET TITLE

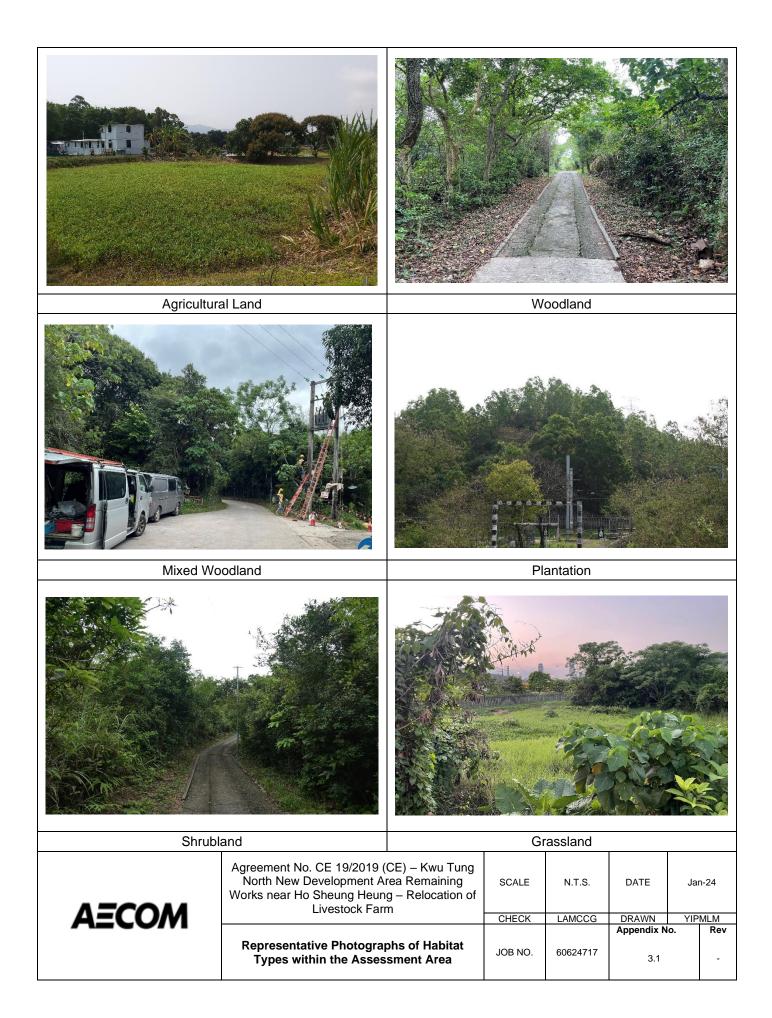
GENERAL FLIGHT PATHS OF ARDEIDS WITHIN THE 300m ASSESSMENT AREA

SHEET NUMBER

60624717/C4/L03/FIGURE 3.3

Appendix 3.1Representative Photographs of Habitat Types within the Assessment Area





				服胡婆教所	Lo Wu	Corr
Village / Orchard	C	eveloped	area / Was	teland		
N.A.			N.A.			
N.A.			N.A.			
N.A.			N.A.			
N.A.			N.A.			
AECOM	rea Remaining g – Relocation of	SCALE	N.T.S.	DATE	YIPI	n-24 MLM
Representative Photograp Types within the Asses	ohs of Habitat sment Area	JOB NO.	60624717	Appendix N 3.1	0.	Rev -

Appendix 3.2 Floral Species Recorded within the 300m Assessment Area

Appendix 3.2 Flora Species Recorded within the Assessment Area

Appendix 3.2 Flora Species Recorde Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽³⁾	MA	PO	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Abelmoschus esculentus	Okra	annual herb	exotic	Cultivated	-				+							
Acacia auriculiformis	Ear-leaved Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern							++	+			
Acacia confusa	Taiwan Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern			+		+	++	+++	++			++
Acacia mangium	Big-leaved Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern				+							
Acronychia pedunculata	Acronychia	tree	native	Common in Hong Kong	IUCN Red List: Least Concern					++			+			
Adenosma glutinosum	Adenosma	herb	native	Common in Hong Kong	•							+				
Aeschynomene americana	Joint-vetch	shrubby herb	exotic	-	-									+		
Ageratum conyzoides	Billygoat-weed	herb	exotic	Naturalized and widely distributed in Hong Kong	-				+							
Alocasia macrorrhizos	Giant Alocasia	perennial herb	native	Common in Hong Kong	-	+		+							++	++
Aloe vera	Chinese Aloe	perennial herb	exotic	Cultivated	-										+	
Alpinia galanga	Great Galangal	perennial herb	native	Victoria Peak, Shing Mun, Ma Nam Wat, Tsung Tsai Yuen, Sha Lo Tung, Chung Mei, Nam Chung	-				+							
Alpinia zerumbet	Shell Ginger	perennial herb	native	Common in Hong Kong	IUCN Red List: Data Deficient			++								
Alternanthera paronychioides	Smooth Chaff-flower	perennial herb	exotic	Mai Po, Tai Shan Wai	-			++	++							
Alternanthera philoxeroides	Alligator-weed	perennial herb	exotic	Common in Hong Kong. Naturalized	-				++							
Amaranthus spinosus	Spiny Amaranth	herb	exotic	Common in Hong Kong. Naturalized	-							+				+
Amaranthus viridis	Green Amaranth	herb	native	Common in Hong Kong	-			+	++							+
Ampelopsis heterophylla var. kulingensis	Kuling Ampelopsis	woody vine	native	Common in Hong Kong	-				+	++						
Ananas comosus	Pineapple	herb	exotic	Cultivated	-				1	1	1	1	1		++	1
Apluda mutica	Glutene-rice Grass	perennial herb	native	Common in Hong Kong	-			1	1	Î.	1	Î.	1	+		
Aporosa dioica	Aporosa	tree	native	Common in Hong Kong	-				1	+++	++	+	++			1
Aquilaria sinensis	Incense Tree	tree	native	Common in Hong Kong	List of Wild Plants under State Protection: Category II: Protected under Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586); Rare and Precious Plants of Hong Kong (Status of China): Category 2 & 3 (Near Threatened); Listed in Wild Plants under State Protection: Category II; China Plant Red Data Book: Vulnerable; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened; Illustration of Rare and Endangered Plants in Guangdong Province; Threatened Species List of China's Higher Plants: Vulnerable; IUCN Red List: Vulnerable; ULCN					+		+				
Archidendron lucidum	Chinese Apea Ear-ring	tree	native	Common in Hong Kong	IUCN Red List: Least Concern					+						
Artocarpus heterophyllus	Jackfruit	tree	exotic	Cultivated	-				+	+++					+++	
Asystasia micrantha	-	erennial ascending her	exotic	Cultivated or naturalized	-					++		+			++	+
Axonopus compressus	Carpet Grass	rennial procumbent he	exotic	Common in Hong Kong (naturalised)	-							+				
Baeckea frutescens	Dwarf Mountain Pine	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern							+	+			
Bambusa spp.	-	clumped tree bamboo	-	-	-										+	
Basella alba	Malabar-Nightshade	climber: twining vine	exotic	Cultivated	-											+
Begonia cucullata var. hookeri	Perpetual Begonia	perennial herb	exotic	Cultivated in gardens	-										+	
Benincasa hispida	White Gourd	herbaceous vine	exotic	Cultivated Hong Kong Island, Tai Mo Shan, Ma On	-											+
Berchemia floribunda	Japanese Supple-jack	climbing shrub: vine	native	Shan, Sai Kung, Tai Long Sai Wan, Chek Keng, Kiu Tsui, Lantau Island	IUCN Red List: Least Concern					+		+	++			
		1							+		++	++		++	+	
Bidens alba	-	herb	exotic	Naturalized and widely distributed in Hong Kong	-			+	+							
Blechnum orientale	- Oriental Blechnum	herb	native	Kong	-			+	Ŧ	+++		++	++			
Blechnum orientale Bombax ceiba	Tree Cotton	herb tree	native exotic	Kong Cultivated	- IUCN Red List: Least Concern			+	+	+++		++ +	++			+
Blechnum orientale Bombax ceiba Bothriochloa bladhii	Tree Cotton Australian Bluestem	herb tree perennial herb	native exotic native	Kong Cultivated Common in Hong Kong	-			+	+	+++			++	+		++++
Blechnum orientale Bombax ceiba	Tree Cotton	herb tree	native exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant	-			+	+	+++			++	+	++	
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis Brachiaria mutica	Tree Cotton Australian Bluestem	herb tree perennial herb climbing shrub herb	native exotic native exotic exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi	-	+++	+	+		++++			++	+	++	
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis	Tree Cotton Australian Bluestem Brazil Bougainvillea	herb tree perennial herb climbing shrub	native exotic native exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuan Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing	IUCN Red List: Least Concern	+++	+	+	+	+++			++		++	
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis Brachiaria mutica	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass	herb tree perennial herb climbing shrub herb	native exotic native exotic exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi	IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern	+++	+	+		+++			++		++	
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rapa var. parachinensis	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage	herb tree perennial herb climbing shrub herb biennial herb	native exotic native exotic exotic exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi Cultivated	IUCN Red List: Least Concern	+++	+	+			+		++		++	++
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rape var. parachinensis Breynia fruticosa	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf	herb tree perennial herb climbing shrub herb biennial herb shrub	native exotic native exotic exotic exotic native	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mal Po, Plover Cove, Tsing Yi Cultivated Common in Hong Kong	IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern	+++	+	+		+	+	+			++	++
Blechnum orientale Bombax ceiba Bothriochloa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rapa var. parachinensis Breynia fruticosa Bridelia tomentosa Broussonela papyrifera	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf Pop-gun Seed Paper Mulberry	herb tree perennial herb climbing shrub herb biennial herb shrub or small tree	native exotic native exotic exotic exotic native native	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong	IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern	+++	+	+	++	+	+	+			++	++
Blechnum orientale Bombax ceiba Bothricchiloa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rapa var. parachinensis Breynia fruticosa Bridelia tomentosa Broussonelia papyrifera Brucea javanica	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf Pop-gun Seed Paper Mulberry False Sumac	herb tree perennial herb climbing shrub herb biennial herb shrub or small tree shrub or small tree	native exotic native exotic exotic exotic native native native native native	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Common in Hong Kong	IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern	+++	+	+	++	+	+	+			++	++
Blechnum orientale Bombax ceiba Bothricchioa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rapa var. parachinensis Breynia fruticosa Bridelia tomentosa Broussonetia papyrifera Brucea javanica Caliandra haematocephala	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf Pop-gun Seed Paper Mulberry False Sumac Pink Powder Puff	herb tree perennial herb climbing shrub herb biennial herb shrub or small tree tree shrub or small tree shrub or small tree shrub	native exotic native exotic exotic exotic native native native native exotic	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong	IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern IUCN Red List: Least Concern		+	+	++	+	+	+		++++		++
Blechnum orientale Bombax ceiba Bothriochioa bladhii Bougainvillea spectabilis Brachiaria mutica Brassica rapa var. parachinensis Bereynia fruticosa Breynia fruticosa Bridelia tomentosa Broussonelia papyrifera Brucea javanica	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf Pop-gun Seed Paper Mulberry False Sumac	herb tree perennial herb climbing shrub herb biennial herb shrub or small tree shrub or small tree	native exotic native exotic exotic exotic native native native native native	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Yi Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Cultivated Aberdeen, Victoria Peak, Sai Kung, Ng	IUCN Red List: Least Concern IUCN Red List: Least Concern	+++	+		++	+++	+	+				++
Blechnum orientale Bombax ceiba Bothricchloa bladhii Bougainchloa bladhii Brachiaria mutica Brashica rapa var. parachinensis Breynia fruticosa Broussonetia papyrifera Brucea javanica Calliandra haematocephala Callipteris esculenta	Tree Cotton Australian Bluestem Brazil Bougainvillea Blunt Signal-grass Flowering Chinese Cabbage Waxy Leaf Pop-gun Seed Paper Mulberry False Sumac Pink Powder Puff Freshy Lady-fem	herb tree perennial herb climbing shrub herb biennial herb shrub or small tree tree shrub or small tree shrub or small tree shrub	native exotic native exotic exotic exotic native native native native exotic native native native	Kong Cultivated Common in Hong Kong Cultivated in gardens or as a pot plant Aberdeen, Sha Tin, Yuen Long, Nam Sang Wai, San Tin, Mai Po, Plover Cove, Tsing Vai, San Tin, Mai Po, Plover Cove, Tsing Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Cultivated Cultivated	IUCN Red List: Least Concern IUCN Red List: Least Concern		+		++	+++	+	+		++++		++

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽³⁾	MA	РО	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Celtis sinensis	Chinese Hackberry	tree	native	Common in Hong Kong and widely planted	IUCN Red List: Least Concern					++	+	++	+	+		++
Chukrasia tabularis	Chittagong Chickrassy	tree	exotic	Cultivated	IUCN Red List: Least Concern							++				
Cinnamomum burmannii	Batavia Cinnamon	large shrub or tree	native	Common in Hong Kong	-					+						
Cinnamomum camphora	Camphor Tree	large tree	native	Common in Hong Kong. Also widely cultivated	IUCN Red List: Least Concern					+		+				
Citrus maxima	Pummelo	tree	exotic	Cultivated	IUCN Red List: Least Concern										+	
Citrus mitis	Calamondin	shrub or small tree	-	-	-										+	
Clausena lansium	Wampi	small tree	exotic	Cultivated	IUCN Red List: Least Concern							+			++	
Cleistocalyx nervosum	Lidded Cleistocalyx	tree	native	Common in Hong Kong	-											+
Coccinia grandis	lvy-gourd	herbaceous vines	native	Wong Chuk Hang, Tsuen Wan, Shan Liu, Ping Shan	-											++
Cocculus orbiculatus	Snail Seed	climber: vine	native	Common in Hong Kong	-				++	++		+				+
Colocasia esculenta	Taro	herb	exotic	Cultivated or wild	IUCN Red List: Least Concern	+++	+	++	++						+	+
Commelina diffusa	Diffuse Day-flower	herb	native	Common in Hong Kong	IUCN Red List: Least Concern	++++	++	+						++		
Conyza sumatrensis	-	herb	exotic	Naturalized and widely distributed in Hong Kong	-			+								
Costus speciosus	Crape Ginger	herb	native	Mount Gough, Tai Hang Rd., Lantau Peak	-											+
Cratoxylum cochinchinense	Yellow Cow Wood	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern					++		+	++			
Crinum asiaticum var. sinicum	St. John's Lily	herb	native	Tai Long Sai Wan, Ham Tin, Tai Wan, Long Ke, Lantau Island	-			+							+	
Curcuma longa	-	herb	exotic	Cultivated	IUCN Red List: Data Deficient											+
Cyclosorus interruptus	Interrupted Tri-vein Fern	herb	native	-	IUCN Red List: Least Concern	+++										1
Cyclosorus parasiticus	Wood-fern	herb	native	-	-					++	+				+	+
Cyperus involucratus	Umbrella Plant	herb	exotic	Cultivated or naturalized	-	+++										
Cyperus odoratus	-	herb	exotic	-	IUCN Red List: Least Concern				++							
Dalbergia benthamii	Bentham's Rosewood	climber: vine	native	Common in Hong Kong	IUCN Red List: Least Concern					+		++				
Daphniphyllum calycinum	-	tree	native	Common in Hong Kong	IUCN Red List: Least Concern					++			+			
Dendrotrophe varians	-	woody vine	native	Aberdeen, Findlay Rd., Mount Collinson Rd., Pok Fu Lam Reservoir, Stanley, Tai Mo Shan, Sha Tau Kok, Lantau Island	-								+			
Desmodium heterocarpon	False Groundnut	subshrub	native	Wong Nai Chung Gap, Tai Hang Rd., Shing Mun, Sha Tin	-											+
Desmos chinensis	Desmos	woody vine	native	Common in Hong Kong	-								++			
Dianella ensifolia	Dianella	herb	native	Common in Hong Kong								+				1
Dicranopteris pedata	Dichotomy Forked Fern	herb	native	very common	-							++	+++			
Dimocarpus longan	Longan	tree	exotic	Cultivated	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		+	+		++	+				+++	
Dracaena sanderiana	Belgium Evergreen	shrub	exotic		micatchicu											1
					_										-	
	_	-		_	_										+	
Dracaena spp. Duranta erecta	- Golden Dewdrons	-	exotic	- Cultivated	- IUCN Red List: Least Concern										+ +	+
Duranta erecta	- Golden Dewdrops Bamboo Palm	climbing shrub		- Cultivated Cultivated	- IUCN Red List: Least Concern IUCN Red List: Near Threatened				+	+		+				+
Duranta erecta Dypsis lutescens	Bamboo Palm	- climbing shrub	exotic exotic	Cultivated	IUCN Red List: Least Concern IUCN Red List: Near Threatened	++			+	+		+				+
Duranta erecta Dypsis lutescens Eichhornia crassipes	Bamboo Palm Water Hyacinth	- climbing shrub shrub palm	exotic exotic exotic			++	+		+	+		+				+
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulcis	Bamboo Palm	climbing shrub shrub palm floating herb herb climbing shrub	exotic exotic exotic exotic exotic native	Cultivated Naturalised in Hong Kong	IUCN Red List: Near Threatened	++	+		+	+		+				+
Duranta erecta Dypsis lutescens Eichhornia crassipes	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia	climbing shrub shrub palm floating herb herb climbing shrub climber: vine	exotic exotic exotic exotic exotic native native	Cultivated Naturalised in Hong Kong Cultivated	IUCN Red List: Near Threatened	++	+		+			+	++			+
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb	exotic exotic exotic exotic exotic native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong	IUCN Red List: Near Threatened	++	+		+			+	++			+
Duranta erecta Dypsis lutescens Elchhomia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emblia sonchifolia Erribotirya japonica	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree	exotic exotic exotic exotic exotic native native native exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated	IUCN Red List: Near Threatened	++	+						++			+
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleucharis dulcis Eleutherococcus trifoliatus Embelia laeta Emibilia sonchifolia Eriobotrya japonica Eucalyptus spp.	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree	exotic exotic exotic exotic exotic native native native exotic exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widey disributed in Hong Kong Common in Hong Kong Cultivated cultivated; common	IUCN Red List: Near Threatened	++	+		+ ++			+	++			+
Duranta erecta Dypsis lutescens Elchhornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Embelia sonchifolia Erriobutrya japonica	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree	exotic exotic exotic exotic exotic native native native exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated cultivated; common Naturalized	IUCN Red List: Near Threatened	++	+		+				++			+
Duranta erecta Dypsis lutescens Echtornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emibilia asonchifolia Eriobotrya japonica Eucalyptus spp.	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree	exotic exotic exotic exotic exotic native native native exotic exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated cultivated cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu LekYuen Tsuen, Tung Chung, Lantau	IUCN Red List: Near Threatened	+	+		+ ++				++			+
Duranta erecta Dypsis lutescens Elcihornia crassipes Elecutaris dulcis Embelia laeta Emilia sonchifolia Erribotrya japonica Eucalyptus spp. Euphorbia hirta	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb	exotic exotic exotic exotic exotic native native native exotic exotic exotic exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated; cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu	IUCN Red List: Near Threatened IUCN Red List: Least Concern	+	+		+ ++				++			+
Duranta erecta Drypsis lutescens Eichhornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobotrya japonica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb	exotic exotic exotic exotic exotic native native exotic exotic exotic exotic exotic exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu LekYuen Tsuen, Tung Chung, Lantau Island Cultivated Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++				++			+
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobotrya japonica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Cochin-china Excoecaria	climbing shrub shrub palm floating herb herb climbing shrub climber; vine herb small tree tree herb annual herb shrub	exotic exotic exotic exotic exotic native native native exotic exotic exotic exotic native exotic	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Cultivated cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu Lek Yuen Tsuen, Tung Chung, Lantau Island Cultivated	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++			+ ++				++			+
Duranta erecta Dypsis lutescens Eichhornia crassipes Eichornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobotry ajponica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia Exceecaria cochinchinensis Ficus fistulosa	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb shrub tree	exotic exotic exotic exotic exotic native native native exotic exotic exotic exotic exotic exotic exotic native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Widely distributed in Hong Kong Common in Hong Kong Cultivated cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu LekYuen Tsuen, Tung Chung, Lantau Island Cultivated Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++			+ ++	+	+	+++	++	+		+
Duranta erecta Dypsis lutescens Elchhornia crassipes Elchornia crassipes Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobotrya japonica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hirta	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Tassel Flower Loquat - Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Banyan	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb tree shrub or small tree shrub or small tree shrub or small tree tree	exotic exotic exotic exotic native native native exotic exotic exotic exotic exotic exotic native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Cultivated Common in Hong Kong Cultivated C	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++	+	+	+++	++	+		
Durania erecta Dypsis lutescens Elchhornia crassipes Elcharia crassipes Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobotrya japonica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hirta Ficus hirta Ficus ninta Ficus minta Ficus minta	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chriese Baryan Creeping Fig	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb shrub or small tree shrub or small tree tree shrub or small tree tree climbing woody vine	exotic exotic exotic exotic exotic native native exotic exotic exotic exotic exotic exotic native native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Cultivated cultivated; common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Sui LekYuen Tsuen, Tung Chung, Lantau Island Cultivated Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++	+	+	+++	++	+		++
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulois Eleutherococcus trifoliatus Embelia laeta Emilia sonchifolia Eriobtrya japonica Eucalyptus spp. Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hirta Ficus hirta	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Baryan Creeping Fig Common Red-stem Fig	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb shrub or small tree shrub or small tree shrub or small tree tree climbing woody vine tree	exotic exotic exotic exotic native native native exotic exotic exotic exotic exotic native native native native native native native native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Coltivated cultivated, common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu Lek Yuen Tsuen, Tung Chung, Lantau Island Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++	+	+	+++	++	+		
Duranta erecta Dypsis lutescens Elchornia crassipes Elchornia crassipes Eleutherococcus trifoliatus Embelia laeta Emibila asonchifolia Eriobotrya japonica Eucahypus spp. Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hispida Ficus microcarpa Ficus prila	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Banyan Creeping Fig Common Red-stem Fig Varied-leaf Fig	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb shrub ree shrub or small tree tree shrub or small tree	exotic exotic exotic exotic exotic native native exotic exotic exotic exotic exotic exotic native native native native native native native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Cultivated Common in Hong Kong Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Common in Hong Kong Common in H	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++	+	+	+++ +++ +++ ++	++	+	+	++
Duranta erecta Dypsis lutescens Eichhornia crassipes Eichorharis dulcis Eleucharis dulcis Eleucharis coccus trifoliatus Embilia laeta Ernilia sonchifolia Eriobstrya japonica Eucatyptus spp. Euphorbia hirta Euphorbia hirta Euphorbia hypericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hirta Ficus variegata Ficus variegata Ficus variolosa Ficus nis	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Baryan Creeping Fig Common Red-stem Fig	climbing shrub shrub palm floating herb herb climbing shrub climber; vine herb small tree tree herb annual herb shrub or small tree shrub or small tree tree tree climbing woody vine tree tree shrub or tree tree	exotic exotic exotic exotic exotic native native native exotic exotic exotic exotic exotic exotic native native native native native native native native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Coltivated cultivated, common Naturalized Tsim Sha Tsui, Kwai Chung Park, Fanling, Lok Ma Chau, PokWai, Sai Kung, Siu Lek Yuen Tsuen, Tung Chung, Lantau Island Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ +	+	+	+++		+	+	+++
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulcis Eleutherococcus trifoliatus Embelia laeta Emilia sonchídula Eriobotry algonica Eucatyptus spp. Euphorbia hirta Euphorbia hirta Eucoecaria cochinchinensis Ficus fistulosa Ficus fistulosa Ficus fistulosa Ficus microcarpa Ficus anicqua Ficus anicqua Ficus anicqua Ficus anicqua Ficus variolosa Ficus variolosa Ficus rens Ficus rens Ficus rens Ficus rens Ficus pp.	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Banyan Creeping Fig Common Red-stem Fig Varied-leaf Fig	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb shrub ree shrub or small tree tree shrub or small tree	exotic exotic exotic exotic exotic native native exotic exotic exotic exotic exotic exotic native native native native native native native native native native native	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Cultivated Common in Hong Kong	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++	+	+	+++ +++ +++ ++		*	+	++
Duranta erecta Dypsis lutescens Eichhornia crassipes Eleocharis dulcis Eleutherococcus tritoliatus Embelia laeta Eribatrya japonica Eucatyptus spp. Euphorbia hytericifolia Excoecaria cochinchinensis Ficus fistulosa Ficus hitta Ficus nitroda Ficus variotada Ficus Ficus Ficus Ficus Ficus Ficus Ficus Fic	Bamboo Palm Water Hyacinth Water Chestnut Three-leaved Eleutherococccus Twig-hanging Embelia Tassel Flower Loquat - Garden Spurge Milk Spurge Cochin-china Excoecaria Common Yellow Steg-fig Hairy Fig Opposite-leaved Fig Chinese Banyan Creeping Fig Common Red-stem Fig Varied-leaf Fig Big-leaved Fig -	climbing shrub shrub palm floating herb herb climbing shrub climber: vine herb small tree tree herb annual herb shrub herb tree shrub or small tree tree shrub or small tree tree climbing woody vine tree shrub or tree tree tree herb	exotic exotic exotic exotic exotic native native native exotic native na	Cultivated Naturalised in Hong Kong Cultivated Common in Hong Kong Common in Hong Kong Common in Hong Kong Cultivated Cul	IUCN Red List: Near Threatened IUCN Red List: Least Concern	++	+		+ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ ++ +	+	+	+++ +++ +++ ++	+	+	+	++ + + + + + +

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽³⁾	MA	PO	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Gnaphalium pensylvanicum	Purple Cudweed	herb	native	Common in Hong Kong	-			+								
Goeppertia makoyana	Peacock Plant	herb	exotic	Cultivated	-										+	1
Helicteres angustifolia	Narrow-leaved Screwtree	subshrub	native	Common in Hong Kong	-		+					+				
Heterosmilax japonica	Heterosmilax	climbing shrub	native	Pok Fu Lam	-								+			
Hibiscus sabdariffa	Roselle	shrub	exotic	-	-				++							┝───
Hibiscus tiliaceus	Cuban Bast	shrub or tree	native	Hong Kong Island, Shek O, Ma Liu Shui, Mai Po, Leung Shuen Wan Chau (Tall Island)	IUCN Red List: Least Concern							++				1
Hylocereus undatus	Night-blooming Cereus	perennial herb	exotic	Cultivated	IUCN Red List: Data Deficient										++	
Hymenocallis littoralis	American Hymenocallis	herb	exotic	Cultivated	-										++	
llex asprella	Rough-leaved Holly	shrub	native	very common	-					+		+	++			
Ipomoea aquatica	Water Spinach	herb	exotic	Cultivated	IUCN Red List: Least Concern		+		++++							ļ
Ipomoea cairica	Gairo Morning Glory	climber: twining herb	exotic	Common in Hong Kong	IUCN Red List: Least Concern						+				+	++
Kyllinga polyphylla Lantana camara	Aromatic Kyllinga Lantana	herb	exotic	Victoria Park, Tsiu Hang, Tai Po Kau Naturalized in Hong Kong	-							++		+	+	++
Lemna minor	Lesser Duck-weed	floating small herb	native	New Territories	IUCN Red List: Least Concern		++								- T	
Leucaena leucocephala	White Popinac	small tree	exotic	Cultivated and naturalized	-			+			++	++++				++
		1 1		Common in Hong Kong and widely												
Ligustrum sinense	Chinese Privet	shrub or small tree	exotic	cultivated	-					+++		+				++
Liriope spicata	Lily Turf	perennial herb	native	Common in Hong Kong	-					+						
Litchi chinensis	Lychee	tree	exotic	Cultivated	List of Wild Plants under State Protection: Category II; Threatened Species List of China's Higher Plants: Endangered; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened					+++	+				+++	
Litsea cubeba	Fragrant Litsea	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern							++				
Litsea glutinosa	Pond Spice	tree	native	Common in Hong Kong	IUCN Red List: Least Concern					++	++	+				
Litsea rotundifolia var. oblongifolia	Oblong-leaved Litsea	shrub	native	Common in Hong Kong	-					+++	++	+	+++			+
Lophatherum gracile	Common Lophantherum	perennial herb	native	Common in Hong Kong	-						++		+			L
Lophostemon confertus	Brisbane Box	tree	exotic	Cultivated	IUCN Red List: Least Concern					+						
Ludwigia erecta	-	herb	exotic	-	-	+	+		++							┝───
Ludwigia hyssopifolia	-	herb herb	native	Tai Lam Chung Sha Tin, Tai Mo Shan	IUCN Red List: Least Concern	+	+		+							┝────
Ludwigia perennis Lycopersicon esculentum	- Tomato	herb	exotic	Cultivated	IUCN Red List: Least Concern		+		++					÷		<u> </u>
Lygodium japonicum	Climbing Fern	climbing herb	native	Cultivated	IDCIVITED LIST. Least Concern					++			+			<u> </u>
Lygodium scandens	Scansorial Climbing Fern	climbing herb	native	-	-						++	++	++			
Macaranga tanarius var. tomentosa	Elephant's Ear	tree	native	Common in Hong Kong	IUCN Red List: Least Concern		+			++	+++	++	+		+	+
Machilus pauhoi	Many-nerved Machilus	tree	native	Tai Po (Nam Hang), Sai Kung (Tsiu Hang)	IUCN Red List: Least Concern					++						
Macrothelypteris torresiana	Mariana Maiden Fern	herb	native	-	-		+									
Malvastrum coromandelianum	False Mallow	herb shrub	exotic	Common in Hong Kong	-			+	+							++
Malvaviscus penduliflorus Mangifera indica	Turk's Cap Mango	tree	exotic	Commonly cultivated in Hong Kong Cultivated	IUCN Red List: Data Deficient		+		+	+					++	77
Manihot esculenta	Tapioca Plant	shrub	exotic	Cultivated	IDEN Red List. Data Delicient				+							<u> </u>
Maranta arundinacea	Arrowroot	perennial herb	exotic	Cultivated	-										++	
Melaleuca cajuputi subsp. cumingiana	Paper-bark Tree	tree	exotic	Cultivated	IUCN Red List: Least Concern					+						
Melastoma malabathricum	Common Melastoma	shrub	native	Common in Hong Kong	-					+++						
Melia azedarach	China-berry	tree	exotic	Cultivated or naturalized	IUCN Red List: Least Concern					+	++	++				+
Melicope pteleifolia	Thin Evodia	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern						+					───
Michelia x alba Microcos nervosa	White Jade Orchid Tree Microcos	tree shrub or small tree	exotic	Widely cultivated in gardens Common in Hong Kong	Protected under Forests and Countryside Ordinance (Cap. 96)				+	++		+	++			
Microcos nervosa Microstegium ciliatum	Ciliate Microstegium	rennial procumbent he	native	Common in Hong Kong Common in Hong Kong				<u> </u>	+	+	<u> </u>		77			<u> </u>
Mikania micrantha	Mile-a-minute Weed	climbing herb	exotic	Naturalized and widely distributed in Hong Kong	-	++	++				+	++		++	+	++
Mimosa pudica	Sensitive Plant	herb	exotic	Naturalized in Hong Kong	IUCN Red List: Least Concern									+		+
Miscanthus floridulus	Many-flowered Silvergrass	perennial herb	native	Common in Hong Kong		+	+									ļ
Miscanthus sinensis	Chinese Silvergrass	perennial herb	native	Common in Hong Kong	-			ļ			ļ	++				—
Morinda parvifolia	Little-leaved Indian-mulberry	climbing shrub shrub or tree	native	Common in Hong Kong	-			<u> </u>	ļ		<u> </u>	++		+		┝───
Morus alba	White Mulberry	shrub or tree herb	native	Common in Hong Kong. Also cultivated New Territories	IUCN Red List: Least Concern		+		++							⊨
Murdannia Ioriformis Musa x paradisiaca	- Common Banana	perennial herb	exotic	Cultivated	IUCN Red List: Least Concern			<u> </u>	++		<u> </u>				++	<u> </u>
Mussa x paradisiaca Mussaenda pubescens	Splash-of-white	climbing shrub	native	Common in Hong Kong	-			1			+	+	++			<u> </u>
Nasturtium officinale	Water Cress	aquatic herb	exotic	Cultivated	IUCN Red List: Least Concern				++++							
Nephrolepis auriculata	Tuberous Sword Fern	herb	native	-	-							+			+	
Neyraudia reynaudiana	Burma-reed	perennial herb	native	Common in Hong Kong	-						++	++	+			
Nymphaea spp.	-	aquatic herb	exotic	-	-		+									1
Ocimum basilicum	Basil	herb	exotic	Deep Water Bay, New Territories	-											+
Opuntia stricta var. dillenii	Prickly-pear	perennial herb	exotic	Cultivated or naturalized	- List of Wild Plants under State Protection:										+	┝───
Oryza sativa	Rice Sorrel	perennial herb	exotic	Cultivated	List of Wild Plants under State Protection: Category II			.	+++++							<u> </u>
Oxalis corniculata	Souriei	perennial herb	native	Common in Hong Kong	-			+				1		1		i ++

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽³⁾	МА	РО	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Oxalis debilis subsp. corymbosa	Lavender Sorrel	perennial herb	exotic	A common weed in Hong Kong	-										+	+
Paederia scandens	Chinese Fevervine	climber: vine	native	Common in Hong Kong	-											++
Palhinhaea cernua	Nodding Clubmoss	creeping herb	native	-	-								+			
Panicum maximum	Guinea Grass	perennial herb perennial herb	exotic	Cultivated for forage	-				++		++	++				+
Panicum repens	Panic Grass Hilo Grass	perennial herb	native	Common in Hong Kong Common in Hong Kong	IUCN Red List: Least Concern IUCN Red List: Least Concern				++							++
Paspalum conjugatum Paspalum spp.	Hild Grass	perenniai nero	hative	Common In Hong Kong	IUCIN Red List: Least Concern									++		++
Passiflora foetida	- Passion Flower	herbaceous vine	exotic	Common in Hong Kong. Naturalized	-									++	+	+
Pedilanthus tithymaloides	Redbird Cactus	shrub	exotic	-	-											+
Pennisetum purpureum	Napier Grass	perennial herb	exotic	Cultivated	IUCN Red List: Least Concern	++					1	1				
Peperomia pellucida	Clearweed	herb	exotic	Naturalized in Hong Kong	-				+							
Perilla frutescens	Perilla	herb	exotic	Cultivated	IUCN Red List: Least Concern										+	
Persicaria barbata	Hairy Knotweed	herb	native	Common in Hong Kong	IUCN Red List: Least Concern	+	++	+								
Persicaria chinensis	Chinese Knotweed	herb	native	Common in Hong Kong	-										++	
Persicaria lapathifolia	White Smartweed	herb	native	Tsuen Wan, Sha Tin, Ha Tsuen, Ta Kwu Ling, Sheung Shui	IUCN Red List: Least Concern				+							
Persicaria orientalis	Prince's Feather	herb	native	Sha Po, Yuen Long	-			+								
Persicaria pubescens	Pubescent Knotweed	herb	native	Sai Kung, Sheung Shui, Tai Kwu Ling	IUCN Red List: Least Concern	+						+				+
Phragmites australis	Common Reedgrass	perennial herb	native	New Territories, Lantau Island	IUCN Red List: Least Concern	+++				· .	-					+
Phyllanthus cochinchinensis Phyllanthus emblica	Vietnam Leaf-flower Myrobalan	shrub shrub or tree	native	Common in Hong Kong Common in Hong Kong	- IUCN Red List: Least Concern					+		+	++			+
Phyllanthus reticulatus	Reticulated Leaf-flower	shrub	native	Pok Fu Lam Rd., Stubbs Rd., DeepWater Bay, Lam Tsuen, Ma On Shan, Tai O,	IUCN Red List: Least Concern					+						-
Pinus elliottii	Slash Pine	tree	exotic	Lantau Island Widely planted in countryside	IUCN Red List: Least Concern								+			—
Pisum sativum	Garden Pea	climbing herb	exotic	Cultivated	IDEN Red List. Least Concern								Ŧ			+
Platycladus orientalis	Chinese Arborvitae	tree	exotic	Cultivated in gardens	IUCN Red List: Near Threatened				+		1					<u> </u>
Portulaca oleracea	Purslane	herb	native	Common in Hong Kong	IUCN Red List: Least Concern			+	+		-					-
Praxelis clematidea	-	perennial herb	exotic	Naturalized and widely distributed in Hong Kong	-			+	+				++			
Psidium guajava	Guava	tree	exotic	Cultivated	IUCN Red List: Least Concern		+		+		1	1				
Psychotria asiatica	Wild Coffee	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern					+++	++	+				+
Psychotria serpens	Creeping Psychotria	emi-woody climber: vir	native	Common in Hong Kong	-					++						
Pteris semipinnata	Semi-pinnated Brake	herb	native	-	-					++						
Pteris vittata	Ladder Brake	herb	native	-	IUCN Red List: Least Concern									+		+
Pueraria lobata var. montana	Montane Kudzu	climber: vine	native	Common in Hong Kong	-											++
Pueraria phaseoloides	Wild Kudzu Vine	climber: vine	native	Common in Hong Kong	-									++		
Ranunculus sceleratus	Celery-leaved Crowfoot	herb	native	New Territories	IUCN Red List: Least Concern				+		-					<u> </u>
Rhaphiolepis indica	Hong Kong Hawthorn	shrub or small tree shrub	native	Common in Hong Kong	-					+		++	++			+
Rhododendron spp. Rhodomyrtus tomentosa	- Rose Myrtle	shrub	native	- Common in Hong Kong	IUCN Red List: Least Concern						-	+			т	
Rhus chinensis	Sumac	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern					+		+	++			-
Rhus succedanea	Wax Tree	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern					++		++	+++			1
Rorippa indica	-	biennial herb	native	New Territories, Lantau Island	-			+								-
Rourea microphylla	Little-leaved Rourea	climbing shrub	native	Common in Hong Kong	-								++			
Rumex trisetifer	Trisetiferous Dock	herb	native	Hong Kong Islands	-	++		+								
Saccharum officinarum	Sugar Cane	perennial herb	exotic	Cultivated	-				+							
Sageretia thea	Hedge Sageretia	shrub	native	Common in Hong Kong	-							+	++			+
Sagittaria trifolia subsp. leucopetala	Chinese Arrow-head	aquatic herb	exotic	Cultivated	-		+									
Sapium discolor	Mountain Tallow Tree	small tree	native	Common in Hong Kong. Also planted	-							+	+++			
Sapium sebiferum	Chinese Tallow Tree Spatulate-leaved Sauropus	tree shrub	native	Common in Hong Kong. Also planted Cultivated	-				+	<u> </u>	<u> </u>			+	++	+
Sauropus spatulifolius Schefflera heptaphylla	Ivy Tree	tree	native	Common in Hong Kong	IUCN Red List: Least Concern						++		++		++	+
Scleria spp.	-	herb	native	-	-							+				+
Scoparia dulcis	Sweet Broomwort	herb	exotic	Naturalized in Hong Kong	-		1	+	1		1					+
Senna tora	Sickle Senna	subshrubby herb	exotic	Naturalized	-				+							+
Sida rhombifolia	Sida Hemp	erect subshrub	native	Common in Hong Kong	<u>-</u>											+
Solanum americanum	Shining-fruit Nightshade	herb	exotic	Naturalized in Hong Kong	-			+								
Solanum melongena	Egg-plant	herb or subshrub	exotic	Cultivated	-				++		1					+
Solanum torvum	Tetrongan	shrub	exotic	Naturalized in Hong Kong	-	ļ	+	ļ	I	I	ļ	1	ļ	+		+ +
Sonchus arvensis	Field Sow-Thistle	herb herb	native	Common in Hong Kong	- IUCN Red List: Least Concern			+	+	I	I	+				+
Spermacoce remota Spilanthes paniculata	- Gold Button	herb	native	- Common in Hong Kong	IUCN Red List: Least Concern				+			+				+
Stephania longa	Long Stephania	climber: vine	native	Aberdeen, Tai Po Kau, Ma On Shan,	-								+			1
Sterculia lanceolata	Lance-leaved Sterculia	semi-deciduous tree	native	Sheung Shui, Tai Mong Tsai Common in Hong Kong	IUCN Red List: Least Concern						+	+	+			+
Sterculia lanceolata Sterculia monosperma	Common Sterculia	tree	exotic	Tsuen Wan, Shatin. Cultivated	-	<u> </u>	<u> </u>	<u> </u>	+	1	+ -		- T	<u> </u>		+
Synedrella nodiflora	Synedrella	herb	exotic	Naturalized and widely distributed in Hong Kong	-				<u> </u>				+			-
Syngonium podophyllum	African Evergreen	herb	exotic		-				+	1	1	1			+	1
Syzygium cumini	Jambolan Plum	tree	exotic	Cultivated	IUCN Red List: Least Concern	Ì	İ	İ	1	+	1	1	Ì	Ì		1
Syzygium hancei	Hance's Syzygium	tree	native	Common in Hong Kong	IUCN Red List: Least Concern								++			1
Syzygium jambos	Rose Apple	tree	exotic	Cultivated & naturalized	IUCN Red List: Least Concern					+	+					+
Tetracera asiatica	Sandpaper Vine	woody vine	native	Common in Hong Kong	-					+	1	1				1

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong ⁽¹⁾	Protection / Conservation Status ⁽³⁾	МА	PO	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Tetradium glabrifolium	Melia-leaved Evodia	tree	native	Hong Kong Island, Sai Kung, Tai Po, Bride's Pool, Lantau Island	-					++		++	+++			
Thunbergia erecta	Bush Thunbergia	erect shrub	exotic	Cultivated	-										+	
Thysanolaena latifolia	Tiger-grass	herb	native	Common in Hong Kong	-					+						
Trema tomentosa	India-charcoal Trema	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern						+					
Tridax procumbens	Tridax	perennial herb	exotic	Naturalized and widely distributed in Hong Kong	-			+								+
Typha angustifolia	Narrow-leaved Cat-tail	perennial herb	exotic	Cultivated	IUCN Red List: Least Concern	++										
Urena lobata	Rose Mallow	subshrubby herb	native	Common in Hong Kong	IUCN Red List: Least Concern				+	+						+
Vernonia amygdalina	-	shrub	exotic	-	-											+
Vigna unguiculata subsp. sesquipedalis	Yard-long Bean	climbing vine	exotic	Cultivated	-											+
Vitex negundo	Yellow Bramble	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern							+				
Wedelia trilobata	-	perennial herb	exotic	Naturalized and widely cultivated	-		++	+++						++		++
Wikstroemia indica	Indian Wikstroemia	shrub	native	Common in Hong Kong	-							+				
Zanthoxylum avicennae	Prickly Ash	tree	native	Common in Hong Kong	-					++	+					
Zea mays	Maize	herb	exotic	Cultivated	IUCN Red List: Least Concern				++							
					Total no. of species	18	24	27	56	60	28	64	45	22	42	64

Notes:

(1) Distribution in Hong Kong follows:

Wu, S.H. & Lee, T.C.W. (2000). Pteridophytes 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 23:137-148.

(2) Yip, Y., Yip, K. L., Liu, K. U., Ngar Y. N., & Lai, C. C. (2010). A Floristic Survey of Marshes in Hong Kong. Hong Kong Biodiversity. Issue No. 19.

(3) Protection statuses follow:

Protected under the Forests and Countryside Ordinance (Cap. 96)

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

Hu, O.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 Ministry of Forestry in 2021)

Fu, K.L. (1992). China Plant Red Data Book. Vol. 1 - Rare and Endangered Plants. Science Press, Beijing. 736pp. (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. http://www.iucnredlist.org.

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 University 3:24-27.

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).

(4) The individual(s) is artificially introduced into the habitat for horticultural or amenity purpose, thus it is not considered as species of conservation importance.

