Submarine Cable for the Development of the Integrated Waste Management Facilities Phase 1

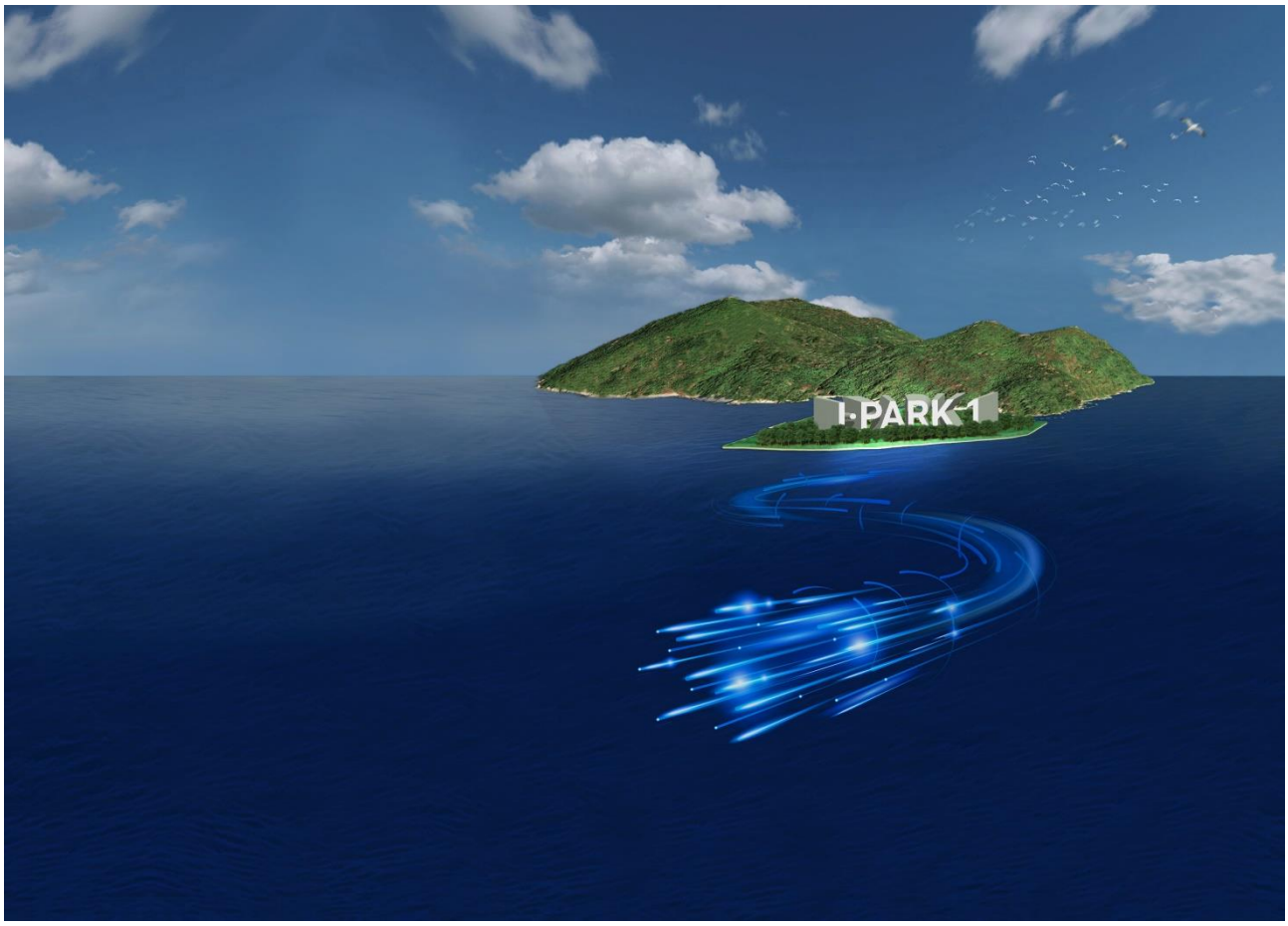
Monthly EM&A Report No.3 (for December 2023)

PREPARED FOR

CLP Power Hong Kong Limited

DATE
12 January 2024

REFERENCE
0691230



DOCUMENT DETAILS

The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.	
DOCUMENT TITLE	Submarine Cable for the Development of the Integrated Waste Management Facilities Phase 1
DOCUMENT SUBTITLE	Monthly EM&A Report No.3 (for December 2023)
PROJECT NUMBER	0691230
Date	12 January 2024
Version	02
Author	Various
Client name	CLP Power Hong Kong Limited

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Draft	1	Various	Mandy To	Terence Fong	12.01.2024	
Revised	2	Various	Mandy To	Terence Fong	12.01.2024	IEC

Submarine Cable for the Development of the Integrated Waste Management Facilities Phase 1
Environmental Certification Sheet
FEP-02/429/2012/B

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	EM&A Report (for December 2023)
Date of Report:	12 January 2024
Date prepared by ET:	12 January 2024
Date received by IEC:	12 January 2024

Reference EM&A Manual/ EP Requirement

EP Condition: Section 3.4

Content: Monthly EM&A Report

The ET Leader should prepare and submit EM&A Reports for construction stage of the Project within 2 weeks after the end of the reporting month.

ET Certification

I hereby certify that the above referenced document/~~plan~~ complies with the above referenced condition of FEP-02/429/2012/B.

Ms Mandy TO,
Environmental Team Leader:  Date: 12 January 2024

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of FEP-02/429/2012/B.

Ms Lemon LAM,
Independent Environmental Checker:  Date: 12 January 2024

SIGNATURE PAGE

Submarine Cable for the Development of the Integrated Waste Management Facilities Phase 1

Monthly EM&A Report No.3 (for December 2023)

0691230

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EXECUTIVE SUMMARY

The associated works for installation of the Submarine Cable for the Development of the Integrated Waste Management Facilities Phase 1 under the Further Environmental Permit (FEP-02/429/2012/B) commenced on 3 October 2023 and all construction works were completed on 20 December 2023. The EM&A for construction phase was completed on the same day. This is the 3rd monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 20 December 2023 in accordance with the approved Updated EM&A Manual and FEP-02/429/2012/B.

SUMMARY OF THE CONSTRUCTION ACTIVITIES UNDERTAKEN DURING THE REPORTING PERIOD

The major construction activities undertaken during the reporting period include:

Land-based Works

- Precast concrete trough cover up works
- Back Filling & Demobilization

Marine-based Works

- Hand Jetting
- Silt Curtain Setup
- Deployment of concrete mattress protection

ENVIRONMENTAL SITE INSPECTION

Joint weekly site inspections were conducted by representatives of the Contractor, CLP and Environmental Team (ET) on 1, 5, 12 and 19 December 2023. The representative of the IEC joined the site inspection on 1 December 2023. Details of the audit findings are presented in **Section 2.1**.

WATER QUALITY MONITORING

Hand jetting works conducted by divers within the gazetted boundary of Upper Cheung Sha Beach (UCSB) was conducted during the reporting period. 7 sessions of water quality monitoring were conducted during the reporting period. Details of the monitoring results are presented in **Section 2.3** and **Appendix H**.

Jetting works conducted by divers within the gazette boundary of the Upper Cheung Sha Beach was completed on 16 December 2023, and construction phase impact monitoring was completed on the same day.

ENVIRONMENTAL EXCEEDANCE / NON-CONFORMANCE / COMPLAINT / SUMMONS AND PROSECUTION

No Project-related Action and Limit Level exceedances were recorded.

No non-compliance event was recorded during the reporting period.

There was one environmental complaint received during the reporting period. The date of complaint was 16 December 2023, and was referred to the ET by EPD on 18 December 2023.

ET's investigation has been completed, and the investigation report is included in **Appendix K**. The cumulative environmental complaint log is presented in **Appendix K**.

No summon/ successful prosecution was received during the reporting period.

REPORTING CHANGES

There was no reporting change in the reporting period.

FUTURE KEY ISSUES AND UPCOMING WORKS FOR THE NEXT REPORTING PERIOD

All the construction works of the Project were completed on 20 December 2023. The EM&A during construction was terminated on the same day of completion.

Post-project water quality monitoring will commence on 8 January 2024 and target to be completed by 2 February 2024. The monitoring results will be reported in the Post-Project Monitoring Report upon completion of the monitoring in accordance with the Updated EM&A Manual.

1. INTRODUCTION

1.1 BACKGROUND

The Environmental Protection Department (EPD) of the Government of the Hong Kong Special Administrative Region (HKSAR) proposed to construct the Integrated Waste Management Facilities (IWMF) Phase 1 on an artificial island near Shek Kwu Chau, south of Lantau Island for the purpose of treating municipal solid waste and generating electricity from the waste treatment process for its own use and export surplus electricity, if any, to the power grid.

The EIA Report (EIA-201/2011) was approved by the EPD on 17 January 2012 with the Environmental Permit (EP) of the Project issued on 19 January 2012 (EP-429/2012) and a variation of the EP on 14 October 2016 (EP-429/2012/A). A Further EP (FEP-01/429/2012/A) was granted to Keppel Seghers-Zhen Hua Joint Venture for the reclamation works and construction of the IWMF on 27 December 2017. Another latest Further EP (FEP-02/429/2012/B) was granted to CLP Power for the installation of the 132kV submarine cable circuits connecting Cheung Sha, South Lantau and Shek Kwu Chau Artificial Island on 25 May 2020. The proposed cable would land at the landing portal at Upper Cheung Sha Beach (UCSB). The alignment of the submarine cable route is shown in **Appendix A**. An Environmental Review Report (ERR) was prepared and approved to support the application of FEP-02/429/2012/B.

The Environmental Monitoring and Audit (EM&A) programme during the cable installation of the Project has been performed during the reporting period in accordance with the relevant EM&A requirements stipulated in the Updated EM&A Manual under FEP-02/429/2012/B. The construction of the Project commenced on 3 October 2023.

ERM-Hong Kong Limited (ERM) was appointed by the Permit Holder, CLP Power Hong Kong Limited (CLP Power) to undertake the Environmental Monitoring and Audit (EM&A) programme during the installation and repair operation of the submarine cable for the Development of the Integrated Waste Management Facilities Phase 1 (hereafter referred as the "Project").

All construction works of the Project were completed on 20 December 2023. The EM&A for construction phase was completed on the same day.

1.2 SCOPE OF THE EM&A REPORT

This is the 3rd EM&A report which summarises the key findings of the EM&A programme during the reporting period from **1** to **20 December 2023** for the construction works in accordance with the Updated EM&A Manual and the requirements of FEP-02/429/2012/B.

1.3 ORGANISATION STRUCTURE

The organization structure for the construction works under FEP-02/429/2012/B and contact details are shown in **Appendix B**.

1.4 SUMMARY OF CONSTRUCTION PROGRAMME AND ACTIVITIES

A summary of the construction programme is presented in **Table 1.1**.

TABLE 1.1 SUMMARY OF CONSTRUCTION PROGRAMME

Construction Works	Period
Pre-lay preparation works at Shek Kwu Chau and Upper Cheung Sha Beach	3 October 2023 – 7 November 2023
Marine works for cable installation / laying	14 November 2023 – 27 November 2023
Hand jetting works conducted by diver within the gazette boundary of Upper Cheung Sha Beach	1 December 2023 – 16 December 2023
Reinstatement of Upper Cheung Sha Beach	16 December 2023 – 20 December 2023

A summary of major construction activities undertaken during the reporting period include:

Land-based Works

- Precast concrete trough cover up works
- Back Filling & Demobilization

Marine-based Works

- Hand Jetting
- Silt Curtain Setup
- Deployment of concrete mattress protection

1.5 SUMMARY OF EM&A PROGRAMME REQUIREMENTS

A summary of the status of EM&A Programme for all environmental aspects required under the Updated EM&A Manual and FEP-02/429/2012/B are presented in **Table 1.2**. The requirements of relevant environmental monitoring, including monitoring parameters, Action and Limit Levels, Event and Action Plan(s), environmental mitigation measures, etc. are presented in *Section 2*.

TABLE 1.2 SUMMARY OF STATUS FOR THE EM&A PROGRAMME UNDER THE UPDATED EM&A MANUAL AND FEP-02/429/2012/B

EM&A Programme Requirements	Status
Environmental Site Inspection	
Regular Site Inspection	Completed.
Water Quality	
Baseline Monitoring	Completed. The Baseline Water Quality Monitoring Report was submitted on 24 August 2023 and EPD's approval was obtained on 19 October 2023.
Construction Phase Monitoring	Completed. Construction Phase Impact Monitoring was carried out during submarine cable installation using hand jetting within the gazette boundary of the Upper Cheung Sha Beach in the reporting period. Hand jetting works conducted by divers

	within the gazette boundary of the Upper Cheung Sha Beach was completed on 16 December 2023, and construction phase impact monitoring was completed on the same day.
Post-Project Monitoring	To be conducted in January 2024
Ecology	
Marine Mammal Exclusion Zone Monitoring	Completed. Submarine cable installation using vessel and jetting machine was completed on 27 November 2023, and Marine Mammal Exclusion Zone Monitoring ended on the same day.

1.6 STATUS OF OTHER STATUTORY ENVIRONMENTAL REQUIREMENTS

A summary of the valid permits, licences, and/or notifications on environmental protection for the Project is presented in **Table 1.3**.

