環境保護署
Environmental Protection Department

Contract No. EP/SP/66/12
Integrated Waste Management Facilities, Phase 1
Monthly EM&A Report No.57

Keppel Seghers

吉寶西格斯－振華聯營公司
KEPPEL SEGHERS - ZHEN HUA JOINT VENTURE

Monthly EM&A Report No.57
(Period from 1 March to 31 March 2023)

(Clause 3.3, Further Environmental Permit FEP-01/429/2012/A)

Document No.

KSZHJV	/	312	/	Monthly EM&A	/	0057	/	A
Issuer		Project Code		Type of Document		Sequential No.		Revision Index

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Date:	14 April 2023	14 April 2023	14 April 2023

Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
A	First Submission	14 April 2023

CONTENTS

EXECUTIVE SUMMARY

Introduction

A1. The Project, Integrated Waste Management Facility (IWMF), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (FEP No. FEP-01/429/2012/A) for the construction and operation of the Project.

A2. In accordance with the Updated Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works for marine water quality, noise, waste management and ecology should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.

A3. This is the 57th Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Shek Kwu Chau (SKC) during the reporting period from 1 March to 31 March 2023.

Summary of Main Works Undertaken & Key Mitigation Measures Implemented

A4. Key activities carried out in this reporting period for the Project included the following:

- Reclamation Area:
  - Installation of Instrumentation
  - Site Investigation works for foundation
  - Foundation works (including Driven H Pile and Socketed H Pile)
  - Pile cap construction
  - Structural steel work
- Seawall Portion:
  - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
  - Construction of wave wall along the vertical seawall above +3PD

A5. The key environmental mitigation measures implemented for the Project in this reporting period associated with the construction activities include:

- Reduction of noise from equipment and machinery on-site;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site;
- Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
- Dust suppression measures for exposed earth surface and stockpile of dusty material; and
- Site runoff control measure during rainstorm.

Summary of Exceedance & Investigation & Follow-up

A6. The EM&A works for water quality, construction waste, marine mammal, White-Bellied Sea Eagle (WBSE) and coral were conducted during the reporting period in accordance with the Updated EM&A Manual.

A7. No exceedance of the Action or Limit Levels in relation to noise, construction waste, WBSE and coral was recorded in the reporting month.

A8. The derived Action/Limit Levels for dry seasons as listed on Table 2.8 was applied in the reporting month.

A9. During the reporting period, three (3) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Action Level and one (1) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Investigations were carried out for each exceedance during the reporting period.

A10. Weekly site inspections of the construction work by ET were carried out on 07, 14, 21 and 28 March 2023 to audit the mitigation measures implementation status. Monthly joint site inspection was carried out on 14 March 2023 by ET and IEC. Observations were recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

Complaint Handling and Prosecution

A11. No project-related environmental complaint was received during the reporting period.

A12. Neither notifications of summons nor prosecution was received for the Project.

Reporting Change

A13. As confirmed with Contractor and Project Supervising Officer, no marine construction work will be carried out from March to December 2023 tentatively. An updated EM&A arrangement to propose the temporary suspension of water quality and line-transect monitoring from March to December 2023 was submitted to EPD on 21 March 2023. EPD advised no comment on the updated EM&A arrangement on 29 March 2023. The water quality and line-transect monitoring were then temporarily suspended from 30 March 2023 onward. A two-week advance notice will be made by the Contractor prior to resumption of marine construction works. The water quality monitoring and line-transection monitoring will be resumed upon the resumption of marine construction works. ET will notify the resumption of marine construction works with updated EM&A schedule within one day after receiving the notification from contractor.

Summary of Upcoming Key Issues and Key Mitigation Measures

A14. Key activities anticipated in the next reporting period for the Project will include the following:

- Reclamation Area:
  - Installation of Instrumentation

  - Site Investigation works for foundation
  - Foundation works (including Driven H Pile and Socketed H Pile)
  - Pile cap construction
  - Structural steel work
- Seawall Portion:
  - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
  - Construction of wave wall along the vertical seawall above +3PD

A15. The key environmental mitigation measures for the Project in the coming reporting period associated with the construction activities will include:

- Reduction of noise from equipment and machinery on-site;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site, especially under heavy rains and adverse weather;
- Dust control of exposed soil surface and stockpile of dusty material at reclaimed area;
- Dust suppression measures for exposed earth surface and stockpile of dusty material;
- Site runoff control measure during construction works; and
- Dust and noise control of foundation works.

1. BASIC PROJECT INFORMATION

1.1 Background

1.1.1 The Government of Hong Kong SAR will develop the Integrated Waste Management Facilities (IWMF) Phase 1 (hereafter "the Project") with incineration to achieve substantial bulk reduction of unavoidable municipal solid waste (MSW) and to recover energy from the incineration process. The IWMF will be on an artificial island to be formed by reclamation at the south-western coast of Shek Kwu Chau. Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) was awarded the contract under Contract No. EP/SP/66/12 Integrated Waste Management Facilities Phase 1 to construct and operate the Project.

1.1.2 An environmental impact assessment (EIA) study for the Project has been conducted and the EIA Report was approved under the Environmental Impact Assessment Ordinance on 17 January 2012. An Environmental Permit (EP) (EP No.: EP-429/2012) was granted to EPD on 19 January 2012 for the construction and operation of the Project. Subsequently, the EP was amended (EP No.: EP-429/2012/A) and a further EP (FEP) (EP No.: FEP-01/429/2012/A) was granted to the Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) on 27 December 2017.

1.1.3 A further EP (FEP) (EP No.: FEP-02/429/2012/A) on Submarine Cable for the Development of the Project was granted to CLP Power Hong Kong Limited (CLP) on 17 January 2020.

1.1.4 The key design and construction elements of the Project include the Design and the Works including but not limited to the design, engineering procurement, construction, testing and commissioning of the Facility including:

- Ground Treatment works;
- Seawall and Breakwater construction;
- Non-dredged Reclamation;
- Other Marine works and Harbour and Port Facilities;
- Site formation;
- Municipal Solid Waste (MSW) Treatment Processes;
- Energy Recovery for Power Generation and Surplus Electricity export;
- Wastewater treatment process;
- Desalination and water treatment process;
- Civil works;
- Building and Structural works;
- Electrical and Mechanical works;
- Building Services;
- Architectural and Landscaping works; and
- All other design and works required for the operation and maintenance of the Facility according to the Contract requirements.

1.1.5 The location of the IWMF near Shek Kwu Chau (SKC) and general layout of IWMF are shown in **Figure 1.1** and **Figure 1.2** respectively.

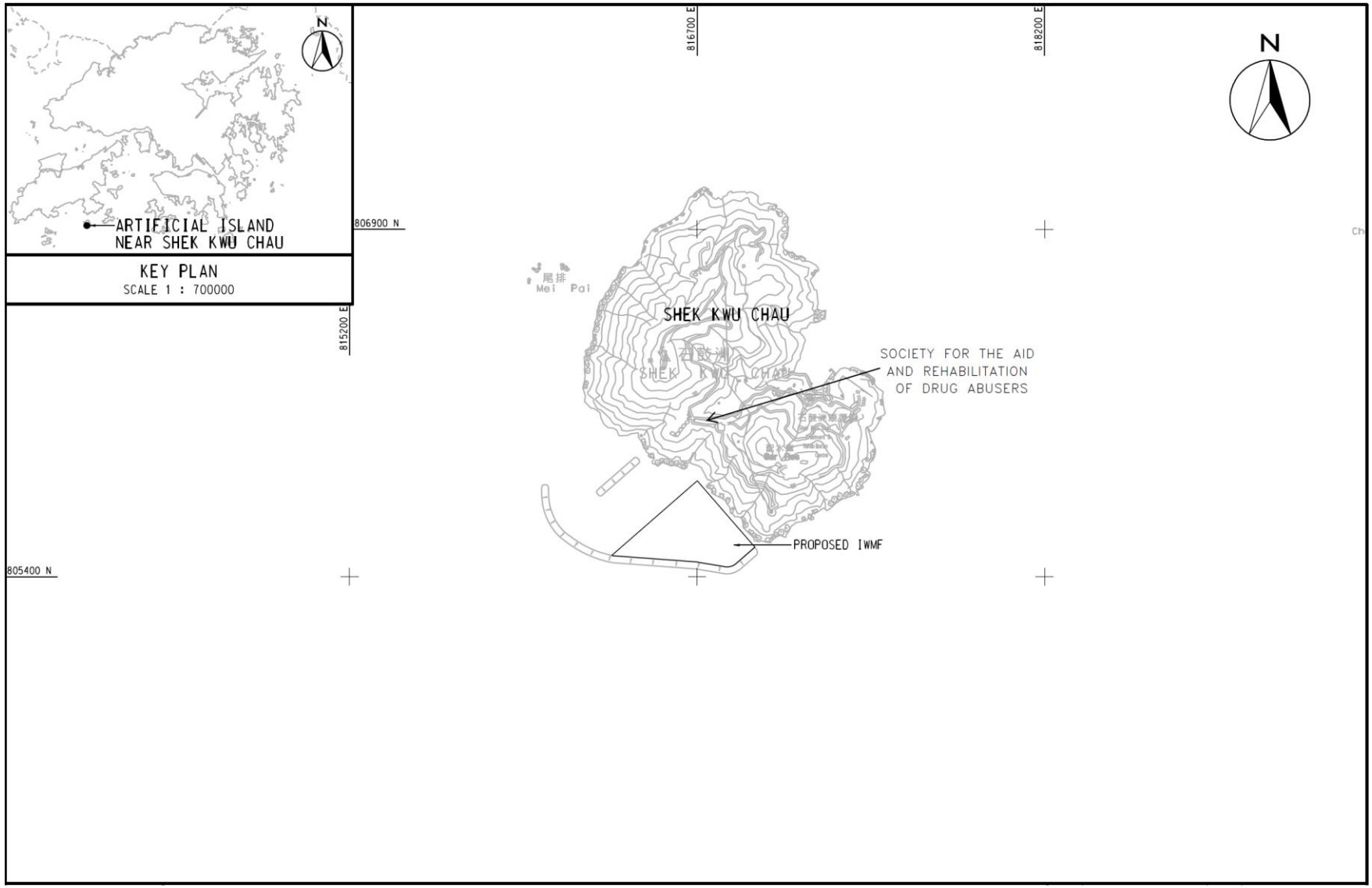


Figure 1.1 Location of the IWMF at the Artificial Island near SKC

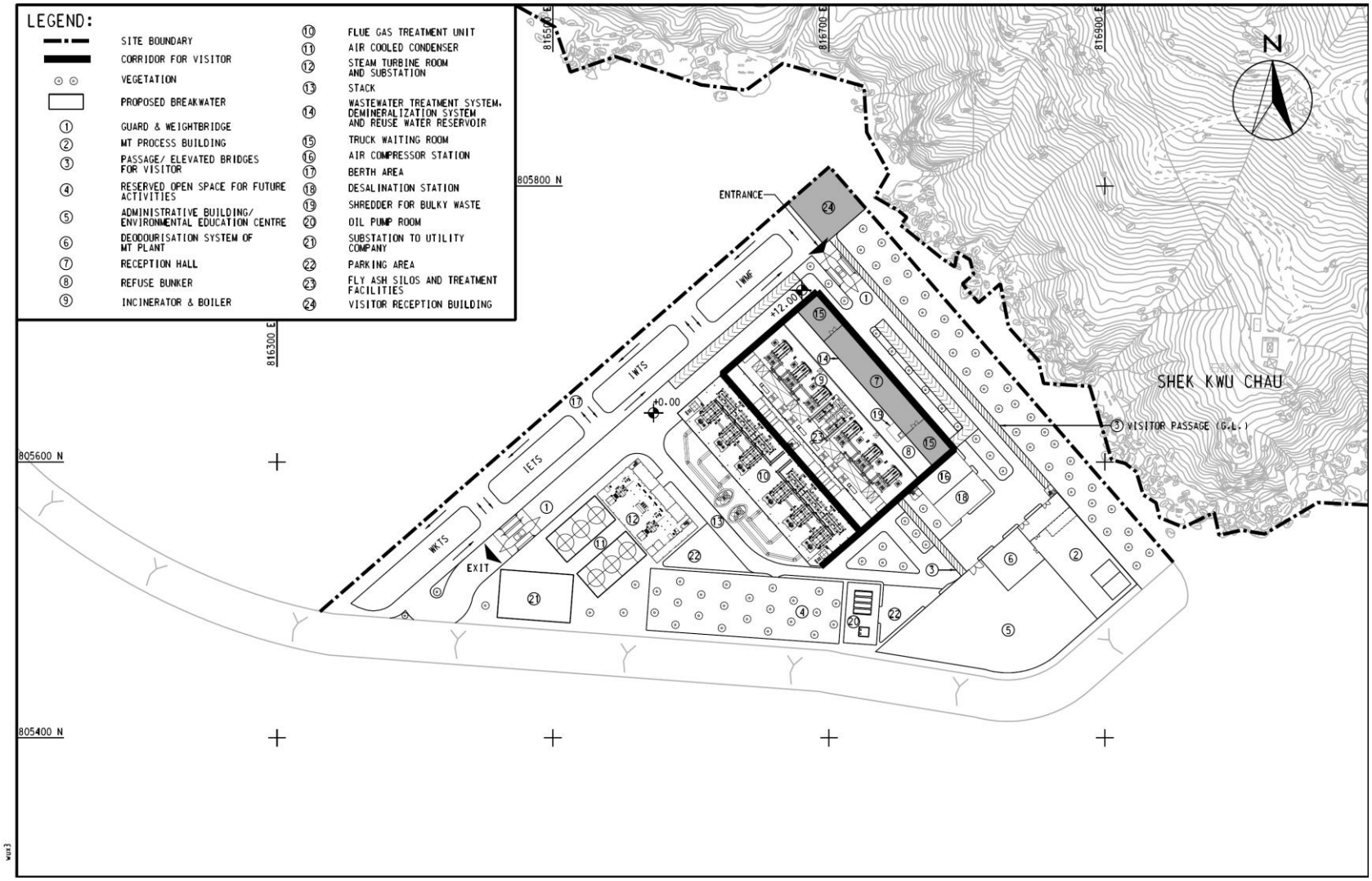


Figure 1.2 General Layout of the IWMF at the Artificial Island near SKC

1.2 The Reporting Scope

1.2.1 This is the 57th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 March 2023 to 31 March 2023.

1.3 Project Organization

1.3.1 The Project Organization structure for Construction Phase is presented in **Figure 1.3**.

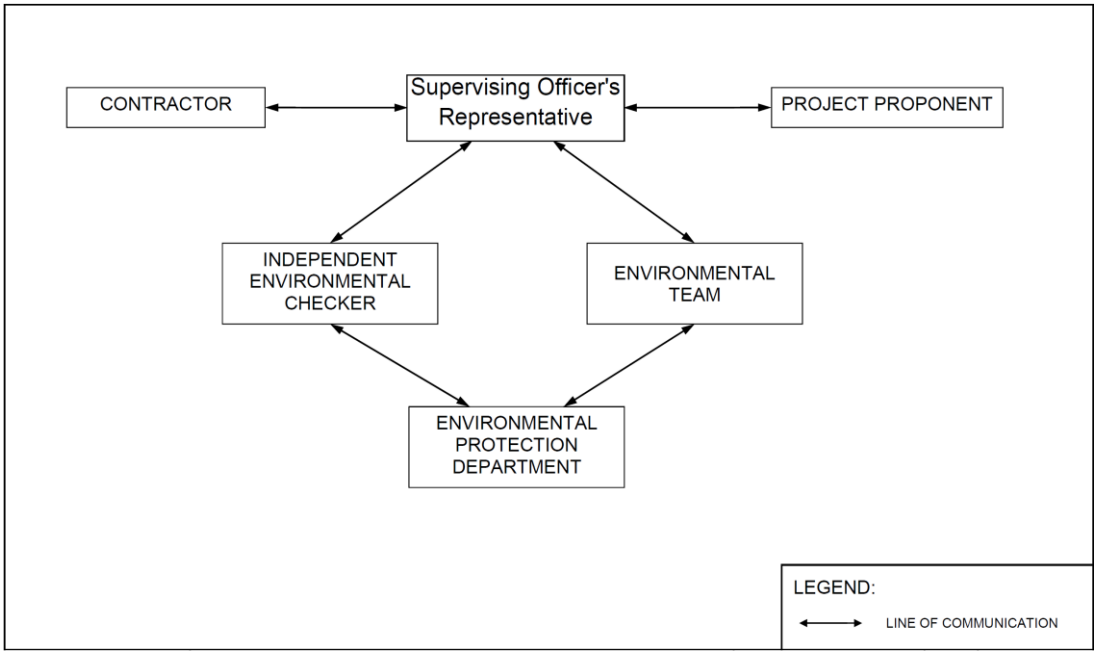


Figure 1.3 Project Organization Chart

1.3.2 Contact details of the key personnel are presented in **Table 1.1** below:

Table 1.1 Contact Details of Key Personnel

Party	Position	Name	Telephone no.
Keppel Seghers – Zhen Hua Joint Venture	Project Manager	Peter Chung	2192-0603
Acuity Sustainability Consulting Limited	Environmental Team Leader	F.C. Tsang	2698-6833
ERM-Hong Kong, Limited	Independent Environmental Checker	Mandy To	2271-3000

1.4 Summary of Construction Works

1.4.1 Details of the major construction activities undertaken in this reporting period are shown in **Table 1.2** and **Figure 1.4** below. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Activities Undertaken during the Reporting Month

Location of works	Construction activities undertaken	Remarks on progress
Reclamation area	• Installation of Instrumentation	• On-going
	• Site Investigation works for foundation	• On-going
	• Foundation works (including Driven H Pile and Socketed H Pile)	• On-going
	• Pile cap construction	• On-going
	• Structural steel work	• On-going
Seawall portion	• Caisson extension works, from +3mPD to +6mPD, at Seawall A and B	• On-going
	• Construction of wave wall along the vertical seawall above +3PD	• On-going

Figure 1.4 Location of Major Construction Activities Undertaken during the Reporting Month

1.5 Summary of Environmental Status

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

Table 1.3 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Variation of Environmental Permit	EP-429/2012/A	Throughout the Contract	
Further Environmental Permit	FEP-01/429/2012/A	Throughout the Contract	
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref No.: 428778	15/12/2017 – 22/09/2024	
Wastewater Discharge Licence	WT00039438-2021	15/02/2022 – 28/02/2027	
Chemical Waste Producer Registration	WPN0017-933-K3301-01	Throughout the Contract	
	WPN5213-961-K3301-02	Throughout the Contract	
	WPN5296-839-K3301-03	Throughout the Contract	
Construction Noise Permit (24 hours)	GW-RS0152-23	27/02/2023– 26/08/2023	Portion 1, 1A & 1B
Construction Noise Permit (Percussive piling)	PP-RS0019-22	07/11/2022– 05/05/2023	Portion 1
Billing Account for Disposal of Construction Waste	A/C No.:7029768	Throughout the Contract	

1.5.2 The status for all environmental aspects is presented in **Table 1.4**.

Table 1.4 Summary of Status for Key Environmental Aspects under the Updated EM&A Manual

Parameters	Status
Water Quality	
Baseline Monitoring under Updated EM&A Manual and Detailed Plan on DCM	The baseline water quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	As confirmed with Contractor and Project Supervising Officer, no marine construction work will be carried out from March to December 2023 tentatively. An updated EM&A arrangement to propose the temporary suspension of water quality and line-transect monitoring from March to December 2023 was submitted to EPD on 21 March 2023. EPD advised no comment on the updated EM&A arrangement on 29 March 2023. The water quality and line-transect monitoring were then temporarily suspended from 30 March 2023 onward. A two-week advance notice will be made by the Contractor prior to resumption of marine construction works. The water quality monitoring and line-transection monitoring will be resumed upon the resumption of marine construction works. ET will notify the resumption of marine construction works with updated EM&A schedule within one day after receiving the notification from contractor
Post DCM Monitoring	All DCM was completed on 14 October 2020, regular DCM monitoring for further 4 weeks (i.e form 16 October 2020 to 14 November 2020) was completed according to the approved Detailed Plan on Deep Cement Mixing
Initial Intensive DCM Monitoring	Conducted from 11 February 2019 to 10 March 2019, had not been resumed since there was no DCM related parameter exceeding the AL/LL.
Baseline Water Quality of wet season	Completed over 13 August 2018 to 7 September 2018
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Coral	
Pre-translocation Survey and Coral Mapping	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12
Coral Translocation	Completed on 28 March 2018
Post-Translocation Coral Monitoring	Survey affected by missing of translocated and tagged coral colonies after typhoons in September 2018, completed on 28 March 2019.
Pre-construction Coral Survey and Tagging	Completed on 26 June 2018
Tagged Coral Monitoring	Survey obstructed due to missing of tagged coral colonies after typhoons in September 2018
Coral Survey and Re-	Re-tagging at Indirect Impact Site was conducted on 23

Parameters	Status
tagging	November and Re-tagging at Control Site was conducted on 3 December 2018.
Post Re-tagging Coral Monitoring	On-going
Marine Mammal	
Vessel-based Line-transect Survey Baseline Monitoring	The baseline marine mammal monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Vessel-based Line-transect Survey Impact Monitoring	Temporarily suspended since 30 March 2023, as no marine construction works as defined in the approved EIA report (AEIAR-163/2012) and the Updated EM&A Manual was conducted in this reporting month.
Land-based Theodolite Tracking	30 days of theodolite surveys were started on 21 Feb 2019 and completed in May 2019.
Passive Acoustic Monitoring	30 days of PAM surveys were started on 1 May 2019 and completed by the end of May 2019.
White-bellied Sea Eagle	
Baseline Monitoring	The baseline WBSE monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going, since chick was observed during monitoring event on 28 March 2023, the frequency of impact monitoring will changed to 7-day consecutive monitoring.
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	On-going
Mitigation Measures in Marine Mammal Watching Plan (MMWP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Detailed Monitoring Programme on Finless Porpoise (DMPFP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Vessel Travel Details	On-going
Daily Site Audit and Monitoring for Dredging Work	Completed

1.5.3 Other than the EM&A work by ET, environmental briefings, trainings and regular environmental management meetings were conducted, in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

1.5.4 The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the Updated EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix B**.

2. MARINE WATER QUALITY MONITORING

2.1 Water Quality Requirements

2.1.1 To ensure no adverse water quality impact, water quality monitoring is recommended to be carried out at the nearby water sensitive receivers (WSRs) during construction phase including proposed reclamation, breakwater construction, etc.

2.1.2 In accordance with the Updated EM&A Manual, impact water quality monitoring were conducted 3 days per week at mid-flood and mid-ebb tide to obtain impact water quality levels at the eleven monitoring stations during general water quality monitoring for the reporting period.

2.2 Water Quality Parameters, Time, Frequency

2.2.1 Dissolved Oxygen (DO), Turbidity, Suspended Solids (SS), Salinity and pH have been undertaken at the eleven monitoring stations during general water quality monitoring.

2.2.2 DO, temperature, salinity, turbidity and pH have been measured in-situ and the SS, has been assayed in a HOKLAS laboratory.

2.2.3 In associate with the water quality parameters, other relevant data were also measured, such as monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway nearby were also recorded. The monitoring schedule is provided in **Appendix C**.

2.2.4 Impact water quality monitoring was conducted 3 days per week in the reporting period. All parameters were monitored during mid-flood and mid-ebb tides at three water depths for general water quality monitoring. The interval between two sets of monitoring has not been less than 36 hours.

2.2.5 **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact water quality monitoring during construction phase.

Table 2.1 Water Quality Monitoring Parameters, Frequency and Duration

Parameter, unit	Frequency	No. of Depths
• Water Depth (m) • Temperature (ºC) • Salinity (ppt) • pH (pH unit) • Dissolved Oxygen (DO) (mg/L and % of saturation) • Turbidity (NTU) • Suspended Solids (SS), mg/L	General water quality monitoring : 3 days per week, at mid-flood and mid-ebb tides	3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

2.3 Water Quality Monitoring Locations

2.3.1 Impact water quality monitoring was conducted at eleven monitoring locations (B1-B4, H1, C1, C2, F1, CR1, CR2 & M1) during general water quality monitoring in the reporting period as shown in **Figure 2.1**. As per the relocation proposal verified by IEC and approved by EPD, the monitoring location C1, C2, S2, F1 are relocated at C1A, C2A, S2A, F1A as equivalent points respectively to clear up the concerns from stakeholders.

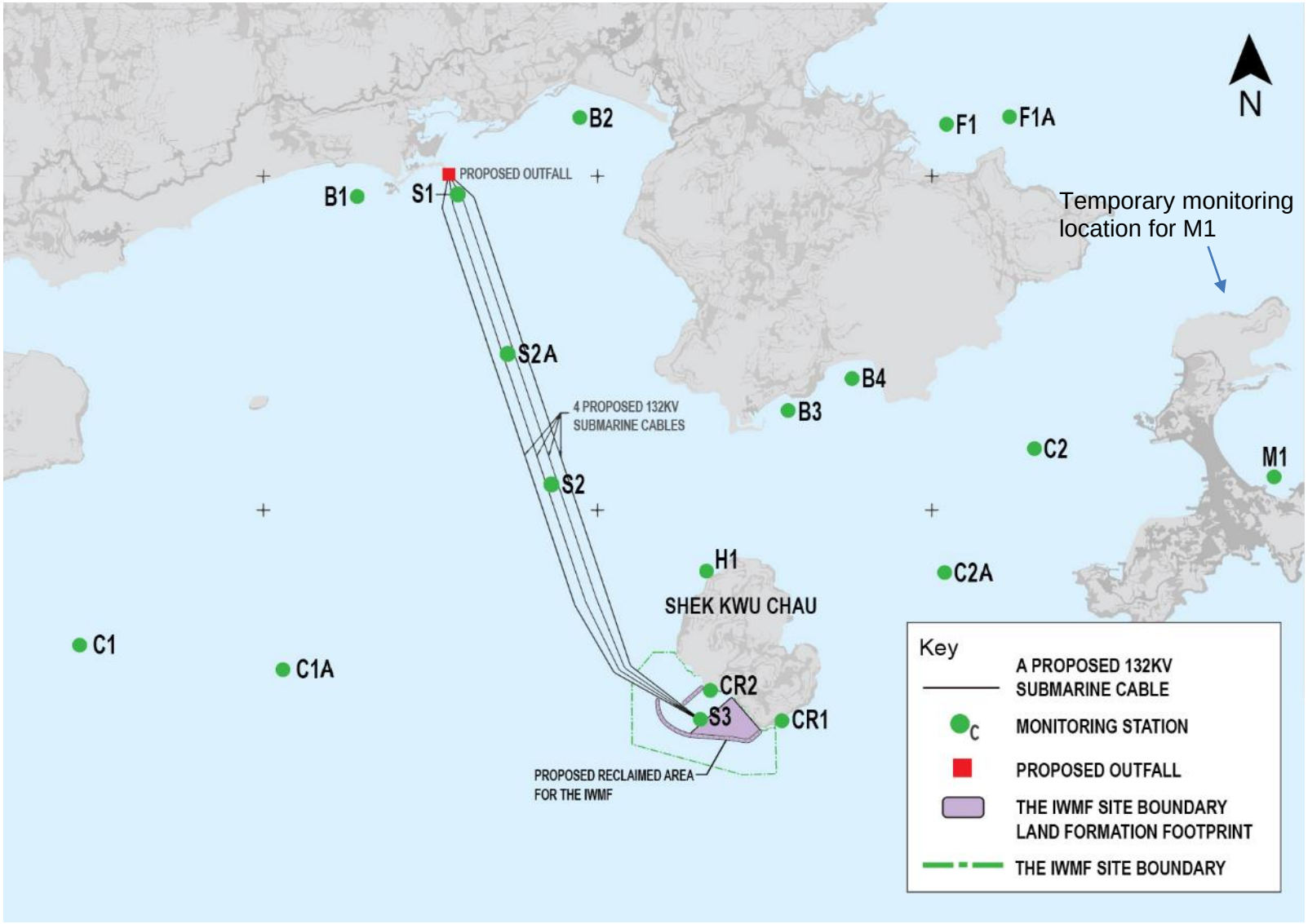


Figure 2.1 Water monitoring locations at Artificial Island near SKC

2.3.2 B1 to B4 are located at 4 beaches respectively at the southern shore of Lantau Island. Monitoring station H1 is located at the horseshoe crab habitat at northern SKC, while CR1 and CR2 are located at the coral communities at southwestern shore of SKC. Monitoring station F1 is located at the Cheung Sha Wan Fish Culture Zone while monitoring station M1 is located at Tung Wan at Cheung Chau. Monitoring station F1A is relocated for F1 at the Cheung Sha Wan Fish Culture Zone. S1, S2 and S3 are located at the northern landing site, midway and southern landing site of the proposed submarine cable, respectively. S2A is the relocated monitoring station of S2 which represents the midway landing site of the proposed submarine cable. S1, S2/S2A and S3 are required for monitoring due to the laying of submarine cable. Control stations C1 and C2 at far field locations are for comparison. Control stations C1A and C2A are relocated for C1 and C2 respectively as equivalent far field locations for comparison.

2.3.3 Fourteen monitoring stations are listed in **Table 2.2**.

Table 2.2 – Locations of Marine Water Quality Stations

Monitoring station	Description	Easting	Northing
B1	Beach – Cheung Sha Lower	813342	810316
B2	Beach – Pui O	815340	811025
B3	Beach – Yi Long Wan	817210	808395
B4	Beach – Tai Long Wan	817784	808682
H1	Horseshoe Crab – Shek Kwu Chau	816477	806953
C1	Control Station (note i)	810850	806288
C1A	Relocated Control Station	812823	806300
C2	Control Station (note ii)	819421	808053
C2A	Relocated Control Station	818869	806808
F1	Cheung Sha Wan Fish Culture Zone (note iii)	818631	810966
F1A	Cheung Sha Wan Fish Culture Zone	819109	810924
S1	Submarine Cable Landing Site	814245	810335
S2	Submarine Cable (note iv)	815076	807747
S2A	Submarine Cable	814808	808515
S3	Submarine Cable Landing Site	816420	805621
CR1	Coral	817144	805597
CR2	Coral	816512	805882
M1	Tung Wan	821572	807799

Note:

i. Relocated to C1A in Mar 2019
ii. Relocated to C2A in Mar 2019
iii. Relocated to S2A in Mar 2019
iv. Relocated to F1A in Mar 2019

2.4 Impact Monitoring Methodology

2.4.1 General water quality monitoring was conducted three days per week, at mid-flood and mid-ebb tides, at the designated water quality monitoring stations during the reporting period.

2.4.2 The interval between 2 sets of monitoring was not less than 36 hours. Sampling was collected at three water depths, namely, 1m below water surface, mid-depth and 1m above seabed, except where the water depth is less than 6m, the mid-depth was omitted. If the water depth was less than 3m, only the mid-depth station was monitored.

2.4.3 All observations and results were presented in **Appendix D**. Duplicate in-situ measurements and water sampling were carried out in each sampling event. The monitoring probes were retrieved out of water after the first measurement and then redeployed for the second measurement. When the difference in value between the first and second readings of DO or turbidity is more than 25% of the value of the first reading, the reading would be discarded and further readings would be taken.

In-situ Measurement

2.4.4 Levels of DO, pH, temperature, turbidity and salinity would be measured in-situ by portable and weatherproof measuring instrument, e.g. YSI ProDSS and Horiba U-53 Multiparameter complete with cable and sensor. (Refer to http://www.ysi.com/ProDSS for YSI ProDSS technical specification and https://static.horiba.com/fileadmin/Horiba/Products/Process_and_Environmental/Water_Pollution/Instruction_Manuals/U-50/U-50_SS_E.pdf for Horiba U-53 technical specification). Water current velocity and water current direction would be measured by portable and weatherproof current meter, e.g. SonTek Hydrosurveyor (Refer to https://www.sontek.com/hydrosurveyor for SonTek Hydrosurveyor M9 technical specification). Parameters measured by in-situ measurement is tabulated in **Table 2.3**

Table 2.3 – Parameters Measured by In-situ Measurement

Parameter	Resolution	Range
Temperature	0.1 ºC	-5-70 ºC
Dissolved Oxygen (DO)	0.01 mg/L	0-50.0 mg/L
Turbidity	0.1 NTU	0-1000 NTU
pH	pH 0.01	pH 0-14
Salinity	0.01 ppt	0-40 ppt
Water Current Velocity	0.001m/s	±20m/s
Water Current Direction	±1º	±2º

Laboratory Analysis

2.4.5 Analysis of SS shall be carried out in a HOKLAS accredited laboratory, as shown in **Appendix E**. Sufficient water samples shall be collected at the monitoring stations for carrying out the laboratory determinations. The determination work shall be started within 24 hours after collection of the water samples. Analytical methods and detection limits for SS is presented in **Table 2.4**.