Abbreviation for Habitats: MA=Marsh/Reed; PO=Pond; WC=Watercourse; AGL=Agricultural Land; WL=Woodland; MWL=Mixed Woodland; PL=Plantation; SL=Shrubland; GL=Grassland; VO=Village/Orchard; DA=Developed Area/Wasteland Code for Abundance: +++++=Dominant; ++++=Abundant; +++=Frequent; ++=Occasional; +=Scarce

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

Appendix 3.3Fauna Species Recorded within the 300m Assessment Area

Appendix 1.3 Avifauna Spec	ies Recorded within the Asse	ssment Area			Protection															
Common Name	Scientific Name	Distribution in Hong Kong ⁽³⁾	Principal Status ⁽⁴⁾	Level of Concern ⁽⁵⁾	Status in China ⁽⁶⁾	China Red Data Book ⁽⁷⁾	Red List of China's Vertebrates ⁽⁸⁾	IUCN Red List (Version 2022.2) ⁽⁹⁾	MA	РО	wc	AGL	WL	MWL	PL	SL	GL	vo	DA	IF
Alexandrine Parakeet	Psittacula eupatria	Locally common resident. Found in Kowloon Park.	-	-	Class II		Data Deficient	Near Threatened												+
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 Drongo	Dicrurus macrocercus	Common autumn passage migrant and winter visitor. Widely distributed in open area	M,Su	-	-	-	Least Concern	Least Concern						+					+	
Black Kite ⁽²⁾⁽¹⁰⁾	Milvus migrans	throughout Hong Kong. Common resident and winter visitor. Widely	W.R	(RC)	Class II	-	Least Concern	Least Concern												+
Black-collared Starling	Gracupica nigricollis	distributed in Hong Kong Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern				+		+	+		+	+	+++	
Black-crowned Night Heron ⁽¹⁰⁾	Nycticorax nycticorax	Common resident and migrant. Widely	Р	(LC)	-		Least Concern	Least Concern	+		+									+
Black-faced Spoonbill ⁽¹⁰⁾	Platalea minor	distributed in Hong Kong. Common winter visitor. Found in Deep Bay area.	w	PGC	Class II	Endangered	Endangered	Endangered		+++										+
Black-winged Stilt ⁽¹⁰⁾	Himantopus himantopus	Common migrant and wintor visitor. Found in Deep Bay area, Long Valley, Kam Tin	w	RC	-	-	Least Concern	Least Concern		+		++								
Blyth's Pipit	Anthus godlewskii	Vagrant. Found in Kam Tin.	-	-	-	-	Least Concern	Least Concern				+								1
Chestnut-eared Bunting	Emberiza fucata	Uncommon passage migrant. Found in Long Valley, Tai Mong Tsai, Luk Keng, Ho Chung, Kam Tin, Lantau, Sha Lo Tung.	м	LC	-	-	Least Concern	Least Concern				+								
Chinese Bulbul	Pycnonotus sinensis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern				++	++	+	+	+		+	+	
Chinese Pond Heron ⁽¹⁰⁾	Ardeola bacchus	Common resident. Widely distributed in Hong Kong.	Р	PRC (RC)	-	-	Least Concern	Least Concern	+	+	+	+		+						+
Cinereous Tit	Parus cinereus	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern					+		+			+	+	
Collared Crow ⁽¹⁰⁾	Corvus torquatus	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek Iap Kok, Shuen Wan, Lam Tsuen.	R	LC	-	-	Near Threatened	Vulnerable											+	
Common Sandpiper ⁽¹⁰⁾	Actitis hypoleucos	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.	M,W	-	-	-	Least Concern	Least Concern			+	+								
Common Snipe ⁽¹⁰⁾	Gallinago gallinago	Common passage migrant and winter visitor. Found in Long Valley, Chau Tau, Sai Kung	W	-	-	-	Least Concern	Least Concern				+								
Common Tailorbird	Orthotomus sutorius	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	+	+		+				+	+		+	
Crested Goshawk ⁽²⁾	Accipiter trivirgatus	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	R	-	Class II	Rare	Near Threatened	Least Concern												+
Crested Myna	Acridotheres cristatellus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+					+				++	++
Dusky Warbler	Phylloscopus fuscatus	Abundant winter visitor and migrant. Widely distributed in shrubland and waterside vegetation throughout Hong Kong.	w	-	-	-	Least Concern	Least Concern		+						+				
Eastern Cattle Egret ⁽¹⁰⁾	Bubulcus coromandus	Resident and common passage migrant. Widely distributed in Hong Kong.	Р	(LC)	-	-	Least Concern	Least Concern		++	+									
Eastern Yellow Wagtail	Motacilla tschutschensis	Common passage migrant and winter visitor. Widely distributed in agricultural fields and marsh edges throughout Hong Kong.	M,W	-	-	-	Least Concern	Least Concern				+								
Eurasian Spoonbill ⁽²⁾⁽¹⁰⁾	Platalea leucorodia	Uncommon winter visitor. Found in Deep Bay area.	W	LC	Class II	Vulnerable	Near Threatened	Least Concern		+										1
Eurasian Tree Sparrow	Passer montanus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern		+		++	+	+					++	
Great Cormorant ⁽¹⁰⁾	Phalacrocorax carbo	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	w	PRC	-	-	Least Concern	Least Concern			+									+++++
Great Egret ⁽¹⁰⁾	Ardea alba	Common resident, migrant and winter visitor. Widely distributed in Hong Kong.	Р	PRC (RC)	-	-	Least Concern	Least Concern		+	+	+								++++
Greater Coucal	Centropus sinensis	Common resident. Widely distributed in Hong Kong.	R	-	Class II	Vulnerable	Least Concern	Least Concern	+	+	+	+						+		+
Green Sandpiper ⁽¹⁰⁾	Tringa ochropus	Common migrant and winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Shek Kong, Ho Chung.	w	-	-	-	Least Concern	Least Concern			+									
Grey Heron ⁽¹⁰⁾	Ardea cinerea	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.	w	PRC	-	-	Least Concern	Least Concern			+	+			+					++
Grey Wagtail	Motacilla cinerea	Common passage migrant and winter visitor. Widely distributed in hill streams throughout Hong Kong.	w	-	-	-	Least Concern	Least Concern			+									
Grey-streaked Flycatcher	Muscicapa griseisticta	Uncommon passage migrant. Widely distributed in Hong Kong.	м	-	-	-	Least Concern	Least Concern							+					
Hair-crested Drongo	Dicrurus hottentottus	Common migrant and winter visitor, and locally common resident. Widely distributed in wooded area throughout Hong Kong.	M,Su,W	-	-	-	Least Concern	Least Concern				+						+		

				1		1	r	1									· · · · · · · · · · · · · · · · · · ·			
Large Hawk Cuckoo	Hierococcyx sparverioides	Locally common spring and summer visitor. Widely distributed in woodland throughout in	Su	-	-	-	Least Concern	Least Concern											+	
		Hong Kong																		
Large-billed Crow	Corvus macrorhynchos	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern											+	Γ
Little Bunting	Emberiza pusilla	Common passage migrant and winter visitor. Widely distributed in open area throughout Hong Kong.	w	-	-	-	Least Concern	Least Concern				+								
Little Egret ⁽¹⁰⁾	Egretta garzetta	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Ρ	PRC (RC)	-	-	Least Concern	Least Concern	+	+	+	+								++
Masked Laughingthrush	Pterorhinus perspicillatus	Abundant resident. Widely distributed in shrubland throughout Hong Kong.	R	-	-	-	Least Concern	Least Concern	+		+	+	+	+	+	+	+	+	+	
Northern Shoveler ⁽¹⁰⁾	Spatula clypeata	Abundant winter visitor. Found in Deep Bay area.	W	RC	-	-	Least Concern	Least Concern		+										
Oriental Magpie	Pica serica	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern				+		+					+	
Oriental Magpie Robin	Copsychus saularis	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern					+	++	+			+	++	
Pied Avocet ⁽¹⁰⁾	Recurvirostra avosetta	Abundant winter visitor. Found in Deep Bay area.	W	RC	-	-	Least Concern	Least Concern				+								
Pied Kingfisher ⁽¹⁰⁾	Ceryle rudis	Common resident. Widely distributed in lakes and ponds throughout Hong Kong.	R	(LC)	-	-	Least Concern	Least Concern		+	+									+
Red-billed Blue Magpie	Urocissa erythroryncha	Common resident. Widely distributed in woodland edges throught Hong Kong.	R	-	-	-	Least Concern	Least Concern			+	+			+			+		
Red-whiskered Bulbul	Pycnonotus jocosus	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	+			+	+	+	+	+	+	++	++	
Richard's Pipit	Anthus richardi	Common passage migrant, winter visitor and locally common resident. Widely distributed in Hong Kong.	W,R	-	-	-	Least Concern	Least Concern				+								
Rock Dove	Columba livia	Locally common resident. Widely distributed in urban area throughout Hong Kong.	R	-	-	-	Least Concern	Least Concern												+
Savanna Nightjar	Caprimulgus affinis	Uncommon resident and passage migrant	Su,?W	-	-	-	Data Deficient	Least Concern			+								+	1
Scaly-breasted Munia	Lonchura punctulata	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern				+++								
Scarlet-backed Flowerpecker	Dicaeum cruentatum	Common resident. Widely distributed in wooded area throughout 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		+	+	++							+	
White-breasted Waterhen ⁽¹⁰⁾	Amaurornis phoenicurus	Common resident. Widely distributed in wetland throughout Hong Kong	R	-	-	-	Least Concern	Least Concern	+	+	+	+		+						
White-rumped Munia	Lonchura striata	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern				+								
White-throated Kingfisher ⁽¹⁰⁾	Halcyon smyrnensis	Common resident. Widely distributed in coastal areas throughout Hong Kong.	AM,P	(LC)	-	-	Least Concern	Least Concern	+		+	+								
Yellow-bellied Prinia	Prinia flaviventris	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	+	+							+			
Yellow-browed Warbler	Phylloscopus inornatus	Abundant winter visitor and migrant. Widely distributed in woodland throughout Hong Kong.	W	-	-	-	Least Concern	Least Concern							+					
								Total no. of species	11	18	19	31	9	12	13	6	6	13	19	. 14

Notes:

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

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

(3) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.

(4) Carey, G.J., Chalmers, M.L., Diskin, D.A., Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P. J., Leven,

(5) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. Memoirs of the Hong Kong Natural History

(6) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 9 February, 2021). (7) Zheng, G.-M. & Wang, Q.-S. (1998). China Red Data Book of Endangered Animals: Aves. First Edition. Beijing: Science Press.

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

(9) International Union for the Conservation of Nature (IUCN) (2022). IUCN Red List of Threatened Species. Version 2022.2.

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

Abbreviation for Habitats: MA=Marsh/Reed PO=Pond; WC=Watercourse; AL=Agricultural Land; WL=Woodland; MWL=Mixed Woodland; PL=Plantation; SL=Shrubland; GL=Grassland; VO=Village/Orchard; DA=Developed Area/Wasteland; IF=In Flight

Species of conservation importance is in bold type face.

Appendix 3.3 Mammal Species Recorded within the 300m Assessment Area

Scientific Name	Distribution in Hong Kong ⁽³⁾	Level of Concern ⁽⁴⁾	Protection Status in China ⁽⁵⁾	China Red Data Book ⁽⁶⁾	Red List of China's Vertebrates ⁽⁷⁾	IUCN Red List (Version 2023.1) ⁽⁸⁾	РО	wc	AGL	WL	MWL	PL	GL	vo	DA
Nyctalus plancyi	Fairly widely distributed in countryside areas throughout Hong Kong	PRC, (RC)	-	-	Least Concern	Least Concern			+						
Sus scrofa	Very widely distributed in countryside areas throughout Hong Kong	-	-	-	Least Concern	Least Concern									+
Hipposideros armiger	Widely distributed in countryside areas throughout Hong Kong	(LC)	-	-	Least Concern	Least Concern					+				+
Rhinolophus affinis	Widely distributed in countryside areas throughout Hong Kong	(LC)	-	-	Least Concern	Least Concern						+			
Pipistrellus abramus	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern	+	+	+			++	+		++
Tylonycteris fulvida	Fairly widely distributed in countryside areas throughout Hong Kong	(LC)	-	Rare	Least Concern	Least Concern	+		+	+	+				+
Callosciurus erythraeus	Fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam)	-	-	-	Least Concern	Least Concern						+		+	+
Cynopterus sphinx	Very widely distributed in urban and countryside areas throughout Hong Kong	-	-	Indeterminate	Near Threatened	Least Concern						+			
-	-	-	-	-	-	-		+							+
-	-		-	-	-	- Total po, of species	+	2	2	1	2	+	1	1	
	Nyctalus plancyi Sus scrofa Hipposideros armiger Rhinolophus affinis Pipistrellus abramus Tylonycteris fulvida Callosciurus erythraeus	Nyctalus plancyi Fairly widely distributed in countryside areas throughout Hong Kong Sus scrofa Very widely distributed in countryside areas throughout Hong Kong Hipposideros armiger Widely distributed in countryside areas throughout Hong Kong Rhinolophus affinis Widely distributed in countryside areas throughout Hong Kong Pipistrellus abramus Widely distributed in countryside areas throughout Hong Kong Tylonycteris fulvida Fairly widely distributed in countryside areas throughout Hong Kong Callosciurus erythraeus Fairly widely distributed in countryside areas throughout Hong Kong Callosciurus erythraeus Fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam) Cynopterus sphinx Very widely distributed in urban and countryside areas throughout Hong Kong	Vyctalus plancyi Fairly widely distributed in countryside areas throughout Hong Kong PRC, (RC) Sus scrofa Very widely distributed in countryside areas throughout Hong Kong . Hipposideros armiger Widely distributed in countryside areas throughout Hong Kong . Rhinolophus affinis Widely distributed in countryside areas throughout Hong Kong . Pipistrellus abramus Widely distributed in countryside areas throughout Hong Kong . Tylonycteris fulvida Fairly widely distributed in countryside areas throughout Hong Kong . Callosciurus erythraeus Fairly widely distributed in countryside areas throughout Hong Kong . Cynopterus sphinx Very widely distributed in urban and countryside areas throughout Hong Kong .	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Concern

Notes:

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

 (a) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.
 (d) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (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; PCC=Potential Global Concern; (5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 9 February, 2021).

(6) Wang, S. (1998). China Red Data Book of Endangered Animals. Mammalia. First Edition. Beijing: Science Press.

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

(8) International Union for the Conservation of Nature (IUCN) (2024). IUCN Red List of Threatened Species. Version 2023.1.

Abbreviation for Habitats: PO=Pond; WC=Watercourse; AGL=Agricultural Land; WL=Woodland; MWL=Mixed Woodland; PL=Plantation; GL=Grassland; VO=Village/Orchard; DA=Developed Area/Wasteland

Species of conservation importance is in bold type face.

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

reportant oro Duttoring o		the 300m Assessment Area	Local														
Common Name	Scientific Name	Distribution in Hong Kong ⁽³⁾	Restrictedness and species of concervation concern (2011) ⁽⁴⁾	Level of Concern ⁽⁴⁾	Protection Status in China ⁽⁵⁾	IUCN Red List (Version 2023.1) ⁽⁶⁾	MA	РО	wc	AGL	WL	MWL	PL	SL	GL	vo	DA
Pale Grass Blue	Pseudozizeeria maha	Widely distributed throughout Hong Kong	Very common	-	-	-	+		++				+				
Indian Cabbage White	Pieris canidia	Widely distributed throughout Hong Kong	Very common	-	-	-	+	+	++	+		+	++		+	+	+
Common Mormon	Papilio polytes	Widely distributed throughout Hong Kong	Very common	-	-	-	+	+		+	+	+	+	+		+	+
Great Eggfly	Hypolimnas bolina	Widely distributed throughout Hong Kong	Common	-	-	-	+	+					+			+	
-	Eurema spp.	-	-	-	-	-	+	+	+	+		+	+		+		+
Common Sailer	Neptis hylas	Widely distributed throughout Hong Kong	Very common	-	-	-	+				+		+				
Common Mapwing	Cyrestis thyodamas	Widely distributed throughout Hong Kong	Common	-	-	-							+	+		+	
-	Catopsilia spp.	-	-	-	-		+		+		+	+	+			+	
Small Cabbage White	Pieris rapae	Shep Mun Kap, Fan Lau, Ngong Ping, Kam Tin, Ho Chung, Luk Keng, Tuen Mun Ash Lagoon	Rare	-	-	-			+								
Common Indian Crow	Euploea core	Widely distributed throughout Hong Kong	Common	-	-	Least Concern											+
Spangle	Papilio protenor	Widely distributed throughout Hong Kong	Very common	-	-	-		+								+	
Dark-brand Bush Brown	Mycalesis mineus	Widely distributed throughout Hong Kong	Very common	-	-	-	+				+	+	+		+		
Common Hedge Blue	Acytolepis puspa	Widely distributed throughout Hong Kong	Common	-	-	-							+				
Five-dot Sergeant	Parathyma sulpitia	Widely distributed throughout Hong Kong	Common	-	-	-					+						
Common Five-ring	Ypthima baldus	Widely distributed throughout Hong Kong	Very common	-	-	-							+				
Three-spot Grass Yellow	Eurema blanda	Widely distributed throughout Hong Kong	Common	-	-	-		+									
Common Bluebottle	Graphium sarpedon	Widely distributed throughout Hong Kong	Very common	-	-	-											+
Common Tiger	Danaus genutia	Widely distributed throughout Hong Kong	Common	-	-	-				+	+	+			+		
Ceylon Blue Glassy Tiger	Ideopsis similis	Widely distributed throughout Hong Kong	Very common	-	-	-				+							
Red Helen	Papilio helenus	Widely distributed throughout Hong Kong	Very common	-	-	-				+							
Paris Peacock	Papilio paris	Widely distributed throughout Hong Kong	Very common	-	-	-					+	+	+	+			+
Red-base Jezebel	Delias pasithoe	Widely distributed throughout Hong Kong	Very common	-	-	-						+		+			
Plum Judy	Abisara echerius	Widely distributed throughout Hong Kong	Very common	-	-	-	+						+				
Dark Cerulean	Jamides bochus	Widely distributed throughout Hong Kong	Common	-	-	-					+						
Blue-spotted Crow	Euploea midamus	Widely distributed throughout Hong Kong	Very common	-	-	-	+									+	
Metallic Cerulean	Jamides alecto	Victoria Peak, Fung Yuen, Chuen Lung, Mui Wo	Very rare	-	-	-										+	
South China Bush Brown	Mycalesis zonata	Widely distributed throughout Hong Kong	Common	-	-	-					+						
						Total no. of species	10	6	5	6	9	8	13	4	4	8	

Appendix 3.3 Butterfly Species Recorded within the 300m Assessment Area

Notes:

(1) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.
 (2) AFCD (2011). A Review of the Local Restrictedness of Hong Kong Butterflies.

(3) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in (4) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 9 February, 2021). (5) International Union for the Conservation of Nature (IUCN) (2024). IUCN Red List of Threatened Species. Version 2023.1.

Abbreviation for Habitats: MA=Marsh/Reed PO=Pond; WC=Watercourse; AGL=Agricultural Land; WL=Woodland; MWL=Mixed Woodland; PL=Plantation; SL=Shrubland; GL=Grassland; VO=Village/Orchard; DA=Developed Area/Wasteland

Species of conservation importance is in bold type face.

Appendix 3.3 Odonate Species Recorded within the 300m Assessment Area

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Level of Concern ⁽²⁾	IUCN Red List (Version 2022.2) ⁽⁴⁾	IUCN Priority Species for Conservation ⁽⁵⁾	MA	PO	wc	AGL	PL	GL	vo	DA
Asian Amberwing	Brachythemis contaminata	Widely distributed in weedy ponds and sluggish streams; Scattered	-	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 Flangetail	Ictinogomphus pertinax	Widely distributed in ponds and still water throughout Hong Kong; 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	-		+		+		+		
Green Skimmer	Orthetrum serapia	Widely distributed in all wetland habitats throughout Hong Kong; Widespread	-	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	-	+		+					
Orange-tailed Sprite	Ceriagrion auranticum ryukyuanum	Widely distributed in weedy ponds, marshes, abandoned fields or grasslands adjacent to waters; Very Widespread	-	Least Concern	-	+	+		+		+	+	
Pied Skimmer	Pseudothemis zonata	Widely distributed in woodlands adjacent to reservoirs, sluggish streams, ponds, tanks and marshes throughout Hong Kongn; Very Widespread	-	Least Concern	-		+		+				
Russet Percher	Neurothemis fulvia	Found in marshes, cultivated areas, streams, tanks and irrigation feeders, sometimes even found in nearly dried out marshy areas. Widely distributed throughout Hong Kong; Widespread	-	Least Concern	-				+				
Saddlebag Glider	Tramea virginia	Widely distributed in trees adjacent to ponds and lakes throughout Hong Kong; Widespread	-	Least Concern	-				+			+	
Variegated Flutterer	Rhyothemis variegata arria	Widely distributed in marshes, ponds and tanks throughout Hong Kong; 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)(a) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.

(b) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asian and Pacific Island Odonata. Journal of the International Dragonfly Fund **30**:1-49. (2) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (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; 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 State Forestry Administration and Ministry of Agriculture on 9 February, 2021).

(4) International Union for the Conservation of Nature (IUCN) (2024). IUCN Red List of Threatened Species. Version 2023.1.

(5) Moore, N.W. (1997). Dragonflies - Status Survey and Conservation Action Plan. IUCN/SSC Odonata Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. v + 28 pp.

Abbreviation for Habitats: MA=Marsh/Reed PO=Pond; WC=Watercourse; AGL=Agricultural Land; PL=Plantation; GL=Grassland; VO=Village/Orchard; DA=Developed Area/Wasteland Species of conservation importance is in bold type face.

Appendix 3.3 Herpetofauna Species Recorded within the 300m Assessment Area

Common Name	Scientific Name	Distribution in Hong Kong ⁽³⁾	Level of Concern ⁽⁴⁾	Protection Status in China ⁽⁵⁾	China Red Data Book ⁽⁶⁾	Red List of China's Vertebrates ⁽⁷⁾	IUCN Red List (Version 2023.1) ⁽⁸⁾	РО	AL	PL	GL	vo	DA
Amphbian													
Brown Tree Frog	Polypedates megacephalus	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern		+			+	+
Asian Common Toad	Duttaphrynus melanostictus	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern		++	+	+	+	+
Gunther's Frog	Sylvirana guentheri	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern	+	+		+		
Ornate Pygmy Frog	Microhyla fissipes	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern		+				
Paddy Frog	Fejervarya limnocharis	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern		++				
Greenhouse Frog	Eleutherodactylus planirostris	Widely distributed throughout Hong Kong	-	-	-	-	Least Concern			+			
Asiatic Painted Frog	Kaloula pulchra pulchra	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern			+		+	++
Spotted Narrow-mouthed Fro	Kalophrynus interlineatus	Widely distributed from low to moderate altitudes in northern and central New Territories	-	-	-	Near Threatened	Least Concern				+		
Butler's Pygmy Frog	Microhyla butleri	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern		+				
Marbled Pygmy Frog	Microhyla pulchra	Widely distributed in Hong Kong	-	-	-	Least Concern	Least Concern		+				
							Total no. of species	6 1	7	3	3	3	
Reptile	1		1					1	-	-	1		
Chinese Gecko	Gekko chinensis	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+			
Bamboo Snake	Cryptelytrops albolabris	Very common and widespread in Hong Kong	-	-	-	Least Concern	Least Concern						+
Long-tailed Skink	Eutropis longicaudata	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+			
Taiwan Kukri Snake	Oligodon formosanus	Widely distributed throughout Hong Kong	-	-	-	Near Threatened	Least Concern			+			+
Chinese Skink	Plestiodon chinensis chinensis	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern			+			
							Total no. of species	s 0	0	4	0	0	

Notes:

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

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

(3) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.

(4) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (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; 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.

(5) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 9 February, 2021).

(6) Zhao, E.M. (1998). China Red Data Book of Endangered Animals. Amphibia and Reptilia. First Edition. Beijing: Science Press.

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

(8) International Union for the Conservation of Nature (IUCN) (2024). IUCN Red List of Threatened Species. Version 2023.1.

Abbreviation for Habitats: PO=Pond; AL=Agricultural Land; PL=Plantation; GL=Grassland; VO=Village/Orchard DA=Developed Area/Wasteland

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

Appendix 3.3 Aquatic Fauna Species Recorded within the 300m Assessment Area

Common Name	Scientific Name	Distribution in Hong Kong ⁽¹⁾	Level of Concern ⁽²⁾	Protection Status in China ⁽³⁾	China Red Data Book ⁽³⁾	Red List of China's Vertebrates ⁽⁴⁾	IUCN Red List (5)	FS1	FS2	МА	PO	wc	AL
Freshwater Fishes													
Blotched Snakehead	Channa maculata	Uncommon in the wild. Records from a few streams in North District, Tuen Mun, on Hong Kong and Lantau Island. It is a relatively important food fish and cultivated in some fish farms. The fish is also available in local fish market.	-	-	-	Least Concern	Least Concern		+			+	
Nile Tilapia	Oreochromis niloticus	A widespread species occurring in most local streams, rivers and reservoirs. The fish is also cultivated in some fish farms	-	-	-	-	Least Concern	+	+++		+++	+++	
North African Catfish	Clarias gariepinus	Records from North New Territories	-	-	-	-	Least Concern		+			+	
-	Channa sp.	-	-	-	-	-	-					+	
Snails and Bivalves													
Apple Snail	Pomacea canaliculata	Invasive species	-	-	-	-	Least Concern	+	+		+++	+	++
River Snail	Unidentified sp. 1	-	-	-	-	-	-	+				+	
Crabs and Shrimps													
-	Orisarma dehaani	-	-	-	-	-	-	+	+++	+++		+++	
-	Orisarma intermedium	-	-	-	-	-	-	+	+	+		++	
Other Aquatic Fauna								1	-	-	-	-	
Yellow Featherlegs (larvae)		Abundant; Widespread	-	-	-	-	Least Concern	+				+	<u> </u>
Waterskater/Water strider	Ptilomera tigrina	Very common	-	-	-	-	-						+
-	Gerris sp.	-	-	-	-	-	-	+				+	<u> </u>
Backswimmer	Unidentified sp. 1	Very common	-	-	-	- Total no. of species	-	7	6	+ 3	2	10	2

Notes:

(1) Agriculture, Fisheries and Conservation Department (AFCD) (2022). Hong Kong Biodiversity Information Hub.

Dudgeon, D. (2003). Hillstreams - Hong Kong Field Guides 2. The Department of Ecology and Biodiversity, The University of Hong Kong. Hong Kong: Wan Li Book Co., Ltd.

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.

Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance.

(2) Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P. & Yu, Y.T. (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 State Forestry Administration and Ministry of Agriculture on 9 February, 2021).

(4) Yue, P.Q. & Chan, Y.Y. (1998). China Red Data Book of Endangered Animals. Pisces. First Edition. Beijing: Science Press.

(5) International Union for the Conservation of Nature (IUCN) (2024). IUCN Red List of Threatened Species. Version 2023.1.

Abbreviation for Habitats:FS=Sampling Point; MA=Marsh/Reed; WC=Watercourse; AL= Agricultural Land Species of conservation importance is in bold type face.

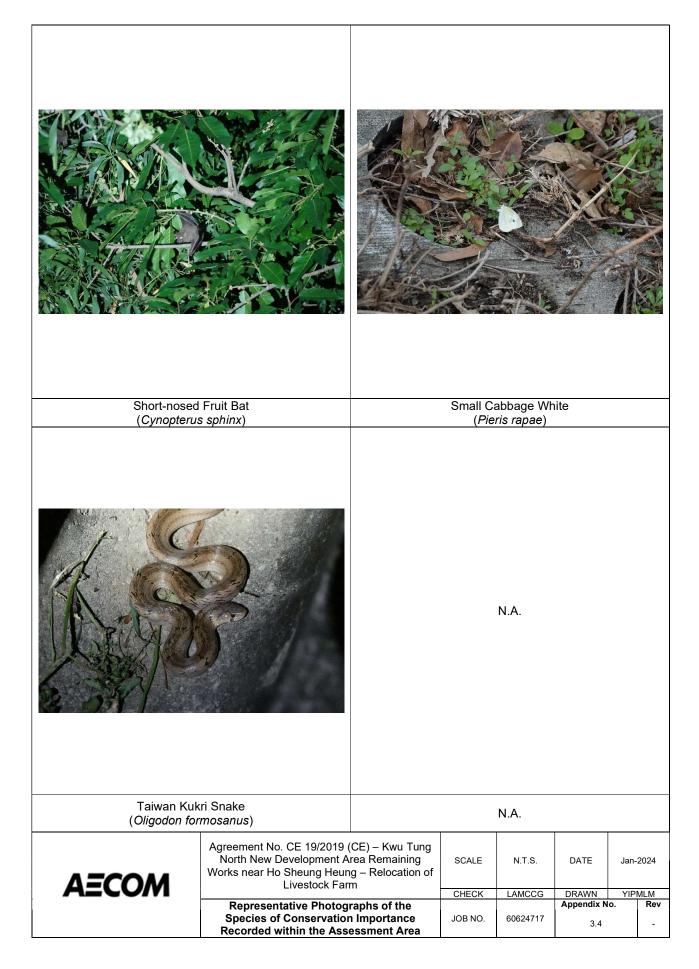
Appendix 3.4

Representative Photographs of the Species of Conservation Importance Recorded within the Assessment Area

Prince's Feath (Persicaria orier	Incense Tree (Aquilaria sinensis)							
A	F							
Black-faced Spoonbill (<i>Platalea minor</i>)			Black-winged Stilt (<i>Himantopus himantopus</i>)					
	greement No. CE 19/2019 (North New Development Ar orks near Ho Sheung Heun Livestock Farr	ea Remaining g – Relocation of	SCALE	N.T.S.	DATE	Jan-2024 YIPMLM		
Representative Photographs of the Species of Conservation Importance Recorded within the Assessment Area		JOB NO.	60624717	Appendix N 3.4	o. Re -			

Chestnut-ear (<i>Emberiza</i>	ed Bunting (fucata)			e Pond Her la bacchus			
Eurasian Spoonbill (<i>Platalea leucorodia</i>)		Great Cormorant (<i>Phalacrocorax carbo</i>)					
Agreement No. CE 19/2019 (CE) North New Development Area F Works near Ho Sheung Heung – F Livestock Farm		rea Remaining g – Relocation of m	SCALE	N.T.S.	DATE	Jan-2024 YIPMLM	
Representative Photographs of the Species of Conservation Importance Recorded within the Assessment Area		JOB NO.	60624717	Appendix N 3.4	o. Rev -		

Great Egret (<i>Ardea alba</i>)		Greater Coucal (Centropus sinensis)						
White-throated Kingfisher (<i>Halcyon smyrnensi</i> s)		Pallas's Squirrel (Callosciurus erythraeus)						
AECOM AGECOM Agreement No. CE 19/20 North New Developme Works near Ho Sheung H Livestock	nt Area Remaining eung – Relocation of	SCALE	N.T.S.	DATE		2024 MLM		
Representative Photographs of the Species of Conservation Importance Recorded within the Assessment Area		JOB NO.	60624717	Appendix N 3.4		Rev -		



Appendix 3.5

Summary of Species of Conservation Importance Recorded within the 300m Assessment Area in Present Study

Appendix 3.5 Summary of Species of Conservation Importance Recorded within the 300m Assessment Area in Present Study

Common Name (Scientific Name)	Recorded Habitat in Present Study	Distribution in Hong Kong ⁽¹⁾	Conservation / Protection Status	
Flora				
Incense Tree (Aquilaria sinensis)	Woodland; Plantation	Common in Hong Kong	Cap. 586 ⁽²⁾ , Cat 2&3(NT) ⁽⁹⁾ ; Cat II ⁽¹⁰⁾ , VU ^(2,11,13) , NT ⁽¹²⁾	
Prince's Feather (Persicaria orientalis)	Watercourse	Rare (7)	-	
Avifauna				
Black-winged Stilt ⁽⁸⁾ (<i>Himantopus himantopus</i>)	Agricultural Land	Common migrant and winter visitor	Cap. 170 ⁽²⁾ ; RC ⁽²⁾	
Chinese Pond Heron ⁽⁸⁾ (Ardeola bacchus)	Marsh / Reed; Pond; Watercourse; Agricultural Land; Village / Orchard	Widely distributed in Hong Kong	Cap.170 ⁽²⁾ ; PRC (RC) ⁽²⁾	
Crested Goshawk (Accipiter trivirgatus)	In Flight	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	Cap.170 ⁽²⁾ ; Cap.586 ⁽²⁾ ; Class II ⁽³⁾ ; NT ⁽⁴⁾ ; Rare ⁽⁵⁾	
Black Kite (<i>Milvus migrans</i>)	In Flight	Widely distributed in Hong Kong.	Cap. 586 ⁽²⁾ ; (RC) ⁽²⁾ ; Class II ⁽³⁾	
Great Egret ⁽⁸⁾ (Ardea alba)	Pond; Watercourse; Agricultural Land	Common resident and winter visitor	Cap. 170 ⁽²⁾ ; PRC (RC) ⁽²⁾	
Greater Coucal (Centropus sinensis)	Marsh / Reed; Pond; Watercourse; Agricultural Land; Village / Orchard	Common resident. Widely distributed in Hong Kong.	Cap. 170 ⁽²⁾ ; Class II ⁽³⁾ ; VU ⁽⁴⁾	
Grey Heron ⁽⁸⁾ (Ardea cinerea)	Watercourse; In Flight	Common winter visitor.	Cap.170 ⁽²⁾ ; PRC ⁽²⁾	
Little Egret ⁽⁸⁾ (<i>Egretta garzetta</i>)	Marsh / Reed; Pond; Watercourse; Agricultural Land;	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Cap.170 ⁽²⁾ ; PRC (RC) ⁽²⁾	
Pied Avocet ⁽⁸⁾ (<i>Recurvirostra avosetta</i>)	Agricultural Land	Abundant winter visitor	Cap.170 ⁽²⁾ ; RC ⁽²⁾	
White-throated Kingfisher ⁽⁸⁾ (Halcyon smyrnensis)	Marsh / Reed; Watercourse; Agricultural Land	Common resident. Widely distributed in coastal areas throughout Hong Kong.	Cap. 170 ⁽²⁾ ; (LC) ⁽²⁾ ; Class II ⁽³⁾	
Eurasian Spoonbill ⁽⁸⁾ (Platalea leucorodia)	Pond	Uncommon winter visitor. Found in Deep Bay area.	Cap. 170 ⁽²⁾ ; LC ⁽²⁾ ; Class II ⁽³⁾ ; NT ⁽⁴⁾ ; Vulnerable ⁽⁵⁾	
Black-faced Spoonbill ⁽⁸⁾ (Platalea minor)	Pond; In Flight	Common winter visitor. Found in Deep Bay area.	Cap. 170 ⁽²⁾ ; PGC ⁽²⁾ ; EN ⁽²⁾ ; Class II ⁽³⁾ ; EN ⁽⁴⁾ ; Endangered ⁽⁵⁾	
Northern Shoveler ⁽⁸⁾ (Spatula clypeata)	Pond	Abundant winter visitor. Found in Deep Bay area.	Cap. 170 ⁽²⁾ ; RC ⁽²⁾	

Common Name (Scientific Name)	Recorded Habitat in Present Study	Distribution in Hong Kong (1)	Conservation / Protection Status		
Great Cormorant ⁽⁸⁾ (Phalacrocorax carbo)	Watercourse; In Flight	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.	Cap. 170 ⁽²⁾ ; PRC ⁽²⁾		
Chestnut-eared Bunting (<i>Emberiza fucata</i>)	Agricultural Land	Uncommon passage migrant. Found in Long Valley, Tai Mong Tsai, Luk Keng, Ho Chung, Kam Tin, Lantau, Sha Lo Tung.	Cap. 170 ⁽²⁾ ; LC ⁽²⁾		
Collared Crow (Corvus torquatus)	Developed Area / Wasteland	Locally common resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek Iap Kok, Shuen Wan, Lam Tsuen.	Cap. 170 $^{(2)};$ VU $^{(2)};$ LC $^{(2)};$ NT $^{(4)}$		
Red-throated Pipit (Anthus cervinus)	Agricultural Land	Common passage migrant and winter visitor. Widely distributed in dry agricultural areas throughout Hong Kong.	Cap. 170 ⁽²⁾ ; LC ⁽²⁾		
Mammal					
Chinese Noctule (Nyctalus plancyi)	Agricultural Land	Fairly widely distributed in countryside areas throughout Hong Kong	Cap. 170 ⁽²⁾ ; PRC, (RC) ⁽²⁾		
Himalayan Leaf-nosed Bat (<i>Hipposideros armige</i>)	Mixed Woodland; Developed Area/Wasteland	Widely distributed in countryside areas throughout Hong Kong	Cap. 170 ⁽²⁾ ; LC ⁽²⁾		
Intermediate Horseshoe Bat (Rhinolophus affinis)	Plantation	Widely distributed in countryside areas throughout Hong Kong	Cap. 170 (2) LC (2)		
Japanese Pipistrelle (Pipistrellus abramus)	Pond; Agricultural Land; Plantation; Grassland; Developed Area / Wasteland	Widely distributed throughout Hong Kong	Cap. 170 ⁽²⁾		
Lesser Bamboo Bat (<i>Tylonycteris fulvida</i>)	Pond; Agricultural Land; Woodland; Mixed Woodland; Developed Area / Wasteland	Fairly widely distributed in countryside areas throughout Hong Kong	Cap. 170 ⁽²⁾ ; LC ⁽²⁾ ; Rare ⁽⁵⁾		
Pallas's Squirrel (<i>Callosciurus erythraeus</i>)	Plantation; Village / Orchard; Developed Area / Wasteland	Fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam)	Cap. 170 ⁽²⁾		
Short-nosed Fruit Bat (Cynopterus sphinx)	Plantation	Very widely distributed in urban and countryside areas throughout Hong Kong	Cap. 170 ⁽²⁾ ; Intermediate ⁽⁵⁾ ; NT ⁽⁶⁾		
Unknown Vespertilionidae species 1	Developed Area / Wasteland		Cap. 170 ⁽²⁾		
Unknown Vespertilionidae species 1	Pond: Plantation		Cap. 170 ⁽²⁾		
Butterfly		-			
Metallic Cerulean (Jamides alecto)	Village / Orchard	Victoria Peak, Fung Yuen, Chuen Lung, Mui Wo	Very rare ⁽¹⁴⁾		

Common Name (Scientific Name)	Recorded Habitat in Present Study	Distribution in Hong Kong (1)	Conservation / Protection Status
Small Cabbage White (<i>Pieris rapae</i>)	Watercourse	Shek Mun Kap, Fan Lau, Ngong Ping, Kam Tin, Ho Chung, Luk Keng, Tuen Mun Ash Lagoon	Rare ⁽¹⁴⁾
Herpetofauna			
Spotted Narrow-mouthed Frog (Kalophrynus interlineatus)	Grassland	Widely distributed from low to moderate altitudes in northern and central New Territories	NT (4)
Taiwan Kukri Snake (Oligodon formosanus)	Plantation; Developed Area/Wasteland	Widely distributed throughout Hong Kong	NT (4)

Notes:

(1) Distribution in Hong Kong and Rarity follows:

Flora: Wu and Lee (2000); Xing and Chau (2000); Siu (2000).

Fauna: AFCD (2023); Karsen et al. (1998); Shek (2006a); Reels (2019).

(2) Fellowes *et al.* (2002): GC=Global Concern; LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC: Potential 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. LC=Local Concern; PRC=Potential Regional Concern; RC=Regional Concern; PGC=Potential Global Concern; RC=Regional Concern; RC=Regional Concern; PGC=Potential Global Concern; RC=Regional Concern; RC

Cap. 96: Forests and Countryside Ordinance (Cap. 96).

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

Cap. 586: Protection of Endangered Species of Animals and Plants Ordinance (Cap.586).

IUCN (2024).

(3) List of Wild Animals Under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 9 February 2021).

(4) Jiang et al. (2016). CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern

(5) Zhao and Wang. (1998).

(6) Wang (1998).

(7) Yip, Y., Yip, K. L., Liu, K. U., Ngar Y. N., & Lai, C. C. (2010). A Floristic Survey of Marshes in Hong Kong. Hong Kong Biodiversity. Issue No. 19.

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

(9) Hu et al. (2003): NT= Near Threatened, VU = Vulnerable

(10) Protected by List of Wild Plants Under State Protection (promulgated by the Ministry of Forestry in 2021)

(11) Fu (1992): VU= Vulnerable

(12) Feng et al. (2002): NT= Near Threatened

(13) Qin et al. (2017): VU= Vulnerable

ÀFCD (2011). A Review of the Local Restrictedness of Hong Kong Butterflies.

Appendix 3.6 Results of Flight Path Survey

Appendix 3.6a Result of Flight Path Survey at Ho Sheung Heung Egretry

Table 1A Number of Flight Path Recorded Utilized by Ardeid

Flight Path	No.	Percentage
E1	5	13.9%
E2	5	13.9%
E3	9	25.0%
E4	12	33.3%
E5	5	13.9%
Total	36	100%

Note:

Representative flight paths are presented in Figure 3.

Table 1B Flight Height of Flight Path Utilized by Ardeid

Flight Heigh (m)	Pat	h E1	Path E2		Path E3		Path E4		Pat	h E5	All Flight Paths	
Filght Heigh (m)	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage
0-10	-	-	3	60%	1	11.1%	3	25.0%	3	60%	10	27.8%
11-20	3	60%	1	20%	6	66.7%	3	25.0%	2	40%	15	41.7%
21-30	2	40%	1	20%	2	22.2%	1	8.3%	-	-	6	16.7%
>30	-	-	-	-	-	-	5	41.7%	-	-	5	13.8%
Total	5	100%	5	100%	9	100%	12	100%	5	100%	36	100%

Note:

Representative flight paths are presented in Figure 3.3.

Appendix 3.6b Result of Flight Path Survey within the 300m Assessment Area

Table 1A Number of Flight Path Recorded Utilized by Ardeid

Flight Path	No.	Percentage
1	86	20.4%
2	82	19.5%
3	14	3.3%
4	15	3.6%
5	26	6.2%
6	54	12.8%
7	6	1.4%
8	114	27.1%
9	18	4.3%
10	3	0.7%
11	3	0.7%
Total	421	100%
Note:		

Representative flight paths are presented in Figure 4.

Table 1B Flight Height of Flight Path Utilized by Ardeid

ht Heigh (m)	Fligh	t Path 1	Fligh	t Path 2	Fligh	t Path 3	Flight	t Path 4	Fligh	nt Path 5	Flight	Path 6	Flig	nt Path 7	Fligh	Path 8	Flight	t Path 9	Fligh	t Path 10	Flight	Path 11	Gran	nd Total
Inc Heigh (III)	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentag
0-10	9	10.5%	14	17.1%	1	7.1%	1	6.7%	7	26.9%	19	35.2%	2	33.3%	2	1.8%	4	22.2%	2	66.7%	-	-	61	14.5%
11-20	23	26.7%	23	28.0%	5	35.7%	3	20.0%	9	34.6%	11	20.4%	-	-	1	0.9%	8	44.4%	1	33.3%	1	33.3%	85	20.2%
21-30	39	45.3%	25	30.5%	5	35.7%	3	20.0%	1	3.8%	9	16.7%	4	66.7%	81	71.1%	4	22.2%	-	-	1	33.3%	172	40.9%
>30	15	17.5%	20	24.4%	3	21.5%	8	53.3%	9	34.7%	15	27.7%	-	-	30	26.2%	2	11.2%	-	-	1	33.4%	103	24.4%
Total	86	100%	82	100%	14	100%	15	100%	26	100%	54	100%	6	100%	114	100%	18	100%	3	100%	3	100%	421	100%

Note: Representative flight paths are presented in Figure 4.

Appendix K

Drainage Impact Assessment

3 DRAINAGE IMPACT ASSESSMENT

3.1 Introduction

- 3.1.1 The purpose of this DIA is to assess the drainage impact and support the proposed future land use of KTN-2. This DIA will include:-
 - Desktop review of the existing drainage system at KTN-2 site; and
 - Identify and assess the drainage impact generated by the proposed KTN-2 land use
- 3.1.2 The KTN-2 site is located west of the Sheung Yue River, with existing drainage located inside and south of the site. The existing drainage in general run from west to east to discharge into Sheung Yue River.

3.2 Information Collection

- 3.2.1 The following documents were collected and reviewed:-
 - The DIA developed under CE19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction (Deliverable G3Da) for the KTN NDA
 - Water level data near KTN-2 developed under CE18/2019 (CE) Development of Fanling North NDA, Remaining Phase D&C
 - DSD Drainage record plans

3.3 Design Parameters and standards

Design Standard

- 3.3.1 The Assignment of CE19/2019 (CE) commissioned in 2019, where the prevailing standard was Stormwater Drainage Manual Fifth Edition, January 2018 ("SDM 2018").
- 3.3.2 DSD intended the design to be upgraded to SDM Manual Corrigendum No. 1/2022 ("the Corrigendum") published in September 2022, yet there is lack of information on the Sheung Yue River boundary conditions, which made the assessment difficult. SDM 2018 with climate change effect up to end of 21st century was used in the design of KTN NDA DIA (Deliverable G3Da).
- 3.3.3 Same with KTN NDA DIA (Deliverable G3Da), this assessment will adapt the design standard with available data, i.e. SDM 2018 with climate change effect up to end of 21st century.

Design Parameters

3.3.4 The design parameters to be used will be in line with KTN NDA DIA (Deliverable G3Da) unless otherwise specified. The following design parameters will be used.

Table 3.1Design Parameters

Parameters	Description				
Catchment Nature	Major rural catchment				
Design Return Period of rainfall intensity for Drainage System	 1 in 50 year for urban branch drain 1 in 50 year for Main rural catchment drainage Channels 1 in 200 year for urban trunk drain 				
Freeboard for Drainage System	 300mm for pipe drains 500 mm for box culverts/ open channels				
Runoff Coefficient	Fixed runoff model for NDA development areas Runoff Coefficient =				
	 0.9-1.0 for paved/ impermeable area 0.35-0.5 for unpaved/ permeable area 				
	Soil Conservation Service (SCS) runoff model using curve numbers (CN) for non-development catchments. The CN values for different land uses are shown in Table 3.5 .				
Pipe Roughness, k _s	1.5 - 3.0 mm for concrete				
Sediment Depth	5% reduction in flow area for pipe gradient > 1 in 25 10% reduction in flow area for pipe gradient < 1 in 25				

Design Rainfall Zone

3.3.5 According to SDM 2018, the KTN-2 site falls into the North District Area rainfall delineation zone. The corresponding storm constants of the North District Area as shown in **Table 3.2** will be used in design.

Table 3.2	Storm Constants of North District Area
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Return Period (Year)	а	b	с
10	1157.7	19.04	0.597
50	1167.6	16.76	0.561
200	1074.8	12.47	0.523

Design Sea level

3.3.6 According to SDM 2018, the KTN-2 site is closest to the Tsim Bei Tsui tidal station. The corresponding design sea levels will be used in design. The sea levels are listed in **Table 3.3**.

Effect of Climent Change

3.3.7 To consider the effect of climate change in the drainage design, the projection of rainfall increase percentage and sea level rise are provided in the SDM 2018 and taken into account in the design. A rainfall increase of 13.8% and design sea level increase 0.49 m is added for end of 21st century. The design sea level shown in **Table 3.3** will be used in design.

Return Period (Year)	Extreme Sea Levels at Tsim Bei Tsui (mPD)	(Mean) Sea Level Rise due to Climate Change (m)	Design sea level (mPD)
10	+3.51	0.49	+4.00
50	+4.09	0.49	+4.58
200	+4.77	0.49	+5.26

Table 3.3 Design Sea Levels at Tsim Bei Tsui

Combination of Rainfall and Sea Level effects

3.3.8 As the hydraulic performance of the drainage system is affected by both rainfall and sea level, the design flood levels of the drainage system are to be assessed based on the joint probabilities of rainfall dominated and sea level dominated events. According to SDM 2018, the following design cases will be considered.

Table 3.4	Design Return Period Combinations of Rain and Tide Events
-----------	---

Return Period	Case I ("Case 'a' ")	Case II ("Case 'b' ")
200-year	200-year rain + 10-year sea level	10-year rain + 200-year sea level
50-year	50-year rain + 10-year sea level	10-year rain + 50-year sea level

Freeboard and site formation levels

- 3.3.9 To in line with the KTN NDA DIA (Deliverable G3Da), the site formation levels should be able to withstand a 50-year water level, with at least 500mm freeboard. It is also anticipated to have no flooding during a 200-year event. As a result, the higher of the following will be used in design the site formation levels.
 - Predicted 50-year channel water levels from Hydraulic Model Carried out under CE 18/2019 (CE) + 500mm freeboard; and
 - Predicted 200-year channel water levels from Hydraulic Model Carried out under CE 18/2019 (CE) + 0mm freeboard, i.e. without flooding

Land use types and characteristics

3.3.10 The existing land is rural catchment. The drainage property can be reflected by curve number (CN) which depends on land use. **Table 3.5** summarized the common landuse types and the corresponding CN values. A larger CN value suggest a larger runoff potential and a less permeable surface.

Landuse Type	CN
Upland	
Upland	65
Woodland	25
Other upland	65
Agriculture	
Active – no structures	65
Active – few structures	70
Active – many structures	75
Abandon paddy	60
Abandon ponds	100
Ponds	100
Rural activity area	70
Other agriculture	70
Village	90
Urban	
Existing	95
Future	85
Storage and rural industry	
Industry	90
Storage Area	90
New reclamation	65
Vacant lots	85
Recreational	05
Paved (RECP)	90
Grassed (RECG)	70
Special use	10
Airfield	85
Barracks	85
	95
Borrow	65
Cemetery	
Construction in Progress	90
Fire Station Dept	90
G/IC	90
Government/Institution	90
Hospital	90
Sewerage Treatment Works	75
SSSI (marsh)	100
Water Supplies Dept.	90
Highways (major rural routes)	90
Drainage	
Breakwater	100
Drainage	100
Marsh	100
Reservoir	100
River	100

Table 3.5Curve Number (CN) for Different Land Use Type

3.3.11 According to the existing layout plan (refer to **Figure 1.1**), the KTN-2 site and nearby areas are ponds. The corresponding CN value is 100, which indicates impermeable surface.