TABLE 1.3 SUMMARY OF THE STATUS OF VALID ENVIRONMENTAL LICENCE, NOTIFICATION, PERMIT AND DOCUMENTATIONS

Permit/ Licences/ Notificaiton	Reference No.	Validity Period	Remarks
Environmental Permit	EP-429/2012/A	Throughout the Contract	Permit granted on 19 January 2012
Further Environmental Permit	FEP-02/429/2012/B	Throughout the Contract	Permit granted on 17 January 2020
Notification Construction Works under the Air Pollution Control (Construction Dust) Regulation	497060	Throughout the Contract	-
Construction Noise Permit	GW-RS0516-23	1 July 2023 – 31 December 2023	-
Billing Account for Disposal of Construction Waste	7045590	Throughout the Contract	-
Chemical Waste Producer Licence	WPN5213-933-C4619-02	Throughout the Contract	-
Chemical Waste Producer Licence – for Working Vessel – AI LAN YI HAO	WPN5213-931-C4619-03	Throughout the Contract	-

2. EM&A RESULTS

2.1 ENVIRONMENTAL SITE INSPECTION

Joint weekly site inspections were conducted by representatives of the Contractor, CLP and ET on 1, 5, 12 and 19 December 2023 at the landing point at UCSB. The representative of Independent Environmental Checker (IEC) joined the site inspection on 1 December 2023. No non-compliance was recorded during the site inspections. Key findings and recommendations for the site inspections in this reporting month are summarised in **Table 2.1**.

TABLE 2.1 KEY FINDINGS AND RECOMMENDATIONS FROM SITE INSPECTIONS AND CONTRACTOR'S FOLLOW-UP ACTIONS

Site Inspection Date	Findings and recommendations	Contractor's Follow-up Action(s) Taken
1 December 2023	NRMM Label shall be clearly displayed on machine Doosan & DX340LC.	NRMM Label was properly displayed. (Date of Rectification: 23 November 2023)
5 December 2023	There was no major observation during the site inspection.	N/A
12 December 2023	There was no major observation during the site inspection.	N/A
19 December 2023	There was no major observation during the site inspection.	N/A

All follow-up actions requested by ET during the site inspections were undertaken as reported by the Contractor.

2.2 WASTE MANAGEMENT STATUS

The quantities of different types of waste generated are summarized in **Table 2.2**. The excavated sand material will be backfilled on site. No waste was generated during the reporting period. Detailed waste flow table is presented in **Appendix C**.

TABLE 2.2 QUANTITIES OF WASTE GENERATED UNDER FEP-02/429/2012/B

Reporting Period	Quantity						
	Inert C&D Materials (in '000 kg)	Non-inert C&D Materials					
		Chemical Waste (in '000 kg^3	General Refuse (in '000 kg)	Recycled Materials			
				Paper/ Cardboard Packaging (in '000 kg^3)	Plastics (in '000 kg^3)	Metals (in '000 kg^3)	
Dec 2023	0	0	0	0	0	0	

2.3 WATER QUALITY MONITORING

2.3.1 MONITORING LOCATION

The proposed water quality monitoring location of the Project, as recommended on the approved Updated EM&A Manual, are listed in **Table 2.3** and shown in **Appendix D**.

TABLE 2.3 WATER QUALITY MONITORING LOCATIONS

Station	Description	Easting	Northing
Regular Monitoring Stations			
C1A	Control Station	812823	806300
C2A	Control Station	818869	806808
S1A	Submarine Cable Landing Site	813430	809962
S2A	Submarine Cable	814808	808515
S3A	Submarine Cable Landing Site	816203	805178
Beach Water Quality Monitoring Stations			
I1	Impact Station within gazetted boundary of Upper Cheung Sha Beach – East of Diver Enclosed Silt Curtain	Varies	Varies
I2	Impact Station within gazetted boundary of Upper Cheung Sha Beach – West of Diver Enclosed Silt Curtain	Varies	Varies

2.3.2 MONITORING PARAMETER AND FREQUENCY

During marine works for cable installation/ laying (including by diver hand jetting near the northern end or by jetting machine for the rest of the cable alignment), monitoring shall be undertaken three days per week, at mid-flood and mid-ebb tides, with sampling / measurement at the designated monitoring stations as shown in **Table 2.4.** The interval between two sets of monitoring should not be less than 36 hours. A summary of the monitoring parameters is presented in **Table 2.4**.

Other relevant data should also be recorded, including monitoring location / position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway around the monitoring and works area that may influence the monitoring results.

TABLE 2.4 WATER QUALITY MONITORING FREQUENCY AND PARAMETERS

Activities	Monitoring Stations	Depth	Key Parameters	Monitoring Frequency
During marine works for installation of submarine cables outside the gazetted boundary of UCSB	C1A, C2A, S1A, S2A, S3A,	3 water depths: 1 m below sea surface, mid-depth and 1 m above seabed. If the water depth is less than 3 m, mid-depth sampling only.	• Temperature (°C) • pH • Salinity (ppt) • Dissolved Oxygen (DO) (mg/L and % saturation)	Three days per week, at mid-flood and mid-ebb tides Two (2) replicates in-situ measurements and water samples

		If water depth is less than 6 m, mid-depth may be omitted.	• Turbidity (NTU) • Suspended Solids (SS) (mg/L)	
During hand jetting works conducted by diver within the gazetted boundary of UCSB	C1A, C2A, I1, I2	3 water depths: 1 m below sea surface, mid-depth and 1 m above seabed. If the water depth is less than 3 m, mid-depth sampling only. If water depth is less than 6 m, mid-depth may be omitted.	• Temperature (°C) • pH • Salinity (ppt) • Dissolved Oxygen (DO) (mg/L and % saturation) • Turbidity (NTU) • Suspended Solids (SS) (mg/L)	Three days per week, at mid-flood and mid-ebb tides Two (2) replicates in-situ measurements and water samples

2.3.3 MONITORING METHODOLOGY

Levels of dissolved oxygen (DO), pH value, salinity, temperature and turbidity were measured *in situ* whereas the level of suspended solids (SS) should be determined by a HOKLAS accredited laboratory. The detailed methodology is presented in the approved Updated EM&A Manual.

2.3.4 MONITORING EQUIPMENT

All *in situ* monitoring equipment for the measurement of dissolved oxygen (DO), pH value, salinity, temperature and turbidity were checked, calibrated and certified by a laboratory accredited under HOKLAS before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of water quality monitoring programme. *In situ* checking for the monitoring equipment, including responses of sensors and electrodes, were performed with certified standard solutions before each use. Wet bulb calibration for a dissolved oxygen meter should be carried out before commencement of monitoring and after completion of all measurements each day.

2.3.5 ACTION AND LIMIT LEVELS

The action and limit levels have been established based on the baseline monitoring results in accordance with the Updated EM&A Manual are summarised in **Table 2.5**. The Event / Action Plan for water quality monitoring is presented in **Appendix E**.

TABLE 2.5 ACTION AND LIMIT LEVELS FOR WATER QUALITY

Parameters	Action Level	Limit Level
Construction Phase Impact Monitoring		
DO in mg/L	≤ 2.1	≤ 1.5

SS in mg/L	≥ 6 or 120% of control station's SS at the same tide of the same day of measurement	≥ 8 or 130% of control station's SS at the same tide of the same day of measurement
Turbidity in NTU	≥ 10.7 or 120% of control station's turbidity at the same tide of the same day of measurement	≥ 13.1 or 130% of control station's turbidity at the same tide of the same day of measurement

Note:
[a] For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
[b] For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
[c] In view of the relatively low measured DO level in the baseline monitoring exercise, the pre-determined limit level of 4 mg/L is not applicable. The first percentile (1 %-ile) value of baseline data (i.e. 1.5 mg/L) is adopted as the limit level for DO.

2.3.6 MONITORING SCHEDULE

The schedule for marine water quality monitoring for the reporting period is provided in **Appendix F**.

2.3.7 RESULTS OF WATER QUALITY MONITORING

A total of 7 monitoring events for construction phase water quality monitoring were conducted as presented in **Table 2.6**.

TABLE 2.6 DETAILS OF THE MARINE WATER QUALITY MONITORING

No.	Date	Active Works Activities	Monitoring Location
1	1 December 2023	Hand jetting works conducted by divers within the gazetted boundary of UCSB	C1A, C2A, I1 and I2 for mid-flood tide
2	4 December 2023		C1A, C2A, I1 and I2 for mid-flood tide
3	6 December 2023		C1A, C2A, I1 and I2 for mid-ebb tide
4	8 December 2023		C1A, C2A, I1 and I2 for both mid-ebb and mid-flood tides
5	11 December 2023		C1A, C2A, I1 and I2 for both mid-ebb and mid-flood tides
6	13 December 2023		C1A, C2A, I1 and I2 for mid-ebb tide
7	15 December 2023		C1A, C2A, I1 and I2 for both mid-ebb and mid-flood tides

Note:
[a] Hand jetting works conducted by divers within the gazetted boundary of Upper Cheung Sha Beach were conducted from 0900 to 1700 hours from Monday to Saturday and the silt curtain was deployed before the commencement of the jetting works and retrieved after the completion of works each day. In this connection, the impact water quality monitoring was only scheduled during the mid tide which cover the hand jetting works period (0900 to 1700).

The equipment used in construction phase water quality monitoring is presented in **Table 2.7**. Copies of the calibration certificates for the monitoring equipment are provided in **Appendix G**

TABLE 2.7 WATER QUALITY MONITORING EQUIPMEMNT

Equipment	Brand and Model
Water Sampling Equipment	Wildlife Supply Company Horizontal Alpha™ Bottles
Positioning Device	Garmin 20X Personal Navigator
Water Depth Gauge	Xyorca XY-453
Multiparameter Meter (measurement of DO, Temperature, Turbidity, pH and Salinity)	YSI ProDSS (S/N: 16H104233; 21K101469)

The monitoring results and graphical presentation are provided in **Appendix H**. Acton Level and Limit Level exceedances were recorded for water quality monitoring in the reporting period. Investigations on the exceedance were conducted and summarized in **Table 2.8**.

TABLE 2.8 SUMMARY OF EXCEEDANCE FOR WATER QUALITY MONITOING

Date	Tide	Monitoring Station	Parameter	Level of Exceedance	Investigation
1 Dec 2023	Mid-flood	I1	SS	Limit	Exceedance of Limit Level for SS was identified at Control Station C1A and C2A during mid-flood tide monitoring. Therefore, the exceedances were not considered as caused by the construction of the Project.
1 Dec 2023	Mid-flood	I2	SS	Limit	
6 Dec 2023	Mid-ebb	I1	SS	Limit	Silt curtain was deployed to enclose the hand jetting works and no sediment plume was observed nearby the water quality monitoring station during sampling. Therefore, the exceedances were not considered as caused by the construction of the Project.
6 Dec 2023	Mid-ebb	I2	SS	Limit	

Based on the investigation results above, the exceedances were not Project-related. Nevertheless, the Contractor was reminded to ensure mitigation measures are fully and properly implemented in accordance with the Updated EM&A Manual.

2.4 REVIEW OF OPERATING SPEEDS OF WORKING VESSELS

The operating speeds of working vessels for construction works under FEP-02/429/2012/B within the reporting period were checked and reviewed. 1 Working vessel, a self-propelled tugboat (JINXIN 708), was used for the works under FEP-02/429/2012/B during the reporting period between 5 and 6 December 2023. The self-propelled work vessel was operated at a speed lower than 10 knots when moving within the works areas. No non-compliance on the operating speeds of working vessels was identified. Records of operating speeds of the self-

propelled working vessel(s) for the construction works provided by the Contractor are presented in **Appendix I**.

2.5 IMPLEMENTATION STATUS OF THE ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented all the environmental mitigation measures and requirements as stated in the approved EIA Report, ERR, approved Updated EM&A Manual and FEP-02/429/2012/B. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix J**. The status of the required submission under FEP-02/429/2012/B during this reporting period is presented in **Table 2.9**.

TABLE 2.9 STATUS OF REQUIRED SUBMISSION UNDER FEP-02/429/2012/B DURING THE REPORTING PERIOD

EP Condition	Submission	Submission Date
3.4	Monthly EM&A Report (for November 2023)	14 December 2023

2.6 SUMMARY OF EXCEEDANCE OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

There were no Project-related Action and Limit Level exceedances for marine water quality monitoring in the reporting period.

Cumulative statistics on exceedance is provided in **Appendix K**.

2.7 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE, ENVIRONMENTAL COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

No non-compliance event was recorded during the reporting period.

There was one environmental complaint received during the reporting period. The date of complaint was 16 December 2023, and was referred to the ET by EPD on 18 December 2023. ET's investigation has been completed, and the investigation report is included in **Appendix K**.

The cumulative environmental complaint log is presented in **Appendix K**.

No summons/ successful prosecution was received during the reporting period. The cumulative summon/ prosecution log is presented in **Appendix K**.

3. UPCOMING WORKS FOR THE NEXT REPORTING PERIOD

3.1 CONSTRUCTION ACTIVITIES FOR THE NEXT REPORTING PERIOD

All the construction works of the Project were completed on 20 December 2023.

3.2 MONITORING SCHEDULE FOR THE NEXT REPORTING PERIOD

Post-project water quality monitoring will commence on 8 January 2024 and target to be completed by 2 February 2024. The monitoring results will be reported in the Post-Project Monitoring Report upon completion of the monitoring in accordance with the Updated EM&A Manual. The tentative schedule of post-project water quality monitoring is presented in **Appendix L**.

4. CONCLUSION

This is the 3rd Monthly EM&A Report presenting the key findings of the EM&A works undertaken during the reporting period from 1 to 20 December 2023 in accordance with the approved Updated EM&A Manual and the requirements of Further Environmental Permit FEP-02/429/2012/B. Weekly environmental site inspections of the construction works and audit of the implementation of environmental mitigation measures were conducted by the ET during the reporting period.