Table 2.4 – Analytical Methods Applied to Water Quality Samples

Parameter	Analytical method	Detection Level
Suspended Solids, SS	APHA 2540 D[i]	1 mg/L

Footnote:
i. "APHA 2540 D" stands for American Public Health Association Standard Methods for the Examination of Water and Wastewater, 23rd Edition.

Field Log

2.4.6 Other relevant data was recorded, such as: monitoring location / position, time, water depth, weather conditions and any special phenomena underway near the monitoring station.

2.5 Monitoring Equipment

2.5.1 Equipment used in the impact water quality monitoring programme is summarized in **Table 2.5** below. Calibration certificates for the water quality monitoring equipment are attached in **Appendix F**.

Table 2.5 Impact Water Quality Monitoring Equipment

Monitored Parameter	Equipment	Brand and Model
DO, Temperature, Salinity, pH and Turbidity	Multi-functional Meter	Horiba U-53 YSI ProDSS Multi Parameter
Coordinates	Positioning Equipment	Garmin GPSMAP 78s
Water depth	Water Depth Detector	Hummingbird 160 Portable
SS	Water Sampler	Wildco 2 L Water Sampler with messenger

2.5.2 Dissolved Oxygen and Temperature Measuring Equipment

The instrument is a portable and weatherproof DO probe mounted on the multi-functional meter complete with cable and sensor and is powered by a DC supply source. The equipment was capable of measuring:

- A DO level in the range of 0 - 50 mg/L; and
- Temperature of -5 - 70 degree Celsius.

2.5.3 Turbidity Measurement Instrument

The instrument is a portable and weatherproof turbidity-measuring probe mounted on the multi-functional meter and is powered by a DC supply source. The instrument is equipped with a photoelectric sensor which is capable of measuring turbidity between 0 – 1000 NTU.

2.5.4 pH Measurement Instrument

The probe consists of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device mounted on the multi-functional meter. It is readable to 0.1 pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

2.5.5 Salinity Measurement Instrument

A portable salinometer mounted on the multi-functional meter capable of measuring salinity in the range of 0-40 parts per thousand (ppt) was provided for measuring salinity of the water at each monitoring location.

2.5.6 Sampler

The water sampler comprises a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler has a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.

2.5.7 Sample Containers and Storage

Water samples for SS were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory and analysed as soon as possible after collection. Sufficient volume of samples was collected to achieve the detection limit stated in **Table 2.4**.

2.5.8 Water Depth Detector

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station. This unit could either be hand-held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

2.5.9 Monitoring Position Equipment

Hand-held digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message 'screen pop-up' facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office) was provided and used to ensure that the water sampling locations were correct during the water quality monitoring work.

2.6 Maintenance and Calibration

2.6.1 The multi-functional meters were checked and calibrated before use. Multi-functional meters were certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed.

2.6.2 Sufficient stocks of spare parts were provided and maintained for replacements when necessary. Backup monitoring equipment was prepared for uninterrupted monitoring during equipment maintenance or calibration during monitoring.

2.7 Action and Limit Levels

2.7.1 The Action and Limit Levels have been set based on the derivation criteria specified in the Updated EM&A Manual and Detailed DCM Plan, as shown in **Table 2.6** below.

Table 2.6 Criteria of Action and Limit Levels for Water Quality

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 5 %-ile of baseline data	≤ 4
SS in mg/L	≥ 95 %-ile of baseline data or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 99 %-ile of baseline data or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 95 %-ile of baseline data or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 99 %-ile of baseline data or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in°C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

2.7.2 Based on the baseline monitoring data and the derivation criteria specified above, the Action/Limit Levels have been derived and are presented in **Table 2.7** and **Table 2.8** for both dry seasons (October – March) and wet seasons (April – September).

Table 2.7 Derived Action and Limit Levels for Water Quality Monitoring (Dry Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 7.13	≤ 4
SS in mg/L	≥ 8 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 10 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 5.6 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 12.8 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in°C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

Notes:
i. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
ii. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
iii. For turbidity, SS and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 2.8 Derived Action and Limit Levels for Water Quality (Wet Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 5.28	≤ 4
SS in mg/L	≥ 12 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 14 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 4.0 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 4.3 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in°C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

Notes:
i. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
ii. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
iii. For turbidity, SS and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

2.7.3 If exceedances were found during water quality monitoring, the actions in accordance with the Event and Action Plan shall be carried out according to **Appendix G**.

2.8 Monitoring Results and Observations

2.8.1 As confirmed by the Contractor on 14 October 2020, all DCM works was completed on 14 October 2020, the post DCM water quality monitoring was completed for further 4 weeks (i.e. from 16 October 2020 to 14 November 2020) according to the approved Detailed Plan on Deep Cement Mixing. As all DCM work and post DCM water quality monitoring were completed, no water quality monitoring was conducted at S1, S2A and S3 during the reporting period. General water quality monitoring at all the eleven monitoring stations were conducted on 1, 4, 6, 8, 10, 13, 15, 17, 20, 22, 24, 27 and 29 March 2023 during the reporting period. As no marine construction work will be carried out from March to December 2023 and EPD advised no comment on temporary suspension of water quality monitoring on 29 March 2023, the water quality was then temporarily suspended from 30 March 2023 onward.

2.8.2 Monitoring results of 6 key parameters: Salinity, DO, turbidity, SS, pH and temperature in this reporting period, are summarized in **Table 2.9**, and details are presented in **Appendix D.**

Table 2.9 Summary of Impact Water Quality Monitoring Results

Locations		Parameters						
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)	Temp.(°C)
			Surface & Middle	Bottom				
B1	Avg.	32.92	9.06	9.05	8.26	3.4	3.80	21.4
	Min.	29.16	8.40	8.37	8.04	2.0	2.50	19.1
	Max.	34.66	9.85	9.86	8.42	5.0	9.00	22.6
B2	Avg.	32.69	8.87	8.86	8.27	3.5	3.88	21.3
	Min.	30.11	8.21	8.27	8.05	2.2	2.50	18.8
	Max.	34.46	9.64	9.56	8.43	5.4	11.00	22.6
B3	Avg.	32.69	9.06	9.05	8.25	4.0	3.57	21.4
	Min.	29.88	8.32	8.29	8.08	2.5	2.50	18.9
	Max.	34.62	9.76	9.81	8.41	6.5	11.00	22.4
B4	Avg.	32.60	9.10	9.11	8.25	3.9	3.50	21.4
	Min.	28.59	8.26	8.13	7.99	2.3	2.50	18.9
	Max.	34.26	9.70	9.59	8.40	5.4	9.00	22.6
C1A	Avg.	32.87	8.97	8.98	8.26	5.3	3.56	21.4
	Min.	30.21	8.19	8.23	8.08	3.3	2.50	18.9
	Max.	34.62	9.83	9.71	8.42	7.0	10.00	22.6
C2A	Avg.	32.80	8.92	8.93	8.25	5.3	3.23	21.4
	Min.	28.65	8.07	8.06	8.08	3.4	2.50	18.9
	Max.	34.55	9.78	9.81	8.43	7.4	8.00	22.7
CR1	Avg.	32.97	8.96	8.94	8.26	4.1	3.77	21.4
	Min.	29.00	7.94	7.94	8.03	2.6	2.50	19.0
	Max.	34.77	9.80	9.78	8.42	5.7	10.00	22.8
CR2	Avg.	32.66	9.06	9.05	8.28	4.1	3.54	21.4
	Min.	29.43	8.27	8.30	8.13	2.3	2.50	19.0
	Max.	34.60	10.10	9.85	8.42	6.2	8.00	22.6
F1A	Avg.	32.69	9.15	9.16	8.26	3.7	3.48	21.4
	Min.	29.47	8.27	8.29	8.06	2.3	2.50	18.9
	Max.	34.60	9.87	9.88	8.44	5.5	11.00	22.6
H1	Avg.	32.80	8.82	8.83	8.25	3.7	3.31	21.4
	Min.	28.72	8.33	8.31	8.02	2.2	2.50	18.9
	Max.	34.30	9.79	9.68	8.43	5.6	8.00	22.5
M1	Avg.	32.86	8.88	8.88	8.27	3.6	3.40	21.4
	Min.	28.83	8.25	8.28	8.10	2.2	2.50	19.1
	Max.	34.55	9.48	9.47	8.43	5.6	8.00	22.5
S1	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-
S2A	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-
S3	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-

Notes:

i. "Avg", “Min” and “Max” is the average, minimum and maximum respectively of the data from measurements conducted under mid-flood and mid-ebb tides at three water depths, except that of DO where the data for “Surface & Middle” and “Bottom” are calculated separately.

ii. As all DCM works and post DCM water quality monitoring were completed, no water quality monitoring was conducted at S1, S2A and S3 in the report period.

iii. As all DCM works were completed on 14 October 2020, no water quality monitoring for total alkalinity was conducted in the report period.

iv. As no marine construction work will be carried out from March to December 2023 and EPD advised no comment on temporary suspension of water quality monitoring on 29 March 2023, the water quality was then temporarily suspended from 30 March 2023 onward.

2.8.3 During the reporting period, three (3) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Action Level and one (1) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Investigations were carried out for each exceedance during the reporting period.

2.8.4 No project-related Action Level & Limit Level exceedance was recorded from 1 March 2023 to 29 March 2023.

2.8.5 Details of the exceedance are presented in **Section 8**.

2.8.6 Mitigation measures minimizing the adverse impacts on water quality are listed in the implementation schedule given in **Appendix B.**

3. NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 To ensure no adverse noise impact, noise monitoring is recommended to be carried out at the nearby noise sensitive receivers (NSRs) during construction phase.

3.1.2 In accordance with the Updated EM&A Manual, baseline noise level at the noise monitoring stations was established as presented in the Baseline Monitoring Report. Impact noise monitoring was conducted once per week in the form of 30-minutes measurements Leq, L10 and L90 levels recorded at each monitoring station between 0700 and 1900 hours on normal weekdays.

3.1.3 In accordance with the Updated EM&A Manual, additional weekly impact monitoring should be carried out during respective restricted hours period (1900 – 0700 hours) if the construction works were conducted at evening and night time. Additional weekly noise monitoring was conducted once per week in the form of 5-minutes measurements Leq, L10 and L90 levels recorded at each monitoring station between 1900 and 0700 hours as well as public holidays and Sundays.

3.2 Noise Monitoring Parameters, Time, Frequency

3.2.1 Impact noise monitoring was conducted weekly in the reporting period between 0700 and 1900 hours on normal weekdays. Additional impact noise monitoring was conducted weekly in the reporting period between 1900-0700 hours on all days as well as public holidays and Sundays.

3.2.2 Construction noise level measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}). $L_{eq\ 30min}$ was used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. $L_{eq\ 5min}$ was used as the monitoring parameter for the time period between 1900 and 0700 hours as well as public holidays and Sundays. **Table 3.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring and additional impact noise monitoring. The monitoring schedule is provided in **Appendix C**.

Table 3.1 Noise Monitoring Parameters, Time, Frequency and Duration

Monitoring Station	Time	Duration	Parameters
M1/ N_S1, M2/ N_S2, M3/ N_S3	Day time: 0700-1900 hrs (during normal weekdays)	Once per week $L_{eq\ 5min}$/$L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}
	Evening time: 1900-2300 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}
	Night time: 2300-0700 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq}, L_{10} & L_{90}

3.3 Noise Monitoring Locations

3.3.1 Three noise monitoring locations for impact monitoring and additional impact monitoring at the nearby sensitive receivers are shown in **Figure 3.1.**

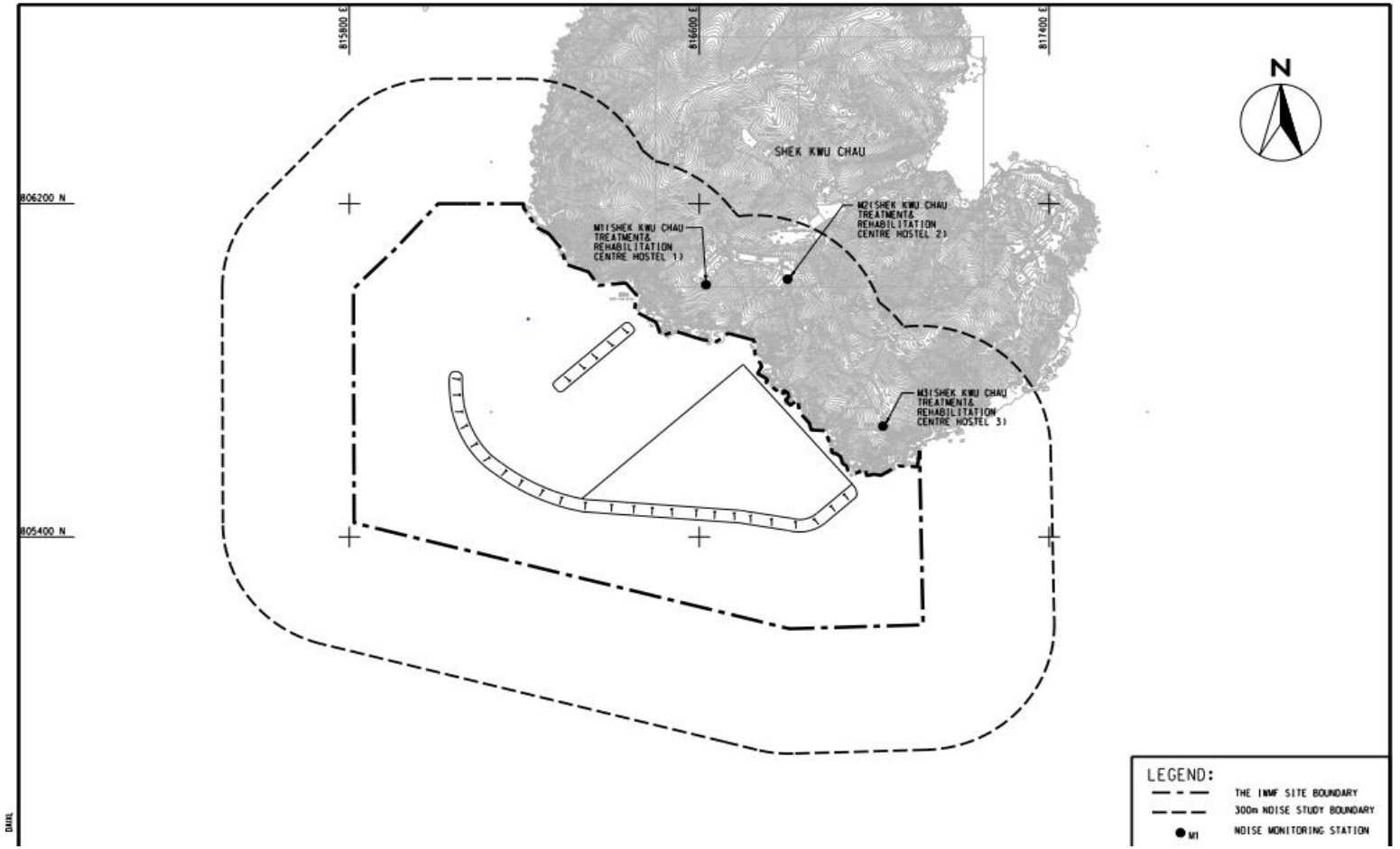


Figure 3.1 Noise monitoring locations at SKC

3.3.2 M1, M2 and M3 are Shek Kwu Chau Treatment and Rehabilitation Centre Hostel 1, 2 and 3 respectively of The Society for the Aid and Rehabilitation of Drug Abusers (SARDA) located at southern part of Shek Kwu Chau.

3.3.3 Measurements at M1 & M3 were conducted at a point 1m from the exterior of the sensitive receivers building façade and at a position 1.2m above the ground. Measurement setup at M3 has been varying with minor adjustment to minimize the disturbance to the users of Treatment Centre. Measurement at M2 was conducted at a point 1m from building façade of the ceiling of 1st floor level for avoidance of mutual disturbance with users of Treatment Centre. The minor adjustment of monitoring locations, which were in favour to mutual convenience with the users of Treatment Centre, were found with no effect on monitoring result based on on-site observation and experience from the Baseline monitoring of the Project. The noise monitoring stations are summarized in **Table 3.2** below.

Table 3.2 Noise Monitoring Location

Station	NSR ID in EIA Report	Noise Monitoring Location	Type of sensitive receiver(s)	Measurement Type
M1	N_S1	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1	Residential	Façade
M2	N_S2	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2	Residential	Façade
M3	N_S3	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3	Residential	Façade

3.4 Impact Monitoring Methodology

3.4.1 At each designated monitoring location, measurements of six 5-minute A-weighted equivalent sound pressure level ["$L_{eq\ 5min}$"] was carried out between 0700 and 1900 hours for daytime measurements on a normal weekdays (excluding Sunday or general holiday). The measured six impact noise levels at each monitoring location shall then be averaged in logarithmic scale and expressed in terms of the 30-minute A-weighted equivalent continuous sound pressure level ($L_{eq\ 30min}$) for the time period between 0700 and 1900 hours on normal weekdays.

3.4.2 At each designated monitoring location, measurements of three 5-minute A-weighted equivalent sound pressure level ["$L_{eq\ 5min}$"] was carried out between 1900 and 0700 hours for evening time and night time measurements.

3.4.3 The monitoring procedures are as follows:

- The microphone head of the sound level meter was normally positioned 1 m exterior of the noise sensitive façade and lowered sufficiently so that the building's external wall acts as a reflecting surface.
- If there is a problem with the access to the normal monitoring position, an alternative may be chosen and appropriate correction would be applied according to acoustic principle when necessary. For reference, +3 dB(A) correction would be made for free-field measurements.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - Frequency weight: A
  - Time weighting: Fast
  - Measurement time: 5 minutes

- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- Noise monitoring was carried out for 30 minutes by sound level meter. At the end of the monitoring period, noise levels in terms of L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded when the equipment was checked and inspected.
- All the monitoring data within the sound level meter system was downloaded through the computer software.

3.5 Monitoring Equipment

3.5.1 Integrated sound level meter was used for the noise monitoring. The meter shall comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications.

3.5.2 Equipment used in the impact noise monitoring programme is summarized in **Table 3.3** below. Calibration certificates for the noise monitoring equipment are attached in **Appendix H**.

Table 3.3 Impact Noise Monitoring Equipment

Equipment	**Brand and Model**
Sound Level Meter	SVANTEK 971
Sound Calibrator	RION NC-75

3.6 Maintenance and Calibration

3.6.1 The maintenance and calibration procedures were as follows:

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals
- Immediately prior to and following each noise measurement, the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0dB.

3.7 Action and Limit Levels

3.7.1 The Action/Limit Levels in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) "Noise from Construction Activities – Non-statutory Controls" and Technical Memorandum on Environmental Impact Assessment Process issued by HKSAR Environmental Protection Department ["EPD"] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 is presented in **Table 3.4**.

Table 3.4 Action and Limit Levels for Noise per Updated EM&A Manual

Time Period	Action	Limit (dB(A))
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

3.7.2 If exceedances were found during noise monitoring, actions in accordance with the Event and Action Plan shall be carried out according to **Appendix I**.

3.8 Monitoring Results and Observations

3.8.1 Impact monitoring for noise impact for daytime was carried out on 06, 16, 20 and 27 March 2023. Impact monitoring for noise impact for evening time and night time was carried out on 06&07, 16&17, 20&21 and 27&28 March 2023. The impact noise levels at Noise Monitoring Stations at SKC (i.e. M1/N_S1 to M3/N_S3) are summarized in **Table 3.6**, **Table 3.7** and **Table 3.8** respectively. Details of noise monitoring results are presented in **Appendix J**.

3.8.2 Major construction activity, major noise source and extreme weather which might affect the results were recorded during the impact monitoring.

3.8.3 According to our field observations, the major noise source identified at the noise monitoring station in the reporting month are summarised in **Table 3.5**. Sound from the intermittent piling work was the noticeable noise source for monitoring stations M1, M2 and M3. Air conditioning units were also observed nearby monitoring stations M3.

Table 3.5 Summary of Field Observation

Monitoring Station	Major Noise Source
M1	Sound from the intermittent piling work
M2	Sound from the intermittent piling work
M3	Sound from the intermittent piling work, air-conditioner

3.8.4 No data from impact monitoring during daytime has exceeded the stipulated limit level at 75 dB(A).

Table 3.6 Summary of Impact Noise Monitoring Results during Day Time (0700 – 1900 hours)

Location	Measured Noise Level in dB(A)		
	Range of $L_{eq\ 30min}$	Range of $L_{10\ 30min}$	Range of $L_{90\ 30min}$
M1	58.7 – 61.9	60.6 – 64.2	55.4 – 58.6
M2	56.7 – 57.5	58.5 – 59.1	53.2 – 55.2
M3	54.6 – 59.2	56.6 – 63.6	50.4 – 53.0

3.8.5 Applicable mitigation measures for construction works are fully implemented as shown in **Appendix B**, where double-glazed windows and air conditioning system were also installed and confirmed operable for the NSRs (N_S1, N_S2 & N_S3).

3.8.6 During the noise monitoring event, frontline staff of ET had inquired the treatment centre users on any noise disturbance from the construction activities at evening and night time, where no complaint and adverse opinions was received.

3.8.7 Where site inspection and auditing on Contractor's record have shown that the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority for construction works during restricted hours were followed, no inappropriate practice was spotted during evening time and night time construction works. Thus, the stipulated requirement on noise impact control during night time and evening time was achieved.

Table 3.7 Summary of Additional Impact Noise Monitoring Results during Evening Time (1900 – 2300 hours)

Location	Measured Noise Level in dB(A)		
	Range of $L_{eq\ 5min}$	Range of $L_{10\ 5min}$	Range of $L_{90\ 5min}$
M1	42.6 – 51.5	44.0 – 53.6	40.8 – 49.5
M2	49.4 – 53.7	50.8 – 54.2	47.9 – 52.1
M3	40.6 – 49.0	41.8 – 50.2	39.1 – 47.8

Table 3.8 Summary of Additional Impact Noise Monitoring Results during Night Time (2300 – 0700 hours)

Location	Measured Noise Level in dB(A)		
	Range of $L_{eq\ 5min}$	Range of $L_{10\ 5min}$	Range of $L_{90\ 5min}$
M1	39.7 – 51.8	40.9 – 54.1	37.8 – 50.1
M2	48.6 – 51.3	49.0 – 52.6	47.3 – 50.6
M3	39.5 – 48.1	40.2 – 49.3	38.8 – 47.5

4. WASTE

4.1 The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials.

4.2 As advised by the Contractor, about 22,108.9 m^3 C&D materials were generated on site in the reporting month, of which 22,108.9 m^3 of the materials were reused in other projects. No metal was generated and collected by registered recycling collector. No paper was collected by the registered recycling collector. No plastic waste was collected by registered recycling collector. No chemical waste was collected by the licensed chemical waste collector. 110.5 m^3 of other types of wastes (e.g. general refuse) was disposed of at designated landfill. No fill sand or public fill was imported during the reporting period. 902.5 m^3 of fill rock was imported during the reporting period.

4.3 Chemical waste generated from land-based construction activities was stored in the chemical waste cabinet for temporary storage.

4.4 With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix K**.

4.5 The Contractor is advised to sort and store any solid and liquid waste on-site properly prior to disposal.

Table 4.1 Quantities of Waste Generated from the Project during March 2023

Reporting Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill			Metals	Paper / cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
						Sand	Public Fill	Rock						
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)			(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000m^3)
Mar 2023	22.1089	0	0	22.1089	0	0	0	0.9025	0	0	0	0	0	0.1105

Notes: (1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor: 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: rock density = 2 T/m^3.

5. CORAL

5.1 Coral Monitoring Requirements

5.1.1 To monitor the health condition of corals during different phases, corals located within areas likely to be affected by the Project, corals located at control sites (areas unlikely to be affected by the Project), the trans-located coral colonies as well as the tagged natural coral colonies at the recipient site were chosen, in order to identify any adverse indirect impact from the marine works. The size, percentage cover and health condition of corals (i.e. any sign of abnormal appearance, such as layer of mucus, bleaching, partial mortality etc.) at representative transects should be recorded during each monitoring.

5.2 Coral Monitoring Parameters, Time, Frequency

5.2.1 Rapid Ecological Assessment (REA) survey was conducted on 26 June 2018 at the suggested control site and indirect impact site within two weeks before commencement of the construction work which was 29 June 2018. 10 selected hard coral colonies with the similar species were tagged at both control and indirect impact sites. Following coral translocation in the recipient site R3, 16 coral colonies attached to rocks less than 50 cm in diameter were translocated and tagged, as well as 10 selected natural coral colonies, at the recipient site. One additional REA survey was conducted in December 2018 to further assess the seabed condition at Indirect Impact Site after Typhoon Mangkhut.

5.2.2 Tagged coral colonies at the suggested control site and indirect impact site are being monitored weekly for the first month and followed by monthly monitoring for two months. Quarterly monitoring will be carried out after the first three-month of monthly monitoring until the completion of marine works and bi-annual monitoring will be carried out after the completion of marine works. The selected Control Site is located at Yuen Kong Chau of Soko Islands about 7 km away from the project area. Tagged coral colonies at the proposed recipient site are being monitored quarterly for one year. The selected recipient site R3 is located at the opposite side of the Project area at about 2 km away. The detailed survey of the Control Site and Impact Site were conducted before the commencement of the Construction Phase.

5.2.3 Monitoring recorded the following parameters (using the same methodology adopted during the pre-translocation survey); the size, presence, health conditions (percentage of mortality/bleaching) and percentage of sediment of each tagged coral colony. The general environmental conditions including weather, sea, and tidal conditions of impact site, control site and recipient site were monitored.

5.2.4 **Table 5.1** summarizes the monitoring locations, time and frequency of the tagged coral colonies monitoring. The monitoring schedule is provided in **Appendix C**.

Table 5.1 Tagged Coral Monitoring Locations, Time and Frequency

Monitoring Location	Monitoring Month/Year	Frequency	No. of Monitoring Survey
10 selected hard coral colonies at control site / indirect impact site	1st Month	Weekly Survey	4
	2nd to 3rd Months	Monthly Survey	2
	4th Month (postponed to 5th month due to diver accident in Shek Kwu Chau in October 2018)	Re-tagging of Coral Colonies in Indirect Impact Site after Typhoon Mangkhut	
	4th Month (postponed to 5th month due to diver accident in Shek Kwu Chau in October 2018 and further postpone to 6th month due to adverse weather)	Re-tagging of Coral Colonies in Control Site after Typhoon Mangkhut	
	5th Month (postponed to 6th month due to diver accident in Shek Kwu Chau and further postponed to 7th month due to delay of re-tagging activities at both Indirect Impact Site and Control Site)	Post Re-tagging Monthly Survey	1
	7th to 68th Months (postponed to 8th to 57th month due to diver accident in Shek Kwu Chau in October 2018)	Quarterly Survey	20
	69th to 76th Months (The marine construction work is anticipated to be completed by February 2024, the frequency of monitoring will be changed to bi-annual with reference to the Updated EM&A Mannual (Rev.E))	Bi-annually Survey	2
16 translocated hard coral colonies and 10 selected natural hard coral colonies at recipient site R3	1st Year	Quarterly Survey	4

5.3 Coral Monitoring Locations

5.3.1 Location of the ten tagged coral colonies at each of the proposed indirect impact site (re-tagging after typhoon Mangkhut), control site (baseline) and recipient site R3 (translocation) are shown in **Figure 5.1**, **Figure 5.2** and **Figure 5.3** respectively:

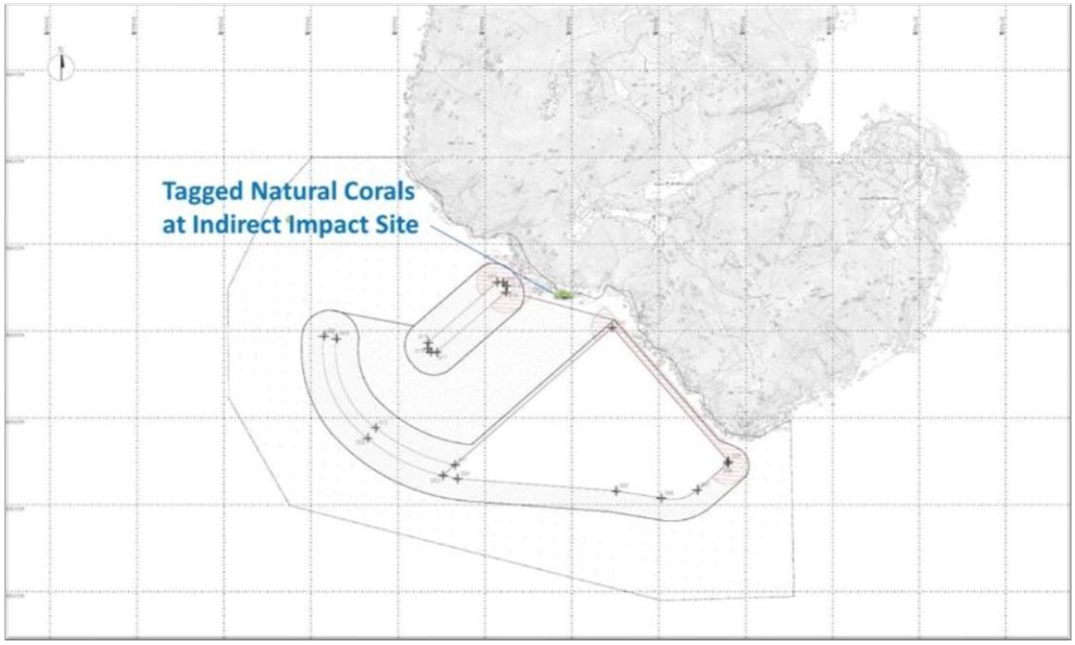


Figure 5.1 Tagged Natural Corals at Indirect Impact Site Near SKC for re-tagging after typhoon Mangkhut

Figure 5.2 Tagged Natural Corals at Control Site Near Yuen Kong Chau for re-tagging after typhoon Mangkhut

Figure 5.3 Tagged Translocation Corals at Recipient Site R3 near SKC

5.3.2 The GPS coordinates of the tagged coral colonies, retagged coral colonies and recipient site were shown in **Table 5.2**, **Table 5.3** and **Table 5.4** respectively.

Table 5.2 Tagged Natural Corals during Baseline and Re-tagged Natural Corals after Typhoon Manghkut at Control Site near Yuen Long Chau

Coral #	GPS Coordinates	
1	N22°09’45.96”	E113°54’57.81”
2R	N22°11’29.12”	E113°59’09.01”
3	N22°09’45.81”	E113°54’57.78”
4	N22°09’45.70”	E113°54’57.95”
5R	N22°11’29.10”	E113°59’09.18”
6	N22°09’45.75”	E113°54’58.02”
7R	N22°11’29.17”	E113°59’08.86”
7	N22°09’45.65”	E113°54’57.94”
8	N22°09’45.53”	E113°54’57.90”
9	N22°09’46.23”	E113°54’54.70”
10R	N22°11’29.18”	E113°59’08.91”

Notes:

i. The re-tagged corals were marked as ##**R**.

Table 5.3 Re-tagged Natural Corals after Typhoon Manghkut at Indirect Impact Site near SKC

Coral # [note i]	GPS Coordinates	
11R	N22°11'29.14"	E113°59'08.92"
12R	N22°11'29.12"	E113°59'09.01"
13R	N22°11'29.11"	E113°59'09.07"
14R	N22°11'29.13"	E113°59'09.12"
15R	N22°11'29.10"	E113°59'09.18"
16R	N22°11'29.07"	E113°59'09.23"
17R	N22°11'29.17"	E113°59'08.86"
18R	N22°11'29.14"	E113°59'08.94"
19R	N22°11'29.20"	E113°59'08.81"
20R	N22°11'29.18"	E113°59'08.91"

Notes:

i. The re-tagged corals were marked as ##**R**.

Table 5.4 GPS Coordinates of Recipient Site R3

Site	GPS Coordinates	
R3	N22°11'43.69"	E113°28.99"

5.4 Impact Monitoring Methodology

5.4.1 Health status of coral was assessed by the following criteria:

- Hard coral: Percentage of surface area exhibiting partial mortality and blanched/bleached area of each coral colony and degree of sedimentation.

5.5 Action and Limit Levels

5.5.1 Monitoring result was reviewed and compared against the below Action Level and Limit Level (AL/LL) as set with the below **Table 5.5** and **Table 5.6**.

Table 5.5 Action and Limit Levels for Construction Phase Coral Monitoring

Parameter	Action Level	Limit Level
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Action Level is exceeded.	If during Impact Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Limit Level is exceeded.

Table 5.6 Action and Limit Levels for Post-Translocation Coral Monitoring

Parameter	Action Level	Limit Level
Mortality	If during Post-Translocation Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Action Level is exceeded.	If during Post-Translocation Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Limit Level is exceeded.

