



AUES

Cheung Chau Submarine Cable System

Pre-Installation Coral Survey Report

Oct 2022

Our Ref: TCS01273/22/300/L0003

Hong Kong Telecommunications HKT) Limited

8/F, Lai Chi Kok Engineering Centre II

4 Yuet Lun Street

Lai Chi Kok

Kowloon

Attn: Mr. Cliff Ko

14 October 2022

By email only

Dear Sir,

**Re: Cheung Chau Submarine Cable System
Environmental Permit No. EP-612/2022
Certification of Pre-Installation Coral Survey Report**

We herewith certify captioned report, pursuant to Condition 1.9 of Environmental Permit No. EP-612/2022.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or Email: twtam@fordbusiness.com.

Yours sincerely,

For and on Behalf of

Action-United Environmental Services & Consulting (AUES)



Tam Tak Wing

Environmental Team Leader

cc SMEC (IEC)

Ms. Cindy CHUNG

by e-mail



Member of the Surbana Jurong Group

local people
global experience

Our Ref: 7076911/L29121/AB/TSC/PL/rw

13 October 2022

Hong Kong Telecommunications (HKT) Limited
8/F, Lai Chi Kok Engineering Centre II
4 Yuet Lun Street
Lai Chi Kok
Kowloon
Hong Kong

By Email Only
(cliff.mk.ko@pccw.com)

Attention: Mr. Cliff KO

Dear Sir

**Cheung Chau Submarine Cable System
Verification of Pre-Installation Coral Survey Report**

Reference is made to the *Pre-Installation Coral Survey Report* dated 13 October 2022, submitted by the Environmental Team via e-mail on 13 October 2022.

We hereby verify the said Pre-Installation Coral Survey Report has complied with the requirement as set out under Condition 3.3 of the Environmental Permit.

Thank you very much for your kind attention. Please do not hesitate to contact the undersigned should you have any queries.

Yours faithfully

Cindy CHUNG
Independent Environmental Checker

cc: AUES Ms. Nicola HON

(By Email: nicolahon@fordbusiness.com)

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Summary

- The Pre-installation Spot Dive Survey was carried out at the shore of Pak Tso Wan on 28th September 2022.
- A total of five hard coral colonies were recorded during the spot dive survey and no coral colonies were found along the cable alignment.
- All corals recorded in the survey area are common species in Hong Kong water.

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1. Introduction

- 1.1 In support of the Government's policy initiative, the Office of the Communications Authority (“OFCA”) has implemented the “Subsidy Scheme to Extension Fibre-based Networks to Villages in Remote Areas” (“the Scheme”). The Scheme comprises six projects and Hong Kong Telecommunications (HKT) Limited (“HKT”) has been awarded “Project 6”, which includes the Cheung Chau Submarine Cable System (“the Project”). The Project will provide a submarine fibre-optic telecommunications cable system from Tai Long Wan (“TLW”) at the Chi Ma Wan Peninsula on southern Lantau Island to Pak Tso Wan (“PTW”) at western Cheung Chau.
- 1.2 The Project includes the offshore and shore-end sections of a cable, approximately 4.4km in length with a diameter of 60mm, buried below the seabed that lands at TLW on Lantau Island and at PTW on Cheung Chau. Installation is scheduled to be completed in the fourth quarter of 2022 and the system is planned to be in service by the fourth quarter of 2022.
- 1.3 Direct impact on coral communities caused by cable laying works during the construction and operation is not likely. However, coral colonies were recorded in the near shore area of PTW, as a precautionary measure a Pre-installation Coral Survey and a Post-project Coral Survey shall be carried out.
- 1.4 The Pre-installation Coral Survey aims to identify the locations of any corals in the near shore area of PTW that are in proximity to the proposed cable alignment and to confirm a cable alignment that avoid direct impact to the coral colonies as far as possible. This report presents the findings of the Pre-installation Coral Survey conducted in the near shore area of PTW.

2. Methodology

- 2.1 One subtidal spot dive survey will be carried out in the near shore area of PTW in proximity to the proposed cable alignment (Figure 1) prior to the installation of the proposed cable. For each coral colony found, the following data should be recorded:
- GPS location
 - Species identification to genus or species level, as far as practicable
 - sizes (e.g. maximum diameter) and health of identified corals (e.g. degree of sedimentation, partial mortality, sign of bleaching)
 - Photographic record
 - Survey date and time
 - Underwater visibility
 - Atmospheric, sea and tidal conditions

3. Result

- 3.1 The Pre-installation Coral Survey was carried out on 28th September 2022 and the weather conditions were summarized in **Table 1**.

Table 1 Weather Condition for the spot dive survey on 28th September 2022

Date	Condition	Average Underwater Visibility
28 th September 2022	- Northeast force 5 to 6 - Sunny period - Tidal level 2.08m	Less than 10 cm

3.2 Spot dive survey were carried out from 09:00 to 12:30 on 28th September 2022 in PTW (Figure 1). The average depth during the dive survey was about 3 m.

3.3 The survey area is mainly composed of sandy bottom with scattered boulders and rocks along the shore area of PTW. Some abandoned nets were found in the survey area. Because of the strong winter monsoon, the sea condition was so rough and the average visibility along the survey area was less than 10 cm during the dive survey.

