

WE ARE CREW

## WE ARE ECOLOGISTS

Coalition for Research on Ecology and Wildlife Limited

Email: crewildlife@gmail.com

Kwan On Construction Company Limited

# 20th Monthly Monitoring Report – May 2022

CEDD Contract No. GE/2018/01 Landslip Prevention and Mitigation Programme, 2017, Package K, Landslip Prevention and Mitigation Works—

Study Area 11NE-B/SA3, Razor Hill, Clear Water Bay Road

6 June 2022



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Independent Environmental Checker (IEC)

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20<sup>th</sup> Monthly Monitoring Report for Contract No. GE/2018/01 Landslip Prevention and Mitigation Programme, 2017, Package K, Landslip Prevention and Mitigation Works at Study Area 11NE-B/SA3, Razor Hill, Clear Water Bay Road

## 1. INTRODUCTION

Coalition for Research on Ecology and Wildlife Ltd. (CREW) was appointed by Kwan On Construction Company Limited to perform monthly monitoring on plant species of conservation importance within the Works Site as required in Clause 2.5 of the Environmental Permit No. EP-599/2018 for the Study Area 11NE-B/SA3, Razor Hill, Clear Water Bay Road (Figure 1).

This monitoring report covers on site observation made by the qualified plant specialist on 26<sup>th</sup> May 2022. Up-to-date information on conditions, number and locations of individuals of all plant species of conservation importance; as well as implementation of ecological mitigation measures within the Works Site is reported.

#### 2. RESULTS & RECOMMENDATIONS

#### 2.1 Plant Species of Conservation Importance

All individuals of the five recorded plant species of conservation importance (i.e., Aquilaria sinensis, Diospyros vaccinioides, Pavetta hongkongensis, Gnetum luofuense and Cibotium barometz) could be located at corresponding locations indicated by previously submitted detailed baseline vegetation survey report.

Setting up of plant protection zones is in progress. All those plant species of conservation importance yet to be fenced off; or temporarily fenced by camoflaging dark green net, shall be fenced of by eye-catching protection zones as for the newly discovered individuals as soon as possible.

Old borken eye-catching protection zones have been replaced by new set up.

Fine-tune rectification shall also be carried out to those protection zones that are not keeping 1.5m setback from stems of mature individuals, 1m from the seedlings and 1m setback from observable/ tracable crown spread of the climbing species *Gnetum luofuense*.

Locations of all recorded plant species of conservation importance are indicated in **Figure 1** and will be updated on top of the tree location plan once it is ready.

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Since vegetation clearance is under progress along the discovery of additional individuals of plant species of conservation importance, minimum trimming for necessary access among dense vegetation was confirmed by the plant specialist that no species of conservation importance (including non-tree species and seedlings) was disturbed. Extensive/ messy vines of C73 which may hinder a safe access along the working platform may be pushed aside/ tied up. A minimum pruning of small vines would be the last option.

Briefing have been given to site staff responsible for site clearance to ensure suspected additional individuals of plant species of conservation importance will be preserved first, until their identity is verified by the plant specialist.

Once eye-catching plant protection zones are set up for all recorded targets, their number tags and distribution map can be updated to match with the final quantity of protected plant individuals observed.

Details such as size, health condition, suitability of transplantation, etc. of the plant species of conservation importance under monitoring are listed in **Table 1** with their corresponding photographic records illustrated in **Plate 1**.

All mitigation measures recommended in the approved Project Profile (PP-599/2018) and Environmental Permit No. EP-559/2018; as well as notes in the Detailed Landscape Mitigation Plan shall be strictly followed.

Ecological, landscape and visual site audit checklist of proper implementation of relevant mitigation measures is attached as **Appendix I**.

No new sign of illegal harvest of Aquilaria sinensis since last incident on C09 and C78.

From old wounds observed in other *Aquilaria sinensis* trees during early stage of baseline survey, this site has been under threats of illegal harvesting. With the proposed slope works trying best to protect and preserve existing plant species of conservation importance, the client shall make good and prompt communication/ reporting to the relevant departments (including AFCD/ police force) in order to facilitate ad-hoc patrol enforcement and detail investigation.

Figure 1. Location of plant species of conservation importance within and in close vicinity of the proposed Works Site. One dot may represent more than one individual when a few are growing closely. The dots are not to scale but for indicative purpose only. Plant protection zones are not shown here but will be clarified separately by the Engineer on detailed Works Plans in larger scale. No works (e.g. soil nailing works) shall be carried out within plant protection zones of plant species of conservation importance indicated in this Figure.

