AECOM

South East Asia – Japan 2 Cable System – Hong Kong Segment (SJC2-HK) – Chung Hom Kok

This Submission of Pre-installation Coral Survey Report on 15 April 2021 has been reviewed and certified by the Environmental Team Leader (ETL) in accordance with Condition 3.5 of the Environmental Permit No. EP-572/2020 of the Project.

Reviewed & Certified:

Lemon Lam
Environmental Team Leader (ETL)

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15 April 2021

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By Email Only
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Attention: Mr. David LIM

Dear Sir

South East Asia – Japan 2 Cable System – Hong Kong Segment (SJC2-HK) – Chung Hom Kok
Verification of Pre-Installation Coral Survey Report

Reference is made to the *Pre-Installation Coral Survey Report* dated April 2021, submitted by the Environmental Team via e-mail on 15 April 2021.

We hereby verify the said Pre-Installation Coral Survey Report has complied with the requirement as set out under Condition 3.5 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: AECOM Ms. Lemon LAM (By Email: lemon.lam@aecom.com)

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South East Asia – Japan 2 Cable System –Hong Kong Segment (SJC2-HK) – Chung Hom Kok

Pre-Installation Coral Survey Report

ECO-ENVIRO CONSULTANTS COMPANY

April 2021

Survey Conducted by Mr. Keith Kei
A Marine Ecologist with extensive experience in marine ecology, particularly in assessment and management of corals in Hong Kong.

Summary

- The Pre-installation Spot Dive Survey was carried out at the shore of Sha Shek Tan.
- A total of twenty-five hard coral colonies were recorded during the spot dive survey and no coral colonies were found along the cable laying work area.
- Except the undescribed species, *Coscinaraea* sp., all corals recorded in the survey area are common species in Hong Kong water.

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Tables and Figures

1. Introduction

1.1 The South-East Asia Japan Cable System (SJC) is a submarine telecommunications cable connecting Japan, China, Hong Kong, the Philippines, Brunei, Thailand, Singapore and Indonesia, which was completed in 2013. Construction of the second South East Asia – Japan Cable System (SJC2) is now proposed and this Project comprises the Hong Kong Segment of SJC2. The SJC2-HK Cable will provide Hong Kong with faster and more diverse international telecommunications services and will help to meet the growing demand for greater bandwidth. Installation is scheduled to be completed and the system planned to be in service by 2021.

1.2 Buried below the seabed, the SJC2-HK Cable enters the eastern waters of Hong Kong, follows the established "east-west cable corridor (south)" and lands at an existing Beach Manhole (BMH) at Sha Shek Tan Beach (SST Beach) on the Chung Hom Kok (CHK) peninsula, which is at the south side of Hong Kong Island. This is the same landing location of the existing SJC Cable and other cables, including City-to-City Cable System ("C2C") and the East Asia Crossing + C2C cable system ("EAC C2C").

1.3 Direct impact on coral communities caused by cable laying works during the construction and operation is not likely. However, hard corals were recorded in the near shore are of SST, 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 SST that are in proximity to the proposed cable alignment and to confirm that none will be directly impacted by cable installation works. This report presents the findings of the Pre-installation Coral Survey conducted in the near shore area of SST

2. Methodology

2.1 One subtidal spot dive survey will be carried out in the near shore area of SST in proximity to the proposed cable alignment, covering Station 2 and Station 3 (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 13th April 2021 and the weather conditions were summarized in **Table 1**.

Table 1 Weather Condition for the spot dive survey on 13th April 2021

Date	Condition	Average Underwater Visibility
13th April 2021	- South Wind force 3 to 4, - Sunny period - Tidal level 2.06m	Less than 0.5 m

3.2 Spot dive survey were carried out from 10:00 to 13:00 on 13th April 2021 in Station 2 and Station 3 (Figure 1). The average depth during the dive survey was about 4 m.

3.3 The survey area is mainly composed of sandy bottom with scattered boulders and rocks along the shore area of SST. Lot of abandoned nets was found in the survey area. The average visibility along the survey area was 0.5 m to 1 m during the dive survey.

3.4 Twenty hard coral colonies with nine species were recorded in Station 2 during the spot dive survey (**Table 2**) including *Acorpora solitaryensis*, *Bernardpora stutchburyi*, *Coscinaraea* sp., *Dipsastraea rotumana*, *Dipsastraea speciosa*, *Plesiastrea versipora*, *Porites lutea* and *Psammocora profundacella*. Their GPS coordinates, size and health condition were recorded in **Table 2**. Photos of each coral colony were shown in Photo Plate A. Except the undescribed species *Coscinaraea* sp., all corals recorded in the survey area are common species in Hong Kong water. No soft coral was recorded during the survey.