3.4 Anticipated Impact

Existing drainage pipes affected by the development site

- 3.4.1 There is existing drainage near and inside the KTN-2 site. The existing drainage plan is attached on **Figure 3.1**.
- 3.4.2 At north-west of the site, there is 450 to 1200 mm diameter pipes running from west to east. The system starts at SMH1031660 outside the proposed development site. The pipe enters the north portion of the site as 1200 mm diameter before discharge to Sheung Yue River at outfall SOF1000777.
- 3.4.3 At south side of the site, there is twin 900 and single 1200 mm diameter pipes running from west to east. The system starts at SSH1003660 near Lo Wu Correctional Institution. The pipe enters the south portion of the site as 1200 mm diameter at SSH1003661 before discharge to Sheung Yue River at outfall SOF1010600.
- 3.4.4 There are also existing 150 to 450 mm diameter U-channels inside the site to connect the existing pond and the above pipe drainage systems.
- 3.4.5 It is anticipated that the proposed development will affect these existing drainage pipes and U-channels, which re-provision or relocation may be needed subject to the proposed buildings layout.

Flood risk to the site due to water level

- 3.4.6 Due to the existing low ground levels and land use of ponds, it is anticipated flood risk by back water from Sheung Yue River. It is suggested to propose a suitable formation level with consideration of the Sheung Yue River water level and freeboard.
- 3.4.7 According to the interface project CE18/2019 (CE), nodes N_2098 and N_55 are in proximity of the KTN-2 site. The location of nodes is shown in **Diagram 3.1**. With hydraulic model simulation under SDM 2018 end of 21st century, the maximum water levels are as follows:-

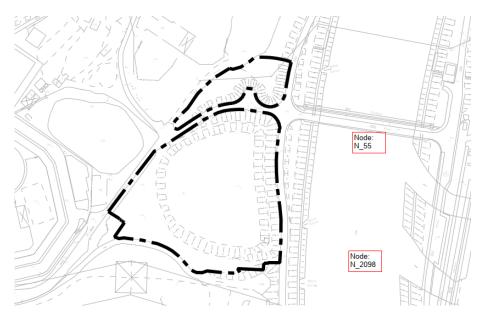


Diagram 3.1 – Location of nodes with water level information

Location	50a	50b	200a	200b
N_55	6.931	6.367	7.293	6.580
N_2098	6.940	6.381	7.303	6.588

Table 3.6 Maximum Water Levels at Sheung Yue River near KTN-2 Site (mPD)

Flood risk to others due to change of land use after land and pond filling

- 3.4.8 If the land use change will cause the surface to become less permeable, there will be increase of runoff. Additional drainage may be necessary to convey the additional flow.
- 3.4.9 However, the existing land use of pond is considered as impermeable surface with the maximum curve number 100. Even if the proposed livestock farm being fully paved, it will not further increase curve number and bring additional runoff. Therefore, it is suggested the change of land use by the proposed development will not cause adverse drainage impact by creating more flow.
- 3.4.10 With observation to the surrounding ground level, the existing pond have a top level of +5.5 mPD. As under the prevailing existing scenario it was assumed the pond will not have storage function as a worse-case scenario. Therefore, under both existing and proposed scenario, all surface water will pass through an impermeable surface and discharge to the river. No impact will be caused by the development in this aspect.

3.5 Suggested minimum Site formation levels

3.5.1 The proposed 500mm freeboard for 50-year events is added on the water level data in **Table 3.7.** The maximum level will be 7.440 mPD at case 50a at node N_2098. Therefore it is suggested the minimum site formation levels to be +7.440 mPD from flood prevention perspective. Maps of flow path are provided in **Figure 3.2** to illustrate the change in flow path before and after the development for reference.

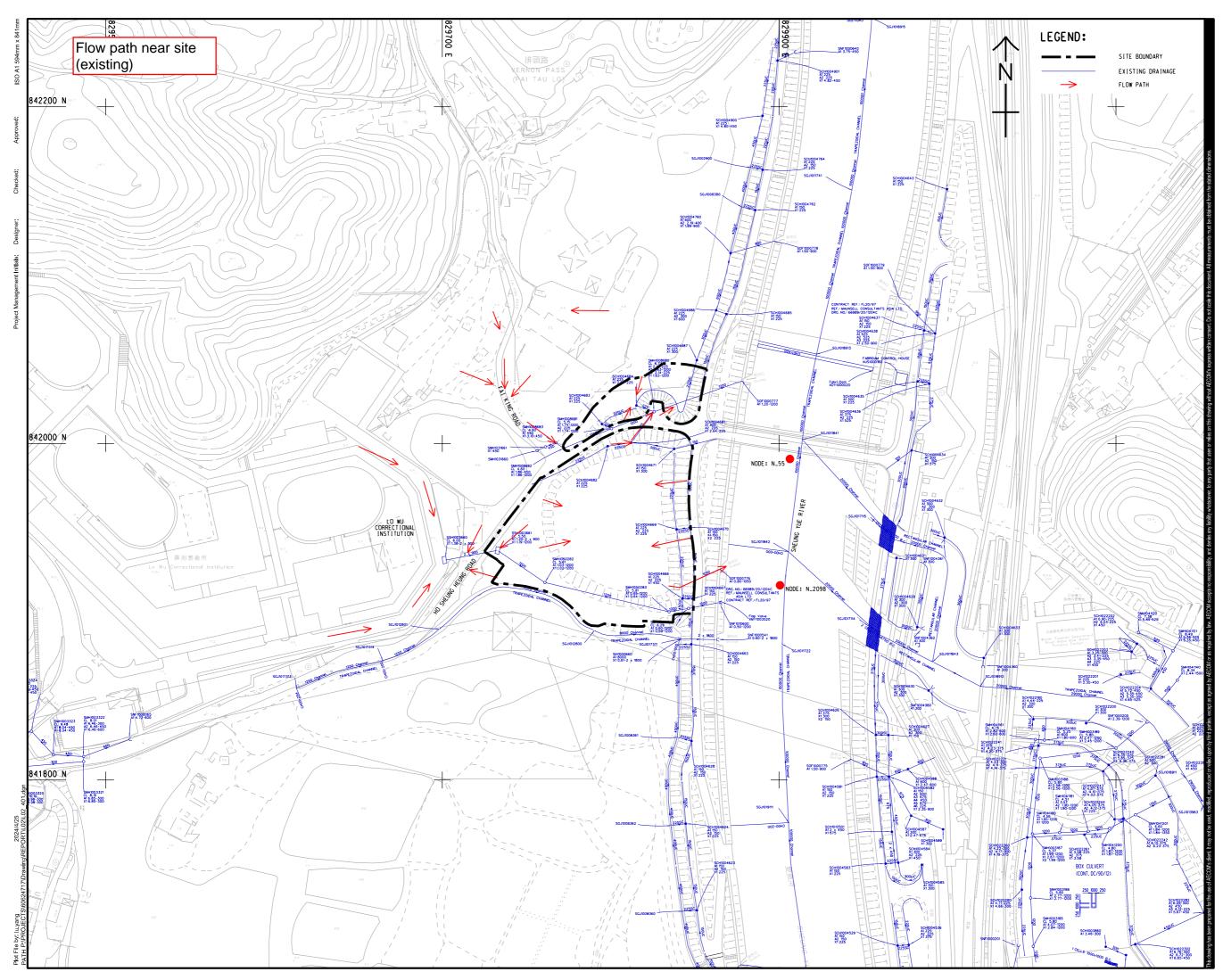
Table 3.7Maximum Water Levels at Sheung Yue River near KTN-2 Site with
500 freeboard added to 50-year data (mPD)

Location	50a (plus 500 mm freeboard)	50b (plus 500 mm freeboard)	200a	200b
N_55	7.431	6.867	7.293	6.580
N_2098	7.440	6.881	7.303	6.588

3.6 Potential Blue-green Infrastructures and Resilience Measures

- 3.6.1 With reference to the Development Bureau Technical Circular (Works) No. 9/2020, the adoption of Blue-Green drainage infrastructure is outlined. Eight Blue-Green elements have been suggested:
 - (1) Revitalized river channel
 - (2) Flood lake/ wetland
 - (3) Flood storage tank
 - (4) Floodable area and landscape
 - (5) Bioretention system
 - (6) Green roof
 - (7) Porous paving system
 - (8) Water harvesting
- 3.6.2 In view of the available site area, existing land use of ponds that will be filled, and the proposed land use of livestock farm, it is suggested there is potential for (3) (6) (8) to be further explored in the proposed development.

Figures





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, **REMAINING PHASE -DESIGN & CONSTRUCTION**

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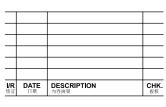
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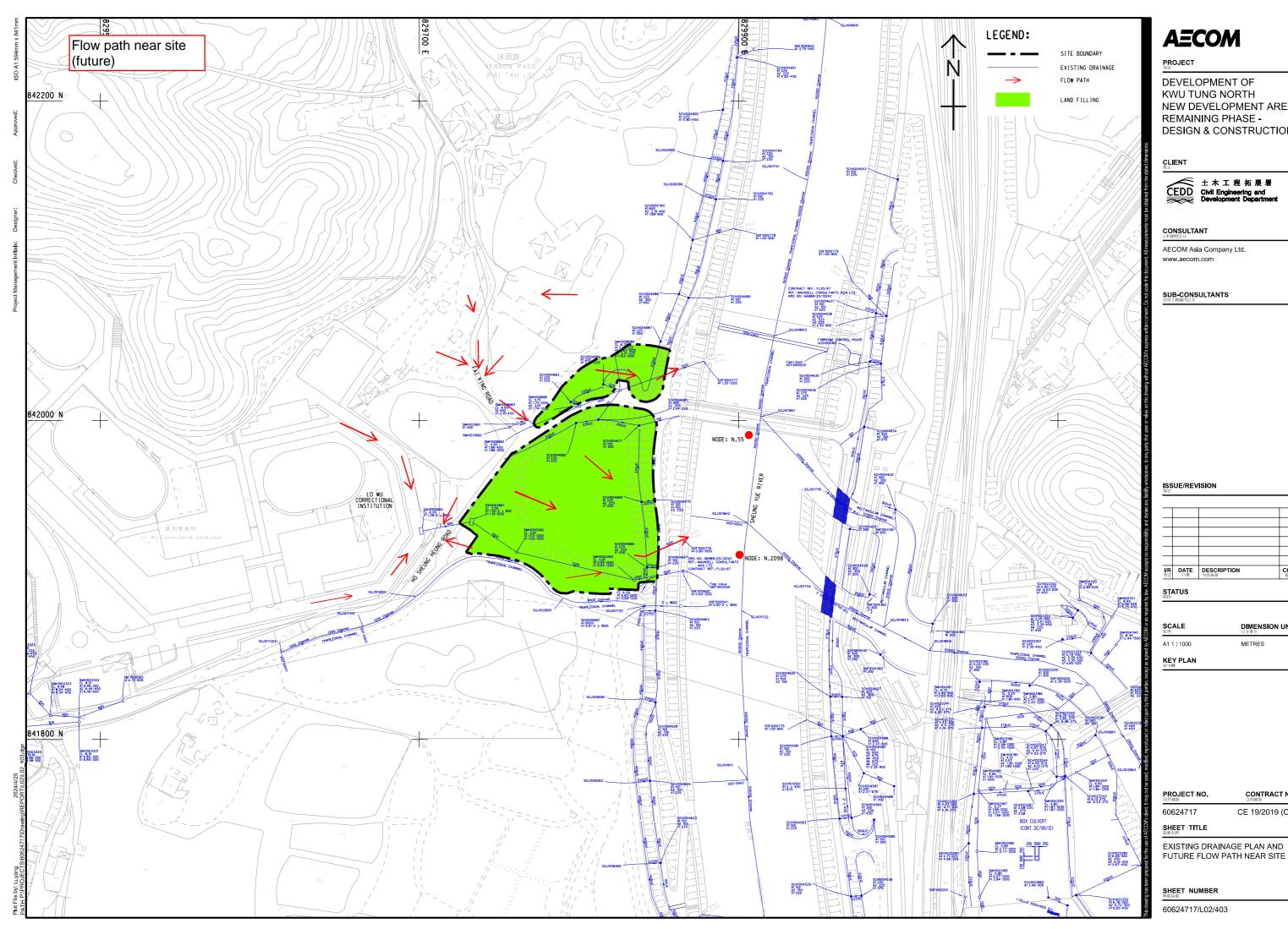
KEY PLAN

PROJECT NO.	CONTRACT NO. 合約編號
0624717	CE 19/2019 (CE)
SHEET TITLE 紙名稱	

EXISTING DRAINAGE PLAN AND FLOW PATH NEAR SITE

SHEET NUMBER

60624717/L02/401





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, **REMAINING PHASE -DESIGN & CONSTRUCTION**

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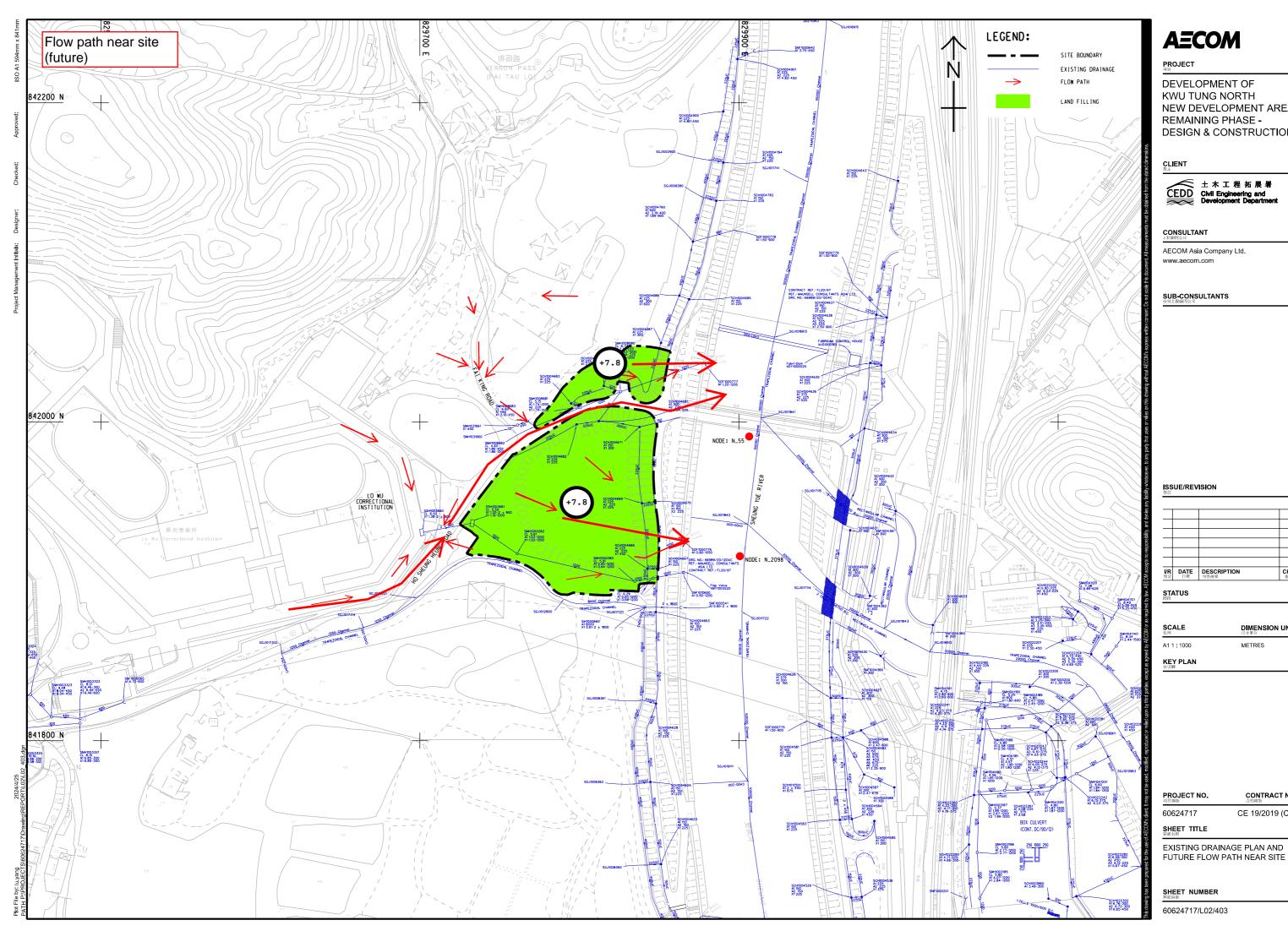
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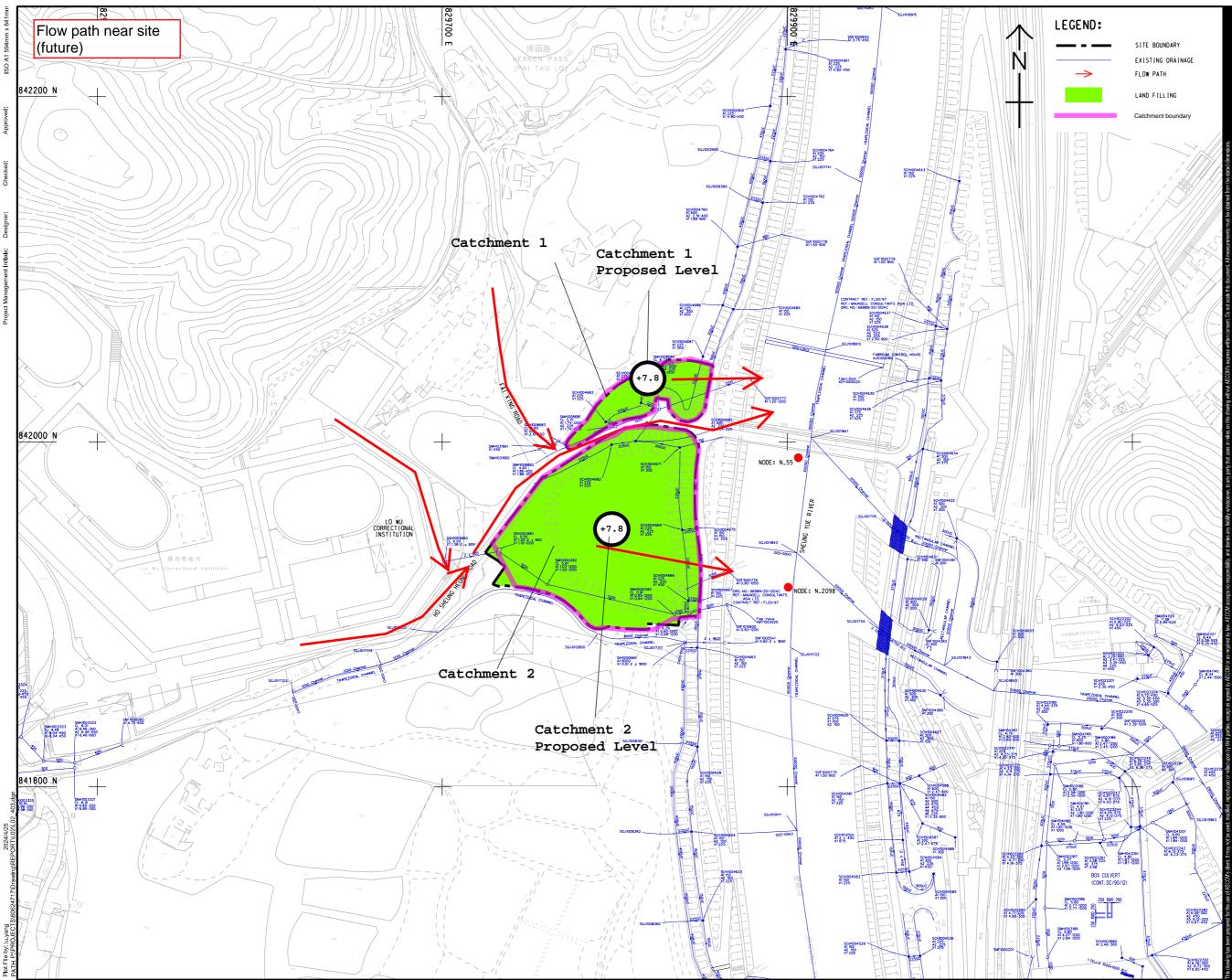
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EXISTING DRAINAGE PLAN AND FUTURE FLOW PATH NEAR SITE

CONTRACT NO.

Appendix L

Landscape Review Report

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APPENDICES

Appendix A	Tree Survey Findings and Recommendations
	[Extracted from Approved CE19 KTN NDA Tree Preservation and Removal Proposal (Final) (Ref.
	C2-02B)]

INTRODUCTION 1

1.1 Background

- 1.1.1 To provide appropriate support for livestock farms affected by the development of Northern Metropolis, the Development Bureau (DEVB) the Environment and Ecology Bureau, the Agriculture, Fisheries and Conservation Department (AFCD) and relevant departments have formed an interdepartmental working group to draw up plans that will assist the affected livestock farmers, including identification of suitable government sites for the relocation of livestock farms.
- A site near the north-east boundary of Kwu Tung North New Development Area (KTN NDA) near Lo Wu 1.1.2 Correctional Institution (i.e. "the Site" or "Site KTN-2"), inter alia, is identified as a suitable site for relocation of the affected livestock farms.
- Considering that Site KTN-2 is located within KTN NDA, DEVB invited Civil Engineering and 1.1.3 Development Department (CEDD) as works agent for the technical assessments to support the Section 16 Planning Application (hereafter referred to as s.16 Application) of the proposed site formation works (hereinafter referred as "the Project" or "the Proposed Works"). CEDD will also be responsible for the subsequent design and construction of the site formation and associated infrastructure works for Site KTN-2. The formed site would be handed over to Agriculture, Fisheries and Conservation Department (AFCD) by end 2025 for further development of a multi-storey building (MSB) to accommodate the affected livestock farms. Further studies (including environmental assessment and bio-security assessment) for the development of MSB will be carried out by Trade in a later stage.
- 1.1.4 AECOM Asia Co. Ltd. has been commissioned to prepare Landscape Impact Assessment and Landscape Proposal to support the Section16 Application for Application for the Project. In view of the minor nature and small scale of the Project (i.e. site formation works only), only potential landscape impacts associated with the site formation works will be anticipated.

1.2 Purpose of Landscape Impact Assessment and Landscape Proposal

- 1.2.1 The purpose of this Landscape Impact Assessment and Landscape Proposal is to review and evaluate any potential landscape impact arising from the proposed site formation works, and to propose mitigation measures where necessary to alleviate any potential adverse impact identified; and to support the S16 Application for the Project.
- 1.2.2 Tree survey findings and recommendations including Tree Treatment Recommendations and Preliminary Tree Planting Proposals is also included in the report.

1.3 Structure of the Report

- 1.3.1 Following this introductory section, the remaining sections of this Landscape Proposal with Broad Brush Tree Survey Report are arranged as follows:
 - Section 2 describes the Site Context;
 - Section 3 describes the Proposed Development;
 - Section 4 describes the findings in Tree Survey Report and Proposed Tree Treatment;
 - Section 5 presents the Landscape Impact Assessment;
 - Section 6 presents the Landscape Proposal; and
 - Section 7 concludes the findings of this Report.

SITE CONTEXT

2

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2.1 Site Location and Existing Land Use

2.1.1 Site KTN-2, with an approximate area of 12,400m², is currently zoned as "Agriculture" ("AGR") and "Open Space" ("O") in the approved Kwu Tung North Outline Zoning Plan (OZP) (No. S/KTN/4). The Site is situated between Ng Tung River and Lo Wu Correctional Institution and is divided into two patches by Ho Sheung Heung Road. Open space use is identified at the east of the site, industrial uses and active agricultural lands are identified at the north and south of the Site respectively. Most area of the Site is currently occupied by marsh and plantation. The location of Site KTN-2 is shown in Figure 2.1.

PROPOSED DEVELOPMENT

Proposed Works

3.1.1 As mentioned in Section 1, site formation works and the associated infrastructure works will be conducted by CEDD for future development of MSB. The proposed construction activities mainly comprise site clearance, filling and earthwork.

TREE SURVEY FINDINGS AND RECOMMENDATIONS

Findings of Tree Survey

- 4.1.1 A total of approximately 237 nos. of trees with 14 nos. of species have been surveyed. Total 163 trees in 12 tree groups and 76 individual trees (including 1 Trees of Particular Interest (TPIs)) that within the project boundary and would be potentially affected were surveyed.
- There is no rare or endangered tree species and registered Old and Valuable Tree (OVT) found within the 4.1.2 project site boundary. I TPI of species Ficus microcarpa with DBH over 1m is identified within the site boundary. All the species identified are common landscape species, include Ficus hispida, Macaranga tanarius var. tomentosa, Acacia confusa, and Ficus virens.
- 4.1.3 Approximately, 80% of the trees surveyed are self-seeded trees of undesirable species - Leucaena *leucocephala* (銀合歡). They are generally in poor to average form, poor to average health and poor to average amenity value.

4.2 **Tree Treatment Recommendations**

4.2.1 Of the tree surveyed, 5 trees are proposed to be retained, of which 3 are inside the application boundary, and 234 trees are proposed to be felled, including 190 nos. of undesirable species (Leucaena leucocephala). No tree is recommended to be transplanted. Details of the tree treatment recommendations are shown in Tree Preservation and Removal Report with extracted pages relevant to this submission in Appendix A.

4.3 **Compensatory Tree Planting Proposal**

- To allow design flexibility for future development, off-site tree compensation in a ratio of 1:1 in terms of 4.3.1 number is proposed, as shown in Figure 4.1. In total, 44 nos. of compensatory trees are proposed.
- 4.3.2 Trees/shrub are proposed for visual screening purpose as far as possible in order to improve visual amenity wherever appropriate as part of the landscape proposal.

LANDSCAPE IMPACT ASSESSMENT 5

5.1 Introduction

This chapter is to review and evaluate any potential landscape impact arising from the proposed works, 5.1.1 and to propose mitigation measures where necessary to alleviate any potential adverse impact identified.

5.2 Assessment Methodology

- 5.2.1 The landscape impacts of the Proposed Development are assessed. The landscape impacts have been assessed according to the following procedures
 - Identification of the baseline Landscape Resources (LRs) and landscape characters found within the study area. This is achieved by site visits and desktop study of topographical maps, information databases and photographs.
 - Assessment of the degree of sensitivity of the LRs and Landscape Character Areas (LCAs). This is influenced by a number of factors including whether the resource/character is common or rare, whether it is considered to be of local, regional, national or global importance, whether there are any statutory or regulatory limitations/requirements relating to the resource, the quality of the resource/character, the maturity of the resource and the ability of the resource/character to accommodate change.
 - The sensitivity of each landscape feature and character area is classified as follows: -
 - High: Important landscape character or resource of particularly distinctive character or high importance, sensitive to relatively small change.
 - Medium: Landscape character or resource of moderately valued landscape characteristics reasonably tolerant to change.
 - Low: Landscape character or resource, the nature of which is largely tolerant to change.
 - Identification of potential sources of landscape changes. These are the various elements of the construction works and operation procedures that would generate landscape impacts.
 - Substantial: Adverse / beneficial impact where the proposal would cause significant deterioration or improvement in existing landscape quality.
 - Moderate: Adverse / beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing landscape guality.
 - Slight: Adverse / beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in existing landscape quality.
 - **Insubstantial:** No discernible change in the existing landscape quality.

•	The magnitude	of landsca	pe changes	is classi

.

Large:	The landscape character or lan change
Intermediate:	The landscape character or land change.
Small:	The landscape or landscape r perceptible change.
Negligible:	The landscape or landscape reso

- Identification of potential landscape mitigation measures. These may take the form of adopting basic engineering design to prevent and/or minimise adverse landscape impacts before adopting other mitigation or compensatory measures to alleviate the impacts. Potential mitigation measures shall also include the preservation of vegetation and natural landscape resources, transplanting trees in good condition and value, provision of screen planting, compensatory planting and any measures to mitigate the impact on the existing and planned land users. Comprehensive mitigation measures throughout construction and operation phase shall be explored in Table 7.
- Prediction of the significance of landscape impacts before and after the implementation of of the various landscape resources, it is possible to categorise impacts in a logical, well-reasoned and consistent fashion. Table below shows the rationale for dividing the degree of significance into four thresholds, namely insubstantial, slight, moderate, and substantial, depending on the combination of a negligible-small-intermediate-large magnitude of change and a low-medium-high degree of sensitivity of landscape resource /character.

Table 1 – Relationship between Landscape Sensitivity and Magnitude of Change in Defining Impact Significance

		Sensitivity of Landscape Character Area and Resource		
		Low	Medium	High
	Large	Moderate	Moderate / Substantial	Substantial
Magnitude of	Intermediate	Slight / Moderate	Moderate	Moderate / Substantial
Change	Small	Insubstantial / Slight	Slight / Moderate	Moderate
	Negligible	Insubstantial	Insubstantial	Insubstantial

Note: All impacts are adverse unless otherwise noted with Beneficial.

- The significance of landscape impacts is categorized as follows: -•
- Prediction of Acceptability of Impacts. An overall assessment of the acceptability, or otherwise. of the impacts according to the five criteria set out in Annex 10 of the EIAO-TM

sified as follows: -

ndscape resource would incur a major

dscape resource would incur a moderate

resource would incur slight or barely

ource would incur no discernible change.

the mitigation measures. By synthesizing the magnitude of the various impacts and the sensitivity

5.3 Environmental Legislation, Standards and Guidelines

- 5.3.1 The following legislation, standards and guidelines are applicable to landscape impact assessment associated with the construction and operation of the project: -
 - Town Planning Ordinance (Cap.131);
 - Guidance Notes on Application for Amendment of Plan under Section 12A;
 - Hong Kong Planning Standards and Guidelines Chapters 4, 10 and 11;
 - DEVB TCW No. 2/2012 Allocation of Space for Quality Greening on Roads;
 - DEVB TCW No. 6/2015 Maintenance of Vegetation and Hard Landscape Features;
 - DEVB TCW No. 5/2020 Registration of Old and Valuable Trees, and Guidelines for their Preservation;
 - LAO PN No. 6/2023 Processing of Tree Preservation and Removal Proposals for Building Development in Private Projects; and
 - Study on Landscape Value Mapping of Hong Kong.

5.4 Baseline Findings

5.4.1 General

5.4.2 In view of the confined site area, it is anticipated no Landscape Resources (LRs) and Landscape Character Area (LCAs) would be affected out of 300m from the project boundary. Therefore, key LRs and LCAs within 300m assessment boundary would be identified and discussed under this Landscape Impact Assessment.

Landscape Resources (LRs) and their Sensitivity

5.4.3 The identified landscape resources which would be potentially affected by the proposed development, together with their sensitivities are described in **Table 5.1**. There is no OVT identified. Locations of these landscape resources are mapped in **Figure 5.1**.

Table 5.1 – Baseline Landscape Resources (LRs) and their Sensitivity

LRs	Description	Sensitivity
KLR 1	Channelized Watercourse	Medium
	This landscape resource refers to modified water courses channelized with concrete or grasscrete, or with gabion-fortified banks, or water courses undergoing such channelization, namely Sheung Yue River. This LR includes both large channelized river water courses as well as some much smaller concrete lined water courses associated with agricultural land. This LR also includes some walkways along the larger water course and the vegetation associated with the water course, both within the channel and along the banks as well as the ridge of the banks.	
	Sheung Yue River's banks are fortified with a rigid lining of stone masonry among which grasses grow sparsely between the stone blocks. At ground level, planted trees are found along both sides of the river. Most of the dominant trees are exotic, including species such as <i>Acacia auriculiformis</i> , <i>Acacia confusa</i> and <i>Leucaena leucocephala</i> . Other trees include the native species <i>Cordia dichotoma</i> , <i>Ficus virens</i> and <i>Macaranga tanarius</i> .	
	This river is reasonably capable of accommodating change and its sensitivity is considered to be medium.	
KLR 3	Water Pond	Medium

LRs	Description	Sensitivit
KLR 4	Marsh / Wetland	Medium
	This landscape resource refers to freshwater marsh/ wetland landscape resources found in Pai Tau Lo, which likely previously used as fish ponds, for wet agriculture or for irrigation purposes, have been abandoned for a long time and now have dense emergent vegetation present in them such that they are considered marshes. This LR is relatively intolerant to change due to the succession of vegetation and the natural sensitivity of marsh; however it is dominated by vegetation of undesirable species and has a medium capacity to accommodate change.	
KLR 5	Plantation	Low
	This landscape resources refers to medium sized and larger clusters of trees that have been planted and are distinct from natural woodland since they have been planted by man, including for slope greening.	
	In the tree survey findings, There is no rare or endangered tree species and registered Old and Valuable Tree (OVT) found within the project site boundary. All the species identified are common landscape species, include <i>Ficus hispida, Macaranga tanarius var. tomentosa, Acacia confusa</i> , and <i>Ficus virens</i> . Approximately, 80% of the trees surveyed are self-seeded trees of undesirable species - <i>Leucaena leucocephala</i> (銀合歡).	
	This LR is dominated by vegetation of undesirable species, has low amenity value and a high capacity to accommodate change.	
KLR 6	Hillside Woodland	High
	This landscape resources refers to woodland areas largely scattered over hillsides, including at the base of hills and associated patches of woodland. This LR is predominantly composed of native tree species and is generally located some distance from human activities and hence disturbance (except at the base of hills where it often borders rural development areas where there is human activity), growing naturally with some understorey vegetation. It can include areas of Fung Shui Woodland growing in hillsides in the vicinity of villages as detailed in the individual descriptions. Common tree species in this LR include <i>Macaranga tanarius</i> , <i>Leucaena leucocephala</i> , <i>Celtis sinensis</i> and <i>Ficus microcarpa</i> .	
KLR 7	Lowland Woodland	Medium
This landscape resources refers to a small patch of woodland patch at Vernon Pass to the north east of the Study Area. It contains some built structures and is generally disturbed by frequent human interaction. The dominant species in this LR include native species (<i>Ficus variegata var.</i> <i>chlorocarpa, Ficus hispida</i> and <i>Macaranga tanarius</i>) and exotic species (<i>Dimocarpus longan</i>). Due to its association with built structures and therefore not being in a totally natural state, this LR has a medium capacity to tolerate change.		
KLR 8	Shrubland / Grassland Mosaic	Low
	This landscape resources a mosaic of shrubland and grassland which is usually large in size and uniform in appearance, including along Sheung Yue River and in Fu Tei Au.	
	Along Shueng Yue River, these shrublands /grasslands are all located in lowland areas and in the vicinity of artificial resources such as channelized watercourses and highways. They are waste grounds through lack of	

LRs	Description	Sensitivity
	maintenance and have been gradually colonized by weeds and climbers. While for the resource located north of Fu Tei Au Road and in the immediate vicinity of Sheung Shui Water Treatment Works, this LR is dominated by grasses such as <i>Miscanthus sinensis</i> and <i>Miscanthus</i> <i>floridulus</i> and some small trees including <i>Rhus succedanea</i> and <i>Macaranga</i> <i>tanarius</i> are also present.	
	This LR is of low landscape value and amenity and is relatively tolerant to change.	
KLR 9	Agricultural Land	
	This landscape resources refers to land used for agriculture including crops and orchards as well as ornamental plant nurseries, such as area near Ngam Pin. This LR contains a small number of structures such as small irrigation ponds, green houses, equipment sheds and small/ narrow hard paved areas. It not only contains agricultural vegetation but also some scattered non-agricultural vegetation including some shrubs and trees. It is often an intermediary between areas of development and natural areas.	
	This LR has medium value in terms of crop production and being agricultural is relatively tolerant to change although trees generally take longer to grow and produce fruit than crops take to be harvestable, so ability to accommodate change is medium.	
KLR	Urban Development Area	Low
11	This landscape resources refers to urbanized areas which are heavily developed with considerable hard paved surfaces and limited landscaped areas, namely Lo Wu Correctional Institution. Buildings in this LR are medium-rise and roads are all hard-paved. Tree planting is limited within the institution although it does have some green roofs. This LR has a high ability to accommodate change due to its artificial nature.	
KLR	Rural Development Area	Medium
12	This landscape resources refers to traditional villages, modern villages and small scale, low rise residential areas of lower density dominated by domestic structures (mainly of 2-3 stories) interwoven with roads and paths, but limited other infrastructure, namely Pai Tau Lo in Ngam Pin and the rural development area to the East of MTRS East Railway Line,	
	There are some Ancestral Halls, shrines and temples, and this LR may also contain limited facilities such as small police stations, post offices, and covered water reservoirs and pumping stations and some small, managed, recreational areas (such as football and basket ball pitches) and small wasteland areas either wholly or partly covered by weedy or sparse vegetation. This LR often has small orchard areas associated with it (most commonly planted fruit tree species are <i>Dimocarpus longan, Litchi chinensis, Clausena lansium, Mangifera indica</i> and <i>Citrus maxima</i>) and private gardens, as well as amenity planting among the built structures. This LR usually occurs in fragmented patches with agricultural or natural landscape resources adjacent to it.	
KLR	Industrial / Open Storage	Low
13	This landscape resources refers to areas which are heavily adapted for human industrial use, namely Sheung Shui Water Treatment Works. There is very little existing vegetation within this LR. This LR has relatively low landscape amenity value and consists mostly of modern man-made	

LRs	Description
	structures that can be easily recreated.
KLR	Major Transportation Corridor
14	This landscaper resources mainly refers to the to Lo Wu Station running south-north. The Lo west-east is underground. No significant platrailways and trees growing randomly in its vie <i>Leucaena leucocephala</i> .
	This resource is highly utilized and well linked landscape value and a high ability to accomm
Landscap	e Character Areas (LCAs) and their Sensitivity
developm	s of Baseline Landscape Character Areas whi ent, together with their sensitivity are desc e character areas are mapped in Figure 5.2 .
Table 5.2	- Baseline Landscape Character Areas (LC
LCAs	Description
KLCA 1	Natural Hillside Landscape
	This landscape character refers to large hills by shrubland, grassland and some woodla area is natural and has high landscape qual and it is not capable of tolerating change.
KLCA 2	Rural and Urban Peripheral Village Lands
	This landscape character refers to rural villa the fringes of urban developments, includi villages. This LCA is dominated by small modern and traditional houses and some An small agricultural plots and comprises a b including water ponds, schools, sports gro open storage areas and car parks, and a g Kwu Tung. This LCA also has some small p vegetation associated with the villages and p
	This LCA is considered to have medium tole
	amenity value.
KLCA 3	amenity value. Urban Development Landscape
KLCA 3	

5.6.4

	Sensitivity
	Low
he MTRC East Railway leading ok Ma Chau Spur Line running anting is found along the icinity are dominated by	
ed but it is man-made with low modate change.	

nich would be potentially affected by the proposed cribed in **Table 5.2.** The locations of baseline

CAs) and their Sensitivity

1	Sensitivity
side areas which are dominated and in places. This landscape ality. Its significance is also high	High
scape age areas and village areas on ling relic landscapes of former	Medium
or medium sized villages with ncestral Halls, interspersed with broad mix of other land uses bunds, and playgrounds, some golf course to the southeast of patches of woodland as well as park areas.	
erance to change and moderate	
	Low
reas with significant numbers of ansport infrastructure. It also areas associated with urban hall parks and sitting out areas. In but does include some man-	
only in the Lo Wu Correctional landscape and has reasonable	

Landscape Review to Support Section 16 Application for Compensation Event No. CE19/2019-04 – Site Formation for Livestock Farm, Development of Kwu Tung North New Development Area, Remaining Phase - Design and Construction

LCAs	Description	Sensitivity
KLCA 4	Industrial Landscape	
	This landscape character refers to areas comprising a broad mix of land uses including factories, utility facilities, workshops, open storage and some channelized water courses. It is normally located on low lying ground or at the base of hills and may include small and fragmented areas of residential houses and their associated agricultural land. There is little significant vegetation among this built environment, but small patches of vegetation do exist, particularly along the channelized river.	
	Within the Study Area, this LCA is found to the in the east at the Sheung Yue River, namely the Sheung Shui Water Treatment Works. Most areas in this LCA have little vegetation, resulting in a low landscape amenity.	
KLCA 5	Lowland Agricultural Landscape	Medium
	This landscape character refers to large areas dominated by cultivated land with scattered small villages and low-rise buildings and may also include some fishponds and irrigation ponds. This LCA is mostly found among lowlands and floodplain areas.	
	Tree vegetation is generally sparse and restricted to field boundaries, adjacent to local houses and, together with bamboo, along the banks of Sheung Yue River.	
	The value and significance of the LCA is medium with moderate tolerance to change.	
KLCA 6	Major Transportation Corridor Landscape	Medium
	This landscape character refers to major highway and railway areas, with their scattered associated buildings and associated planting. Within the Study Area, this LCA is found to be the MTRC East Rail leading to the Lo Wu Station runs south-north in the east of the study area.	
	Due to the considerable associated planting, this LCA resource is considered to be less tolerant to change than simple highway/railway.	
KLCA 7	Major Water Course Corridor Landscape	Medium
	This landscape character refers to modified water courses channelized with concrete or grasscrete and also includes the vegetation associated with the water course, both within the channel and along the banks as well as in the ridge of the banks, namely Sheung Yue River within the study area.	
	The landscape amenity and significance of this LCA are medium. Due to its partially artificial state, it is relatively tolerant to change.	

5.5 Landscape Impact Assessment

The potential landscape impacts due to the proposed Works are itemized and assessed below. 5.5.1

The magnitude of unmitigated impacts on LRs and LCAs associated with the Project are assessed and described in **Table 5.3**. 5.5.2

LRs/ LCAs	Description	Potential Source of Impact	Magnitude of Change (Large/Intermediate /Small/Negligible)
Landsca	ape Resources (LRs	3)	
KLR 1	Channelized Watercourse	No additional landscape impact on this landscape resource.	Negligible
KLR 4	Marsh / Wetland	A marsh area near Sheung Yue River would be affected by the proposed site formation works; however is dominated by vegetation of undesirable species.	Small
KLR 5	Plantation	234 of 237 existing trees would be affected and removed by the proposed site formation works; however is dominated by vegetation of undesirable species.	Small
KLR 6	Hillside Woodland	No additional landscape impact on this landscape resource.	Negligible
KLR 7	Lowland Woodland	No additional landscape impact on this landscape resource.	Negligible
KLR 8	Shrubland / Grassland Mosaic	No additional landscape impact on this landscape resource.	Negligible
KLR 9	Agricultural Land	No additional landscape impact on this landscape resource.	Negligible
KLR 11	Urban Development Area	No additional landscape impact on this landscape resource.	Negligible
KLR 12	Rural Development Area	No additional landscape impact on this landscape resource.	Negligible
KLR 13	Industrial / Open Storage	No additional landscape impact on this landscape resource.	Negligible
KLR 14	Major Transportation Corridor	No additional landscape impact on this landscape resource.	Negligible
Landsca	ape Character Areas	s (LCAs)	
KLCA 1	Natural Hillside Landscape	No additional landscape impact on this landscape character area.	Negligible
KLCA 2	Rural and Urban Peripheral Village Landscape	A small portion of the landscape character area would be affected by the proposed work with site formation works and future livestock farms development in MSB; however the	Small

LRs/ LCAs	Description	Potential Source of Impact	Magnitude of Change (Large/Intermediate /Small/Negligible)
		proposed land use is compatible with the current LCA	
KLCA 3	Urban Development Landscape	No additional landscape impact on this landscape resource.	Negligible
KLCA 4	Industrial Landscape	No additional landscape impact on this landscape resource.	Negligible
KLCA 5	Lowland Agricultural Landscape	No additional landscape impact on this landscape resource.	Negligible
KLCA 6	Major Transportation Corridor Landscape	No additional landscape impact on this landscape resource.	Negligible
KLCA 7	Major Water Course Corridor Landscape	No additional landscape impact on this landscape resource.	Negligible

- In summary, the existing landscape resources within proposed site: marsh/ wetland (KLR4) and 5.5.3 plantation (KLR5) will be impacted by the site formation works. The proposed works are considered to have slight additional landscape impacts on LRs. The corresponding significance of impacts on LRs from site formation works assessed in the approved EIA report (AEIAR-175/2013) are extracted as follows: marsh/ wetland (KLR4) and plantation (KLR5) are assessed to have an negligible residual impact.
- It is anticipated that with the proposed site formation works would slightly alter the overall landscape 5.5.4 character of area. In this regard, it is anticipated that negligible to small additional impacts will be imposed to the LCAs identified in the sites under the proposed works.

5.6 Landscape Mitigation Measures

- Based on the potential landscape impacts identified, a series of mitigation measures are recommended 5.6.1 below to mitigate any adverse impacts. The mitigation measures are illustrated in Figure 6.1.
 - a. MM1: Preservation of existing vegetation All existing trees to be retained or not be affected by the project shall be carefully protected during construction in accordance with the latest guidelines on tree preservation during development issued by GLTM Section of DEVB.
 - b. MM2: Provision of buffer planting To provide buffer planting with tree and shrub where appropriate for visual screening and soft transition to the adjacent landscape context.
 - c. MM3: Maximizing greenery opportunity To provide planting as far as possible for greening and visual amenity.

5.7 **Evaluation of Residual Impacts**

- 5.7.1 A portion of LR4 with medium sensitivity and LR5 with low sensitivity will be affected. The magnitude of change is negligible to small and the unmitigated landscape impact is insubstantial to slight. By assuming the proposed mitigation measures are implemented, the predicted residual landscape impact of the proposed development shall be reduced to insubstantial.
- 6 LANDSCAPE PROPOSAL
- 6.1 **Design Objectives**
- The Landscape Design Objectives include the followings: 6.1.1
 - To preserve existing trees as much as possible within the proposed development;
 - To provide tree planting for improving visual amenity; and
 - To make use of existing trees as part of the local open spaces.

Landscape Proposals

6.2

6.3

- 6.2.1 The Landscape Proposal for the proposed development are illustrated in Figure 6.1. Landscape Design Proposals for the proposed development include the followings: -
 - Provision of buffer planting with trees and shrub along the eastern boundary of the Site to provide visual screening and soft transition to the adjacent landscape context.
 - Provision of new shrub planting as far as possible within the Site to provide greening and visual amenity.