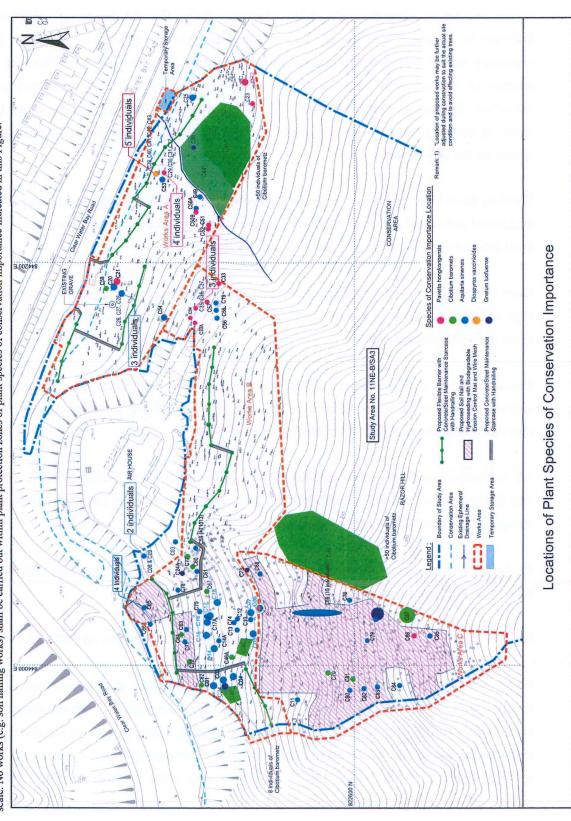


Plate 2. Photographic records of plant species of conservation importance detected within the Works Site. Eye-catching orange fence shall be set up as soon as possible for all recorded plants (in progress). Fine-tune rectification shall also be made in order to keep suitable setback distance from trunks/ stems (1.5m for mature stems; 1m from seedlings and the climber *Gnetum luofuense*).

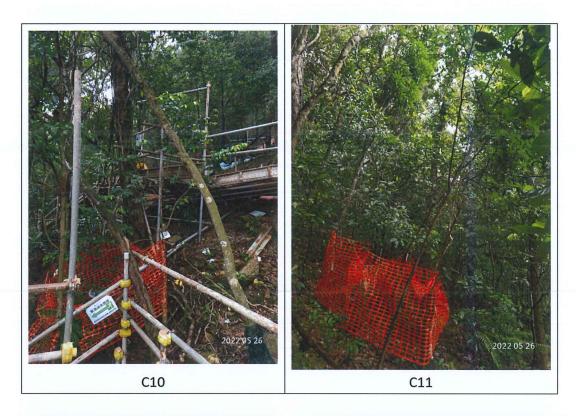






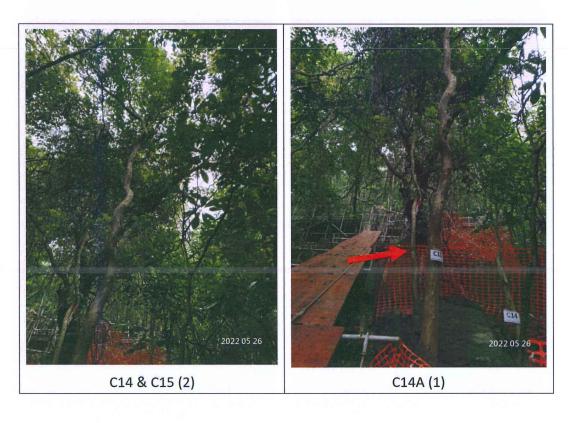


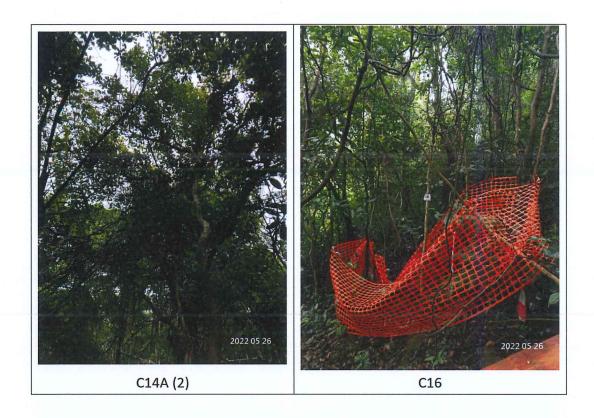
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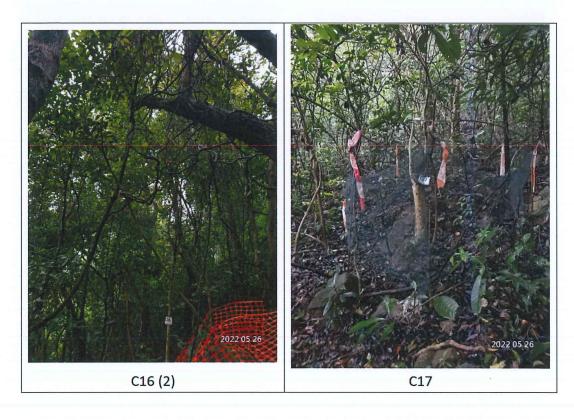