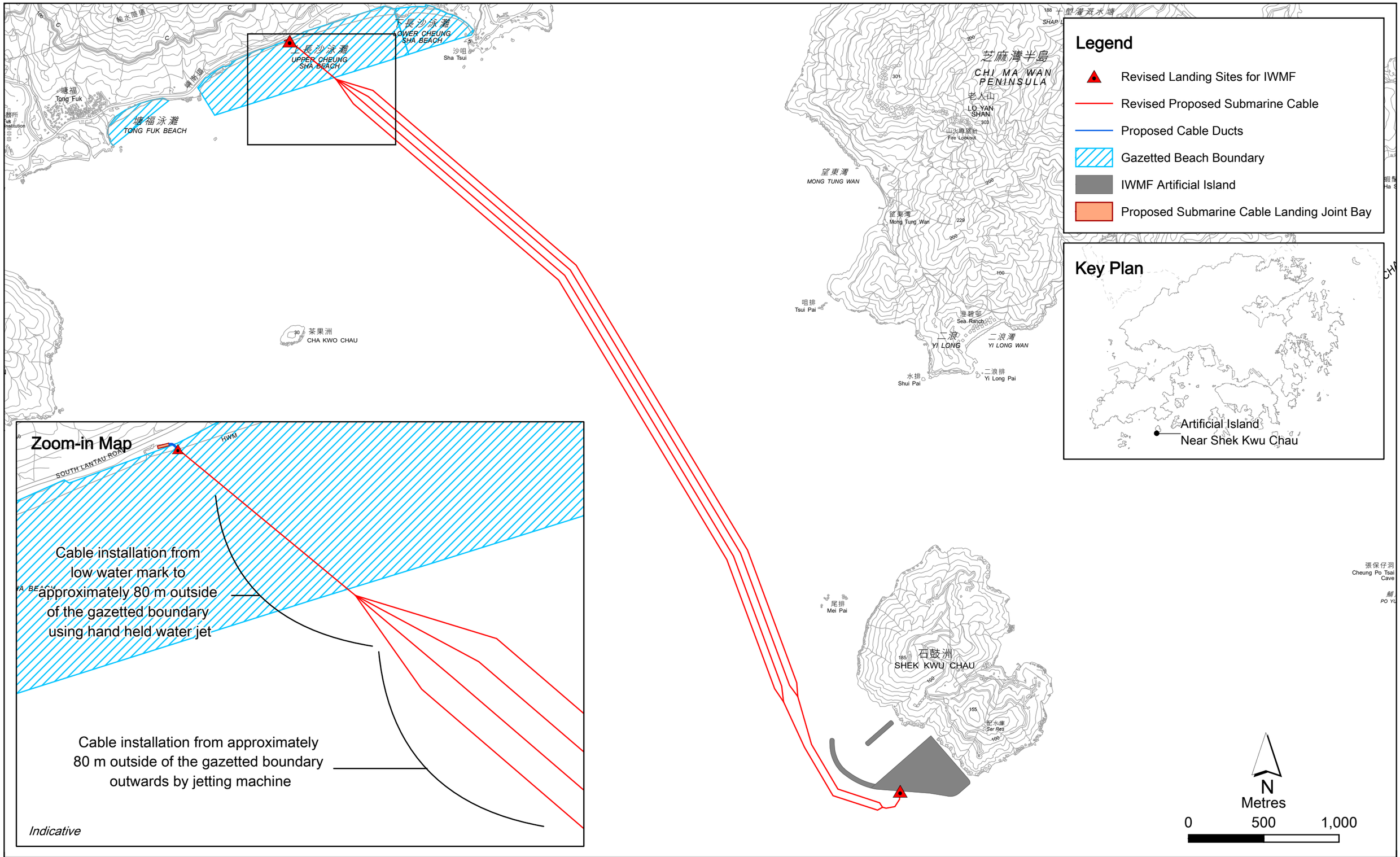
Marine water quality monitoring was conducted during the reporting period in accordance with the Updated EM&A Manual. Exceedances were recorded on 1 and 6 December 2023 and subsequent investigations were conducted. The exceedances were not considered as caused by the construction of the construction of the Project. No Project-related Action and Limit Level exceedances were recorded.

There was one environmental complaint received during the reporting period. ET's investigation has been completed and it was considered that there is no non-compliance due to the work activities carried out on-site.

There were no non-compliance event and summon/ successful prosecution recorded during the reporting period.

The Contractor has implemented possible and feasible mitigation measures to mitigate the potential environmental impacts. The ET did continue to keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

APPENDIX A ALIGNMENT OF THE SUBMARINE CABLE FOR THE DEVELOPMENT OF THE INTERGRATED WASTE MANAGEMEMET FACILITIES



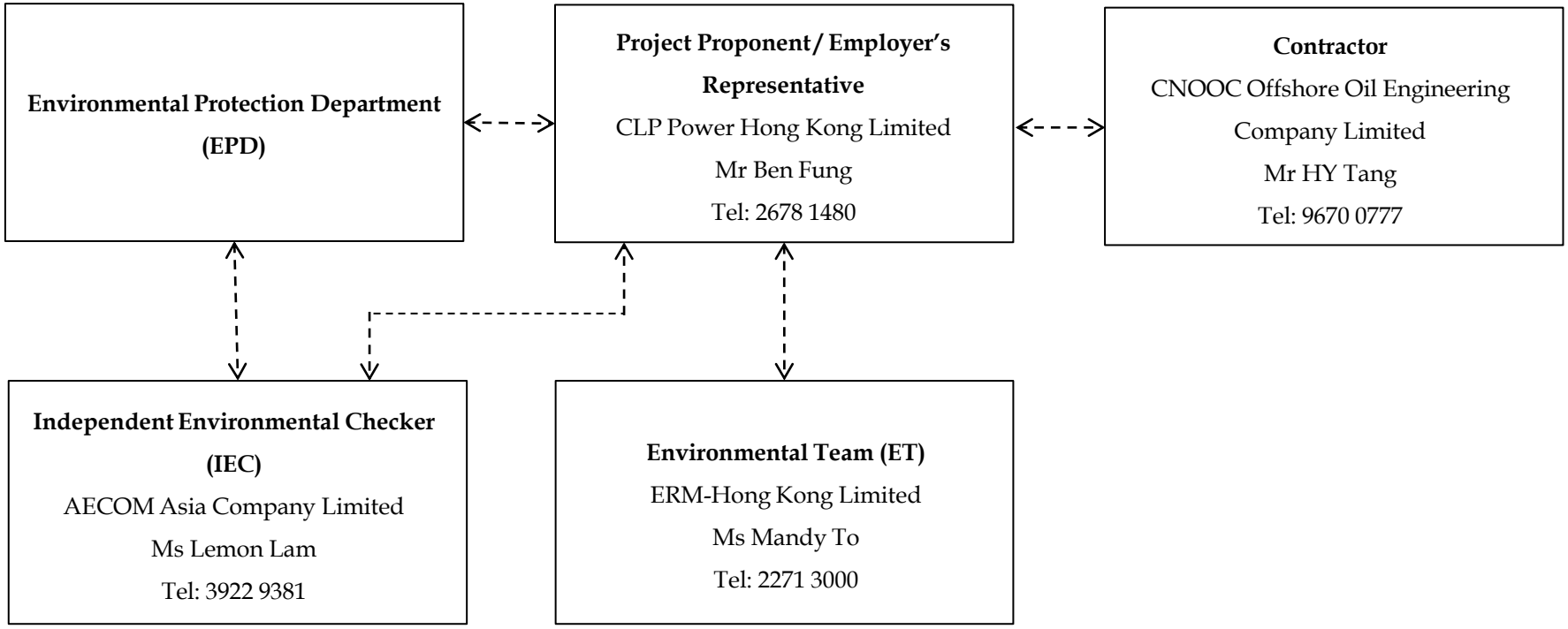
Appendix A

Alignment of the Submarine Cable for the Development of the Integrated Waste Management Facilities

File: T:\GIS\CONTRACT\0691230\mxd\0691230_Alignment_of_the_Submarine_Cable.mxd
Date: 6/11/2023

ERM

APPENDIX B PROJECT ORGANISATION



Appendix B

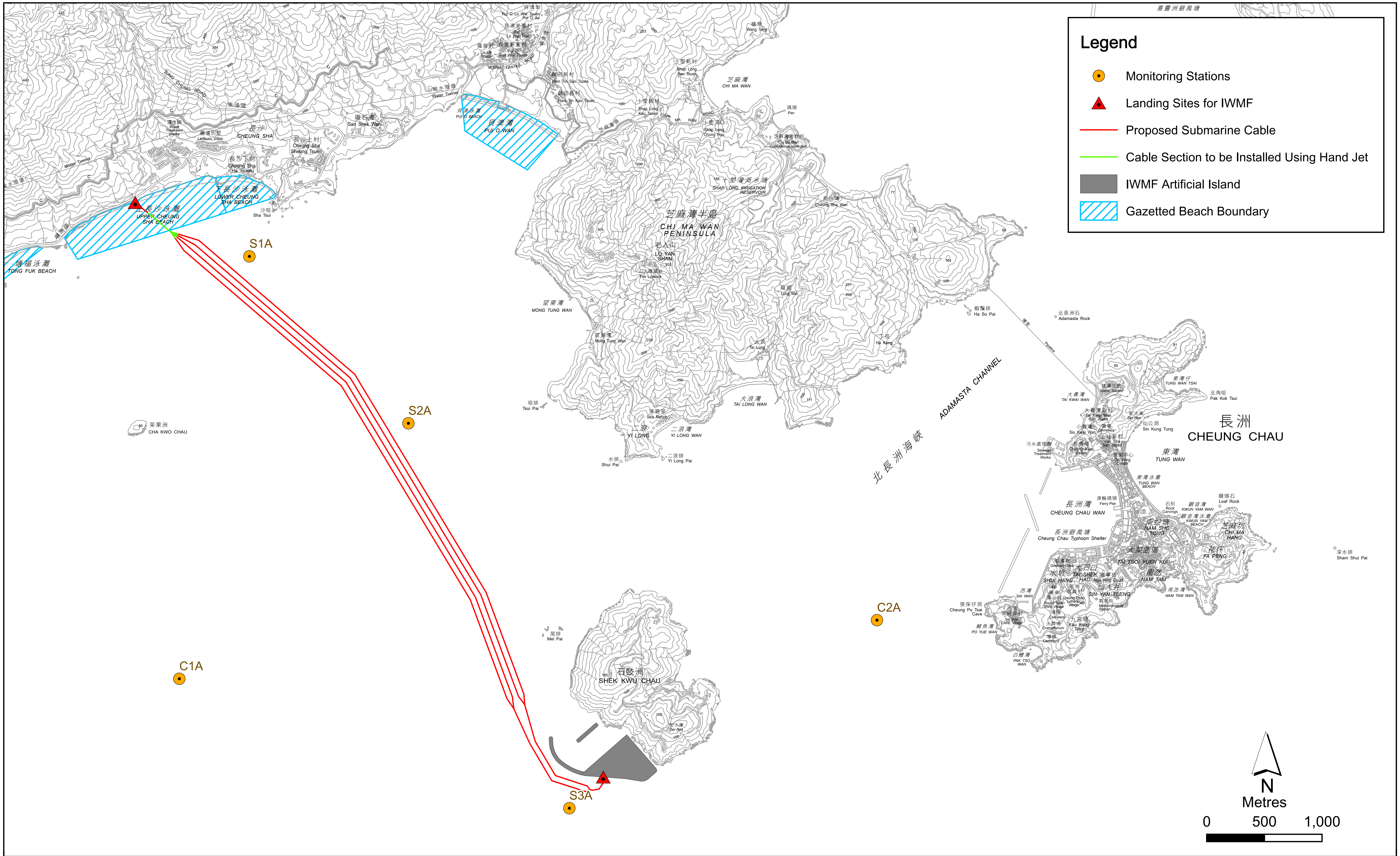
Project Organization

APPENDIX C WASTE FLOW TABLE

APPENDIX C – WASTE FLOW TABLE

Month	Actual Quantities of Inert C&D Materials Generated						Actual Quantities of C&D Wastes Generated					
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics	Chemical Waste		Other (e.g. general refuse)
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
2023												
Jan to Sep	/	/	/	/	/	/	/	/	/	/	/	/
Oct	0	0	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

APPENDIX D LOCATIONS OF WATER QUALITY MONITORING



Appendix D

Location of Water Quality Monitoring Stations

File: T:\GIS\CONTRACT\0691230\mxd\0691230_WQMS.mxd
Date: 6/11/2023

APPENDIX E EVENT / ACTION PLAN FOR CONSTRUCTION PHASE WATER QUALITY

APPENDIX E - EVENT AND ACTION PLAN FOR CONSTRUCTION PHASE WATER QUALITY

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by one sampling day	Repeat in situ measurement to confirm findings; Check monitoring data, plant, equipment and Contractor's working methods; Identify source(s) of impact and record in notification of exceedance;	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures.	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented;	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods;

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	Inform IEC, Contractor and EPD; Discuss mitigation measure with IEC, ER and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	(The above actions should be taken within 1 working day after the exceedance is identified)	Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC, contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures; As directed by the ER, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after the exceedance is identified)

APPENDIX F MONITORING SCHEDULE FOR THE REPORTING PERIOD

APPENDIX F - MONITORING SCHEDULE FOR THE REPORTING PERIOD

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				flood tide 12:28 - 15:58 1	2	3
flood tide 14:43 - 18:13 4	5	flood tide 12:24 - 15:54 6	7	ebb tide 6:30 - 10:00# flood tide 13:10 - 16:40 8	9	10
ebb tide 9:19 - 12:49 flood tide 14:26 - 17:56 11	12	ebb tide 10:50 - 14:00 13	14	ebb tide 12:39 - 15:09 flood tide 7:14 - 10:44# 15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Note:

Hand jetting works conducted by divers within the gazetted boundary of Upper Cheung Sha Beach were conducted from 0900 to 1700 hours from Monday to Saturday and the silt curtain was deployed before the commencement of the jetting works and retrieved after the completion of works each day. In this connection, the impact water quality monitoring was only scheduled during the mid tide which cover the hand jetting works period (0900 to 1700).