Hard and Soft Landscape Proposals

- The hard landscape elements include footpath and planters. These elements will be designed and / or 6.3.1 selected using the following general criteria:
 - Reasonable Cost and maintenance requirement materials shall be easily maintained and managed.
 - Visual compatibility with existing developments. •
- 6.3.2 The soft landscape elements include plant materials, soil media and planter drainage. These elements will be selected using the following general criteria:
 - Fast Growing able to provide the desired landscape design intent within short period of time.
 - Use of Native Species where possible to enhance local biodiversity.
 - Seasonal Interest providing seasonal variety or special seasonal flowers, fruit or foliage colour
 - Non-Toxic relatively safe and non-poisonous materials.
 - required.
 - Adequate soil depth shall be allowed for tree/shrub/groundcover planting.
 - Trees planting species are proposed as follows:

Appropriate spacing for tree planting according to the different tree species and mature size is

Table 6.1 Proposed Tree Planting Species

Species Name	Chinese Name	Size	
Cinnamomum burmannii*	陰香	Heavy Standard / Standard	
llex rotunda var. microcarpa*	小果鐵冬青	Heavy Standard / Standard	
Sterculia lanceolata*	假蘋婆	Heavy Standard / Standard	
Viburnum odoratissimum*	珊瑚樹	Heavy Standard / Standard	

* Native

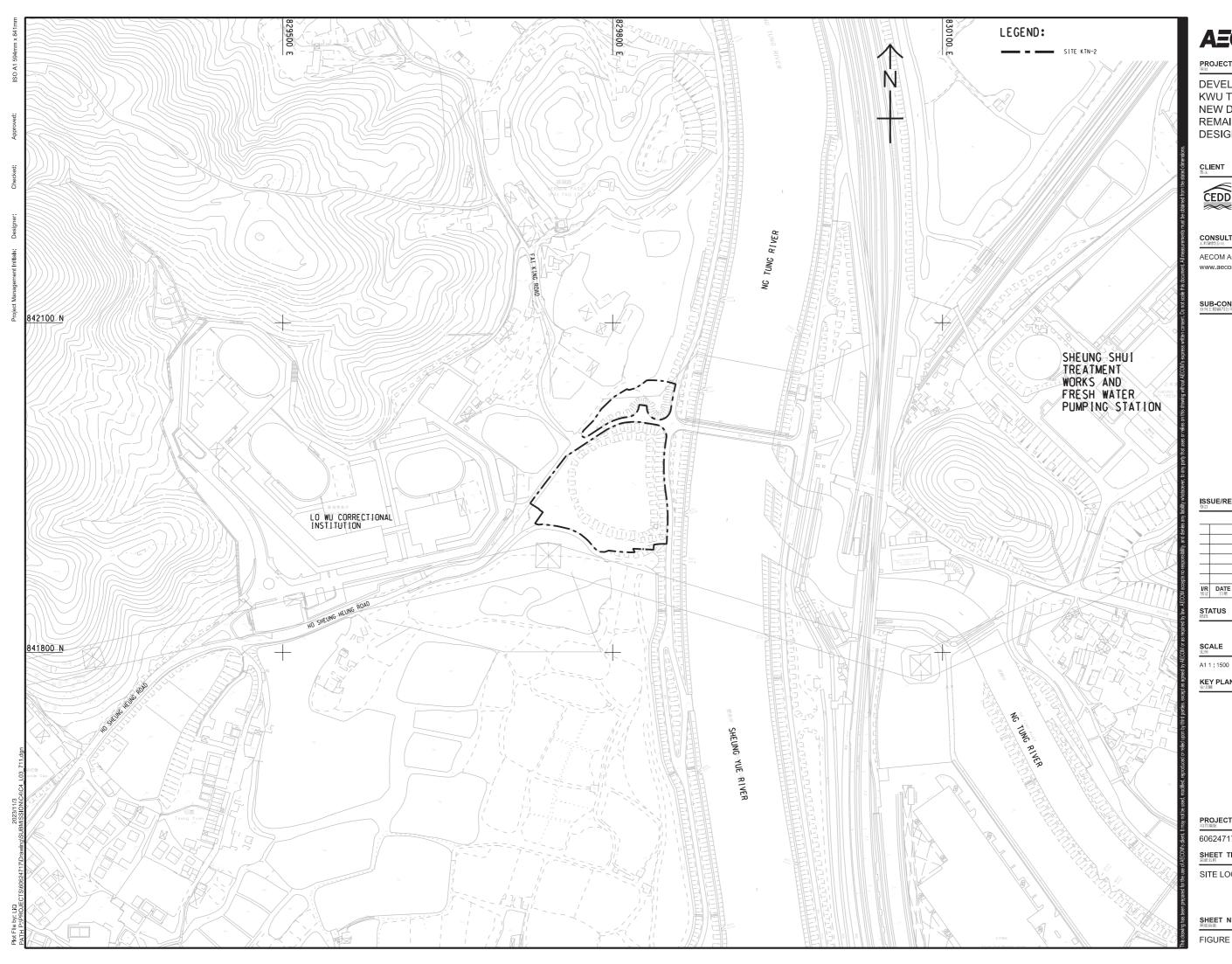
6.4 Irrigation Strategy

6.4.1 For generally flat accessible areas, hand operated water points will be provided.

7 CONCLUSION

- 7.1.1 This Landscape Impact Assessment and Landscape Proposal has provided a review of the potential landscape impacts associated with the construction and operation of the proposed site formation works.
- 7.1.2 The proposed site formation works affects a portion of existing marsh and plantation area, however dominated by self-seeded trees of undesirable species *Leucaena leucocephala* (銀合歡), with low amenity value. These impacts have been minimized to an insubstantial level through careful consideration of proposed mitigation measures and landscape treatments of proposed development works.
- 7.1.3 Landscape Proposal is proposed to optimise the environment of the proposed works and mitigate the potential impact on existing landscape resources and landscape character area due to the proposed development.
- 7.1.4 Proposed buffer planting along the eastern boundary of the Site forms a visual screen to the development on at grade level and provide green transition to adjacent landscape context. Proposed new shrub planting provide greening and visual amenity.
- 7.1.5 It is concluded with the landscape proposals for the proposed development as illustrated in the Landscape Proposal, would blend in well with the existing and planned landscape context of the area.

FIGURES





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

CLIENT



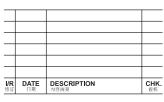
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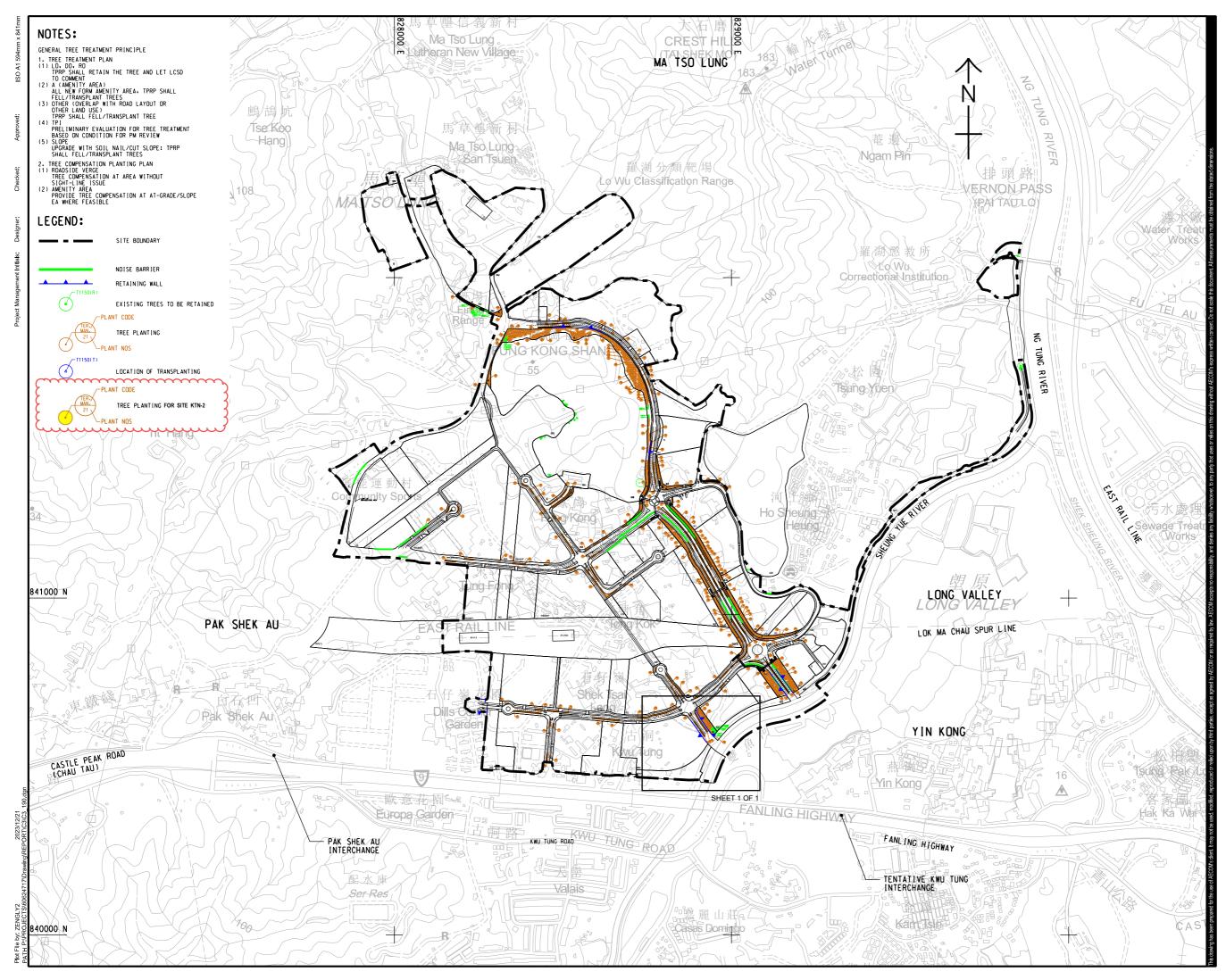
PROJECT NO. CONTRACT NO. CE 19/2019 (CE) 60624717

SHEET TITLE

SITE LOCATION PLAN

SHEET NUMBER

FIGURE 2.1





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, **REMAINING PHASE -DESIGN & CONSTRUCTION**

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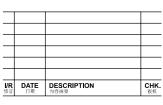
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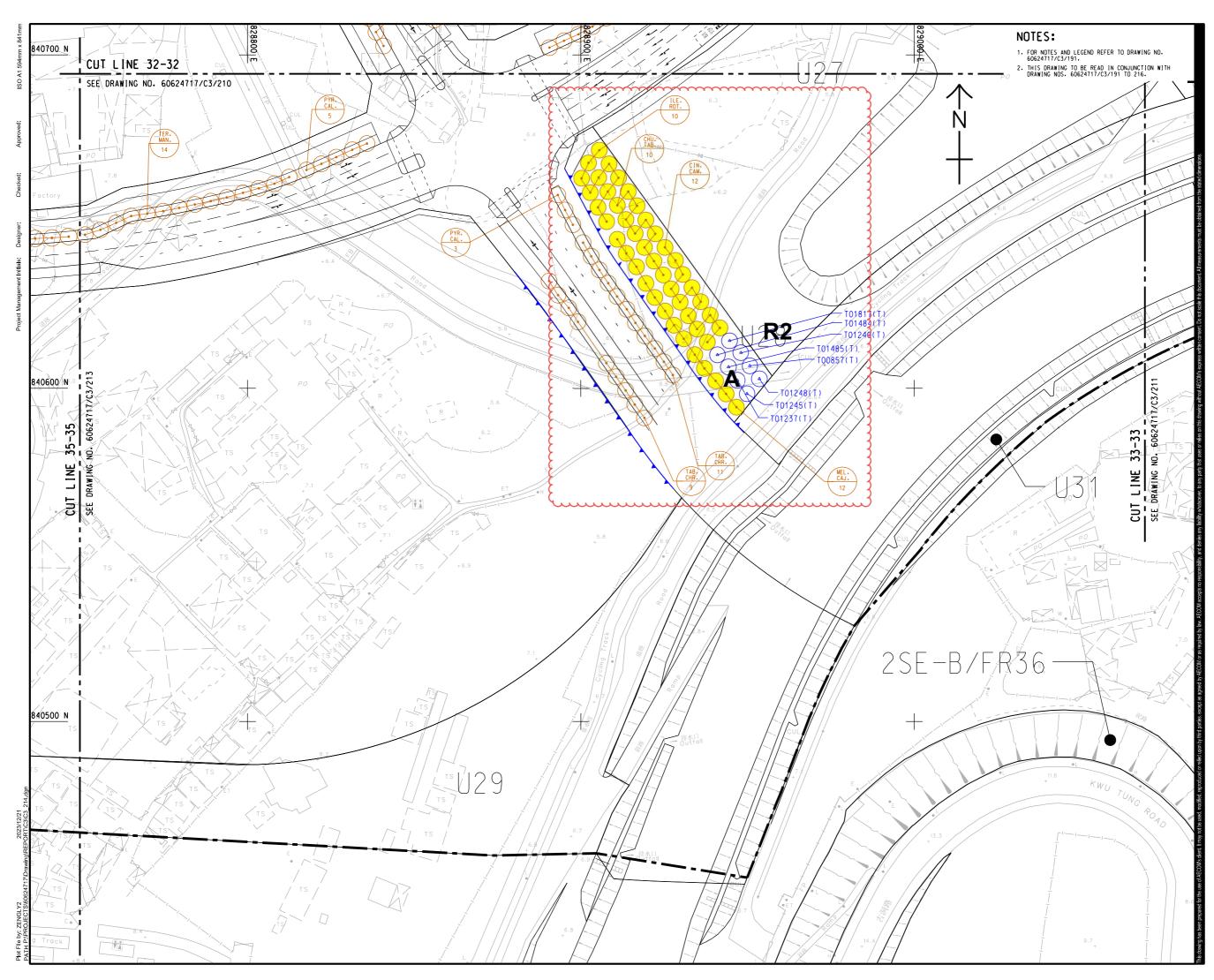
KEY PLAN

PROJECT NO. CONTRACT NO. 60624717 CE 19/2019 (CE) SHEET TITLE

OFF-SITE TREE COMPENSATORY PLAN FOR SITE KTN-2

SHEET NUMBER

FIGURE 4.1





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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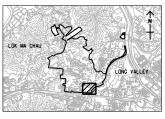
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PROJECT NO.	CONTRACT NO
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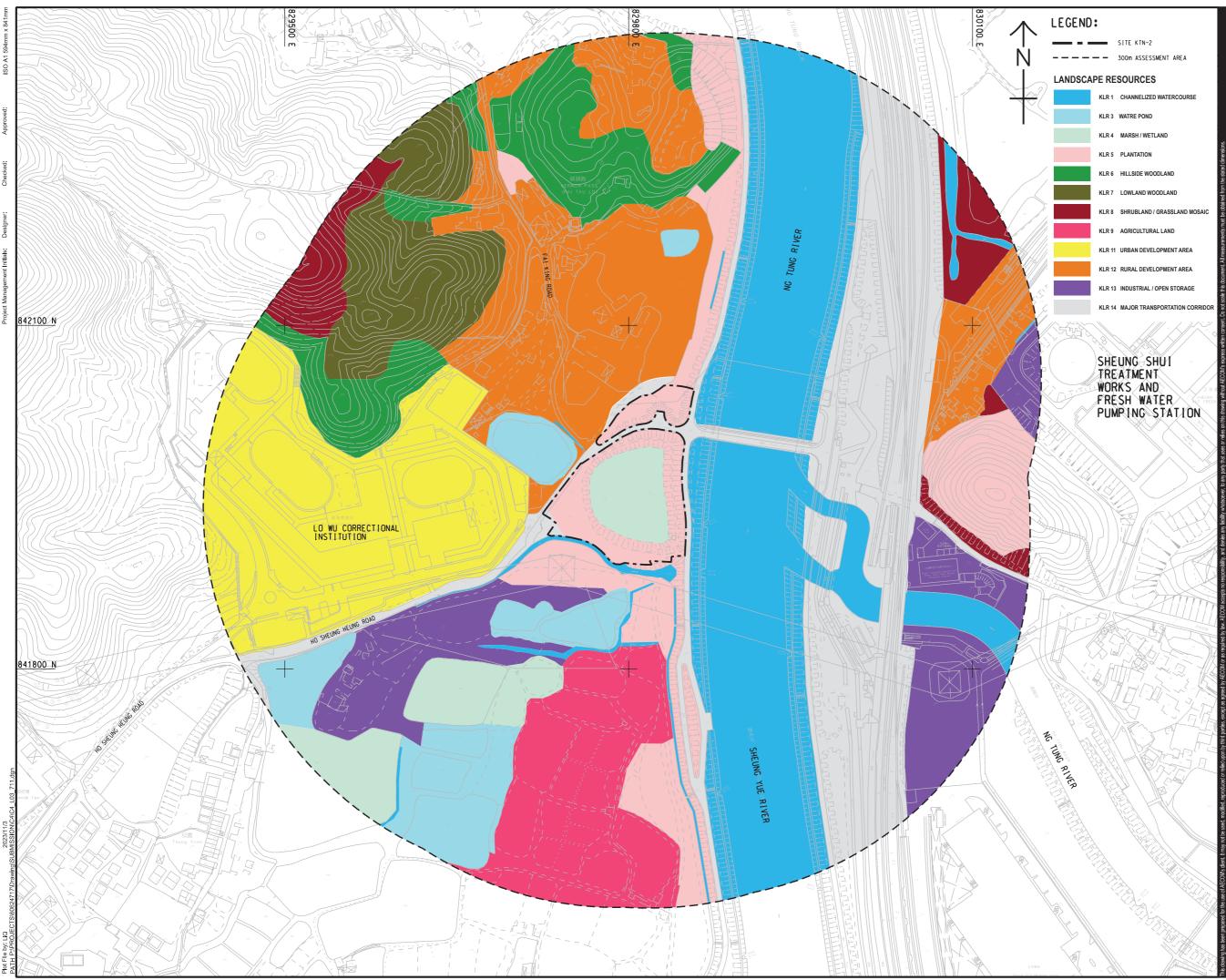
SHEET TITLE

OFF-SITE TREE COMPENSATORY PLAN FOR SITE KTN-2

SHEET 1 OF 1

SHEET NUMBER

FIGURE 4.1





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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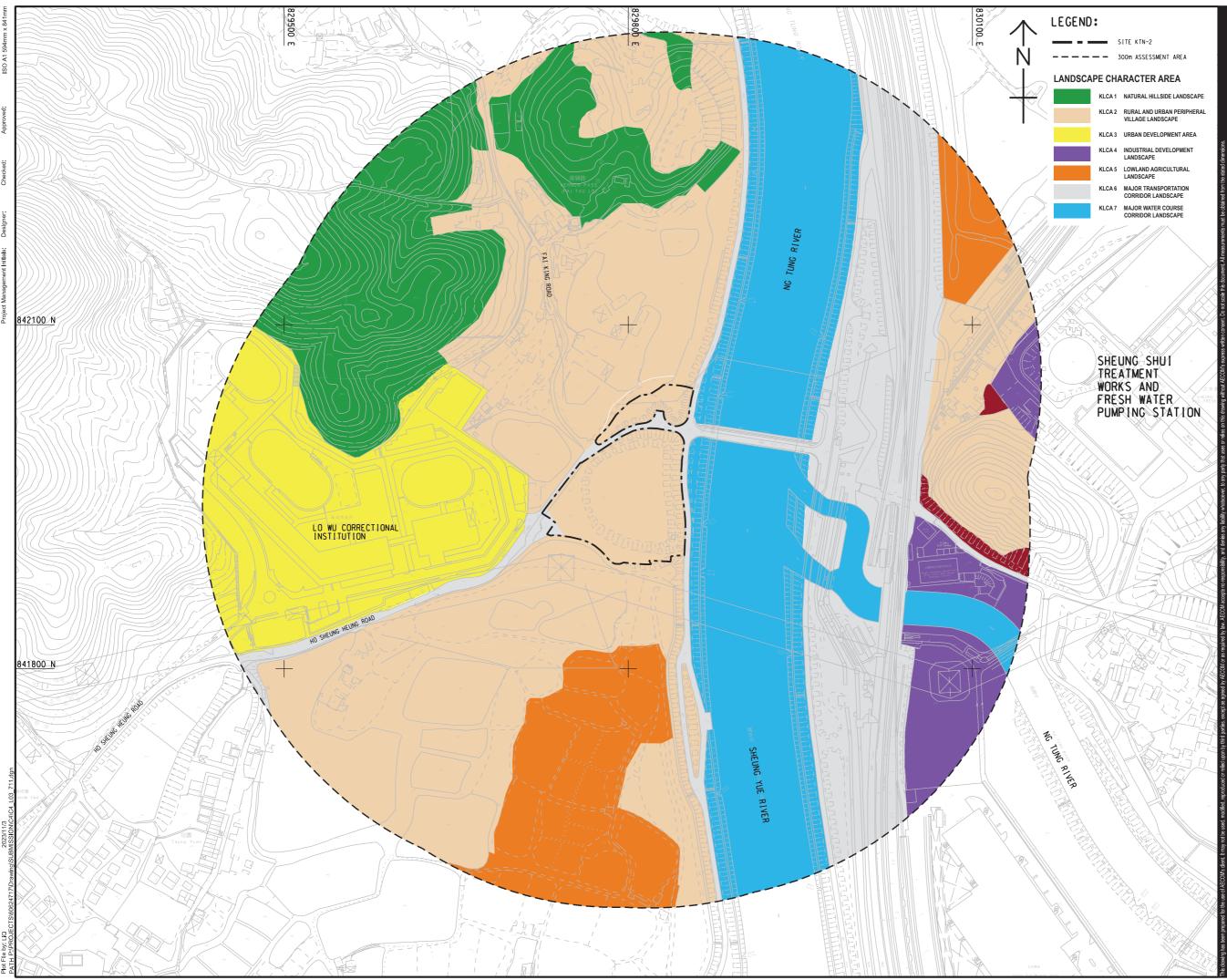
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PROJECT NO. CONTRACT NO. 60624717 CE 19/2019 (CE) SHEET TITLE

LOCATION OF LANDSCAPE RESOURCES

SHEET NUMBER

FIGURE 5.1



KLCA 1	NATURAL HILLSIDE LANDSCAPE
KLCA 2	RURAL AND URBAN PERIPHERAL VILLAGE LANDSCAPE
KLCA 3	URBAN DEVELOPMENT AREA
KLCA 4	INDUSTRIAL DEVELOPMENT LANDSCAPE
KLCA 5	LOWLAND AGRICULTURAL LANDSCAPE
KLCA 6	MAJOR TRANSPORTATION CORRIDOR LANDSCAPE
KLCA 7	MAJOR WATER COURSE CORRIDOR LANDSCAPE



DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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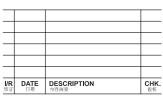
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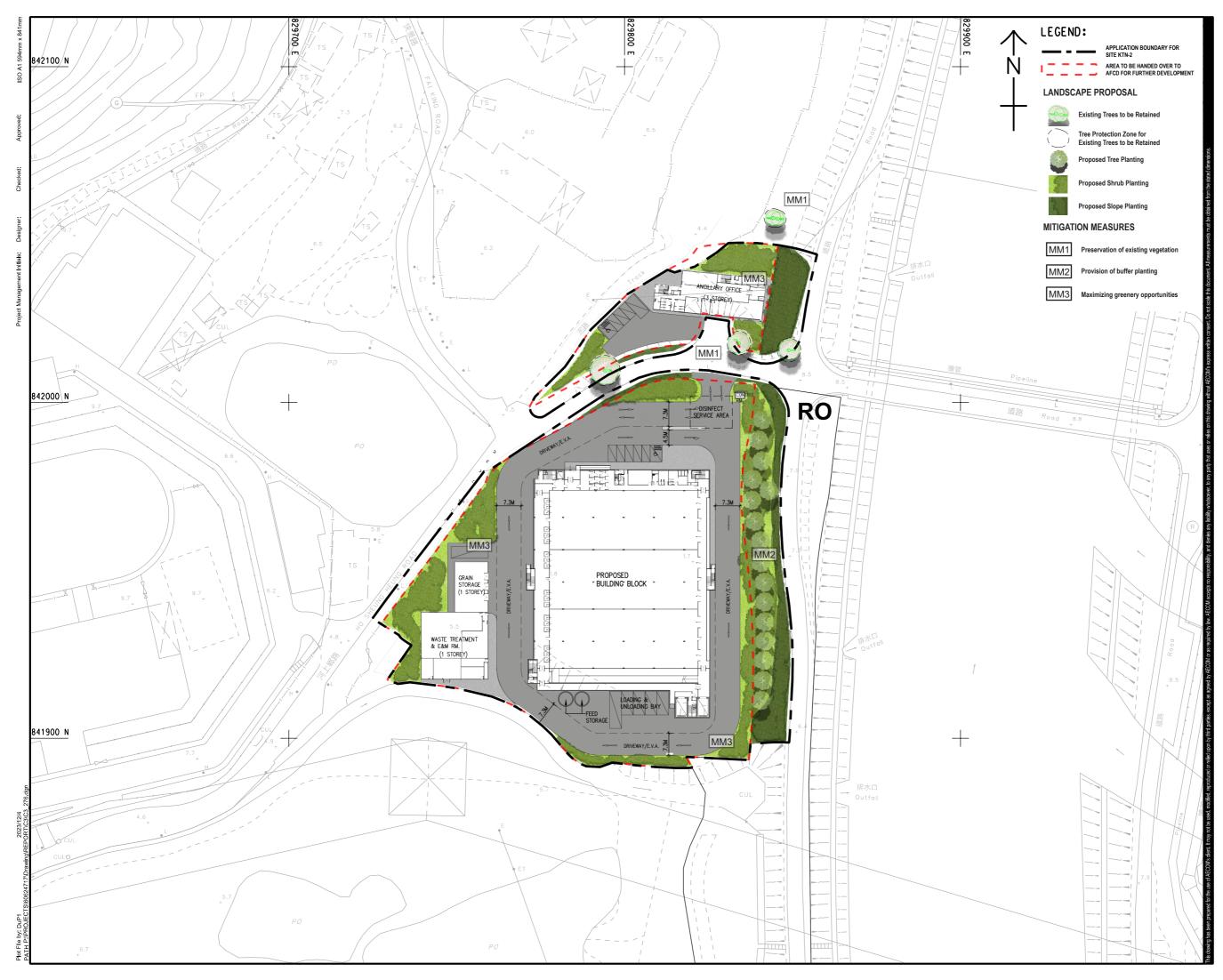
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PROJECT NO. CONTRACT NO. CE 19/2019 (CE) 60624717 SHEET TITLE

LOCATION OF LANDSCAPE CHARACTER AREA

SHEET NUMBER FIGURE 5.2





DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA, REMAINING PHASE -**DESIGN & CONSTRUCTION**

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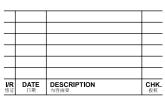
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KEY PLAN A1 1 : 50000

PROJECT NO. CONTRACT NO. CE 19/2019 (CE) 60624717 SHEET TITLE

LANDSCAPE PROPOSAL

SHEET NUMBER

FIGURE 6.1

Appendix A



Agreement No. CE 19/2019 (CE)

Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction

Tree Preservation and Removal Proposal (Final)

(Ref. C3-02B)

February 2024





Agreement No. CE 19/2019 (CE)

Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction

Tree Preservation and Removal Proposal (Final)

(Ref. C3-02)

December 2023

Reviewed:



Approved for Issue:

Raymond Pau · 11 December 2023

AECOM ASIA COMPANY LIMITED

Disclaimer:

This report is prepared for Civil Engineering and Development Department (CEDD) and is given for its sole benefit in relation to and pursuant to Agreement No. CE 19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction and may not be disclosed to, quoted to or relied upon by any person other than CEDD without our prior written consent. No person (other than CEDD) into whose possession a copy of this report comes may rely on this report without our express written consent and CEDD may not rely on it for any purpose other

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 The Territorial Development Strategy Review in 1990s first identified that there was potential for strategic growth in the North East New Territories (NENT). The Planning and Development Study on NENT (NENT Study), which was commissioned in 1998 and completed in 2003 under Agreement No. CE 64/96, identified the areas at Kwu Tung North (KTN), Fanling North (FLN) and Ping Che/Ta Kwu Ling as suitable for the development of New Development Areas (NDAs) in the NENT and confirmed the feasibility of development based on the findings and recommendations from various technical assessments.
- 1.1.2 The Chief Executive announced in the 2007-08 Policy Address that the Government would revive the planning and engineering studies on the NENT NDAs and work out implementation strategies with a view to providing housing land and meeting other land use requirements in the future. The NENT NDAs, together with Hung Shui Kiu NDA, was one of the ten major infrastructure projects announced in the 2007-08 Policy Address for economic growth.
- 1.1.3 The North East New Territories New Development Areas Planning and Engineering Study-Investigation (NENT NDAs Study) under Agreement No. CE 61/2007(CE) was commissioned jointly by the Civil Engineering Development Department (CEDD) and the Planning Department (PlanD) in June 2008 and was completed in December 2013. Various planning, engineering and environmental studies were completed to formulate a revised proposal for the NENT NDAs based on the NENT Study, confirm the feasibility of implementing the revised proposal and formulate the implementation strategies and programme for the NDAs. A planning and development framework for the KTN, FLN and PC/TKL NDAs was also established to meet the long-term demand for housing, especially public housing, and employment. Development of the NENT NDAs could also cater for various land use needs arising from social and economic developments in Hong Kong.
- 1.1.4 On the basis of the final recommendations of the NENT NDAs Study, the Outline Development Plan (ODP) and the statutory Outline Zoning Plans (OZPS) for the KTN and FLN NDAs were formulated which provided a comprehensive planning framework to guide the future development of the NDAs and provided the foundation for drafting the statutory Outline Zoning Plans (OZPs) for the KTN and FLN NDAs. The KTN and FLN OZPs were approved by Chief Executive in Council on 16 June 2015. The approved KTN and FLN OZPs were exhibited for public inspection on 19 June 2015.
- 1.1.5 The design consultancy for Development of KTN and FLN NDAs, Phase 1 under Agreement No. CE 13/2014(CE) (the First Phase Assignment) was commissioned by CEDD in November 2014, to carry out detailed design and site investigation of the First Phase Works (i.e. the site formation and engineering infrastructure works for the Advance Works and First Stage Works.
- 1.1.6 As one of the initiatives set out in the Policy Agenda of The Chief Executive's 2018 Policy Address announced in October 2018, the Government determined to, as medium and long-term measures, press ahead with the implementation of the plans for the KTN and FLN NDAs as an extension to the Fanling/Sheung Shui New Town.

1.2 The Project

- 1.2.1 The KTN and FLN NDAs are being developed in phases, comprising the First Phase Works (i.e. the Advance Works and First Stage Works) and the Remaining Phase Works.
- 1.2.2 The First Phase Works are to carry out advance site formation (including soil remediation) of part of lands in the KTN and FLN NDAs for housing and local rehousing, community facilities, construction of roads including the eastern section of Fanling Bypass connecting the FLN NDA and Fanling Highway and local roads, and to develop a nature park at Long Valley (including provision of a visitor centre and a linking footbridge), reprovisioning of two egretry sites in FLN NDA and enhancement works to an existing egretry site in the KTN NDA, site formation of land for a village resite area in the KTN NDA, and associated engineering

infrastructures. The detailed design and site investigation of the First Phase Works was substantially completed in 2018. The construction of the First Phase Works commenced progressively from 2019.

- 1.2.3 The Remaining Phase Works is to carry out remaining phase site formation and engineering infrastructure works at KTN NDAs for housing, community, commercial and other developments. The construction of the Remaining Phase Works is expected to commence progressively from 2024 in order to meet the target completion for all infrastructure works for the NDA development in 2031.
- 1.2.4 AECOM Asia Co Ltd has been commissioned by the Civil Engineering and Development Depart (CEDD) to undertake Agreement No. CE 19/2019 (CE) – Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction. The starting date of the services commenced on 30 December 2019 and the completion date is 29 December 2033 tentatively.

1.3 Structure of this Report

- 1.3.1 Following this introductory section, the remainder of this Tree Survey Report is structured as follows::
 - Section 2 describes legislations, standards and guidelines related to tree survey and tree preservation and removal proposal; and
 - · Section 3 illustrates the tree survey approaches and methodology; and
 - Section 4 presents the tree preservation, transplanting and removal proposals; and
 - Section 5 presents the compensatory tree planting proposals; and
 - Section 6 summarises the findings of this Report for Tree Preservation and Removal Proposal.

2 PROJECT DESCRIPTION

2.1 Scope of Works

- 2.1.1 The scope of the proposed works comprises: -
 - (a) site formation of about 149 hectares of land at KTN NDA for housing, community, commercial and other developments;
 - (b) engineering infrastructure works including but not limited to roadworks, drainage, sewerage, waterworks, pumping stations and other associated buildings/structures/E&M/systems for supporting the development sites in the Remaining Phase Works of KTN NDA;
 - (c) soil remediation;
 - (d) landscaping works;
 - (e) implementation of environment of monitoring and mitigation measures for the works mentioned in (a) to (d) above; and
 - (f) administration of the contract between the Social Service Team (SST) in KTN and FLN NDAs and the Employer and supervision of the SST's services.

2.2 Tentative Implementation Programme

2.2.1 According to the tentative implementation programme, the construction phase will commence in July 2024 and complete by December 2031.

LEGISLATIONS, STANDARD AND GUIDELINES

3

3.1 Government Publications, Guidelines and Reports

- 3.1.1 Government Publications, Guidelines and Reports related to Tree Survey, Preservation and Removal Proposals include:
 - Agriculture, Fisheries and Conservation Department AFCD Nature Conservation Practice Note No. 1 – Clearing Mikani
 - Agriculture, Fisheries and Conservation Department AFCD Nature Conservation Practice Note No. 2 – Measurement of Diameter at Breast Height (DBH)
 - Agriculture, Fisheries and Conservation Department AFCD Nature Conservation Practice Note No. 3 – The Use of Plant Names
 - Civil Engineering and Development Department (2020) General Specifications for Civil Engineering Works, Sections 3 and 26
 - Civil Engineering and Development Department (2016) Project Administration Handbook for Civil Engineering Works, Chapters 1 and 4
 - Development Bureau Latest Guidelines for Tree Risk Management and Assessment Arrangement on an Area Basis and on a Tree Basis
 - GEO Publication (2000) Highway Slope Manual, Chapters 6 and 8
 - GEO Publication No. 1/2011 Technical Guidelines on Landscape Treatment for Slopes
 - GEO Technical Guidance Note No. 20 Updating of GEO Publication No. 1/2000
 - GEO Report No. 56 (1999) Application of Prescriptive Measures to Slopes and Retaining Walls, 2nd Edition
 - GEO Report No. 116 (2001) Review of Effective Methods of Integrating Man made Slopes and Retaining Walls (Particularly for Roadside Slopes) into Their Surroundings
 - GEO Report No. 136 (2003) Guidelines on Safe Access for Slope Maintenance
 - GEO Report No. 183 (2006) Performance Assessment of Greening Techniques on Slopes
 - GEO Special Project Report No. SPR 7/2004 (2004) Identification of Suitable Vegetation Species for Use on Man-made Slopes
 - Greening Master Plan for North District
 - Input Guideline HyD Slope Vegetation (SVI) Records
 - HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit
 - HyD HQ/GN/15 Guidelines for Greening Works along Highways
 - HyD HQ/GN/15A Guidelines for Landscape Works for Highway Projects
 - RD/GN/044B Guidance Notes on Design and Construction of Pavements with Paving Units.

- HyD Requirements for Handover of Vegetation to Highways Department
- Latest General Standards and Maintenance Requirements for Roadside Landscape Works to be Handed Over to LCSD for Maintenance.
- Development Bureau Latest Guidelines on Greening of Noise Barriers
- "Guidelines on Tree Preservation during Development" issued by GLTMS of DevB
- "Guidelines on Tree Transplanting" issued by GLTMS of DevB
- "Guidelines for Tree Risk Assessment and Management Arrangement" issued by GLTMS of DevB
- "Guidelines on Soil Improvement" issued by GLTMS of DevB
- "Guidelines on Soil Volume for Urban Trees" issued by GLTMS of DevB
- "Street Tree Selection Guide" issued by GLTMS of DevB
- Proper Planting Practices and other relevant guidelines issued by GMLT of DevB
- LPM Branch, Design Technical Guideline No. 17, "Tree Preservation for Slope Works"
- Guidelines on Yard Waste, Reduction and Treatment
- Chapter 4 Recreation, Open Space and Greening, Hong Kong Planning Standards and Guidelines (HKPSG) issued by Planning Department
- Chapter 11 Urban Design Guideline, Hong Kong Planning Standards and Guidelines (HKPSG) issued by Planning Department
- Universal Accessibility for Externa; Areas, Open Spaces and Green Spaces, 2007 issued by ArchSD
- Approved EIA Report (AEIAR No. 175/2013)

3.2 Technical Circulars

- 3.2.1 Technical Circulars related to Landscape Design include:
 - ETWB TCW No. 13/2003A Guidelines and Procedures for Environmental Impact Assessment of Government Projects and Proposals Planning for Provision of Noise Barriers
 - ETWB TCW No. 11/2004 Cyber Manual for Greening
 - WBTC No. 25/93 Control of Visual Impact of Slopes
 - WBTC No. 17/2000 Improvement to the Appearance of Slopes in connection with WBTC 23/93
 - WBTC No. 7/2002 Tree Planting in Public Works
 - CEDD TC No. 3/2016 Reporting of Incidents on CEDD Works Sites
 - CEDD TC No. 03/2022 Tree Works Vetting Panels

- DEVB TCW No. 3/2012 Site Coverage of Greenery for Government Building Projects
- DEVB TCW No. 2/2012 Allocation of Space for Quality Greening on Roads
- DEVB TCW No. 6/2015 Maintenance of Vegetation and Hard Landscape Features.
- DEVB TCW No. 4/2020 Tree Preservation
- DEVB TCW No. 5/2020 Registration and Preservation of Old and Valuable Trees
- DEVB TCW No. 5/2017 Community Involvement in Greening Works
- DEVB TCW No. 1/2018 Soft Landscape Provisions for Highway Structures

3.3 Ordinances and Regulations

- 3.3.1 Ordinances and Regulations related to Landscape Design include:
 - Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislations
 - Plant Varieties Protection Ordinance (Cap. 490)
 - Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
 - Wild Animals Protection Ordinance (Cap. 170)
 - Environmental Impact Assessment Ordinance (Cap. 499)
 - TC No. 10/2001 Visibility of Directional Signs

4 TREE SURVEY METHODOLOGY

- 4.1.1 In accordance with DEVB TCW No. 4/2020, all existing individual trees with a trunk diameter larger than 95mm (300mm girth) measured at 1,300mm above ground level are surveyed and identified with the following information recorded and presented in the Tree Assessment Schedule in the Appendix III:
- 4.1.2 Individual Tree Survey
 - (a) Drawing. : Drawing where the individual tree can be found.
 - (b) Tree No. : Individual trees as being number labelled on site and marked on site and denoted correspondingly on the plan.
 - (c) Photo No. : The photograph reference number of the tree being identified.
 - (d) Species: Scientific and Chinese names of the trees surveyed.
 - (e) Tree size:
 - a. Overall Height: Height measured from ground level to the top branch;
 - b. Trunk Diameter: Diameter of the main trunk measured at 1.3m high above ground level;
 - c. Average Crown Spread: Average diameter of the foliage canopy.
 - (f) Amenity Value of a tree should be assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories:
 - a. Good important trees which should be retained by adjusting the design layout accordingly;
 - Average trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than "Good" trees;
 - c. Poor trees that are dead, dying or potentially hazardous and should be removed.
 - (g) Form:
 - a. Good Well-balanced crown and straight strong trunk(s);
 - b. Average Slightly unbalanced crown and non-straight trunk(s);
 - c. Poor Misshapen or awkwardly-forked trunk and / or unbalanced crown.
 - (h) Health:
 - a. Good Sound and healthy trees;
 - b. Average Trees which are with few or no visible defects or health problem;
 - c. Poor Rot and / or cavities in the main trunk and / or crown die back, severely infected with disease.
 - (i) Structural Condition:
 - a. Good Trees with no or little sign of structural defect and would have low risk level of potential failure;
 - b. Average Trees with moderate sign of structural defect and would have medium risk level of potential failure;

- Poor Trees with significant and obvious sign of structural defect and would have high risk level of potential failure.
- (j) Suitability for Transplanting: Assess the suitability of affected trees be transplanted taken in to account of the following factors: -
 - conditions of the tree to be transplanted (including form, health and structure which will affect success of the proposed transplanting);
 - size, species, and conservation status of the tree to be transplanted;
 - availability and suitability of a permanent receptor site, both within and outside the project site;
 - adequate time for preparation of transplanting operation;
 - identification of a long-term maintenance party for the transplanted tree(s);
 - access to the existing location and transportation to the receptor site (including availability
 of access to accommodate the tree, topography of the proposed route, engineering
 limitations, etc.); and
 - cost-effectiveness.

Trees with the following features should not be considered suitable for transplanting under normal circumstances:

- low amenity value;
- irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
- low survival rate after transplanting;
- very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
- with evidence of over-maturity and onset of senescence;
- with poor health, structure or form (e.g. imbalanced form, leaning, with major cavity/cracks/splits); or
- undesirable species (e.g. Leucaena leucocephala which is an invasive exotic tree).
- tree grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on steep slope, roots integrated with existing structure/utilities/trees etc,.)

Having considered the above factors and features of the trees, trees are assessed as follows: -

- a. High Trees are highly suitable for transplanting.
- b. Medium Trees are moderately suitable for transplanting.
- c. Low Trees are not suitable for transplanting.
- (k) Conservation Status: State the rarity and protection status of the species under relevant ordinances in Hong Kong. References such as Rare and Precious Plants of Hong Kong, the IUCN Red List of Threatened Species and the Forests and Countryside Ordinance (Cap. 96) are used.

- (I) Recommendation: Proposed action for individual species which fall into the following categories:
 - a. Retain
 - b. Transplant
 - c. Remove
- (m) Department to Provide Expert Advice to LandsD: AFCD (Agriculture, Fisheries and Conservation Department)/DSD (Drainage Services Department) / HyD (Highways Department) / LCSD (Leisure and Cultural Services Department) / Respective Government Department.
- (n) Justification: Proposed works which justify the recommendation.
- (o) Additional Remarks: Supplementary note towards the assessment.

Note: Item (i), (m) and (n) will be incorporated in Report for TPRP

4.1.3 Group Tree Survey

Survey of existing trees in the following site conditions are recommended to proceed with tree group survey instead of tree individual survey:

- Appendix C (1) DEVB TC(W) No. 4/2020- "For large-scale infrastructure works projects, such as site formation works and advance infrastructure works for new town development, tree group survey can be adopted subject to justification() provided".
- For inaccessible areas which are without safe and walkable access (either maintenance or public
 access) such as remote countryside slopes, fenced-off areas, within private lit and dense woodland
 and /or site areas with potential hazard /risk to the tree surveyors; and /or
- For vegetated areas which the physical condition and vegetation composition are similar within the whole areas such as on individual SIMAR slope under one slope maintenance party.
- 4.1.4 To safeguard the quality of the tree group inspection, the size and coverage of each tree group should not be excessively large.
- 4.1.5 Tree survey boundary has been defined to assess all existing tree groups located in close proximity of all proposed permanent works and to be affected by any construction works related or temporary works thereof.
- 4.1.6 Each tree group is identified on the basis that vegetation at contiguous areas of similar character and is kept as small as practical.
- 4.1.7 The area recommended to proceed with group tree survey is subject to the existing site condition based on the General Layout Plan in **Appendix I**. Individual tree survey should be carried out once possession of or access to the area(s) concerned is granted by respective DLOs of LandsD.
 - (a) Drawing: Drawing showing where the tree groups are found.
 - (b) Tree Group No.: Tree Groups as being number labelled on site and marked on site and denoted correspondingly on the plan.
 - (c) Tree Group Photo No.: The photograph reference number of the tree group being identified.
 - (d) Species and Composition in the Tree Group: Scientific and Chinese names of the trees surveyed and the estimate of the number of trees within the group.
 - (e) Estimated tree size in the Group:

- a. Height: Range of height measured from ground level to the top branch;
- b. Trunk Diameter: Range of diameter of the main trunk measured at 1.3m high above ground level; and
- c. Crown Spread: Range of diameter of the foliage canopy.
- (f) Amenity Value of a tree should be assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories:
 - a. Good important trees which should be retained by adjusting the design layout accordingly;
 - Average trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than "Good" trees;
 - c. Poor trees that are dead, dying or potentially hazardous and should be removed.
- (g) Overall Form:
 - a. Good Well-balanced crown and straight strong trunk(s);
 - b. Average Slightly unbalanced crown and non-straight trunk(s); and
 - c. Poor Misshapen or awkwardly-forked trunk and / or unbalanced crown.
- (h) Overall Health:
 - a. Good Sound and healthy trees;
 - b. Average Trees which are with few or no visible defects or health problem; and
 - c. Poor Rot and / or cavities in the main trunk and / or crown die back, severely infected with disease.
- (i) Overall Structural Condition:
 - a. Good Trees in the group with no or little sign of structural defect and would have low risk level of potential failure;
 - b. Average Trees in the group with moderate sign of structural defect and would have medium risk level of potential failure; and
 - c. Poor Trees in the group with significant and obvious sign of structural defect and would have high risk level of potential failure.
- (j) Suitability for Transplanting: Assess the suitability of affected trees be transplanted taken in to account of the following factors: -
 - conditions of the tree to be transplanted (including form, health and structure which will affect success of the proposed transplanting);
 - size, species, and conservation status of the tree to be transplanted;
 - availability and suitability of a permanent receptor site, both within and outside the project site;
 - adequate time for preparation of transplanting operation;
 - identification of a long-term maintenance party for the transplanted tree(s);

- access to the existing location and transportation to the receptor site (including availability
 of access to accommodate the tree, topography of the proposed route, engineering
 limitations, etc.); and
- cost-effectiveness.

Trees with the following features should not be considered suitable for transplanting under normal circumstances:

- low amenity value;
- irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
- low survival rate after transplanting;
- very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
- with evidence of over-maturity and onset of senescence;
- with poor health, structure or form (e.g. imbalanced form, leaning, with major cavity/cracks/splits); or
- undesirable species (e.g. Leucaena leucocephala which is an invasive exotic tree).
- tree grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on steep slope, roots integrated with existing structure/utilities/trees etc,.)

Having considered the above factors and features of the trees, trees are assessed as follows: -

- a. High Trees are highly suitable for transplanting;
- b. Medium Trees are moderately suitable for transplanting; and
- c. Low Trees are not suitable for transplanting.
- (k) Conservation Status: State the rarity and protection status of the species under relevant ordinances in Hong Kong. References such as Rare and Precious Plants of Hong Kong, the IUCN Red List of Threatened Species and the Forests and Countryside Ordinance (Cap. 96) are used.
- (I) Recommendation: Proposed action for trees in the group which fall into the following categories:
 - a. Retain
 - b. Transplant and
 - c. Remove
- (m) Department to Provide Expert Advice to LandsD: AFCD (Agriculture, Fisheries and Conservation Department) /DSD (Drainage Services Department) / HyD (Highways Department) / LCSD (Leisure and Cultural Services Department) / Respective Government Department.
- (n) Justification: Proposed works which justify the recommendation.
- (o) Additional Remarks: Supplementary note towards the assessment.

Note: Item (I), (m) and (n) will be incorporated in Report for TPRP

5 TREE SURVEY FINDINGS AND RECOMMENDATIONS

5.1 Tree Survey Findings

- 5.1.1 The location of Individual and Group tree surveyed is plotted on the Tree Survey Plans in **Appendix II-A** and **Appendix II-B**. Tree Assessment Schedule for Individual and Group Survey is shown in **Appendix III-A** and **Appendix III-B**. Photos of trees surveyed are shown in **Appendix IV**.
- 5.1.2 A total of approximately 12,267 nos. of trees with 137 nos. of species have been surveyed. Total 8,183 trees in 258 groups and 4,084 individual trees (including 45 Trees of Particular Interest (TPIs) that within the project boundary and would be potentially affected were surveyed.
- 5.1.3 Individual Tree Survey Findings

The dominant tree species among 4,084 individual trees include *Macaranga tanarius* var. *tomentosa, Dimocarpus longan, Leucanena leucocephala, Ficus hispida* and *Celtis sinensis, Clausena lansium.* They are in general in poor form, average in health and structural condition; and medium in amenity value. Their height, DBH and crown spread ranges from 2-30m, 95-2561 mm, and 0-26 m respectively.

5.1.4 Group Tree Survey Findings

Approximate 8,183 nos. of trees are surveyed, they are mostly common species including but not limited to *Dimocarpus longan, Macaranga tanarius* var. *tomentosa, Leucaena leucocephala, Clausena lansium* and *Mangifera indica*. They are in general poor to average in form, health and structural condition; and low to medium in amenity value. Their height, DBH and crown spread ranges from 3-20m; 100-900mm; and 1-23m respectively.