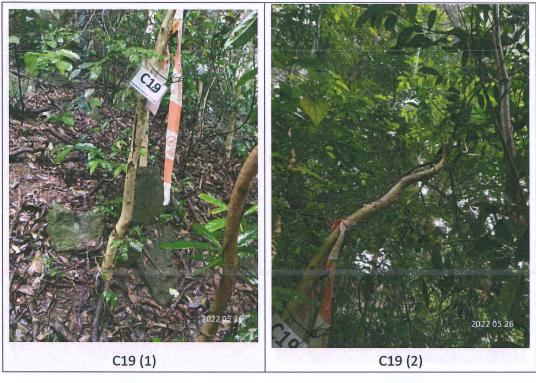




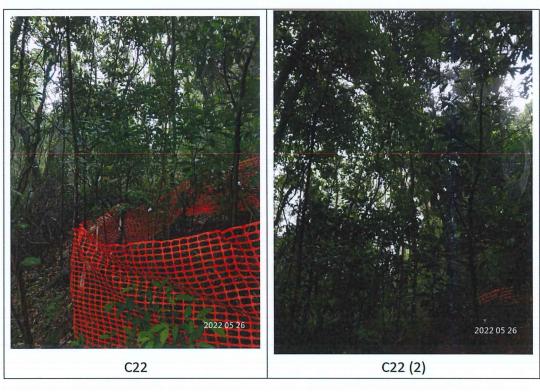




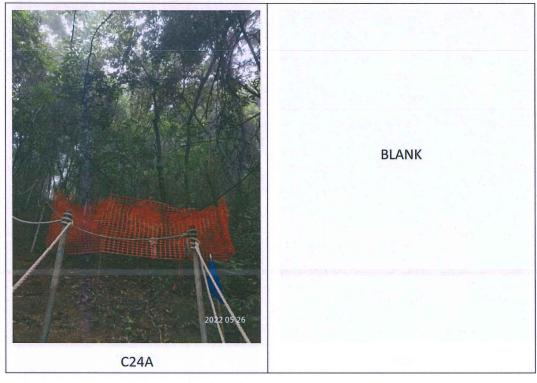






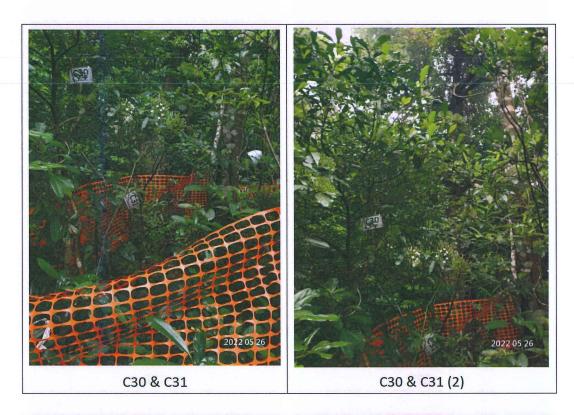


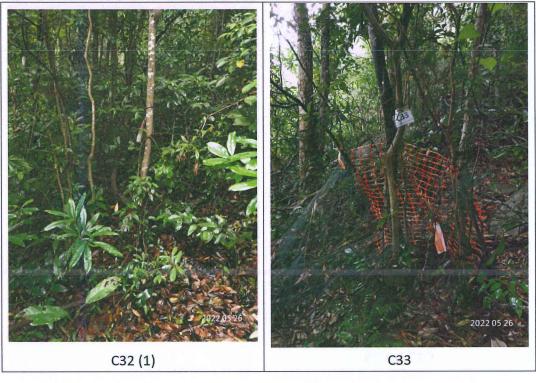


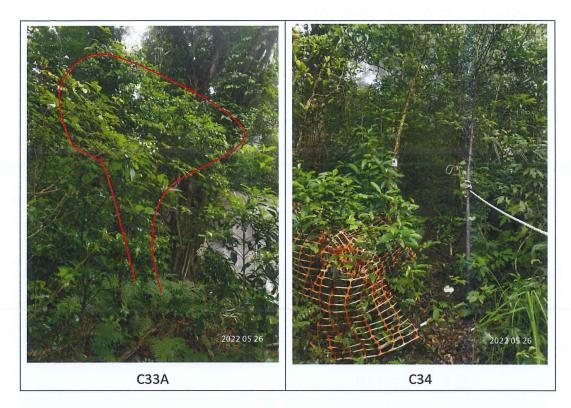




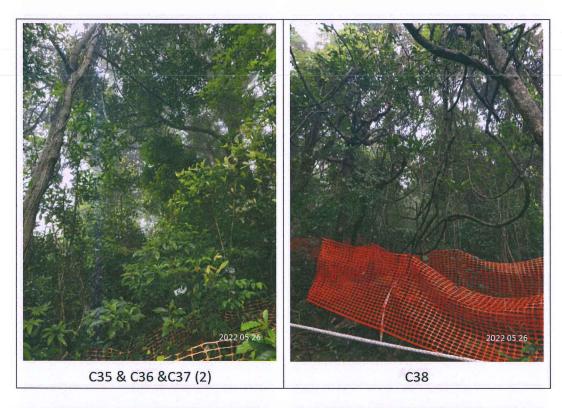


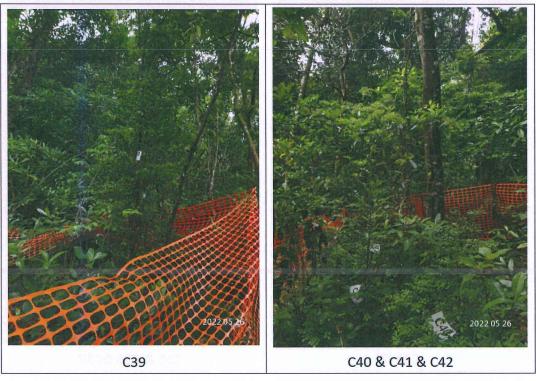