5.5.2 If exceedance was found during coral monitoring. The actions in accordance with the Event and Action Plan should be carried out according to **Appendix L.**

5.6 Monitoring Results and Observations

5.6.1 The 17th quarterly coral monitoring during construction phase at both Indirect Impact Site and Control Site was conducted on 28 March 2023 and the weather condition was summarized in **Table 5.7**.

Table 5.7 Weather Condition for the 17th Quarterly Coral Monitoring during Construction Phase at both Indirect Impact Site and Control Site

Date	Condition	Average Underwater Visibility
28 March 2023	- Northeast wind force 3 to 4 - Mainly cloudy with one or two rain patches	Less than 10 cm

5.6.2 Ten (10) hard coral colonies were monitored at each Control site and Indirect Impact Site as suggested in the Construction Phase Monitoring Plan. The general health conditions (size, mortality, bleaching and sediment) were recorded and summarized in **Table 5.8** and **Table 5.9**. Photos of each coral colonies were taken during the monitoring activities shown in **Photo Plate 5.1** and **Photo Plate 5.2**.

Table 5.8 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Control Site during 17th Quarterly Coral Monitoring

Tag #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline	28/03	Baseline	28/03	Baseline	28/03
1	*Goniopora stutchburyi*	25	Good	0	0	0	0	0	0
2R	*Goniopora stutchburyi*	10	Good	0	0	0	0	0	0
3	*Psammocora superficialis*	18	Good	0	0	0	0	0	0
4	*Turbinaria peltata*	13	Good	0	0	0	0	0	0
5R	*Goniopora stutchburyi*	18	Good	0	0	0	0	0	0
6	*Cyphastrea serailia*	43	Good	0	0	0	0	0	0
7R	*Coscinaraea* sp.	15	Good	0	0	0	0	0	0
8	*Goniopora stutchburyi*	21	Good	0	0	0	0	0	0
9	*Goniopora stutchburyi*	11	Good	0	0	0	0	0	0
10R	*Goniopora stutchburyi*	20	Good	0	0	0	0	0	0

Notes:

i. The re-tagged corals were marked as ##**R**.

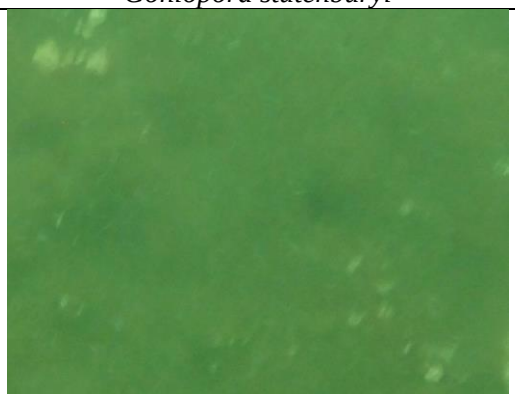
Table 5.9 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Indirect Impact Site during 17th Quarterly Coral Monitoring

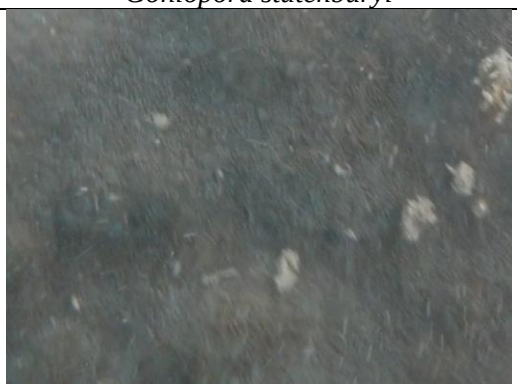
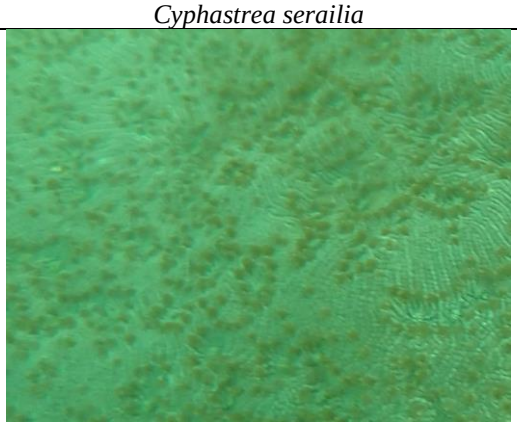
Tag #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline	28/03	Baseline	28/03	Baseline	28/03
11R	*Cyphastrea serailia*	48	Good	0	0	0	0	0	0
12R	*Favites chinensis*	27	Good	0	0	0	0	0	0
13R	*Turbinaria peltata*	21	Good	0	0	0	0	0	0
14R	*Favites chinensis*	8	Good	0	0	0	0	0	0
15R	*Goniopora stutchburyi*	11	Good	0	0	0	0	0	0
16R	*Psammocora superficialis*	27	Good	0	0	0	0	0	0
17R	*Favites chinensis*	15	Good	0	0	0	0	0	0
18R	*Psammocora superficialis*	39	Good	0	0	0	0	0	0
19R	*Psammocora superficialis*	42	Good	0	0	0	0	0	0
20R	*Psammocora superficialis*	29	Good	0	0	0	0	0	0

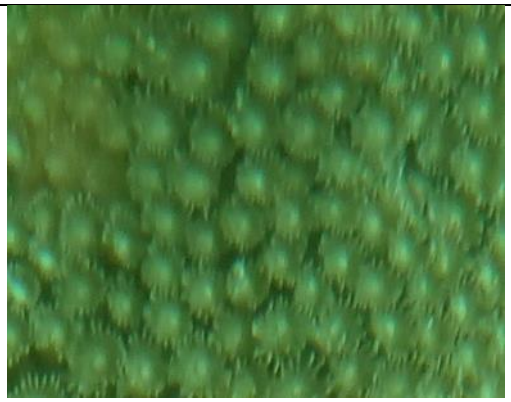
Notes:

i. The re-tagged corals were marked as ##**R**.

Photo Plate 5.1 Ten (10) Monitored Corals at Control Site

Tag #	28 March 2023
#1	 *Goniopora stutchburyi*
#2R	 *Goniopora stutchburyi*
#3	 *Psammocora superficialis*
#4	 *Turbinaria peltata*

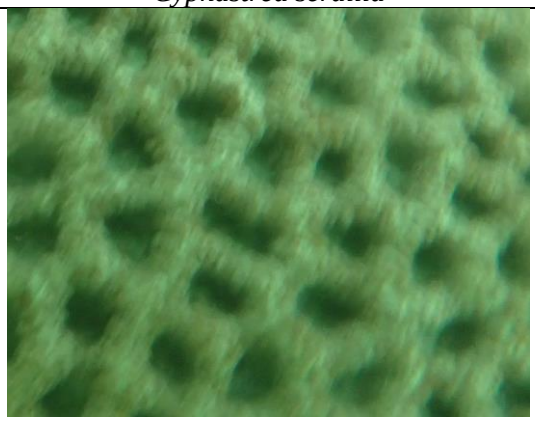
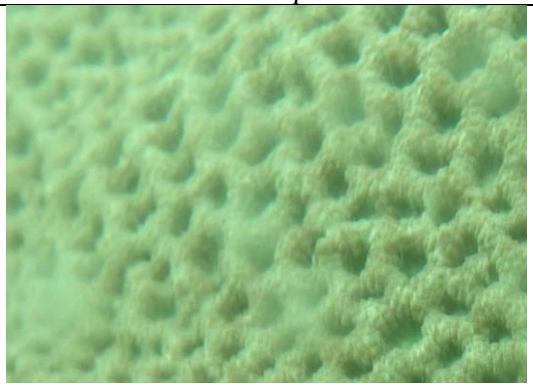
Tag #	28 March 2023
#5R	 *Goniopora stutchburyi*
#6	 *Cyphastrea serailia*
#7R	 *Coscinaraea* sp.
#8	 *Goniopora stutchburyi*

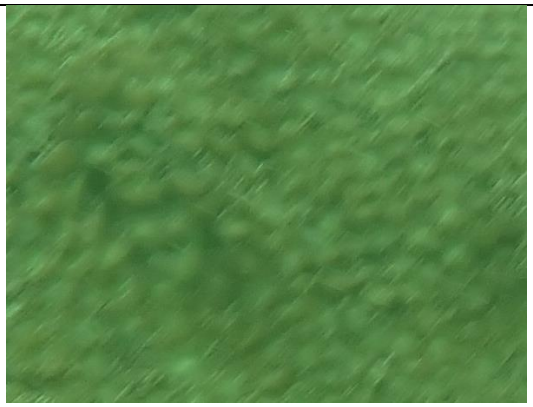
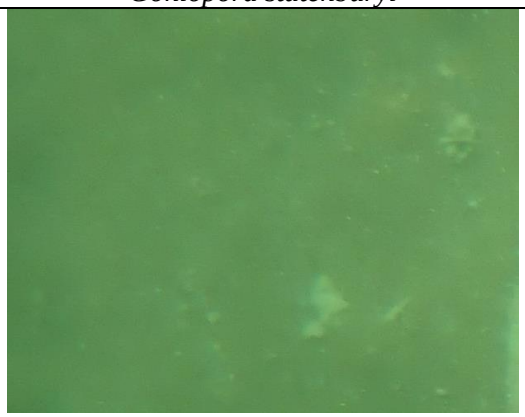
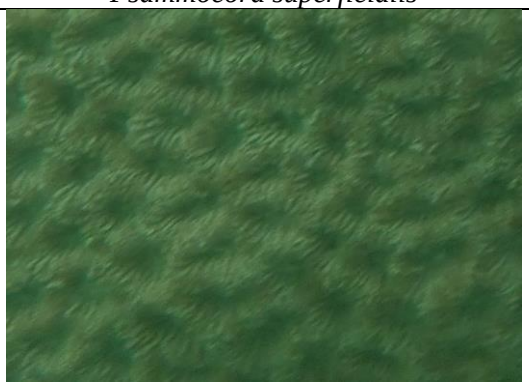
Tag #	28 March 2023
#9	 *Goniopora stutchburyi*
#10R	 *Goniopora stutchburyi*

Notes:

i. The re-tagged corals were marked as ##**R**.

Photo Plate 5.2 Ten (10) Monitored Corals at Indirect Impact Site

Tag #	28 March 2023
#11R	 *Cyphastrea serailia*
#12R	 *Favites chinensis*
#13R	 *Turbinaria peltata*
#14R	 *Favites chinensis*

Tag #	28 March 2023
#15R	 *Goniopora stutchburyi*
#16R	 *Psammocora superficialis*
#17R	 *Favites chinensis*
#18R	 *Psammocora superficialis*

Tag #	28 March 2023
#19R	 *Psammocora superficialis*
#20R	 *Psammocora superficialis*

Notes:

i. The re-tagged corals were marked as ##**R**.

5.6.3 The coral re-tagging activities were carried out in the control site and indirect impact area on 23 November and 3 December 2018. Four and ten hard coral colonies were successfully re-tagged at both control and indirect impact sites respectively. Each re-tagged and remained coral colonies were photographed.

5.6.4 All tagged and re-tagged coral colonies showed good health condition during the 17th Quarterly Construction Phase Monitoring. There was no increased level of mortality, bleaching and sediment when compared with the baseline results.

5.6.5 No sediment, bleaching or increased mortality in the general condition of coral colonies were observed during the tenth construction phase monitoring period. No deterioration of the coral community was observed in the ecological monitoring results when compared with the baseline ecological monitoring results. There is no AL/LL exceedance during the monitoring period. Photos of each tagged corals colonies were taken and shown in **Photo Plates 5.1** and **Photo Plate 5.2**.

6. MARINE MAMMAL

6.1 Monitoring Requirements

6.1.1 The marine mammal monitoring programme would focus on Finless Porpoise, as the study area near Shek Kwu Chau has been identified as a hotspot for this species, while the Chinese White Dolphins rarely occurred there in the past.

6.1.2 The monitoring will verify the predicted impacts on marine mammals and examine whether the mitigation measures recommended in the EIA report have been effectively implemented to protect marine mammals from negative impacts from construction activities.

6.1.3 The Vessel-based Line-transect Survey, the Passive Acoustic Monitoring and the Land-based Theodolite Tracking will be conducted to provide systematic, quantitative measurements of occurrence, encounter rate, habitat use, movement and behavioural patterns of marine mammals within or near the Project Area during construction and operational phases.

6.1.4 The mammal monitoring works during construction consist of the following three survey methods:

- Vessel-based Line-transect Survey – to monitor the occurrence of Finless Porpoises (and Chinese White Dolphins) in the study area during construction works, by comparing with the findings of the pre-construction marine mammal monitoring;
- Passive Acoustic Monitoring – to study the usage of the Project Area and two control sites in South Lantau Waters by Finless Porpoise during construction works, in reference with the baseline findings of the pre-construction marine mammal monitoring; and
- Land-based Theodolite Tracking – to study the movement and behavioral pattern of Finless Porpoise within and around the Project Area during construction works.

6.1.5 The marine mammal observation works of Marine Mammal Exclusion Zone (MMEZ) and Marine Mammal Watching as two of the specific mitigation measures recommended in the approved EIA report shall be fully and properly implemented for the Project to minimize disturbance on Finless Porpoise during construction and operational phases.

6.2 Survey Methods

6.2.1 Vessel-based Line-transect Survey

6.2.1.1 For the vessel-based marine mammal surveys, the monitoring team adopted the standard line-transect method (Buckland et al. 2001) as same as that adopted during the EIA study and pre-construction phase monitoring to allow fair comparison of marine mammal monitoring results.

6.2.1.2 Eight transect lines are set at Southeast Lantau survey area, including Shek Kwu Chau, waters between Shek Kwu Chau and the Soko Islands, inshore waters of Lantau Island (e.g. Pui O Wan) as well as southwest corner of Cheung Chau as shown in **Figure 6.1** below:

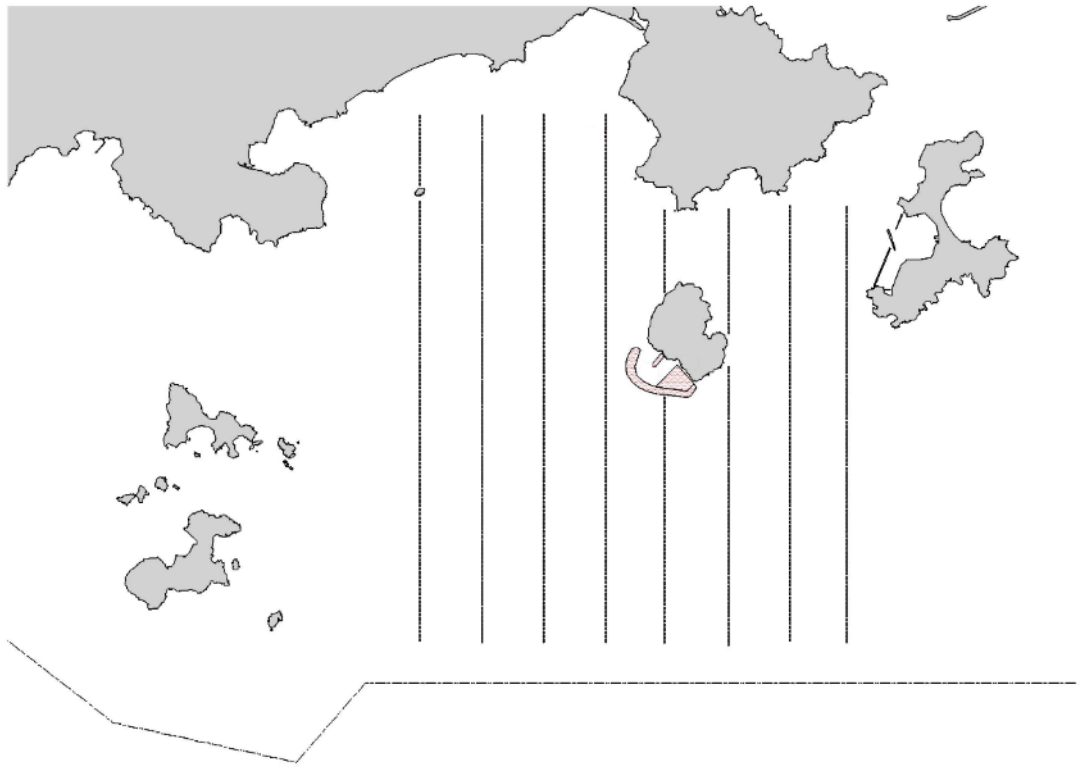


Figure 6.1 Line Transects for Marine Mammal Surveys

6.2.1.3 The surveys should cover all 4 seasons in order to take natural fluctuation and seasonal variations into account for data analysis of distribution, encounter rate, density and habitat use of both porpoises and dolphins (if any). In comparison to the baseline monitoring results, results from the analysed construction phase monitoring data would allow the detection of any changes of their usage of habitat, in response to the scheduled construction works. The monitoring surveys shall be conducted throughout the construction phase involving marine construction work with the frequency shown in **Table 6.1** below:

Table 6.1 Vessel-based Line-transect Survey Frequency

Season	Months	Frequency
Peak Season	December, January, February, March, April & May	Twice per month
Non-peak Season	June, July, August, September, October & November	Once per month

6.2.1.4 For each vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) would be used to make observations from the flying bridge area. Two experienced marine mammal observers (a data recorder and a primary observer) would make up the on-effort survey team, and the survey vessel would transit different transect lines at a constant speed of 13-15 km per hour. The data recorder shall search with unaided eyes and fill out the datasheets, while the primary observer shall search for dolphins and porpoises continuously through 7 x 50 marine binoculars. Both observers shall search the sea ahead of the vessel, between 270^{o} and 90^{o} (in relation to the bow, which is defined as 0°). Two additional experienced observers shall be available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers shall be

experienced in small cetacean survey techniques and identifying local cetacean species with extensive training by marine mammal specialist of the ET.

6.2.1.5 During on-effort survey periods, the survey team shall record effort data including time, position (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance travelled in each series (a continuous period of search effort) with the assistance of a handheld GPS (Garmin eTrex Legend). Data including time, position and vessel speed would also be automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.

6.2.1.6 When porpoises or dolphins are sighted, the survey team shall end the survey effort, and immediately record the initial sighting distance and angle of the porpoise or dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel shall be diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, behavioural observations, and collection of identification photos (feasible only for Chinese White Dolphin). The perpendicular distance (PSD) of the porpoise or dolphin group to the transect line would then be calculated from the initial sighting distance and angle, which shall be used in the line-transect analysis for density and abundance estimation.

6.2.1.7 The line-transect survey data shall be integrated with a Geographic Information System (GIS) to visualize and interpret different spatial and temporal patterns of porpoise and dolphin distribution using their sighting positions collected from vessel surveys. Location data of porpoise and dolphin groups would be plotted on map layers of Hong Kong using a desktop GIS (e.g. ArcView© 3.1) to examine their distribution patterns in details. The encounter rate could be used as an indicator to determine areas or time periods of importance to porpoises within the study area. For encounter rate analysis of finless porpoises, only survey data collected under Beaufort 2 or below condition would be used for encounter rate analysis.

6.2.1.8 To take into account of the variations of survey effort across different sections within survey area, the quantitative grid analysis of habitat use would be conducted to examine finless porpoise usage among 1-km^2 grids within the Southeast Lantau survey area. For the grid analysis, SPSE (sighting density) and DPSE (porpoise density) values would be deduced for evaluation on level of porpoise usage. First, positions of on-effort porpoise sightings from the study period are plotted onto 68 grids (1 km x 1 km each) within the survey area. Sighting density grids and porpoise density grids shall then be normalized with the amount of survey effort conducted within each grid. The total amount of survey effort spent on each grid shall be calculated by examining the survey coverage on each line-transect survey to determine how many times the grid had been surveyed during study period. With the amount of survey effort calculated for each grid, the sighting density and porpoise density of each grid shall be further normalized (i.e. divided by the unit of survey effort).

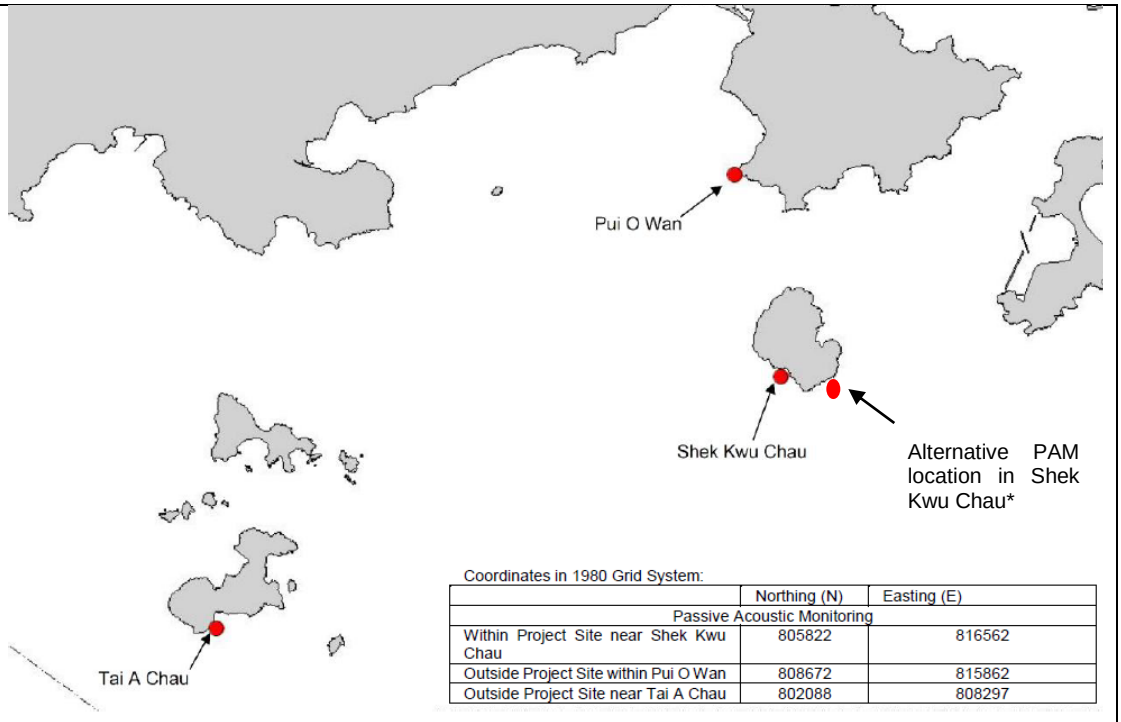
6.2.1.9 The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort sightings per 100 units of survey effort. In addition, the derived unit for actual porpoise density was termed DPSE, representing the number of dolphins/porpoise per 100 units of survey effort. Among the 1-km^2 grids that were partially covered by land, the percentage of sea area was calculated using GIS tools, and their SPSE and DPSE values were adjusted accordingly. The following formulae shall be used to estimate SPSE and DPSE in each 1-km^2 grid within the study area:

$$SPSE = ((S / E) \times 100) / SA\%$$
$$DPSE = ((D / E) \times 100) / SA\%$$

where S = total number of on-effort sightings
D = total number of dolphins/porpoises from on-effort sightings
E = total number of units of survey effort
SA% = percentage of sea area

6.2.2 Passive Acoustic Monitoring (PAM)

The PAM aims to study the usage of an area by Finless Porpoise by using an array of automated static porpoise detectors (e.g. C-POD) which would be deployed at different locations to detect the unique ultra-high frequency sounds produced by Finless Porpoise. During the construction period, the PAM survey will be conducted including placement of two passive porpoise detectors outside the Project Area as control site (i.e. within Pui O Wan and to the south of Tai A Chau) and one porpoise detector within the Project Area (i.e. near Shek Kwu Chau) as shown in **Figure 6.2** below.



Coordinates in 1980 Grid System:

	Northing (N)	Easting (E)
Passive Acoustic Monitoring		
Within Project Site near Shek Kwu Chau	805822	816562
Outside Project Site within Pui O Wan	808672	815862
Outside Project Site near Tai A Chau	802088	808297

Note*: The alternative PAM device adjacent to the Project site was deployed from 5 Mar to 11 Apr 2019, which contained a full 37 days acoustic monitoring data set. After the confirmation of loss of the original PAM within the Project site, this data set was proposed to replace that of the original one, as consulted with AFCD accordingly.

Figure 6.2 Locations of Passive Acoustic Monitoring

6.2.3 These three detectors will be deployed on-site to carry out 24-hours monitoring for a period listed as **Table 6.2** below during the construction phase.

Table 6.2 PAM Deployment Period

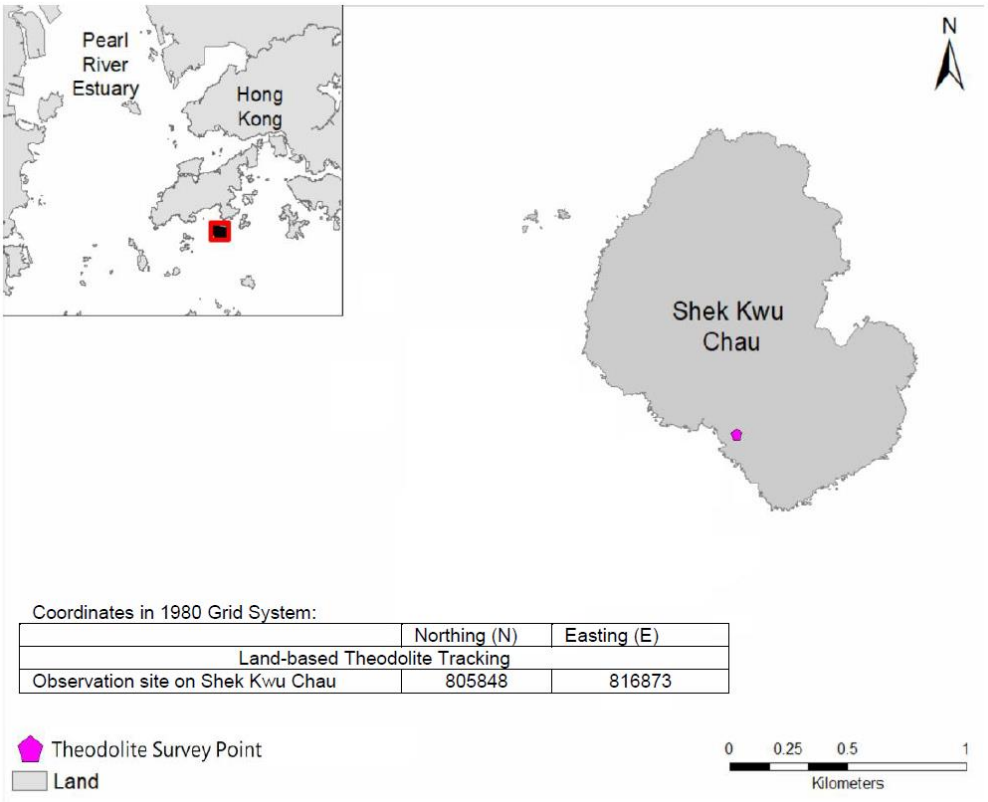
Season	Months	Deployment Period
Peak Season	December, January, February, March, April or May	At least 30 days during the peak months of porpoise occurrence in South Lantau waters

6.2.3.1 The automated static porpoise detectors shall detect the presence and number of finless porpoise and Chinese White Dolphins respectively over the deployment period, with the false signal such as boat sonar and sediment transport noise distinguished and filtered out. The detectors shall be deployed and retrieved by professional dive team on the seabed of the three selected location shown in **Figure 6.2**. During each deployment, the C-POD unit serial numbers as well as the time and date of deployments shall be recorded. Information including the GPS positions and water depth at each of the deployment locations shall also be obtained.

6.2.3.2 The diel patterns (i.e. 24-hour activity pattern) of finless porpoise occurrence among the three sites at Shek Kwu Chau, Tai A Chau and Pui O Wan shall be analyzed. Peaks and troughs of finless porpoise occurrence per hour of day would be identified and compared with the results obtained from pre-construction monitoring.

6.2.4 Land-based Theodolite Tracking

6.2.4.1 The Land-based Theodolite Tracking study would use the same station as in the AFCD monitoring study (same as the baseline monitoring location), which is situated at the southwest side of Shek Kwu Chau (GPS position: 22º11.47' N and 113º59.33' E) as shown in below **Figure 6.3**. The station was selected based on its height above sea level (at least 20 metres), close proximity to shore, and relatively unobstructed views of the entire Project Area to the southwest of Shek Kwu Chau. The height of the Shek Kwu Chau Station established by the HKCRP team is 74.6 m high at mean low water, and only a few hundred metres to the IWMF reclamation site, which is ideal for the purpose for the present behavioural and movement monitoring of finless porpoises as well during construction phase considering there as an un-obstructed vantage point at a height above the Project Site.



Coordinates in 1980 Grid System:

	Northing (N)	Easting (E)
Land-based Theodolite Tracking		
Observation site on Shek Kwu Chau	805848	816873

Figure 6.3 Locations of Land-based Theodolite Tracking

During the construction phase, Land-based Theodolite Tracking will be carried out for approximately six hours of tracking for each day of field work for a period listed as **Table 6.3** below, preferably at the initial stage of the construction period (i.e. December 2018 to May 2019).

Table 6.3 Land-based Theodolite Tracking Survey Period

Season	Months	Survey Period
Peak Season	December, January, February, March, April or May	30 days during the peak months of porpoise occurrence in South Lantau waters

6.2.4.2 The monitoring period for land-based theodolite tracking will be proposed to be overlapped with the PAM. The monitoring team consists of one experienced theodolite operator and at least two field observers for assistance. To conduct theodolite tracking, the observers will search systematically for Finless Porpoise using the unaided eye and 7 x 50 handheld binoculars on each survey day throughout the study area. When an individual or group of porpoises is located, a theodolite tracking session will be initiated and focal follow methods will be used to track the porpoise(s). Behavioural state data (i.e. resting, milling, travelling, feeding and socializing) shall also be recorded every 5 minutes for the focal individual or group. Positions of porpoises and boats shall be measured using a digital theodolite connected to a laptop computer. This tracking survey was conducted during the peak season between December 2018 and May 2019 for 30 surveys spanning across 15-16 weeks during the peak season to provide good temporal coverage during the initial stage of the construction period.

6.3 Specific Mitigation Measures

6.3.1 Monitored exclusion zones

6.3.1.1 A MMEZ with 250 m distance from silt curtain shall be established during the above situation. If 3 or more construction vessels are required with MMO's duty and operating in close proximity, for the purpose of avoiding accidental entrance to the works area by Marine Mammal, a cluster MMEZ plan will be implemented to form a MMEZ with 250 m distance from the boundary of a work area as indicated in Figure 1 for reference. A team of MMO (i.e. at least two MMOs per day/night shift teams) would be arranged at the out-lying construction vessels to form the cluster MMEZ. The MMEZ serves as a monitoring approach to provide appropriate and immediate actions once finless porpoise or Chinese White Dolphin is sighted within the MMEZ. All MMEZ will be monitored by competent Marine Mammal Observers (MMOs) to be provided by the Environmental Team for the IWMF and trained by the Marine Mammal Monitoring Specialist of the ET who is independent from KSZHJV. The marine mammal observer(s) shall be independent of the construction contractor and shall form part of the Environmental Team and have the power to call-off construction activities.

6.3.1.2 According to the Condition 2.25 of the FEP, MMEZ should be implemented during the installation/re-installation/relocation process of floating type silt curtains in order to avoid the accidental entrance and entrapment of marine mammals within the silt curtains. Also, marine construction works expected to produce underwater acoustic disturbance as per Condition 2.27 of the FEP, especially within December and May, would require the implementation of MMEZ, which currently all those specific construction activities have been replaced by less acoustically disturbing construction methods such as Deep Cement Mixing (DCM) and Precast Concrete

Blocks Installation as discussed in Section 5.3 of the Detailed Monitoring Programme on Finless Porpoise, however, MMEZ would also be implemented for precautionary purpose for DCM works.

6.3.1.3 A MMEZ with 250 m distance from the boundary of a work area shall be established during the above situation. A typical MMEZ is indicated in **Figure 6.4** for reference. The MMEZ serves as a monitoring approach to provide appropriate and immediate actions once finless porpoise or Chinese White Dolphin is sighted within the MMEZ. All MMEZ will be monitored by competent Marine Mammal Observers (MMOs) to be provided by the Environmental Team (ET) for the IWMF and trained by the Marine Mammal Monitoring Specialist of the ET who is independent from KSZHJV.