3.4 No soft coral or gorgonian coral was recorded during the spot check survey. However, dead gorgonian coral *Echinomuricea sp.* was recorded. Five hard coral colonies with two species were recorded (at least 15 m away from the cable alignment) during the spot dive survey (**Table 2**) including one colony of *Oulastrea crispata* and four colonies of *Favites acuticollis*. Their GPS coordinates, size and health condition were recorded in **Table 2**. Photos of each coral colony were shown in Photo **Plate A**. All corals recorded in the survey area are common species in Hong Kong water.

Table 2 GPS Coordinates, Size and Health Condition of Recorded Coral Colonies during Spot Dive Survey

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates	
1	<i>Oulastrea crispata</i>	8	0	0	0	22°11'50.21N	114°01'17.43E
2	<i>Favites acuticollis</i>	15	0	0	0	22°11'50.00N	114°01'17.03E
3	<i>Favites acuticollis</i>	19	0	0	0	22°11'49.90N	114°01'16.88E
4	<i>Favites acuticollis</i>	16	0	0	0	22°11'49.78N	114°01'16.69E
5	<i>Favites acuticollis</i>	22	0	0	0	22°11'49.12N	114°01'16.02E

4. Discussion

4.1 The bottom substrates of the survey site were mainly composed of sandy bottom with scattered boulders and rocks. A total of 5 hard coral colonies were recorded during the spot dive survey. All coral recorded during the survey are in good health condition and at least 15 m away from the cable alignment. No rare animals were recorded. They are all common species and found in very low abundance and diversity.

4.2 No coral colonies were recorded along the cable alignment. A post-installation survey will be conducted to verify the health condition of the recorded hard coral colonies after the cable laying work.

5. References

Brian Morton and John Morton. 1983. *The Sea Shore Ecology of Hong Kong*. Hong Kong University Press.

Binnie Consultants Limited. 1995. Marine Ecology of Hong Kong: Report on Underwater Dive Surveys. Volume I. Civil Engineering Department Geotechnical Engineering Office

Chan A.L.K., Choi, C.L.S., McCorry D., Chan K.K., Lee, M.W., and Put, A. Jr. 2005. *Field Guide to Hard Corals of Hong Kong*. AFCD.

END

Figure 1 Spot Dive Survey Location PTW

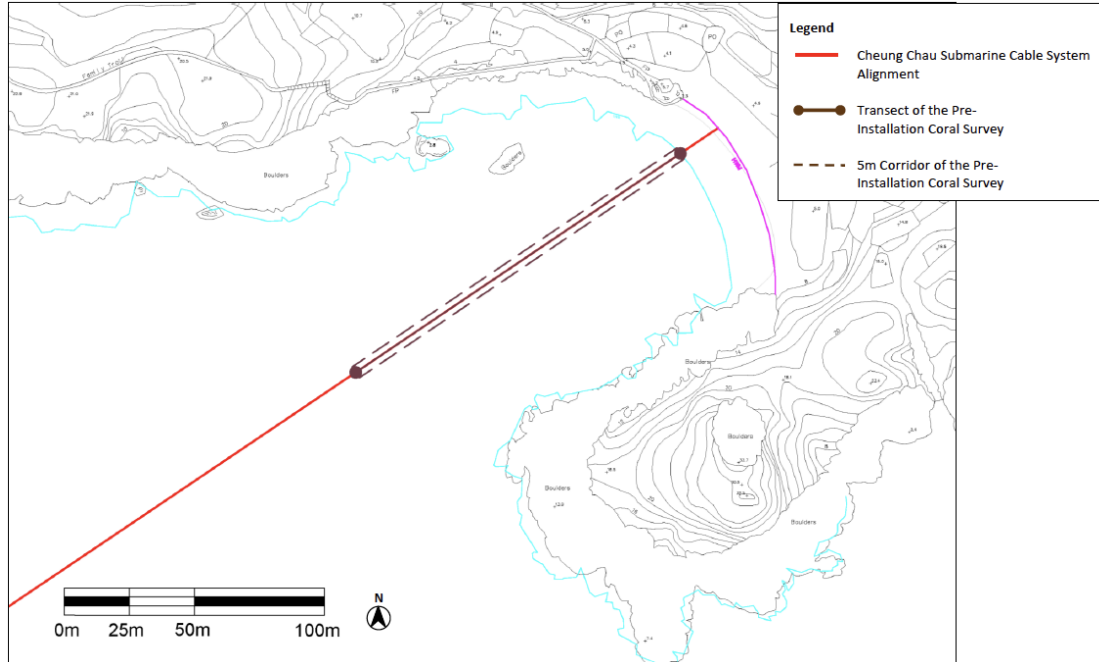








PHOTO PLATE A

	
Dead <i>Echinomuricea</i> sp.	Coral #1 <i>Oulastrea crispata</i>
	
Coral #2 <i>Favites acuticollis</i>	Coral #3 <i>Favites acuticollis</i>
	
Coral #4 <i>Favites acuticollis</i>	Coral #5 <i>Favites acuticollis</i>