3.5 Five hard coral colonies with five species were recorded in Station 3 during the spot dive survey (**Table 3**) including *Favites abdita*, *Favites flexuosa*, *Favites chinensis*, *Favites acuticollis* and *Duncanopsammia peltata*. Their GPS coordinates, size and health condition were recorded in **Table 3**. Photos of each coral colony were shown in Photo Plate B. 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 in Station 2 during Spot Dive Survey

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates		Closest Distance to Cable Alignment (m)
1	*Dipsastraea speciosa*	29	0	0	0	22°12'52.49N	114°12'26.00E	37
2	*Coscinaraea* sp.	25	0	0	0	22°12'52.26N	114°12'26.05E	43
3	*Coscinaraea* sp.	17	0	0	0	22°12'52.26N	114°12'26.05E	43
4	*Psammocora profundacella*	16	0	0	0	22°12'52.26N	114°12'26.05E	43
5	*Psammocora profundacella*	19	0	0	0	22°12'52.09N	114°12'26.16E	47
6	*Psammocora profundacella*	40	0	0	0	22°12'52.09N	114°12'26.16E	47
7	*Psammocora profundacella*	15	0	0	0	22°12'52.09N	114°12'25.96E	49
8	*Plesiastrea versipora*	39	0	0	0	22°12'51.97N	114°12'25.89E	53
9	*Porites lutea*	12	0	10	0	22°12'51.91N	114°12'25.96E	54
10	*Psammocora profundacella*	17	0	0	0	22°12'51.91N	114°12'25.96E	54
11	*Coscinaraea* sp.	6	0	0	0	22°12'51.88N	114°12'26.10E	53
12	*Psammocora profundacella*	26	0	0	0	22°12'52.52N	114°12'25.67E	39

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates		Closest Distance to Cable Alignment (m)
13	*Plesiastrea versipora*	5	0	0	0	22°12'52.62N	114°12'25.66E	37
14	*Psammocora profundacella*	23	0	0	0	22°12'52.62N	114°12'25.66E	37
15	*Plesiastrea versipora*	15	0	0	0	22°12'52.79N	114°12'25.57E	32
16	*Plesiastrea versipora*	19	0	0	0	22°12'52.89N	114°12'25.45E	31
17	*Dipsastraea rotumana*	18	0	0	0	22°1252.98'N	114°12'25.26E	30
18	*Bernardpora stutchburyi*	10	0	0	0	22°1252.98'N	114°12'25.26E	30
19	*Acorpora solitaryensis*	8	0	0	0	22°12'53.01N	114°12'25.11E	31
20	*Acorpora solitaryensis*	6	0	0	0	22°12'53.01N	114°12'25.11E	31

Table 3 GPS Coordinates, Size and Health Condition of Recorded Coral Colonies in Station 3 during Spot Dive Survey

No.	Coral species	Size (cm)	% Bleaching	Partial Mortality	% Sediment	GPS Coordinates		Closest Distance to Cable Alignment (m)
1	*Duncanopsammia peltata*	69	0	0	0	22°12'53.33N	114°12'26.11E	11
2	*Favites abdita*	8	0	0	0	22°12'53.33N	114°12'26.11E	11
3	*Favites flexuosa*	22	0	0	0	22°12'55.07N	114°12'25.57E	33
4	*Favites chinensis*	58	0	0	1	22°12'55.07N	114°12'25.57E	33
5	*Favites acuticollis*	49	0	0	0	22°12'55.07N	114°12'25.57E	33

4. Discussion

4.1 The hard substrates of the survey site were mainly composed of sandy bottom with scattered boulders and rocks. A total of 25 hard coral colonies (Station 2: 20 colonies; Station 3: 5 colonies) were recorded during the spot dive survey. Beside coral no. 9 (*Porites lutea*) in Station 2 with 10% partial mortality, all other coral recorded during the survey are in good health condition. 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 laying work area. 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 at Station 2 and Station 3