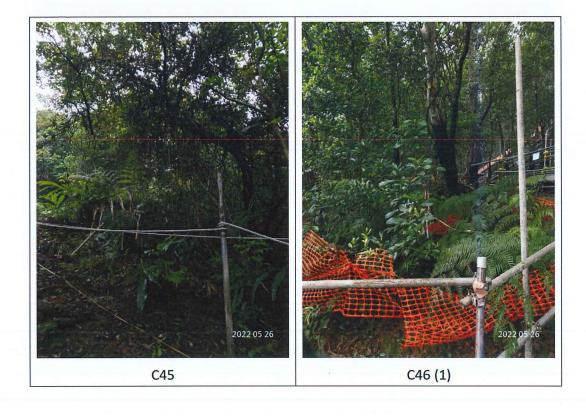


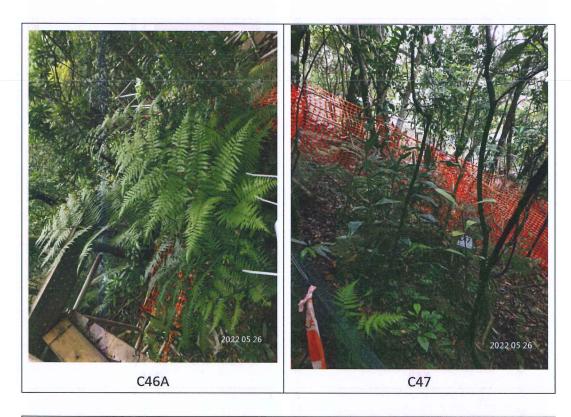










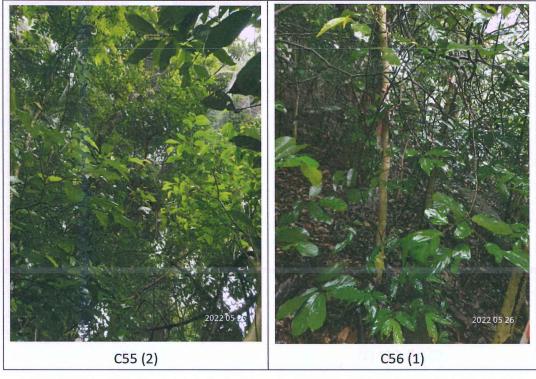




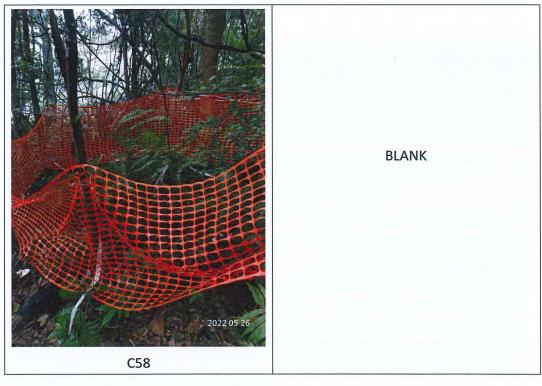






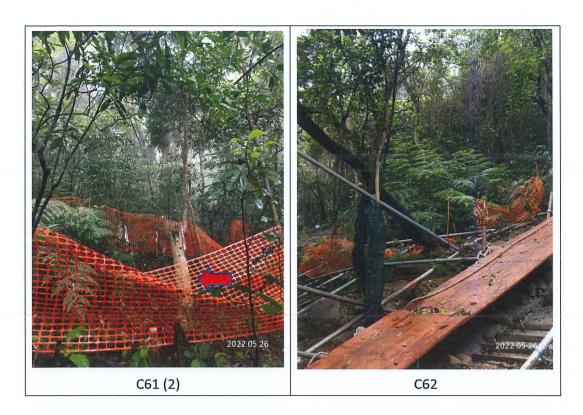


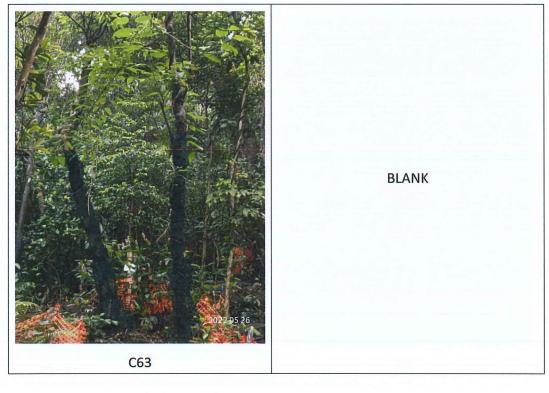


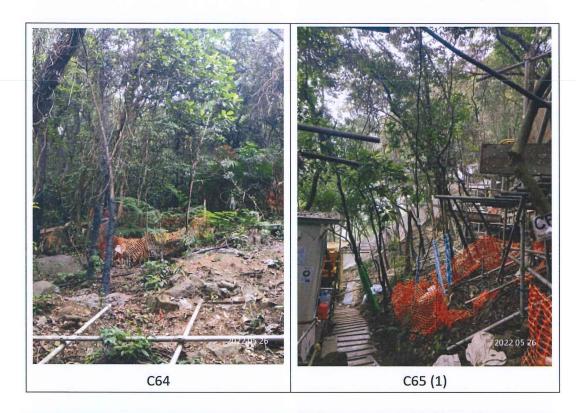


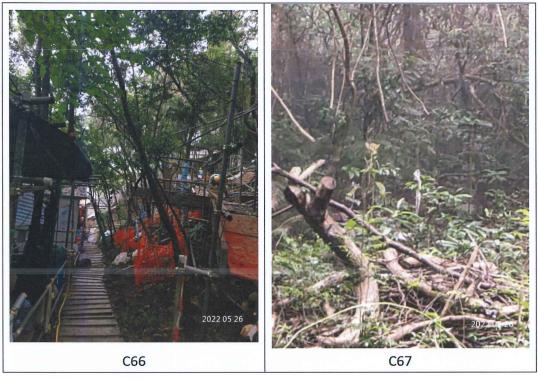




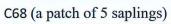