5.1.5 There is no OVT identified in accordance with DEVB TC(W) No. 5/2020 within the project boundary. There are 59 nos. Trees of Particular Interest (TPIs) identified in reference to the definition in the Guidelines for Tree Risk Assessment and Management Arrangement issued by DEVB. For the 45 individual trees of particular interest, 34 nos. are very large size with DBH over 1 metre and height over 25 metre and 11nos. are protected species. A list of all TPIs is summarized in **Table 5.1** and highlighted in yellow in **Appendix III-C**.

Table 5.1: Summary of TPIs within Site boundary

Scientific Name	Chinese Name	No. of Trees	Justification
Aquilaria sinensis	土沉香	10	 Tree with conservation value Endangered Species under
Dalbergia odorifera	降香黄檀	1	Cap 586
Celtis sinensis	朴樹	2	
Cinnamomum camphora	樟	2	
Cinnamomum parthenoxylon	黄樟	1	
Dead tree	死樹	1	Existing mature trees with
Ficus elastica	印度榕(印度橡樹)	3	DBH over 1000mm
Ficus microcarpa	榕樹(細葉榕)	17	
Ficus variegata	青果榕	1	
Ficus virens	大葉榕	4	
Eucalyptus urophylla	尾葉桉	3	Existing trees with height over 25m
	Total	45	

- 5.1.6 According to procedures as set out in para. 26 of DEVB TC(W) No. 4/2020 Tree Preservation and Section 2.6 of the Guidelines for Tree Risk Assessment and Management Arrangement (TRAM), Sensitivity Analysis Report with detail review of each TPI will be separately supplemented after commencement of works. The Tree Assessment Schedule (Trees of Particular Interest) and Photographic Record (Trees of Particular Interest) are presented in Appendix III(C) and Appendix IV(C) respectively.
- 5.1.7 A summary of the quantity and species of trees is summarized **Table 5.2**.

Table 5.2: Summary of Quantity and Species of Trees

Scientific Name	Chinese Name	Number of Trees Individual (Group)
Acacia auriculiformis	耳果相思	12(1)
Acacia confusa	台灣相思	45(143)
Acacia mangium	大葉相思	(4)
Acronychia pedunculata	山油柑(降真香)	1(3)
Aglaia odorata	米仔蘭	(6)
Albizia lebbeck	大葉合歡	6(6)
Aleurites moluccana	石栗	8(9)
Annona glabra	圓滑番荔枝	1
Annona squamosa	番荔枝	4(2)
Antidesma bunius	五月茶	1
Aporosa dioica	銀柴	8(30)
Aquilaria sinensis	土沉香	10
Araucaria columnaris	柱狀南洋杉	5(12)
Araucaria heterophylla	異葉南洋杉	(1)
Archidendron clypearia	猴耳環	1
Archontophoenix alexandrae	假檳榔	16(18)
Artocarpus heterophyllus	菠蘿蜜	92(244)
Averrhoa carambola	楊桃	27(37)
Bauhinia sp.	羊蹄甲屬	71(73)
Bauhinia variegata	宮粉羊蹄甲	(28)
Bauhinia variegata var. candida	白花羊蹄甲	(1)
Bauhinia x blakeana	洋紫荊	2(9)
Bischofia javanica	秋楓	12(9)
Bombax ceiba	木棉	27(83)
Bridelia tomentosa	土蜜樹	31(25)
Callistemon viminalis	串錢柳	11
Camellia japonica	山茶	1
Canarium album	橄欖	2(1)
Carica papaya	番木瓜	45(97)
Caryota mitis	短穗魚尾葵	53(93)
Cassia fistula	豬腸豆	(2)
Castanea mollissima	栗	1
Casuarina equisetifolia	木麻黃	8(17)

Scientific Name	Chinese Name	Number of Trees Individual (Group)
Cinnamomum burmannii	陰香	8(2)
Cinnamomum parthenoxylon	黄樟	5
Citrus maxima	柚	8(10)
Crateva unilocularis	樹頭菜	1(6)
Cratoxylum cochinchinense	黃牛木	14(16)
Croton tiglium	巴豆	1
Dead Tree	死樹	170(30)
Delonix regia	鳳凰木	4(5)
Diospyros kaki	柿	4
Dracaena fragrans	巴西鐵樹	10(3)
Dracontomelon duperreanum	人面子	(1)
Drumstick moringa	辣木	1
Dypsis lutescens	散尾葵	18(17)
Ehretia acuminata	厚殻樹	40(5)
Eriobotrya japonica	枇杷	9(19)
Eucalyptus robusta	大葉桉	(1)
Eucalyptus urophylla	尾葉桉	16
Euphorbia neriifolia	金剛纂	1(1)
Ficus benjamina	重葉榕	3(14)
Ficus elastica	印度榕(印度橡樹)	3
Ficus hispida	對葉榕	276(338)
Ficus religiosa	菩提樹	(1)
Ficus variegata	青果榕	21(40)
Ficus virens	黃葛樹	4
Flueggea virosa	白飯樹	4
Gymnanthemum amygdalinum	桃葉斑鳩菊	1
Hibiscus tiliaceus	責槿	15(30)
llex rotunda	鐵冬青	34(1)
Juniperus chinensis 'Kaizuca'	龍柏	2(23)
Koelreuteria bipinnata	複羽葉欒樹	(2)
Lagerstroemia speciosa	大花紫薇	2(21)
Leucaena leucocephala	銀合歡	413(1422)
Ligustrum sinense	山指甲	54(69)
Lindera communis	香葉樹	1
Litchi chinensis	荔枝	155(328)
Litsea cubeba	山蒼樹	2
Litsea glutinosa	潺槁樹	39(54)
Litsea monopetala	假柿木薑子	1
Livistona chinensis	蒲葵	26(23)
Lophostemon confertus	紅膠木	1
Macaranga tanarius var. tomentosa	血桐	551(1288)

Scientific Name	Chinese Name	Number of Trees Individual (Group)
Machilus chekiangensis	浙江潤楠	1(1)
Machilus pauhoi	刨花潤楠	21(3)
Machilus spp.	潤楠屬	(2)
Magnolia grandiflora	荷花玉蘭	(1)
Mallotus paniculatus	白楸	1(1)
Mangifera indica	杧果	77(260)
Manilkara zapota	人心果	(3)
Markhamia stipulata	貓尾木	10
Melaleuca bracteata	黄金香柳	(1)
Melaleuca cajuputi subsp. cumingiana	白千層	2(4)
Melia azedarach	苦楝	49(82)
Michelia champaca	黃蘭	1
Michelia figo	含笑	1
Michelia x alba	白蘭	11(24)
Microcos nervosa	破布葉(布渣葉)	57(155)
Morus alba	 桑	114(143)
Opuntia cochenillifera	胭脂掌	1
Osmanthus fragrans	桂花(木犀)	1
Pachira aquatica	瓜栗	2
Pachira glabra	馬拉巴栗	1(1)
Paliurus ramosissimus	馬甲子	(1)
Persea americana	鱷梨 (牛油果)	(1)
Phoenix roebelenii	日本葵	(3)
Phyllanthus emblica	餘甘子(油甘子)	(2)
Pinus massoniana	馬尾松	81(13)
Platycladus orientalis	側柏	4(4)
Podocarpus macrophyllus	羅漢松	5(19)
Prunus mume	梅	2
Psidium guajava	番石榴	50(73)
Pterocarpus indicus	紫檀	3
Pterospermum heterophyllum	翻白葉樹	(1)
Rhus chinensis	鹽慮木	1(5)
Roystonea regia		1(2)
Sapium discolor		1
Sapium sebiferum		4(1)
Schefflera heptaphylla		3(7)
Senna siamea	鐵刀木	34(5)
Senna surattensis		(1)
Sterculia lanceolata		6(1)
Sterculia monosperma		8(17)
Syzygium cumini	鳥墨(海南蒲桃)	3(6)

Scientific Name	Chinese Name	Number of Trees Individual (Group)
Syzygium hancei	韓氏蒲桃	1
Syzygium jambos	蒲桃	12(47)
Syzygium nervosum	水翁	36(4)
Tamarindus indica	酸豆	(7)
Terminalia catappa	欖仁樹	1
Tetradium glabrifolium	楝葉吳茱萸	6(21)
Trema tomentosa	山黃麻	1(3)
Viburnum odoratissimum	珊瑚樹	10(1)
Zanthoxylum avicennae	簕欓花椒(簕欓)	(3)
	Total	4,084 (8,183)

5.2 Tree Preservation, Transplanting and Removal Proposals

- 5.2.1 The engineering layout had been designed to minimize the impact on existing tree. Any trees surveyed which are in conflict with the proposed works will be proposed to be transplanted and removed. Besides site formation designed finish level, trees will be affected due to level changes, trees located within future vehicular access, necessary associated facilities will also be affected. General engineering layout plans for trees to be affected are illustrated in Appendix I for justification support. Tree Treatment Plan is shown in Appendix II-B.
- 5.2.2 Findings relevant maintenance parties of affected trees and justification for removal of existing trees found in Kwu Tung Remaining site are summarized in Table 5.3a, Table 5.3b, Table 5.4 and Table 5.5.

Proposed Tree Treatment	Dead tree	Undesirable species (Leucaena leucocephala)	Tree of particular interest	Other tree
Trees to be retained	0	0	2	55
Trees to be removed	170	413	33	3,376
Trees to be transplanted	0	0	10	25
Total (4,084 Nos.)	170	413	45	3,456

Table 5.3a: Summary of Proposed Individual Trees Treatments

Table 5.3b: Summary of Proposed Group Trees Treatments

Proposed Tree Treatment	Dead tree	Undesirable species (Leucaena leucocephala)	Other trees (approx.)
Trees to be retained	0	16	79
Trees to be removed	30	1,406	6,652
Total (approx. 8,183 Nos.)	30	1,422	6,731

Table 5.4: Summary of Proposed individual trees treatment under current maintenance parties

Proposed Tree Treatment	DSD	HyD	LandsD	LCSD	Total Nos.
Trees to be retained	4	0	52	1	57
Trees to be removed	108	23	3,260	601	3,992
Trees to be transplanted	0	0	30	5	35
Total	112	23	3,342	607	4,084

Table 5.5: Summary of Proposed individual trees treatment under relevant maintenance parties

Justification of tree removal/	Proposed	Proposed site	Dead trees	Undesirable
transplant ; Affected by	road works	formation works	within site	trees
Trees to be removed	588	2,821	170	413

- According to procedures as set out in para. 26 of DEVB TC(W) No. 4/2020 Tree Preservation and Section 5.2.3 2.6 of the Guidelines for Tree Risk Assessment and Management Arrangement (TRAM), Sensitivity Analysis Report with detail review of each TPI will be separately supplemented after commencement of works. The Tree Assessment Schedule (Trees of Particular Interest) and Photographic Record (Trees of Particular Interest) are presented in Appendix III(C) and Appendix IV(C) respectively.
- 5.2.4 In accordance with the criteria provided in Guidelines for Tree Risk Assessment and Management Arrangement as mentioned in Section 3.2.2. total 45 nos. (T02152. T04736,T03787,T03815,T03775,T03666,T03780,T03772,T03340,T03646,T05086,T03668,T03053,T03063 ,T03050,T02524, LS-T072, T01117, T02287, T04310, T05166, T02151, T05231, T02571, T01983, T00873, T03609, T02411, T00876, T02753, T02349, T03977, T00881, T00875, T02713, T02714, T04993, T05233 ,T03574,T01002,T00882,T02712,T00880,T05232,T04071) of Trees of Particular Interest (TPIs) are identified within development boundary under the Project. For the 45 individual TPIs, 34 nos. are very large size with DBH over 1m/ Crown Spread over 25m and 11 nos. are protected species.
- 5.2.5 Among the identified TPIs within development boundary as mentioned in Section 5.1, 41 nos. of trees would be inevitably affected by the development, in which 2 nos, would be retained, 33 nos, would be removed. The list of all OVTs and TPIs with DBH over 1000mm/ and their relevant treatment are summarized in Appendix III (C) and Table 5.1b

	Table 5.1b List of Trees of Particular Interest						
No.	Tree ID/ (Registered OVT No.)	Scientific Name	Treatment Proposal	Justifications for Removal of TPIs			
1	LS-T-072		Retain	-			
2	T00873		remove	Direct conflict with proposed road works			
3	T00875	Ficus microcarpa	remove	Direct conflict with proposed road works			
4	T00876		remove	 Direct conflict with proposed road works 			
5	T00880		remove	Direct conflict with proposed site formation works			

.... of Doublevillar Inte

No.	Tree ID/ (Registered OVT No.)	Scientific Name	Treatment Proposal	Justifications for Removal of TPIs
6	T00881		remove	Direct conflict with proposed site formation works
7	T00882		remove	Direct conflict with proposed site formation works
8	T01002		Remove	conflict with proposed site formation works
9	T01117	Ficus elastica	Remove	conflict with proposed site formation works
10	T01983	T ICUS ElaStica	remove	Direct conflict with proposed road works
11	T02151	Cinnamomum camphora	remove	 Direct conflict with proposed site formation works
12	T02152	Dead tree	remove	safety
13	T02287		remove	Direct conflict with proposed road works
14	T02349	Ficus microcarpa	remove	Direct conflict with proposed road works
15	T02411		remove	Direct conflict with proposed site formation works
16	T02524	Ficus variegata	remove	Direct conflict with proposed site formation works
17	T02571	Ficus virens	remove	 Direct conflict with proposed site formation works
18	T02712	Ficus microcarpa	Remove	Direct conflict with proposed site formation works
19	T02713	Ficus virens	remove	Direct conflict with proposed site formation works
20	T02714	Ficus virens	remove	 Direct conflict with proposed site formation works
21	T02753	Ficus microcarpa	remove	Direct conflict with proposed site formation works
22	T03050	F	remove	Direct conflict with proposed road works
23	T03053	Eucalyptus urophylla	remove	Direct conflict with proposed road works
24	T03063		remove	Direct conflict with proposed road works

No.	Tree ID/ (Registered OVT No.)	Scientific Name	Treatment Proposal	Justifications for Removal of TPIs
25	T03340	Aquilaria sinensis	transplant	Direct conflict with proposed site formation works
26	T03574	Ficus elastica	remove	 Direct conflict with proposed site formation works
27	T03609	Cinnamomum parthenoxylon	remove	Direct conflict with proposed site formation works
28	T03646		transplant	Direct conflict with proposed site formation works
29	T03666		transplant	Direct conflict with proposed site formation works
30	T03668		transplant	 Direct conflict with proposed site formation works
31	T03772	Aquilaria sinensis	transplant	Direct conflict with proposed site formation works
32	T03775		transplant	Direct conflict with proposed site formation works
33	T03780		transplant	Direct conflict with proposed site formation works
34	T03787		transplant	Direct conflict with proposed site formation works
35	T03815		transplant	Direct conflict with proposed site formation works
36	T03977	Ficus virens	remove	Direct conflict with proposed site formation works
37	T04071	Ficus microcarpa	remove	Direct conflict with proposed site formation works
38	T04310	Celtis sinensis	remove	Direct conflict with proposed site formation works
39	T04736	Aquilaria sinensis	Transplant	Direct conflict with proposed site formation works
40	T04993	Ficus microcarpa	remove	Direct conflict with proposed site formation works

No.	Tree ID/ (Registered OVT No.)	Scientific Name	Treatment Proposal	Justifications for Removal of TPIs
41	T05086	Dalbergia odorifera	remove	 Direct conflict with proposed site formation works
42	T05166	Cinnamomum camphora	remove	Direct conflict with proposed site formation works
43	T05231	Celtis sinensis	remove	Direct conflict with proposed road works
44	T05232		Retain	-
45	T05233	Ficus microcarpa	remove	Direct conflict with proposed site formation works

- 5.2.6 For the TPI with conservation importance in species Aquilaria sinensis (i.e. T03340, T03646, T03666, T03668, T03772, T03775, T03780, T03787, T03787, T03815 and T04736), are proposed to be transplanted. Transplantation of Aquilaria sinensis required delicate procedures (i.e. the transplanted would be directly to final receptor site, to enhance the survival rate in view of the species sensitivity to environment changes.) They are proposed to be transplanted straight to final receptor site, to avoid holding in a temporary nursery where feasible to ensure the survival rate after transplanting. Receptor location is located at the compensatory woodland areas near Fung Kong Shan and Crest Hill as identified in the Approved EIA Report. Detail review of the transplant location shall be carried out in later stage to ensure the gradient of final receptor site is relatively gradual, which facilitates site preparation and transplanting. Method Statement for Transplanting of Aquilaria sinensis is provided in Appendix VIII.
- 5.2.7 Besides, for the other 29 nos. of Trees of Particular Interest with DBH over 1000mm in common landscape species, they are proposed to be removed due to direct conflict with the proposed road, noise barrier with pile foundation and retaining wall. Transplantation is not recommended for these trees with mature sizes in view of the technical infeasibility of forming proper root ball for transplanting for such large trees, irrecoverable form after transplanting and low chance of survival upon transplanting of the mature trees in senile age
- 5.2.8 Trees proposed to be retained for trees outside site boundary, out of scope of works yet will be preserved insitu on site. During construction period, retained trees will be protected from impact due to construction activity, following the proposed 'Method Statement for Tree Preservation, Protection in **Appendix VII.** Tree Protection Plan including detail of Tree Protective Fencing is shown in **Appendix VI.**
- 5.2.9 Transplanting would be considered as far as possible unless the trees affected are of low conservation and amenity value, or have a low chance of surviving or recovering to its normal form after transplanting. If the trees to be transplanted to other permanent locations within site are not possible, transplant the trees to a permanent location of fiste. Location of receptor site should preferably be within the same area for retention of amenity value in the vicinity, following the proposed 'Method Statement for transplanting of Existing Tree' in Appendix VIII. 35 nos. of trees including 10 nos. of Trees of Particular Interest in species Aquilaria sinensis are proposed to be transplanted. Proposed transplant location of the 25 nos. of trees (excluding 10 nos. of Trees of Particular Interest) shown in the Compensatory Planting and Final Receptor Site Plan– Appendix V

(Ref. C3-02B)

6.1 Guidelines for Compensation

- 6.1.1 Compensatory planting should be favourably considered if space and site conditions permit, with due regard to the planting guidelines promulgated by GLTMS. The species used should be compatible with the surrounding landscape and can enhance the vegetation diversity of the local environment.
- 6.1.2 As far as practicable, implementation of compensatory tree planting should be of a ratio not less than 1:1 in terms of number, i.e., the quantity of compensatory trees onsite and offsite not be lower than that of the quantity of trees removed including dead trees, but excluding trees of undesirable species.
- 6.1.3 Under this site formation and engineering infrastructure works at KTN NDAs project, most of the trees proposed to be removed are within future housing, community, commercial and other development sites; Future housing, community and commercial design are outside the purview of CEDD. With respect to the remaining area which are mainly public roads and engineering infrastructure works, which is not practicable to achieve the compensatory tree planting in a ratio not less than 1:1 in terms of number. The trees, shrubs and woodland mix proposed to be compensated within the site boundary have been reviewed and maximized as far as possible, details are given in section 6 of this TPRP submission for consideration.
- 6.1.4 Sufficient space shall be provided for the planting of compensatory trees taking into the account the adequate space required to cater for the establishment and health growth of the trees up to maturity.
- 6.1.5 Mitigation measure on planting species selection shall also be considered as the approved EIA report for existing habitats reinstatement as far as possible.

6.2 Compensatory Planting Proposals

- 6.2.1 In this project, approximately 10,261 nos. of trees excluding undesired species are proposed to be removed. Compensatory trees will be planted as far as possible to reinstate the planting by compensating whip trees, or heavy standard trees. Greening and reinstating the landscape character after construction increases the amenity value in surrounding area. Trees are compensated in the same area in order to mitigate against impact to existing landscape resources and characters of the affected area by providing rehabilitation and ensuring their greening and amenity value. Compensatory planting to mitigate the loss of existing trees due to the project is proposed and illustrated in **Appendix V**, **Appendix IX** and described below: -
 - Heavy Standard Trees are provided for the proposed amenity areas within the project boundary.
 - Whips and shrubs for woodland mix are provided for cut and fill slopes as far as practical to compensate the loss of trees
 - Native and ornamental shrub and groundcover species are proposed for roadside planters to compensate for alternative greening.
 - Compensatory Woodland Planting with native tree whips are proposed in the two near Fung Kong Shan and Crest Hill as identified in the Approved EIA Report, The compensatory woodland planting will be maintained by AFCD and AFCD noted this arrangement. The planting also includes 700 no. of compensatory trees under agreement no. CE 18/2019(CE) proposed to be compensated in the Kwu Tung North Remaining Phase Works.
- 6.2.2 In total, approximately **11,481** nos. of on-site tree planting, including 1,781 nos. of heavy standard trees and 9,700 nos. of whip trees would be implemented by CEDD, and the compensatory tree ratio is 1:1.12 in terms of quantity. Summary of Compensatory Planting Proposal is shown below:

6 COMPENSATORY TREE PLANTING PROPOSALS

Table 6.1 List of Tree Species to be compensated

Location	No. of trees surveyed	Trees to be retained	Trees to be removed (Exclude undesirable species)	Compensatory tree planting
Amenity Area within the project boundary	12,267	152	10,261	1,781
Compensatory Woodland Planting of EIA to be compensated (Approx. 2.9 ha)	/	/	/	9,700
Total	12,267	152	10,261	11,481

6.2.3 Trees and shrubs proposed to be compensated will be planted within the site boundary. Tree Species are selected based on the 'A Landscape Born of River and Mountain' theme in North District Greening Master Plan. **Table 6.2a** shows the proposed tree species to be compensated, while proposed shrub species with size and spacing are indicated in **Table 6.2b**, proposed woodland mix species are indicated in **Table 6.2c**;

Table 6.2a List of Tree Species to be compensated

Code	Scientific Name	Chinese Name	Size	Spacing (mm)	Quantity
BIS.JAV.	*Bischofia javanica	秋楓	Heavy standard	5000	15
BRI.TOM.	*Bridelia tomentosa	土蜜樹	Heavy standard	5000	34
CIN.CAM.	*Cinnamomum camphora	樟樹	Heavy standard	5000	53
CHU.TAB.	Chukrasia tabularis	麻楝	Heavy standard	5000	91
CLE.NER.	*Cleistocalyx nervosum	水翁	Heavy standard	5000	71
CRA.COC.	*Cratoxylum cochinchinense	黃牛木	Heavy standard	5000	118
DAL.ASS.	*Dalbergia assamica	南嶺黃檀	Heavy standard	5000	20
ELA.CHI.	*Elaeocarpus chinensis	中華杜英	Heavy standard	5000	33
ELA.HAI.	Elaeocarpus hainanensis	水石榕	Heavy standard	5000	31
FIC.HIP.	*Ficus hispida	對葉榕	Heavy standard	5000	25
GAR.SUB.	Garcinia subelliptica	菲島福木	Heavy standard	4000	65
ILE.ROT.	*llex rotunda var. microcarpa	小果鐵冬青	Heavy standard	5000	179
JAC.MIM.	Jacaranda mimosifolia	藍花楹	Heavy standard	5000	67
LAG.SPE.	Lagerstroemia speciosa	大花紫薇	Heavy standard	5000	35
LIQ.FOR.	*Liquidambar formosana	楓香	Heavy standard	5000	48
MAC.CHE.	*Machilus chekiangensis	浙江潤楠	Heavy standard	5000	40
MAC.CHI.	*Machilus chinensis	華潤楠	Heavy standard	5000	10
MEL.CAJ.	Melaleuca cajuputi. Subsp. Cumingiana	白千層	Heavy standard	5000	42
MEL.AZE.	Melia azedarach	楝	Heavy standard	5000	49
MIC.NER.	*Microcos nervosa	布渣葉	Heavy standard	5000	41
PEL.TON.	Peltophorum tonkinense	銀珠	Heavy standard	5000	124
PYR.CAL.	*Pyrus calleryana	豆梨	Heavy standard	5000	89
RHU.SUC.	*Rhus succedanea	木蠟樹	Heavy standard	5000	25
SAP.DIS.	*Sapium discolor	山烏桕	Heavy standard	5000	83
SCH.SUP.	*Schima superba	木荷	Heavy standard	5000	9
STE.LAN.	*Sterculia lanceolata	假蘋婆	Heavy standard	5000	44
SYZ.LEV.	*Syzygium levinei	山蒲桃	Heavy standard	5000	55
TAB.CHR.	Tabebuia chrysantha	黃花風鈴木	Heavy standard	5000	175
TER.MAN.	Terminalia mantaly	小葉欖仁	Heavy standard	5000	62
XAN.CHR.	Xanthostemon chrysanthus	金蒲桃	Heavy standard	5000	48
Table 6.2b	Proposed Shrub and groundcove	er species to be p	planted for roadsid	e planters	

 Table 6.2b
 Proposed Shrub and groundcover species to be planted for roadside planters

Scientific Name	Chinese Name	Height (mm) (H) x Spread (mm)(S)	Spacing (mm)
Allamanda schottii	硬枝黃蟬	500 (H)x 400(S)	500
*Ardisia crenata	朱砂根	400 (H)x 400(S)	500
Codiaeum variegatum	灑金榕	400 (H)x 400(S)	500
Cordyline terminalis rubra	紅鐵	800 (H)x 600(S)	500
Duranta repens 'Sapphire Showers'	五彩連翹	400 (H)x 400(S)	400
Nandina domestica	南天竺	500 (H)x 400(S)	500
*Sarcandra glabra	草珊瑚	400 (H)x 400(S)	500
Schefflera arboricola	鵝掌藤	400 (H)x 400(S)	500
Syzygium campanulatum	鐘花蒲桃	800 (H)x 600(S)	600
*Nephrolepis hirsutula	毛葉腎蕨	300 (H)x 300(S)	400
Ophiopogon intermedius	斑葉沿階草	150 (H)x 200(S)	150

Table 6.2c List of woodland mix species to be compensated

Scientific Name	Chinese Name	Size	Spacing (mm)	Percentage
*Ailanthus fordii	常綠臭椿	Whip	1500	10%
*Castanopsis fissa	黧蒴錐	Whip	1500	10%
* Celtis sinensis	朴樹	Whip	1500	10%
* Cinnamomum camphora	樟樹	Whip	1500	10%
Clausena lansium	黃皮	Whip	1500	10%
* Sapium discolor	山烏桕	Whip	1500	10%
*Schefflera heptaphylla	鵝掌柴	Whip	1500	10%
*Gardenia jasminoides	梔子	400 (H)x 400(S)	500	5%
*Melastoma dodecandrum	地稔	400 (H)x 400(S)	500	5%
*Rhaphiolepis indica	車輪梅	400 (H)x 400(S)	500	10%
*Rhododendron simsii	紅杜鵑	400 (H)x 400(S)	500	5%
*Rhodomyrtus tomentosa	崗稔	400 (H)x 400(S)	500	5%

* Native species

6.2.4 Proposed soil specification for the compensatory trees shall follow the General Specification for Civil Engineering Works (2020 Edition), Section 3 Landscape Softworks and Establishment Works and Guidelines on soil Volume for Urban Trees issued by GTLMS, DEVB.

6.3 Justification for Compensatory Planting Proposal

- 6.3.1 Compensatory planting proposal for KTN NDAs project developments is prepared based on the best practices of tree planting promulgated by DEVB. New trees have been carefully selected to ensure that they are compatible with the new development areas.
- 6.3.2 For roadside tree planting areas, sufficient spaces are provided to cater for establishment and healthy growth of the trees in accordance with *Proper Planting Practice Provide Adequate Growing Space for Future Growth of Canopy* promulgated by DEVB. All the available roadside planting spaces have been utilized for quality planting, and therefore, compensation of heavy standard trees within the site limit have been optimized.
- 6.3.3 The provision of 1,781 nos. of heavy standard trees as compensatory planting is considered appropriate and complying with the requirements as stipulated in DEVB TCW No. 04/2020. Compensatory Planting and Final Receptor Site Plan shall refer to **Appendix V**.
- 6.3.4 Though roadside planting areas cannot provide sufficient width for tree planting, native and ornamental shrubs proposed for the planters to compensate the greening of the area Planting layout plans shall refer to **Appendix V**.
- 6.3.5 The proposed compensatory species on compensatory woodland planting area are primarily native species which can mitigate the loss of existing greenery and enhance local biodiversity. They shall be self-sustained after establishment period which will not require regular horticultural maintenance. Woodland Compensatory tree planting plan shall refer to **Appendix IX**.

7 COMPLIANCE WITH EIA REQUIREMENT

7.1.1 The below summary table demonstrates this TPRP and compensatory planting proposal in line with AEIAR-175/2013, including recommended LVI mitigation measures.

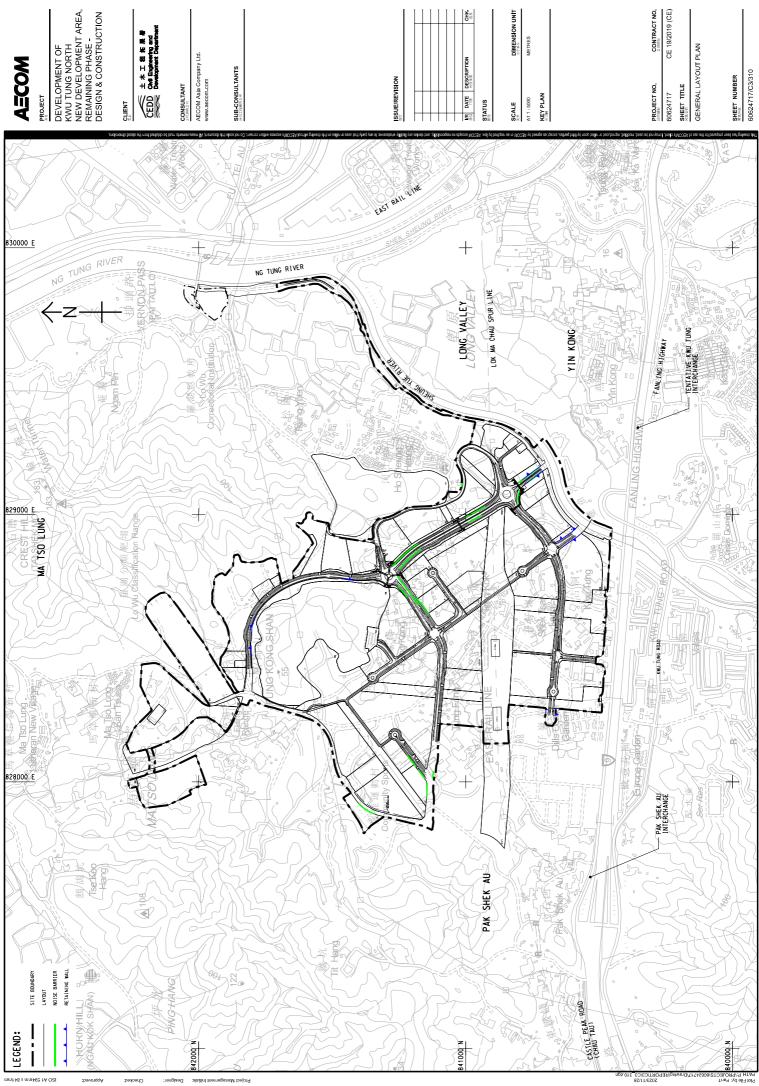
LVI Mitigation Code		Mitigation Measure	Application to this project
7.1.2 MN	M4	Tree Protection & Preservation Existing trees to be retained within the Project Site should be carefully protected during construction. In particular, OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004, Management Guidelines for Mature Trees and Guideline for Tree Risk Assessment and Management Arrangement by DEVB. Detailed Tree Protection Specification shall be provided in the Contract Specification. Tree risk assessment shall be undertaken in accordance with "Guidelines for Tree Risk Assessment and Management Arrangement" by DEVB.	Yes. The preservation of OVTs follow the requirement as stipulated in latest DEVB TC(W) No. 5/2020.
7.1.3 MN	M5	Tree Transplantation Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with DEVB TCW 6/2015 and 7/2015 and Guidelines on Tree Transplanting by DEVB and final locations of transplanted trees should be agreed prior to commencement of the work.	Yes. The detailed transplanting proposal submitted in accordance with latest DEVB TC(W) No. 4/2020.
7.1.4 MM	M6	Slope Landscaping Site formation has been reduced as far as possible to avoid substantial slope cutting	Yes. The site formation design is optimised.

LVI Mitigation Code		Mitigation Measure	Application to this project	
7.1.5	MM7	Compensatory Planting Compensatory tree planting for all felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Preservation and Removal Proposal process under DEVB TCW 7/2015. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.	Yes. The Tree Preservation and Removal Proposal submitted in accordance with latest DEVB TC(W) No. 4/2020.	
7.1.7	MM8	Woodland Compensatory Planting Specific Woodland compensatory planting is proposed for any areas of woodland that are unavoidably affected. The location and design of the woodland compensatory planting will principally be within habitats of grassland. Native trees will be mainly selected.	Woodland compensatory planting is proposed and native species are selected	
7.1.8	MM11	Screen Planting Tall screen/buffer trees and shrubs should be planted to assist in screening proposed road corridors and associated above ground structures such as elevated road sections and engineered embankments. This measure may additionally form part of the compensatory planting and will improve compatibility with the surrounding environment and create a pleasant pedestrian environment.	Trees are proposed at road side to achieve screen planting effect.	

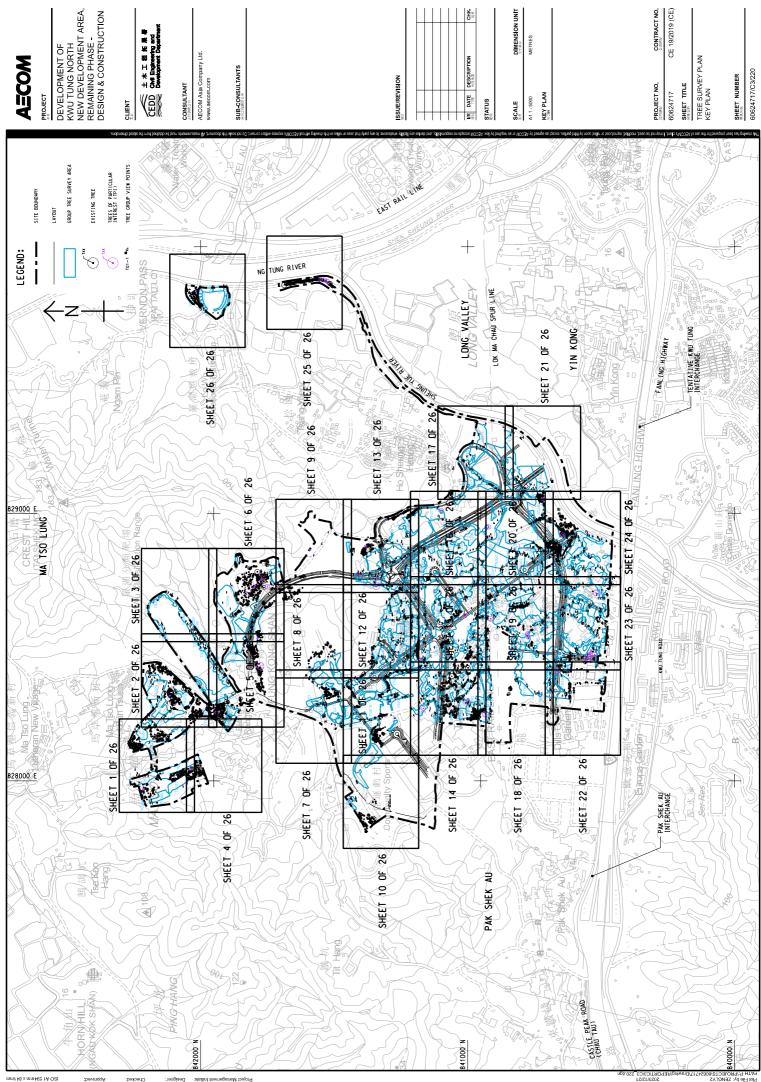
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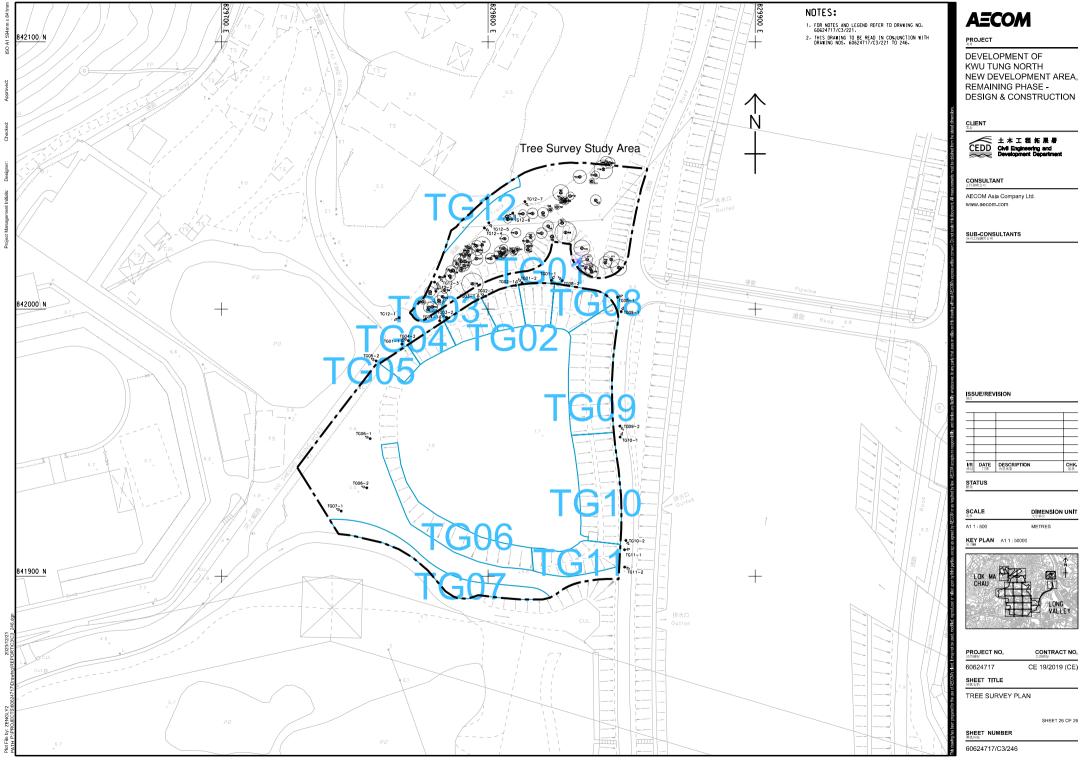
- 8.1.1 Approximately 10,296 nos. of trees excluding undesired species will be affected by the proposed works in the road works and engineering infrastructure works within the project boundary. 10,261 nos. of trees shall be removed, 35 nos. of trees shall be transplanted.
- 8.1.2 In view of limited available planting area and every practical opportunity for maximizing greening has been sought, the current compensatory planting proposal strikes, balance amongst healthy tree growth, slope safety, ecological and aesthetic value in long term development.
- 8.1.3 To compensate the loss of existing trees, approximately 11,481 nos. of on-site tree planting, including 1,781 nos. of heavy standard trees where tree planting space has been maximized to compensate the loss of existing trees due to the project site area, and approximately 2.9 ha. of Compensatory Woodland Planting that equivalent to approximately 9,700 nos. of whip trees are proposed to mitigate the loss of woodland trees in accordance with the Approved EIA Report, including 700 no. of compensatory trees under agreement no. CE 18/2019(CE) proposed to be compensated in the Kwu Tung North Remaining Phase Works. Furthermore, shrubs and groundcover will be planted for roadside planters, woodland mix of whip and shrubs will be planted for slopes for alternative greening

APPENDIX I GENERAL LAYOUT PLAN

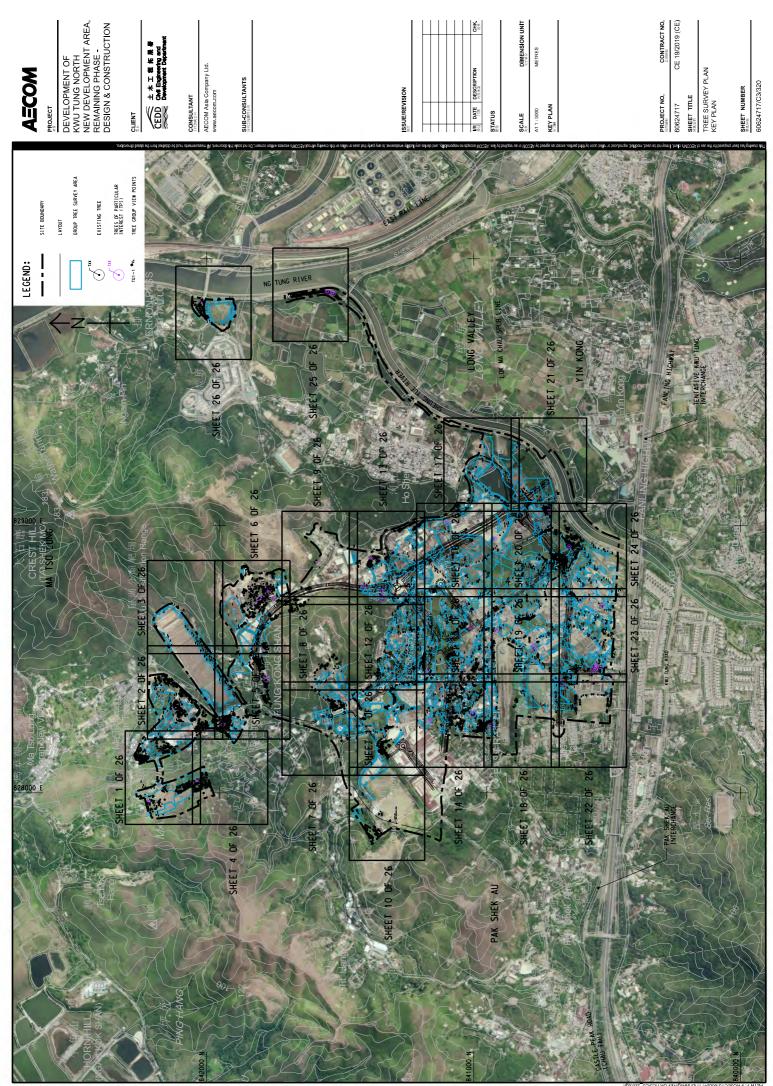


APPENDIX II-A TREE SURVEY PLAN (EXTRACTED FOR SITE KTN-2)





APPENDIX II-B TREE SURVEY PLAN WITH AERIAL IMAGE (EXTRACTED FOR SITE KTN-2)

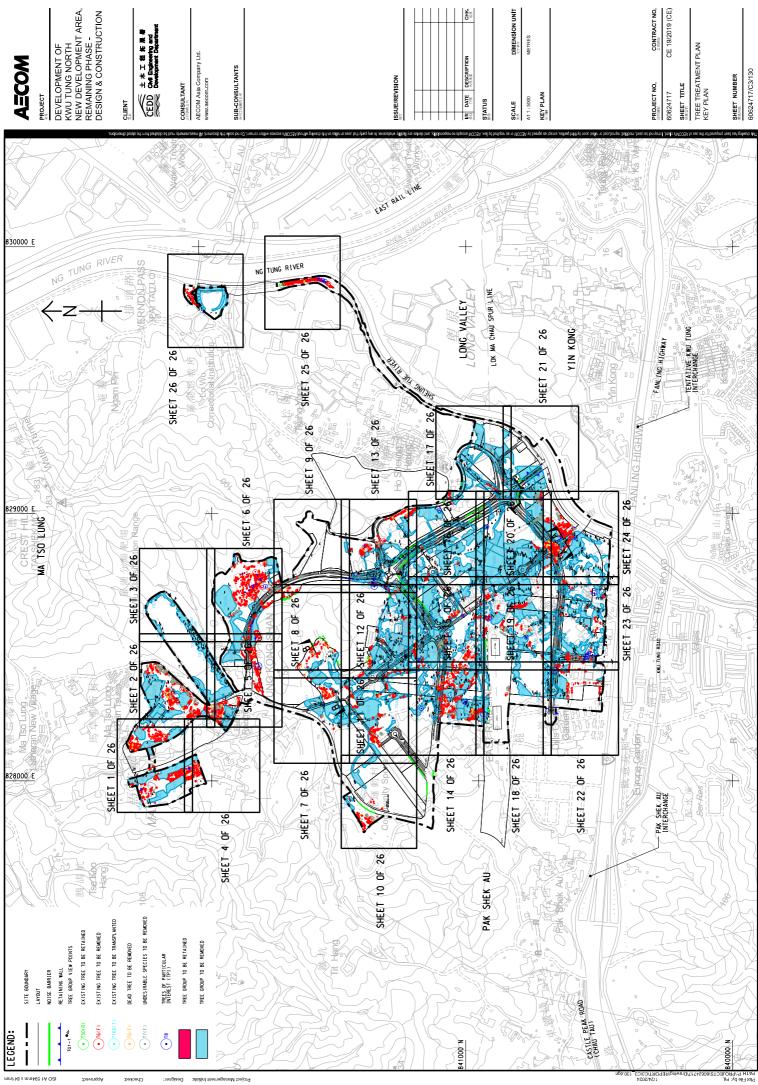


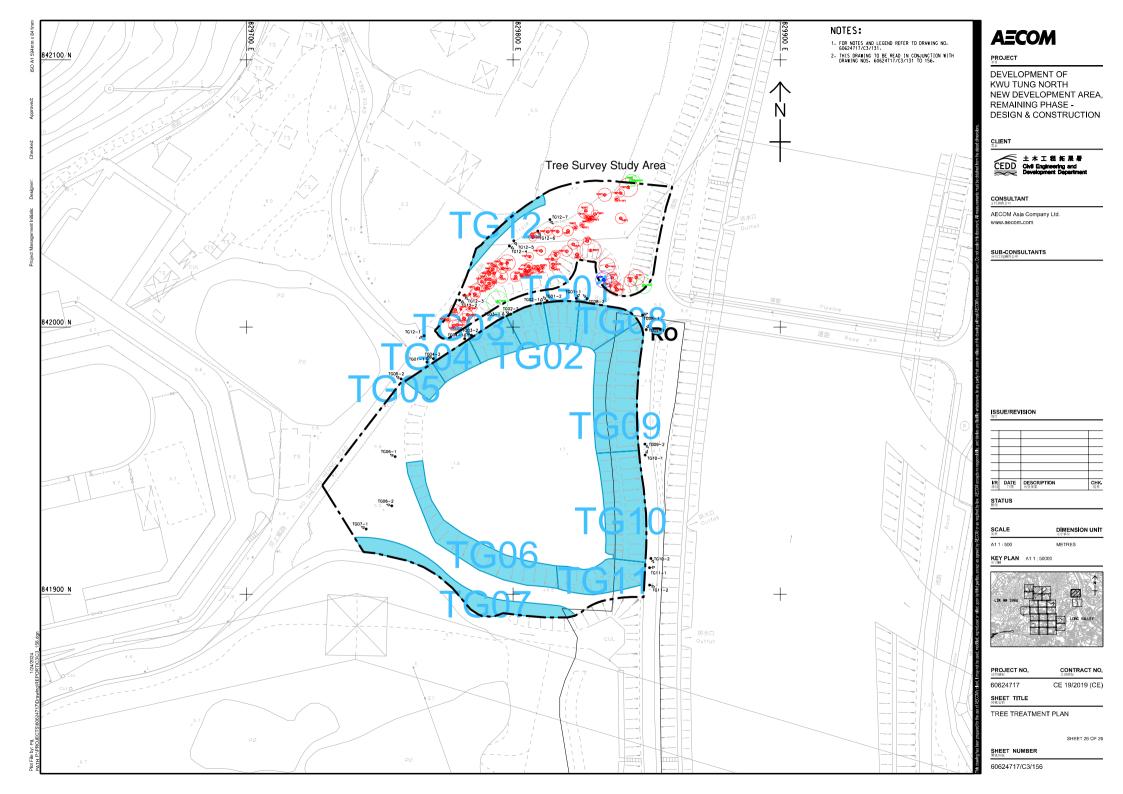


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APPENDIX II-C TREE TREATMENT PLAN (WITH ENGINEERING DESIGN OVERLAID) (EXTRACTED FOR SITE KTN-2)