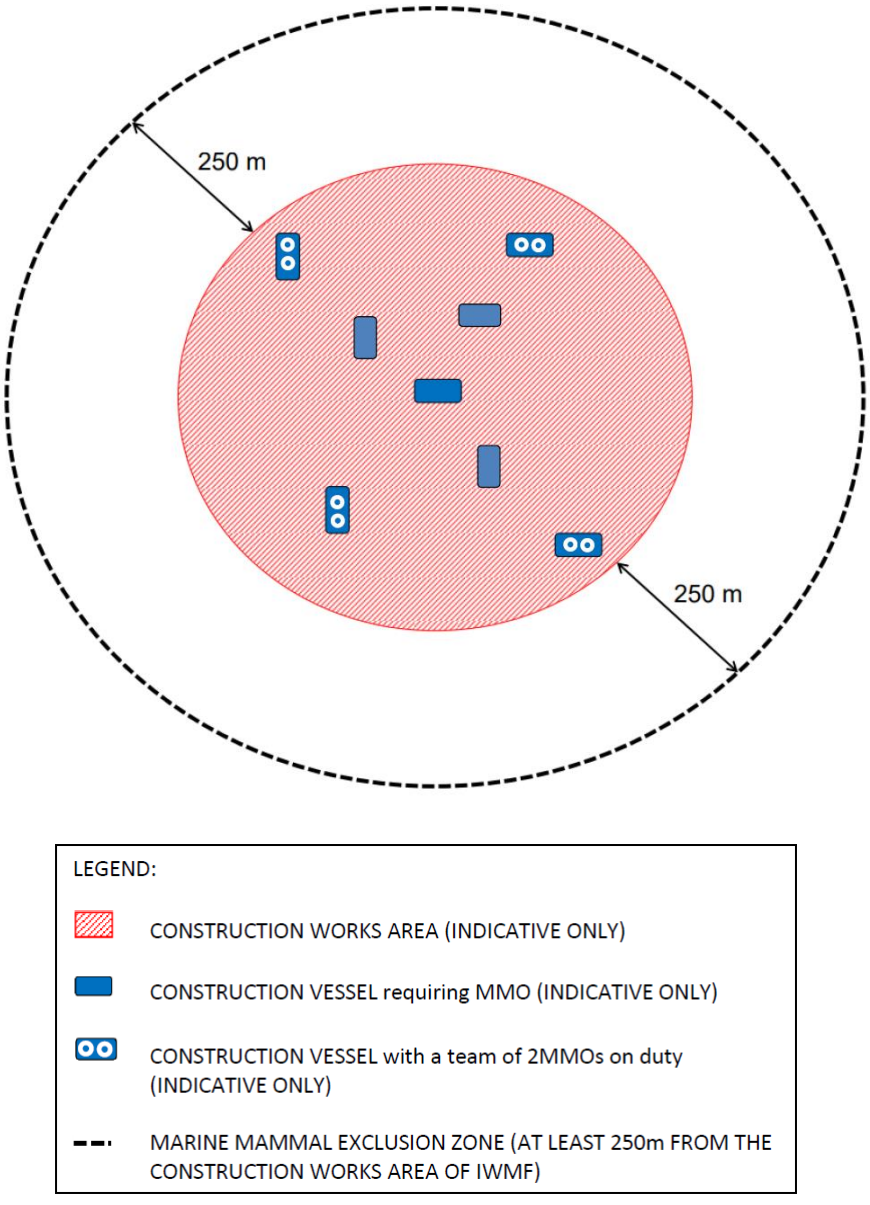


Figure 6.4 Illustration of Typical MMEZ

6.3.1.4 Prior to the commencement of construction activity, our MMOs shall ensure the boundary of a marine work area and setting up of the MMEZ for the work area and get access to the monitoring location on a barge or a lookout point where there is no obstructed views for monitoring the MMEZ during the construction activity. The MMEZ shall be scanned thoroughly by a MMO for any presence of marine mammal e.g. finless porpoise for an initial period of 30 minutes. Construction activity shall only be commenced after the MMO has confirmed that the MMEZ is clear of the marine mammal for the initial period of 30 minutes. The MMO shall then inform the construction superintendent through mobile phone or handheld transceivers to certify the commencement of construction activity. The MMEZ monitoring shall be carried on throughout the period for all active construction activities requiring implementation of MMEZ.

6.3.1.5 When any mammal marine, e.g. Finless Porpoise, is detected by the MMO within the MMEZ during construction, the MMO shall inform the construction superintendent immediately through mobile phone or handheld transceivers to cease construction activity within the MMEZ. Construction activity shall not be re-commenced until the MMO confirms that the MMEZ is continuously clear of marine mammal for a period of 30 minutes. The MMO shall then inform the construction superintendent through mobile phone or handheld transceivers to certify the re-commencement of construction activity.

6.3.1.6 As there could be a number of Contractors working at the same time within a work area for the IWMF project, a full contact list of MMEZ monitoring team members of the ET and the relevant responsible construction superintendents of the Contractor at the site shall be prepared, updated regularly and circulated to all parties involved in the MMEZ monitoring. With a full contact list, our MMOs shall be able to find out the contacts of corresponding persons in case of marine mammal sighting within and near the MMEZ or emergent occurrence of any unpredictable impact on marine mammal.

6.3.1.7 If a marine mammal is still observed in close vicinity but outside the MMEZ, the MMO shall inform the construction superintendent about the presence of marine mammal. The MMO shall remain in position and closely observe the movement of the marine mammal as well as searching for the appearance of any other marine mammal within the MMEZ. No matter the marine mammal is observed within or in close vicinity but outside the MMEZ, the construction superintendent or relevant persons shall inform all vessel captains involved in construction activities around the MMEZ to pay special attention of the presence of the marine mammal in order to reduce chance of collision with them. In case of injury or live-stranded marine mammal being found within the MMEZ, the marine mammal observer shall immediately inform the construction superintendent to suspend construction activities within the works area and contact AFCD through “1823” marine mammal stranding hotline.

6.3.2 Marine mammal watching plan

6.3.2.1 Upon the completion of silt curtain installation/re-installation/relocation, the marine works would be conducted within an enclosed environment within the silt curtain. Subsequently, Visual Inspection of the Waters Surrounded by Silt Curtains (Section 2.1, MMWP) and Regular Inspection of Deployed Silt Curtain (Section 2.2, MMWP) inspection under Marine Mammal Watching Plan would be implemented (where applicable, Marine Mammal Exclusion Zone shall be conducted at the meantime).

6.3.2.2 Before commencement of dredging/sand blanket laying work at each designated area, a trained MMO shall check whether position frame silt curtains are ready, well prepared and operated without any obvious damage. Also, the MMO shall confirm the presence of the relevant frontline staff of the main contractor or its sub-contractors and engineers on board to ensure the effective communication, coordination and implementation of the response plan in relation to any incidents involving marine mammals within the waters surrounded by the position frame type silt curtains and the work areas. Also, there are lookout points at an elevated level on each barge, clear and safe access at the edges of the derrick lighter/ flag-top barge for inspection during dredging/sand blanket laying works, provision of sufficient lighting is required if working at night.

6.3.2.3 During the operation, the inspection will be conducted daily. The MMO will walk along the edge of derrick lighter (DL) and flag-top barge (FB) along the position frame silt curtain or proper location without obstacles where appropriate to inspect the position frame silt curtain with naked eyes, the MMO will check that the position frame silt curtains are maintained in the correct positions with no obvious defects / entanglement and there is no observable muddy water passing through the position frame silt curtain system. Any floating refuse trapped by the silt curtain shall be removed as part of the regular inspection. For night inspection, spotlight will be used to provide sufficient brightness to assist the inspection in dark condition.

6.3.2.4 For the re-deployment of the localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains), MMO will conduct visual inspection to confirm that there is no presence of marine mammal within the localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains). Visual inspection will be conducted every hour by MMO for confirming that there is no marine mammal observed in the surrounding area of the deployed silt curtain during re-deployment of localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains). The duration will be subject to various conditions, e.g. weather or angle of observation. The works can only commence after confirming that the surrounding waters of the localized silt curtains do not contain any marine mammal. Thereafter, frontline staff, i.e. foremen, site agent, superintendents and engineers will assist our MMO in implementing the plan from the active work fronts within the waters surrounded by the silt curtains throughout the work period. The MMO will conduct regular check to observe the presence of any marine mammal around the localized silt curtain or being trapped by the localized silt curtain daily. The MMOs will also check if the localized silt curtains are in correct positions.

6.3.2.5 The MMO shall fill up our Marine Mammal Sighting Record Sheet. After inspection, those records should be kept properly and submitted to the project team. In case there is any marine mammal being found, the MMO should carry out the response actions and communicate with relevant parties to stop and then resume work after the discovered marine mammal leaves. After lifting up and mobilization of silt curtain, the MMO will repeat the procedures of regular and visual inspection until the end of the construction works.

6.3.2.6 Each lookout point will have an unobstructed view to waters around the DL and FB. The MMO will move around the DL and FB to establish a clear and unobstructed view as much as they can without compromising the safety concern. When appropriate, the lookout point can be replaced by a proper location if unobstructed view can be assured.

6.3.2.7 Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.

6.4 Results and Observations

6.4.1 Vessel-based Line-transect Survey

6.4.1.1 The monthly surveys were conducted on 17 and 23 March 2023. As this is the designated peak season (December - May), two surveys were completed. A total of 80.2 km on effort (transects only) survey length was completed, 92.5% of which was conducted at Beaufort Sea State 2 or better (**Table 6.4**). Two on-effort finless porpoise sighting was recorded and confirmed by qualified ecologist (**Table 6.5, Figure 6.5**). No representative photo can be taken of sighting recorded during the survey in March 2023.

Table 6.4 Summary of Vessel-based Line-transect Survey Effort

Date	Area*	Beaufort	Effort (km)	Season	Vessel	Effort Type**
17 March 2023	SEL	1	7.9	SPRING	SEAMARHK	P
		2	26			
		3	5.2			
		4	0.8			
23 March 2023	SEL	1	16.7	SPRING	SEAMARHK	P
		2	23.6			

* As shown in **Figure. 6.1**

** P (from AFCD) denotes the ON EFFORT survey on the transect line, not the adjoining passages

Table 6.5 Sightings recorded during March 2023 Vessel-based Line-transect Survey

Date	Species	Sighting No.	Time	Group Size	PSD	Behaviour	Lat.	Long.	Area	Effort	Season
17 Mar 2023	Finless Porpoise	155	11:52	2	58	Travelling	22.17284	113.9441	SEL	On	SPRING
23 Mar 2023	Finless Porpoise	156	13:57	3	17	Travelling	22.16839	113.9442	SEL	On	SPRING

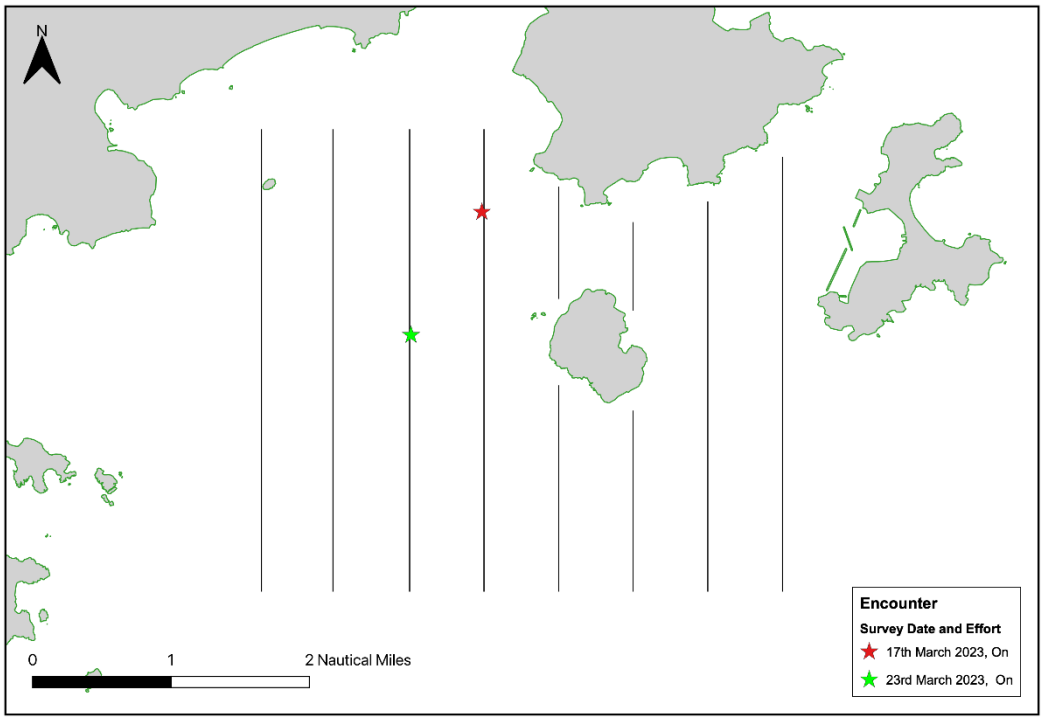


Figure 6.5 Location of sightings recorded during March 2023 Vessel-based Line transect survey

6.4.1.2 A review of the long term AFCD marine mammal monitoring programme, the EIA and pre-construction baseline monitoring was conducted. Pre-construction baseline monitoring and the EIA were both conducted during the peak porpoise months, Feb-Apr 2018 and Dec 2008 – May 2009, respectively, and can be compared to the survey month of March. The AFCD long term monitoring data can also be compared directly to March 2023 impact survey results. It was noted that the 9th, 21st, 33rd & 45th month of impact monitoring is March 2019, 2020, 2021 & 2022 respectively and these data were included.

6.4.1.3 A review of the Beaufort Sea State in March survey conditions between 2009 and 2018 (only data available from AFCD at times of writing; AFCD 2018[1]; 2017[2]; 2016[3]; 2015[4]; 2014[5]; 2013[6]; 2012[7]; 2011[8]; 2010[9]) show that between 32.6% and 100% of survey effort has been conducted at Beaufort Sea State 2 or better in the past. During the EIA (2009), 55.5% of the survey effort was conducted at Beaufort 2 or better. For this project, in March 2023, 92.5% of the survey was conducted at Beaufort Sea State 2 or better and, as such, survey conditions in March 2023 within the upper % limits of previous AFCD and the baseline and EIA surveys (Average:77%).

6.4.1.4 A review of the porpoise sightings in the survey area for March between 2009-2017 indicate that there are fluctuations between the number of sightings usually recorded. For all weather conditions, and for the nine years data available, one (1) sighting was recorded in one year (2016 conducted by AFCD) , two (2) sightings were recorded in one year (2011 conducted by AFCD), three (3) sightings were recorded in one year (2013 conducted by AFCD), seven (7) sightings were recorded in one year (2012 conducted by AFCD), eight (8) sightings were recorded in two years (2009 included in EIA and 2018 conducted by AFCD), ten (10) sightings were

recorded in two years (2014 conducted by AFCD and 2018 baseline monitoring) and fourteen (14) sightings were recorded in one year (2017 conducted by AFCD). No survey effort in SEL was recorded in some years (AFCD 2009; 2010; 2015). Effort varied considerably between years and the average number of sightings (per km) varied between 0.8 and 5.6 sightings per 40km. There is no trend in encounter rates recorded by the AFCD long term monitoring programme, i.e., the highest encounter rate was recorded in 2013 (3 sightings in only 21.48km of effort) and the lowest in 2016 (1 sighting ion 50.88km of effort). For the baseline survey, the encounter rate for March (2018) was 3.1 sightings per 40km and the EIA (2009) survey encounter rate was 5.2 sightings per 40km. The March 2023 encounter rate of 1.0 sightings per 40km is below the average recorded for this month by the AFCD Long term monitoring programme. For the first year of impact monitoring, six (6) on effort finless porpoise sightings were recorded, for the second year, eight (8) on effort sightings were recorded, for the third year, eleven (11) on effort sightings were recorded and for the fourth year (2022), seven (7) sightings were recorded.

6.4.1.5 The impacts of the Project on marine mammals as predicted in the EIA were that construction activities would cause individuals to move away from the area. The month of March previously recorded between 1 – 14 porpoise sightings, before construction commenced. To increase the dataset for vessel-based surveys, acoustic towed array surveys have been conducted concomitantly with visual surveys and a separate report has been provided, showing trends in acoustic detections. As porpoise are easier to detect acoustically rather than visually, this larger data set provides more details of porpoise occurrence during vessel-based surveys. The number of sightings in March 2023 is low when compared to sightings recorded during AFCD long term monitoring studies and is similar to the years 2011, 2013 and 2016. It is noted that during this month there was a dramatic increase in the number of passenger ferries and vessels traversing south Lantau waters as the maritime border with ports in China, particularly Macau, re-opened. Marine construction works, for other projects, are also ongoing in the area adjacent to this Project site. Both of these activities impact porpoise presence and behaviour.

6.4.2 PAM and Land-based Theodolite Tracking

6.4.2.1 30 days of PAM surveys were started on 1 May 2019 and completed in the end of May 2019. Multiple PAM systems were deployed at three sites. The PAM system located at the IWMF was lost, however, an alternative data set had been identified. The PAM systems at the two control sites Tai A Chau and Pui O were recovered on 3 August 2019. A summary of marine mammal detections showed that porpoise were recorded every day of deployment at each site, but at varying frequencies. The detailed theodolite result was presented in 17th Monthly EM&A report (November 2019) while detailed PAM result was presented in 18th Monthly EM&A report (December 2019).

6.4.2.2 For the baseline study, the Detection Positive Minutes (DPM) for each site was 11,160 (Shek Kwu Chau), 16,089 (Tai A Chau) and 3645 (Pui O Wan), totalling 30,894 DPM across all three sites, compared to DPMs of 4740 (Shek Kwu Chau), 7725 (Tai A Chau) and 23,986 (Pui O Wan), totalling 36,451 DPM, for the impact phase study. As the impact phase study was longer than the baseline study, it is not appropriate to directly compare total counts of DPM. However, the DPM rate (the average number of detections per day) for each site can be more directly compared. During the baseline study, Shek Kwu Chau averaged 338.2 DPM per day compared with 124.8 DPM per day during the impact phase study. This showed a decrease in the daily average of porpoise detection at Shek Kwu Chau. During the baseline

study, Tai A Chau averaged 487.6 DPM per day compared with 179.7 DPM per day, during the impact phase study. This showed a decrease in the daily average of porpoise detection at Tai A Chau. During the baseline study, Pui O Wan averaged 98.5 DPM per day compared with 557.8 DPM per day during the impact phase study. This showed a significant increase in the daily average of porpoise detections at Pui O Wan.

6.4.2.3 Overall, the PAM study showed that porpoise continue to consistently utilise the Shek Kwu Chau habitat immediately adjacent to the IWMF construction activities, although to a lesser degree than that prior to construction activities. In addition, the Pui O Wan site, which is 2.5 km away from the IWMF construction area, was also consistently utilised during the impact phase PAM study. A continued assessment of fine scale habitat use, particularly through PAM which yielded large quantities of data, would allow a more comprehensive assessment of the EIA predictions.

6.4.2.4 Theodolite surveys were completed in May 2019. In total, 34 days of theodolite tracking were completed between February and May 2019, comprising 167 hours and 49 minutes of observation. No Chinese white dolphin was observed and only one finless was recorded. The finless porpoise encounter rate was calculated as 0.006 finless porpoise per hour, in all weather conditions.

6.4.2.5 A total of 2620 vessels of ten different types were observed and tracked within or in the proximity of the IWMF construction site. These comprised fishing boats (236), speed boats (29), container boats (155), government boats (22), high speed ferries (53), others (13) and IWMF-Related construction platforms (974), tug boats (240), transportation boats (363), construction boats (531) and approximately 8 buoys were present marking the site boundary.

6.4.2.6 The baseline theodolite tracking was conducted immediately prior to and during the site preparation activities of the site. The baseline data records a decrease in porpoise sightings as site preparation activities commenced and notes that the decrease was most likely due to the onset of site preparation activities. The impact theodolite tracking conducted for this study records a marked increase in the number of Project related vessels and platforms and, in agreement with baseline conclusions, shows a concomitant decrease in finless porpoise sightings.

6.4.3 Specific Mitigation Measures

6.4.3.1 Trainings for the MMO were provided by the ET prior to the monitoring of the Marine Mammal Exclusion Zone (MMEZ) for installation/ re-installation/ relocation process of silt curtains, with a cumulative total of 98 individuals being trained and the training records kept by the ET.

6.4.5 References

1. Agriculture, Fisheries and Conservation Department (AFCD) 2018. *Annual Marine Mammal Monitoring Programme April 2017-March 2018)* The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

2. Agriculture, Fisheries and Conservation Department (AFCD) 2017. *Annual Marine Mammal Monitoring Programme April 2016-March 2017)* The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

3. Agriculture, Fisheries and Conservation Department (AFCD) 2016. *Annual Marine Mammal Monitoring Programme April 2015-March 2016*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

4. Agriculture, Fisheries and Conservation Department (AFCD) 2015. *Annual Marine Mammal Monitoring Programme April 2014-March 2015*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

5. Agriculture, Fisheries and Conservation Department (AFCD) 2014. *Annual Marine Mammal Monitoring Programme April 2013-March 2014*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

6. Agriculture, Fisheries and Conservation Department (AFCD) 2013. *Annual Marine Mammal Monitoring Programme April 2012-March 2013*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

7. Agriculture, Fisheries and Conservation Department (AFCD) 2012. *Annual Marine Mammal Monitoring Programme April 2011-March 2012*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

8. Agriculture, Fisheries and Conservation Department (AFCD) 2011. *Annual Marine Mammal Monitoring Programme April 2010-March 2011*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

9. Agriculture, Fisheries and Conservation Department (AFCD) 2010. *Annual Marine Mammal Monitoring Programme April 2009-March 2010*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR. http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html

7. WHITE-BELLIED SEA EAGLE

7.1 Monitoring Requirement

7.1.1 On Shek Kwu Chau Island, a nest of WBSE is located about 60 m above ground within a hillside shrubland habitat, 130 m in-land from shore, about 550 m away from the proposed reclaimed land, with no human access. 3 phases monitoring programme will be comprised of pre-construction phase, construction phase and operation phase.

7.1.2 The Pre-Construction WBSE monitoring was started on 30 January 2018 and the location of WBSE nest was confirmed on 21 February 2018 and it is located at the western part of SKC Island (**Figure 7.1**). Two adults and two chicks were also recorded on 5th March 2018 survey till the end of the Pre-construction monitoring on 15th May 2018. Construction Phase monitoring were carried out followed by the commencement of the Construction Phase on 28th June 2018.

7.2 WBSE Monitoring Parameters, Time, Frequency

7.2.1 The objective of the construction phase monitoring should be to verify the utilisation of the area by WBSE, their responses to construction disturbance, as well as the effectiveness of the proposed mitigation measures. Throughout the construction phase, field surveys should be conducted twice per month during their core breeding season (from December to May), and once per month outside their core breeding season (from June to November). The monitoring frequency should be increased to weekly during the incubation period of each year. In order to confirm their foraging ground near the construction site, it is necessary to conduct daily monitoring during the first week of nestling period in each year.

7.2.2 Since the location of the WBSE nest was located at the southwest of SKC within the hillside shrubland, it is impossible to observe the eggs during incubation period. Therefore, monitoring with increased frequency during incubation period will be continued until chick was seen in the nest. Daily monitoring of 7-day consecutive monitoring will be carried out once any chick is recorded during the monitoring day. The monitoring schedule during the reporting period is provided in **Appendix C**.

7.3 Monitoring Location

7.3.1 Since there are no suitable land footings along the coast of SKC, only boat surveys were conducted. On Shek Kwu Chau Island, a nest of WBSE is located about 60 m above ground within a hillside shrubland habitat, 130 m in-land from shore, about 550 m away from the proposed reclaimed land, with no human access.

7.4 Monitoring Methodology

7.4.1 Information to be collected included feeding, perching/roosting, preening, soaring, flying, nesting and territorial guarding and the time spent on each activity. The responses and reactions to any disturbance to the WBSEs were also recorded and examined in conjunction with the construction noise and/or other events in the vicinity. Other disturbances such as weather condition, or invasion by other fauna species were also recorded.

7.4.2 Binocular, scope, camera, lens and GPS device used are summarized as **Table 7.1** below:

Table 7.1 List of Equipment Used during Construction Phase Monitoring

Equipment	Quantity
Swarovski EL 8.5 x 42 Binocular	1
Swarovski EL Range 8 x 42 Binocular	1
Swarovski ATX 25-60 x 85 Spotting Scope	1
Canon 1Dx Mark II Camera	1
Canon EF300mm F2.8 Lens with Canon 2x Teleconverter	1
Canon PowerShot G7X Camera	1
Garmin GPSMAP 64S	1

7.4.3 If event such as absence of White-bellied Sea Eagle during a whole day of monitoring was found during WBSE monitoring, the actions in accordance with the Event and Action Plan should be carried out according to **Appendix M.**

7.5 Results and Observations

7.5.1 To verify the utilization of the area by WBSE, their responses to construction disturbance, as well as the effectiveness of the proposed mitigation measures. Since there is no landing point long the western part of SKC, boat survey were used for the monitoring survey. The WBSE, monitoring survey was carried out in the morning. The weather condition of monitoring survey was shown in **Table 7.2**.

Date	Condition	Temperature (°C)
15 March 2023	- North wind force 4 to 5 - Sunny Day	24
28 March 2023	- Northeast wind force 3 to 4 - Mainly cloudy with one or two rain patches	26

7.5.2 No abnormal behavior of the recorded adults during the March 2023 construction phase monitoring. Two adults of WBSE were recorded on 15 March 2023. Two adults of WBSE and one chick were recorded on 28 March 2023. Since one chick was recorded during the monitoring event on 28 March 2023, a 7-day consecutive monitoring was carried out starting from 29 March 2023 to monitor their behavior of the WBSE and their responses to construction disturbance. The result of 7-day consecutive monitoring will be presented in next EM&A monthly report.

7.5.3 The juvenile recorded in 2022 has not been observed since monitoring event in September 2022, it is suggested that the juvenile left the nest at SKC and nesting in other area outside our monitoring boundary.

7.5.4 All marine works during the monitoring period did not show any effect to the WBSE.

7.5.5 Any disturbances from anthropogenic activities on the island were not recorded during the monitoring survey. However, there were fishing boats moving close the shore were recorded. Since the nesting tree is about 160m away from the shore and it is not accessible, fishing boat activities didn't show any direct disturbance to the WBSE nest. No invasion of other fauna species was recorded.

7.5.6 There was no sign of using the construction site as a foraging ground.

Figure 7.1 Location of WBSE Nest on SKC

7.5.7 Photo record of WBSE from the survey in this reporting month is shown below:

One Adult WBSE recorded next to the nest on 28 March 2023

One WBSE Chick recorded inside the nest on 28 March 2023

Figure 7.2 Photo Records of WBSE on SKC during the Reporting Period

8. SUMMARY OF MONITORING EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

8.1 The Environmental Complaint Handling Procedure is shown in **Figure 8.1**.

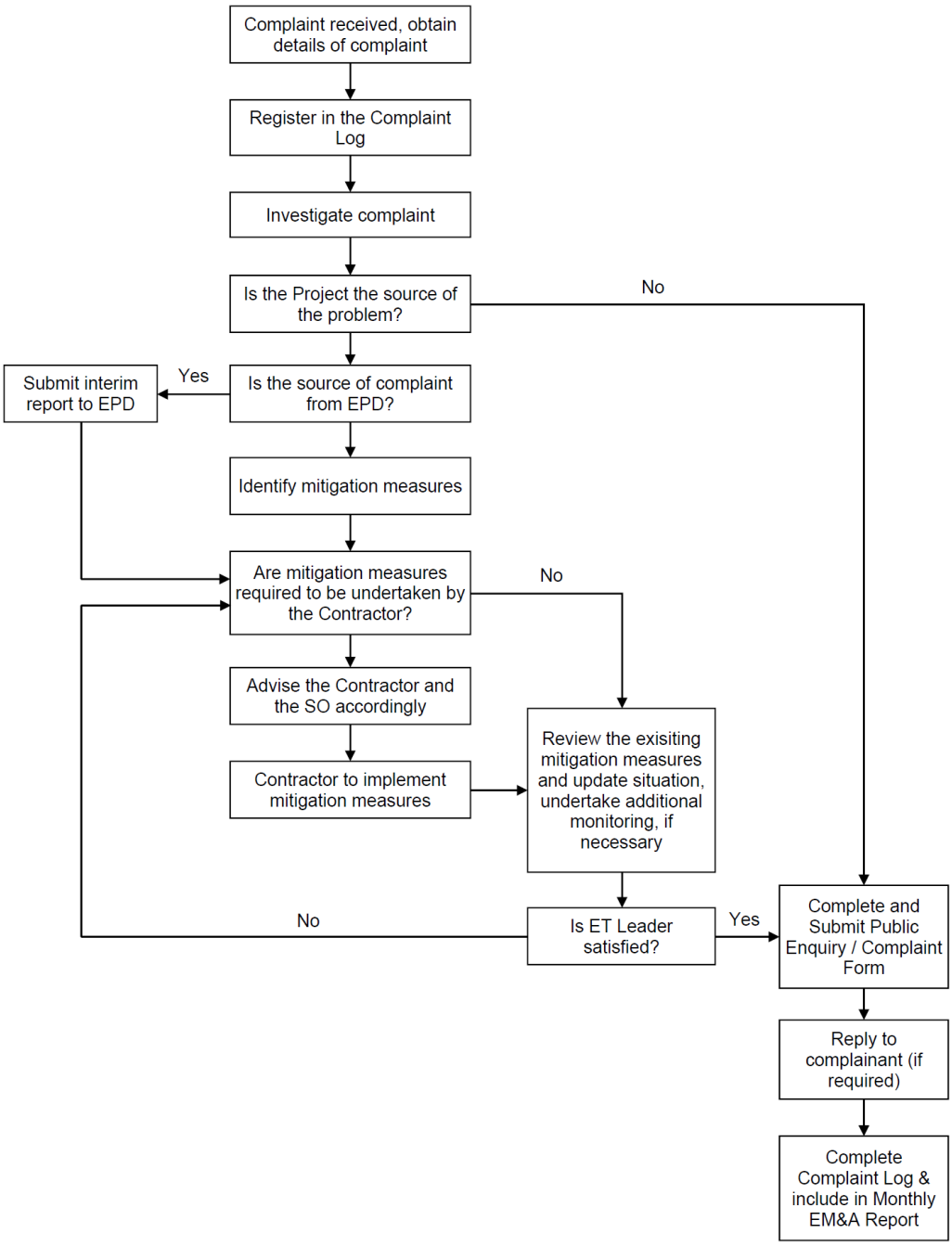


Figure 8.1 Environmental Complaint Handling Procedures

Table 8.1 Summary of SS Compliance Status at Impact Stations (Mid-Ebb Tide)

Date	B1	B2	B3	B4	CR1	CR2	F1A	H1	S1	S2A	S3	M1
01-03-2023												
04-03-2023												
06-03-2023												
08-03-2023												
10-03-2023												
13-03-2023												
15-03-2023												
17-03-2023												
20-03-2023												
22-03-2023												
24-03-2023												
27-03-2023												
29-03-2023												
No. of SS Exceedances	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

Note 1: Detailed results are presented in **Appendix D**

Legend:

	No exceedance of Action Level and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream/unrelated stream (neither upstream nor downstream, far away) of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located upstream/unrelated stream of the Project based on dominant tidal flow
	Upstream/unrelated stream station with respect to IWMF Project during the respective tide based on dominant tidal flow
	Downstream station with respect to IWMF Project during the respective tide based on dominant tidal flow/station within the Project site
	NA for measurement
	Cancelled due to incident or adverse weather

Table 8.2 Summary of SS Compliance Status at Impact Stations (Mid-Flood Tide)

Date	B1	B2	B3	B4	CR1	CR2	F1A	H1	S1	S2A	S3	M1
01-03-2023												
04-03-2023												
06-03-2023												
08-03-2023												
10-03-2023												
13-03-2023												
15-03-2023												
17-03-2023												
20-03-2023												
22-03-2023												
24-03-2023												
27-03-2023												
29-03-2023												
No. of SS Exceedances	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note 1: Detailed results are presented in **Appendix D**

Legend:

	No exceedance of Action Level and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream/unrelated stream (neither upstream nor downstream, far away) of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located upstream/unrelated stream of the Project based on dominant tidal flow
	Upstream/unrelated stream station with respect to IWMF Project during the respective tide based on dominant tidal flow
	Downstream station with respect to IWMF Project during the respective tide based on dominant tidal flow/station within the Project site
	NA for measurement
	Cancelled due to incident or adverse weather

8.2 During the reporting period, three (3) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Action Level and one (1) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Investigations were carried out for each exceedance during the reporting period.

8.3 No project-related Action Level or Limit Level exceedance of regular water quality monitoring was recorded from the 1 March 2023 to 29 March 2023 as shown in **Appendix N** and no exceedance of the Action and Limit Levels of the regular WBSE monitoring was recorded during the reporting period.

8.4 No notification of summons and prosecution was received in the reporting period.

8.5 Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Appendix O**.

9. EM&A SITE INSPECTION

9.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 07, 14, 21 and 28 March 2023 at the site portions listed in **Table 9.1** below.