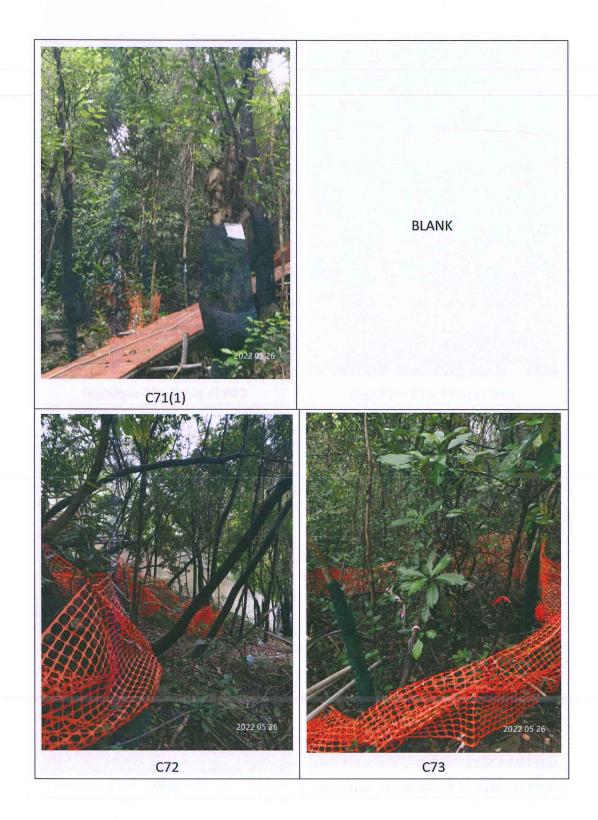
C68 (a patch of 5 saplings)



C69 (a patch of 15 seedlings/ saplings)



C70



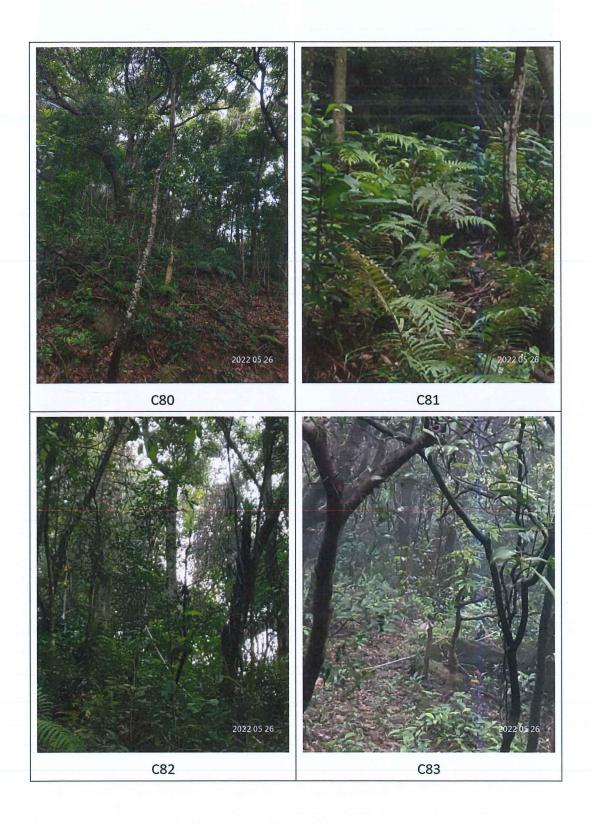




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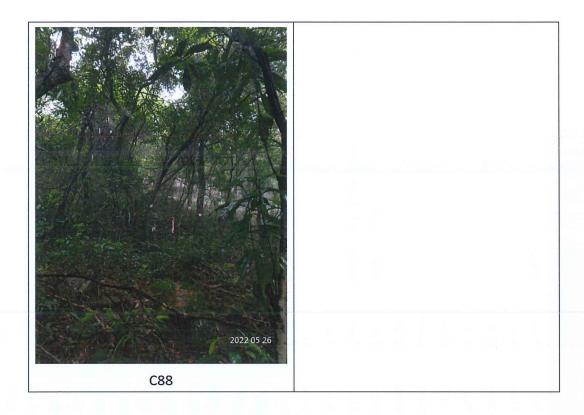


Table 1. Condition of all plant species of conservation importance recorded in present surveys.