Water quality impact monitoring at I1 and I2 will be carried out after 0900 and before the end of the tide period.

IWMF Cable Water Quality Monitoring Schedule
December 2023

APPENDIX G CALIBRATION CERTIFICATES FOR MARINE WATER QUALITY MONITORING EQUIPMENT

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC090046
Date of Issue : 15 September 2023

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	YSI ProDSS (Multi-Parameters)
Manufacturer :	YSI (a xylem brand)
Serial Number :	16H104233
Date of Received :	15 September 2023
Date of Calibration :	15 September 2023
Date of Next Calibration :	14 December 2023
Request No. :	D-BC090046

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H^+ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.06	0.06	Satisfactory
7.42	7.48	0.06	Satisfactory
10.01	10.09	0.08	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
12	12.0	0.0	Satisfactory
26	26.1	0.1	Satisfactory
39	38.9	-0.1	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.10	1.00	Satisfactory
20	19.91	-0.45	Satisfactory
30	29.88	-0.40	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

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AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager

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專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC090046
Date of Issue : 15 September 2023

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.97	8.21	0.24	Satisfactory
6.81	6.47	-0.34	Satisfactory
4.65	4.59	-0.06	Satisfactory
0.17	0.40	0.23	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.05	--	Satisfactory
10	9.88	-1.20	Satisfactory
20	19.9	-0.50	Satisfactory
100	97.3	-2.70	Satisfactory
800	818.84	2.40	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

Expected Reading (µS/cm at 25°C)	Display Reading	Tolerance (%)	Result
146.9	150	2.11	Satisfactory
1412	1281	-9.28	Satisfactory
12890	12796	-0.73	Satisfactory
58670	57983	-1.17	Satisfactory
111900	113907	1.79	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

·The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

·The results relate only to the calibrated equipment as received

·The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

·"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

·The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

--- END OF REPORT ---

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110059
Date of Issue : 20 November 2023

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	YSI ProDSS (Multi-Parameters)
Manufacturer :	YSI (a xylem brand)
Serial Number :	21K101469
Date of Received :	17 November 2023
Date of Calibration :	17 November 2023
Date of Next Calibration :	16 February 2024
Request No. :	D-BC110059

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H^+ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)
Conductivity	APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.07	0.07	Satisfactory
7.42	7.49	0.07	Satisfactory
10.01	9.96	-0.05	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
10	10.0	0.0	Satisfactory
22	22.0	0.0	Satisfactory
40	40.0	0.0	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.90	-1.00	Satisfactory
20	20.11	0.55	Satisfactory

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AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110059
Date of Issue : 20 November 2023

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
30	30.20	0.67	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.26	8.13	-0.13	Satisfactory
2.46	2.50	0.04	Satisfactory
1.01	1.11	0.10	Satisfactory
0.00	0.10	0.10	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.09	--	Satisfactory
10	9.91	-0.9	Satisfactory
20	19.84	-0.8	Satisfactory
100	98.67	-1.3	Satisfactory
800	797.88	-0.3	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

(6) Conductivity

Expected Reading (µS/cm at 25°C)	Display Reading	Tolerance (%)	Result
146.9	148.0	0.75	Satisfactory
1412	1327	-6.02	Satisfactory
12890	12530	-2.79	Satisfactory
58670	57582	-1.85	Satisfactory
111900	111523	-0.34	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

Remark(s)

·The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
·The results relate only to the calibrated equipment as received
·The performance of the equipment stated is checked with independent reference material and results compared against a calibrated secondary source.
·"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
·The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

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APPENDIX H CONSTRUCTION PHASE MARINE WATER QUALITY MONITORING RESULTS

Monitoring Date: 1 December 2023 Tide: Mid-Flood

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C)	Water Temperature (°C)	pH	pH	Salinity (ppt)	Salinity (ppt)	DO Saturation (%)	DO Saturation (%)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Turbidity (NTU)	Suspended Solids (mg/L)	Suspended Solids (mg/L)
								Value	Depth-averaged	Value	Depth-averaged	Value	Depth-averaged	Value	Depth-averaged	Value	Depth-averaged	Value	Depth-averaged	Value	Depth-averaged
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Surface	22.8		8.2		31.9		89.8		6.4		5.1		9	
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Surface	22.8		8.2		31.9		89.8		6.4	6.4	5.1		10	
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Middle	22.8	22.8	8.2	8.1	31.9	31.9	87.6	88.3	6.3		6.1	6.2	10	10.3
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Middle	22.8		8.2		31.9		87.5		6.3		6.1		9	
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Bottom	22.8		8.1		32.0		87.5		6.3	6.3	7.6		12	
01/12/2023	Mid-Flood	C1A	Misty	Rough	14:04	9.9	Bottom	22.8		8.1		32.0		87.7		6.3		7.5		12	
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Surface	22.7		8.2		31.5		87.9		6.3		3.9		7	
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Surface	22.7		8.2		31.5		87.8		6.3	6.3	3.9		8	
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Middle	22.8	22.8	8.2	8.2	31.6	31.6	87.0	87.3	6.2		4.6	4.8	8	7.8
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Middle	22.8		8.2		31.6		86.9		6.2		4.8		7	
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Bottom	22.8		8.2		31.8		87.0		6.2	6.2	5.7		9	
01/12/2023	Mid-Flood	C2A	Misty	Rough	12:45	11.0	Bottom	22.8		8.2		31.8		87.1		6.2		5.7		8	
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Surface	22.5		8.2		31.9		100.7		7.2		5.3		10	
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Surface	22.5		8.2		31.9		100.7		7.2	7.2	5.3		11	
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Middle		22.5		8.2		31.9		100.4				6.2		9.8
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Middle														
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Bottom	22.5		8.2		31.9		100.2		7.2	7.2	7.2		9	
01/12/2023	Mid-Flood	I1	Misty	Moderate	15:42	5.3	Bottom	22.5		8.2		31.9		100.0		7.2		7.2		9	
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Surface	22.5		8.2		32.0		101.8		7.3		4.4		10	
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Surface	22.5		8.2		32.0		101.7		7.3	7.3	4.4		9	
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Middle		22.5		8.2		32.0		101.2				5.1		9.3
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Middle														
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Bottom	22.5		8.2		32.0		100.8		7.3	7.2	5.7		9	
01/12/2023	Mid-Flood	I2	Misty	Moderate	15:51	5.1	Bottom	22.5		8.2		32.0		100.6		7.2		5.7		9	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 4 December 2023 Tide: Mid-Flood

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Surface	22.7	22.6	8.2	8.1	32.0	32.0	91.3	88.6	6.5	6.4	1.4	3.8	6	5.2
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Surface	22.7		8.2		32.0		91.3		6.5		1.4		6	
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Middle	22.5		8.1		32.0		88.2		6.3		2.3		6	
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Middle	22.5		8.1		32.1		88.2		6.3		2.3		6	
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Bottom	22.5		8.1		32.0		86.4		6.2	6.2	7.5		4	
04/12/2023	Mid-Flood	C1A	Sunny	Moderate	15:43	10.8	Bottom	22.5		8.1		32.0		86.4		6.2		7.5		3	
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Surface	22.6	22.5	8.1	8.1	31.8	31.9	87.8	85.5	6.3	6.2	3.1	5.0	5	6.2
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Surface	22.6		8.1		31.8		87.8		6.3		3.1		6	
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Middle	22.5		8.1		31.9		85.3		6.1		5.7		6	
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Middle	22.5		8.1		31.9		85.3		6.1		5.7		6	
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Bottom	22.5		8.1		32.0		83.3		6.0	6.0	6.2		8	
04/12/2023	Mid-Flood	C2A	Sunny	Moderate	15:10	12.8	Bottom	22.5		8.1		32.0		83.3		6.0		6.3		7	
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Surface	23.1	22.8	8.2	8.2	31.8	31.7	107.5	99.9	7.7	7.7	2.0	3.2	4	4.3
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Surface	23.1		8.2		31.4		107.4		7.7		2.0		5	
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Middle														
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Middle														
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Bottom	22.5		8.1		31.9		92.4		6.7	6.7	4.4		4	
04/12/2023	Mid-Flood	I1	Sunny	Moderate	16:06	5.6	Bottom	22.5		8.1		31.8		92.3		6.7		4.3		4	
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Surface	23.2	22.9	8.2	8.2	32.0	31.9	107.9	99.5	7.7	7.7	2.0	3.5	5	5.0
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Surface	23.2		8.2		32.0		107.8		7.7		2.0		4	
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Middle														
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Middle														
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Bottom	22.5		8.1		31.9		91.2		6.6	6.6	5.1		5	
04/12/2023	Mid-Flood	I2	Sunny	Moderate	16:11	5.2	Bottom	22.5		8.1		31.9		91.2		6.6		5.0		6	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 6 December 2023 Tide: Mid-Ebb

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (^{o}C) Value	Water Temperature (^{o}C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Surface	22.4		8.3		31.8		104.5		7.5		0.3		3	
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Surface	22.4		8.3		31.8		104.4		7.5	7.3	0.3		3	
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Middle	22.4	22.4	8.2	8.2	31.8	31.9	97.0	97.1	7.0		0.3	1.4	3	3.2
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Middle	22.4		8.2		31.8		97.0		7.0		0.3		3	
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Bottom	22.4		8.2		32.0		89.9		6.5	6.5	3.5		4	
06/12/2023	Mid-Ebb	C1A	Cloudy	Moderate	13:04	10.6	Bottom	22.4		8.2		32.0		90.0		6.5		3.5		3	
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Surface	22.4		8.2		31.8		93.4		6.7		0.7		4	
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Surface	22.4		8.2		31.8		93.2		6.7	6.6	0.8		3	
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Middle	22.4	22.4	8.1	8.1	31.8	31.9	90.3	89.7	6.5		3.6	3.6	3	3.7
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Middle	22.4		8.1		31.9		90.3		6.5		3.9		4	
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Bottom	22.4		8.1		32.0		85.6		6.2	6.2	6.2		4	
06/12/2023	Mid-Ebb	C2A	Cloudy	Moderate	12:38	11.4	Bottom	22.4		8.1		32.0		85.6		6.2		6.5		4	
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Surface	22.5		8.2		31.9		102.3		7.4		1.3		6	
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Surface	22.5		8.2		31.8		102.2		7.4	7.4	1.3		5	
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Middle		22.5		8.2		31.8		99.6				1.6		6.3
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Middle														
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Bottom	22.5		8.2		31.7		97.0		7.0	7.0	1.9		7	
06/12/2023	Mid-Ebb	I1	Cloudy	Moderate	13:23	4.7	Bottom	22.5		8.2		31.7		97.0		7.0		2.0		7	
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Surface	22.5		8.2		31.7		102.8		7.4		1.4		5	
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Surface	22.5		8.2		31.7		102.6		7.4	7.4	1.5		5	
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Middle		22.5		8.2		31.8		99.1				1.9		5.3
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Middle														
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Bottom	22.5		8.2		31.8		95.5		6.9	6.9	2.3		5	
06/12/2023	Mid-Ebb	I2	Cloudy	Moderate	13:31	4.5	Bottom	22.5		8.2		31.8		95.4		6.9		2.4		6	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 8 December 2023 Tide: Mid-Ebb

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Surface	22.7	22.6	8.1	8.1	30.8	30.8	110.1	105.3	8.0	7.7	1.7	1.9	5	5.0
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Surface	22.6		8.1		30.8		109.7		7.9		1.7		4	
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Middle	22.6		8.1		30.8		103.4		7.5		1.9		5	
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Middle	22.6		8.1		30.8		103.3		7.5		1.9		5	
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Bottom	22.6		8.1		30.8		102.6		7.4	7.4	2.0		6	
08/12/2023	Mid-Ebb	C1A	Misty	Moderate	9:58	9.8	Bottom	22.6		8.1		30.8		102.5		7.4		2.0		5	
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Surface	22.4	22.5	8.1	8.1	30.6	30.6	102.7	101.3	7.5	7.4	2.0	2.4	5	4.3
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Surface	22.4		8.1		30.6		102.5		7.4		2.0		4	
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Middle	22.5		8.1		30.6		101.4		7.4		2.2		4	
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Middle	22.5		8.1		30.6		101.3		7.4		2.2		5	
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Bottom	22.6		8.1		30.6		100.0		7.3	7.2	3.1		4	
08/12/2023	Mid-Ebb	C2A	Misty	Moderate	8:46	11.0	Bottom	22.6		8.1		30.6		99.7		7.2		3.1		4	
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Surface	22.6	22.8	8.1	8.1	30.6	30.5	110.2	105.5	8.0	8.0	5.1	5.9	3	3.8
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Surface	22.6		8.1		30.6		109.5		7.9		5.0		4	
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Middle														
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Middle														
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Bottom	22.9		8.1		30.4		101.3		7.3	7.3	6.7		4	
08/12/2023	Mid-Ebb	I1	Misty	Moderate	9:34	5.0	Bottom	23.0		8.1		30.4		100.9		7.3		6.7		4	
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Surface	22.4	22.4	8.1	8.1	30.6	30.6	108.4	105.4	7.9	7.7	6.0	6.6	4	5.0
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Surface	22.4		8.1		30.6		104.4		7.6		6.0		5	
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Middle														
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Middle														
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Bottom	22.4		8.1		30.6		104.3		7.6	7.6	7.1		5	
08/12/2023	Mid-Ebb	I2	Misty	Moderate	9:37	5.1	Bottom	22.4		8.1		30.6		104.4		7.6		7.1		6	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 8 December 2023 Tide: Mid-Flood