Table 9.1 Site Inspection Record

Date	Inspected Site Portion	Time
07 March 2023	Portion 1, 1A & 1B (near SKC)	10:30 AM – 11:20 AM
14 March 2023	Portion 1, 1A & 1B (near SKC)	10:30 AM – 11:30 AM
21 March 2023	Portion 1, 1A & 1B (near SKC)	10:30 AM – 11:20 AM
28 March 2023	Portion 1, 1A & 1B (near SKC)	10:30 AM – 11:20 AM

9.2 One joint site inspection with IEC was carried out on 14 March 2023.

9.3 Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections of the reporting period are summarized in **Table 9.2**.

Table 9.2 Site Observations

Date	Environmental Observations	Follow-up Status
07 March 2023 (Site inspection)	Observation(s) and Recommendation(s) 1. A new NRMM label should be provided for the generator (GE086800) 2. Fuel drum should be placed in a drip tray.	1. A new NRMM label had been provided for the generator (GE086800) 2. Empty fuel drums had been removed off site for recycling.
14 March 2023 (Site inspection)	Observation(s) and Recommendation(s) 1. At work area of 利華 and landing pier, general waste should be stored inside the enclosed rubbish bin and removed from site regularly. 2. At JV storage area, empty oil drum should be stored in designated area for recycling. 3. At work area of 偉豐怡, chemical in-use should be placed in drip tray.	1. At work area of 利華 and landing pier, new rubbish bins had been provided and general waste had been removed from site regularly. 2. At JV storage area, all empty oil drums had been cut open and reused as reserve rubbish bins. 3. At work area of 偉豐怡, chemical in-use had been removed.
21 March 2023 (Site inspection)	Observation(s) and Recommendation(s) 1. Rodent drippings were observed near the rubbish bin at caisson 1 pier. The contractor should maintain good waste management practices.	1. General waste had been removed from site and rodenticides had been placed regularly near the rubbish bins for rodent control.

Date	Environmental Observations	Follow-up Status
28 March 2023 (Site inspection)	Observation(s) and Recommendation(s) 1. The faded NRMM label should be replaced and QPME label is unclear for the generator at SWA 36-37.	1. The faded NRMM label and unclear QPME label had been replaced for the generator at SWA 36-37.

9.4 The Contractor had rectified all the observations identified during environmental site inspections in the reporting period.

9.5 According to the EIA Study Report, Environmental Permit, contract documents and Updated EM&A Manual, the mitigation measures detailed in the documents are implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix B**.

10. FUTURE KEY ISSUES

10.1 Works to be undertaken in the next reporting month are:

- Reclamation Area:
  - Installation of Instrumentation
  - Site Investigation works for foundation
  - Foundation works (including Driven H Pile and Socketed H Pile)
  - Pile cap construction
  - Structural steel work
- Seawall Portion:
  - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
  - Construction of wave wall along the vertical seawall

10.2 Potential environmental impacts arising from the above construction activities are mainly associated with construction noise, waste management and ecology.

10.3 The key environmental mitigation measures for the Project in the coming reporting period expected to be associated with the construction activities include:

- Reduction of noise from equipment and machinery on-site;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site, especially under heavy rains and adverse weather;
- Dust control of exposed soil surface and stockpile of dusty material at reclaimed area;
- Dust suppression measures for exposed earth surface and stockpile of dusty material;
- Site runoff control measure during construction works; and
- Dust and noise control of foundation works.

10.4 The tentative schedule of regular construction noise, water quality and ecology monitoring in the next reporting period is presented in **Appendix P**. The regular construction noise and ecology monitoring will be conducted at the same monitoring locations in the next reporting period.

11. CONCLUSION AND RECOMMENDATIONS

11.1 This 57th monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 March to 31 March 2023, in accordance with the Updated EM&A Manual and the requirement under EP-429/2012/A and FEP-01/429/2012/A.

11.2 Construction noise, water quality, construction waste, marine mammal and WBSE monitoring were carried out in the reporting period. No project-related exceedance of the Action and Limit Level was recorded from 1 March to 31 March 2023.

11.3 Weekly environmental site inspections were conducted during the reporting period. Environmental deficiencies were observed during site inspection and were rectified.

11.4 According to the environmental site inspections performed in the reporting month, the Contractor was reminded to pay attention on the proper storage of the chemicals for preventing accidental spillage of chemicals, replacement of faded NRMM label for generator and proper storage of general waste to maintain the site tidiness.

11.5 As confirmed with Contractor and Project Supervising Officer, no marine construction work will be carried out from March to December 2023 tentatively. An updated EM&A arrangement to propose the temporary suspension of water quality and line-transect monitoring from March to December 2023 was submitted to EPD on 21 March 2023. EPD advised no comment on the updated EM&A arrangement on 29 March 2023. The water quality and line-transect monitoring were then temporarily suspended from 30 March 2023 onward. A two-week advance notice will be made by the Contractor prior to resumption of marine construction works. The water quality monitoring and line-transection monitoring will be resumed upon the resumption of marine construction works. ET will notify the resumption of marine construction works with updated EM&A schedule within one day after receiving the notification from contractor.

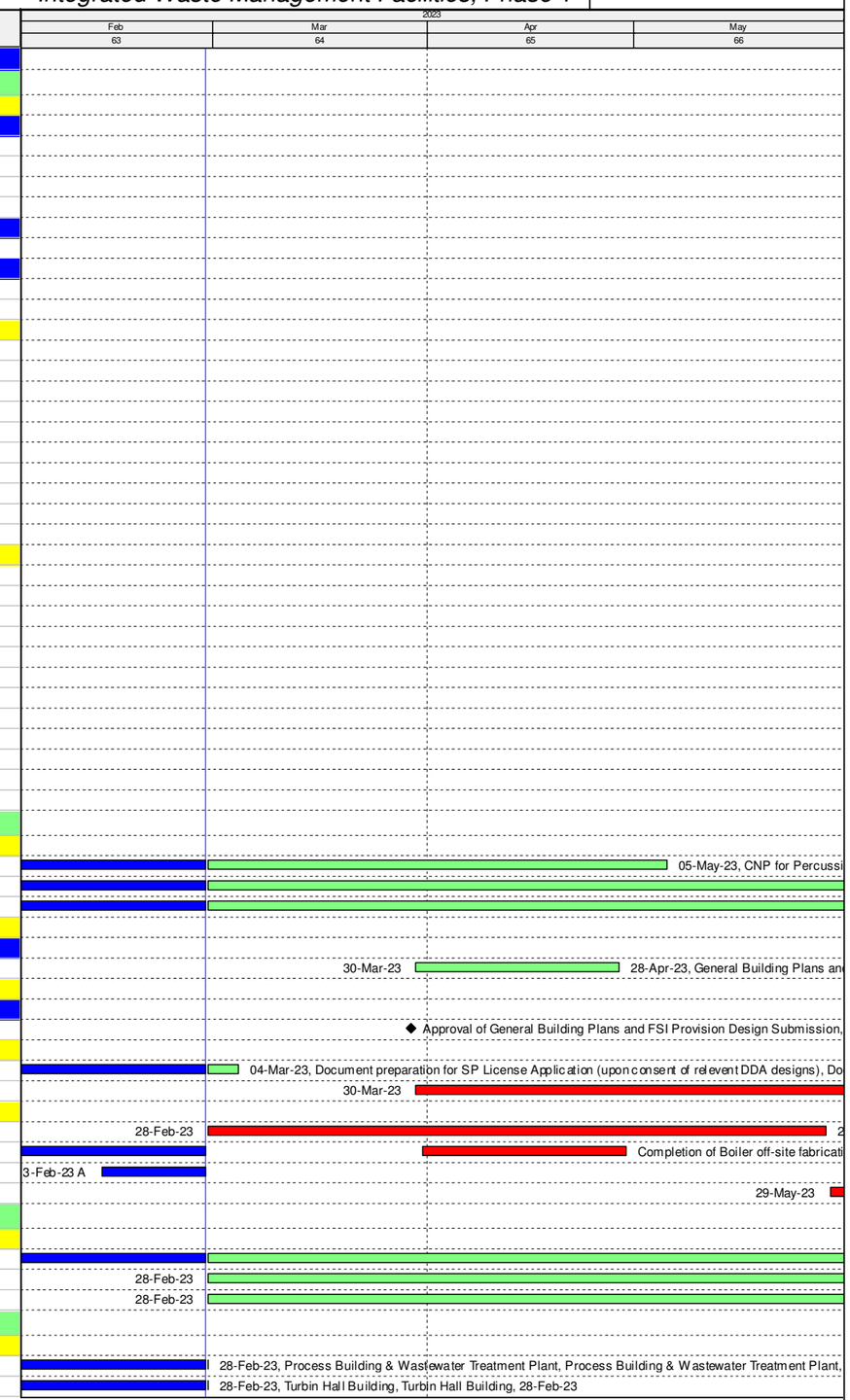
11.6 No environmental complaint was received in the reporting period.

11.7 No notification of summon or prosecution was received since commencement of the Contract.

11.8 The ET will keep track of the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A Master Programme

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
Programme for Design and Construction Works WP6G-M63		3054	1130		22-Nov-17 A	02-Apr-26	04-Dec-22	06-Jan-26	-86	
Key Dates		3054	1031		22-Nov-17 A	02-Apr-26	23-Dec-22	06-Jan-26	-86	
Contractual Key Dates		2844	404		22-Nov-17 A	04-Sep-25	23-Dec-22	04-Sep-25	0	
Design and Construction Phase		2788	348		22-Nov-17 A	10-Jul-25	23-Dec-22	10-Jul-25	0	
01-1000	Contract Award/Date of Acceptance of Tender	0	0	100%	22-Nov-17 A		23-Dec-22			
01-1010	Date of Commencement of the Design and the Works	0	0	100%	15-Dec-17 A		23-Dec-22			
01-1015(3)(M12)	Original Substantial Completion of the Works	0	0	0%		27-Jul-24*		27-Jul-24	0	
01-1020	Extended Substantial Completion of The Works	0	0	0%		10-Jul-25*		10-Jul-25	0	
Extension of Time Granted		348	348		27-Jul-24	10-Jul-25	27-Jul-24	10-Jul-25	0	
01-1015-1(3)(M12)	Extension of time granted (*Claim No.9 excluded)	348	348	0%	27-Jul-24	10-Jul-25	27-Jul-24	10-Jul-25	0	
Operation Phase		56	56		11-Jul-25	04-Sep-25	11-Jul-25	04-Sep-25	0	
01-1030	Commencement of Operation	0	0	0%	11-Jul-25		11-Jul-25		0	
01-1230	Issue Certificate of Completion of the Works (56 days after Substantial Completion)	0	0	0%		04-Sep-25*		04-Sep-25	0	
Planned Completion Dates		915	915		30-Sep-23	02-Apr-26	30-Sep-23	06-Jan-26	-86	
01-1030(5a)	Grid Connection Agreement (GCA)	0	0	0%		31-Oct-23*		30-Oct-23	0	
01-1040	Incoming Power Energization to IWMF Substation	0	0	0%		31-Oct-24		30-Oct-24	0	
01-1050	Export Power to Grid	0	0	0%		31-Oct-24*		31-Oct-24	0	
01-1060	Issuance of FS Certificate	0	0	0%		12-Jan-25		15-Jan-25	3	
01-1070	Completion of Civil Provision for Transmission	0	0	0%		30-Sep-23*		30-Sep-23	0	
01-1080	Commencement of C1.3.4.11 System Commissioning Test	0	0	0%	12-Apr-25		16-Jan-25		-86	
01-1090	Completion of C1.3.4.11 System Commission Test	0	0	0%		28-Apr-25		01-Feb-25	-86	
01-1100	Physical Completion of 90 Days Plant Commissioning Test Works	0	0	0%		13-Sep-25		19-Jun-25	-86	
01-1110(3)(M15)	Planned Substantial Completion of the Works	0	0	0%		04-Oct-25		10-Jul-25	-86	
01-1110-1(5a)	Completion of 180 Days for Installation, T&C of CCTV System and Onshore Power System at Portio	0	0	0%		02-Apr-26*		06-Jan-26	-86	
Dates of Site Pocessions		2765	765		15-Dec-17 A	11-Jul-25	23-Dec-22	11-Jul-25	0	
01-1120	Possession of Portion 1	0	0	100%		15-Dec-17 A		23-Dec-22		
01-1130	Possession of Portion 1A	0	0	100%		15-Dec-17 A		23-Dec-22		
01-1140	Possession of Portion 1B	0	0	100%		15-Dec-17 A		23-Dec-22		
01-1150	Possession of Portion 2	0	0	0%	11-Jul-25		11-Jul-25		0	
01-1160	Possession of Portion 3	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1170	Possession of Portion 4	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1180	Possession of Portion 5	0	0	0%		06-Jun-23*		06-Jun-23	0	
01-1190	Possession of Portion 6	0	0	0%	20-Oct-24*		16-Jan-25		88	
01-1200	Possession of Portion 7	0	0	100%		05-Jan-18 A		10-Jul-25		
01-1210	Possession of Portion 7A	0	0	100%		07-Dec-18 A		10-Jul-25		
01-1210(5a)	Possession of Portion 8	0	0	100%	29-Apr-20 A		11-Jul-25			
01-1210-1(M55)	Possession of Portion 9	0	0	100%	10-Jun-22 A		11-Jul-25			
Licence/Permit Applications		1794	330		07-Mar-19 A	23-Jan-24	18-Feb-23	10-Jul-25	534	
License/Permit for Construction		1794	180		07-Mar-19 A	26-Aug-23	02-Mar-23	10-Jul-25	684	
03-1080	CNP for Percussive Piling Works	613	67	89.07%	31-Aug-21 A	05-May-23	26-Apr-24	01-Jul-24	423	
03-1360(2)	CNP for 24Hrs	1634	180	88.98%	07-Mar-19 A	26-Aug-23	12-Jan-25	10-Jul-25	684	
03-1370_1(M34)	Landscape and Visual Plan	180	112	37.78%	24-Dec-22 A	19-Jun-23	02-Mar-23	21-Jun-23	2	
DG Licence		30	30		30-Mar-23	28-Apr-23	22-May-23	20-Jun-23	53	
Day Tank & Fuel Oil Storage (Cat 5)		30	30		30-Mar-23	28-Apr-23	22-May-23	20-Jun-23	53	
03-1400	General Building Plans and FSI Provision Design Submission to FSD (Cat 5)	30	30	0%	30-Mar-23	28-Apr-23	22-May-23	20-Jun-23	53	
Fire Services Installations (FSI) Certificatie		0	0		29-Mar-23	29-Mar-23	06-Mar-23	06-Mar-23	-23	
Fire Services Installations Certificate Inspection		0	0		29-Mar-23	29-Mar-23	06-Mar-23	06-Mar-23	-23	
03-1555-1(5a)	Approval of General Building Plans and FSI Provision Design Submission	0	0	0%		29-Mar-23		06-Mar-23	-23	
Air Pollution Control (Specified Processes) License		358	330		06-Jan-23 A	23-Jan-24	02-Mar-23	31-Dec-23	-23	
03-1740(3)	Document preparation for SP License Application (upon consent of relevent DDA designs)	60	5	91.67%	06-Jan-23 A	04-Mar-23	02-Mar-23	06-Mar-23	2	
03-1750(3)	SP License Application Submissions and review by EPD	300	300	0%	30-Mar-23	23-Jan-24	07-Mar-23	31-Dec-23	-23	
Boilers and Pressure Vessels License		331	180		29-Mar-22 A	26-Aug-23	18-Feb-23	16-Aug-23	-10	
03-1880(3)	Submission of boiler fabrication inspection plan for License Application	90	90	0%	28-Feb-23	28-May-23	18-Feb-23	18-May-23	-10	
03-1890(3)	Completion of Boiler off-site fabrication	180	30	83.33%	29-Mar-22 A	29-Apr-23	16-Mar-23	14-Apr-23	-15	
03-1900(3)	Completion of Boiler off-site inspection before delivery	60	60	0%	13-Feb-23 A	07-Aug-23	15-Mar-23	13-May-23	-86	
03-1910(3)	Completion of on-site boiler installation	90	90	0%	29-May-23	26-Aug-23	19-May-23	16-Aug-23	-10	
General Submissions		1674	120		27-Nov-18 A	27-Jun-23	14-Mar-23	14-Jan-24	201	
Contractor's Plans Submission and Approval		1674	120		27-Nov-18 A	27-Jun-23	14-Mar-23	14-Jan-24	201	
04-1400(1)	Operation Plan (OP)	240	120	50%	27-Nov-18 A	27-Jun-23	17-Sep-23	14-Jan-24	201	
04-1450(1)	Asset Management Plan (AMP)	120	120	0%	28-Feb-23	27-Jun-23	14-Mar-23	11-Jul-23	14	
04-1500(1)	Handback Plan (HP)	120	120	0%	28-Feb-23	27-Jun-23	14-Mar-23	11-Jul-23	14	
Design Submissions		1751	168		11-Jul-18 A	14-Aug-23	23-Dec-22	27-Dec-24	501	
General Building Plan		637	30		03-Mar-21 A	29-Mar-23	04-Mar-23	27-Jun-23	90	
04-1600(M42)	Process Building & Wastewater Treatment Plant	135	0	100%	03-Jun-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1610(M42)	Turbin Hall Building	135	0	100%	03-Mar-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	



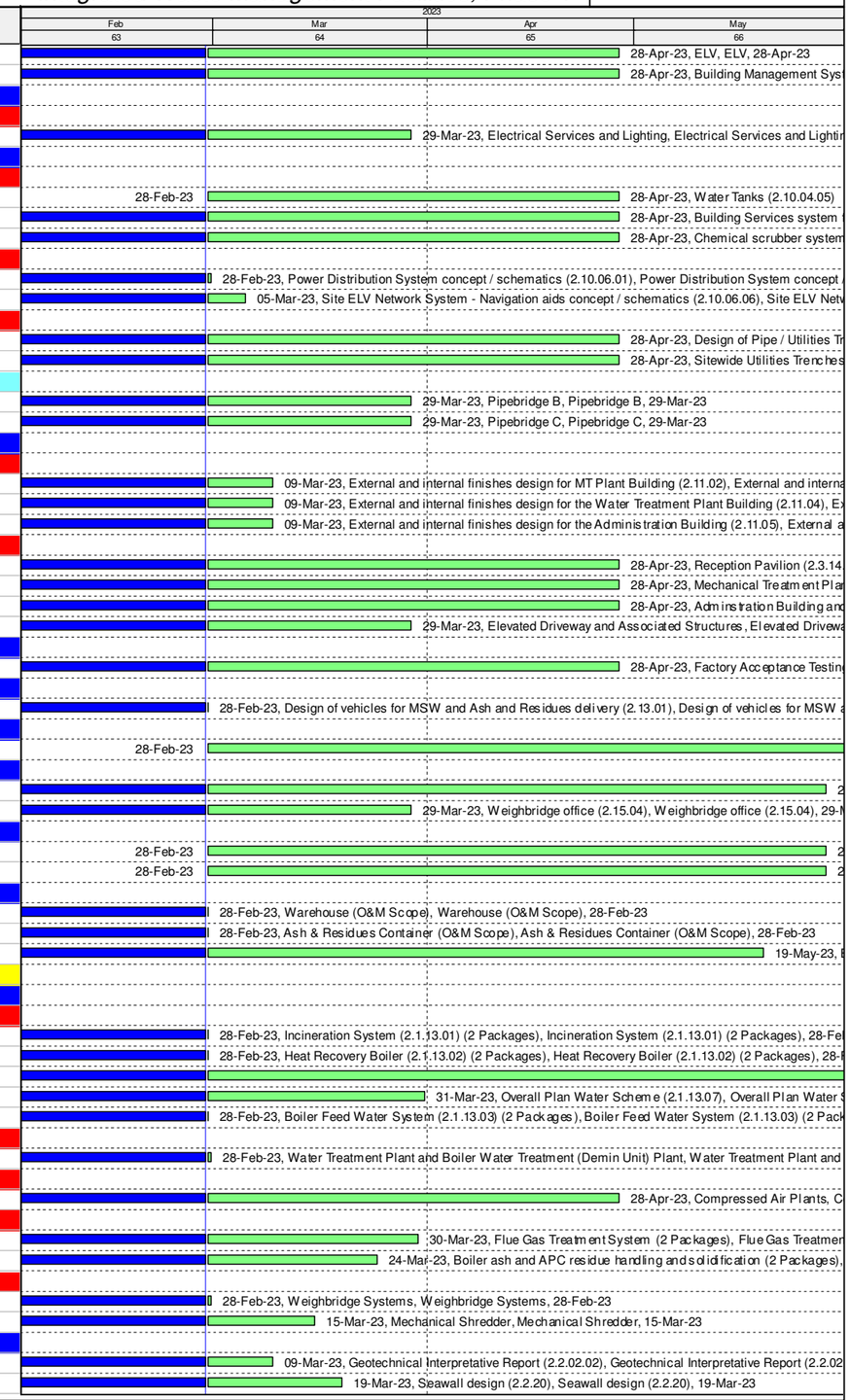
3-Month Rolling Programme (February 2023)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
04-1620(M42)	Compressor & CCCW Building	135	0	100%	03-Mar-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1630(M42)	Chimney	135	0	100%	03-Mar-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1640(M42)	Mechanical Treatment Plant & Water Treatment Plant	135	0	100%	03-Jun-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1650(M42)	Reception Pavilion	135	0	100%	03-Jun-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1660(M42)	Administration Building and Viewing Gallery	135	0	100%	03-Jun-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1670(M42)	Elevated Drive Way and Associated Structures	135	0	100%	03-Mar-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1680(M42)	IWMF Substation	135	0	100%	03-Mar-21 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1690(M46)	ACC Equipment Structure	0	0	0%	28-Feb-23	28-Feb-23	06-Mar-23	06-Mar-23	7	
04-1730	Weighbridge	135	22	5%	22-Apr-22 A	21-Mar-23	06-Jun-23	27-Jun-23	98	
04-1740	Seawater Intake Structure	60	30	0%	23-Feb-23 A	29-Mar-23	04-Mar-23	02-Apr-23	4	
AIP Design Package Submissions		1652	105		11-Jul-18 A	12-Jun-23	23-Dec-22	13-Oct-24	489	
AIP Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		669	60		31-May-21 A	28-Apr-23	23-Dec-22	20-Aug-23	114	
05-2960-1(M37)	Mooring Dolphins	90	0	0%	06-Oct-22 A	13-Feb-23 A	23-Dec-22	23-Dec-22		
05-2970	Onshore crane Facility (2.2.11)	90	3	5%	11-Apr-22 A	02-Mar-23	28-Jul-23	30-Jul-23	150	
05-2980	Onshore vessel power supply system (2.2.12)	135	60	80%	31-May-21 A	28-Apr-23	22-Jun-23	20-Aug-23	114	
AIP Incineration Plant Buildings (2.3)		1577	60		04-Dec-18 A	28-Apr-23	28-Feb-23	21-Aug-24	481	
General Layout Drawings and Fire Saftey Strategy (2.3.00)		30	30		28-Feb-23	29-Mar-23	22-Apr-23	21-May-23	53	
05-1220	ACC Equipment Structure	30	30	0%	28-Feb-23	29-Mar-23	22-Apr-23	21-May-23	53	
Foundation design (2.3.01)		135	0		30-Oct-20 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
05-3090	Reception Pavilion	135	0	100%	30-Oct-20 A	28-Feb-23	06-Mar-23	06-Mar-23	7	
Structural design (2.3.02)		135	60		01-Jun-21 A	28-Apr-23	05-Jan-24	04-Mar-24	311	
05-3090-1(M55)	Sky Deck	135	60	55.56%	01-Jun-21 A	28-Apr-23	05-Jan-24	04-Mar-24	311	
Operation Management System (2.3.03.04)		121	16		14-Feb-22 A	15-Mar-23	28-Feb-23	02-May-24	414	
05-2250	Design of the Air Quality Monitoring Stations (2.9.01)	60	16	5%	01-Jun-22 A	15-Mar-23	28-Feb-23	15-Mar-23	0	
05-3840-1(M22)	Automatic Traffic Control System (ATCS) (2.10.06.12)	90	14	5%	14-Feb-22 A	13-Mar-23	19-Apr-24	02-May-24	416	
Building services design (excluding fire services installation design) (2.3.06)		405	60		04-Dec-18 A	28-Apr-23	06-May-23	21-Aug-24	481	
05-1550	Electrical Services and Lighting	150	30	25%	02-Jan-19 A	29-Mar-23	06-May-23	04-Jun-23	67	
05-1560	MVAC (6 Packages)	105	60	25%	02-Jan-19 A	28-Apr-23	06-Jun-23	04-Aug-23	98	
05-1570	Odour Control	135	60	25%	04-Dec-18 A	28-Apr-23	06-Jun-23	04-Aug-23	98	
05-1580	Plumbing (7 Packages)	210	60	25%	31-Jan-19 A	28-Apr-23	13-Jan-24	12-Mar-24	319	
05-1590	Drainage (7 Packages)	135	60	25%	31-Jan-19 A	28-Apr-23	13-Jan-24	12-Mar-24	319	
05-1600	ELV (7 Packages)	135	30	25%	28-Feb-19 A	29-Mar-23	06-May-23	04-Jun-23	67	
05-1770-1(M20)	Water Cannon System	135	30	45%	31-Aug-19 A	29-Mar-23	23-Jul-24	21-Aug-24	511	
AIP Fire services installation design (2.3.05)		270	30		31-Oct-19 A	29-Mar-23	22-Apr-23	21-May-23	53	
Reception Pavilion (2.3.05.06)		270	30		31-Oct-19 A	29-Mar-23	22-Apr-23	21-May-23	53	
05-5460(M22)	Fire Systems (2.3.05.06.01)	270	30	80%	31-Oct-19 A	29-Mar-23	22-Apr-23	21-May-23	53	
05-5470-1(M22)	FS schematics (2.3.05.06.03)	135	30	80%	31-Oct-19 A	29-Mar-23	22-Apr-23	21-May-23	53	
AIP Mechanical Treatment Plant Building (2.4)		212	60		11-Jul-18 A	28-Apr-23	23-Mar-23	12-Mar-24	319	
Building services design (excluding fire services installation design) (2.4.06)		212	60		11-Jul-18 A	28-Apr-23	23-Mar-23	12-Mar-24	319	
05-1700	LV and Emergency Power Distribution Design	135	60	5%	18-Jan-22 A	28-Apr-23	13-Jan-24	12-Mar-24	319	
05-1720	Odour Control	90	30	80%	11-Jul-18 A	29-Mar-23	23-Mar-23	21-Apr-23	23	
05-1740	Drainage	90	10	70%	10-Jan-21 A	09-Mar-23	13-Jun-23	22-Jun-23	105	
AIP Wastewater Treatment Plant (2.5)		1170	60		31-Jan-19 A	28-Apr-23	09-Apr-23	12-Mar-24	319	
Building services design (excluding fire services installation design) (2.5.06)		1170	60		31-Jan-19 A	28-Apr-23	09-Apr-23	12-Mar-24	319	
05-1830	LV and Emergency Power Distribution Design (2.5.06.01)	135	60	25%	31-Jan-19 A	28-Apr-23	13-Jan-24	12-Mar-24	319	
05-1840	MVAC (2.5.06.02)	135	60	25%	31-Jan-19 A	28-Apr-23	24-Apr-23	22-Jun-23	55	
05-1850	Odour Control (2.5.06.03)	105	60	5%	31-Dec-21 A	28-Apr-23	30-Apr-23	28-Jun-23	61	
05-1860	Plumbing (2.5.06.04)	135	60	25%	31-Jan-19 A	28-Apr-23	24-Apr-23	22-Jun-23	55	
05-1870	Drainage (2.5.06.05)	135	60	25%	31-Jan-19 A	28-Apr-23	09-Apr-23	07-Jun-23	40	
05-1880	ELV (2.5.06.06)	135	60	25%	01-Feb-19 A	28-Apr-23	17-Jul-23	14-Sep-23	139	
AIP Water Treatment Plant Building (2.6)		135	60		30-Apr-19 A	28-Apr-23	13-Jun-23	12-Mar-24	319	
Building services design (excluding fire services installation design) (2.6.06)		135	60		30-Apr-19 A	28-Apr-23	13-Jun-23	12-Mar-24	319	
05-1960	Electrical Services and Lighting (2.6.06.01)	135	60	25%	30-Apr-19 A	28-Apr-23	13-Jan-24	12-Mar-24	319	
05-2000	Drainage	135	10	70%	20-Mar-22 A	09-Mar-23	13-Jun-23	22-Jun-23	105	
AIP Administration Building (2.7)		1306	90		31-Oct-19 A	28-May-23	03-Mar-23	16-Jul-23	49	
05-2050	Electrical and instrumentation works design (2.7.03)	90	90	0%	28-Feb-23	28-May-23	18-Apr-23	16-Jul-23	49	
Building services design (excluding fire services installation design) (2.7.05)		135	20		31-Oct-19 A	19-Mar-23	03-Mar-23	22-Mar-23	3	
05-2080	MVAC	135	20	65%	31-Oct-19 A	19-Mar-23	03-Mar-23	22-Mar-23	3	
AIP IWMF Substation (2.8)		180	30		31-Oct-19 A	29-Mar-23	05-Mar-23	03-Apr-23	5	
05-2170	Electrical and instrumentation works design (2.8.03) (14 Packages)	180	30	45%	31-Oct-19 A	29-Mar-23	05-Mar-23	03-Apr-23	5	
AIP Chimney		151	60		20-Sep-21 A	28-Apr-23	17-Jul-23	07-Feb-24	285	
Building services design (excluding fire services installation design)		151	60		20-Sep-21 A	28-Apr-23	17-Jul-23	07-Feb-24	285	
05-5430(5a)	Electrical Services and Lighting	90	60	5%	20-Sep-21 A	28-Apr-23	10-Dec-23	07-Feb-24	285	
05-5440(5a)	MVAC	90	30	5%	20-Sep-21 A	29-Mar-23	21-Sep-23	20-Oct-23	205	
05-5450(5a)	Plumbing	90	60	5%	20-Sep-21 A	28-Apr-23	03-Dec-23	31-Jan-24	278	
05-5460-1(5a)	Drainage	90	60	5%	20-Sep-21 A	28-Apr-23	03-Dec-23	31-Jan-24	278	