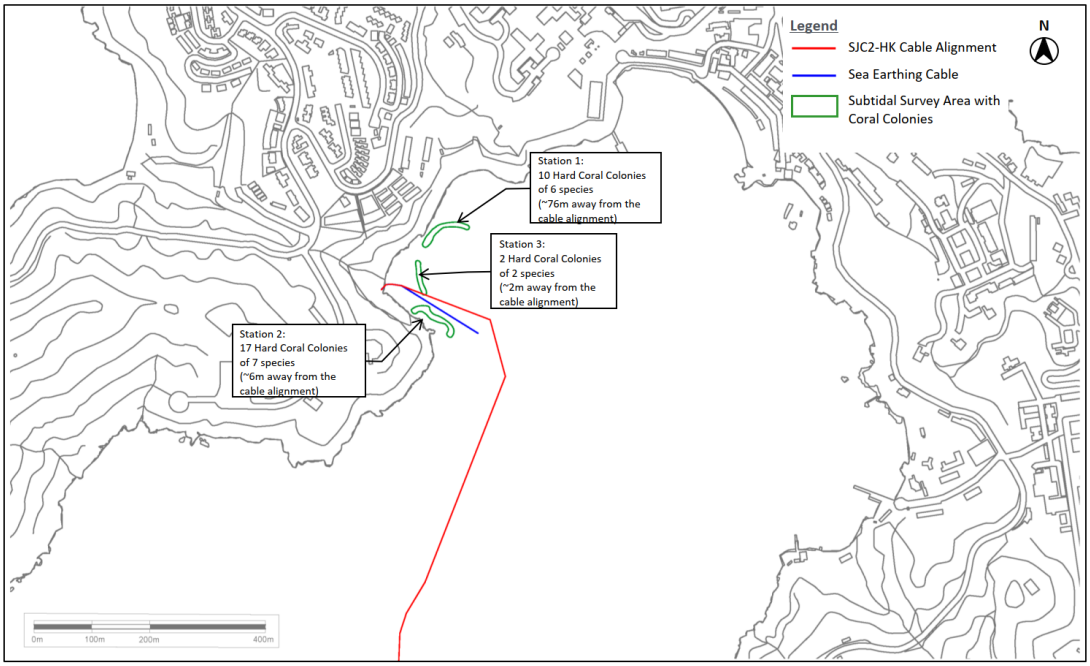
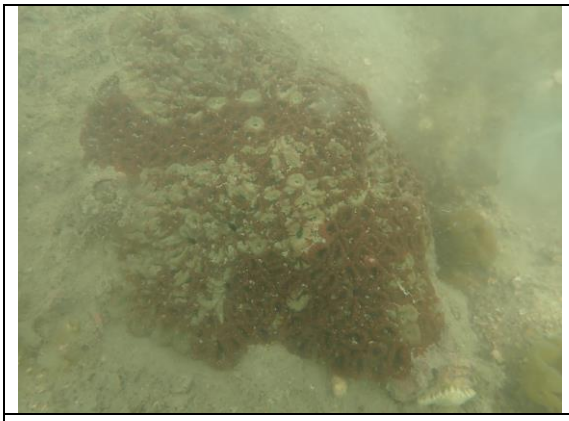
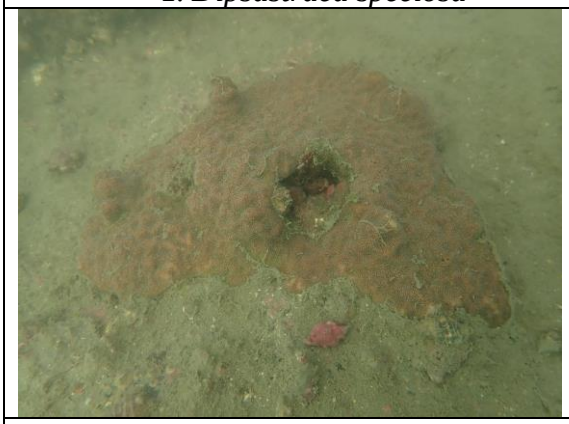