								t trunk	Topped; wound at tree base																	
Remarks	Topped							Wound at trunk	Topped;			Topped	Topped					Topped								
Form & Structure	Poor	Fair	Cood	Fair	Cood	Cood	Cood	Fair	Poor	Fair	Cood	Poor	Poor	Fair	Cood	Cood	Cood	Poor	Cood	Fair	Fair	Fair	Good	Cood	Cood	Fair
Re-sprout? Health	Fair	Fair	Cood	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Fair	Fair	Fair	Cood	Cood	Cood	Fair	Cood	Fair	Fair	Fair	Good	Good	Good	Fair
Re-sprou	Yes	N <sub>o</sub>	No	No	No	No	No	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	No	No	No	No	No
DBH (mm)1	80	N/A	100	N/A	N/A	N/A	N/A	80	100	N/A	20	150	120	N/A	20	20	N/A	150	N/A	130	20	N/A	20	20	N/A	N/A
Crown (m)	1.5	1	3	1	1	1.5	1	2	0.5	2	2	1.5	2	2	3	3	2	3	1.5	3	2	1.5	2	30	3	N/A
Height (m)	4	2.5	9	1.5	1.7	3	2.5	Ŋ	3	3	4	2	3	1.5	7	7	S	4	2	∞	52	3	9	r <mark>0</mark>	4	N/A
No.	C01	C02	C03	C04	C05	90D	C07	C08	60D	C10	C11	C12	C13	C14	C14A	C15	C16	C17	C17A	C18	C19	C20	C21	C22	C23	C24
Chinese name	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	土沉香	香港大沙葉	土沉香	香港大沙葉	香港大沙葉	羅浮買麻藤								
Species name	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Pavetta hongkongensis	Aquilaria sinensis	Pavetta hongkongensis	Pavetta hongkongensis	Gnetum luofuense								

Species name	Chinese name	No.	Height (m)	Crown (m)	DBH (mm) <sup>1</sup>	Re-sprout <sup>2</sup> Health	<sup>2</sup> Health	Form & Structure	Remarks
Gnetum luofuense	羅浮買麻藤	C24A	N/A	N/A	N/A	No	Fair	Fair	
Aquilaria sinensis	土沉香	C25	1.5	1	N/A	No	Good	Good	
Aquilaria sinensis	土沉香	C26	2	1	N/A	No	Good	Good	
Aquilaria sinensis	土沉香	C27	4	1.5	N/A	No	Good	Cood	
Aquilaria sinensis	土沉香	C28	2	1	N/A	Yes	Fair	Fair	Topped
Pavetta hongkongensis	香港大沙葉	C29	2	1.5	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C30	3	2	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C31	2	1	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C32	2	1	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C33	9	3	09	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C33A	^	4	80	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C34	^	3	20	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C35	3	2	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C36	1.5	2	N/A	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C37	4	2	N/A	No	Good	Good	
Gnetum luofuense	羅浮買麻藤	C38	N/A	N/A	N/A	No	Fair	Fair	
Diospyros vaccinioides	小果柿	C39	4	2	N/A	No	Good	Good	
Diospyros vaccinioides	小果柿	C40	0.5	0.5	N/A	No	Good	Good	
Diospyros vaccinioides	小果柿	C41	0.5	0.5	N/A	No	Good	Good	
Diospyros vaccinioides	小果柿	C42	0.5	0.5	N/A	No	Good	Good	
Diospyros vaccinioides	小果柿	C43	0.5	0.5	N/A	No	Good	Good	
Cibotium barometz	金毛狗	C44	N/A	N/A	N/A	N/A	Good	Good	In patch
Cibotium barometz	金毛狗	C45	N/A	N/A	N/A	N/A	Good	Good	In patch
Cibotium barometz	金毛狗	C46	N/A	N/A	N/A	N/A	Good	Cood	In patch
Cibotium barometz	金毛狗	C47	N/A	N/A	N/A	N/A	Good	Cood	In patch
Cibotium barometz	金毛狗	C48	N/A	N/A	N/A	N/A	Good	Good	In patch
Aquilaria sinensis	土沉香	C49	3	3	300	Yes	Fair	Poor	Topped