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

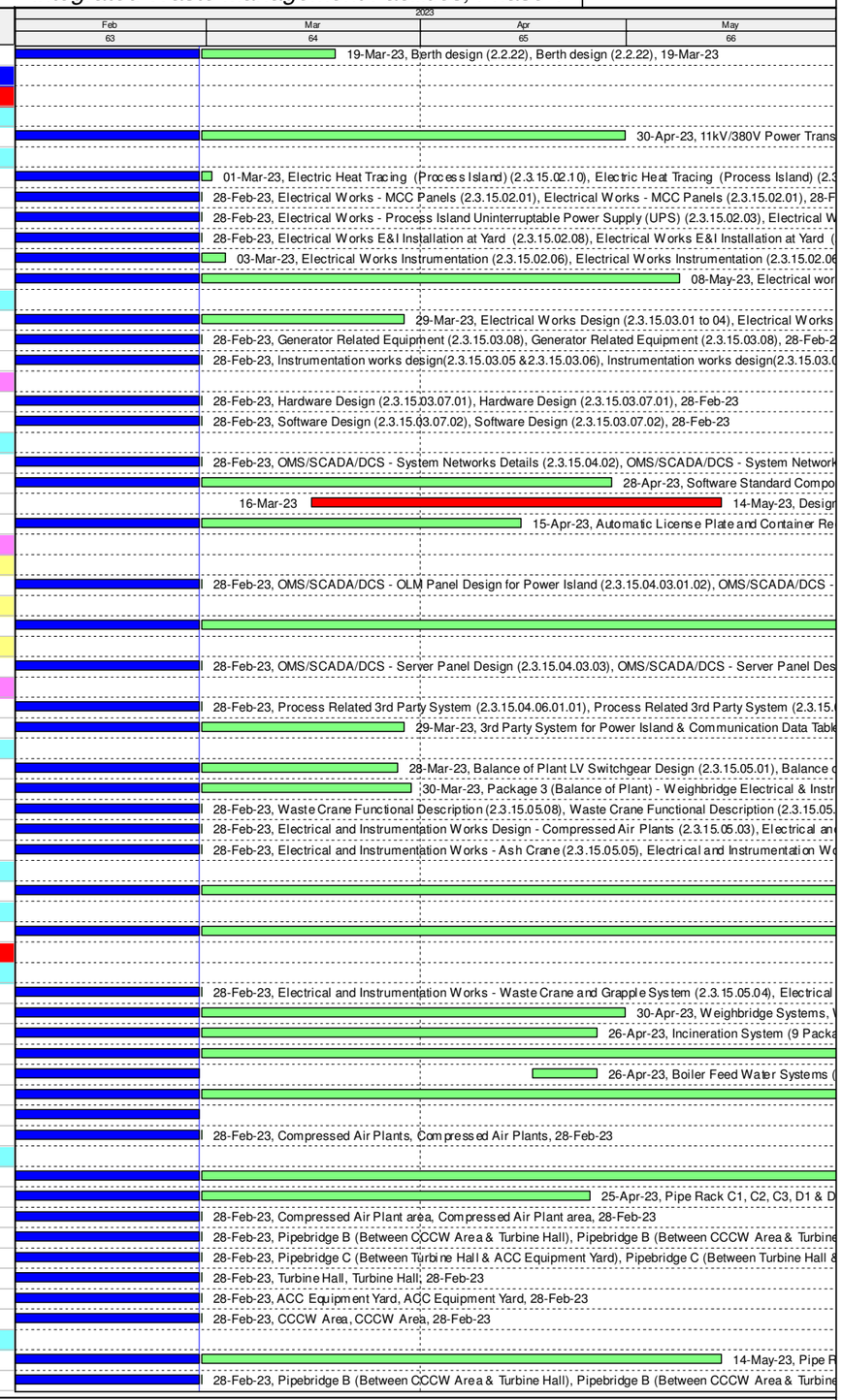
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
05-5470(5a)	ELV	90	60	5%	20-Sep-21 A	28-Apr-23	10-Dec-23	07-Feb-24	285	
05-5490(5a)	Building Management System (BMS)	90	60	5%	27-Oct-21 A	28-Apr-23	17-Jul-23	14-Sep-23	139	
AIP Elevated Drive Way and Associated Structures Foundation		105	30		31-Dec-21 A	29-Mar-23	15-Sep-23	14-Oct-23	199	
Building services design (excluding fire services installation design)		105	30		31-Dec-21 A	29-Mar-23	15-Sep-23	14-Oct-23	199	
05-7090	Electrical Services and Lighting	105	30	5%	31-Dec-21 A	29-Mar-23	15-Sep-23	14-Oct-23	199	
AIP Roads and Utilities (2.10)		910	60		31-Oct-20 A	28-Apr-23	04-Mar-23	18-Jan-24	265	
Water supply system design on the Artificial Island (2.10.04)		910	60		31-Oct-20 A	28-Apr-23	10-Mar-23	20-Sep-23	145	
05-2360	Water Tanks (2.10.04.05)	60	60	0%	28-Feb-23	28-Apr-23	10-Mar-23	08-May-23	10	
05-2370-2(M24)	Building Services system for seawater intake (2.10.04.09)	105	60	5%	31-Oct-20 A	28-Apr-23	23-Jul-23	20-Sep-23	145	
05-2370-3(5a)	Chemical scrubber system for odour control (2.10.04.10)	105	60	5%	31-Oct-21 A	28-Apr-23	23-Jul-23	20-Sep-23	145	
Design of telecommunication and other utilities (2.10.06)		590	6		31-Jan-21 A	05-Mar-23	04-Mar-23	18-Jan-24	319	
05-2380	Power Distribution System concept / schematics (2.10.06.01)	135	1	5%	31-Jan-21 A	28-Feb-23	18-Jan-24	18-Jan-24	324	
05-2430	Site ELV Network System - Navigation aids concept / schematics (2.10.06.06)	105	6	80%	31-May-22 A	05-Mar-23	04-Mar-23	09-Mar-23	4	
Utility ducts/Pipebridges design (2.10.25)		455	60		01-May-21 A	28-Apr-23	18-Aug-23	19-Nov-23	205	
05-2460	Design of Pipe / Utilities Trenches concept (2.10.06.09.01)	105	60	5%	01-May-21 A	28-Apr-23	21-Sep-23	19-Nov-23	205	
05-2470	Sitewide Utilities Trenches Design (2.10.06.09.02)	105	60	5%	01-May-21 A	28-Apr-23	21-Sep-23	19-Nov-23	205	
Layout Plan for Pipe Bridge Network		60	30		31-May-22 A	29-Mar-23	18-Aug-23	16-Sep-23	171	
05-6010	Pipebridge B	60	30	50%	31-May-22 A	29-Mar-23	18-Aug-23	16-Sep-23	171	
05-6020	Pipebridge C	60	30	50%	31-May-22 A	29-Mar-23	18-Aug-23	16-Sep-23	171	
AIP Architectural, Finishes and Landscaping Works (2.11)		668	60		31-Oct-20 A	28-Apr-23	30-Nov-23	13-Oct-24	534	
External and internal finishes design		439	10		31-Oct-20 A	09-Mar-23	30-Nov-23	16-May-24	434	
05-2570	External and internal finishes design for MT Plant Building (2.11.02)	105	10	45%	31-Oct-20 A	09-Mar-23	30-Nov-23	09-Dec-23	275	
05-2590	External and internal finishes design for the Water Treatment Plant Building (2.11.04)	105	10	25%	30-Sep-21 A	09-Mar-23	30-Nov-23	09-Dec-23	275	
05-2600	External and internal finishes design for the Administration Building (2.11.05)	105	10	45%	31-Oct-20 A	09-Mar-23	07-May-24	16-May-24	434	
Facade Structural Design		242	60		26-Aug-21 A	28-Apr-23	06-Mar-24	13-Oct-24	534	
05-8040-1(6D)	Reception Pavilion (2.3.14.07.01)	90	60	5%	05-Oct-21 A	28-Apr-23	15-Aug-24	13-Oct-24	534	
05-8050-1(6D)	Mechanical Treatment Plant & Desalination Plant Building (2.4.14.01)	90	60	5%	08-Mar-22 A	28-Apr-23	27-Apr-24	25-Jun-24	424	
05-8060-1(6D)	Adminstration Building and Viewing Gallery (2.7.12.01)	90	60	5%	07-Dec-21 A	28-Apr-23	19-Apr-24	17-Jun-24	416	
05-8080-1(6D)	Elevated Driveway and Associated Structures	91	30	5%	26-Aug-21 A	29-Mar-23	06-Mar-24	04-Apr-24	372	
AIP Testing and Commissioning (2.12)		105	60		23-Apr-19 A	28-Apr-23	18-Aug-23	16-Oct-23	171	
05-2650-1(5)	Factory Acceptance Testing plan (2.12.01.02-07) (8 Packages)	105	60	5%	23-Apr-19 A	28-Apr-23	18-Aug-23	16-Oct-23	171	
AIP Transportation Facilities for the Operation (2.13)		105	0		30-Sep-20 A	28-Feb-23	08-Apr-23	08-Apr-23	40	
05-2690	Design of vehicles for MSW and Ash and Residues delivery (2.13.01)	105	0	100%	30-Sep-20 A	28-Feb-23	08-Apr-23	08-Apr-23	40	
AIP Miscellaneous Works (2.14)		105	105		28-Feb-23	12-Jun-23	10-Mar-23	22-Jun-23	10	
05-2710	Design of process related CCTV and existing onshore crane replacement works at Portion 2 (2.14.0	105	105	0%	28-Feb-23	12-Jun-23	10-Mar-23	22-Jun-23	10	
AIP Miscellaneous Detailing (2.15)		90	90		25-May-22 A	28-May-23	29-May-23	01-Dec-23	187	
05-2740	Gatehouses (2.15.03)	90	90	5%	25-May-22 A	28-May-23	03-Sep-23	01-Dec-23	187	
05-2750	Weighbridge office (2.15.04)	90	30	5%	25-May-22 A	29-Mar-23	29-May-23	27-Jun-23	90	
AIP Auxiliary Plant Systems (2.16)		90	90		28-Feb-23	28-May-23	19-Apr-23	21-Aug-23	85	
05-2760	Maintenance workshops (2.16.01)	90	90	0%	28-Feb-23	28-May-23	19-Apr-23	17-Jul-23	50	
05-2780	Stores systems (2.16.03)	90	90	0%	28-Feb-23	28-May-23	24-May-23	21-Aug-23	85	
AIP O&M Packages		258	81		06-Jun-22 A	19-May-23	20-Dec-23	09-Jul-24	417	
05-8010(6E)	Warehouse (O&M Scope)	185	0	5%	04-Jul-22 A	28-Feb-23	20-Dec-23	20-Dec-23	296	
05-8030(6E)	Ash & Residues Container (O&M Scope)	160	0	5%	06-Jun-22 A	28-Feb-23	22-May-24	22-May-24	450	
05-8040(6E)	Bicar Debagging Station (O&M Scope)	105	81	5%	17-Nov-22 A	19-May-23	20-Apr-24	09-Jul-24	417	
DDA Design Package Submissions		1751	168		05-Sep-18 A	14-Aug-23	28-Feb-23	27-Dec-24	501	
DDA Process and Layout Design (2.1)		1078	168		22-Apr-20 A	14-Aug-23	18-Apr-23	19-Oct-24	432	
MSW treatment process design for incineration (2.1.13)		1078	168		22-Apr-20 A	14-Aug-23	27-Jun-23	19-Oct-24	432	
05-5090	Incineration System (2.1.13.01) (2 Packages)	105	0	5%	22-Apr-20 A	28-Feb-23	27-Jun-23	27-Jun-23	120	
05-5100	Heat Recovery Boiler (2.1.13.02) (2 Packages)	105	0	5%	23-Apr-20 A	28-Feb-23	27-Jun-23	27-Jun-23	120	
05-5120	Leachate Collection and Treatment (2.1.13.05) (2 Packages)	256	168	25%	30-Jun-22 A	14-Aug-23	05-May-24	19-Oct-24	432	
05-5140	Overall Plan Water Scheme (2.1.13.07)	105	32	5%	29-Jan-21 A	31-Mar-23	18-Sep-24	19-Oct-24	568	
05-5150	Boiler Feed Water System (2.1.13.03) (2 Packages)	105	0	45%	23-Apr-20 A	28-Feb-23	16-Aug-23	16-Aug-23	170	
MSW treatment process design for mechanical treatment (2.1.14)		105	1		02-Oct-20 A	28-Feb-23	11-May-23	11-May-23	72	
05-3510	Water Treatment Plant and Boiler Water Treatment (Demin Unit) Plant	105	1	5%	02-Oct-20 A	28-Feb-23	11-May-23	11-May-23	72	
Waste heat recovery and Power generation system (2.1.15)		105	60		30-Sep-21 A	28-Apr-23	02-Nov-23	31-Dec-23	247	
05-5240	Compressed Air Plants	105	60	25%	30-Sep-21 A	28-Apr-23	02-Nov-23	31-Dec-23	247	
Flue gas treatment process design for incineration (2.1.16)		105	31		23-Apr-20 A	30-Mar-23	18-Apr-23	18-May-23	49	
05-4660	Flue Gas Treatment System (2 Packages)	105	31	80%	23-Apr-20 A	30-Mar-23	18-Apr-23	18-May-23	49	
05-4980	Boiler ash and APC residue handling and solidification (2 Packages)	105	25	80%	30-Sep-20 A	24-Mar-23	24-Apr-23	18-May-23	55	
Logistic arrangement design for MSW and Ash and Residues (2.1.17)		105	16		25-Aug-21 A	15-Mar-23	03-Aug-23	31-Dec-23	291	
05-4390	Weighbridge Systems	105	1	5%	25-Aug-21 A	28-Feb-23	31-Dec-23	31-Dec-23	306	
05-4410	Mechanical Shredder	105	16	5%	25-Sep-21 A	15-Mar-23	03-Aug-23	18-Aug-23	156	
DDA Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		816	20		20-Jan-19 A	19-Mar-23	13-Nov-23	22-May-24	430	
05-3430-2(M37)	Geotechnical Interpretative Report (2.2.02.02)	105	10	65%	31-Dec-20 A	09-Mar-23	13-May-24	22-May-24	440	
05-3450	Seawall design (2.2.20)	60	20	65%	20-Jan-19 A	19-Mar-23	14-Mar-24	02-Apr-24	380	



3-Month Rolling Programme (February 2023)

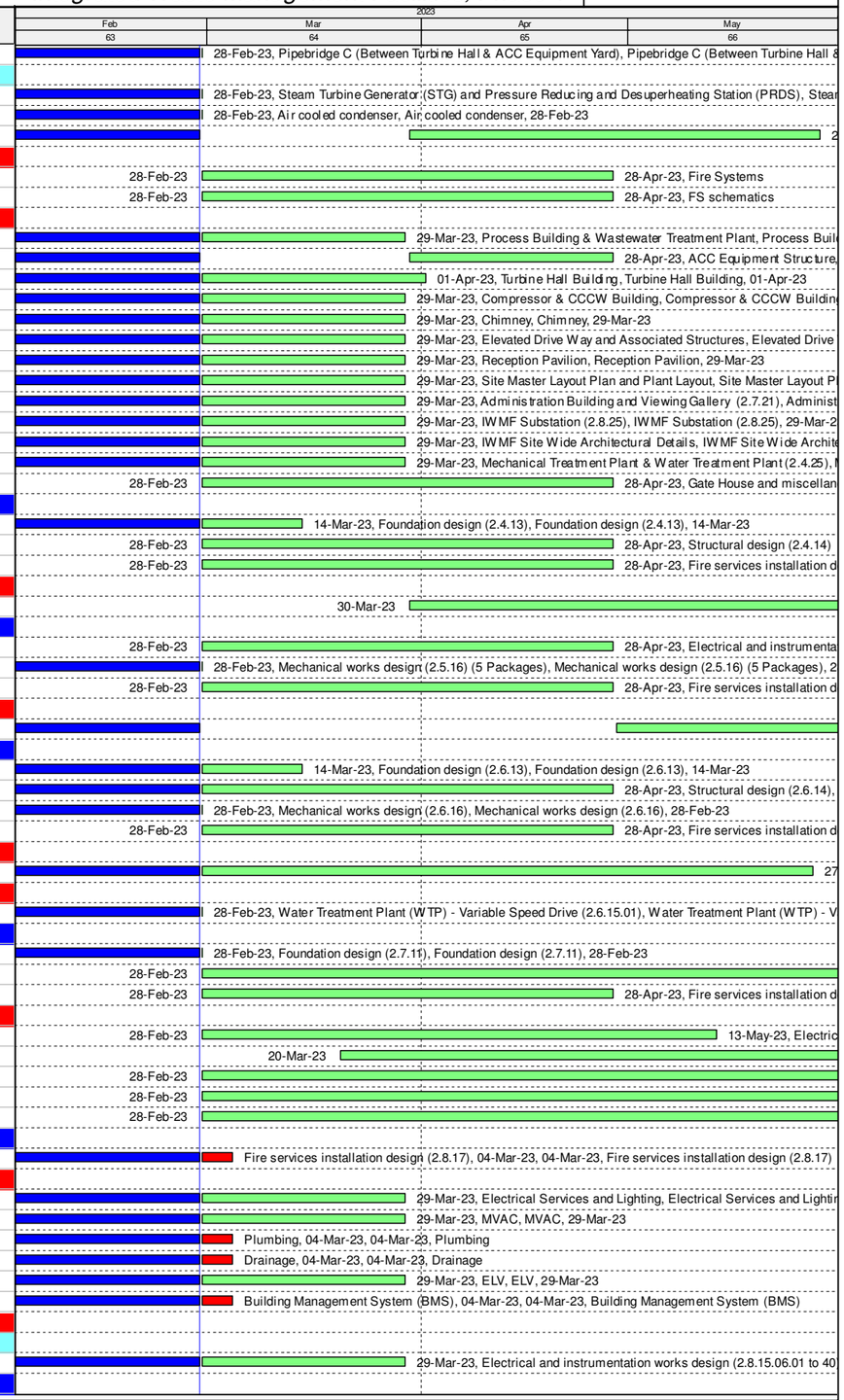
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
05-3470	Berth design (2.2.22)	60	20	65%	30-Jan-19 A	19-Mar-23	13-Nov-23	02-Dec-23	258	
DDA Incineration Plant Buildings (2.3)		1644	137		05-Sep-18 A	14-Jul-23	09-Mar-23	05-Jun-24	327	
Electrical and instrumentation works design (2.3.15)		1630	105		05-Sep-18 A	12-Jun-23	16-Mar-23	05-Jun-24	359	
2.3.15.01		105	62		05-Nov-21 A	30-Apr-23	16-Aug-23	16-Oct-23	169	
05-3360	11kV/380V Power Transformers Design (2.3.15.01)	105	62	80%	05-Nov-21 A	30-Apr-23	16-Aug-23	16-Oct-23	169	
E&IC Package 1 (Process Island) (2.3.15.02)		378	70		22-Sep-20 A	08-May-23	03-Apr-23	11-May-24	369	
05-3370	Electric Heat Tracing (Process Island) (2.3.15.02.10)	120	2	5%	17-Feb-22 A	01-Mar-23	25-Aug-23	26-Aug-23	178	
05-3390-10(M55)	Electrical Works - MCC Panels (2.3.15.02.01)	105	0	80%	22-Sep-20 A	28-Feb-23	11-May-24	11-May-24	439	
05-3390-11(M55)	Electrical Works - Process Island Uninterruptable Power Supply (UPS) (2.3.15.02.03)	105	0	80%	27-Nov-20 A	28-Feb-23	16-Oct-23	16-Oct-23	231	
05-3390-13(M55)	Electrical Works E&I Installation at Yard (2.3.15.02.08)	105	0	25%	07-May-22 A	28-Feb-23	20-Nov-23	20-Nov-23	266	
05-3390-6(M55)	Electrical Works Instrumentation (2.3.15.02.06)	105	4	80%	15-Oct-21 A	03-Mar-23	17-Nov-23	20-Nov-23	262	
05-7400-1(M55)	Electrical works CEMS and Process Analysers (2.3.15.02.07)	105	70	5%	12-Jul-21 A	08-May-23	03-Apr-23	11-Jun-23	34	
E&IC Package 2 (Power Island) (2.3.15.03)		773	30		16-Sep-19 A	29-Mar-23	27-Apr-23	05-Jun-24	434	
05-3390-13(M55)10	Electrical Works Design (2.3.15.03.01 to 04)	105	30	80%	23-Dec-20 A	29-Mar-23	27-Apr-23	26-May-23	58	
05-3390-4(M46)	Generator Related Equipment (2.3.15.03.08)	105	0	80%	29-Jun-21 A	28-Feb-23	16-Oct-23	16-Oct-23	231	
05-3390-7(M55)	Instrumentation works design(2.3.15.03.05 &2.3.15.03.06)	105	0	80%	10-Feb-21 A	28-Feb-23	20-Jul-23	20-Jul-23	143	
Control Works Design SCADA & PLC Control System (2.3.15.03.07)		530	0		16-Sep-19 A	28-Feb-23	26-May-23	05-Jun-24	464	
05-3390-1(M46)	Hardware Design (2.3.15.03.07.01)	105	0	65%	16-Sep-19 A	28-Feb-23	05-Jun-24	05-Jun-24	464	
05-3390-2(M46)	Software Design (2.3.15.03.07.02)	105	0	45%	30-Oct-21 A	28-Feb-23	26-May-23	26-May-23	88	
Operation Management System (2.3.15.04)		1630	105		05-Sep-18 A	12-Jun-23	16-Mar-23	05-Jun-24	359	
05-3390-6(M46)	OMS/SCADA/DCS - System Networks Details (2.3.15.04.02)	105	0	65%	30-Oct-21 A	28-Feb-23	01-Sep-23	01-Sep-23	186	
05-3390-7(M46)	Software Standard Component	105	60	5%	09-Dec-20 A	28-Apr-23	07-Apr-24	05-Jun-24	404	
05-4490	Design of the Air Quality Monitoring Stations (2.9.03)	60	60	0%	16-Mar-23	14-May-23	16-Mar-23	14-May-23	0	
05-7400(6E)	Automatic License Plate and Container Recoginition System (ALPCRS)	105	47	45%	05-Sep-18 A	15-Apr-23	01-Oct-23	16-Nov-23	215	
2.3.15.04.03		410	105		15-Dec-21 A	12-Jun-23	01-Sep-23	05-Jun-24	359	
2.3.15.04.03.01		105	0		15-Dec-21 A	28-Feb-23	01-Sep-23	01-Sep-23	186	
05-3390-8(M46)	OMS/SCADA/DCS - OLM Panel Design for Power Island (2.3.15.04.03.01.02)	105	0	80%	15-Dec-21 A	28-Feb-23	01-Sep-23	01-Sep-23	186	
2.3.15.04.03.02		105	105		02-Aug-22 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
05-3390-13(M58)	OMS/SCADA/DCS - Panel Design for Power Island and Plant Commom (2.3.15.04.03.02)	105	105	80%	02-Aug-22 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
2.3.15.04.03.03		105	0		19-Apr-22 A	28-Feb-23	05-Jun-24	05-Jun-24	464	
05-3390-14(M55)	OMS/SCADA/DCS - Server Panel Design (2.3.15.04.03.03)	105	0	80%	19-Apr-22 A	28-Feb-23	05-Jun-24	05-Jun-24	464	
2.3.15.04.06		105	30		06-Oct-21 A	29-Mar-23	01-Sep-23	01-Oct-23	186	
05-3390-9(6D)	Process Related 3rd Party System (2.3.15.04.06.01.01)	105	0	80%	09-Dec-21 A	28-Feb-23	01-Sep-23	01-Sep-23	186	
05-3420(M58)	3rd Party System for Power Island & Communication Data Tables for Process Vol 1 and Power Islar	105	30	80%	06-Oct-21 A	29-Mar-23	02-Sep-23	01-Oct-23	186	
2.3.15.05		105	31		15-Jul-21 A	30-Mar-23	28-May-23	16-Nov-23	231	
05-3390-15(M55)	Balance of Plant LV Switchgear Design (2.3.15.05.01)	105	29	80%	07-May-22 A	28-Mar-23	30-May-23	27-Jun-23	91	
05-3390-16(M55)	Package 3 (Balance of Plant) - Weighbridge Electrical & Instrumentation Package & ALPCRS (2.3.	105	31	45%	04-Jan-22 A	30-Mar-23	28-May-23	27-Jun-23	89	
05-3390-17(M55)	Waste Crane Functional Description (2.3.15.05.08)	105	0	80%	15-Jul-21 A	28-Feb-23	24-Sep-23	24-Sep-23	209	
05-3390-3(M55)	Electrical and Instrumentation Works Design - Compressed Air Plants (2.3.15.05.03)	105	0	80%	29-Nov-21 A	28-Feb-23	17-Jun-23	17-Jun-23	110	
05-3390-5(M55)	Electrical and Instrumentation Works - Ash Crane (2.3.15.05.05)	105	0	80%	30-Aug-21 A	28-Feb-23	16-Nov-23	16-Nov-23	262	
2.3.15.07		105	105		27-Sep-21 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
05-3390-20(M55)	SCADA & PLC Control System - Software Design (2.3.15.07.02)	105	105	5%	27-Sep-21 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
2.3.15.08		105	105		23-May-22 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
05-3390-21(M55)	Operation Management System (2.3.15.08)	105	105	80%	23-May-22 A	12-Jun-23	22-Feb-24	05-Jun-24	359	
Mechanical works design (2.3.16)		1323	137		28-Feb-19 A	14-Jul-23	15-Apr-23	13-Feb-24	214	
Plant and Equipment		1323	137		28-Feb-19 A	14-Jul-23	18-May-23	13-Feb-24	214	
05-3390-4(M55)	Electrical and Instrumentation Works - Waste Crane and Grapple System (2.3.15.05.04)	105	0	70%	07-Jan-20 A	28-Feb-23	24-Sep-23	24-Sep-23	209	
05-3580	Weighbridge Systems	105	62	5%	30-Mar-22 A	30-Apr-23	31-Oct-23	31-Dec-23	245	
05-3610	Incineration System (9 Packages)	105	58	5%	28-Feb-19 A	26-Apr-23	20-Jun-23	16-Aug-23	112	
05-3620	Heat Recovery Boiler (8 Packages)	105	137	5%	31-Jul-19 A	14-Jul-23	30-Sep-23	13-Feb-24	214	
05-3630	Boiler Feed Water Systems (4 Packages)	105	10	45%	30-Sep-19 A	26-Apr-23	07-Aug-23	16-Aug-23	112	
05-3790	Flue Gas Treatment System (12 Packages)	105	137	25%	31-Oct-19 A	14-Jul-23	18-May-23	01-Oct-23	79	
05-3800	Boiler ash and APC residue handling and solidification	105	0	70%	09-Jun-20 A	29-Jun-23	16-Aug-23	16-Aug-23	49	
05-3830	Compressed Air Plants	105	0	5%	31-Oct-20 A	28-Feb-23	17-Aug-23	17-Aug-23	171	
Process Pipeworks (Incl. Ductworks) and Valves		562	137		29-Feb-20 A	14-Jul-23	15-Apr-23	25-Sep-23	73	
05-3840	Process island (furnace-boiler-FGC)	105	137	5%	29-Feb-20 A	14-Jul-23	12-May-23	25-Sep-23	73	
05-4350	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	57	5%	28-Feb-21 A	25-Apr-23	15-Apr-23	10-Jun-23	46	
05-4360	Compressed Air Plant area	105	0	45%	31-May-21 A	28-Feb-23	09-May-23	09-May-23	71	
05-4370	Pipebridge B (Between CCCW Area & Turbine Hall)	105	0	5%	28-Feb-21 A	28-Feb-23	10-Jun-23	10-Jun-23	103	
05-4380	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	0	5%	28-Feb-21 A	28-Feb-23	10-Jun-23	10-Jun-23	103	
05-4950	Turbine Hall	105	0	80%	31-May-21 A	28-Feb-23	20-Jul-23	20-Jul-23	143	
05-4960	ACC Equipment Yard	105	0	65%	31-May-21 A	28-Feb-23	15-Jun-23	15-Jun-23	108	
05-4970	CCCW Area	105	0	65%	31-May-21 A	28-Feb-23	10-Jun-23	10-Jun-23	103	
Process steel structure support (For eqipment, piping & duct, cable tray etc)		105	76		29-May-21 A	14-May-23	09-Jul-23	22-Sep-23	131	
05-3540	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	76	80%	29-May-21 A	14-May-23	09-Jul-23	22-Sep-23	131	
05-3560	Pipebridge B (Between CCCW Area & Turbine Hall)	105	0	5%	29-May-21 A	28-Feb-23	27-Aug-23	27-Aug-23	181	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

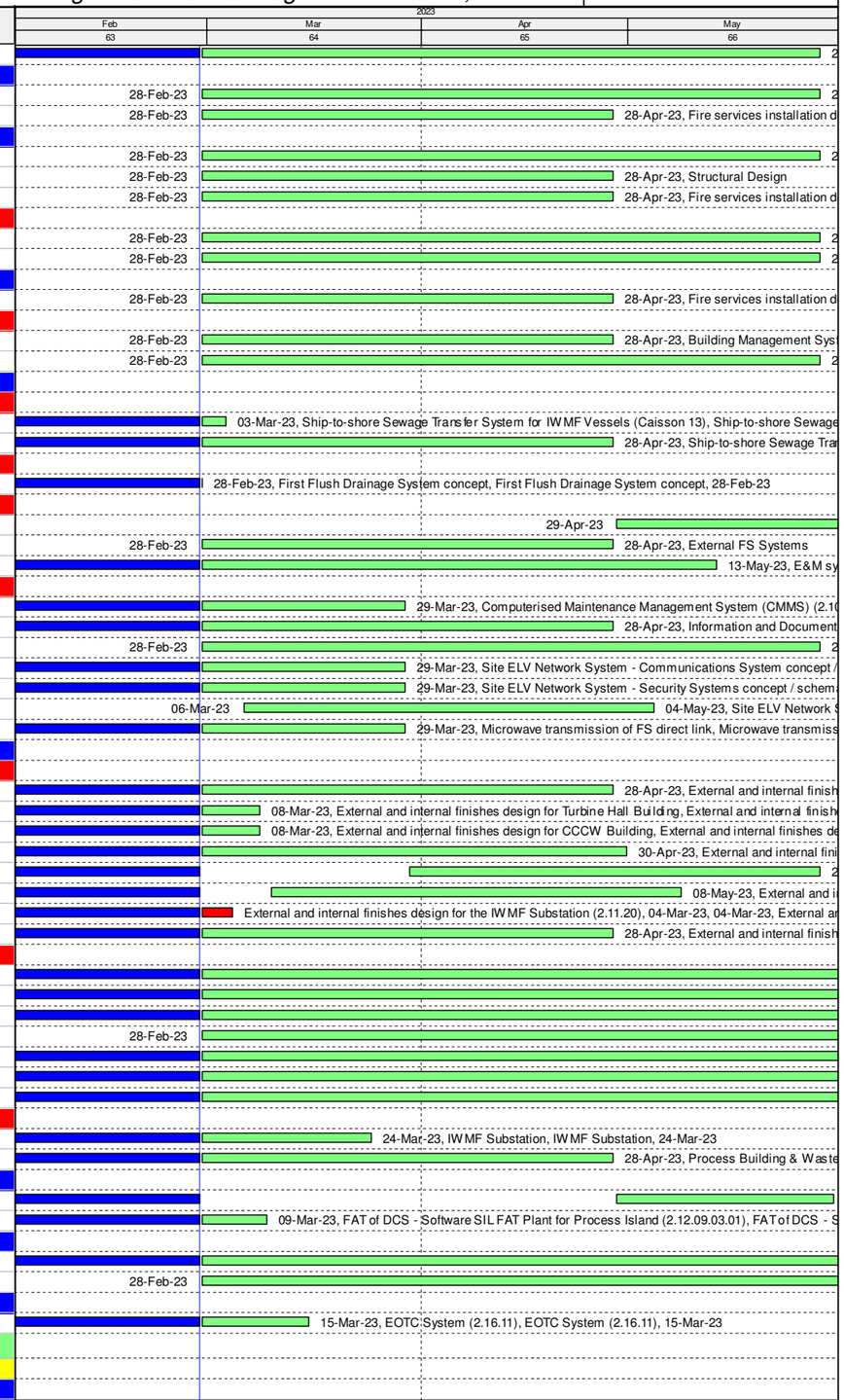
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
05-3570	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	0	5%	10-Jun-21 A	28-Feb-23	13-Sep-23	13-Sep-23	198	
Equipment and piping insulation		135	90		31-Dec-21 A	28-May-23	23-Jul-23	13-Feb-24	261	
05-4550	Steam Turbine Generator (STG) and Pressure Reducing and Desuperheating Station (PRDS)	105	0	5%	30-Jan-22 A	28-Feb-23	13-Feb-24	13-Feb-24	351	
05-4560	Air cooled condenser	105	0	5%	31-Dec-21 A	28-Feb-23	23-Jul-23	23-Jul-23	146	
05-4570	Closed Circuit Cooling Water System	105	60	5%	31-Dec-21 A	28-May-23	02-Dec-23	30-Jan-24	247	
DDA Fire services installation design (2.3.17)		60	60		28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
05-3660	Fire Systems	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
05-3680	FS schematics	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
General Layout Drawings and Fire Saftey Strategy (2.3.25)		667	60		31-Jul-21 A	28-Apr-23	09-Mar-23	20-Jun-23	53	
05-3290	Process Building & Wastewater Treatment Plant	60	30	5%	13-Jun-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-3300	ACC Equipment Structure	60	30	50%	15-Dec-22 A	28-Apr-23	22-May-23	20-Jun-23	53	
05-3310	Turbine Hall Building	105	33	25%	29-Dec-21 A	01-Apr-23	19-May-23	20-Jun-23	80	
05-3320	Compressor & CCCW Building	105	30	25%	29-Dec-21 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-3330	Chimney	60	30	45%	23-May-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-3340	Elevated Drive Way and Associated Structures	105	30	25%	31-Jul-21 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-3350	Reception Pavilion	60	30	5%	15-Dec-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-3520	Site Master Layout Plan and Plant Layout	60	30	5%	15-Dec-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-4170	Administration Building and Viewing Gallery (2.7.21)	60	30	5%	15-Dec-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-4290	IWMF Substation (2.8.25)	105	30	5%	31-Jul-21 A	29-Mar-23	09-Mar-23	07-Apr-23	9	
05-4800	IWMF Site Wide Architectural Details	105	30	5%	20-Nov-21 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-5160	Mechanical Treatment Plant & Water Treatment Plant (2.4.25)	60	30	5%	15-Dec-22 A	29-Mar-23	22-May-23	20-Jun-23	83	
05-6110(M46)	Gate House and miscellaneous	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
DDA Mechanical Treatment Plant Building (2.4)		271	120		28-Sep-22 A	27-Jun-23	13-Mar-23	20-Jul-23	23	
05-5170	Foundation design (2.4.13)	60	15	80%	28-Sep-22 A	14-Mar-23	21-Mar-23	04-Apr-23	21	
05-5180	Structural design (2.4.14)	60	60	0%	28-Feb-23	28-Apr-23	13-Mar-23	11-May-23	13	
05-5210	Fire services installation design (2.4.17)	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design) (2.4.18)		90	90		30-Mar-23	27-Jun-23	22-Apr-23	20-Jul-23	23	
05-3870	Odour Control	90	90	0%	30-Mar-23	27-Jun-23	22-Apr-23	20-Jul-23	23	
DDA Wastewater Treatment Plant (2.5)		333	144		31-May-22 A	21-Jul-23	27-Mar-23	20-Sep-23	61	
05-3950	Electrical and instrumentation works design (2.5.15)	60	60	0%	28-Feb-23	28-Apr-23	27-Mar-23	25-May-23	27	
05-3960	Mechanical works design (2.5.16) (5 Packages)	232	0	5%	31-May-22 A	28-Feb-23	25-May-23	25-May-23	87	
05-3970	Fire services installation design (2.5.17) (2 Packages)	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design) (2.5.18)		90	84		24-Jun-22 A	21-Jul-23	29-Jun-23	20-Sep-23	61	
05-4000	Odour Control	90	84	0%	24-Jun-22 A	21-Jul-23	29-Jun-23	20-Sep-23	61	
DDA Water Treatment Plant Building (2.6)		362	89		11-Apr-22 A	27-May-23	13-Mar-23	19-Dec-23	206	
05-4060	Foundation design (2.6.13)	60	15	80%	28-Sep-22 A	14-Mar-23	21-Mar-23	04-Apr-23	21	
05-4070	Structural design (2.6.14)	60	60	0%	29-Sep-22 A	28-Apr-23	13-Mar-23	11-May-23	13	
05-4090	Mechanical works design (2.6.16)	90	0	5%	02-May-22 A	28-Feb-23	22-Jun-23	22-Jun-23	115	
05-4100	Fire services installation design (2.6.17)	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design) (2.6.18)		90	89		29-Jun-22 A	27-May-23	22-Sep-23	19-Dec-23	206	
05-4120	MVAC	90	89	0%	29-Jun-22 A	27-May-23	22-Sep-23	19-Dec-23	206	
Electrical and instrumentation works design (2.6.15)		238	0		11-Apr-22 A	28-Feb-23	20-Jul-23	20-Jul-23	143	
05-4080	Water Treatment Plant (WTP) - Variable Speed Drive (2.6.15.01)	238	0	5%	11-Apr-22 A	28-Feb-23	20-Jul-23	20-Jul-23	143	
DDA Administration Building (2.7)		398	125		28-Apr-22 A	02-Jul-23	04-Mar-23	09-Sep-23	69	
05-4180	Foundation design (2.7.11)	105	0	100%	28-Apr-22 A	28-Feb-23	15-Apr-23	15-Apr-23	47	
05-4190	Structural design (2.7.12)	105	105	0%	28-Feb-23	12-Jun-23	28-May-23	09-Sep-23	89	
05-4210	Fire services installation design (2.7.14)	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design) (2.7.15)		125	125		28-Feb-23	02-Jul-23	04-Mar-23	04-Aug-23	33	
05-4220	Electrical Services and Lighting	75	75	0%	28-Feb-23	13-May-23	04-Mar-23	17-May-23	4	Revsied to 75days
05-4230	MVAC	105	105	0%	20-Mar-23	02-Jul-23	23-Mar-23	05-Jul-23	3	
05-4250	Plumbing	105	105	0%	28-Feb-23	12-Jun-23	22-Apr-23	04-Aug-23	53	
05-4260	Drainage	105	105	0%	28-Feb-23	12-Jun-23	23-Mar-23	05-Jul-23	23	
05-4270	ELV	105	105	0%	28-Feb-23	12-Jun-23	04-Mar-23	16-Jun-23	4	
DDA IWMF Substation (2.8)		274	30		16-Oct-21 A	29-Mar-23	28-Feb-23	01-Aug-23	125	
05-4340	Fire services installation design (2.8.17)	60	5	25%	17-Jun-22 A	04-Mar-23	28-Feb-23	04-Mar-23	0	
Building services design (excluding fire services installation design) (2.8.18)		151	30		25-Oct-21 A	29-Mar-23	28-Feb-23	01-Aug-23	125	
05-4990	Electrical Services and Lighting	90	30	5%	22-Apr-22 A	29-Mar-23	06-May-23	04-Jun-23	67	
05-5000	MVAC	90	30	5%	19-Nov-21 A	29-Mar-23	04-Apr-23	03-May-23	35	
05-5010	Plumbing	60	5	5%	08-Dec-22 A	04-Mar-23	28-Feb-23	04-Mar-23	0	
05-5020	Drainage	60	5	0%	10-Nov-22 A	04-Mar-23	28-Feb-23	04-Mar-23	0	
05-5030	ELV	90	30	45%	25-Oct-21 A	29-Mar-23	03-Jul-23	01-Aug-23	125	
05-5030-1	Building Management System (BMS)	60	5	5%	25-Oct-21 A	04-Mar-23	28-Feb-23	04-Mar-23	0	
Electrical and instrumentation works design (2.8.15)		90	30		16-Oct-21 A	29-Mar-23	04-Apr-23	03-May-23	35	
2.8.15.06		90	30		16-Oct-21 A	29-Mar-23	04-Apr-23	03-May-23	35	
05-4320	Electrical and instrumentation works design (2.8.15.06.01 to 40)	90	30	45%	16-Oct-21 A	29-Mar-23	04-Apr-23	03-May-23	35	
DDA Chimney		90	90		14-Mar-22 A	28-May-23	08-May-23	05-Aug-23	69	