PHOTO PLATE A

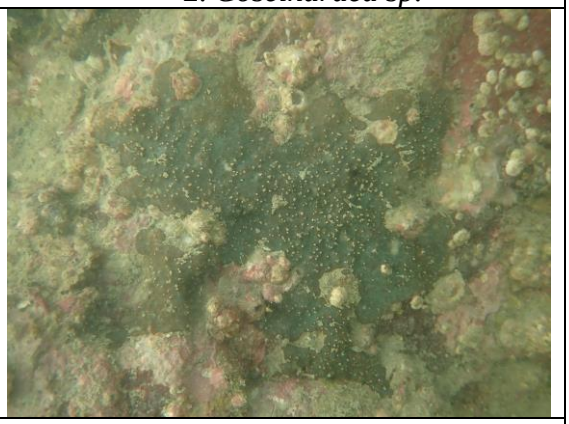


1. *Dipsastraea speciosa*

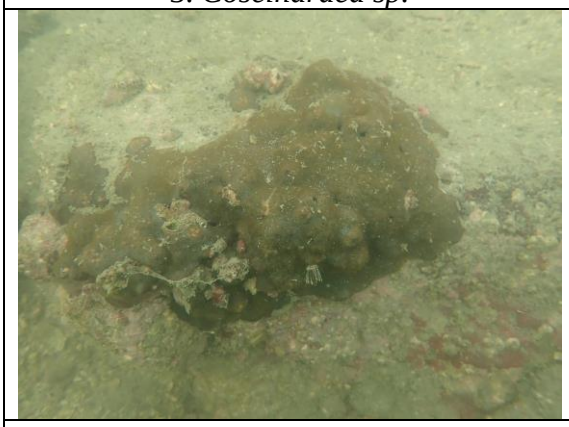
2. *Coscinaraea sp.*



3. *Coscinaraea sp.*

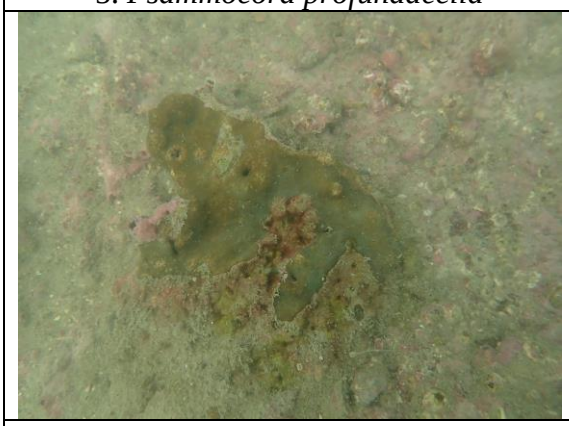


4. *Psammocora profundacella*

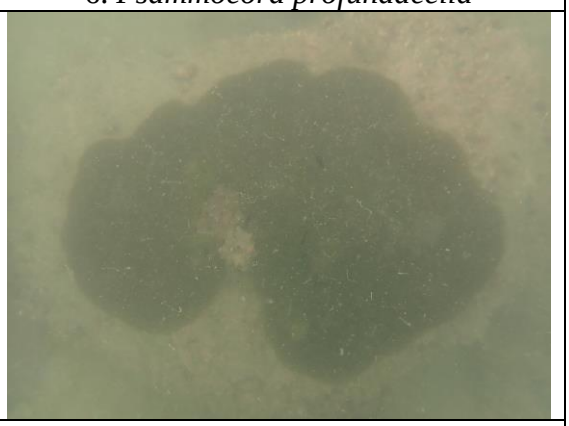


5. *Psammocora profundacella*

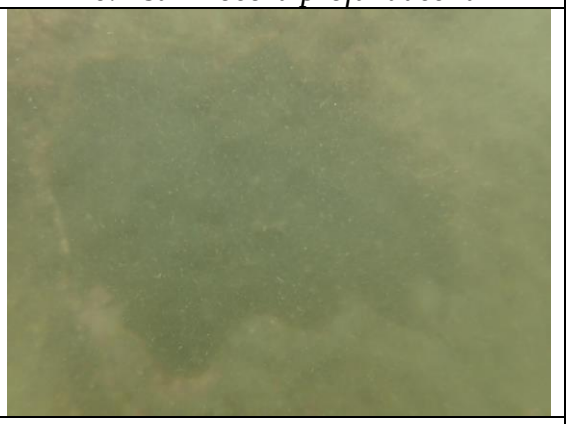
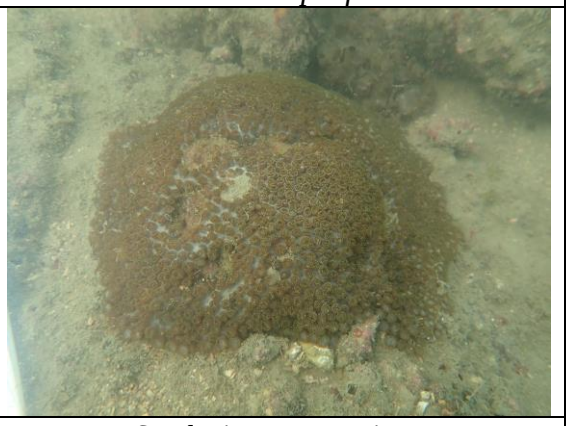
6. *Psammocora profundacella*