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (^{o}C) Value	Water Temperature (^{o}C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Surface	22.7		8.1		30.8		110.1		8.0		1.1		3	
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Surface	22.7		8.1		30.8		110.1		8.0	8.0	1.1		4	
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Middle	22.7	22.7	8.1	8.1	30.8	30.7	110.3	110.5	8.0		1.4	1.4	4	3.3
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Middle	22.7		8.1		30.7		110.4		8.0		1.4		3	
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Bottom	22.7		8.1		30.7		111.0		8.0	8.0	1.5		3	
08/12/2023	Mid-Flood	C1A	Misty	Moderate	13:11	10.0	Bottom	22.7		8.1		30.7		111.1		8.0		1.5		3	
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Surface	22.5		8.1		30.5		108.7		7.9		1.3		4	
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Surface	22.4		8.1		30.5		107.7		7.8	7.6	1.3		4	
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Middle	22.4	22.4	8.1	8.1	30.4	30.4	101.4	103.7	7.4		1.9	2.0	4	4.0
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Middle	22.4		8.1		30.4		101.3		7.4		1.9		4	
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Bottom	22.4		8.1		30.4		101.5		7.4	7.4	2.8		4	
08/12/2023	Mid-Flood	C2A	Misty	Moderate	14:18	11.2	Bottom	22.4		8.1		30.4		101.6		7.4		2.7		4	
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Surface	22.6		8.1		30.7		109.5		8.0		5.8		4	
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Surface	22.6		8.1		30.7		108.8		7.9	8.0	5.9		5	
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Middle		22.8		8.1		30.6		104.8				6.0		4.5
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Middle														
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Bottom	22.9		8.1		30.5		100.6		7.3	7.3	6.1		5	
08/12/2023	Mid-Flood	I1	Misty	Moderate	13:39	4.6	Bottom	23.0		8.1		30.4		100.2		7.3		6.1		4	
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Surface	22.4		8.1		30.7		107.7		7.9		4.4		4	
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Surface	22.4		8.1		30.7		103.7		7.6	7.7	4.4		4	
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Middle		22.4		8.1		30.7		104.7				5.1		3.0
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Middle														
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Bottom	22.4		8.1		30.7		103.6		7.6	7.6	5.9		2	
08/12/2023	Mid-Flood	I2	Misty	Moderate	13:33	4.8	Bottom	22.4		8.1		30.7		103.7		7.6		5.9		2	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 11 December 2023 Tide: Mid-Ebb

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (^{o}C) Value	Water Temperature (^{o}C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Surface	23.1		8.4		30.3		113.7		8.2		2.1		2	
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Surface	23.1		8.4		30.3		113.7		8.2	8.1	2.1		2	
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Middle	23.1	23.1	8.3	8.3	30.3	30.3	112.2	110.9	8.1		2.9	2.9	2	2.0
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Middle	23.1		8.3		30.3		112.3		8.1		3.0		2	
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Bottom	23.2		8.3		30.4		106.8		7.7	7.7	3.7		2	
11/12/2023	Mid-Ebb	C1A	Sunny	Calm	11:21	9.6	Bottom	23.2		8.3		30.4		106.8		7.7		3.7		2	
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Surface	23.2		8.3		30.3		120.6		8.7		0.7		2	
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Surface	23.2		8.3		30.3		120.6		8.7	8.4	0.7		2	
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Middle	23.0	23.1	8.3	8.3	30.5	30.4	114.2	115.7	8.2		0.8	0.8	2	2.0
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Middle	23.0		8.3		30.5		114.1		8.2		0.7		2	
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Bottom	23.0		8.3		30.5		112.2		8.1	8.1	0.8		2	
11/12/2023	Mid-Ebb	C2A	Sunny	Calm	10:18	11.7	Bottom	23.0		8.3		30.5		112.2		8.1		0.8		2	
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Surface	23.4		8.4		30.4		119.2		8.5		0.5		2	
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Surface	23.4		8.4		30.4		119.2		8.5	8.5	0.6		2	
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Middle		23.4		8.4		30.4		117.3				0.7		2.0
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Middle														
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Bottom	23.3		8.4		30.4		115.3		8.3	8.3	0.9		2	
11/12/2023	Mid-Ebb	I1	Sunny	Calm	10:59	5.4	Bottom	23.3		8.4		30.4		115.3		8.3		0.9		2	
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Surface	23.4		8.4		30.3		117.7		8.4		0.7		2	
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Surface	23.4		8.4		30.3		117.6		8.4	8.4	0.7		2	
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Middle		23.4		8.4		30.3		114.6				1.2		2.0
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Middle														
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Bottom	23.4		8.4		30.3		111.6		8.0	8.0	1.6		2	
11/12/2023	Mid-Ebb	I2	Sunny	Calm	11:05	5.1	Bottom	23.4		8.4		30.3		111.5		8.0		1.6		2	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 11 December 2023 Tide: Mid-Flood

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Surface	23.4	23.3	8.4	8.4	30.3	30.3	120.4	114.9	8.6	8.4	0.7	1.7	2	2.0
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Surface	23.4		8.4		30.3		120.4		8.6		0.7		2	
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Middle	23.2		8.4		30.3		114.5		8.2		1.1		2	
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Middle	23.2		8.4		30.3		114.5		8.2		1.1		2	
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Bottom	23.2		8.4		30.4		109.7		7.9	7.9	3.2		2	
11/12/2023	Mid-Flood	C1A	Sunny	Calm	14:39	9.1	Bottom	23.2		8.4		30.4		109.7		7.9		3.2		2	
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Surface	23.4	23.2	8.4	8.4	30.2	30.2	122.3	116.7	8.8	8.6	1.1	1.3	2	2.0
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Surface	23.4		8.4		30.2		122.3		8.8		1.1		2	
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Middle	23.1		8.4		30.2		117.1		8.4		1.1		2	
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Middle	23.1		8.4		30.2		117.1		8.4		1.1		2	
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Bottom	23.0		8.3		30.2		110.5		8.0	8.0	1.6		2	
11/12/2023	Mid-Flood	C2A	Sunny	Calm	15:43	11.2	Bottom	23.0		8.3		30.2		110.6		8.0		1.6		2	
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Surface	23.3	23.3	8.4	8.4	30.2	30.2	121.4	120.2	8.7	8.7	1.3	1.7	2	2.0
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Surface	23.3		8.4		30.2		121.4		8.7		1.3		2	
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Middle														
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Middle														
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Bottom	23.2		8.4		30.2		118.9		8.5	8.5	2.0		2	
11/12/2023	Mid-Flood	I1	Sunny	Calm	15:11	4.9	Bottom	23.2		8.4		30.2		118.9		8.5		2.1		2	
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Surface	23.3	23.3	8.4	8.4	30.2	30.2	122.9	119.6	8.8	8.8	1.3	1.4	2	2.0
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Surface	23.3		8.4		30.2		122.9		8.8		1.3		2	
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Middle														
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Middle														
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Bottom	23.2		8.4		30.2		116.3		8.4	8.4	1.6		2	
11/12/2023	Mid-Flood	I2	Sunny	Calm	15:03	4.7	Bottom	23.2		8.4		30.2		116.3		8.4		1.6		2	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 13 December 2023 Tide: Mid-Ebb

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Surface	23.3	23.3	8.2	8.2	31.9	31.9	118.5	117.4	8.4	8.4	0.2	1.6	3	4.8
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Surface	23.3		8.2		31.9		118.5		8.4		0.2		4	
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Middle	23.3		8.2		31.9		117.1		8.3		1.1		5	
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Middle	23.3		8.2		31.9		117.1		8.3		1.1		6	
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Bottom	23.3		8.2		31.9		116.5		8.3	8.3	3.7		5	
13/12/2023	Mid-Ebb	C1A	Cloudy	Rough	11:24	9.7	Bottom	23.3		8.2		31.9		116.5		8.3		3.7		6	
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Surface	23.4	23.4	8.1	8.1	31.7	31.8	112.7	113.5	8.0	8.1	1.8	2.6	4	5.3
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Surface	23.4		8.1		31.7		112.7		8.0		1.7		4	
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Middle	23.4		8.1		31.8		114.3		8.1		1.2		4	
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Middle	23.4		8.1		31.8		114.3		8.1		1.2		6	
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Bottom	23.3		8.2		32.0		113.4		8.1	8.1	4.9		7	
13/12/2023	Mid-Ebb	C2A	Cloudy	Rough	10:52	11.6	Bottom	23.3		8.2		32.0		113.3		8.1		4.9		7	
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Surface	23.6	23.6	8.2	8.2	31.9	31.9	115.4	114.9	8.1	8.1	1.3	1.2	4	4.5
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Surface	23.6		8.2		31.9		115.4		8.1		1.3		3	
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Middle														
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Middle														
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Bottom	23.6		8.2		31.9		114.3		8.1	8.1	1.1		5	
13/12/2023	Mid-Ebb	I1	Cloudy	Moderate	11:52	5.4	Bottom	23.6		8.2		31.9		114.3		8.1		1.1		6	
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Surface	23.6	23.6	8.2	8.2	32.0	32.0	115.2	114.5	8.1	8.1	1.5	1.8	3	3.8
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Surface	23.6		8.2		32.0		115.1		8.1		1.5		4	
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Middle														
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Middle														
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Bottom	23.6		8.2		32.0		113.8		8.0	8.0	2.1		4	
13/12/2023	Mid-Ebb	I2	Cloudy	Moderate	11:56	4.9	Bottom	23.6		8.2		32.0		113.8		8.0		1.9		4	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 15 December 2023 Tide: Mid-Ebb

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Surface	22.8	22.7	8.1	8.1	32.1	32.3	107.9	106.6	7.7	7.7	0.7	1.0	3	3.8
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Surface	22.8		8.1		32.1		107.9		7.7		0.7		4	
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Middle	22.7		8.1		32.3		106.5		7.6		1.1		3	
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Middle	22.6		8.1		32.7		106.3		7.6		1.1		4	
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Bottom	22.6		8.1		32.5		105.4		7.6	7.6	1.1		4	
15/12/2023	Mid-Ebb	C1A	Sunny	Moderate	13:50	10.8	Bottom	22.7		8.1		32.0		105.3		7.6		1.1		5	
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Surface	22.7	22.7	8.2	8.2	32.0	32.0	103.4	102.4	7.4	7.4	1.9	2.7	4	4.5
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Surface	22.7		8.2		32.0		103.4		7.4		2.0		3	
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Middle	22.6		8.2		31.9		102.9		7.4		2.8		4	
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Middle	22.6		8.2		31.9		102.9		7.4		2.8		5	
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Bottom	22.7		8.2		31.9		101.1		7.3	7.2	3.5		6	
15/12/2023	Mid-Ebb	C2A	Sunny	Moderate	12:44	12.8	Bottom	22.7		8.2		31.9		100.9		7.2		3.4		5	
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Surface	23.7	23.5	8.2	8.2	31.6	31.8	107.8	105.3	7.6	7.6	0.4	0.6	2	2.0
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Surface	23.7		8.2		32.3		107.8		7.6		0.4		2	
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Middle														
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Middle														
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Bottom	23.2		8.2		31.0		102.9		7.4	7.3	0.8		2	
15/12/2023	Mid-Ebb	I1	Sunny	Moderate	13:28	5.6	Bottom	23.2		8.2		32.1		102.8		7.3		0.8		2	
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Surface	23.3	23.3	8.4	8.4	31.6	32.1	107.1	104.0	7.6	7.6	0.5	0.5	3	2.8
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Surface	23.3		8.4		32.5		106.8		7.7		0.5		2	
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Middle														
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Middle														
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Bottom	23.3		8.4		32.6		101.2		7.2	7.2	0.6		3	
15/12/2023	Mid-Ebb	I2	Sunny	Moderate	13:23	5.2	Bottom	23.3		8.4		31.5		100.7		7.2		0.6		3	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

Monitoring Date: 15 December 2023 Tide: Mid-Flood

Date (dd/mm/yyyy)	Tide	Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Level	Water Temperature (°C) Value	Water Temperature (°C) Depth-averaged	pH Value	pH Depth-averaged	Salinity (ppt) Value	Salinity (ppt) Depth-averaged	DO Saturation (%) Value	DO Saturation (%) Depth-averaged	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Depth-averaged	Turbidity (NTU) Value	Turbidity (NTU) Depth-averaged	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Depth-averaged
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Surface	22.7	22.7	8.1	8.1	32.2	32.2	103.8	102.4	7.4	7.4	1.2	1.7	2	3.0
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Surface	22.7		8.1		32.4		103.6		7.4		1.2		2	
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Middle	22.6		8.1		31.9		102.3		7.4		1.8		4	
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Middle	22.6		8.1		32.4		102.1		7.3		1.8		3	
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Bottom	22.7		8.1		32.3		101.5		7.3	7.3	2.1		4	
15/12/2023	Mid-Flood	C1A	Sunny	Moderate	10:29	11.8	Bottom	22.7		8.1		32.2		101.3		7.3		2.2		3	
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Surface	22.7	22.7	8.0	8.0	32.1	32.1	102.1	101.6	7.3	7.3	1.1	2.3	3	2.8
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Surface	22.7		8.0		32.1		102.0		7.3		1.1		2	
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Middle	22.7		8.0		32.1		101.5		7.3		2.2		3	
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Middle	22.7		8.0		32.1		101.4		7.3		2.3		3	
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Bottom	22.7		8.0		32.1		101.4		7.3	7.3	3.4		3	
15/12/2023	Mid-Flood	C2A	Sunny	Moderate	9:17	11.0	Bottom	22.7		8.0		32.1		101.4		7.3		3.4		3	
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Surface	23.2	23.2	8.3	8.3	31.8	31.8	101.3	100.6	7.2	7.2	1.0	1.1	3	2.8
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Surface	23.2		8.3		31.8		101.1		7.2		1.0		4	
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Middle														
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Middle														
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Bottom	23.2		8.3		31.8		100.3		7.1	7.1	1.1		2	
15/12/2023	Mid-Flood	I1	Sunny	Moderate	9:50	3.6	Bottom	23.2		8.3		31.8		99.8		7.1		1.1		2	
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Surface	23.0	23.0	8.2	8.2	31.6	31.6	101.4	100.9	7.3	7.2	2.7	3.1	2	2.0
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Surface	23.0		8.2		31.6		101.2		7.2		2.7		2	
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Middle														
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Middle														
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Bottom	23.0		8.2		31.6		100.6		7.2	7.2	3.6		2	
15/12/2023	Mid-Flood	I2	Sunny	Moderate	9:55	4.4	Bottom	23.0		8.2		31.6		100.4		7.2		3.5		2	

Note:

Exceedance of Action Level

Exceedance of Limit Level

1) C1A and C2A are control stations. Data from control stations are used as reference. It is assumed that construction activities would not affect the control stations during the EIA Study. Exceedance should only focus on the impact stations I1 and I2.