APPENDIX III-A ASSESSMENT SCHEDULE -INDIVIDUAL TREE

(EXTRACTED FOR SITE KTN-2)

Agreement No.CE19/2019

Development of Kwu Tung North New Development Area, Remaining Phase

Tree Assessment Schedule - Individual Tree Survey

Date of Tree Survey: Jan - Aug 2023

	Species		Me	asurem	ents		Coordinates		Amenity Value	Form	Health Condition	Structural Condition		bility for planting		Recommendation			t to provide s on TPRP		
Tree No.	Scientific Name	Chinese Name	Height (m)	DBH (mm)	Crown Spread (m)	Northing	Easting	Top of soil level above root collar mPD)	(High/ Medium/ Low)	(Goo	d/ Average/	Poor)	(High/ Medium/ Low)	Remarks	Conservation Status	(Retain / Transplant / Remove)	Justification	Before	After	Additional Remarks	Contract
LS-T-001	Dead Tree	死樹	5.0	130	2.0	829775.54	842002.79	4.48	•	-	-	•	-	<u> </u>	-	Remove	Safety Conflict with proposed site	LandsD	•	dead crown; leaning; split bark	C1
LS-T-002	Bauhinia spp.	羊蹄甲屬	4.0	110	4.0	829779.03	842000.86	4.47	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works	LandsD	•	codominant trunks	C1
LS-T-003	Ficus hispida	對葉榕	4.0	95	4.0	829778.27	842006.51	4,46	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-trunks	C1
LS-T-004	Ficus hispida	對葉榕	6.0	150	5,0	829792.93	842020.24	4.45	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems	C1
LS-T-005	Ficus hispida	對葉榕	4.0	135	3.0	829791.11	842019.86	4.46	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; close to chain-link fence	C1
LS-T-006	Ficus hispida	對葉榕	4.0	105	3.0	829792.38	842021.67	4.45	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; close to chain-link fence	C1
LS-T-007	Ficus hispida	對葉榕	4.0	130	2,0	829792.87	842023.05	4.43	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; climbers on crown; close to chain-link fence	C1
LS-T-008	Ficus hispida	對葉榕	6.0	120	4.0	829796.04	842022.05	4.46	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; climbers on crown	C1
LS-T-009	Ficus hispida	對葉榕	5.0	180	4.0	829795.63	842023.74	4.40	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site	LandsD	-	multi-stems	C1
LS-T-010	Ficus hispida	對葉榕	6.0	120	5.0	829804.71	842021.18	4.47	Low	Poor	Average	Poor	Low	a, f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	multi-trunks; leaning; unbalanced crown; root collar	C1
LS-T-011	Ficus hispida	對葉榕	6.0	110	3.0	829805.40	842020.77		Low	Poor	Average	Poor	Low	a, f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	close to LS-T-011 and LS-T-040 multi-stems; leaning; root collar close to LS-T-010 and LS-T-040	C1
LS-T-012	Ficus hispida	對葉榕	5.0	120	3.0	829806.13	842021.30	4.46	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	LS-1-040 multi-stems	C1
LS-T-013	Ficus hispida	對葉榕	5.0	100	3.0	829805.86	842022.72	4.44	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	multi-trunks	C1
LS-T-014	Ficus hispida	對葉榕	5.0	150	3.0	829806.16	842026.42	4.45	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	multi-trunks; broken branches; unbalanced crown;	C1
LS-T-015	Ficus hispida	對葉榕	4.0	145	3.0	829807.32	842033.62	4.43	Medium	Poor	Average	Average	Low	ŕ	Nil	Remove	formation works Conflict with proposed site	LandsD		climbers on crown multi-trunks; climbers on crown	C1
LS-T-016	Ficus hispida	對葉榕	4.0	190	3.0	829830.74	842042.33	4.43	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works Conflict with proposed site	LandsD		codominant trunks: broken trunk: poor taper	C1
LS-T-017	Carica papava	番木瓜	4.0	110	2.0	829838.84	842047.82	4.45	Medium	Average	Average	Average	Medium	<u> </u>	Nil	Remove	formation works Conflict with proposed site	LandsD			C1
LS-T-018	Ficus virens	黄葛樹	4.0	180	3.0	829840.24	842050.20	4.45	Medium	Poor	Average	Average	Low	f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	poor taper; climbers on crown	C1
LS-T-019	Acacia auriculiformis	耳果相思	11.0	350	7.0	829843.18	842052.32	4.46	Medium	Poor	Average	Poor	Low	d, f	Nil	Remove	formation works Conflict with proposed site	LandsD	-	codominant trunks; leaning; close to chain-link fence	C1
LS-T-022	Leucaena leucocephala	銀合歡	8.0	125	4.0	829777.78	842000.62	4.46 4.48	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	formation works Undesirable species	LandsD		leaning	C1
LS-T-023 LS-T-024	Leucaena leucocephala	銀合歡 銀合歡	8.0 8.0	95 95	3.5 4.0	829781.59 829782.93	842003.31 842004.65	4.48	Low	Poor Poor	Average Average	Poor	Low	a, f, g a f g	Nil	Remove Remove	Undesirable species	LandsD LandsD	•	leaning; poor taper leaning	C1 C1
LS-T-024	Leucaena leucocephala	銀合歡	3.0	130	1.0	829780.42	842006.72	4.47	Low	Poor	Average	Poor	Low	a, i, g a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning; broken trunk	C1
LS-T-026	Leucaena leucocephala	銀合歡	8.0	140	2.5	829783.63	842007.13	4.44	Medium	Average	Average	Average	Low	g	Nil	Remove	Undesirable species	LandsD	•	-	C1
LS-T-027 LS-T-028	Leucaena leucocephala Dead Tree	銀合歡 死樹	8.0	155 110	4.0	829785.68 829783.79	842012.41 842012.32	4.44 4.43	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove Remove	Undesirable species Safety	LandsD LandsD	-	multi-trunk; poor taper dead crown; on slope; close to chain-link fence	C1 C1
LS-T-020	Leucaena leucocephala	銀合歡	3.0	150	1.5	829786.84	842014.46	4.43	Low	Poor	Poor	Average	Low	a, f, g	Nil	Remove	Undesirable species	LandsD		broken main trunk	C1
LS-T-030	Leucaena leucocephala	銀合歡	8.0	120	4.0	829786.12	842014.26	4.43	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	•	leaning; on slope	C1
LS-T-031	Leucaena leucocephala	銀合歡	8.0	160	3.0	829788.21	842017.01	4.45	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning; close to chain-link fence	C1
LS-T-032	Leucaena leucocephala	銀合歡	8.0	110	3.0	829790.04	842015.30	4.46	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	•	leaning	C1
LS-T-033	Leucaena leucocephala	銀合歡	8.0	100	4.0	829791.02	842016.30	4.44	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning	C1
LS-T-034	Leucaena leucocephala	銀合歡	8.5 8.0	220	5.0 6.0	829791.24	842017.77 842017.83	4.43	Low	Average	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	codominant trunks; included bark	C1
LS-T-035	Leucaena leucocephala Bombax ceiba	<u></u>	12.0	165 550	8.0	829789.86 829794 12	842017.83	4.45	Low Medium	Poor Average	Average Average	Poor Average	Low Low	a, f, g d	Nil	Remove	Undesirable species	LandsD LandsD	LandsD	leaning; twisted branches on slope: broken branches	C1 C1
LS-T-037	Leucaena leucocephala	銀合歡	8.0	205	5.0	829795.59	842018.94	4.42	Medium	Average	Average	Average	Low	a	Nil	Remove	Undesirable species	LandsD	LanusD	dead branches	C1
LS-T-038	Leucaena leucocephala	銀合歡	8.0	130	4.0	829800.92	842018.95	4.43	Low	Poor	Average	Poor	Low	a, f, q	Nil	Remove	Undesirable species	LandsD	-	twisted trunk	C1
LS-T-039	Leucaena leucocephala	銀合歡	7.5	95	1.5	829803.17	842019.44	4.43	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning	C1
LS-T-040	Leucaena leucocephala	銀合歡	8.5	170	2.0	829804.73	842020.57	4.47	Low	Average	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	codominant trunks; included bark; root collar close to LS-T-010 and LS-T-011	C1
LS-T-041	Leucaena leucocephala	銀合歡	8.0	110	2.0	829809.01	842021.87	4.42	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning	C1
LS-T-042	Leucaena leucocephala	銀合歡	8.0	120	3.0	829809.53	842021.54	4.42	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning	C1
LS-T-043	Leucaena leucocephala	銀合歡	6.0	120	2.0	829810,91	842022.37	4.42	Low	Poor	Poor	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	uprooted; collasped	C1
LS-T-044	Leucaena leucocephala	銀合歡	4.0	100	2.5	829814.86	842022.29	4.67	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning; poor taper	C1
LS-T-045	Leucaena leucocephala	銀合歡	7.0	140	6.0	829797.81	842024.07	4.41	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	codominant trunks; leaning; climbers on crown	C1
LS-T-046	Leucaena leucocephala	銀合歡	4.0	130	3.5	829810.54	842028.59	4.49	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	twisted trunks; unbalanced crown; climbers on crown broken branches; climbers on crown; close to chain-link	C1
LS-T-047 LS-T-048	Leucaena leucocephala	銀合歡 銀合歡	4.0 3.5	110 100	1.5 3.0	829807.18 829813.00	842034.65 842035.74	4.43 4.44	Medium Medium	Average	Average	Average	Low	g	Nil	Remove	Undesirable species	LandsD	-	fence	C1
	Leucaena leucocephala		- 3.0 		J.U	029013.00	042030.74	4.44		Average	Average	Average	Low	g		Remove	Undesirable species		·····	on slope; climbers on crown	

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	Species		Me	asureme	ents		Coordinates		Amenity Value	Form	Health Condition	Structural Condition		bility for		Recommendation			t to provide		
Tree No.	Scientific Name	Chinese Name	Height (m)	DBH (mm)	Crown Spread (m)	Northing	Easting	Top of soil level above root collar mPD)	(High/ Medium/ Low)	(Goo	d/ Average/		(High/ Medium/ Low)	planting Remarks	Conservation Status	(Retain / Transplant / Remove)	Justification	Before	s on TPRP After	Additional Remarks	Contract
LS-T-049	Leucaena leucocephala	銀合歡	4.0	150	4.0	829816.68	842035.84	4.45	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	leaning; broken main branches; multi-stems; climbers on crown	C1
LS-T-050	Leucaena leucocephala	銀合歡	7.5	175	4.0	829820.08	842028.46	5.78	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	on slope; leaning	C1
LS-T-051	Flueggea virosa	白飯樹	2.5	130	3.0	829814.99	842023.52	4.45	Medium	Average	Average	Poor	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	codominant trunks; broken branches; climbers on crown	C1
LS-T-052	Flueggea virosa	白飯樹	2.5	165	3.5	829814.78	842025.46	4.45	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; broken branches	C1
LS-T-053	Flueggea virosa	白飯樹	2.5	95	3.5	829815.89	842027.01	4.42	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; broken branches	C1
LS-T-054	Leucaena leucocephala	銀合歡	5.0	150	4.0	829822.48	842031.09	4.67	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	on slope; extensive epicormic shoots	C1
LS-T-055	Flueggea virosa	白飯樹	2.5	260	4.0	829820.55	842036.05	4.46	Medium	Poor	Average	Average	Low	f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	multi-stems; broken branches; climbers on crown	C1
LS-T-056 LS-T-057	Leucaena leucocephala Leucaena leucocephala	銀合歡 銀合歡	4.5 8.0	240 95	2.0 2.0	829823.31 829825.80	842037.26 842038.22	4.46 4.45	Low Low	Poor Average	Poor Average	Poor Poor	Low Low	a, f, g a, f, g	Nil	Remove Remove	Undesirable species Undesirable species	LandsD LandsD	-	uprootes; collasped growing on grasscrete	C1 C1
LS-T-058	Leucaena leucocephala	銀合歡	8.0	100	2.0	829828.29	842040.36	4.47	Low	Poor	Average	Average	Low	a, i, g a, f, g	Nil	Remove	Undesirable species	LandsD	-	on slope	C1
LS-T-059	Ficus hispida	對葉榕	4.0	100	3.0	829828.82	842040.50	4.48	Low	Poor	Average	Poor	Low	a, f	Nil	Remove	Conflict with proposed site	LandsD	-	unbalanced form; broken branches	C1
LS-T-060	Leucaena leucocephala	銀合歡	8.0	130	2.0	829829.10	842040.44	4.48	Low	Poor	Poor	Poor	Low	a, f, g	Nil	Remove	formation works Undesirable species	LandsD	-	uprooted; collasped	C1
LS-T-061	Leucaena leucocephala	銀合歡	8.0	110	2.0	829827.36	842041.36	4.49	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD		leaning; on slope	C1
LS-T-062 LS-T-063	Leucaena leucocephala Leucaena leucocephala	銀合歡 銀合歡	8.0 6.0	280 130	6.0 4.0	829827.25 829840.32	842043.57 842040.78	4.43 4.49	Low Low	Poor Poor	Average Poor	Poor Poor	Low Low	a, f, g a, f, g	Nil	Remove Remove	Undesirable species Undesirable species	LandsD LandsD	-	leaning; poor taper multi-stems; uprooted; collasped	C1 C1
LS-T-064	Leucaena leucocephala	銀合歡	8.0	200	5.0	829834.34	842049.54	4.41	Low	Poor	Average	Poor	Low	a, f, g	Nil	Remove	Undesirable species	LandsD	-	trunk twisted with fence	C1
LS-T-065	Ficus virens	黃葛樹	8.0	180	4.0	829845.56	842054.73	4.46	Medium	Average	Average	Average	Medium	•	Nil	Retain	-	LandsD	LandsD	on slope codominant trunks; included bark; leaning; broken	C1
LS-T-066	Acacia auriculiformis	耳果相思	8.0	320	4.5	829844.24	842054.96	4.46	Medium	Poor	Average	Poor	Low	f	Nil	Retain	-	LandsD	LandsD	branches; on slope broken branches; leaning; extensive epicormic shoots;	C1
LS-T-067 LS-T-068	Leucaena leucocephala	銀合歡 銀合歡	4.0 8.0	210 215	3.0 1.5	829827.72 829823.98	842032.26 842027.12	4.43 7.73	Low Low	Poor Poor	Average Average	Poor Poor	Low Low	a, f, g a, f, g	Nil	Remove Remove	Undesirable species Undesirable species	LandsD LandsD	•	on slope leaning; broken branches; on slope	C1 C1
LS-T-069	Ficus virens	黄葛樹	10.0	520	8.0	829829.01	842028.72	6.78	Medium	Poor	Average	Poor	Low	a, i, y d, f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	codominant trunks; unbalanced crown; broken branches; epiphytes on trunk; on slope	C1
LS-T-070	Ficus virens	黃葛樹	12.0	710	6.0	829835.14	842022.84	6.43	Medium	Average	Average	Poor	Low	d, f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	codominant trunks; broken branches; on slope	C1
LS-T-071	Delonix regia	鳳凰木	4.0	180	4.0	829837.09	842018.59	6.24	Low	Poor	Average	Poor	Low	a, f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	leaning; unbalanced crown; on slope	C1
LS-T-072	Ficus microcarpa	榕樹	10.0	1,020	7.5	829833.96	842017.68	7.82	Medium	Average	Average	Average	Low	d	Nil	Retain	- Conflict with proposed site	LandsD	LandsD	TPI (DBH>1000mm); multi-trunks; broken branches; on slope	C1
LS-T-073	Acacia confusa	台灣相思	8.0	320	5.5	829836.56	842015.46	7.91	Medium	Poor	Average	Poor	Low	d, f	Nil	Remove	formation works	LandsD	-	multi-trunks; leaning; broken branches; on slope	C1
LS-T-074	Acacia confusa	台灣相思	10.0	450	4.0	829838.28	842015.12	7.90	Medium	Poor	Average	Poor	Low	d, f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	codominant trunks; included bark; unbalanced form; on slope	C1
LS-T-075	Ficus microcarpa	榕樹	10.0	570	5.0	829838.80	842014.10	7.92	Medium	Poor	Average	Poor	Low	d, f	Nil	Remove	Conflict with proposed site formation works	LandsD	-	leaning; on slope	C1
LS-T-076	Eucalyptus urophylla	尾葉桉	10.0	440	6.0	829848.88	842015.59	8.51	Medium	Poor	Average	Poor	Low	d, f	Nil	Retain	Conflict with proposed site	LandsD	LandsD	leaning; boken branches; on slope included bark in main branch collar; unbalanced crown;	C1
LS-T-077	Acacia confusa Acacia confusa	台灣相思	9.0 9.0	530 360	6.0 4.5	829846.14 829843.91	842018.57 842017.44	6.45	Medium Medium	Poor Poor	Average Average	Poor Poor	Low	d, f d, f	Nil	Remove	formation works Conflict with proposed site	LandsD LandsD	-	on slope included bark in main branch collar; unbalanced crown;	C1 C1
			0.0	<u> </u>	4.0			5.95									formation works			borken branches; on slope	
100837	Litsea glutinosa	い一瞬間間に	8-	194	-4	840489.54	828342.86	12.82	Medium	Poor	Average	Average	Low	un, pur	m	Rémove	site formation works	Landso	min	Restricted toot, co-dominant leaders	uzu
T00838	Callistemon viminalis	串錢柳	6	213	4	840510.80	828365.63	12.57	Medium	Poor	Average	Poor	Low	f,h	Nil	remove	conflict with proposed road works conflict with proposed	LCSD	-	Restricted root, leaning, crossed branches	C1
T00839	Callistemon viminalis	串錢柳	7	414	4	840514.63	828366.09	12.58	Medium	Poor	Average	Average	Low	f,h	Nil	remove	road works	LCSD	-	Restricted root, leaning, co-dominant leaders	C1
T00840	Callistemon viminalis	串錢柳	6	258	4	840520.76	828366.35	12.57	Medium	Poor	Average	Average	Low	f,h	Nil	remove	conflict with proposed road works conflict with proposed	LCSD	-	Restricted root, leaning, v-crotch Restricted root, leaning, extensive trunk	C1
T00841	Callistemon viminalis	串錢柳	6	309	4	840535.05	828367.82	12.64	Medium	Poor	Average	Poor	Low	f,h	Nil	remove	road works conflict with proposed	LCSD	-	wound	C1
T00842	Bischofia javanica	秋楓	12	427	8	840497.52	828352.76	12.74	Medium	Average	Average	Average	Low	h	Nil	Remove	site formation works conflict with proposed	LCSD	-	Restricted root, co-dominant leaders Restricted root, multiple attachments,	C1
T00843	Aleurites moluccana	石栗	12	331	6	840497.52	828348.75	12.74	Medium	Poor	Average	Average	Low	f,h	Nil	Remove	site formation works conflict with proposed	LCSD	-	imbalanced crown	C1
T00844	Bischofia javanica	秋楓	12	366	6	840497.78	828344.87	12.73	Medium	Poor	Average	Average	Low	f,h	Nil	Remove	site formation works conflict with proposed	LCSD	-	Restricted root, dieback, imbalanced crown	C1
T00845	Aleurites moluccana	石栗	11	271	5	840497.76	828341.03	12.75	Medium	Poor	Average	Average	Low	f,h	Nil	Remove	site formation works conflict with proposed	LCSD	-	Restricted root, low live crown ratio	C1
T00846	Aleurites moluccana	石栗	12	334	7	840498.19	828333.22	12.69	Medium	Poor	Average	Average	Low	f,h	Nil	Remove	site formation works conflict with proposed	LCSD	-	Restricted root, multiple attachments	C1
T00847 T00848	Bischofia javanica Aleurites moluccana	秋楓 石栗	13 12	528 315	8	840498.88 840498.32	828329.21 828325.41	12.71 12.73	Medium Medium	Poor Poor	Average Average	Average Average	Low Low	f,h f,h	Nil	Remove	site formation works conflict with proposed	LCSD LCSD	-	Restricted root, co-dominant leaders Restricted root, co-dominant leaders,	C1 C1
											-					Remove	site formation works conflict with proposed			imbalanced crown Restricted root, crooked trunk, imbalanced	
T00852	Callistemon viminalis	串錢柳	11	484	7	840601.75	828330.64	12.60	Medium	Poor	Average	Average	Low	f,h	Nil	remove	site formation works	LCSD	-	crown, co-dominant leaders	C1

APPENDIX III-B ASSESSMENT SCHEDULE - GROUP TREE (EXTRACTED FOR SITE KTN-2)

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Agreement No. CE19/2019 (CE), Development of Kwu Tung North New Development Area, Remaining Phase - Design Construction

Tree Assessment Schedule - Group Tree Survey Date of Tree Survey: Jan - May 2023

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Tree Group No.	Species		Estimated Quantity	Estimated Tree Quantity	Estimated Tree Quantity within this Group	Estima	ated Measur	ements	Overall Amenity Value	Overall Form	Overall Health Condition	Overall Structural Condition		Suitability for splanting	Conservation					Justification		ent to provide nts on TPRP	Additional Remarks	Contra
Group No.	Scientific Name	Chinese Name	of each Species	within this Group	(Exclude undesirable species)	Height (m)	DBH (mm)	Crown Spread (m)	(High/ Medium/ Low)	(Good (G	a)/ Average(A) / Poor(P))	(High/ Medium/ Low)	Remarks	Status	% of Retain	Retain	Transplant	Remove		Before	After		
LS-TG-001	Leucaena leucocephala	銀合歡	18	20	2	7.0-8.0	95-150	1.5-3.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete slope	Nil	0%	0	0	20	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	C1
	Macaranga tanarius var. tomentosa	血桐	2			2.0-2.5	95-110	1.5-2.0	Medium	Average	Average	Poor	Low	on grasscrete	s Nil					conflict with proposed site formation works			on grasscrete slope	
LS-TG-002	Leucaena leucocephala	銀合歡	16	16	0	7.0-8.0	95-150	1.5-3.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete slope	Nil	0%	0	0	16	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	6 C1
LS-TG-003	Leucaena leucocephala	銀合歡	16	16	0	6.0-7.0	95-200	2.0-3.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete slope	Nil	0%	0	0	16	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	C1
	Leucaena leucocephala	銀合歡	10		_	4.0-8.0	95-150	1.5-3.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete slope	Nil					Undesirable species			on grasscrete slope; leaning; broken branches; undesirable species	
LS-TG-004	Macaranga tanarius var. tomentosa	血桐	1	12	2	5.0	150	3.5	Medium	Average	Average	Poor	Low	on grasscrete slope	Nil	0%	0	0	12	conflict with proposed site	LandsD	-	on grasscrete slope	C1
	Melia azedarach	楝	1			9.5	250	7.0	Medium	Average	Average	Poor	Low	trunk conflicting with	h Nil					formation works			included bark in main branch collar; trunk conflicting with fence	ng
	Ficus hispida	對葉榕	1			4.0	130	1.5	Medium	Poor	Average	Average	Low	tence poor form	Nil					conflict with proposed site formation works			leaning; unbalanced crown	-
LS-TG-005	Leucaena leucocephala	銀合歡	8	9	1	5.0-8.0	95-180	1.5-4.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable	Nil	0%	0	0	9	Undesirable species	LandsD	-	leaning; undesirable species	C1
	Leucaena leucocephala	銀合歡	18			6.0-8.0	95-150	2.5-5.0	Low-Medium	Average	Average	Average	Low	species undesirable	Nil					Undesirable species			undesirable species	-
LS-TG-006	Macaranga tanarius var. tomentosa	血桐	1	19	1	5.0	100	4.0	Medium	Poor	Average	Average	Low	species poor form	Nil	0%	0	0	19	conflict with proposed site formation works	LandsD	-	-	C1
	Ficus microcarpa	榕樹	1			6.0	250	6.0	Medium	Average	Average	Average	Medium	-	Nil					conflict with proposed site formation works			-	1
LS-TG-007	Leucaena leucocephala	銀合歡	5	7	2	68.0	95-200	1.5-4.0	Low-Medium	Average	Average	Average	Low	undesirable species	Nil	0%	0	0	7	Undesirable species	LandsD	-	undesirable species	C1
	Melia azedarach	楝	1			10.0	350	7.0	Medium	Average	Average	Average	Medium	-	Nil					conflict with proposed site formation works			-	
LS-TG-008	Leucaena leucocephala	銀合歡	15	15	0	3,5-7,0	95-150	1,5-3,0	Low-Medium	Average	Average	Poor	Low	undesirable species; on grasscrete slope	Nil	0%	0	0	15	Undesirable species	LandsD	-	on grasscrete slope; undesirable species	C1
LS-TG-009	Leucaena leucocephala	銀合歡	15	16	1	3.5-6.0	95-150	1.5-3.0	Low-Medium	Poor	Average	Poor	Low	undesirable species; on grasscrete slope	Nil	0%	0	0	16	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	C1
	Macaranga tanarius var. tomentosa	血桐	1			4.0	95	3.5	Medium	Poor	Average	Poor	Low	on grasscrete slope	Nil					conflict with proposed site formation works			on grasscrete slope; leaning	
LS-TG-010	Leucaena leucocephala	銀合歡	15	15	0	3.5-6.0	95-150	1.5-3.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete slope	Nil	0%	0	0	15	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	. C1
LS-TG-011	Leucaena leucocephala	銀合歡	15	15	0	3.5-8.0	95-150	1.5-5.0	Low-Medium	Poor	Average	Poor	Low	poor form; undesirable species; on grasscrete	Nil	0%	0	0	15	Undesirable species	LandsD	-	on grasscrete slope; leaning; undesirable species	: C1
	Ficus hispida	對葉榕	1			8.0	350	5.0	Medium	Poor	Poor	Poor	Low	poor form, health and	Nil					conflict with proposed site formation works			large wound on trunk; exyensive climber on crown; unbalanced crown	r;
LS-TG-012	Leucaena leucocephala	銀合歡	1	з	2	8.0	120	6.0	Low-Medium	Poor	Average	Poor	Low	structure poor form; undesirable	Nil	0%	0	0	3	Undesirable species	LandsD	-	leaning; poor taper; undesirable species	C1
	Macaranga tanarius var. tomentosa	血桐	1			3.0	95	2.0	Medium	Average	Average	Average	Medium	species	Nil					conflict with proposed site formation works			-	1
····	· · · beucaeon leurorephale · · ·		uesu	hun	·····	<u>1715</u>	200-250	uee	uu	ueu	un	uu	w	h	uw	h	hunn	uuu	uuuu	tormation works	uu	uuu	Restricted roots, invasive species, poor	in
	Acacia confusa	台灣相思	10			9-11	250-300	4-7	м	A	А	A	L		Nil	-							Restricted roots, large size	
TG133	Ficus microcarpa	榕樹(細葉榕)	2	50	15	6-8	200-250	5-7	м	A	A	A	L		Nil	0%	0	0	50	conflict with proposed road works & site formation	LandsD	-	Restricted roots	C1
	Macaranga tanarius var. tomentosa	血桐	2			7-9	100-200	5-8	м	Р	А	А	L		Nil								Restricted roots, poor form, Poor taper	.]
	Dead tree	死樹	1			6	200	3		-	-	-	-		-					safety			Dead tree	
_	Leucaena leucocephala	銀合歡	20			8-12	200-250	5-6	1	Р	А	А	L		Nil					undesirable species			Restricted roots, invasive species, poor	

APPENDIX III-C ASSESSMENT SCHEDULE – TREE OF PARTICULAR INTEREST (TPI) (EXTRACTED FOR SITE KTN-2)

Agreement No.CE19/2019

Development of Kwu Tung North New Development Area, Remaining Phase

Tree Assessment Schedule - Individual Tree Survey

Date of Tree Survey: Jan - Aug 2023

	Species	;	Ме	asureme	nts		Coordinates		Amenity Value	Form	Health Condition	Structural Condition	Suitab transp			Recommendation		Department comments			
Tree No.	Scientific Name	Chinese Name	Height (m)	DBH (mm)	Crown Spread (m)	Northing	Easting	Top of soil level above root	(High/ Medium/ Low)	(Good	d/ Average/	Poor)	(High/ Medium/ Low)	Remarks	Conservation Status	(Retain / Transplant / Remove)	Justification	Before	After	Additional Remarks	Contract
LS-T-072	Ficus microcarpa	榕樹	10.0	1,020	7.5	829833.96	842017.68	-	Medium	Average	Average	Average	Low	d	Nil	Retain	•	LandsD	LandsD	TPI (DBH>1000mm); multi-trunks; broken branches; on slope	C1
T00873	Ficus microcarpa	······	13	1070	11	840557.25	828448.87	10.78	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed road works	LCSD	-	Restricted root, multiple attachments, dead branches, pest attack, DBH>1m	C1
T00875	Ficus microcarpa	榕樹(細葉榕)	16	1432	20	840547.21	828465.03	10.95	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed road works	LandsD	-	Restricted root, multiple attachments, dead branch, large size, DBH>1m	C1
T00876	Ficus microcarpa	榕樹(細葉榕)	16	1155	16	840543.80	828463.68	11.03	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed road works	LandsD	-	Restricted root, multiple attachments, dieback, dead branches, large size, DBH>1m	C1
T00880	Ficus microcarpa	榕樹(細葉榕)	17	2416	17	840525.16	828472.93	11.14	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed site formation works	LandsD	-	Restricted root, imbalanced crown, multiple attachments, large size, DBH>1m	C1
T00881	Ficus microcarpa	榕樹(細葉榕)	15	1311	9	840542.12	828475.38	10.98	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed site formation works	LandsD	-	Restricted root, leaning, multiple attachments, dead branches, large size, DBH>1m	C1
T00882	Ficus microcarpa	榕樹(細葉榕)	15	2328	11	840539.46	828479.25	11.21	Medium	Poor	Average	Average	Low	b,d,f,h	Nil	remove	conflict with proposed site formation works	LandsD	-	Restricted root, multiple attachments, conflicts with building, large size, DBH>1m	C1
T01002	Ficus microcarpa	榕樹(細葉榕)	12	2323	20	840519.33	828702.99	8.07	Medium	Average	Average	Average	Low	b,d,h	Nil	Remove	conflict with proposed site formation works	LCSD	-	Restricted roots, large size, DBH>1m	C1
T01117	Ficus elastica	印度榕(印度橡樹)	16	1020	18	840914.05	828607.29	11.16	Medium	Average	Average	Average	Low	b,d,h	Nil	Remove	conflict with proposed site formation works	LandsD	-	Restricted roots, large size, DBH>1m	C1
T01983	Ficus elastica	印度榕(印度橡樹)	16	1060	25	840667.72	828412.70	13.19	Medium	Average	Average	Average	Low	b,d,h	Nil	remove	conflict with proposed road works	LCSD	-	Restricted roots, multiple trunks, large size, DBH>1m	C2
T02151	Cinnamomum camphora	樟	14	1040	16	840773.17	828538.27	12.72	Medium	Average	Average	Average	Low	d,h	Nil	remove	conflict with proposed site formation works	LandsD	-	Restricted roots, multiple stems, large size, DBH>1m	C1
T02152	Dead tree	死樹	12	1302	14	840774.63	828552.33	12.44	-	-	-	-	-	-	-	remove	safety	LandsD	-	Dead crown, DBH>1m	C1
T02287	Ficus microcarpa	榕樹(細葉榕)	6	1025	14	841009.12	828617.24	9.43	Medium	Poor	Average	Average	Low	h	Nil	remove	conflict with proposed road works	LandsD	-	Restricted roots, multiple trunks, DBH>1m	C1
T02349	Ficus microcarpa	榕樹(細葉榕)	10	1282	13	841411.65	828774.30	14.55	Medium	Average	Average	Average	Low	f,h	Nil	remove	conflict with proposed road works	LandsD	-	Restricted roots, multiple trunks, climbers, DBH>1m	C1
T02411	Ficus microcarpa	榕樹(細葉榕)	11	1120	11	841381.91	828877.86	14.11	Medium	Average	Average	Average	Low	f,h	Nil	remove	conflict with proposed site formation works	HyD	-	Restricted root, multiple stems, aerial roots, DBH>1m	C1

APPENDIX IV-A INDIVIDUAL TREE PHOTOGRAPHIC RECORDS (EXTRACTED FOR SITE KTN-2)











LS-T-001_1_Dead tree_Overview_Remove





LS-T-002_1_Bauhinia spp._Overview_Remove





LS-T-003_1_Ficus hispida_Overview_Remove





-S-I-UU4_I_FICUS NISPIGa_OVERVIEW_KEMOV





LS-T-009_1_Ficus hispida_Overview_Remove







LS-T-010_2_Ficus hispida_Crown_Remove







LS-T-011_3_Ficus hispida_Trunk_Remove



LS-T-018_1_Ficus virens_Overview_Retain

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LS-T-013_3_Ficus hispida_Trunk_Remove





LS-T-014_1_Ficus hispida_Overview_Remove









LS-T-022_1_Leucaena leucocephala_Overview_Remove





LS-T-023_1_Leucaena leucocephala_Overview_Remove







LS-T-024_1_Leucaena leucocephala_Overview_Remove





LS-T-025_1_Leucaena leucocephala_Overview_Remove





LS-T-030_1_Leucaena leucocephala_Overview_Remove



LS-T-031_1_Leucaena leucocephala_Overview_Remove







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LS-T-032_1_Leucaena leucocephala_Overview_Remove









LS-T-033_1_Leucaena leucocephala_Overview_Remove



LS-T-035_3_Leucaena leucocephala_Trunk_Remove







LS-T-037_1_Leucaena leucocephala_Overview_Remove





LS-T-036_2_Bombax ceiba_Crown_Retain





LS-T-036_3_Bombax ceiba_Trunk_Retain





LS-T-039_3_Leucaena leucocephala_Trunk_Remove





LS-T-040_2_Leucaena leucocephala_Crown_Remove



LS-T-042_1_Leucaena leucocephala_Overview_Remove



LS-T-040_3_Leucaena leucocephala_Trunk_Remove





LS-T-041_2_Leucaena leucocephala_Crown_Remove





LS-T-043_1_Leucaena leucocephala_Overview_Remove





LS-T-044_1_Leucaena leucocephala_Overview_Remove



LS-T-046_3_Leucaena leucocephala_Trunk_Remove



LS-T-045_2_Leucaena leucocephala_Crown_Remove





LS-T-045_3_Leucaena leucocephala_Trunk_Remove



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LS-T-052_3_Flueggea virosa_Trunk_Remove

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LS-T-048_1_Leucaena leucocephala_Overview_Remove









LS-T-050_2_Leucaena leucocephala_Crown_Remove



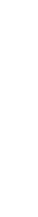


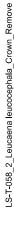




LS-T-054_1_Leucaena leucocephala_Overview_Remove











LS-T-057_2_Leucaena leucocephala_Crown_Remove





LS-T-056_1_Leucaena leucocephala_Overview_Remove

LS-T-055_1_Flueggea virosa_Overview_Remove





LS-T-059_1_Ficus hispida_Overview_Remove







LS-T-061_3_Leucaena leucocephala_Trunk_Remove

LS-T-061_2_Leucaena leucocephala_Crown_Remove

LS-T-060_1_Leucaena leucocephala_Overview_Remove

<image>





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LS-T-068_1_Leucaena leucocephala_Overview_Remove

12







LS-T-065_4_Ficus virens_Root_Retain











LS-T-065_2_Ficus virens_Crown_Retain

LS-T-064_1_Leucaena leucocephala_Overview_Retain





LS-T-069_2_Ficus virens_Crown_Remove





LS-T-069_3_Ficus virens_Trunk_Remove



LS-T-069_4_Ficus virens_Root_Remove







LS-T-070_4_Ficus virens_Root_Remove



LS-T-073_2_Acacia confusa_Crown_Remove











LS-T-072_4_Ficus microcarpa_Root_Retain





LS-T-072_3_Ficus microcarpa_Trunk_Retain









LS-T-072_1_Ficus microcarpa_Overview_Retain

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LS-T-073_4_Acacia confusa_Root_Remove





LS-T-073_4_Acacia confusa_Root(2)_Remove



LS-T-074_1_Acacia confusa_Overview_Remove

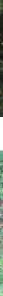




LS-T-074_2_Acacia confusa_Crown_Remove



LS-T-074_4_Acacia confusa_Root_Remove





LS-T-077_3_Acacia confusa_Trunk_Retain



LS-T-077_2_Acacia confusa_Crown_Retain



LS-T-075_3_Ficus microcarpa_Trunk_Remove

LS-T-075_2_Ficus microcarpa_Crown_Remove











LS-T-076_1_Eucalyptus urophylla_Overview_Retain





LS-T-078_3_Acacia confusa_Trunk_Retain



LS-T-078_4_Acacia confusa_Root_Retain

APPENDIX IV-B GROUP TREE PHOTOGRAPHIC RECORDS (EXTRACTED FOR SITE KTN-2)

Agreement No. CE19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase - Design & Construction



LS-TG-001_V1



LS-TG-003 V1



LS-TG-005_V1



LS-TG-001_V2



LS-TG-002_V1





LS-TG-003_V2

LS-TG-005_V2



LS-TG-004_V1



LS-TG-004_V2



LS-TG-006_V1



LS-TG-006_V2

Agreement No. CE19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase - Design & Construction



LS-TG-007_V1



LS-TG-009_V2



LS-TG-011_V2



LS-TG-012_V1





















LS-TG-012_V4



LS-TG-012_V5

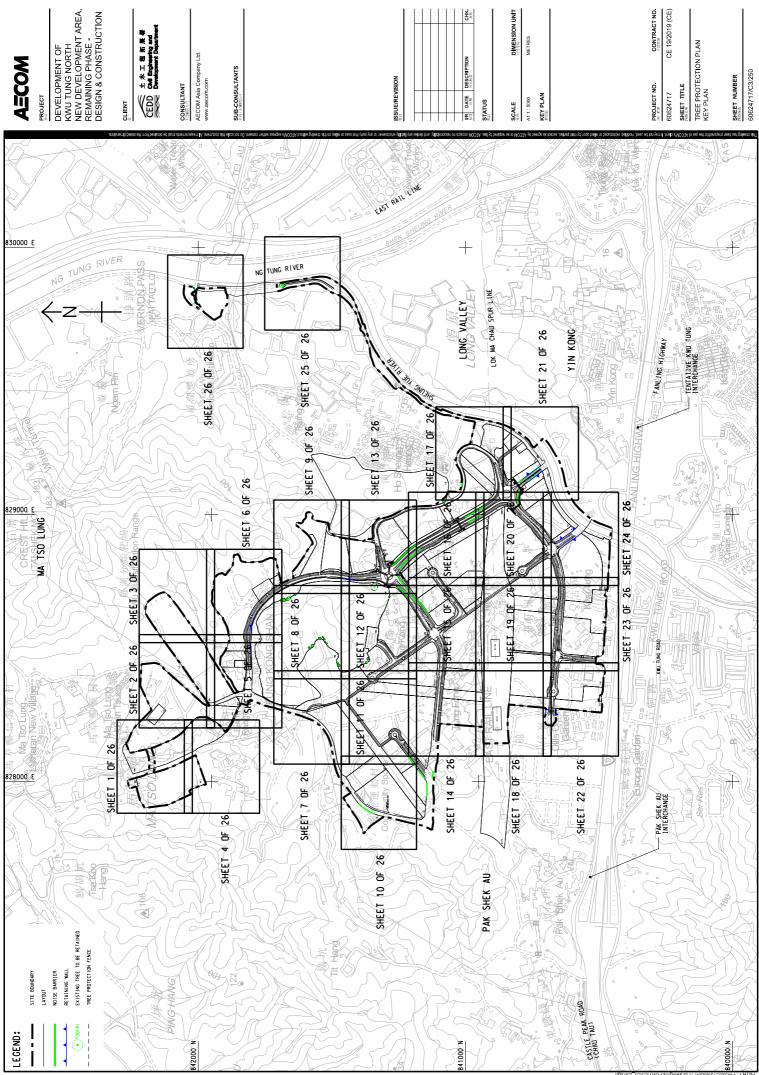


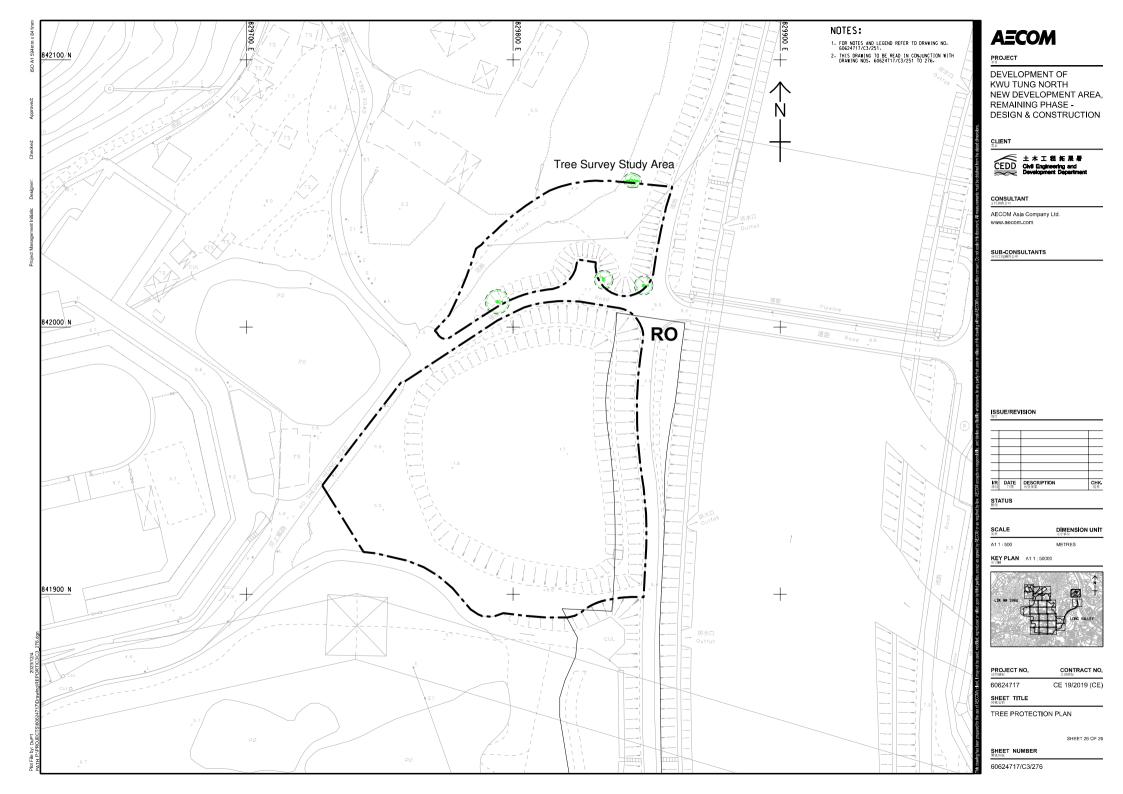
LS-TG-012_V6



LS-TG-012_V7

APPENDIX VI TREE PROTECTION PLAN (EXTRACTED FOR SITE KTN-2)





APPENDIX VII METHOD STATEMENT FOR TREE PROTECTION DURING CONSTRUCTION PERIOD

Tree Preservation and Protection Measures	engaged in the tree fe throughout the whole pro	engaged in the tree felling work as well as the people and property in the vicinity throughout the whole process of tree felling. Tree trunks and branches shall be removed
GENEKAL	In sections for reasons (public and adjacent utilit	in sections for reasons of safety and in such a manner that any potential damage to the public and adjacent utilities, services or pipes, structure, slopes or vegetation is avoided.
A landscape specialist contractor from the "List of Approved Suppliers of Materials and Specialist Contractors for Public Works – Landscaping: Class I – General Landscape Model" about the constant of the constant with a constant with a bound of the forth of the second to constant	In respect of tree felling, the Contractor shall:	, the Contractor shall:
be limited to tree protection, tree surgery work, control of pests and diseases.	i. Fell the trees by	Fell the trees by cutting them near the ground, with their stumps ground rather
The contractor shall assign tree protection issues to a suitably qualified and experienced	-	Remove the stumps and rootballs of the felled trees carefully to avoid causing damage to the roots of the nearby plants to be retained.
full-time member of the site staff. This member of staff shall be responsible for monitoring and reporting on all tree related issues. All tree survey /arboricultural work shall be supervised by a qualified Arborist (ISA Certified Arborist or HKILA Accredited	iii. Do not use a pre iv. Remove all debri the Site as soon	Do not use a preserved tree as anchor when winching out a stump, Remove all debris, wood, and roots where necessary from the trees felled from the Site as soon as possible. Burning of vegetation or any other construction
	v. All voids formed as a result	All voids formations are result of the above works shall be backfilled with clean activity of committee
Tree Protection Zones (TPZs) shall be erected for trees identified for preservation. TPZs shall be clearly demarcated in the overall layout plan, and adequately protected by robust fencing at the commencement of the site formation and construction works.	material as appropriate. Carting away for felled trees	material as appropriate. Carting away for felled trees: Tree trunks and branches shall be removed in sections for recommend for the proprious of the province of the proprious of the province of the province of the province
Tree protection zone encompassing the tree along its dripline projecting vertically from the tree canony and extending 2 meters at the droining level and 2 meters above the too	adjacent utilities, service	tor reasons or safety and in such a manner that any potential damage to the public and adjacent utilities, services or pipes, structure, slopes or vegetation is avoided.
of the tree as Tree Protection Zone (TPZ) in accordance with DEVB TC(W) 5/2020.	3. WORKS NEAR EXISTING TREES	NG TREES
TREE FELLING ADJACENT TO RETAINED TREE	Where excavation is rec precautions shall be tak	Where excavation is required near existing trees for construction of works, the following precautions shall be taken to protect the roots:-
Prior to starting any tree felling works, all trees to be retained shall be identified and the necessary tree protection fencing installed. The limits of site clearance shall be agreed by the Landscape Architect/Architect on the Site before site clearance commences. The	a) Roots exposed d construction of th	Roots exposed during excavation shall be wrapped with straw or hessian during construction of the works. Cutting of the roots shall be kept to a minimum;
Contractor shall comply with the following requirements.	b) Before backfilling	Before backfilling, roots shall be cut cleanly back to living tissue ;
Felling of trees to be removed shall involve the complete removal of trees indicated on the approved, including stumps, by one of the following methods to be approved by the Landscape Architect before work commences:		Excavation shall be backfilled with topsoil mixed with conditioner as specified including sufficient slow release fertilizer to assure a rate of application of 500 g/m^3
a) Bulldozer A bulldozer shall be used to push over the whole tree which shall then be cut by chain saw and removed from Site The method shall only be used where no	Trench excavation for	Trench excavation for services. including drainage and sewage. shall be kept to a
trees are to be retained.	minimum of 1.5m from t	minimum of 1.5m from the tree trunk. Detailed location of services shall be agreed with
b) Winches Power mounted or hand winches shall be used for pulling over the whole tree.	the Architect before exc roots exposed in trench	the Architect before excavation commences if this minimum cannot be achieved. Large roots exposed in trench excavations and above the final line of the installation shall be
the main support roots having first be severed either by mechanical means or by	preserved, and excava	preserved, and excavation close to trees shall be carried out with particular care to
	ensure this. Following cleanly to living tissue.	ensure this. Following installation of the services, severed roots shall be cut back cleanly to living tissue. Trenches shall be backfilled as specified, except that where
c) Chain Saw Felling by this method shall be in accordance with BS3998 (1989), either felling the whole tree at once or in sections. The stump shall be removed by hand	topsoil is required, suffic g/m3 shall be applied.	topsoil is required, sufficient slow release fertilizer to assure a rate of application of 500 g/m3 shall be applied.
grubbing and winching; stump cutting machine; hydraulic lifting or another method approved by the Architect before work commences.	4. PROTECTION OF EXISTING TREES	STING TREES
Safety Precautions: Take all necessary safety precautions to protect the people	The Contractor shall submit	submit a detailed Tree Preservation and Protection Method
		AECOM