7. *Psammocora profundacella*



8. *Plesiastrea versipora*

	
9. *Porites lutea*	10. *Psammocora profundacella*
	
11. *Coscinaraea sp.*	12. *Psammocora profundacella*
	
13. *Plesiastrea versipora*	14. *Psammocora profundacella*
	
15. *Plesiastrea versipora*	16. *Plesiastrea versipora*

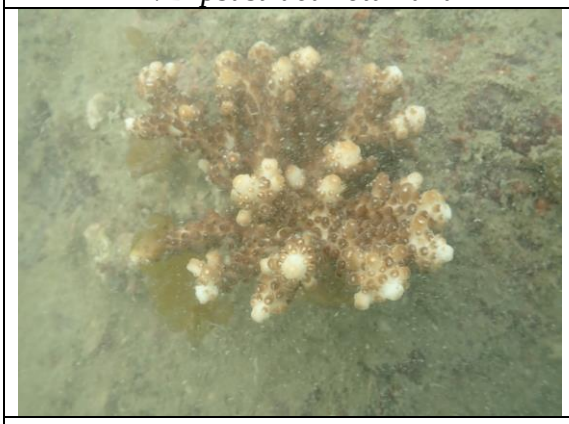
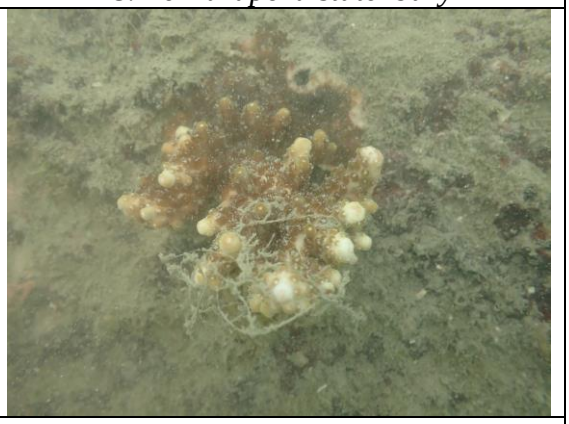
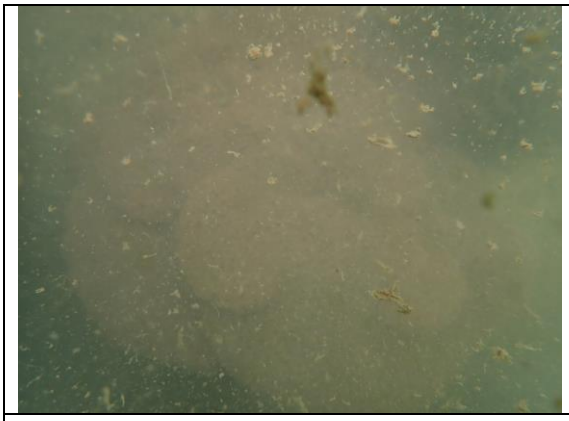
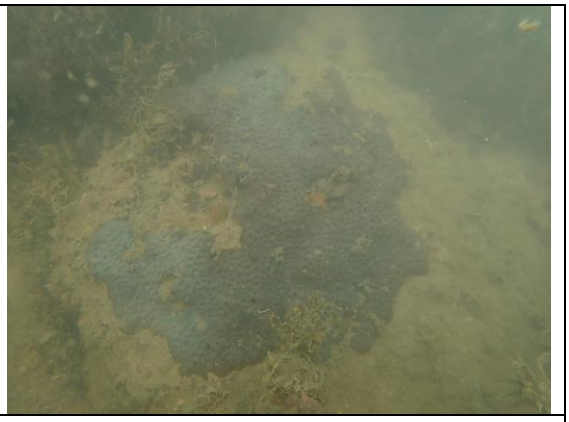
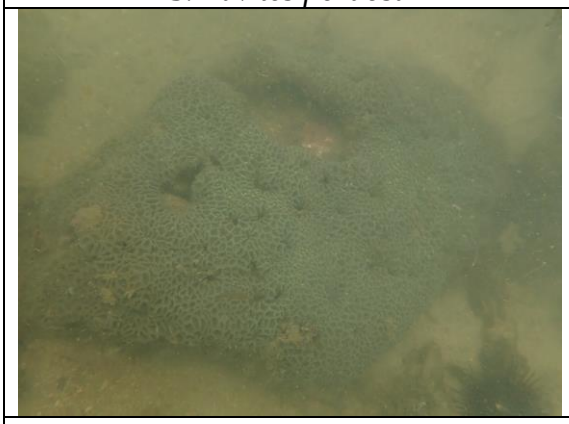
	
17. *Dipsastraea rotumana*	18. *Bernardpora stutchburyi*
	
19. *Acorpora solitaryensis*	20. *Acorpora solitaryensis*

PHOTO PLATE B

	
1. *Duncanopsammia peltata*	2. *Favites abdita*

	
3. *Favites flexuosa*	4. *Favites chinensis*
	
5. *Favites acuticollis*	