2) Mid-depth sampling was omitted at I1 and I2 as the water depth was less than 6m.

3) Two consecutive measurements were taken. If the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded, and further readings were taken.

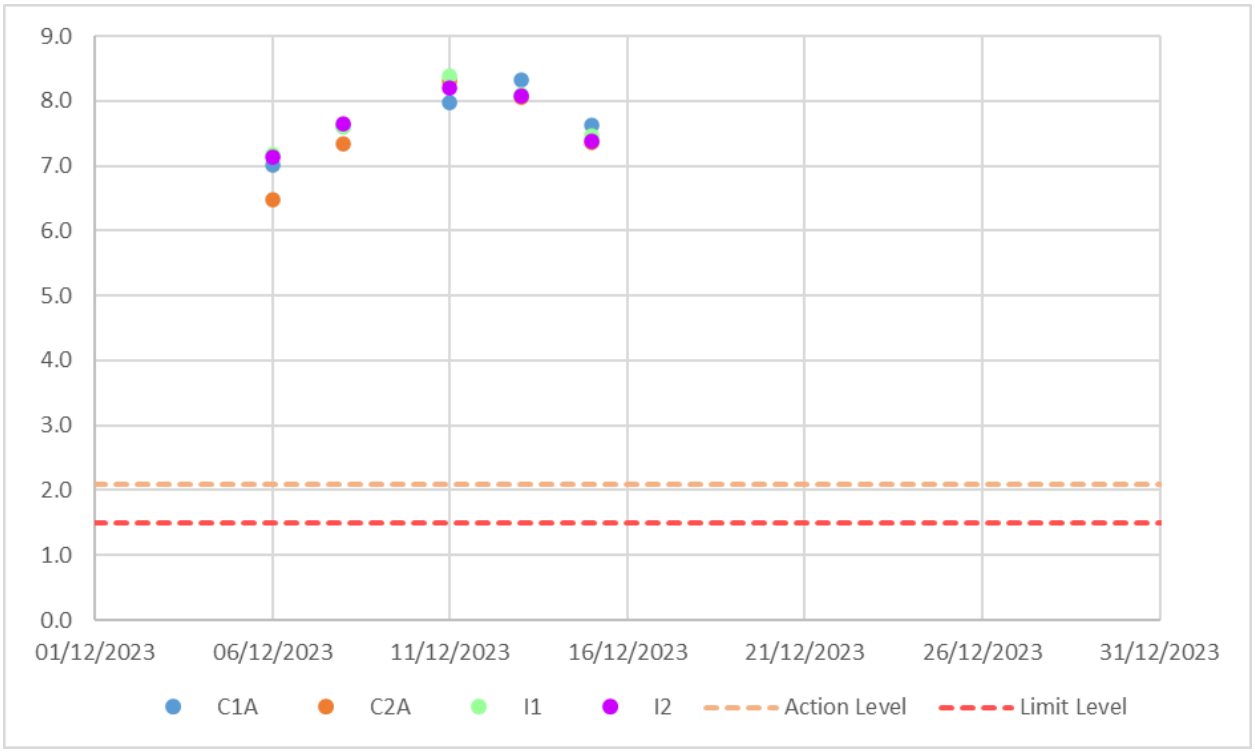


Figure 1: Depth-average of Dissolved Oxygen (mg/L) during mid-ebb tide in December 2023

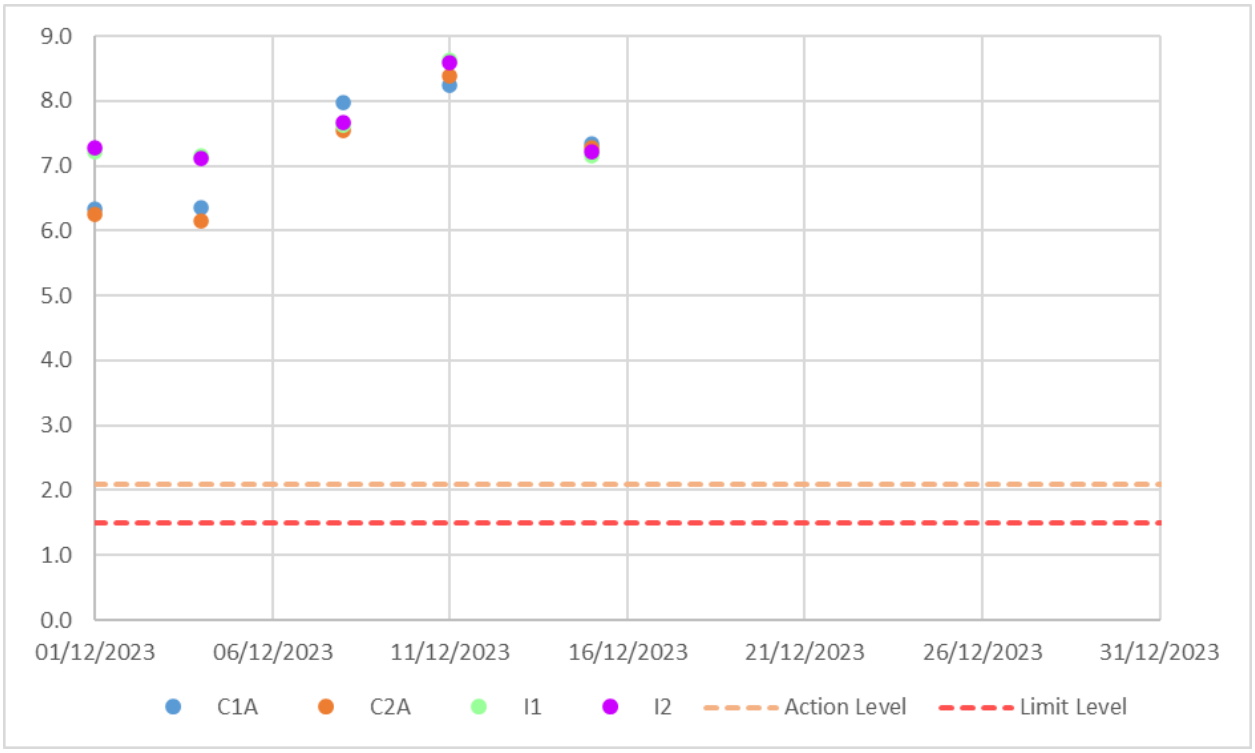


Figure 2: Depth-average of Dissolved Oxygen (mg/L) during mid-flood tide in December 2023

Source: P:\Projects\0691230 CLP Power Hong Kong Limited CLP EM&A IWMF Cable.MT\08 Monitoring\Impact WQ

Date: 10/01/2024

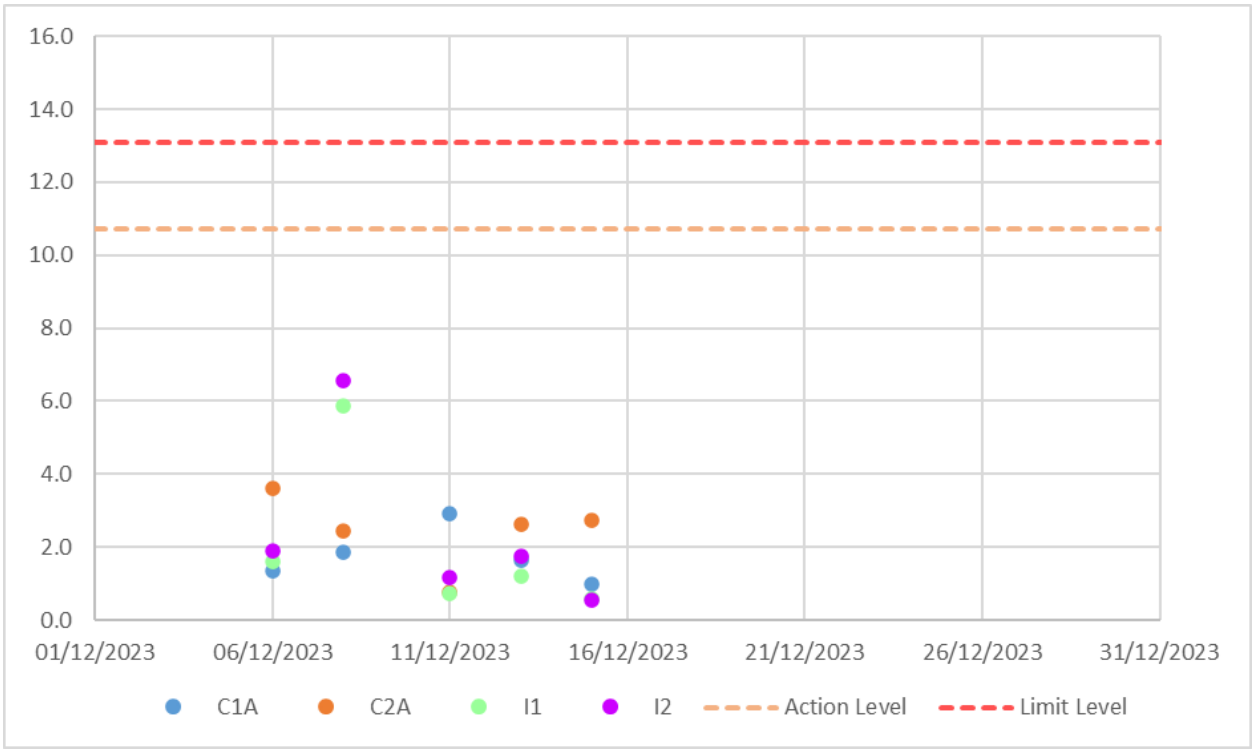


Figure 5: Depth-average Turbidity (NTU) during mid-ebb tide in December 2023

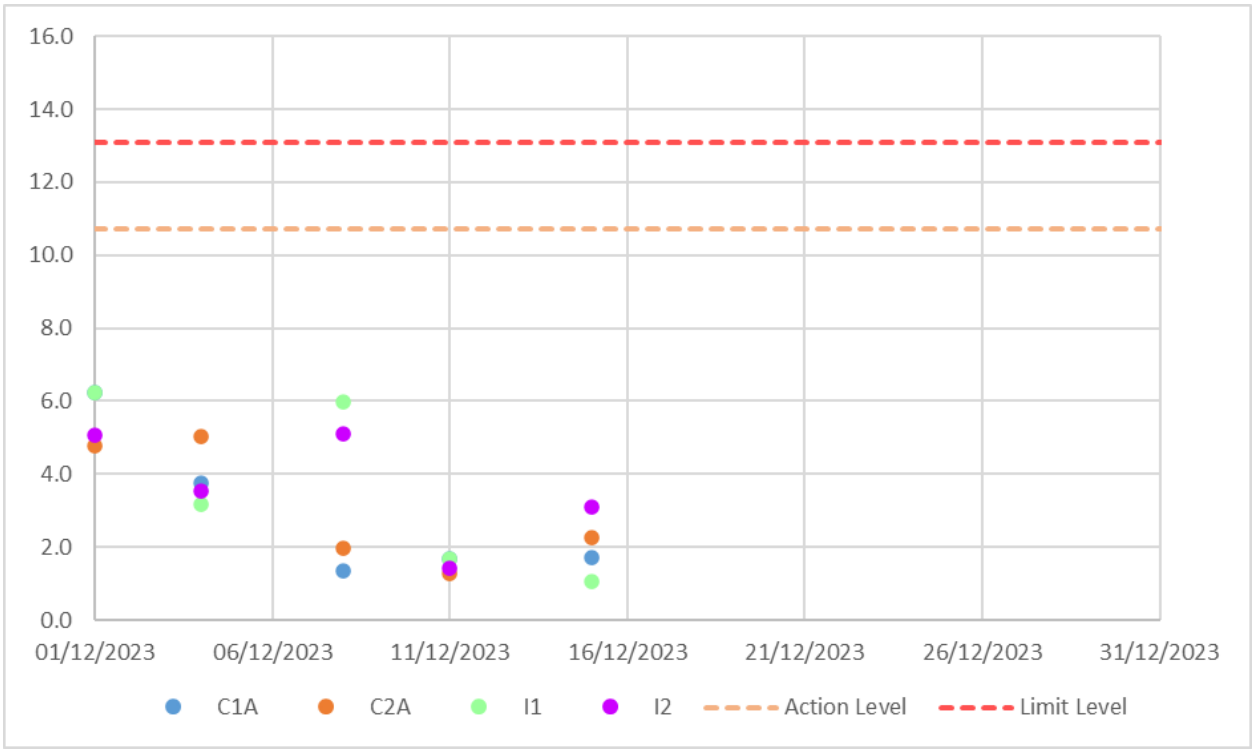


Figure 6: Depth-average Turbidity (NTU) during mid-flood tide in December 2023

Source: PP:\Projects\0691230 CLP Power Hong Kong Limited CLP EM&A IWMF Cable.MT\08 Monitoring\Impact WQ