Method Statement for Tree Removal and Tree Protection during Construction

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Sta	Statement for the Landscape Architect's approval before commencing any works on	of	of by pouring them on the soil within the Site.
site.		≥ ∂	Without the prior approval of the Engineer, the Contractor shall not change the
a)	To protect the trees to be retained, the Contractor shall exercise the greatest care to avoid any damage to them and shall comply with the following for the whole duration of the Contract:	êê	existing ground levels within the Tr∠(s) of the preserved trees unless the Contract explicitly requires such changes.
		(q	To enhance the health and the appearance of the retained trees, advance tree
•	No unnecessary intrusions into areas of existing trees are to be made;		surgery works may be required prior to any construction activity. The following tree surgery work may be required.
•			
•	the limits of site clearance are to be agreed with the Landscape Architect/Engineer		Removal of broken, damaged and diseased branches;
	or or other ficings about the definition into the second	: -	Removal of weak or crossing branches to ensure a well-balanced crown.
•		≡	Securing of trees with cables throughout the construction period.
• •	no tencing or signs shall be attached to trees; no materials or machinerv shall be stored under or against trees:	.2	All pruning works/ tree surgery works shall be submitted to the Landscape Architect for approval prior to works commencement.
•	no workshop, canteens, or similar shall be installed beneath trees, nor shall		
	equipment maintenance etc. be carried out under trees;	Ä	Precautions in carrying out excavation
•	no trees shall be used as anchors for ropes or chains used in guying, pulling and the like;	The C involve	The Contractor shall take the following precautions when carrying out excavation that involves cutting of the roots of the preserved trees.
•	no fires shall be lit inside or within 5m of the tree protection zone(TPZ);		
•	no unauthorised stripping of surface vegetation from around the tree;		Excavation shall be carried out using only hand-held tools such as hoe and spade,
•	no concrete mixing or use or washing out of chemicals shall take place within the		
	tree protection zone;	÷	Whenever roots are encountered and before root cutting is carried out, soil shall be carefully forked away from the roots using hand-beld tools up to the edge
•	Any necessary scarification or cultivation within the TPZ(s) shall be carried out		along which root cutting is required,
	careruly by hand so as not to cause damage to the trees, in particular the bark and the roots,	:	Root cutting shall be carried out carefully using sterilized hand-held pruning tools,
•	Any equipment, in particular delivery vehicles, overhead cranes, mechanical		and roots greater than 20 min in diameter shall be promed carefully so as not to result in shattered and frayed roots,
		.2	Any roots damaged during excavation shall be cut back cleanly with sharp tools to undemand discus and treated with an environd functional drassing prior to
•	The trees to be felled that are adjacent to, or that lie within a continuous canopy of, the preserved trees shall be carefully removed and if percessary in servious but		to unuarinageu ussue anu neareu win an approveu lungiouar uressing prior to backfilling,
	interpresented upees, shall be carefully removed, and in recessary in security but not using bulldozers in any circumstances, so as not to cause damage to the preserved trees such as scraping bark off trunks or breaking branches of trees,	>	All cut and exposed roots shall be prevented from drying out during excavation by adopting the following measures until backfilling, unless otherwise agreed by the Architect [*]
•	Where it is necessary to use herbicides to kill any vegetation, herbicides that can leach through the soil, such as the products containing sodium chlorate, and any other herbicides that are injurious to the trees shall not be used,	vi.	Wrap the tap roots, sinker roots, support roots, and roots with diameter exceeding 50 mm, which shall not be cut, with hessian, straw or other porous, absorbent
•	Allowance shall be made for the slope of the ground so that damaging materials	ij	tabric once they are exposed, Liona thick homion or other encourt about on the family form the out outform
	such as concrete washings, mortar or diesel oil cannot run towards the trees,	Ī	Hang thick hessian or other porous, absorbent tabric from top of the cut surface over the exposed roots and soil immediately after root cutting, and
•	Alkaline clays or limestone shall not be used for filling or paving, concrete shall be mixed on a thick plastic tarpaulin or outside the Site, and mixing trucks shall not be rinsed out on the Site, so as not to cause changes, in particular increases, in soil	viii.	Mist the hessian or fabric in a frequency that keeps the roots and the soil at the cut surface moist all the time,
	pH, and	.×	The hessian, straw or other porous, absorbent fabric and the hessian or fabric
•			shall be removed immediately before backfilling, and
	and in any circumstances shall not be burned or buried on the Site or be disposed	×	Excavations shall be backfilled with soil mix incorporated with slow release
1	2		AECOM

Method Statement for Tree Removal and Tree Protection during Construction

 F. Pruning works Damaged branches or branches that must be removed shall be carefully pruned using a sharp clean implement to give a single flat sloping face cut and wounds shall be left open to the air to self heal. All pruning works are to be supervised by a qualified arborist and are to be in accordance with recognised best practice including the Development Bureau's guidelines on pruning works. Method statement for tree pruning shall be submitted to the Landscape Architect for approval prior to commencing of works. G. Pests & Fungal Growth The site shall be regularly checked for any insect or termite attack or fungus infestation particularly during known periods of activity. Remedial measures shall be carried out. The of stared indextored inserticide/functions chall only be parameted in the carried out. 	shall be undertaken with due care and have regard to the safety and convenience of the general public and is to be carefully controlled to avoid unnecessary dispersion. In the case of termite attack, specialists shall be employed by the contractor to provide proposals to eliminate the termites and shall submit monthly monitoring reports throughout the contract and the Establishment Period. Maintenance/Establishment Works	Retained trees shall be maintained from site possession until the completion of the project by the contractor who shall engage staff suitably trained and experienced in arboricultural and tree surgery works to undertake the task. The maintenance works shall include all measures necessary to establish and maintain the trees in an acceptable, vigorous and healthy growing condition. During establishment period, trees will be maintained by Contractor until final handover of the Site to future tree maintenance party. The maintenance works include:	 watering, weeding, grass cutting and apply insecticide and fungicide if necessary; top up mulching inspect and maintain well drained of the ground soil; inspect and adjust tree support, tree ties, if necessary; 	 iv. carry out precautionary measure when typhoon or inclement weather is forecast; and v. remove the temporary protective fencing from the Site upon completion of all construction works.
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 fertilizer at a rate of 500 g/m3 or at a rate as directed by the Architect to a level not higher than the original soil level at the root collar. Precautions to avoid root damage The Contractor shall take the following precautions when carrying out drilling work that involves cutting of the roots of the preserved trees: Drilling work and root cutting work shall be carried out carefully, in Roots greater than 25 mm in diameter shall be pruned carefully in order to prevent shattered and frayed roots, and Any roots damaged during drilling shall be cut back cleanly with sharp tools to undamaged tissue and treated with an approved fungicidal dressing. 	Crown Thinning Generally, no crown thinning should be necessary on the retained trees except where preparation works for crown pruning are required or as per item 4. i and ii above. The contractor shall submit method statements for the proposed crown thinning works to the Landscape Architect prior to commencing pruning works .	Root Pruning Generally, no root pruning shall be permitted on the retained trees except where permission for pruning has been obtained in the Approved Tree Removal Application or for trees identified for transplanting. The contractor shall submit method statements for the proposed pruning works to the Landscape Architect/Engineer prior to commencing root pruning works.	Securing and Staking retained Trees During construction work and for the duration of the contract, should the site conditions require (e.g. local excavations in the vicinity of tree roots or removal of adjacent trees thus exposing retained trees to risk of wind blow). The contractor shall be liable for the cost of reinstatement of any tree that dies or is damaged due to lack of support and protection.	Physical support should be installed for selected trunks to ensure stability of retained trees. The anchoring material and guying method will be submitted to maintenance department for approval prior to installation. Trunk and branches should be protect with 2mm thick and 150-190mm wide flexible rubber pad to minimize damages to the trees. The area of trunk guyed above ground shall be wrapped with pads of hessian or rubber to prevent the tie from chafing the trunk or branches
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Method Statement for Tree Removal and Tree Protection during Construction

6. Creation and Protection of the Cordon Zone by protective fencing

Temporary protective fencing shall be erected before other site works commence. Protective fencing (minimum 1.5m high) should be erected beyond the crown spread/drip line or the designed protection zone of all existing trees.

The alignment of temporary protective fencing can be in circular, square, rectangular or any other shape so long as the fencing including its foundations does not encroach into the protection zone.

The protective fence shall come with a padlocked door and access to it shall be restricted only to workers directly involved in tree work. No construction worker shall enter the cordon zone (CZ).

The Contractor shall submit the construction of the temporary protective fencing to the Landscape Architect for approval prior to erection of the fencing.

No construction equipment or materials shall breach the CZ. No fires shall be lit in or near the CZ and hoisted materials shall not encroach into the CZ. Where there is a risk of the entry of contaminated construction water and other effluent into the CZ, the base of the protective fence shall be sealed by sand bags at least 200 mm tall.

Figure 1 Illustrated Typical temporary protective fencing for individual tree, and Figure 2 Illustrated Typical temporary protective fencing for group of trees.

Monitoring System

2.

The performance of the retained trees shall be monitored throughout the project construction period on a monthly basis by the submission of Tree Assessment Reports. Tree growth conditions with reference to trunk, branches, foliage, soil and root, any arboricultural problems and associated remedial measures shall be recorded. Any construction activities that may impact the trees negatively shall be reported well in advance by the Contractor to the Landscape Architect/Engineer for planning of preventive tree work to avoid possible damages.

The contractor shall report to the management office the day's establishment work on the retained trees and a countersigned record log book of the work carried out shall be kept at the site office and made available for inspection. All non-routine tree problems are to be promptly reported to the Landscape Architect/Engineer.

Photographs shall be taken at the following key stages of the tree works:

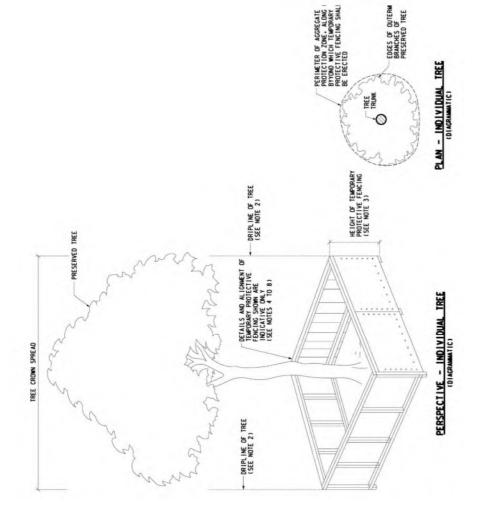
- Before commencement of construction;
- After completion of each operation, such as pruning, supporting, weeding, etc.
- iii. Monthly, throughout the construction and establishment period.

Monthly progress reports with progress photographs on the status of the retained trees

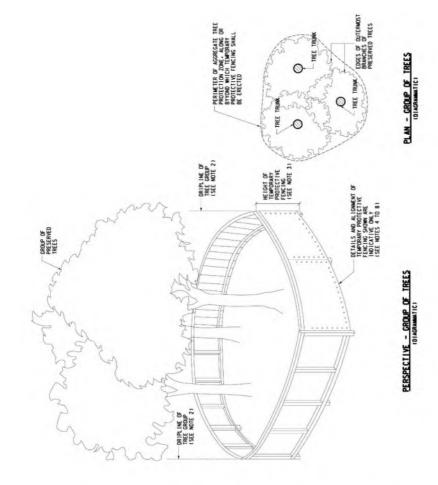
including statements on their health should be prepared by the contractor's tree specialist or arborist for the Landscape Architect/Engineer's review and a complete copy provided at the stage of Certificate of Completion.

The arborist shall carry out Tree Risk Assessment at least once per year and after the lowering of Tropical Cyclone Signal No.8 and/or Black Rain Storm Warning shall be submitted during the construction period and establishment period until handover to future tree maintenance party.











APPENDIX VIII METHOD STATEMENT FOR TRANSPLANTING EXISTING TREE

Method Statement for Transplanting of Existing Trees

1 Introduction

A specialist landscape contractor from the "List of Approved Suppliers of Materials and Specialist Contractors for Public Works – Landscaping: Class I – General Landscape Work" shall be engaged to carry out the works relating to trees that shall include but not be limited to tree protection, tree surgery work, control of pests and diseases and transplanting.

The contractor shall assign tree protection issues to a suitably qualified and experienced full-time member of the site staff. This member of staff shall be responsible for monitoring and reporting on all tree related issues. Prior to DEVB's Guidelines for Tree Risk Management and Assessment, the contractor shall also responsible on conducting an annual Tree Risk Assessment for all trees within the Project Site. All tree survey work shall be supervised by a qualified Arborist (ISA Certified Arborist) or Landscape Architect.

The contractor shall submit a method statement for the engineer's approval prior to commencing any transplanting works including advance pruning and preparation works. The proposed method statement for transplant shall make reference with Greening, Landscape and Tree Management Section of DevB's latest Guidelines on Tree Transplanting (http://www.greening.gov.hk/en/index.html).

2 CROWN THINNING

The total extent of crown thinning should be minimized and should not exceed 1/4 of the original crown on leaf removal. The height of the tree shall not be reduced, unless crown reduction and thinning are considered appropriate. Under no circumstances should the central main leader of the trees should be pruned or interfered with. Should branch pruning be considered necessary, this should aim specifically at the removal of dead, decayed, diseased, infested, broken, crossed, competing or dangerous branches. The objective shall be to produce a clean, well-spaced, well-shaped and balanced head. Other than these conditions, all other healthy wood should not be cut or removed. To reduce transpiration through leaves in anticipation of root pruning, additional crown thinning shall be implemented by means of leaf picking. This minimum-impact approach will also prevent the loss of the original tree crown form. All work shall be carried out in accordance with good horticultural practice and British Standard 4043:1989 – Recommendations for Transplanting Root Balled Tree Work, ANSI A300 Part 6 – Transplanting Standard, and also based on the latest arboricultural concepts and best international practices, and shall be directed and supervised by the tree specialist or Certified Arborist (See **Fig 1.3**)

Safety precautions shall be taken to protect those engaged in operations as well as people and property in the vicinity. Pruning and removal of branches shall be done using sharp, clean implements to give a single flat, sloping face. Ragged edges of bark or wood are to be trimmed with a sharp knife. Large branches shall be removed in stages beginning with removal of the main weight of the branch with the final cut as close to the main stem as possible without damaging the bark. In the case of branch removal, the final cut should be aligned with the branch collar and the mid-point of the crotch. All cuts shall be made to avoid splintering or tearing of bark which would catch water and encourage rot. Branches less than 15mm diameter may be cut with sharp secateurs. Cuts and wounds shall be left open to the air to self-heal. Fungicidal bituminous sealing compounds shall not be used.

Cracks and cavities with rotten wood shall be cut back to healthy tissue. If necessary, a cavity that may accumulate water could be drained by drilling a small hole of 5mm diameter into it bottom at an angle of about 45 degrees taking as far as possible the shortest path and pointing downwards. If necessary, cracks may be secured by rot bracing.

3 Tree pruning

Trees should be checked prior to transplanting to determine the type and extent of pruning required. The following types of pruning may be required:

a) Hard pruning

This shall include the removal of a substantial number of branches of up to 200mm in diameter. The objectives for hard pruning may include raising the crown in a street situation or preparing a tree for transplanting. The final shape of the reduced crown should be even and balanced and provide the basis for the growth of a well-shaped new crown. No hard pruning on tree canopy is allowed.

b) Light prune

This shall include the removal of a few branches up to 75mm in diameter.

c) Thin crown

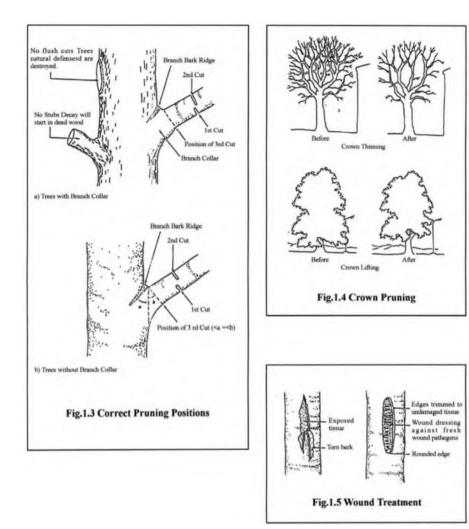
This shall include the picking of leaves of the crown with the extent not to exceed 1/4 of the original tree crown size. And removal of overcrowded branches up to 50mm in diameter in the crown of the tree. The overall shape of the tree should be preserved, but all weak, decaying, damaged or crossing branches should be removed. A proportion of other branches can be removed to create a balanced and attractive crown (See **Fig 1.4**).

d) Crown cleaning

The removal of dead, diseased or crossed branches

e) Where treatment of wounds is required, trim all damaged tissue, rotten and dead wood with a clean, sharp implement, with all margins rounded, leaving no pointed tips of the cut areas. Treat with an approved fungicidal gel (See **Fig 1.5**).

1



Preparation of root ball

4

The root ball size varies depending on species, habit, location and specific attributes which shall be as large as practicable to maximise the potential of survival during and after transplanting while balancing other logistical and cost concerns. In general, the root ball diameter to tree diameter ranges from 8:1 to 10:1 according to international standards (except for a palm which may require a smaller root ball). The root ball sizes should be of a diameter and depth to encompass enough of the root system as necessary for establishment. Normally the diameter of a root ball is larger than its depth which seldom exceeds 1 metre. There may be practical difficulties in forming a root ball of regular shape of recommended size due to intrinsic conditions of the site or tree, e.g. conflict with adjacent structures or utilities. In such cases the advice of a tree specialist has to be sought on the optimal dimensions of the root ball to be achieved specific to the situation.

5 Stage digging (See Fig 2.1)

- 1st stage Dig a trench on the outside of the marked circumference in only two opposing segments;
- 2nd stage After a period of no less than 1 month since the 1st root pruning (or other agreed period as proposed by the qualified Arborist of the Contractor), dig a trench on the outside of the marked circumference in the adjacent two opposing segments;
- 3rd stage After another period of no less than 1 month since the 2nd root pruning (or other agreed period as proposed by the qualified Arborist of the Contractor), dig a trench on the outside of the marked circumference, in the remaining two opposing segments; and
- 4th stage After a further period of not less than 1 month since the 3rd root pruning (or other agreed period as proposed by the qualified Arborist of the Contractor), prepare the root ball and cut the underside.

6 Preparation of the receptor site

At the receptor site, pits at pre-determined locations shall be dug in advance to appropriate width and depth to receive the transplanted trees. Tree pits should have a diameter of at least 500mm greater than that of the root ball and should be the same depth as the root ball. During digging operations, topsoil should be stripped and put to one side for reuse and as much of the indigenous soil as possible should be retained, to avoid a distinct interface between the planting pit and the surrounding soil. The base of the pit should be de-compacted to further improve the interface with the surrounding soil.

7 Tree uplifting and transit

The lifting, transplanting and planting of the trees shall be closely supervised on site by the tree specialist or Certified Arborist. The logistics of the transplanting operation shall be properly organized and timed in advance so as to enable transplanting of trees directly and promptly to the designated permanent receptor sites for planting.

The trees shall be lifted carefully to avoid damage to stem, foliage and roots. The lifting cables and harnesses shall only be anchored to the chain net wrapping around the root ball for the ball and burlap method. They should never be attached to the trunk or branches. The upper part of the lifting cable should be spread out by frame spacers to prevent the cable to stabilize the tree at the time or lifting. The trunk and the branch should be temporarily protected by burlap wrapping and be removed once complete.

After root ball preparation and during the process of transplanting to the receptor site, root balls are to be carefully protected against direct sunlight, wind, drought, mechanical, smoke, artificial heat and other damage. Damaged branches shall be carefully pruned using a sharp clean implement to give a single flat sloping face cut. Cuts and wounds shall be left open to the air to self-heal and not be painted with fungicidal bituminous sealing compounds.

The transplanted trees shall be planted in an upright position and allowing adequate space for future growth. A soil saucer of 150mm high shall be formed on the soil surface around the edge of the root ball to permit rain or irrigation water to be retained and to slowly infiltrate into the root ball. Immediately thereafter the trees shall be watered to ensure a through soaking of the root balls.

8 Securing and staking transplanted trees

All trees to be staked or guyed shall be wrapped above ground with pads of hessian or rubber to prevent from chafing the trunk or branches.

Transplanted trees shall be staked with 3 nos. of cables from the trunk with one end tied above the lowest branch of the trunk and the other end tied to metal stakes 1000mm long, driven 700mm into the ground.

9 Tree uplifting and transit

The transplanted trees shall be maintained immediately after transplanting and thereafter for a period of 12 more months. Maintenance shall include all measures necessary for the tree to establish and to recover from the transplant shock and to permit an acceptable vigorous healthy growing condition. This is to include watering, fertilizing, weeding, application of root activator, staking, application of insecticides, etc.

Should weather conditions be too dry or too hot, mist irrigation should be applied to each tree to upgrade the micro climatic condition surrounding the tree.

The performance of the transplanted trees shall be monitored throughout the maintenance period with monthly Tree Reports submitted with photographs recording: tree growth condition with reference to trunk, branches, foliage, soil and root, any arboricultural problems and associated remedial measures. Any construction activities that may impact the trees negatively shall be reported well in advance to the Landscape Architect for planning of preventive tree work to avoid possible damages.

The contractor shall report to the management office before and after carrying out each days' maintenance works on the transplanted trees and a countersigned record log nook of the work carried out shall be kept at the site office and made available for inspection. All non-routine tree problems are to be promptly reported to the Landscape Architect.

Photographs will be taken at the following stage of the tree works:

- i. Before commencement;
- ii. After crown thinning;
- iii. 1st root pruning;
- iv. 2nd root pruning;
- v. Final root pruning (under-cutting);
- vi. Forming of root ball;

- vii. Excavation of tree pit at receptor site;
- viii. Transit to final location at receptor site;
- ix. Planting at receptor site;
- x. Monthly record photographs during 12 months establishment and maintenance period after certificate of completion.

Monthly progress reports with progress photos on the status of the transplanted trees including all stages of transplanting works, their health and condition will be prepared by the contractor's tree specialist or Certified Arborist for the Landscape Architect's review and presented at the stage of certificate of completion.

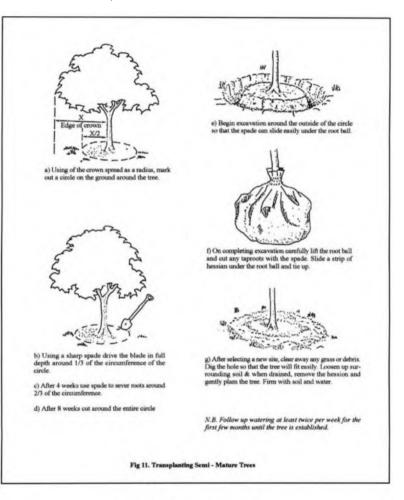
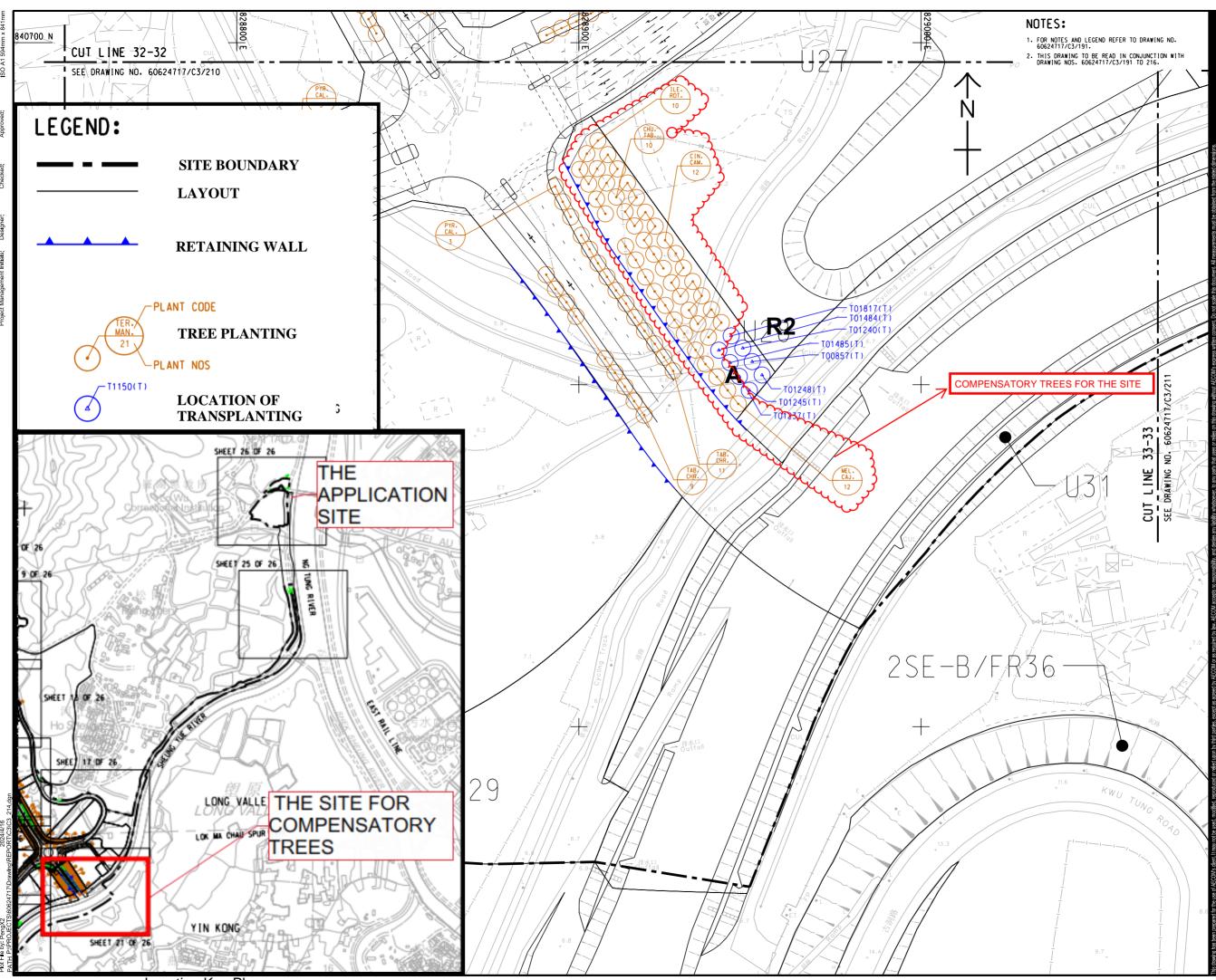


Fig.2.1 Transplanting Stages

Appendix M

Location Plan of Compensatory Trees



Location Key Plan



PROJECT

DEVELOPMENT OF KWU TUNG NORTH NEW DEVELOPMENT AREA REMAINING PHASE -**DESIGN & CONSTRUCTION**

CLIENT

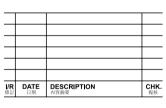


CONSULTANT

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SUB-CONSULTANTS

ISSUE/REVISION



STATUS

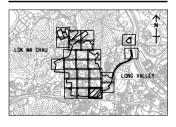
SCALE

DIMENSION UNIT

A11:500

METRES

KEY PLAN A1 1: 50000



PROJECT NO. 项目编號	
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60624717

CONTRACT NO.

CE 19/2019 (CE)

SHEET TITLE

OFF-SITE TREE COMPENSATORY PLAN

SHEET 24 OF 26

SHEET NUMBER

60624717/L04/Figure 2.4

Responses to Departmental Comments Received during Circulation for S.16 Application No. A/KTN/104

B/Ds	Date	By Memo or Email	Relevant Comments [Responses in RED]
LCSD	13.05.2024	Email (Priscilla CHAN EO(P)22B / LCSD)	It is noted from the S.16 application that part of the area zoned "O" is required for the site formation works of the Agricultural Use site and interfacing issues should be resolved. CEDD would conduct site formation and provide greening and landscaping works for open space under Kwu Tung North New Development Area Remaining Phase, including the open space along the Sheung Yue River which may be developed into a Riverside Promenade while LCSD has no development programme for the open space concerned at the moment. In this connection, the project team of the Agricultural Use site should contact CEDD's KTN NDA Remaining Phase Team to further discuss the interfacing issues and whether there would be any impact to CEDD's schedule for the greening and landscaping works to the open space.
			Please be reminded that the project team of the Livestock Farm at the site for Agricultural Use shall design a dedicated access for pedestrian and vehicles including Emergency Vehicle Access to suit its future operation and be responsible for the management and maintenance of such access which should be clearly demarcated from the open space areas. Special odour treatment and avoidance of direct mechanical ventilation for exhaust air/louvres towards the Regional Open Space shall be adopted by the developer of the Livestock Farm as far as practicable. CEDD or the project team of the Livestock Farm should reinstate the affected area up to satisfaction of relevant departments as necessary upon completion of the construction works.
			[AFCD: Referring to the layout plan, the main vehicle access for the livestock farm is Ho Sheung Heung Road, all trucks, private vehicles, and emergency vehicles will enter and exit the livestock farm through Ho Sheung Heung Road. Additionally, the livestock farm provides an enclosed-loop emergency vehicle access for emergency purposes, which complies with FSD regulations. Regarding odour treatment, AFCD has been in close contact with the industry. An air purification system will be installed in the livestock farm to ensure air quality. Furthermore, the exterior walls of the livestock farm will incorporate environmental enhancements, such as green walls, to blend in with the surrounding natural environment as much as possible.]
UD&L, PlanD	14.05.2024	Email	Please justify the subject planning application would not cause adverse visual impact. [CEDD: The subject planning application is for land/pond filling as site formation worksat the Application Site. As such, there is no urban design or landscape element involved, and no adverse visual impact is expected.]

UD&L, PlanD	21.05.2024	Memo	Regarding the impacts of the proposed landfilling to existing landscape character and landscape resources,
			the applicant should clarify and suitably revise the Application Form and the PS taking into account of the comments below to support the application: -
			(a) Section 9 of the Application Form (i.e. impacts on tree felling) refer paragraph 4.8.1 and states that about
			44 trees to be felled and the details are shown in Appendix M of the PS. Paragraph 4.8.1 is not found in the PS and details about tree felling, is not in Appendix M of the PS. As required in the Application Form,
			measure(s) to minimize the impacts on tree felling as well as the diameter at breast height (DBH) and species of the affected trees (if possible) should be provided.
			[To clarify, Section 9 of the Application Form (i.e. impacts on tree felling) is referring to <u>paragraph 3.8.1</u> and states that about 44 trees to be felled and the details are shown <u>in Appendix L</u> of the Planning Statement.
			Please also find the mitigation measures in para. 5.6.1 of Appendix L.]
			(b) Section 3.8 of the PS states that a landscape review including a tree survey, has been presented in
			Appendix L. The information on tree survey (i.e. proposed tree felling) is not found. The applicant should provide the following information to support the application.
			a. Illustrations to show how the extent and depth of proposed filling have been optimized to minimize the impacts to the existing trees; and
			b. A Site Survey Plan with proposed works and existing trees illustrated with proposed treatments, a tree treatment schedule and date imprinted tree photos
			[Referring to Appendix F of the Planning statement (i.e., the existing level of the site), the filling works are required to cover the entire site area. Hence, the extent and depth of the proposed filling have been optimized to minimize the impacts on the existing trees. A Site Survey Plan has been included in the Appendix A of the
			Landscape Review Report.]
			(c) Appendix L - "Landscape Review' Report" a. Table 5.2
			KLCA 2, the landscape character of the areas concerned should be rural inland plain landscape and without "Urban Peripheral Village Landscape".
			[Please be advised that the landscape character KLCA2 in this report adopts the KLCA2 "Rural and Urban Peripheral Village Landscape" as stated in the KTN EIA Report]
			The sensitivity of the KLCA 4 (Industrial Landscape) is stated as "High". It is unreasonable and should be suitably revised.
			[Sensitivity of KLCA4 is revised as "Low" accordingly.]

b. Table 5.3
KLR5, although the dominant species of the existing trees is undesirable (i.e. 80% Leucaena leucocephala out of the approximate 239 trees) the magnitude of change should be "Small" instead of "Negligible to Small" taking into account of the scale of trees and vegetation removal
[Magnitude of change for KLR5 is updated as "Small" accordingly.]
KLCA2, the description of the landscape character area (LCA) should be revised and the magnitude of change (i.e. "negligible to small") should be reviewed taking into count of the site formation works and future livestock farms development in MSB instead of the designated land use.
[Description for KLCA2 and magnitude of change for KLCA2 are updated accordingly]
(d) Figure 6.1 - "Landscape Proposal"
a. According to para 3.8.2, 5 existing trees would be retained. However, only 4 nos. are shown and one of them is outside the Site. To ensure those trees to be retained could be properly protected, trees location and tree protection zone, in particular the Ficus macrocarpa (DBH>1 000mm), should be clearly shown.
[Noted and updated accordingly.]
b. Trees and vegetation within the areas zoned "0" should not be affected. The proposed trees (i.e. 10 m in crown spread) and shrubs plantings at those areas should be suitably revised.
[Noted and revised with proposed planting accordingly.]
(e) Appendix M - "Location Plan of Compensatory Trees", proposed off-site compensatory trees planting is more than 1.5 km, away from the Site at amenity areas (i.e. "OU(A)") in between Areas 32 and 34 (zoned "R(B)1") on the approved Kwu Tung North Outline Zoning Plan No. S/KTN/4. It should be demonstrated that the opportunities for compensatory planting within the Site have been thoroughly explored and found not feasible. Besides, the suitability and effects of proposed off-site compensatory trees planting should be assessed and illustrated. With reference to Appendix B - "Indicative Scheme of Multi-storey Livestock Fam", there should be some greenery areas to be provided within the Site and could be used for compensatory trees planting.
[Please be advised that compensation location for the 44 removed trees area proposed as per approved KTN TPRP (Appendix A to Appendix L).
As advised by AFCD, their animal disease expert and veterinary expert has the following comment: "The provision of tall trees or other similar features in a livestock farm would potentially attract wild birds, which may carry unknown pathogens and would therefore inevitably increase the risk of transmission of

	various animal diseases to the animals in the farm. Hence, it should be avoided as far as possible in view of animal health."
	In gist, compensatory planting within the Application Site have been thoroughly explored and found not feasible.]
	The applicant is advised that approval of the application does not imply approval of tree works, if any, such as pruning, transplanting and felling. Application for any tree works should be submitted direct to relevant authority (ies) for approval.
	[Noted.]
UD&L, PlanD 04.06.2024 Email	(a) Item (a), para 5.6.1 of Appendix L, "Figure 5.3" referred in the paragraph is not available in the Appendix.
	[Noted and updated as "Figure 6.1" accordingly.]
	(b) Relevant information about the approval of the Tree Preservation and Removal Proposal (including compensatory planting proposal by CEDD's Tree Works Vetting Panel) should be included in the Planning Statement.
	[Noted and Planning Statement has been updated accordingly.]
	(c) It is noted that (i) most of the existing trees within the areas zoned "O" are proposed to be removed in the approved "KTN TPRP" and (ii) there is no landscaping proposed for the Northern Portion. The landscape proposal vide para 6.2.1 (i.e. "Provision of buffer planting with trees and shrub along the development periphery" and "Provision of new tree and shrub planting as far as possible within application boundary" (emphasis added)) does not tally with the drawing. It is suggested to revise the proposal/text to align with the drawing which shows proposed new tree planting along the eastern boundary of the Site.
	[Noted and updated in para. 6.2.1 accordingly.]
	(d) Item (e) Appendix M "Location Plan of Compensatory Trees", it is noted that (i) the compensation of the 44 nos. of trees to be removed is in accordance with the "Approved KTN TPRP" (i.e. Approved Agreement No. CE 19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction: Tree Preservation and Removal Proposal (Final)); and (ii) AFCD advised that provision of tall trees should be avoided in a livestock farm (Presumably, this refers to areas within the boundary of the MSB site because trees planting have been proposed within the application site). It is suggest to include the information concerned into the Planning Statement.
	[Noted and the Planning Statement has been updated accordingly.]

	1		
			Advisory Remarks to the Applicant
			(e) Item (b), existing levels within the Site on Appendix F – "Layout Plan of Existing Levels" are noted. According to Table 1 under para 3.1.4 of the Planning Statement, proposed depth of filling for the Northern Portion is 0 - 3.8 m. It is suggested to review if there are any existing trees grown at areas where the filling is 0 m or very gentle and could be retained.
			[Noted. Detailed tree treatment will be further reviewed as per the approved TPRP separately]
			(f) Item (d) Figure 6.1 – "Landscape Proposal", the location and tree protection zone of the Ficus microcarpa (DBH>1000mm) are not provided. Since the TPRP covering the application site has been approved, CEDD is advised to ensure proper protection of the tree from the site formation works and future development.
			[Please be advised that location and tree protection zone of the tree T72 Ficus microcarpa is indicated in Figure 6.1.]
			(g) Item (e) Appendix M "Location Plan of Compensatory Trees", it is noted that (i) the compensation of the 44 nos. of trees to be removed is in accordance with the "Approved KTN TPRP" (i.e. Approved Agreement No. CE 19/2019 (CE) Development of Kwu Tung North New Development Area, Remaining Phase – Design and Construction: Tree Preservation and Removal Proposal (Final)); and (ii) AFCD advised that provision of tall trees should be avoided in a livestock farm (Presumably, this refers to areas within the boundary of the MSB site because trees planting have been proposed within the application site). It is suggest to include the information concerned into the Planning Statement.
			[Noted and para. 3.8.3 has been added into the Planning Statement accordingly.]
AFCD (Contact Person: Ms. NG Chiu Ue, Chole)	04.06.2024	Email	Specific Comments - S.3.1.3 According to Appendix J, the southern part of the Application Site is a marsh but not a fishpond, please review. [Noted and the Planning Statement has been updated accordingly.]
,			- S.3.4.4 The monthly construction phase monitoring should also cover Ho Sheung Heung Ardeid Night Roost. [Noted and the Planning Statement has been updated accordingly.]

TD (Contact Person: Mr. LAU Chung Ki, Elton)	04.06.2024	Email	Please advise the proposed width of ingress / egress of the subject site. The applicant shall ensure there is no queuing of vehicles outside the subject site.[Please be advised that the width of the ingress / egress of the site during construction stage of the proposed land/pond filling is approximately 10m and to avoid over-congestion of traffic during peak hour, the number of construction vehicles will be restricted and such vehicles will be operated at day-time off-peak [i.e. 10:00 am to 4:00 pm (Mondays to Saturdays)] only. A total volume of construction vehicle of 5 MGV/hr/direction (or 10 pcu/hr/direction) is anticipated.Swept path analysis has been conducted to ensure safe and smooth manoeuvring of construction trucks to the site from HSH Road during construction stage, as shown in Appendix I of the Planning Statement.]
Geotechnical Engineering Office, CEDD (Contact Person: Mr. CHAN Ka Kit)	03.06.2024	Memo	It is noted from the site formation layout plan in the Geotechnical Planning Review Report enclosed in Appendix H that the proposed development (including site formation works) would encroach into existing slopes (i.e. Feature No. 2SE-B/F103 and the western portion of Feature No. 2SE-B/FR106). Part of these slopes would be buried by the proposed fill slopes (i.e. max. 1:4 fall platforms). In addition, it is noted from the site layout plan that the captioned site only covers part of the above mentioned slopes. According to the SIMAR record of Lands Department(LandsD), the responsible parties of Features Nos. 2SE-B/F103 and 2SE-B/FR 106 are LandsD and Drainage Services Department(DSD) respectively. As such, please be advised that comments and permission on the captioned site formation proposal shall be sought form these maintenance departments (i.e. LandsD and DSD) [Noted. Comments and permission regarding the site formation proposal have been sought from the relevant maintenance departments.] Regarding all slopes (i.e. mas 1:4 fall platforms) proposed within the application boundary and from slope safety point of view, please request the applicant to submit future slope design submissions associated with the development proposal to the GEO for approval according to ETWB TC(W) No.29/2002. [Noted. Any future slope design submissions related to the development proposal will be provided if required.]
Drainage Services Department	29.05.2024	Email	 i) Please be advised that the Stormwater Drainage Manual was recently updated vide its Corrigendum No. 1/2024 and the latest design parameters should be considered in the relevant assessment [Please be advised that a holistic review of the drainage impact assessment on the area would be conducted separately in due course.] ii) Please provide layout plan of the change of sub-catchment setting in the model (paved / unpaved area) to show if appropriate settings in drainage characteristics before and after the development were adopted. [We have reviewed the existing topography and baseline model, which is in Appendix K. The existing pond will become paved area under the development. As both pond and paved area show impermeable characteristics to water, there is no change of drainage characteristics under the development.

			 iii) Para. 3.4.10: Please provide relevant assessment to illustrate the impact due to the loss in storage capacity upon the filling of existing pond. Please also advise if such impact may significantly increase the flooding risk of the area and/or otherwise advise any schematic detail if a flood storage facility might be required [Under review, we have noticed that under the prevailing existing scenario, no storage function is assumed as a worse case. Therefore, under both existing and proposed scenario, all surface water will pass through an impermeable surface and discharge to the river. No impact will be caused by the development in this aspect iv) Figure 2 (Sheet No. 60624717/L02/403): Please indicate the spot height of the proposed formation level to substantiate the presented flow path [Drawings have been included in the revised DIA.]
Drainage Services Department	04.06.2024	Email	 Please indicate the catchment corresponding to the proposed site formation works; [Drawings have been included in the revised DIA.] Kindly advise the stability assessment / checking of the retaining wall (i.e. Feature No. 2SE-B/FR106 with level platform and wall length of 15m) and the slope drain; [The 15m long T-shaped retaining wall (Feature No. 2SE-B/FR106) is located approximately 140m away from the Application Site and the affected portion of the feature 2SE-B/FR106 and its slope drain will be demolished by the site formation works. Therefore, stability assessment is required and no checking of the drain is required.] Please consider to incorporate the flood warning systems if found to be appropriate; [Noted. Please be advised that no flooding is anticipated within the Application Site.] Taking into consideration of the uncertainties of climate change impacts in future, the flood protection measures should be flexible enough to accommodate the possible impacts whatever due to the changes of the sea/water level rise or increase in rainfall as a result of updated findings available from time to time for either the frequency analysis or climate change in the course of works; [Noted. Please be advised that no flooding is anticipated within the Application Site.] In addition, the fierce rainstorm event exceeding design standards (like Zhengzhou event in 2021) is not an unimaginable scenario. Conducting sensitivity tests are recommended to make sure a fail-safe design could be achieved; and [Noted. Please be advised that no flooding is anticipated within the Application Site.]

			 6. It is noted that a holistic review of the DIA would be conducted from the RtC received on 3.6.2024. Please submit the relevant assessment when available for further review. We will request PlanD to impose planning conditions including submission of DIA and implementation of the drainage proposal and other necessary flood relief mitigation measures identified in the DIA. [Noted.]
Planning Department	05.06.2024	Email	Observations on the Textual Content and Presentation of the Planning Statement. [Noted and the Planning Statement has been updated accordingly.]

Responses to Comments Received from the Public on S.16 Application No. A/KTN/104

Public	Date	By Email or Letter	Relevant Comments [Responses in RED]
Public Ms. Mary Mulvihill	Date 23.05.2024	-	Relevant Comments [Responses in RED] 1. "No information on how many trees to be chopped down." [There are 44 trees proposed to be felled. A comprehensive landscape review, which included a detailed tree survey, has been conducted for the proposed land/pond filling. The findings of this landscape review are comprehensively documented in Appendix L of the Planning Statement.] 2. "The proposed land filling is up to 6mts and would certainly ensure that the land would be contamination forever" [For the concern regarding the possibility of contamination, an Environmental Assessment and Ecological Impact Assessment ("EA&EcolA") has been carried out to examine the potential impacts associated with the proposed land/pond filling. Potential environmental impacts including water quality and ecology have been assessed and addressed. The details are presented in the EA&EcolA Report in Appendix J of the Planning Statement.] 3. "The site is close to the river and therefore there is a strong possibility of contamination from the proposed use." [Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex A to this document.] 4. "Then there is the negative impact on the unfortunate folk, inmates and staff, at the correction facility. The operation would attract heavy vehicles – no details provided – and for sure there would be strong odours and other impacts on their health."
			[Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex A to this document.]

The Hong Kong Bird Watching Society	24.05.2024	Letter	1.1 The application site and its surroundings are included as Important Bird and Biodiversity Area (IBA) recognized by the Bird Life International, and are of high conservation importance. Just around 50 meters away, there is a active wet agricultural land cluster, which composes of farmland managed under the Nature Conservation Management Agreement Project supported by the government.
			1.2 The Ho Sheung Heung egrety is just around 180m away from the application site. We consider the marsh in the site is potential foraging ground for the breeding herons. Moreover, the site is also the critical and important flying corridor for the breeding herons to commute between the egretry and the wetlands to the south. However, the proposed land filling and also the future multi-storey livestock farm development would inevitably destroy the suitable foraging ground, disrupt the flying corridor and greatly deteriorate the habitat quality for the breeding colony. We are concerned the development would have irreversible impacts on the egretry, and may result in abandonment of breeding site in the worst case scenario.
			[Regarding the proposed land/pond filling works, as per section 3.4.3.1 of the Environmental Assessment and Ecological Impact Assessment Report at Appendix J to the Planning Statement, the surrounding area of the egretry has been subject to existing anthropogenic disturbance including human activities in the brownfield to the immediate south of the egretry, and construction works adjacent to the Application Site. It is expected that the proposed land/pond filling works are unlikely to significantly intensify the existing disturbance to lead to adverse impact on the egretry and its surroundings.
			Moreover, given that the proposed land/pond filling works of minor scale would be conducted by limited number of powered mechanical equipment of limited heights, the disruption of flight path is anticipated to be minor and unlikely to cause adverse impact. Furthermore, mitigation measures including good site practice such as provision of screening and restrictions on working hours during peak hours of ardeid movement (i.e. early morning and evening) would be implemented to minimize the disturbance on the egretry and flight path.
			In terms of the potential foraging ground, the marsh / reed habitat within the Application Site potentiallybe one of the foraging grounds for the breeding ardeids. However, during the recent ecological surveys, only low abundance of ardeids was observed within the captioned marsh / reed habitats. It is unlikely to be a significant foraging habitat for the breeding ardeids. In addition, considering that there are other similar wetland habitats including pond, marsh / reed and watercourses in the surrounding, the potential loss of the concerned marsh / reed is unlikely to significantly impact / reduce the foraging ground for the breeding ardeids.
			Regarding the future multi-storey livestock farm development, please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this document.]
			1.3 The application site is mainly marshy wetland, which is not only the potential feeding ground for breeding herons, but also the wetland-dependent species like Greater Painted-snipe and also open country species like Yellow Breasted Bunting. Moreover, the site is ecologically connected to the Long Valley, Ho Sheung Heung and Ng Tung River, any wetland habitat loss and superstructure development would potentially undermine the overall ecological connectivity and value of the wetland system. However, the applicant failed to probably assess the impacts on those species and the surrounding connecting habitats.