Species name	Chinese name	No.	Height (m)	Crown (m)	DBH (mm) <sub>1</sub>	Re-sprout <sup>2</sup> Health	: Health	Form & Structure	Remarks
Aquilaria sinensis	土沉香	C50A	3	1.5	N/A	No	Cood	Cood	
Pavetta hongkongensis	香港大沙葉	C50B	1.5	0.5	N/A	No	Good	Cood	
Pavetta hongkongensis	香港大沙葉	C51	4	2	N/A	No	Good	Cood	
Pavetta hongkongensis	香港大沙葉	C52	2	$\vdash$	N/A	No	Good	Good	
Aquilaria sinensis	土沉香	C53	1.5	2	N/A	Yes	Fair	Poor	Topped
Aquilaria sinensis	土沉香	C54	0.5	0.5	N/A	No	Good	Good	
Aquilaria sinensis	土沉香	C55	5	2	20	No	Good	Cood	
Aquilaria sinensis	土沉香	C56	5	3	20	No	Good	Good	
Pavetta hongkongensis	香港大沙葉	C57	9	3	70	No	Good	Good	
Cibotium barometz	金毛狗	C58	N/A	N/A	N/A	N/A	Good	Cood	In patch
Aquilaria sinensis	土沉香	C59	8	2	250	Yes	Fair	Poor	i.e., T1013; Topped
Cibotium barometz	金毛狗	09O	N/A	N/A	N/A	N/A	Cood	Cood	In patch
Aquilaria sinensis	土沉香	C60A	3	2	100	Yes	Fair	Poor	Topped
Aquilaria sinensis	土沉香	C60B	2	1	N/A	Yes	Fair	Poor	Topped
Aquilaria sinensis	土沉香	C61	7	3	200	Yes	Fair	Poor	Topped
Cibotium barometz	金毛狗	C62	N/A	N/A	N/A	N/A	Fair	Fair	
Aquilaria sinensis	土沉香	C63	4	3	100	Yes	Fair	Poor	Topped
Cibotium barometz	金毛狗	C64	N/A	N/A	N/A	N/A	Good	Cood	In patch
Aquilaria sinensis	土沉香	C65	8-9	34	50-150	No	Good	Fair	3 saplings and 1 mature tree
Aquilaria sinensis	土沉香	99 <b>)</b>	2	4	80	No	Fair	Fair	Opposite to T492
Cibotium barometz	金毛狗	C67	N/A	N/A	N/A	N/A	Fair	Fair	
Aquilaria sinensis	土沉香	890	3-4	1-2	20-50	No	Fair	Fair	5 saplings
Aquilaria sinensis	土沉香	690	1.5-6	1-4	10-50	No	Fair	Fair	15 seedlings and saplings
Cibotium barometz	金毛狗	C70	N/A	N/A	N/A	N/A	Good	Good	In patch
Aquilaria sinensis	土沉香	C71	7	2	20	No	Fair	Fair	
Cibotium barometz	金毛狗	C72	N/A	N/A	N/A	N/A	Fair	Fair	In patch
Gnetum luofuense	羅浮買麻藤	C73	N/A	N/A	N/A	N/A	Fair	Fair	

Downstaller		In patch	Topped		In patch	Topped	Topped	Topped								
Form &	Structure	Fair	Poor	Fair	Fair	Poor	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
. Usalth	, neam	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Do comment	ne-sprour- neam	N/A	Yes	No	N/A	Yes	Yes	Yes	N/A	No	No	No	No	No	N/A	N/A
DBH	(mm)1	N/A	100	20	N/A	N/A	120	180	N/A	80	120	120	130	120	N/A	N/A
Crown	(m)	N/A	3	3	N/A	1	2	2	N/A	1	7	7	3	3	N/A	N/A
Height	(m)	N/A	S	9	N/A	2	3	3	N/A	8	8	3	S	4	N/A	N/A
ZIZ	NO.	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84	C85	98D	C87	C88
0.000 Caristo	Curnese name	金毛狗	土沉香	土沉香	金毛狗	土沉香	土沉香	土沉香	金毛狗	土沉香	土沉香	土沉香	土沉香	香港大沙葉	金毛狗	羅浮買麻藤
S. Consolidation of the consol	Species name	Cibotium barometz	Aquilaria sinensis	Aquilaria sinensis	Cibotium barometz	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Cibotium barometz	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Aquilaria sinensis	Pavetta hongkongensis	Cibotium barometz	Gnetum luofuense

Notes: 1. Presence of re-sprout was generally resulted from heavy trunk damage, e.g., topping, from previous logging activities.

<sup>2.</sup> DBH was measured for sizeable individuals. Base diameter of the main stem was measured instead if the trunk was seriously damaged. DBH & crown are not applicable seedlings or saplings.

## Appendix I

Ecological, landscape and visual site audit checklist of proper implementation of relevant mitigation measures

# Ecological, Landscape and Visual Site Audit Checklist for Study Area 11NE-B/SA3, Catchment No. 11NE-B/DF5, DF5a & OH3 at Razor Hill, Clear Water Bay Road, Sai Kung

Site Auditor:		Wan P	ak Ho
Date of Site Audit:	26 May 2022	Weather Condition:	Rainy
Time of Site Audit:	10:30	Humidity:	<u>High</u> / Moderate / Low
Temperature:	29 °C	Wind:	Calm / <u>Light</u> / Strong

No.	Description	N/A	Yes	No	Remarks
E1	Trunks of existing trees should be wrapped in hessian (as a form of protective wrapping) in accordance with GEO Publication No. 1/2011 to avoid mechanical damage to the tree trunks. Hessian should be provided by the Contractor prior to the commencement of site clearance, demolition and construction of the hazard mitigation works (HMW). The contractor will also be required to comply with specifications on Preservation and Protection of Trees in the General Specification for Civil Engineering Works (GS). Reference will also be made to Development Bureau's Technical Circular (Works) No. 4/2020 on Tree Preservation and Guidelines on Tree Preservation during Development.		<b>√</b>		Tree survey/ tagging/ trunk wrapping is in progress
E2	Conduct a detailed baseline tree survey with provision of tree tags by competent personnel		<b>✓</b>		In progress
E3	Conduct a baseline survey to update, confirm and access the condition of plant species of conservation importance. A final reassessment on their condition shall be carried upon completion of works.		<b>✓</b>		
E4	Same protection measures will be implemented to protect any additional individuals of plant species of conservation importance identified during monthly monitoring/ site audit and likely to be affected by the works during construction phase.		<b>✓</b>		In progress
E5	Conduct a monthly monitoring of every individual of the plant species of conservation importance within the works area to ensure their condition and healthiness. Photographic records shall be provided. Such monthly monitoring works/ site audit will be carried out by plant specialist during construction phase and endorsed by an IEC.		<b>✓</b>		
E6	A Final Monitoring Report summarizing major findings of the baseline report and all the monthly monitoring reports to document the plant protection and monitoring works throughout construction phase will be submitted.	<b>✓</b>			
E7	Provide an induction training to all site personnel (both supervisory staff and workers) in order to brief them on the importance of protecting plants of conservation importance within and adjacent to the works area.		<b>✓</b>		
E8	Tree pruning, if required, shall be kept to a minimum. The extent of tree pruning will be determined on site by the Engineer together with the qualified arborist. Tree pruning shall be complied with "General Guidelines on Tree Pruning" promulgated by GLTMS of DEVB. Application would be submitted to the relevant District Lands Office should tree pruning be required. The pruning works will be carried out by qualified personnel and supervised by qualified arborist or ecologist on site. This is important to ensure no trees' canopies will be over-pruned or adversely impacted due to malpractice of tree works. If any trees deteriorate after pruning and need to be removed due to safety reason during construction phase, formal tree removal application with compensatory planting proposal(s) should be prepared in accordance with Development Bureau's Technical Circular (Works) No. 4/2020 on Tree Preservation and submitted to relevant authorities for approval before any tree removal on site. No plant species of conservation importance could be pruned or affected by this work.	✓			