Date: 10/01/2024

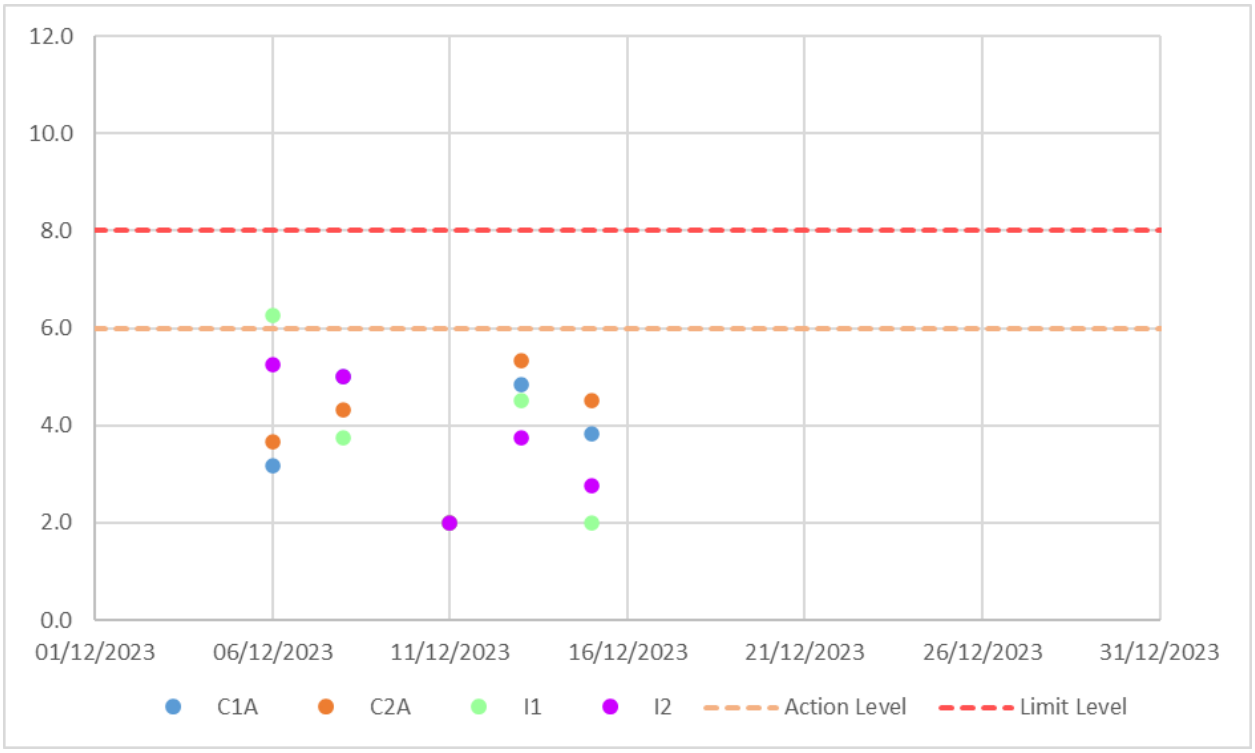


Figure 7: Depth-average Suspended Solids (mg/L) during mid-ebb tide in December 2023

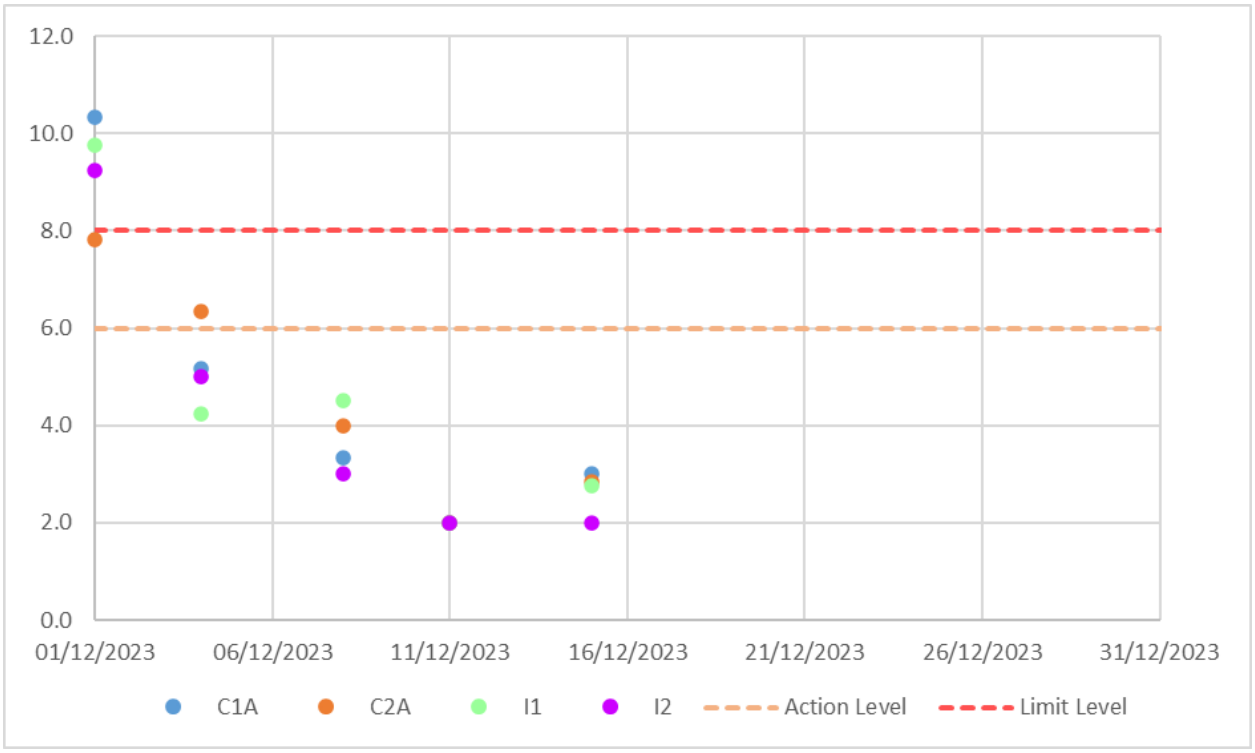


Figure 8: Depth-average Suspended Solids (mg/L) during mid-flood tide in December 2023

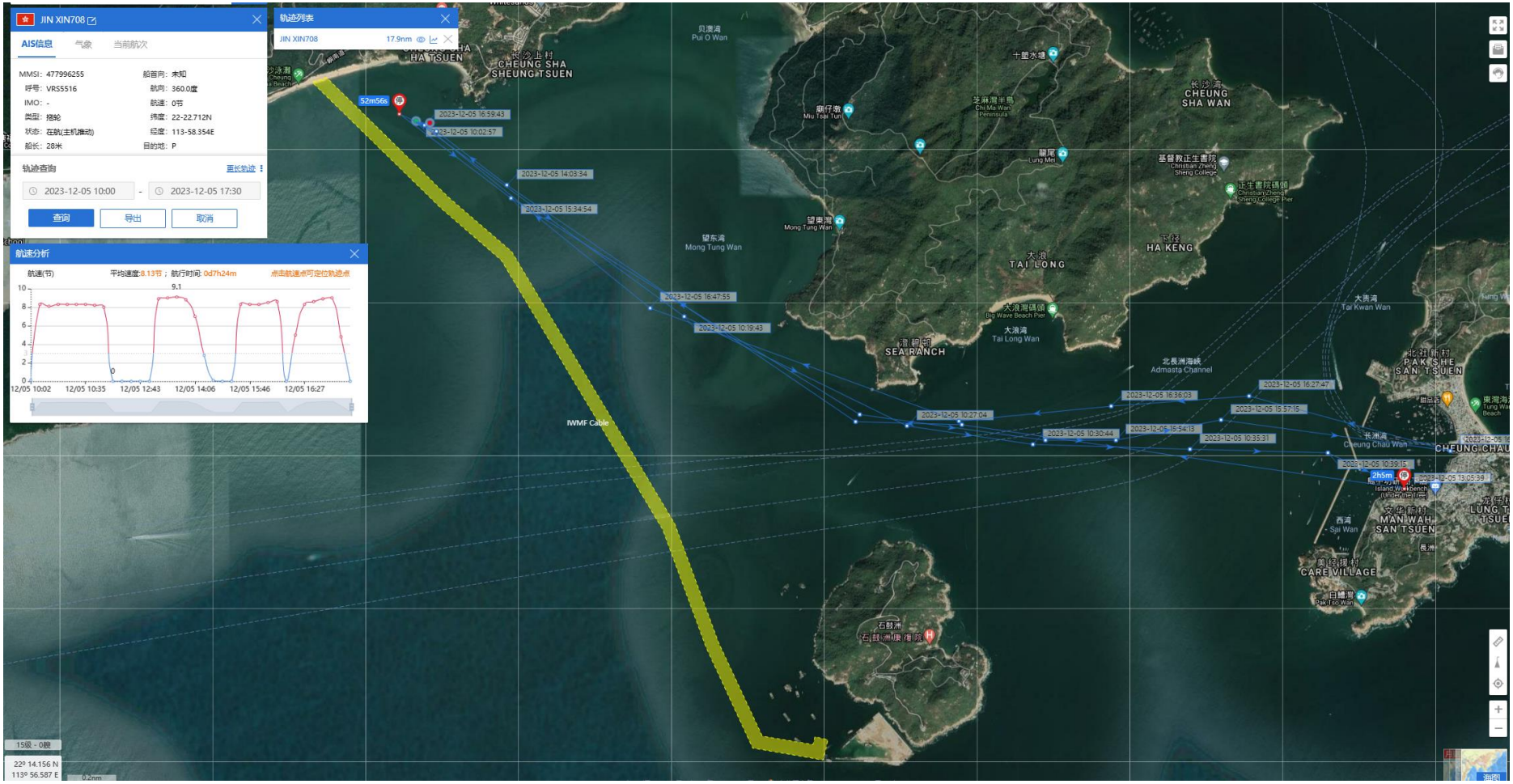
Source: P:\Projects\0691230 CLP Power Hong Kong Limited CLP EM&A IWMF Cable.MT\08 Monitoring\Impact WQ

Date: 10/01/2024

APPENDIX I RECORD OF OPERATNG SPEEDS AND MARINE TRAVEL WORKING VESSELS

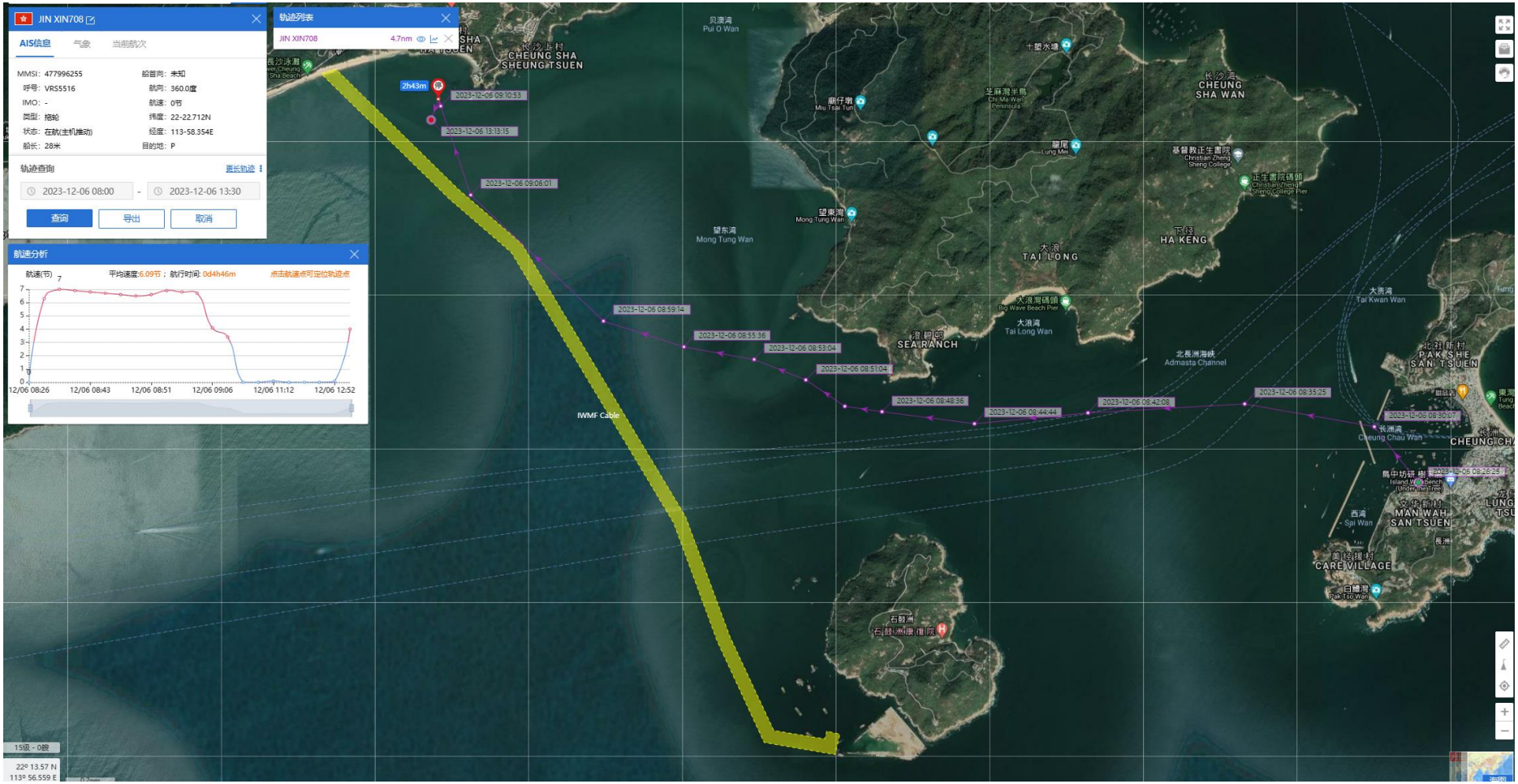
JINXIN 708(Tug Boat)
Historical Data Records (5 – 6 Dec 2023)