[The concerned species Greater Painted-snipe and Yellow Breasted Bunting were not recorded within the Application Site during the recent ecological surveys nor previous studies. Other recorded wetland-dependent species (e.g. White-throated Kingfisher, Little Egret and Chinese Pond Heron) within the marsh / reed in the Application Site were also in low abundance. Moreover, the concerned marsh / reed has also been subject to existing disturbance such as construction activities in its immediate surrounding. Thus, it is considered that the concerned marsh / reed is unlikely to be a significant feeding ground for wetland-dependent and open field species, especially with the presence of other suitable habitats with higher ecological value, e.g. the ponds and agricultural land (including rice field) within the Long Valley Ho Sheung Heung Priority Site to the south of the Application Site.
As for the question of ecological connectivity, given that the concerned marsh / reed is situated in the edge of the holistic wetland of Long Valley and Ho Sheung Heung, it is not considered as a significant core habitat for avifauna according to the observations from the recent ecological surveys. As such, it is expected that the loss of the concerned marsh / reed habitat is unlikely to have adverse impact on the overall ecological connectivity of the wetland in the area.
Regarding the future multi-storey livestock farm development, please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this document.]
1.4 In short, the proposed extensive wetland filling and the future development of 22.5m high multi-storey superstructure development would lead to permanent loss in wetland and flight corridor. It is also incompatible with the surrounding rural environment. We urge the Town Planning Board (the Board) to reject this application to retain ecologically important agricultural land in Ho Sheung Heung area.
[Precautionary and mitigation measures such as pre-construction egretry and night roost surveys, monthly egretry monitoring, good site practices, proper scheduling of construction activities as far as practicable and provision of screening, etc., would be implemented. With adoption of the recommended precautionary and mitigation measures, no adverse ecological impact is anticipated to arise from the proposed land/pond filling works at the Application Site.
Pre-construction surveys will be conducted to confirm the location and status of the Ho Sheung Heung Egretry and Ho Sheung Heung Ardeid Night Roost within 300m from the Application Site, and mitigation measures, if required, would be developed based on the survey findings. In case any signs of suspected egretry (e.g. presence of nests) and/or night roost are observed within the Application Site and its immediate surroundings (within 100m from the Application Site) during the pre-construction survey and/or monthly inspection, AFCD would be informed. Appropriate mitigation measures, such as proper scheduling of works and provision of additional barriers to minimize disturbance, would be implemented, as agreed with AFCD. As such, direct impact to egretry and night roost would be avoided.
Regarding the future multi-storey livestock farm development, please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this document.]
2 Not in line with the planning intention of Agriculture (1) (AGR(1)) zone The site is zoned as AGR(I) zone, which is intended primarily "to retain and safeguard the agricultural land/farm/fish ponds for agricultural purposes and

			 to serve as a buffer to give added protection to the Long Valley Nature Park" under the Approved Kwu Tung North Outline Zoning Plan. As the site is currently marsh and there are active wet agricultural land and farmland under conservation management scheme in the vicinity, we consider the site is of high potential for agricultural and conservation uses. However, the proposed land filling would like to permanent loss in wetland and arable land, which is clearly not in line with the abovementioned planning intention. [The Application Site falls within an area zoned "Agriculture (1)" ("AGR (1)"), "Open Space" ("O"), and area shown as "Road" on the approved Kwu Tung North Outline Zoning Plan No. S/KTN/4 ("KTN OZP"). The future development of the multi-storey livestock farm will only fall within the "AGR (1)" zone where "Agricultural use" is always permitted. Relevant mitigation measures would be implemented to mitigate the impacts, for which the impact of the land filling works are anticipated to be minor as mentioned in sections 3.4.2.1 of the Environmental Assessment and Ecological Impact Assessment Report at Appendix J to the Planning Statement.]
The Conservancy Association	24.05.2024	Letter	 1. Not in line with the planning intention of Agriculture (1) (AGR(I)) zone According to the Approved Kwu Tung North Outline Zoning Plan (OZP) No. /KTN/4, the planning intention of AGR(I) zone "A intended primarily to retain and safeguard the agricultural land/farm/fish ponds for agricultural purposes and to serve as a buffer to give added protection to the Long Valley Nature Park". Section 1.2.8 of the Planning Statement mentions that "It is worth noting that the multi-storey livestock farm development does not form any part of this Section 16 planning application which relates to the proposed land filling only. All information about the multi-storey livestock farm development mentioned in this Planning Statement are indicative, non-binding and subject to change in the detailed design stage". In this way, we are in grave doubt that the proposed land filling work would lead to genuine farming activities, and can still maintain a buffer for Long Valley Nature Park. We cannot see any details to justify how the planning application can fulfill the planning intention of AGR(I) zone.
			[The Policy Address 2023 announced that the Environment and Ecology Bureau, in collaboration with the trade, would publish the Blueprint for the Sustainable Development of Agriculture and Fisheries ("the Blueprint") by the end of 2023. The Blueprint was published in December 2023, of which a target was to embrace the opportunities arising from the development of the Northern Metropolis and encourage all local livestock farms to switch completely to modernised operation in multi-storey buildings with a view to producing quality branded livestock products.]
			2. Potential adverse ecological impact Despite provision of Ecological Impact Assessment (EcoIA), we are still doubtful that at least some of the potential ecological impacts remain unsolved:
			<u>No assessments on the proposed multi-storey livestock farm</u> While we understand the intention to build an environmental friendly livestock farm,a 6-storey enclosed livestock farm in Hong Kong is new and careful assessment is necessary. We cannot see the any assessments related to the proposed multi-storey livestock farm.

[Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this documentdocument.]
From our limited understanding, the proposed livestock farm is permitted use under Column 1 (Agricultural Use). Meanwhile, all earthworks related to agriculture would be exempted under EIAO. In this way, public (or the Government) lacks gate-keeping role in assessing potential environmental impact during construction and operation phase.
Disruption on flight paths From the general flight path of ardeids with the 300m Assessment Area, at least 3 flight paths (accounting 40% of total flight lines) overlap the subject site (Figure 1). As the site formation work covers the entire site, we worry that such work scale would disrupt flight paths.
[Given that the proposed land/pond filling works of minor scale would be conducted by limited number of powered mechanical equipment with limited heights, potential disruption of flight path during construction stage is anticipated to be minor and unlikely to cause adverse impact. Furthermore, mitigation measures including good site practice such as provision of screening and restrictions on working hours during peak hours of ardeid movement (i.e. early morning and evening) would be implemented to minimize the disturbance impact on the egretry and flight path during construction stage.
Moreover, the formation level of about +7.8mPD of the proposed land/pond filling basically flushes with the level of the adjoining existing road. As such, the completed land/pond filling should not disrupt any flight paths.]
Bird collision Even though this application only refers to land filling activities, we still wish to mention that bird collision (including nocturnal avian collision) with buildings is not clearly identified and evaluated in the EcoIA.
[Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this documentdocument.]
<u>No work schedule</u> There is no restrictions on work during migratory bird season (October to March).
[As mentioned in section 3.6.1.6 of the Environmental Assessment and Ecological Impact Assessment Report at Appendix J to the Planning Statement, proper scheduling of construction activities would be undertaken to avoid heavily disruptive activities during the dry season which covers migratory season.]
Under-estimating ecological value of agricultural land Some of the key species under our Management Agreement project in agricultural land in Ho Sheung Heung are not recorded in the EcolA. For example, Wood Sandpiper, Greater Painted Snipe, Yellow-breasted Bunting, etc., were recorded during our management work in agricultural land within the 300m Assessment Area,but it was not included in Appendix 3.3. Particularly, Yellow-breasted Bunting is listed "critically endangered" under IUCN Red List and is of conservation importance.

We are doubtful that ranking agricultural land as "moderate" ecological value, under current baseline survey, may under-estimate the ecological value of agricultural land.
[The ecological survey findings are presented in Appendix 3.3 to the Environmental Assessment and Ecological Impact Assessment Report at Appendix J to the Planning Statement. These findings have already been circulated to AFCD and other relevant departments without any feedback of adverse comments. Nonetheless, the monitoring reports under the Management Agreement Project for the agricultural land in Ho Sheung Heung have also been reviewed and included in literature review for assessment. Both the above-mentioned survey and monitoring results have been considered in the habitat evaluation to recognize the ecological significance of habitats in Ho Sheung Heung.]
3. Potential disturbance on ecological management work in adjacent agricultural land
<u>Changing hydrology of adjacent agricultural land</u> The proposed ground level after land filling at the application site will be +7.8mPD. While we understand that such arrangement has considered adverse drainage effect due to climate change at the end of the 21st century (Section 3.5.2 of Planning Statement), we can foresee that agricultural land in the south of the site would become low-lying areas and flood risk could be further increased. Despite provision of Drainage Impact Assessment showing the change in flow path before and after the development, it seems that the projection of flow path is confined to the application site only but not adjacent area, particularly agricultural land mentioned above. As those agricultural land is under Nature Conservation Management Agreement project, such arrangement may hamper ecological management work in the area.
[The drainage design for the Application Site would be such that, upon completion of the land filling works, stormwater collected within the Application Site will be discharged through the drainage system to a proper discharge point, and no drainage impact will be caused to adjacent lands.]
Irrigation water We are also very concerned that land filling in the application site would also affect water source for irrigation purpose. Wet agricultural activities such as paddy field, watercress field, lotus/water lily ponds in those agricultural land rely much water during daily operation.
We wish to add that CA and Hong Kong Bird Watching Society have jointly worked out Nature Conservation Management Agreement Project in Ho Sheung Heung area for a long period of time. With a development project causing significant environmental impacts near Ho Sheung Heung, it is regret that there are no prior dialogue and discussion with green groups. As the application site is very close to 12 Priority Sites for enhanced conservation and also within Important Bird Area (under Birdlife International), its ecological and conservation importance should not be under-estimated. We would suggest that engaging stakeholders like green groups in early planning stage is necessary.
[Noted.]

Kadoorie Farm & Botanic Garden	24.05.2024	Letter	2. We are concerned about the potential ecological impacts that would be caused by this project, and we would also like the Board to investigate whether the present Ecological Impact Assessment (EcoIA) can adequately assess the potential ecological impacts and propose sound mitigation measures for all possible/ potential ecological impacts (if needed).
Corporation			3. The northern part of a Priority Site for Enhanced Conservation (hereafter called the Ho Sheung Heung (HSH) site) designated by the Government is located less than 50 m from the current application site, and there is a Management Agreement (MA) project at this HSH site at present, which is also aimed for nature conservation. According to one of the managing parties of this MA, Yellow-breasted Bunting and Greater Painted-snipe could be recorded within the 300-m assessment area of the EcolA (The Conservancy Association Pers. Comm.). However, these two species of conservation importance were not recorded nor even mentioned in the present EcolA. We visited the application site this week and we consider the marshy environment at the site can provide a suitable breeding habitat for the Greater Painted-snipe (see the setting of this marsh in Figure 1). In view of the proximity of the HSH site, we consider it is highly possible that the marsh within the application site can also be used by the Greater Painted-snipe (breeding or feeding). The EcolA, however, does not even mention this bird species, and fails to mention the presence of Yellow-breasted Bunting, which is a Globally Critically Endangered species, at the nearby HSH site.
			[The specie Greater Painted-snipe was not recorded within the Application Site during the recent ecological surveys nor previous studies. Other recorded wetland-dependent species (e.g. White-throated Kingfisher, Little Egret and Chinese Pond Heron) within the marsh / reed in the Application Site were also in low abundance. Moreover, the concerned marsh / reed has also been subject to existing disturbance such as construction activities in its immediate surrounding. Thus, it is considered that the concerned marsh / reed is unlikely to be a significant feeding ground especially with the presence of other suitable habitats with higher ecological value, e.g. the ponds and agricultural land (including rice field) within the Long Valley Ho Sheung Heung Priority Site to the south of the Application Site.
			In addition, the concerned marsh / reed is observed to be brackish marsh and subject to tidal influence, and also subject to disturbance including construction works nearby. With the presence of freshwater marsh / wetland nearby, the concerned marsh / reed may not be the most preferable breeding ground for Greater Painted-snipe which favor freshwater swamps.]
			 4. As you would have known, KFBG is conducting a territorial-wide Eurasian Otter survey and in February we observed a suspected secretion by otter on a riverside platform close to the application site (photos in Figure 2; location in Figures 2 & 3; DNA analysis is ongoing). Indeed, the Eurasian Otter would utilise watercourses (e.g., Ng Tung River) as their main movement corridors and there was also a sighting of otter in a fish pond to the southwest of Sandy Ridge (we call this area the Sandy Ridge Wetland Mosaic; Figure 3), which is just on the other side of Ng Tung River (to the northeast of the application site). The present EcolA,however, does not mention otter, even the 300-m assessment area touching the edge of the Sandy Ridge Wetland Mosaic and well covering Ng Tung River.
			[The ecological survey conducted under the Environmental Assessment and Ecological Impact Assessment for the Application Site included mammal survey. Camera trap had been set within the Application Site to identify if any mammals, including otter, would utilize the marsh / reed within the site. Nonetheless, no record of mammal,

including Europies Ottop was accorded by the compare term. Over extend size including a start of the table
including Eurasian Otter, was recorded by the camera trap. Suspected sign including scats and footprint were also not observed during the ecological surveys. As such, it is expected that the Application Site is unlikely to be a significant habitat for Eurasian Otter.
It is understood that the Ng Tung River could be utilized by Eurasian Otter as the potential movement corridor. However, in view of the minor scale and the localized nature of the proposed land/pond filling works, with the implementation of good site practices and appropriate mitigation measures (section 2.5 of the Environmental Assessment and Ecological Impact Assessment Report at Appendix J to the Planning Statement refers), no adverse water quality impact is anticipated to arise from the proposed land/pond filling works. As such, no adverse water quality impact to Ng Tung River is anticipated.]
5. Although not precisely reflected in the application title, the present application is intended to provide land for accommodating livestock farms, and as indicated in the drawings attached to this application, a multi-storey building (MSB) may be built for this purpose. In the impact assessment section of the EcoIA, we can see that MSB is mentioned. However, we would like the Board to seriously investigate with relevant parties as to whether the EcoIA has adequately provided any mitigation measures (if needed), or addressed the issues, relating to the potential MSB. We hope the Board can understand that ecological impacts caused by site formation are very different to those caused by a MSB (during both construction and operational phases; e.g., artificial light at night, noise and human disturbance).
[Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this documentdocument.]
6. The application site is adjacent to Ng Tung River. As shown in the aerial photo in Figure 3, there is no high- rise building along the western bank of Ng Tung River in the region at present. Has the EcoIA adequately assessed the potential ecological impacts (e.g.,additional light and noise) caused by the potential MSB (e.g., disturbance impacts on the animals utilising the river)? Also, if there is a MSB, would the traffic there increase and would this increase the road-kill effects in the area and if yes, has this been adequately addressed? If the detailed design of the MSB is confirmed at a later stage, would there be another EcoIA to precisely address the potential ecological impacts that would be caused by the confirmed design? If there would not be such a further EcoIA, we urge the Board to seriously consider whether the present one is enough to address all possible/ potential ecological issues relating to the project.
[Please refer to the details provided by the Agriculture, Fisheries and Conservation Department in Annex B to this document.]
7. The Application Site is not large but is undoubtedly located within an ecologically sensitive region (e.g., next to a Priority Site and potential otter movement corridor). The Northern Metropolis Development Strategy (NMDS) report also illustrates the presence of an ecological corridor extending from Deep Bay to Long Valley, which covers the present application site (Figure 4). We urge the Board to seriously consider how necessary it is to select the present application site for the aforementioned purpose. Why can't the application site be located in other areas with less ecological sensitivity? Couldn't more suitable alternative sites be found? Should it be located at another site? Is it the only site which can fulfill the purpose? Is filling a wetland for the aforementioned purpose in line with the National Policy of Ecological Civilisation, which is also a strategic direction of the NMDS?

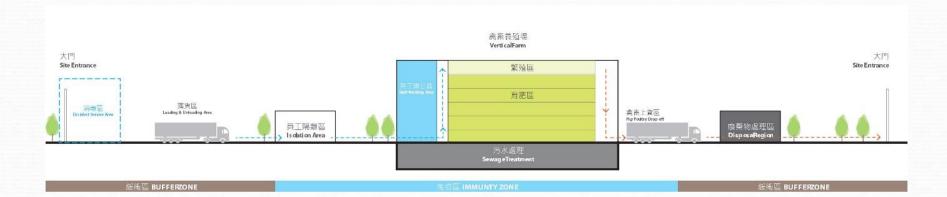
We urge the Board to seriously consider the above; indeed, it is hard for us to believe that it is the only suitable site that can be used for the aforementioned purpose.

Annex A

Potential impact from the MSB (including environmental, ecological, and traffic)

Biosecurity and Closed System Management

The multi-storey farm to be constructed will be planned in accordance with the strictest biosecurity measures and will implement a closed system management to ensure disease prevention and control.



Annex A

Potential impact from the MSB (including environmental, ecological, and traffic)

Waste and Effluent Treatment

For the waste generated by the livestock farm, the vertical farm to be constructed will establish a comprehensive collection and treatment system to ensure that all waste meets the required standards and prevents any adverse impact on the environment and public health. Trucks transporting manure or livestock carcasses will be fully covered and must travel on designated and approved routes. Additionally, trucks will undergo thorough cleaning and disinfection after each unloading and before re-entering the farm to maintain the highest standards of hygiene.

Closed-system management is the primary principle for establishing a comprehensive biosecurity management system. The objective is to reduce the risk of disease transmission within the farming facility, thereby improving production efficiency and profitability. By implementing isolation and controlled directional flow, the farm can regulate the movement of vehicles, personnel, supplies, and livestock, ensuring that uninfected animals remain separate from infected or potentially infected animals and contaminated items. The system is installed beneath the cages and can automatically collect the waste produced by the pigs, directing it to a centralized processing area, thus minimizing the scattering and accumulation of manure.

Innovation is another important consideration in project design. For instance, novel feeds and nutritional supplements can be utilized to enhance the growth rate and health of livestock while simultaneously reducing waste output and environmental pollution. Moreover, new environmental control technologies, such as intelligent ventilation and air conditioning systems, as well as automated waste management systems, can be implemented to improve production efficiency and minimize environmental pollution.

Annex A

Potential impact from the MSB (including environmental, ecological, and traffic)

Waste and Effluent Treatment

The collected waste is transported from the farming area to a centralized processing site through conveyors or other transportation equipment. At this site, the manure may undergo compression, composting, or other environmentally friendly treatment methods. The automated manure removal system facilitates the prompt handling of waste, thereby reducing odour and environmental pollution and providing a healthier breeding environment. The system also aids in the more efficient management of manure, reducing the spread of pathogens and improving overall farming hygiene levels.

Trucks transporting waste or animal carcasses should be covered and must adhere to designated and approved routes. Thorough cleaning and disinfection procedures should be conducted on trucks after unloading and before re-entering the farming area.

Annex B

Promoting the use of modern and environmentally friendly multi-storey buildings (MSB) for livestock farming is one of the policy initiatives in the 2022 and 2023 Policy Addresses, and also one of the directions set in the "Blueprint for the Sustainable Development of Agriculture and Fisheries" formulated by the Environment and Ecology Bureau and the industries in 2023.

Upon completion of the land/pond filling works at the Application Site, the site will be handed over to the AFCD. The site will then be made available to an agricultural organisation through an open application process. This will allow the Government to evaluate and select the most suitable organisation to take over the development and operation of the site.

The selected agricultural organisation will be responsible for the construction, operation, and management of an MSB pig farm on the site. It will have to meet the standards set by the government during the construction and operational stages (e.g. building, environmental protection (including ecological impact assessment), and biosecurity standards, etc.). AFCD will closely monitor the design (including bird-friendly features in the design), construction and operational stages of the project.

As the proposed MSB pig farm is located within the Livestock Waste Control Area, the future operator would also require a Livestock Keeping Licence (LKL) under the Public Health (Animals and Birds) (Licensing of Livestock Keeping) Regulation, Chapter 139L. The LKL would also impose the relevant environmental regulations, including those under the Waste Disposal (Livestock Waste) Regulations (Chapter 354A). This will ensure that the future operator meets to the necessary environmental requirements and standards for livestock waste management.

The technical specifications and operational requirements for the MSB pig farm will be set out in the tenancy agreement and license conditions to ensure that the site is used and managed to government standards.

From: Sent: To: Subject:

2024-05-23 星期四 02:10:36 tpbpd/PLAND <tpbpd@pland.gov.hk> A/KTN/104 D.D. 89 and D.D. 95, beside Lo Wu Correctional Centre

A/KTN/104

Government Land in D.D. 89 and D.D. 95, beside Lo Wu Correctional Centre, Kwu Tung

Site area: About 12,400sq.m

Zoning: "Agriculture(1)", "Open Space" and area shown as 'Road'

Applied use: Proposed Filling of Land for **Site Formation Works** for Multi-storey pig farm / ??? Vehicle Parking

Dear TPB Members,

Strongest Objections. The site is Government Land and much of it covered in vegetation and trees. No information on how many trees to be chopped down. The proposed land filling is up to 6mts and would certainly ensure that the land would be contaminated forever.

The statement that "No adverse impacts on geotechnical, traffic, **environment, ecological**, drainage, sewerage, water supply, **tree and landscape aspects** are envisaged" is ridiculous.

The site is close to the river and therefore there is a strong possibility of contamination from the proposed use.

Then there is the negative impact on the unfortunate folk, inmates and staff, at the correction facility. The operation would attract heavy vehicles – no details provided - and for sure there would be strong odours and other impacts on their health.

This is not genuine agricultural activity; it is effectively factory farming. The ideal location for such an enterprise is on one of the many already contaminated brownfield sites.

The application should be rejected.

Mary Mulvihill



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



Appendix II-2 of RNTPC Paper No. A/KTN/104

> ople and birds living in harmo as nature continues to thrive

24 May 2024

Dear Sir/Madam,

<u>Comments on the planning application for the proposed Filling of Land for Site</u> Formation Works for Permitted Agricultural Use at Ho Sheung Heung, Kwu Tung (A/KTN/104)

The Hong Kong Bird Watching Society (HKBWS) objects to the planning application based on the following reasons.

- 1 Recognized significant ecological value of the application site and its surroundings
 - 1.1 The application site and its surroundings are included as Important Bird and Biodiversity Area (IBA) recognized by the BirdLife International, and are of high conservation importance. Just around 50 meters away, there is an active wet agricultural land cluster, which composes of farmland managed under the Nature Conservation Management Agreement Project supported by the government.



Figure 1. The application site was marked with red line. The IBA is filled with light blue color. The site was just next to the active farmland cluster (marked with yellow circle) where some farmlands are currently managed under the Nature Conservation Management Agreement Project.









- 1.2 The Ho Sheung Heung egretry is just around 180m away from the application site. We consider the marsh in the site is potential foraging ground for the breeding herons. Moreover, the site is also the critical and important flying corridor for the breeding herons to commute between the egretry and the wetlands to the south. However, the proposed land filling and also the future multi-storey livestock farm development would inevitably destroy the suitable foraging ground, disrupt the flying corridor and greatly deteriorate the habitat quality for the breeding colony. We are concerned the development would have irreversible impacts on the egretry, and may result in abandonment of breeding site in the worst case scenario.
- 1.3 The application site is mainly marshy wetland, which is not only the potential feeding ground for breeding herons, but also the wetland-dependent species like Greater Painted-snipe and also open country species like Yellow-breasted Bunting. Moreover, the site is ecologically connected to the Long Valley, Ho Sheung Heung and Ng Tung River, any wetland habitat loss and superstructure development would potentially undermine the overall ecological connectivity and value of the wetland system. However, the applicant failed to probably assess the impacts on those species and the surrounding connecting habitats.
- 1.4 In short, the proposed extensive wetland filling and the future development of 22.5m high multi-storey superstructure development would lead to permanent loss in <u>wetland</u> and <u>flight corridor</u>. It is also incompatible with the surrounding rural environment. We urge the Town Planning Board (the Board) to reject this application to retain ecologically important agricultural land in Ho Sheung Heung area.

2 Not in line with the planning intention of Agriculture (1) (AGR(1)) zone

The site is zoned as AGR(1) zone, which is intended primarily "to retain and safeguard the agricultural land/farm/fish ponds for agricultural purposes and to serve as a buffer to give added protection to the Long Valley Nature Park" under the Approved Kwu Tung North Outline Zoning Plan. As the site is currently marsh and there are active wet agricultural land and farmland under conservation management scheme in the vicinity, we consider the site is of high potential for









agricultural and conservation uses. However, the proposed land filling would like to permanent loss in wetland and arable land, which is clearly not in line with the abovementioned planning intention.

The HKBWS respectfully requests the Board to take our comments into consideration and **reject** the current application. Thank you for your kind attention.

Yours faithfully, The Hong Kong Bird Watching Society







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仆 since 1968

The Conservancy Association

24th May 2024

Town Planning Board 15/F North Point Government Offices 333 Java Road North Point Hong Kong

By e-mail: tpbpd@pland.gov.hk

Dear Sir/Madam,

2 4 MAY 2024 Town Planning Board

Appendix II-3 of RNTPC Paper No. A/KTN/104

Comments on the Section 16 Application No. A/KTN/104

The Conservancy Association (CA) OBJECTS to the captioned application.

1. Not in line with the planning intention of Agriculture (1) (AGR(1)) zone

According to the Approved Kwu Tung North Outline Zoning Plan (OZP) No. S/KTN/4, the planning intention of AGR(1) zone "*is intended primarily to retain and safeguard the agricultural land/farm/fish ponds for agricultural purposes and to serve as a buffer to give added protection to the Long Valley Nature Park*".

Section 1.2.8 of the Planning Statement mentions that "It is worth noting that the multi-storey livestock farm development does not form any part of this Section 16 planning application which relates to the proposed land filling only. All information about the multi-storey livestock farm development mentioned in this Planning Statement are indicative, non-binding and subject to change in the detailed design stage". In this way, we are in grave doubt that the proposed land filling work would lead to genuine farming activities, and can still maintain a buffer for Long Valley Nature Park. We cannot see any details to justify how the planning application can fulfill the planning intention of AGR(1) zone.

2. Potential adverse ecological impact

Despite provision of Ecological Impact Assessment (EcoIA), we are still doubtful that at least some of the potential ecological impacts remain unsolved:



The Conservancy Association

No assessments on the proposed multi-storey livestock farm

While we understand the intention to build an environmental friendly livestock farm, a 6-storey enclosed livestock farm in Hong Kong is new and careful assessment is necessary. We cannot see the any assessments related to the proposed multi-storey livestock farm.

From our limited understanding, the proposed livestock farm is permitted use under Column 1 (Agricultural Use). Meanwhile, all earthworks related to agriculture would be exempted under EIAO. In this way, public (or the Government) lacks gate-keeping role in assessing potential environmental impact during construction and operation phase.

Disruption on flight paths

From the general flight path of ardeids with the 300m Assessment Area, at least 3 flight paths (accounting 40% of total flight lines) overlap the subject site (Figure 1). As the site formation work covers the entire site, we worry that such work scale would disrupt flight paths.

Bird collision

Even though this application only refers to land filling activities, we still wish to mention that bird collision (including nocturnal avian collision) with buildings is not clearly identified and evaluated in the EcoIA.

No work schedule

There is no restrictions on work during migratory bird season (October to March).

Under-estimating ecological value of agricultural land

Some of the key species under our Management Agreement project in agricultural land in Ho Sheung Heung are not recorded in the EcoIA. For example, Wood Sandpiper, Greater Painted Snipe, Yellow-breasted Bunting, etc.. were recorded during our management work in agricultural land within the 300m Assessment Area, but it was not included in Appendix 3.3. Particularly, Yellow-breasted Bunting is listed "critically endangered" under IUCN Red List and is of conservation importance. We are doubtful that ranking agricultural land as "moderate" ecological value, under current baseline survey, may under-estimate the ecological value of agricultural land.



The Conservancy Association

3. Potential disturbance on ecological management work in adjacent agricultural land

Changing hydrology of adjacent agricultural land

The proposed ground level after land filling at the application site will be +7.8mPD. While we understand that such arrangement has considered adverse drainage effect due to climate change at the end of the 21st century (Section 3.5.2 of Planning Statement), we can foresee that agricultural land in the south of the site would become low-lying areas and flood risk could be further increased. Despite provision of Drainage Impact Assessment showing the change in flow path before and after the development, it seems that the projection of flow path is confined to the application site only but not adjacent area, particularly agricultural land mentioned above. As those agricultural land is under Nature Conservation Management Agreement project, such arrangement may hamper ecological management work in the area.

Irrigation water

We are also very concerned that land filling in the application site would also affect water source for irrigation purpose. Wet agricultural activities such as paddy field, watercress field, lotus/water lily ponds in those agricultural land rely much water during daily operation.

We wish to add that CA and Hong Kong Bird Watching Society have jointly worked out Nature Conservation Management Agreement Project in Ho Sheung Heung area for a long period of time. With a development project causing significant environmental impacts near Ho Sheung Heung, it is regret that there are no prior dialogue and discussion with green groups. As the application site is very close to 12 Priority Sites for enhanced conservation and also within Important Bird Area (under BirdLife International), its ecological and conservation importance should not be under-estimated. We would suggest that engaging stakeholders like green groups in early planning stage is necessary.

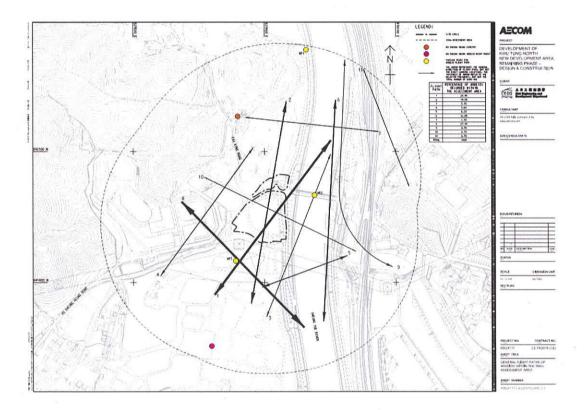
Yours faithfully,

The Conservancy Association





Figure 1 From the general flight path of ardeids with the 300m Assessment Area, at least 3 flight paths (accounting 40% of total flight lines) overlap the subject site



Appendix II-4 of RNTPC Paper No. A/KTN/104



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)

24th May, 2024.

RECEIVED 2 4 MAY 2024 Town Planning

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Dear Sir/ Madam,

<u>Proposed Filling of Land for Site Formation Works for Permitted Agricultural Use</u> (A/KTN/104)

1. We refer to the captioned.

2. We are concerned about the potential ecological impacts that would be caused by this project, and we would also like the Board to investigate whether the present Ecological Impact Assessment (EcoIA) can adequately assess the potential ecological impacts and propose sound mitigation measures for all possible/ potential ecological impacts (if needed).

3. The northern part of a Priority Site for Enhanced Conservation (hereafter called the Ho Sheung Heung (HSH) site) designated by the Government is located less than 50 m from the current application site, and there is a Management Agreement (MA) project at this HSH site at present, which is also aimed for nature conservation. According to one of the managing parties of this MA, Yellow-breasted Bunting and Greater Painted-snipe could be recorded within the 300-m assessment area of the EcoIA (The Conservancy Association Pers. Comm.). However, these two species of conservation importance were not recorded nor even mentioned in the present EcoIA. We visited the application site this week and we consider the marshy environment at the site can provide a suitable breeding habitat for the Greater Painted-snipe (see the setting of this marsh in **Figure 1**). In view of the proximity of the HSH site, we consider it is highly possible that the marsh within the application site can also be used by the Greater Painted-snipe (breeding or feeding). The EcoIA, however, does not even mention this bird species, and fails to mention the presence of Yellow-breasted Bunting, which is a Globally Critically Endangered species, at the nearby HSH site.



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

4. As you would have known, KFBG is conducting a territorial-wide Eurasian Otter survey and in February we observed a suspected secretion by otter on a riverside platform close to the application site (photos in **Figure 2**; location in **Figures 2** & **3**; DNA analysis is ongoing). Indeed, the Eurasian Otter would utilise watercourses (e.g., Ng Tung River) as their main movement corridors and there was also a sighting of otter in a fish pond to the southwest of Sandy Ridge (we call this area the Sandy Ridge Wetland Mosaic; **Figure 3**), which is just on the other side of Ng Tung River (to the northeast of the application site). The present EcoIA, however, does not mention otter, even the 300-m assessment area touching the edge of the Sandy Ridge Wetland Mosaic and well covering Ng Tung River.

5. Although not precisely reflected in the application title, the present application is intended to provide land for accommodating livestock farms, and as indicated in the drawings attached to this application, a multi-storey building (MSB) may be built for this purpose. In the impact assessment section of the EcoIA, we can see that MSB is mentioned. However, we would like the Board to seriously investigate with relevant parties as to whether the EcoIA has adequately provided any mitigation measures (if needed), or addressed the issues, relating to the potential MSB. We hope the Board can understand that ecological impacts caused by site formation are very different to those caused by a MSB (during both construction and operational phases; e.g., artificial light at night, noise and human disturbance).

6. The application site is adjacent to Ng Tung River. As shown in the aerial photo in **Figure 3**, there is no high-rise building along the western bank of Ng Tung River in the region at present. Has the EcoIA adequately assessed the potential ecological impacts (e.g., additional light and noise) caused by the potential MSB (e.g., disturbance impacts on the animals utilising the river)? Also, if there is a MSB, would the traffic there increase and would this increase the road-kill effects in the area and if yes, has this been adequately addressed? If the detailed design of the MSB is confirmed at a later stage, would there be another EcoIA to precisely address the potential ecological impacts that would be caused by the confirmed design? If there would not be such a further EcoIA, we urge the Board to seriously consider whether the present one is enough to address all possible/ potential ecological issues relating to the project.

7. The Application Site is not large but is undoubtedly located within an ecologically sensitive region (e.g., next to a Priority Site and potential otter movement corridor). The Northern Metropolis Development Strategy (NMDS) report also illustrates the presence of an ecological corridor extending from Deep Bay to Long Valley, which covers the present

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application site (**Figure 4**). We urge the Board to seriously consider how necessary it is to select the present application site for the aforementioned purpose. Why can't the application site be located in other areas with less ecological sensitivity? Couldn't more suitable alternative sites be found? Should it be located at another site? Is it the only site which can fulfill the purpose? Is filling a wetland for the aforementioned purpose in line with the National Policy of Ecological Civilisation, which is also a strategic direction of the NMDS? We urge the Board to seriously consider the above; indeed, it is hard for us to believe that it is the only suitable site that can be used for the aforementioned purpose.

8. Thank you for your attention.

Ecological Advisory Programme Kadoorie Farm and Botanic Garden

cc. The Conservancy Association Hong Kong Bird Watching Society



Figure 1. The marshy environment of the application site.



Figure 2. Suspected otter's secretion and its location (DNA analysis ongoing).



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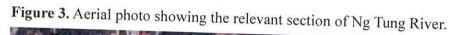
Figure 2. Cont'd.





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



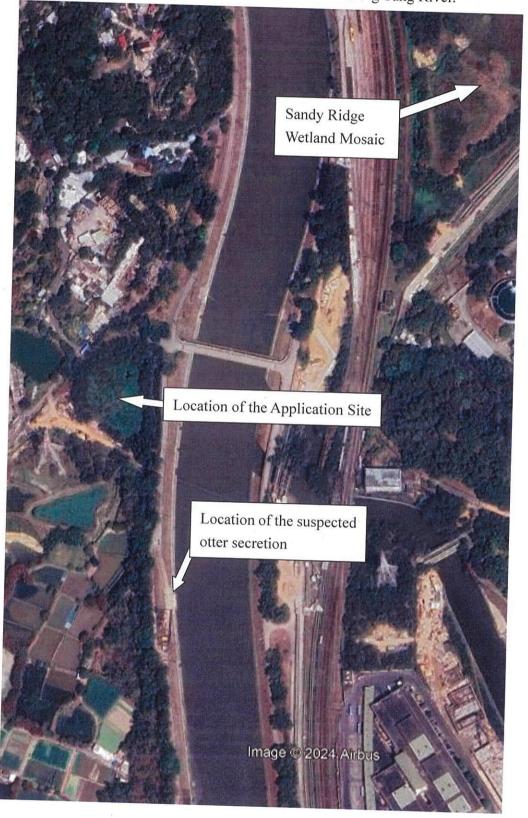
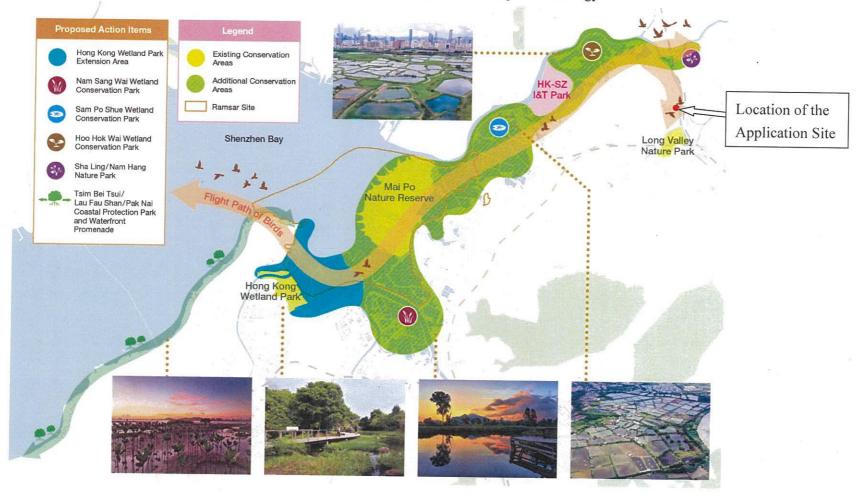




Figure 4. The ecological corridor illustrated in the Northern Metropolis Development Strategy.





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編號4650 P. 6/7

Appendix II-5 of RNTPC Paper No. A/KTN/104

致城市規劃委員會秘書:

專人送遞或郵遞:香港北角渣華道 333 號北角政府合署 15 樓 傳真: 2877 0245 或 2522 8426 電郵: tpbpd@pland.gov.bk

To : Secretary, Town Planning Board

By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong By Fax : 2877 0245 or 2522 8426

By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 The application no. to which the comment relates <u>A/KTN/104</u>

意見詳情(如有需要,請另頁說明)

Details of the Comment (use separate sheet if necessary)

32 11 「提意見人」姓名/名稱. Name of person/company making this comment 日期 Date _ 2024.5.8 簽署 Signature

Recommended Advisory Clauses

- (a) to note the comments of the Director of Environmental Protection:
 - (i) The applicant (i.e., Civil Engineering and Development Department) should be reminded to strictly comply with all relevant environmental pollution control ordinances and adopt suitable mitigation measures and good site practices during site formation or land/pond filling works, by making reference to the followings:
 - Recommended Pollution Control Clauses for Construction Contracts (available at: https://www.epd.gov.hk/epd/english/environmentinhk/eia_planning/gui de ref/rpc.html);
 - Professional Persons Environmental Consultative Committee (ProPECC) PN 2/23, "Construction Site Drainage" (available at: https://www.epd.gov.hk/epd/sites/default/files/epd/english/resources_pu b/publications/files/pn23_2.pdf)
 - Code of Practice on Handling Environmental Aspect of Temporary Uses and Open Storage Sites (available at: https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmenti nhk/eia_planning/guide_ref/files/cop.pdf)
 - (ii) For Agriculture, Fisheries and Conservation Department (AFCD) and Lands Department (LandsD)'s information, in order to address the potential environmental issues arising from the development of the future multi-storey building (MSB) livestock farm, EPD will impose relevant technical requirements such as quantitative odour impact assessment, noise impact assessment, hazard assessment, sewerage impact assessment and water quality impact assessments as conditions of coming land title documents / tenancy agreement / funding agreement / licence conditions when appropriate.
 - (iii) For future detailed design of the MSB livestock farm KTN-2, AFCD / future operator are reminded that the sewage generated from the livestock farm contains high levels of Nitrogen and Phosphate, the wastewater from the MSB livestock farm shall be properly pre-treated on-site before discharging to the public sewerage system and cannot be discharged into the stressed downstream water bodies. While the Site is currently in an unsewered area, it is understood from CEDD that relevant parties should explore options to provide sewerage infrastructure for the Site. The project proponent is reminded to consult Drainage Services Department (DSD) and his department on the sewerage and water quality issue in due course.
 - (iv) Incidentally, as the future proposed MSB livestock farm KTN-2 (despite not including in this s.16 application) is within Livestock Waste Control Areas, a livestock keeper must apply for licence from the AFCD and comply with the relevant environmental legislations in particular on Waste Disposal (Livestock Waste) Regulations (Cap. 354A).

- (b) to note the comments of the Chief Town Planner/Urban Design and Landscape of the Planning Department:
 - (i) With reference to the aerial photo of Feb 2023, the Site is situated in an area of rural landscape character predominantly comprising of farmlands, fishponds, woodland patches, a channelized river, government institutions/services, temporary vehicle parks/services and village houses. With reference to the aerial photos of Feb 2023 and Feb 2003, there is no significant change in the landscape character of the surrounding area. Compatibility of the proposed land/pond filling (for site formation works and construction of livestock farms in a multistore building) with the landscape character of the surrounding areas has to be assessed.
 - (ii) With reference to our site visit on 9.5.2024, the Northern Portion of the Site is covered by trees of common species in fair/poor condition. Several large size trees in fair condition (i.e. Acacia confusa, Eucalyptus spp., Ficus microcarpa and Ficus virens) are observed near the southeast boundary within the Site. For the Southern Portion, there is a large marsh/reed at the centre of the Site. Surrounding the marsh/reed are slopes covered with trees of common species in fair condition. Two large size trees (i.e. a Celtis sinensis and a Ficus microcarpa) are observed near the south/southeast boundary within the Site.
 - (iii) According to the Planning Statement (PS), a total of approximate 237 trees within the Site have been surveyed, including 190 nos. of undesirable species (*Leucaena leucocehpala*) (銀合歡). Three trees (i.e. a *Ficus microcarpa* (細葉榕) with DBH over 1000 mm and 2 other trees) would be retained. The rest of the trees (i.e. 44 nos.), which are common species and not suitable for transplantation, would be inevitably affected and proposed to be felled. Those trees would be compensated in a ratio of 1:1 in terms of number in an area near the Site as shown on the layout plan at Appendix M. In addition, trees and shrubs planting are proposed at areas zoned "O" as shown on Fig. 6.1 at Appendix L. Impact on the existing landscape resources within the Site (i.e. mainly on the marsh/reed and existing trees) arising from the proposed land/pond filling is anticipated.
- (c) to note the comments of the Commissioner for Transport that the applicant shall ensure there is no queuing of vehicles outside the Site, and the section of Ho Sheung Heung Road where the Site located is not managed by his department. The applicant shall seek agreement/comment from the responsible party.
- (d) to note the comments of the Chief Highway Engineer/New Territories West, Highways Department (HyD) that the existing rual track bisecting the Site is outside HyD's highway maintenance purview.
- (e) to note the comments of the Director of Food and Environmental Hygiene:
 - (i) No Food and Environmental Hygiene Department's (FEHD) facilities will be affected.
 - (ii) For any waste generated from the activity/operation, the applicant should arrange disposal properly at their own expenses.

- (iii) It shall be the due diligence of the applicant to make every effort to take precautionary measures and on related activities to prevent mosquito breeding and rodent infestation. Authority conferred by relevant legislation would be executed by his Department where situation warrants.
- (iv) The mosquito prevention and control work at public place would be conducted by FEHD regularly. These included but not limited to conducting fogging operations, spraying larvicide and distributing anti-mosquito promotional leaflets to villagers.
- (v) The proposed work and operation should be no encroachment on the public place and no environmental nuisance should be generated to the surroundings. Its state should not be a nuisance or injurious or dangerous to health and surrounding environment. For any waste generated from such activity/operation, the applicant should arrange disposal properly at their own expenses.
- (f) to note the comments of the Director of Electrical and Mechanical Services that in the interests of public safety and ensuring the continuity of electricity supply, the parties concerned with planning, designing, organizing and supervising any activity near the underground cable or overhead line under the mentioned document should approach the electricity supplier (i.e. CLP Power) for the requisition of cable plans (and overhead line alignment drawings, where applicable) to find out whether there is any underground cable and/or overhead line within and/or in the vicinity of the Site. They should also be reminded to observe the Electricity Supply Lines (Protection) Regulation and the "Code of Practice on Working near Electricity Supply Lines" established under the Regulation when carrying out works in the vicinity of the electricity supply lines.
- (g) to note the comments of the Commissioner of Correctional Services that considering the proximity between the future MSB and Lo Wu Correctional Institution, close ties among Correctional Services Department, other departments and contractors involved in the works, as well as the future tenants of the livestock farm should be built. Regular meetings among all stakeholders for the discussion of matters in relation to construction and future operation of the MSB should be held accordingly.
- (h) to note the comments of Chief Engineer/Construction, Water Supplies Department:
 - Proposed water mains laid/to be laid by CEDD Kwu Tung North First Phase Development may be affected (Annex I). The applicant is required to either divert or protect the water mains found on the Site.
 - (ii) If diversion is required, existing water mains inside the proposed site areas are needed to be diverted outside the site boundary of the Site to lie in Government land. A strip of land of minimum 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request will have to be borne by the applicant; and the applicant shall submit all the relevant proposal to WSD for consideration and agreement before the works commence.

- (iii) If diversion is not required, the following conditions shall apply:
 - Existing water mains are affected as indicated on the site plan and no development which requires resiting of water mains will be allowed.
 - Details of site formation works shall be submitted to the Director of Water Supplies for approval prior to commencement of works.
 - No structures shall be built or materials stored within 1.5 metres from the centre line(s) of water main(s) shown on the plan. Free access shall be made available at all times for staff of the Director of Water Supplies or their contractor to carry out construction, inspection, operation, maintenance and repair works.
 - No trees or shrubs with penetrating roots may be planted within the Water Works Reserve or in the vicinity of the water main(s) shown on the plan. No change of existing site condition may be undertaken within the aforesaid area without the prior agreement of the Director of Water Supplies. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barrier must extend below the invert level of the pipe.
 - No planting or obstruction of any kind except turfing shall be permitted within the space of 1.5 metres around the cover of any valve or within a distance of 1 metre from any hydrant outlet.
 - Tree planting may be prohibited in the event that the Director of Water Supplies considers that there is any likelihood of damage being caused to water mains.