No.	Description	N/A	Yes	No	Remarks
	The following good site practice shall be implemented during the construction phase for the proposed works to avoid and minimize the potential disturbance to the surrounding habitats:				
	<ul> <li>Temporary works area for stockpile and access routes to be selected shall be far away from the identified plant species of conservation importance and shall at existing disturbed land where possible to minimize disturbance to vegetation;</li> </ul>				
	<ul> <li>Construction activities will be restricted within the Works Area;</li> </ul>				
E9	<ul> <li>Temporary works area will be reinstated immediately after completion of the construction works;</li> </ul>		<b>✓</b>		
	<ul> <li>Disposal and treatment of waste will be carried out timely and properly;</li> </ul>				
	Open fires will be strictly prohibited to prevent any risk of hill fire;				
	<ul> <li>Fire-fighting equipment should be provided in the Works Area before the commencement of works;</li> </ul>				
	<ul> <li>Proper implementation of the above mitigation measures shall be supervised by the resident site personnel.</li> </ul>				
MC1	Retain all trees and plant species of conservation importance.		1		
MC2	Adjust alignment/ location of works design to avoid disturbance to retained trees and plant species of conservation importance.		~		
МСЗ	Set up TPZ (1.5m from trunk/ half dripline, whichever is the greater) for common trees. Not more than one-third of root system of common tree species would be affected. For existing trees with DBH 0.3m or above, full dripline for the downhill side would be maintained.	1			Tree survey/ tagging in progress
MC4	Set up tagged TPZ for all recorded plant species of conservation importance. TPZ should be at least 1.5m setback from stems of mature individuals, and areas within 1m radius from the seedlings, ferns, herbs or climbers.	=1=	1		Improvement in progress
MC5	Bridging over extensive tree roots by steel maintenance access/ staircase.	<b>✓</b>			
MC6	Establish temporary scaffolding and working platforms to further reduce impacts on existing trees.	Section 200	1	Any section	
MC7a	Temporary access for manual delivery of equipment and bridge over ephemeral drainage line.	<b>✓</b>			
MC7b	Orange net with a minimum clearance of 1.5m from both sides of the ephemeral drainage line to act as a no construction zone.	<b>✓</b>			
MC7c	Anchor locations should avoid drilling at ephemeral drainage line.	1			
MC8	Hoarding with decorative panels set up at temporary storage area and works boundary.		1		

No.	Description	N/A	Yes	No	Remarks
MC9	Planting with subsequent maintenance of native seedling trees before commencement of soil nailing works as compensatory measure. Tentative planting area to be confirmed.		<b>✓</b>		Trial in progress
MO1	Apply subdued colour paint to posts of flexible barrier.	<b>✓</b>		E.	
MO2	Conduct hydroseeding with native shrubs planting in soil nailing area according to submitted planting schedule.	<b>✓</b>			
МОЗ	Conduct shrub planting in front of flexible barrier for screening purpose according to submitted planting schedule.	<b>✓</b>			
MO4	Look after landscape works under Establishment/ Maintenance Period	<b>✓</b>			

### Remarks / Recommendations for Contractor

#### **Observation/ Comment**

Obs 1: E4 - All individuals of plant species of conservation importance identified during monthly monitoring/ site audit shall be fenced off by eye-catching orange net as soon as possible, including C79-C83 and C88.

Obs 2: MC4 - Temporary dark green fencing will be replaced by eye-catching orange net as soon as possible. Any fallen log collapsed into the protection zones shall be removed with cautions. Any collapsed fence shall be rectified promptly (against weathering, fallen logs, as well as works activities like setting up temporary working platform).

Broken existing orange fence have been replaced by new set up.

Remark1: MC9 – The Contractor is reminded to provide designated planting zone, planting quantity and species composition of planting matrix of native seedlings after the trial period.

Signatures:

Ecologist/ Plant Specialist of Environmental Team/ Designated Staff	Contractor's Representative/ Designated Staff	IEC's Representative/ Designated Staff
Alon.		6
Name: WAN PAK HO	Name: Candace Lee	Name: SHUM TING WING