5 Dec 2023 (Working Hours: 1000-1730, Data Source: ShipXY)



JINXIN 708(Tug Boat)
Historical Data Records (5 – 6 Dec 2023)

6 Dec 2023 (Working Hours: 0800-1330, Data Source: ShipXY)



APPENDIX J SUMMARY OF IMPLEMENTATION SCHEDULE AND STATUS OF ENVIRONEMENTAL MITIGATION MEASURES FOR THE INSTALLATION OF SUBMARINE CABLE

APPENDIX J.1 - IMPLEMENTATION SCHEDULE AND STATUS FOR ENVIRONMENTAL MITIGATION MEASURES FOR THE INSTALLATION OF SUBMARINE CABLE (WATER QUALITY)

Note:

*	Des - Design, C - Construction, O – Operation, and Dec – Decommissioning
√	Compliance of Mitigation Measures
<>	Compliance of Mitigation but need improvement
x	Non-compliance of Mitigation Measures
▲	Non-compliance of Mitigation Measures but rectified by the Contractor
∆	Deficiency of Mitigation Measures but rectified by the Contractor
N/A	Not Applicable in Reporting Period

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
EIA S5b.8.1.1	<u>Drainage and Construction Site Runoff</u> The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. These practices include the following items: • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. • Boundaries of earthworks should be surrounded by dykes or embankments for flood protection, as necessary. • Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction. • Measures should be taken to minimize the ingress of site runoff and drainage into excavations. Drainage water pumped out from excavations should be discharged into storm drains via silt removal facilities. • Runoff and drainage into excavations. Drainage water pumped out from excavations should be discharged into storm drains via silt removal facilities. • During rainstorms, exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Other measures that need to	Work site / During the construction period	Contractor		✓			N/A

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
	be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94. • Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff. • Earthwork final surfaces should be well compacted and subsequent permanent work or surface protection should be immediately performed. • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms.							
EIA S5b.8.1.2	<u>General Construction Activities</u> Construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby watercourses and public drainage system. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area. It is recommended to clean the construction sites on a regular basis.	Work site / During the construction period	Contractor		✓			N/A
EIA S5b.8.1.4	<u>Accidental Spillage</u> Contractor must register as a chemical waste producer if chemical wastes would be produced from 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.	Work site / During the construction period	Contractor		✓			√
EIA S5b.8.1.5	Maintenance of vehicles and equipments involving activities with potential for leakage and spillage should only be undertaken within the areas which appropriately equipped to control these discharges.	Work site / During the construction period	Contractor		✓			N/A
EIA S5b.8.1.6	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Work site / During the construction period	Contractor		✓			√

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
EIA S5b.8.1.7	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.	Work site / During the construction period	Contractor		✓			N/A
ERR S3.1.1.1	<u>Works within the Gazetted Boundary of Upper Cheung Sha Beach (UCSB)</u> • No construction work would be conducted in the bathing season of April to October.	Work site / During the construction period	Contractor		✓			N/A
	• Section of cable from low water mark to 80 m outside of the gazetted boundary would be installed by diver using hand held water jet.							N/A
	• The machinery employed will be inspected prior to work commencing on the beach then at least daily thereafter to ensure the waters and beach will not be polluted with oil/ grease/ fuel. No machinery maintenance will be carried out onsite.							√
	• Oil absorbent materials will be readily placed on site and will be applied immediately should any oil leakage incidents occur, to ensure the swimming zone would not be affected.							√
	• The section of cable between low water mark and 80m outside the boundary of the UCSB shall be installed by divers using hand held water jet.							N/A
	• Silt curtains shall be deployed to fully enclose the hand held jetting works within the boundary of the UCSB and be deployed at the water line surrounding the works area to prevent runoff from land-based works on the UCSB.							√
	• The forward speed of the cable installation barge will be limited to a maximum of 1 km hr^{-1}.							N/A

APPENDIX J.2 - IMPLEMENTATION SCHEDULE AND STATUS FOR ENVIRONMENTAL MITIGATION FOR THE INSTALLATION OF SUBMARINE CABLE (WASTE IMPLICATION MANAGEMENT)

NOTE:

*	Des - Design, C - Construction, O – Operation, and Dec – Decommissioning
√	Compliance of Mitigation Measures
<>	Compliance of Mitigation but need improvement
x	Non-compliance of Mitigation Measures
▲	Non-compliance of Mitigation Measures but rectified by the Contractor
∆	Deficiency of Mitigation Measures but rectified by the Contractor
N/A	Not Applicable in Reporting Period

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
EIA 6b.5.1.2	<u>Good Site Practices</u> Adverse environmental impacts in relation to waste management are not expected, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities would include: • Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);	Work Site/ During Construction Period	Contractor		✓			√
	• Provide staff training for proper waste management and chemical handling procedures;							√
	• Provide sufficient waste disposal points and regular waste collection;							√
	• Provide appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and							N/A
	• Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;							N/A
	• Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and							N/A
	• Employ licensed waste collector to collect waste.							N/A

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
EIA 6b.5.1.13	Chemical Wastes Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work Site/ During Design & Construction Period	Contractor		✓			N/A
EIA 6b.5.1.14	General Refuse General refuse should be stored in enclosed bins or compaction units separate from Construction & Demolition (C&D) materials. A licensed waste collector should be employed by the Contractor to remove general refuse from the site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Work Site/ During Construction Period	Contractor		✓			√

APPENDIX J.3 - IMPLEMENTATION SCHEDULE AND STATUS FOR ENVIRONMENTAL MITIGATION MEASURES FOR THE INSTALLATION OF SUBMARINE CABLE (ECOLOGICAL)

Note:

* Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

√ Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

▲ Non-compliance of Mitigation Measures but rectified by the Contractor

∆ Deficiency of Mitigation Measures but rectified by the Contractor

N/A Not Applicable in Reporting Period

EIA / ERR Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Implementation Status
				Des	C	O	Dec	
EIA 7b.8.3.16 - 7b.8.3.30	Measures to minimise disturbance on Finless Porpoise *Monitored exclusion zones* • During submarine cable installation/ repair operation works, a monitored marine mammal exclusion zone of 250 m radius from the cable installation/ repair vessel should be implemented. The exclusion zone should be closely monitored by an experienced marine mammal observer at least 30 minutes before the start of cable installation/ repair works. If a marine mammal is noted within the exclusion zone, all marine works should stop immediately and remain idle for 30 minutes, or until the exclusion zone is free from marine mammals. • The experienced marine mammal observer should be well trained to detect marine mammals. Binoculars should be used to search the exclusion zone from an elevated platform with unobstructed visibility. The observer should also be independent from the project proponent and has the power to call-off construction activities. • In addition, as marine mammals cannot be effectively monitored within the proposed monitored exclusion zone at night, or during adverse weather conditions (i.e. Beaufort 5 or above, visibility of 300 meters or below), marine works should be avoided under weather conditions with low visibility.	Work site, marine traffic route	Contractor		✓			N/A
	Vessel speed limit • The frequent vessel traffic in the vicinity of works area may increase the chance of mammal mammals being killed or seriously injured by vessel collision. A speed limit of ten knots should be strictly enforced within areas with high density of Finless Porpoise.	Work site, marine traffic route	Contractor		✓			√

APPENDIX K CUMULATIVE STATISTICS ON EXCEEDANCES, ENVIRONMENTAL COMPLAINT, ENVIRONMENTAL SUMMON AND PROSECUTION LOG

APPENDIX K.1 – CUMULATIVE STATISTICS ON EXCEEDANCES

Monitoring Parameter	Level of Exceedance	Total no. recorded in this reporting period [1]	Total no. recorded since project commencement
Marine Water Quality (DO)	Action	0	0
	Limit	0	0
Marine Water Quality (Turbidity)	Action	0	0
	Limit	0	0
Marine Water Quality (SS)	Action	0	0
	Limit	0	0

Note:
[1] Exceedances, which are non-project related, are not shown in this table.

APPENDIX K.2 - ENVIRONMENTAL COMPLAINT, ENVIRONMENTAL SUMMON AND PROSECUTION LOG

Reporting Period	Number of Complaints in Reporting Period	Number of Summons/Prosecutions in Reporting Period
3 – 31 October 2023	0	0
1 – 30 November 2023	0	0
1 – 20 December 2023	1	0
Total no. recorded since project commencement	1	0

ERM-Hong Kong, Limited

Submarine Cable for the Development of the Integrated Waste Management Facilities (IWMF) Phase 1

Further Environmental Permit (FEP-02/429/2012/B)

Environmental Complaint - Complaint Interim Report

Our ref: 0691230_IR001_muddy water (for16Dec2023)_R1.docx

Date of Complaint	16 Dec 2023
Date of EPD Notification to IEC	18 Dec 2023
Compliant Reference	Cable IWMF_IR001
Description of the Complaint	A complaint referral was received from EPD on 18 Dec 2023 concerning muddy water discharging into the beach from the site of IWMF cable laying project at Cheung Sha. They reported that no barriers/nets were used to prevent the discharge. The incident time was reported to be at 16 Dec 2023 (Sat).
Actions Taken / To Be Taken	• IEC and ET notified the client and contractor immediately regarding the received complaint. • Information on works carried out and mitigation measures in place were provided by the client and contractor on 20 Dec 2023. • ET to submit a Complaint Interim Report to EPD within 7 working days. • No immediate action required. • A site inspection (weekly site audit) was carried out on 19 Dec 2023.
Investigation Findings	• Marine hand jetting works were carried out in the morning of 16 Dec 2023 but ceased before noon because of adverse weather condition. All hand jetting works by diver were carried out within a cage type silt curtain (see Photo 1 and Photo 2 in Annex A). • Sheet pile removal works by excavators were carried out at Cheung Sha Upper Beach on 16 Dec 2023. There was no muddy water generated or discharged due to the works (see Photo 3 taken on 16 Dec 2023 in Annex A).
Possible reason(s) for the Complaint	There was no mud and soil present at the work site and there was no muddy water generated or discharged due to the works. Given that it was quite windy on 16 Dec 2023, sand on the beach might be washed out to the sea by wave and tidal.
Follow-up Site Visit	A site inspection (weekly site audit) was carried out on 19 Dec 2023. No activities that would generate muddy water were observed. Sheet pile removal works were almost completed and pending for transportation away. Site reinstatement and clean up works were in progress (please see Photo 4 in Annex A).
Conclusion and Recommendations	With reference to the information provided by the client and contractor, and observation of our site inspection, the mitigation measures provided to the concerned works are in place and deployed properly. No particular muddy water dispersion was observed during the construction works on 16 December 2023 and the follow-up inspection on 19 December 2023. Given the above, it is considered that there is no non-compliance due to the work activities being carried out on-site, and follow-up action, remedial action and additional monitoring are not required. The contractor is required to implement relevant mitigation measures and weekly site inspection will continue to be carried out to audit the implementation of the mitigation measures till completion of all project works in accordance with the EM&A requirements.

Prepared by ET Leader: Mandy TO

Date: 29 Dec 2023

Verified by IEC: Lemon LAM

Date: 29 Dec 2023

ANNEX A

PHOTO RECORDS

Photo 1 Hand jetting within cage type silt curtain as mitigation measure taken on 8 Dec 2023

Photo 2 Photo of silt curtain setup taken on 16 Dec 2023

Photo 3 Photo of sheet pile removal works taken on 16 Dec 2023

Photo 4 Photo taken on-site on 19 Dec 2023

ANNEX B

WORK AREA ON 16 DEC 2023

APPENDIX L MONITORING SCHEDULE OF THE NEXT REPORTING MONTH

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
ebb tide 8:22 - 11:20 flood tide 13:00 - 16:30 8-Jan	9-Jan	ebb tide 10:17 - 12:46 flood tide 14:20 - 17:50 10-Jan	11-Jan	ebb tide 11:34 - 14:31 flood tide 6:16 - 9:46 12-Jan	13-Jan	14-Jan
ebb tide 13:51 - 17:21 flood tide 8:21 - 11:51 15-Jan	16-Jan	ebb tide 15:47 - 19:17 flood tide 9:47 - 13:17 17-Jan	18-Jan	ebb tide 18:12 - 21:42 flood tide 11:09 - 14:39 19-Jan	20-Jan	21-Jan
ebb tide 20:58 - 0:28 flood tide 8:32 - 12:02 22-Jan	23-Jan	ebb tide 22:17 - 1:47 flood tide 9:58 - 13:28 24-Jan	25-Jan	ebb tide 23:27 - 2:57 flood tide 6:13 - 9:43 26-Jan	27-Jan	28-Jan
ebb tide 12:34 - 16:04 flood tide 7:11 - 10:41 29-Jan	30-Jan	ebb tide 13:41 - 17:11 flood tide 8:00 - 11:30 31-Jan		15:16 - 18:46 8:54 - 12:24 2-Feb		

IWMF Cable Water Quality Monitoring Schedule
8 January 2024 - 2 February 2024

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