3-Month Rolling Programme (February 2023)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
05-5370	Structural Design	90	90	5%	14-Mar-22 A	28-May-23	08-May-23	05-Aug-23	69	
DDA Elevated Drive Way and Associated Structures Foundation		90	90		28-Feb-23	28-May-23	03-Apr-23	01-Jul-23	34	
05-5380	Structural Design	90	90	0%	28-Feb-23	28-May-23	03-Apr-23	01-Jul-23	34	
05-5540-3(6D)	Fire services installation design	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
DDA Reception Pavilion		90	90		28-Feb-23	28-May-23	22-Apr-23	15-Aug-23	79	
05-3280	Foundation Design	90	90	0%	28-Feb-23	28-May-23	03-May-23	31-Jul-23	64	
05-5390	Structural Design	60	60	0%	28-Feb-23	28-Apr-23	07-May-23	05-Jul-23	68	
05-5540-4(6D)	Fire services installation design	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design)		90	90		28-Feb-23	28-May-23	18-May-23	15-Aug-23	79	
05-2130-1	Building Management System (BMS)	90	90	0%	28-Feb-23	28-May-23	18-May-23	15-Aug-23	79	
05-7290	Electrical Services and Lighting	90	90	0%	28-Feb-23	28-May-23	18-May-23	15-Aug-23	79	
DDA CCCW Building		90	90		28-Feb-23	28-May-23	07-Mar-23	20-Jun-23	23	
05-5540-5(6D)	Fire services installation design	60	60	0%	28-Feb-23	28-Apr-23	22-Apr-23	20-Jun-23	53	
Building services design (excluding fire services installation design)		90	90		28-Feb-23	28-May-23	07-Mar-23	04-Jun-23	7	
05-2130-2	Building Management System (BMS)	60	60	0%	28-Feb-23	28-Apr-23	06-Apr-23	04-Jun-23	37	
05-7340	Electrical Services and Lighting	90	90	0%	28-Feb-23	28-May-23	07-Mar-23	04-Jun-23	7	
DDA Roads and Utilities (2.10)		544	120		13-Jan-21 A	27-Jun-23	05-Mar-23	27-Dec-24	549	
Sewerage design on the Artificial Island (2.10.14)		122	60		13-Jan-21 A	28-Apr-23	17-Jun-23	27-Dec-24	609	
05-4440-1(M55)	Ship-to-shore Sewage Transfer System for IWMF Vessels (Caisson 13)	90	4	45%	13-Jan-22 A	03-Mar-23	24-Dec-24	27-Dec-24	665	
05-4440-2(M55)	Ship-to-shore Sewage Transfer System for Passenger Ferry	90	60	45%	13-Jan-21 A	28-Apr-23	17-Jun-23	15-Aug-23	109	
Drainage system design on the Artificial Island (2.10.15)		105	0		31-Dec-21 A	28-Feb-23	02-Dec-23	02-Dec-23	278	
05-5320	First Flush Drainage System concept	105	0	100%	31-Dec-21 A	28-Feb-23	02-Dec-23	02-Dec-23	278	
Water supply system design on the Artificial Island (2.10.16)		301	120		04-Apr-22 A	27-Jun-23	09-May-23	03-Jan-24	190	
05-5290	Water Tanks	60	60	0%	29-Apr-23	27-Jun-23	09-May-23	07-Jul-23	10	
05-5300	External FS Systems	60	60	0%	28-Feb-23	28-Apr-23	09-May-23	07-Jul-23	70	
05-5300-1(M24)	E&M system for seawater intake (2.10.16.07)	105	75	5%	04-Apr-22 A	13-May-23	21-Oct-23	03-Jan-24	235	
Design of telecommunication and other utilities (2.10.18)		302	90		10-May-22 A	28-May-23	05-Mar-23	31-Oct-23	156	
05-3400 (M21)	Computerised Maintenance Management System (CMMS) (2.10.18.10)	105	30	80%	24-May-22 A	29-Mar-23	20-Apr-23	19-May-23	51	
05-3410 (M21)	Information and Document Management System (IDMS) (2.10.18.11)	105	60	45%	10-May-22 A	28-Apr-23	02-Sep-23	31-Oct-23	186	
05-4590	Site Lighting Concept / Schematics	90	90	0%	28-Feb-23	28-May-23	09-Apr-23	07-Jul-23	40	
05-4610	Site ELV Network System - Communications System concept / schematics	75	30	5%	16-Aug-22 A	29-Mar-23	09-Apr-23	08-May-23	40	
05-4620	Site ELV Network System - Security Systems concept / schematics	75	30	5%	14-Jun-22 A	29-Mar-23	09-Apr-23	08-May-23	40	
05-4630	Site ELV Network System - Navigation aids concept / schematics	60	60	0%	06-Mar-23	04-May-23	10-Mar-23	08-May-23	4	
05-4640	Microwave transmission of FS direct link	105	30	70%	22-Aug-22 A	29-Mar-23	05-Mar-23	03-Apr-23	5	
DDA Architectural, Finishes and Landscaping Works (2.11)		349	105		15-Jun-21 A	12-Jun-23	28-Feb-23	15-Jul-24	399	
External and internal finishes design		251	90		15-Jun-21 A	28-May-23	28-Feb-23	15-Jul-24	414	
05-4670	External and internal finishes design for Incineration Plant Building (2.11.15)	90	60	5%	19-Sep-22 A	28-Apr-23	08-Feb-24	07-Apr-24	345	
05-4690	External and internal finishes design for Turbine Hall Building	90	9	45%	10-Aug-22 A	08-Mar-23	25-Oct-23	02-Nov-23	239	
05-4700	External and internal finishes design for CCCW Building	90	9	45%	10-Aug-22 A	08-Mar-23	08-Apr-23	16-Apr-23	39	
05-4710	External and internal finishes design for Chimney	90	62	5%	02-Sep-22 A	30-Apr-23	26-Mar-24	26-May-24	392	
05-4720	External and internal finishes design for Reception Pavilion	90	60	45%	23-May-22 A	28-May-23	06-Jun-23	04-Aug-23	68	
05-4760	External and internal finishes design for the Administration Building (2.11.19)	90	60	5%	11-Jul-22 A	08-May-23	17-May-24	15-Jul-24	434	
05-4770	External and internal finishes design for the IWMF Substation (2.11.20)	90	5	75%	10-Aug-22 A	04-Mar-23	28-Feb-23	04-Mar-23	0	
05-5420	External and internal finishes design for Elevated Driveway	90	60	45%	15-Jun-21 A	28-Apr-23	03-Jun-23	01-Aug-23	95	
Landscaping Works (2.11.21)		121	105		29-Jun-22 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780	Landscape Masterplan & Landscape Design for Water Feature (2.11.19.01)	105	105	5%	26-Jan-23 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-1(6C)	Landscape Architectural Design for Turbine Hall Building (2.11.19.04)	105	105	45%	29-Jun-22 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-2(6C)	Landscape Architectural Design for Reception Pavilion (2.11.19.07)	105	105	5%	19-Oct-22 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-3(6C)	Landscape Architectural Design for MT Plant Building and Water Treatment Plant Building (2.11.07.(	105	105	0%	28-Feb-23	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-4(6C)	Landscape Architectural Design for Administration Building (2.11.07.09)	105	105	5%	12-Jan-23 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-5(6C)	Landscape Architectural Design for IWMF Substation (2.11.07.10)	105	105	5%	11-Jul-22 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
05-4780-6(6C)	Landscape Architectural Design for Process Building (2.11.07.11)	105	105	5%	10-Aug-22 A	12-Jun-23	09-Mar-23	21-Jun-23	9	
Facade Structural Design		275	60		07-Apr-22 A	28-Apr-23	04-Mar-23	14-Feb-24	292	
05-8010(M45)	IWMF Substation	90	25	0%	11-Jul-22 A	24-Mar-23	04-Mar-23	28-Mar-23	4	
05-8020(6D)	Process Building & Wastewater Treatment Plant (2.6.14.01)	90	60	80%	07-Apr-22 A	28-Apr-23	17-Dec-23	14-Feb-24	292	
DDA Testing and Commissioning (2.12)		122	92		19-May-22 A	30-May-23	23-Aug-23	29-Jan-24	244	
05-4810-1(5a)	Factory Acceptance Testing plan (2.12.09.02-07) (8 Packages)	90	32	5%	13-Jun-22 A	30-May-23	29-Dec-23	29-Jan-24	244	
05-4810-2(M55)	FAT of DCS - Software SIL FAT Plant for Process Island (2.12.09.03.01)	105	10	100%	19-May-22 A	09-Mar-23	23-Aug-23	01-Sep-23	176	
DDA Transportation Facilities for the Operation (2.13)		341	93		25-Jun-22 A	31-May-23	09-Apr-23	10-Jul-23	40	
05-4850	Design of vehicles for MSW and Ash and Residues delivery (2.13.05)	341	93	0%	25-Jun-22 A	31-May-23	09-Apr-23	10-Jul-23	40	
05-4860	Design of marine vessels for the use of the Employer and visitors (2.13.06)	93	93	0%	28-Feb-23	31-May-23	09-Apr-23	10-Jul-23	40	
DDA Auxiliary Plant Systems (2.16)		90	16		26-Apr-22 A	15-Mar-23	01-Mar-23	16-Mar-23	1	
05-4940-3(6E)	EOTC System (2.16.11)	90	16	5%	26-Apr-22 A	15-Mar-23	01-Mar-23	16-Mar-23	1	
Procurement of Major Equipment		981	369		08-Jan-20 A	02-Mar-24	04-Dec-22	02-Jul-24	122	
Off-site Fabrication of Incineration Modules		981	369		28-Feb-21 A	02-Mar-24	04-Dec-22	21-Apr-24	50	
Material Procurement		180	60		28-Feb-21 A	28-Apr-23	19-Jul-23	16-Sep-23	141	



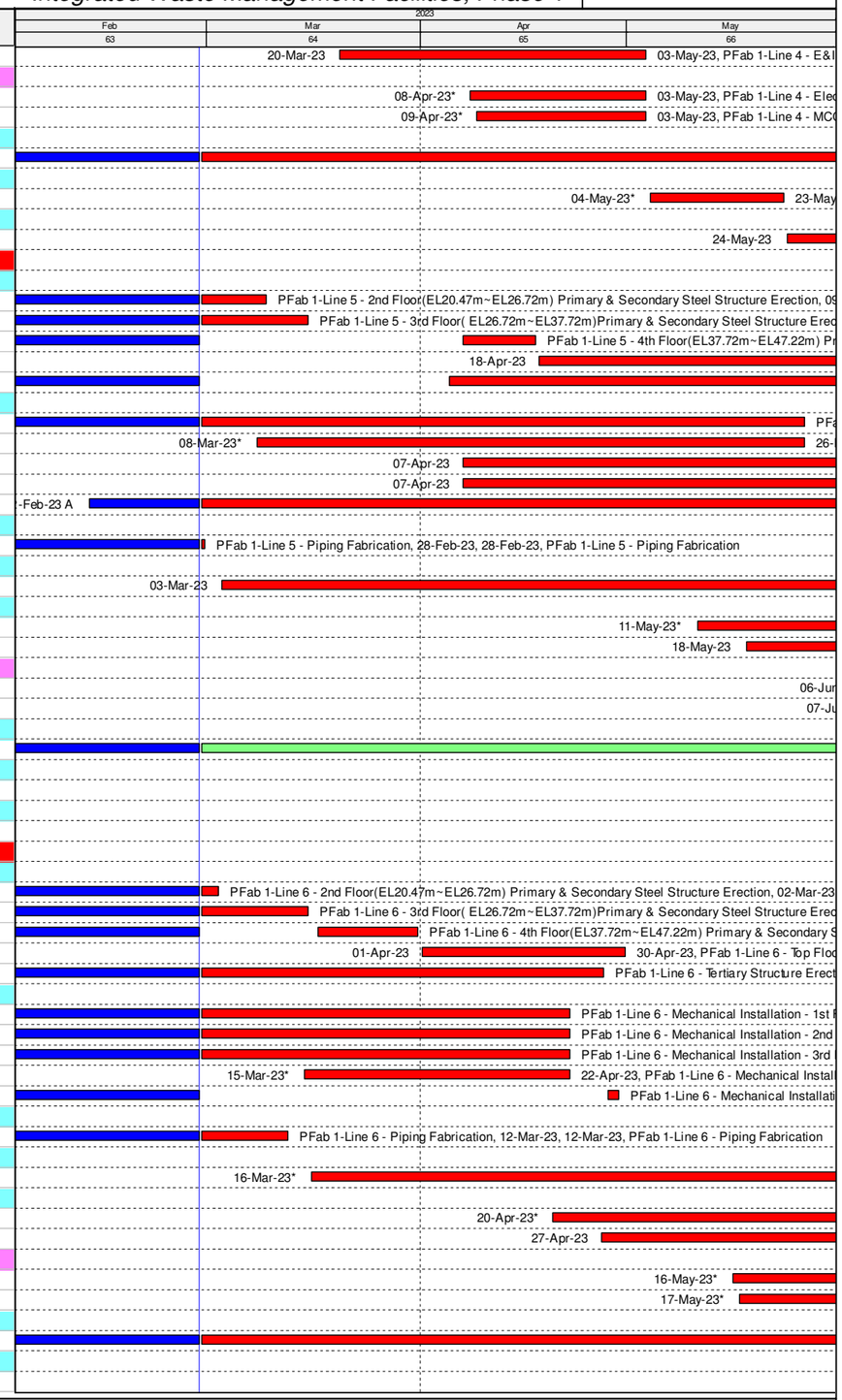
3-Month Rolling Programme (February 2023)

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
06-1000-3(1)	Electrical and Instrumentation Material Submission and Approval	180	60	58%	28-Feb-21 A	28-Apr-23	19-Jul-23	16-Sep-23	141	
Fabrication of Module (TPU)		859	369		09-Mar-21 A	02-Mar-24	04-Dec-22	21-Apr-24	50	
PFab 1- Line 1		463	251		23-May-22 A	05-Nov-23	28-Feb-23	05-Nov-23	0	
E&I Installation (On-site Installation)		346	189		25-Nov-22 A	05-Nov-23	01-May-23	05-Nov-23	0	
Electrical		183	183		01-May-23	30-Oct-23	01-May-23	30-Oct-23	0	
06-TPU-1-1280	PFab 1-Line 1 - Electrical Cable Pulling and Termination	180	180	0%	04-May-23	30-Oct-23*	04-May-23	30-Oct-23	0	
06-TPU-1-1290	PFab 1-Line 1 - Electrical Equipment Installation	180	180	0%	01-May-23*	27-Oct-23	01-May-23	27-Oct-23	0	
Instrument		346	182		25-Nov-22 A	05-Nov-23	08-May-23	05-Nov-23	0	
06-TPU-1-1310	PFab 1-Line 1 - Instrument Cable Pulling and Termination	180	180	0%	10-May-23	05-Nov-23	10-May-23	05-Nov-23	0	
06-TPU-1-1320	PFab 1-Line 1 - Instrument Equipment Installation	180	101	43.89%	25-Nov-22 A	16-Aug-23	08-May-23	16-Aug-23	0	
06-TPU-1-1330	PFab 1-Line 1 - Instrument Tubing Installation	180	180	0%	08-May-23	03-Nov-23	08-May-23	03-Nov-23	0	
Insulation		150	233		23-May-22 A	18-Oct-23	28-Feb-23	18-Oct-23	0	
06-TPU-1-1020	PFab 1-Line 1 - Insulation	150	233	0%	23-May-22 A	18-Oct-23*	28-Feb-23	18-Oct-23	0	
PFab 1- Line 2		425	232		22-May-22 A	17-Oct-23	14-Dec-22	17-Oct-23	0	
E&I Installation (On-site Installation)		188	188		25-Mar-23	28-Sep-23	25-Mar-23	28-Sep-23	0	
Electrical		188	188		25-Mar-23	28-Sep-23	25-Mar-23	28-Sep-23	0	
06-TPU-2-1270	PFab 1-Line 2 - Electrical Cable Pulling and Termination	180	180	0%	02-Apr-23	28-Sep-23	02-Apr-23	28-Sep-23	0	
06-TPU-2-1280	PFab 1-Line 2 - Electrical Equipment Installation	180	180	0%	25-Mar-23	20-Sep-23	25-Mar-23	20-Sep-23	0	
Instrument		188	188		25-Mar-23	28-Sep-23	25-Mar-23	28-Sep-23	0	
06-TPU-2-1300	PFab 1-Line 2 - Instrument Cable Pulling and Termination	180	180	0%	02-Apr-23	28-Sep-23*	02-Apr-23	28-Sep-23	0	
06-TPU-2-1310	PFab 1-Line 2 - Instrument Equipment Installation	180	180	0%	25-Mar-23	20-Sep-23	25-Mar-23	20-Sep-23	0	
06-TPU-2-1320	PFab 1-Line 2 - Instrument Tubing Installation	180	180	0%	25-Mar-23	20-Sep-23	25-Mar-23	20-Sep-23	0	
Insulation		150	232		22-May-22 A	17-Oct-23	28-Feb-23	17-Oct-23	0	
06-TPU-2-1010	PFab 1-Line 2 - Insulation	150	232	0%	22-May-22 A	17-Oct-23	28-Feb-23	17-Oct-23	0	
Load out & Shipping		20	9		24-Feb-23 A	08-Mar-23	14-Dec-22	22-Dec-22	-76	
06-TPU-2-1030	PFab 1-Line 2 - Load out & ready to ship	20	9	55%	24-Feb-23 A	08-Mar-23	14-Dec-22	22-Dec-22	-76	
Delivery		1	1		09-Mar-23	09-Mar-23	23-Dec-22	23-Dec-22	-76	
06-TPU-2-1340	PFab 1-Line 2 - Delivery	1	1	0%	09-Mar-23	09-Mar-23	23-Dec-22	23-Dec-22	-76	
PFab 1- Line 3		453	304		14-Jan-22 A	28-Dec-23	04-Dec-22	28-Dec-23	0	
Structure Erection		117	27		14-Jan-22 A	26-Mar-23	04-Jan-23	30-Jan-23	-55	
06-TPU-3-1090	PFab 1-Line 3 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	39	11	71.79%	03-Aug-22 A	10-Mar-23	13-Jan-23	23-Jan-23	-46	
06-TPU-3-1100	PFab 1-Line 3 - Tertiary Structure Erection	90	27	70%	14-Jan-22 A	26-Mar-23	04-Jan-23	30-Jan-23	-55	
Mechanical Erection		421	56		03-Mar-22 A	24-Apr-23	06-Dec-22	30-Jan-23	-84	
06-TPU-3-1120	PFab 1-Line 3 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	47	41.25%	03-Mar-22 A	15-Apr-23	15-Dec-22	30-Jan-23	-75	
06-TPU-3-1130	PFab 1-Line 3 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	56	30%	13-May-22 A	24-Apr-23	06-Dec-22	30-Jan-23	-84	
06-TPU-3-1140	PFab 1-Line 3 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Tra	80	45	43.75%	17-Jun-22 A	24-Apr-23	17-Dec-22	30-Jan-23	-84	
06-TPU-3-1150	PFab 1-Line 3 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	56	56	0%	28-Feb-23*	24-Apr-23	06-Dec-22	30-Jan-23	-84	
Piping Installation		119	58		05-Oct-22 A	26-Apr-23	04-Dec-22	30-Jan-23	-86	
06-TPU-3-1000	PFab 1-Line 3 - Piping Installation	119	58	51.26%	05-Oct-22 A	26-Apr-23	04-Dec-22	30-Jan-23	-86	
E&I Installation		117	58		02-Dec-22 A	26-Apr-23	04-Dec-22	30-Jan-23	-86	
06-TPU-3-1250	PFab 1-Line 3 - E&I Support Installation	45	58	0%	02-Dec-22 A	26-Apr-23	04-Dec-22	30-Jan-23	-86	
06-TPU-3-1260	PFab 1-Line 3 - E&I Cable Ladder Erection	45	58	0%	02-Dec-22 A	26-Apr-23	04-Dec-22	30-Jan-23	-86	
Electrical		26	26		01-Apr-23	26-Apr-23	05-Jan-23	30-Jan-23	-86	
06-TPU-3-1290	PFab 1-Line 3 - Electrical Heat Tracing Installation (Installation by Yard)	26	26	0%	01-Apr-23*	26-Apr-23	05-Jan-23	30-Jan-23	-86	
06-TPU-3-1330	PFab 1-Line 3 - MCC room installation (Installation by Yard)	25	25	0%	02-Apr-23*	26-Apr-23	06-Jan-23	30-Jan-23	-86	
Insulation		150	304		23-May-22 A	28-Dec-23	28-Feb-23	28-Dec-23	0	
06-TPU-3-1010	PFab 1-Line 3 - Insulation	150	304	0%	23-May-22 A	28-Dec-23*	28-Feb-23	28-Dec-23	0	
Load out & Shipping		20	20		27-Apr-23	16-May-23	31-Jan-23	19-Feb-23	-86	
06-TPU-3-1030	PFab 1-Line 3 - Load out & ready to ship	20	20	0%	27-Apr-23*	16-May-23	31-Jan-23	19-Feb-23	-86	
Delivery		10	10		17-May-23	26-May-23	20-Feb-23	01-Mar-23	-86	
06-TPU-3-1340	PFab 1-Line 3 - Delivery	10	10	0%	17-May-23	26-May-23	20-Feb-23	01-Mar-23	-86	
PFab 1- Line 4		703	304		09-Mar-21 A	28-Dec-23	04-Dec-22	28-Dec-23	0	
Structure Erection		90	29		01-Apr-22 A	28-Mar-23	09-Jan-23	06-Feb-23	-50	
06-TPU-4-1150	PFab 1-Line 4 - Tertiary Structure Erection	90	29	67.78%	01-Apr-22 A	28-Mar-23	09-Jan-23	06-Feb-23	-50	
Mechanical Erection		424	53		09-Jan-22 A	21-Apr-23	04-Dec-22	25-Jan-23	-86	
06-TPU-4-1040	PFab 1-Line 4 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	53	33.75%	09-Jan-22 A	21-Apr-23	04-Dec-22	25-Jan-23	-86	
06-TPU-4-1050	PFab 1-Line 4 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	53	33.75%	21-Feb-22 A	21-Apr-23	04-Dec-22	25-Jan-23	-86	
06-TPU-4-1060	PFab 1-Line 4 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Tra	80	53	33.75%	06-May-22 A	21-Apr-23	04-Dec-22	25-Jan-23	-86	
06-TPU-4-1070	PFab 1-Line 4 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	40	40	0%	13-Mar-23*	21-Apr-23	17-Dec-22	25-Jan-23	-86	
06-TPU-4-1240	PFab 1-Line 4 - Mechanical Installation - Boiler Lifting & Installation	108	35	67.59%	05-Jul-22 A	03-Apr-23	04-Dec-22	07-Jan-23	-86	
Piping Fabrication		180	13		09-Mar-21 A	12-Mar-23	04-Dec-22	16-Dec-22	-86	
06-TPU-4-1220	PFab 1-Line 4 - Piping Fabrication	180	13	92.78%	09-Mar-21 A	12-Mar-23	04-Dec-22	16-Dec-22	-86	
Piping Installation		62	13		02-Dec-22 A	03-May-23	25-Jan-23	06-Feb-23	-86	
06-TPU-4-1000	PFab 1-Line 4 - Piping Installation	62	13	79.03%	02-Dec-22 A	03-May-23	25-Jan-23	06-Feb-23	-86	
E&I Installation		52	52		13-Mar-23	03-May-23	17-Dec-22	06-Feb-23	-86	
06-TPU-4-1250	PFab 1-Line 4 - E&I Support Installation	45	45	0%	13-Mar-23*	26-Apr-23	17-Dec-22	30-Jan-23	-86	

Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
06-TPU-4-1260	PFab 1-Line 4 - E&I Cable Ladder Erection	45	45	0%	20-Mar-23	03-May-23	24-Dec-22	06-Feb-23	-86	
Electrical		26	26		08-Apr-23	03-May-23	12-Jan-23	06-Feb-23	-86	
06-TPU-4-1290	PFab 1-Line 4 - Electrical Heat Tracing Installation (Installation by Yard)	26	26	0%	08-Apr-23*	03-May-23	12-Jan-23	06-Feb-23	-86	
06-TPU-4-1330	PFab 1-Line 4 - MCC room installation (Installation by Yard)	25	25	0%	09-Apr-23*	03-May-23	13-Jan-23	06-Feb-23	-86	
Insulation		150	304		25-May-22 A	28-Dec-23	28-Feb-23	28-Dec-23	0	
06-TPU-4-1010	PFab 1-Line 4 - Insulation	150	304	0%	25-May-22 A	28-Dec-23	28-Feb-23	28-Dec-23	0	
Load out & Shipping		20	20		04-May-23	23-May-23	07-Feb-23	26-Feb-23	-86	
06-TPU-4-1030	PFab 1-Line 4 - Load Out & ready to ship	20	20	0%	04-May-23*	23-May-23	07-Feb-23	26-Feb-23	-86	
Delivery		10	10		24-May-23	02-Jun-23	27-Feb-23	08-Mar-23	-86	
06-TPU-4-1340	PFab 1-Line 4 - Delivery	10	10	0%	24-May-23	02-Jun-23	27-Feb-23	08-Mar-23	-86	
PFab 1- Line 5		742	369		23-Mar-21 A	02-Mar-24	05-Dec-22	21-Apr-24	50	
Structure Erection		482	126		14-Jan-22 A	03-Jul-23	05-Dec-22	09-Apr-23	-85	
06-TPU-5-1110	PFab 1-Line 5 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	10	83.33%	12-Mar-22 A	09-Mar-23	05-Dec-22	14-Dec-22	-85	
06-TPU-5-1120	PFab 1-Line 5 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	60	16	73.33%	02-Dec-22 A	15-Mar-23	05-Dec-22	20-Dec-22	-85	
06-TPU-5-1130	PFab 1-Line 5 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	60	11	81.67%	16-Dec-22 A	17-Apr-23	12-Jan-23	22-Jan-23	-85	
06-TPU-5-1140	PFab 1-Line 5 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	77	77	0%	18-Apr-23	03-Jul-23	23-Jan-23	09-Apr-23	-85	
06-TPU-5-1150	PFab 1-Line 5 - Tertiary Structure Erection	90	69	23.33%	14-Jan-22 A	12-Jun-23	29-Jan-23	07-Apr-23	-66	
Mechanical Erection		483	118		02-Mar-22 A	25-Jun-23	05-Dec-22	01-Apr-23	-85	
06-TPU-5-1040	PFab 1-Line 5 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	88	0%	02-Mar-22 A	26-May-23	05-Dec-22	02-Mar-23	-85	
06-TPU-5-1050	PFab 1-Line 5 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	80	0%	08-Mar-23*	26-May-23	13-Dec-22	02-Mar-23	-85	
06-TPU-5-1060	PFab 1-Line 5 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Tra	80	80	0%	07-Apr-23	25-Jun-23	12-Jan-23	01-Apr-23	-85	
06-TPU-5-1070	PFab 1-Line 5 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	80	0%	07-Apr-23	25-Jun-23	12-Jan-23	01-Apr-23	-85	
06-TPU-5-1240	PFab 1-Line 5 - Mechanical Installation - Boiler Lifting & Installation	80	109	0%	12-Feb-23 A	17-Jun-23	05-Dec-22	23-Mar-23	-85	
Piping Fabrication		180	1		23-Mar-21 A	28-Feb-23	05-Dec-22	05-Dec-22	-85	
06-TPU-5-1220	PFab 1-Line 5 - Piping Fabrication	180	1	99.44%	23-Mar-21 A	28-Feb-23	05-Dec-22	05-Dec-22	-85	
Piping Installation		121	121		03-Mar-23	01-Jul-23	08-Dec-22	07-Apr-23	-85	
06-TPU-5-1000	PFab 1-Line 5 - Piping Installation	121	121	0%	03-Mar-23	01-Jul-23	08-Dec-22	07-Apr-23	-85	
E&I Installation		52	52		11-May-23	01-Jul-23	15-Feb-23	07-Apr-23	-85	
06-TPU-5-1250	PFab 1-Line 5 - E&I Support Installation	45	45	0%	11-May-23*	24-Jun-23	15-Feb-23	31-Mar-23	-85	
06-TPU-5-1260	PFab 1-Line 5 - E&I Cable Ladder Erection	45	45	0%	18-May-23	01-Jul-23	22-Feb-23	07-Apr-23	-85	
Electrical		26	26		06-Jun-23	01-Jul-23	13-Mar-23	07-Apr-23	-85	
06-TPU-5-1290	PFab 1-Line 5 - Electrical Heat Tracing Installation (Installation by Yard)	26	26	0%	06-Jun-23*	01-Jul-23	13-Mar-23	07-Apr-23	-85	
06-TPU-5-1330	PFab 1-Line 5 - MCC room installation (Installation by Yard)	25	25	0%	07-Jun-23*	01-Jul-23	14-Mar-23	07-Apr-23	-85	
Insulation		150	369		04-Jun-22 A	02-Mar-24	19-Apr-23	21-Apr-24	50	
06-TPU-5-1010	PFab 1-Line 5 - Insulation	150	369	0%	04-Jun-22 A	02-Mar-24	19-Apr-23	21-Apr-24	50	
Load out & Shipping		20	20		02-Jul-23	21-Jul-23	08-Apr-23	27-Apr-23	-85	
06-TPU-5-1030	PFab 1-Line 5 - Load Out & ready to ship	20	20	0%	02-Jul-23*	21-Jul-23	08-Apr-23	27-Apr-23	-85	
Delivery		10	10		22-Jul-23	31-Jul-23	28-Apr-23	07-May-23	-85	
06-TPU-5-1340	PFab 1-Line 5 - Delivery	10	10	0%	22-Jul-23	31-Jul-23	28-Apr-23	07-May-23	-85	
PFab 1- Line 6		721	342		23-Mar-21 A	04-Feb-24	02-Jan-23	04-Feb-24	0	
Structure Erection		366	62		08-Apr-22 A	30-Apr-23	02-Jan-23	14-Apr-23	-16	
06-TPU-6-1110	PFab 1-Line 6 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	3	95%	08-Apr-22 A	02-Mar-23	02-Jan-23	04-Jan-23	-57	
06-TPU-6-1120	PFab 1-Line 6 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	16	64.44%	24-Jun-22 A	15-Mar-23	09-Jan-23	24-Jan-23	-50	
06-TPU-6-1130	PFab 1-Line 6 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	15	50%	02-Sep-22 A	31-Mar-23	26-Jan-23	09-Feb-23	-50	
06-TPU-6-1140	PFab 1-Line 6 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	01-Apr-23	30-Apr-23	19-Feb-23	20-Mar-23	-41	
06-TPU-6-1150	PFab 1-Line 6 - Tertiary Structure Erection	144	59	59.03%	15-Apr-22 A	27-Apr-23	15-Feb-23	14-Apr-23	-13	
Mechanical Erection		419	61		03-Mar-22 A	29-Apr-23	02-Jan-23	03-Mar-23	-57	
06-TPU-6-1160	PFab 1-Line 6 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	54	32.5%	03-Mar-22 A	22-Apr-23	02-Jan-23	24-Feb-23	-57	
06-TPU-6-1170	PFab 1-Line 6 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	54	32.5%	20-May-22 A	22-Apr-23	02-Jan-23	24-Feb-23	-57	
06-TPU-6-1180	PFab 1-Line 6 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Tra	80	54	32.5%	19-Aug-22 A	22-Apr-23	02-Jan-23	24-Feb-23	-57	
06-TPU-6-1190	PFab 1-Line 6 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	39	39	0%	15-Mar-23*	22-Apr-23	17-Jan-23	24-Feb-23	-57	
06-TPU-6-1240	PFab 1-Line 6 - Mechanical Installation - Boiler Lifting & Installation	80	2	97.5%	15-Nov-22 A	29-Apr-23	02-Mar-23	03-Mar-23	-57	
Piping Fabrication		180	13		23-Mar-21 A	12-Mar-23	02-Jan-23	14-Jan-23	-57	
06-TPU-6-1220	PFab 1-Line 6 - Piping Fabrication	180	13	92.78%	23-Mar-21 A	12-Mar-23	02-Jan-23	14-Jan-23	-57	
Piping Installation		87	87		16-Mar-23	10-Jun-23	18-Jan-23	14-Apr-23	-57	
06-TPU-6-1000	PFab 1-Line 6 - Piping Installation	87	87	0%	16-Mar-23*	10-Jun-23	18-Jan-23	14-Apr-23	-57	
E&I Installation		52	52		20-Apr-23	10-Jun-23	22-Feb-23	14-Apr-23	-57	
06-TPU-6-1250	PFab 1-Line 6 - E&I Support Installation	45	45	0%	20-Apr-23*	03-Jun-23	22-Feb-23	07-Apr-23	-57	
06-TPU-6-1260	PFab 1-Line 6 - E&I Cable Ladder Erection	45	45	0%	27-Apr-23	10-Jun-23	01-Mar-23	14-Apr-23	-57	
Electrical		26	26		16-May-23	10-Jun-23	20-Mar-23	14-Apr-23	-57	
06-TPU-6-1290	PFab 1-Line 6 - Electrical Heat Tracing Installation (Installation by Yard)	26	26	0%	16-May-23*	10-Jun-23	20-Mar-23	14-Apr-23	-57	
06-TPU-6-1330	PFab 1-Line 6 - MCC room installation (Installation by Yard)	25	25	0%	17-May-23*	10-Jun-23	21-Mar-23	14-Apr-23	-57	
Insulation		150	342		08-Jul-22 A	04-Feb-24	28-Feb-23	04-Feb-24	0	
06-TPU-6-1010	PFab 1-Line 6 - Insulation	150	342	0%	08-Jul-22 A	04-Feb-24	28-Feb-23	04-Feb-24	0	
Load out & Shipping		20	20		11-Jun-23	30-Jun-23	15-Apr-23	04-May-23	-57	
06-TPU-6-1030	PFab 1-Line 6 - Load Out & ready to ship	20	20	0%	11-Jun-23*	30-Jun-23	15-Apr-23	04-May-23	-57	



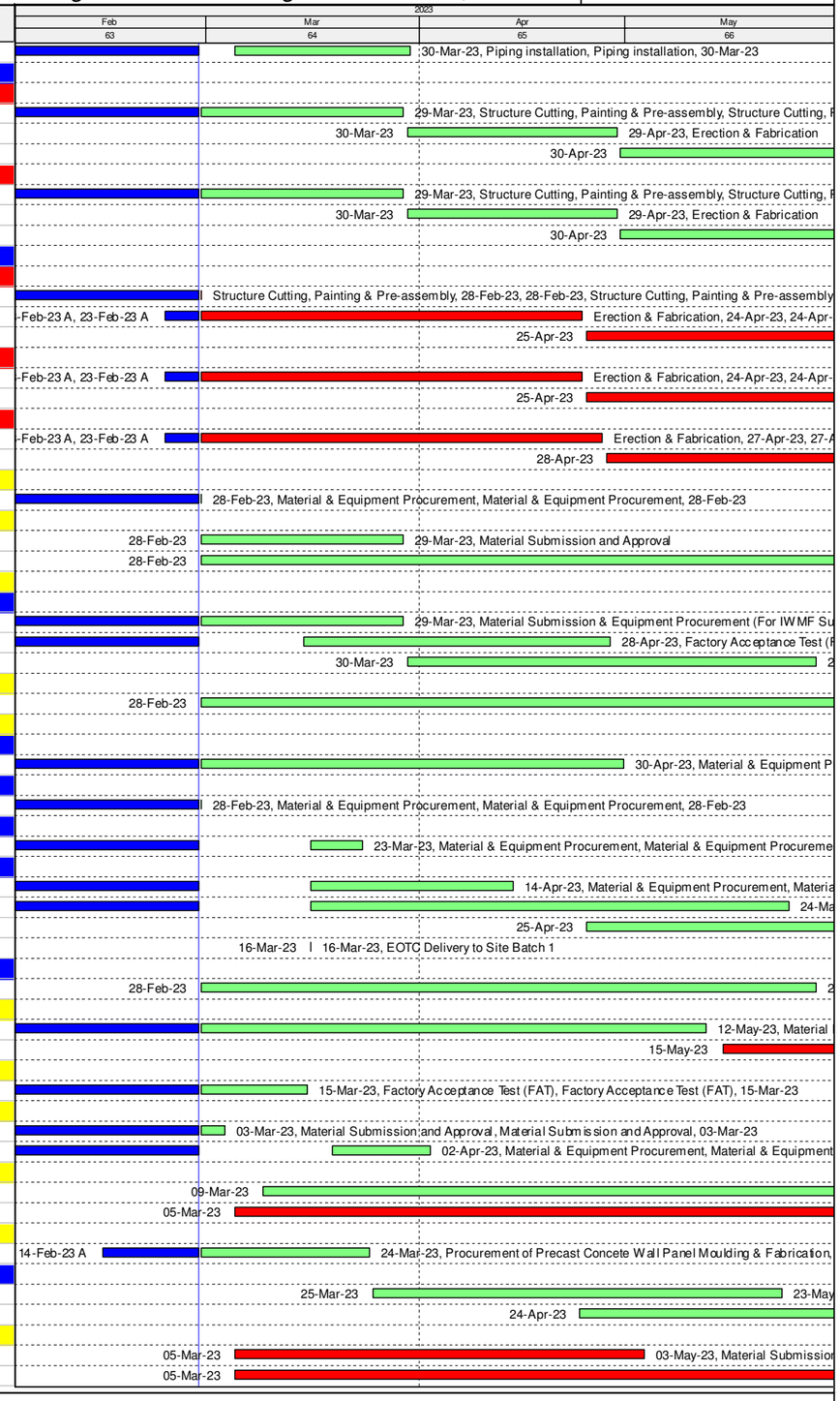
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
Delivery		10	10		01-Jul-23	10-Jul-23	05-May-23	14-May-23	-57	
06-TPU-6-1340	PFab 1-Line 6 - Delivery	10	10	0%	01-Jul-23	10-Jul-23	05-May-23	14-May-23	-57	
Fabrication of Module (FGC)		812	309		03-Jun-21 A	02-Jan-24	07-Dec-22	02-Jan-24	0	
Fabrication of Mega Steel Structure		60	32		22-Jan-23 A	31-Mar-23	02-Jan-23	07-Apr-23	7	
Off-site Fabrication of Turbine Modules		545	149		30-Oct-21 A	26-Jul-23	27-Jan-23	26-Jun-23	-30	
Fabrication of Module (Power Island)		545	149		30-Oct-21 A	26-Jul-23	27-Jan-23	26-Jun-23	-30	
Turbine Module 1		109	19		06-Jan-23 A	18-Mar-23	04-Apr-23	22-Apr-23	35	
06-4040-1(M55)	Turbine Module 1 - TBS Tower 1 Erection & Installation	31	4	87.1%	06-Jan-23 A	03-Mar-23	04-Apr-23	07-Apr-23	35	
06-4080(6)	Turbine Module 1 - Delivery	15	15	0%	04-Mar-23	18-Mar-23	08-Apr-23	22-Apr-23	35	
Turbine Module 2		545	149		28-Jan-22 A	26-Jul-23	27-Jan-23	24-Jun-23	-32	
06-4220(6)	Turbine Module 2 - Generator & Equipment Installation	450	15	96.67%	28-Jan-22 A	14-Mar-23	25-Apr-23	09-May-23	56	
06-4240(6)	Turbine Module 2 - TBS Tower 2 Fabrication	46	57	0%	20-Oct-22 A	25-Apr-23	27-Jan-23	24-Mar-23	-32	
06-4240-1(M55)	Turbine Module 2 - TBS Tower 2 Erection & Installation	46	46	0%	26-Apr-23	10-Jun-23	25-Mar-23	09-May-23	-32	
06-4280(6)	Turbine Module 2 - Delivery	46	46	0%	11-Jun-23	26-Jul-23	10-May-23	24-Jun-23	-32	
Turbine Module 3		515	149		30-Oct-21 A	26-Jul-23	13-Feb-23	26-Jun-23	-30	
06-4410(6)	Turbine Module 3 - Steam Turbine 3 Fabrication	450	30	93.33%	27-Feb-22 A	29-Mar-23	27-Apr-23	26-May-23	58	
06-4420(6)	Turbine Module 3 - Generator & Equipment Installation	450	30	93.33%	27-Feb-22 A	29-Mar-23	27-Apr-23	26-May-23	58	
06-4440(6)	Turbine Module 3 - TBS Tower 3 Fabrication	61	57	6.56%	30-Oct-21 A	25-Apr-23	13-Feb-23	10-Apr-23	-15	
06-4440-1(M55)	Turbine Module 3 - TBS Tower 3 Erection & Installation	46	46	0%	26-Apr-23	10-Jun-23	11-Apr-23	26-May-23	-15	
06-4480(6)	Turbine Module 3 - Delivery	31	31	0%	26-Jun-23	26-Jul-23	27-May-23	26-Jun-23	-30	
Procurement for ACC Units		502	118		28-Feb-22 A	25-Jun-23	06-Apr-23	28-Aug-23	64	
06-1120-1	Off-site Fabrication of ACC-2 Units	178	77	56.74%	28-Feb-22 A	15-May-23	06-May-23	21-Jul-23	67	
06-1120-2	Off-site Fabrication of ACC-3 Units	178	118	33.71%	28-Feb-22 A	25-Jun-23	03-May-23	28-Aug-23	64	
06-1130	Factory Acceptance Test (FAT) for ACC-1	60	51	15%	28-Sep-22 A	19-Apr-23	06-Apr-23	26-May-23	37	
06-1160	Delivery to Site ACC-1	21	21	0%	20-Apr-23	10-May-23	27-May-23	16-Jun-23	37	
Procurement for CCCW Building Equipment		60	56		23-Feb-23 A	24-Apr-23	18-Aug-23	12-Oct-23	171	
06-1420(1)	Factory Acceptance Test (FAT)	60	56	6.67%	23-Feb-23 A	24-Apr-23	18-Aug-23	12-Oct-23	171	
Procurement for Mechanical Treatment Plant Building Plant Equipment		469	185		30-Jun-22 A	31-Aug-23	09-Aug-23	09-Feb-24	162	
06-1150-1(1)	Mechanical Equipment Material Submission and Approval	180	28	84.44%	30-Jun-22 A	27-Mar-23	14-Dec-23	10-Jan-24	289	
06-1150-2(1)	Pipe Material Submission and Approval	180	28	84.44%	30-Jun-22 A	27-Mar-23	14-Dec-23	10-Jan-24	289	
06-1150-3(1)	Electrical and Instrumentation Material Submission and Approval	180	28	84.44%	30-Jun-22 A	27-Mar-23	13-Jan-24	09-Feb-24	319	
06-1160-1(1)	Mechanical Equipment Procurement (Incl. FAT)	217	155	28.57%	30-Jun-22 A	01-Aug-23	09-Aug-23	10-Jan-24	162	
06-1160-2(1)	Pipe Material Procurement (Incl. FAT)	180	110	38.89%	30-Jun-22 A	17-Jun-23	23-Sep-23	10-Jan-24	207	
06-1160-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	180	185	0%	08-Dec-22 A	31-Aug-23	09-Aug-23	09-Feb-24	162	
Procurement for Wastewater Treatment Plant Equipment		132	120		23-Jun-22 A	27-Jun-23	25-May-23	24-Jul-23	27	
06-1190-1(1)	Mechanical Equipment Material Submission and Approval	90	31	65.56%	23-Jun-22 A	30-Mar-23	25-May-23	24-Jun-23	86	
06-1190-2(1)	Pipe Material Submission and Approval	90	31	65.56%	23-Jun-22 A	30-Mar-23	25-May-23	24-Jun-23	86	
06-1190-3(1)	Electrical and Instrumentation Material Submission and Approval	90	31	65.56%	29-Jul-22 A	28-May-23	25-May-23	24-Jun-23	27	
06-1200-1(1)	Mechanical Equipment Procurement (Incl. FAT)	31	31	0%	28-Feb-23	30-Mar-23	25-May-23	24-Jun-23	86	
06-1200-2(1)	Pipe Material Procurement (Incl. FAT)	31	31	0%	28-Feb-23	30-Mar-23	25-May-23	24-Jun-23	86	
06-1200-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	0	60	0%	09-Aug-22 A	27-Jun-23	26-May-23	24-Jul-23	27	
Procurement for Desal & Demin Plant Equipment		484	92		08-Jan-20 A	30-May-23	21-Jun-23	20-Sep-23	113	
06-1230-1(1)	Mechanical Equipment Material Submission and Approval	90	30	66.67%	08-Jan-22 A	29-Mar-23	23-Jun-23	22-Jul-23	115	
06-1230-2(1)	Pipe Material Submission and Approval	90	30	66.67%	08-Jan-20 A	29-Mar-23	23-Jun-23	22-Jul-23	115	
06-1230-3(1)	Electrical and Instrumentation Material Submission and Approval	90	30	66.67%	16-Apr-20 A	29-Mar-23	23-Jun-23	22-Jul-23	115	
06-1240-1(1)	Mechanical Equipment Procurement (Incl. FAT)	60	30	50%	01-Jun-22 A	28-Apr-23	22-Aug-23	20-Sep-23	145	
06-1260-1(M55)	WTP chemical storage tank Material Submission and Approval	120	62	48.33%	21-Apr-22 A	30-Apr-23	21-Jun-23	21-Aug-23	113	
06-1260-2(M55)	WTP chemical storage tank Procurement (Incl. FAT)	180	62	65.56%	22-Apr-22 A	30-May-23	21-Jul-23	20-Sep-23	113	
Procurement for HV Transformers and Associated Equipment		393	120		31-May-22 A	27-Jun-23	07-Mar-23	16-Sep-23	81	
Procurement of Transformers & EDG		120	120		28-Feb-23	27-Jun-23	20-May-23	16-Sep-23	81	
06-1290(1)	Factory Acceptance Test (FAT)	120	120	0%	28-Feb-23	27-Jun-23	20-May-23	16-Sep-23	81	
Procurement of Switchboard/Pannels and Cables		393	120		31-May-22 A	27-Jun-23	07-Mar-23	04-Jul-23	7	
06-2090(1)	Material Submission and Approval	60	30	50%	31-May-22 A	29-Mar-23	07-Mar-23	05-Apr-23	7	
06-2100(1)	Material & Equipment Procurement	240	60	75%	31-May-22 A	28-May-23	06-Apr-23	04-Jun-23	7	
06-2110(1)	Factory Acceptance Test (FAT)	90	90	0%	30-Mar-23	27-Jun-23	06-Apr-23	04-Jul-23	7	
Procurement for Control SCADA Systems		408	135		23-May-22 A	12-Jul-23	20-Apr-23	01-Sep-23	51	
06-1310	Scada System Procurement, Panel Assembly & Wiring	140	15	89.29%	23-May-22 A	14-Mar-23	20-Apr-23	04-May-23	51	
06-1330	Factory Acceptance Test (FAT)	120	120	0%	15-Mar-23	12-Jul-23	05-May-23	01-Sep-23	51	
Procurement for Onshore Crane at Berth		60	2		04-Dec-22 A	01-Mar-23	28-Jul-23	29-Jul-23	150	
06-1350	Supplier Submission and Approval	60	2	96.67%	04-Dec-22 A	01-Mar-23	28-Jul-23	29-Jul-23	150	
Procruement and Off-site Fabrication of Pipe Bridges (Incl. Pipings)		258	107		15-Oct-21 A	14-Jun-23	25-Feb-23	09-Sep-23	87	
Fabrication of Pipe Rack (Prefab.3)		194	31		07-Mar-22 A	30-Mar-23	08-Aug-23	09-Sep-23	163	
Pipe Rack 2		61	2		10-Apr-22 A	01-Mar-23	08-Aug-23	09-Aug-23	161	
06-5090(6)	Piping installation	61	2	96.72%	10-Apr-22 A	01-Mar-23	08-Aug-23	09-Aug-23	161	
Pipe Rack 3		168	31		07-Mar-22 A	30-Mar-23	10-Aug-23	09-Sep-23	163	
06-5150(6)	Erection & Fabrication	60	5	91.67%	07-Mar-22 A	04-Mar-23	10-Aug-23	14-Aug-23	163	

3-Month Rolling Programme (February 2023)

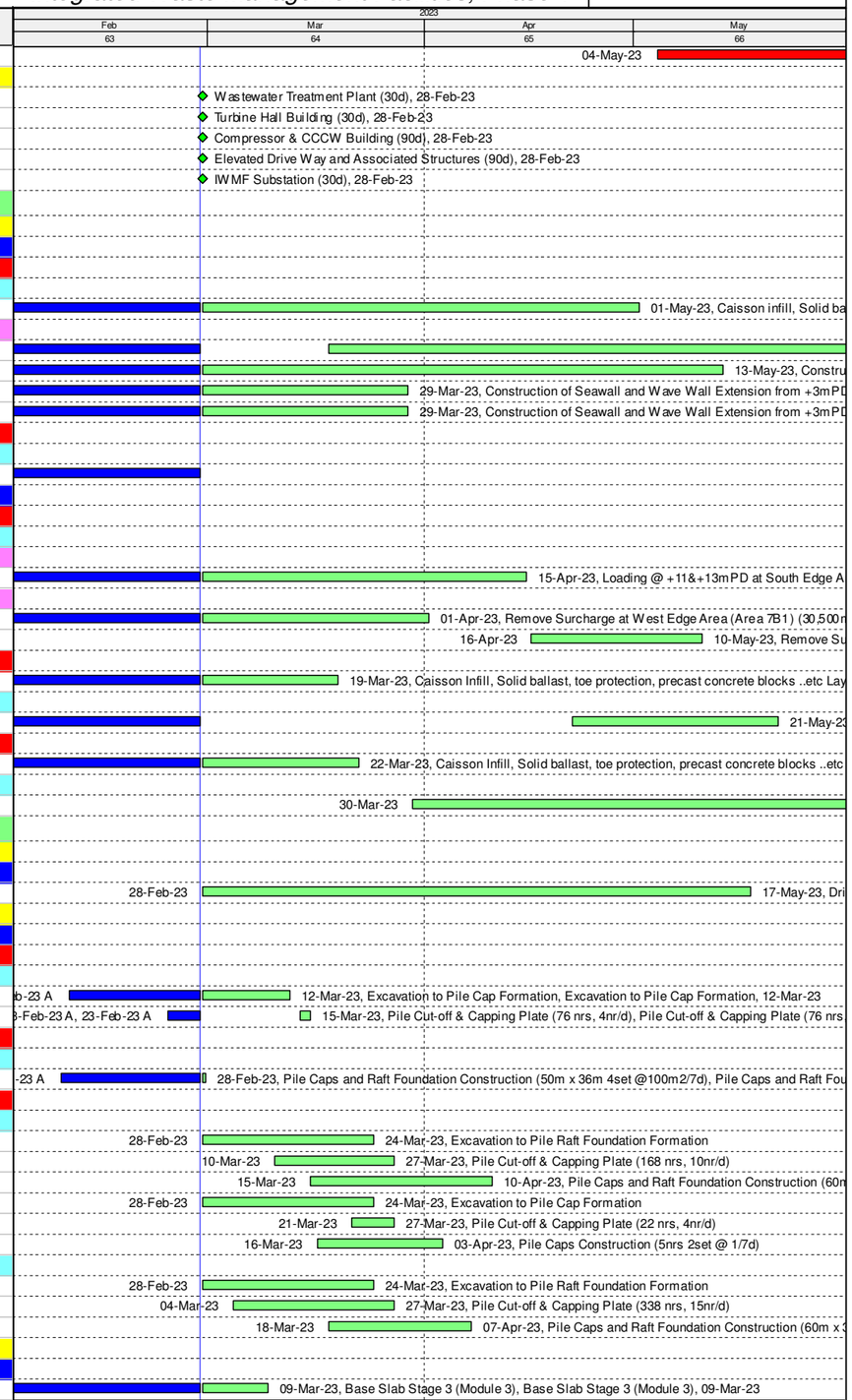
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
06-5160(6)	Piping installation	61	26	57.38%	17-Apr-22 A	30-Mar-23	15-Aug-23	09-Sep-23	163	
Fabrication of Pipe Bridge B		258	107		15-Oct-21 A	14-Jun-23	12-Mar-23	26-Jun-23	12	
Pipe Bridge B Between CCCW and Turbine Hall		258	107		15-Oct-21 A	14-Jun-23	12-Mar-23	26-Jun-23	12	
06-5300(6)	Structure Cutting, Painting & Pre-assembly	180	30	83.33%	15-Oct-21 A	29-Mar-23	12-Mar-23	10-Apr-23	12	
06-5310(6)	Erection & Fabrication	31	31	0%	30-Mar-23	29-Apr-23	11-Apr-23	11-May-23	12	
06-5320(6)	Piping installation	46	46	0%	30-Apr-23	14-Jun-23	12-May-23	26-Jun-23	12	
Pipe bridge B1 & B2 on the Roof of Turbine Hall		258	107		15-Oct-22 A	14-Jun-23	12-Mar-23	26-Jun-23	12	
06-5360(6D)	Structure Cutting, Painting & Pre-assembly	30	30	0%	15-Oct-22 A	29-Mar-23	12-Mar-23	10-Apr-23	12	
06-5370(6D)	Erection & Fabrication	31	31	0%	30-Mar-23	29-Apr-23	11-Apr-23	11-May-23	12	
06-5380(6D)	Piping installation	46	46	0%	30-Apr-23	14-Jun-23	12-May-23	26-Jun-23	12	
Fabrication of Pipe Bridge C		256	105		18-Oct-22 A	12-Jun-23	25-Feb-23	10-Jun-23	-2	
Pipe Bridge C between Turbine Hall & ACC -1		253	102		18-Oct-22 A	09-Jun-23	25-Feb-23	07-Jun-23	-2	
06-5400(6)	Structure Cutting, Painting & Pre-assembly	14	0	100%	18-Oct-22 A	28-Feb-23	25-Feb-23	25-Feb-23	-2	
06-5410(6)	Erection & Fabrication	61	56	8.2%	23-Feb-23 A	24-Apr-23	26-Feb-23	22-Apr-23	-2	
06-5420(6)	Piping installation	46	46	0%	25-Apr-23	09-Jun-23	23-Apr-23	07-Jun-23	-2	
Pipe Bridge C between Turbine Hall & ACC -2		102	102		23-Feb-23 A	09-Jun-23	26-Feb-23	07-Jun-23	-2	
06-5450(6)	Erection & Fabrication	61	56	8.2%	23-Feb-23 A	24-Apr-23	26-Feb-23	22-Apr-23	-2	
06-5460(6)	Piping installation	46	46	0%	25-Apr-23	09-Jun-23	23-Apr-23	07-Jun-23	-2	
Pipe Bridge C between Turbine Hall & ACC -3		105	105		23-Feb-23 A	12-Jun-23	26-Feb-23	10-Jun-23	-2	
06-5490(6)	Erection & Fabrication	61	59	3.28%	23-Feb-23 A	27-Apr-23	26-Feb-23	25-Apr-23	-2	
06-5500(6)	Piping installation	46	46	0%	28-Apr-23	12-Jun-23	26-Apr-23	10-Jun-23	-2	
Procurement for LV Electrical System for On-site Installation		180	0		01-Mar-22 A	28-Feb-23	02-Jul-24	02-Jul-24	491	
06-1440	Material & Equipment Procurement	180	0	100%	01-Mar-22 A	28-Feb-23	02-Jul-24	02-Jul-24	491	
Procurement for Ventilation and Odor Treatment System		120	120		28-Feb-23	27-Jun-23	05-Mar-23	02-Jul-23	5	
06-1470(1)	Material Submission and Approval	30	30	0%	28-Feb-23	29-Mar-23	24-May-23	22-Jun-23	85	
06-1820(6C)	Material Submission & Equipment Procurement (for IWMF Substation)	120	120	0%	28-Feb-23	27-Jun-23	05-Mar-23	02-Jul-23	5	
Procurement for Fire Services System		363	90		31-May-22 A	28-May-23	09-Mar-23	06-Jun-23	9	
IWMF Substation		363	90		31-May-22 A	28-May-23	09-Mar-23	06-Jun-23	9	
06-1810(6)	Material Submission & Equipment Procurement (For IWMF Substation)	120	30	75%	31-May-22 A	29-Mar-23	09-Mar-23	07-Apr-23	9	
06-1820(6)	Factory Acceptance Test (FAT)	90	45	50%	01-Jan-23 A	28-Apr-23	24-Mar-23	07-May-23	9	
06-1830(6)	Delivery to Site	60	60	0%	30-Mar-23	28-May-23	08-Apr-23	06-Jun-23	9	
Procurement for Drainage System		120	120		28-Feb-23	27-Jun-23	05-Mar-23	02-Jul-23	5	
06-1620-1(6C)	Material Submission & Equipment Procurement (for IWMF Substation)	120	120	0%	28-Feb-23	27-Jun-23	05-Mar-23	02-Jul-23	5	
Procurement for Cranage Equipment		481	116		02-Aug-21 A	23-Jun-23	17-Mar-23	17-Oct-23	116	
Waste Crane		180	62		02-Aug-21 A	30-Apr-23	25-Jun-23	25-Aug-23	117	
06-1720	Material & Equipment Procurement	180	62	65.56%	02-Aug-21 A	30-Apr-23	25-Jun-23	25-Aug-23	117	
Ash Crane		180	0		11-Aug-21 A	28-Feb-23	17-Oct-23	17-Oct-23	232	
06-1830	Material & Equipment Procurement	180	0	100%	11-Aug-21 A	28-Feb-23	17-Oct-23	17-Oct-23	232	
Shredder		85	8		27-May-22 A	23-Mar-23	19-Aug-23	26-Aug-23	156	
06-1870	Material & Equipment Procurement	85	8	90.59%	27-May-22 A	23-Mar-23	19-Aug-23	26-Aug-23	156	
EOTC		266	100		19-Apr-22 A	23-Jun-23	17-Mar-23	24-Jun-23	1	
06-1910	Material & Equipment Procurement	180	30	83.33%	19-Apr-22 A	14-Apr-23	17-Mar-23	15-Apr-23	1	
06-1920	Factory Acceptance Test (FAT)	150	70	53.33%	11-Oct-22 A	24-May-23	17-Mar-23	25-May-23	1	
06-1930	EOTC Delivery to Site Batch 2	60	60	0%	25-Apr-23	23-Jun-23*	26-Apr-23	24-Jun-23	1	
06-1940(M54)	EOTC Delivery to Site Batch 1	0	0	0%	16-Mar-23	16-Mar-23	20-Apr-23	20-Apr-23	36	
Hoist System		90	90		28-Feb-23	28-May-23	24-May-23	21-Aug-23	85	
06-8310(M57)	Material & Equipment Procurement	90	90	0%	28-Feb-23	28-May-23	24-May-23	21-Aug-23	85	
Procurement for Air Quality Monitoring Station Equipment		165	106		31-Dec-22 A	13-Jun-23	02-Mar-23	13-Jun-23	0	
06-2160(1)	Material Procurement	150	74	50.67%	31-Dec-22 A	12-May-23	02-Mar-23	14-May-23	2	
06-2200(1)	Delivery to Site	30	30	0%	15-May-23	13-Jun-23	15-May-23	13-Jun-23	0	
Procurement for Air Compressor Equipment		16	16		09-Aug-22 A	15-Mar-23	01-Jun-23	17-Jun-23	94	
06-1890(1)	Factory Acceptance Test (FAT)	16	16	0%	09-Aug-22 A	15-Mar-23	01-Jun-23	17-Jun-23	94	
Procurement for Pipes and Insulation for on site installations		397	34		31-May-22 A	02-Apr-23	07-May-23	09-Jun-23	68	
06-2250(1)	Material Submission and Approval	60	4	93.33%	31-May-22 A	03-Mar-23	07-May-23	10-May-23	68	
06-2260(1)	Material & Equipment Procurement	120	15	87.5%	01-Jun-22 A	02-Apr-23	26-May-23	09-Jun-23	68	
Procurement for Building Finishes Materials (Doors, windows and louvers ie...)		204	204		05-Mar-23	24-Sep-23	05-Mar-23	02-Nov-23	39	
06-8030(6)	CCCW Building - Material Submission, Procurement, FAT and Delivery	200	200	0%	09-Mar-23	24-Sep-23	17-Apr-23	02-Nov-23	39	
06-8030(6)70	IWMF Substation - Material Submission, Procurement, FAT and Delivery	150	150	0%	05-Mar-23	01-Aug-23	05-Mar-23	01-Aug-23	0	
Off-site Precasting of Facade Panels		115	115		14-Feb-23 A	22-Jun-23	04-Mar-23	26-Jun-23	4	
06-8040(6D)	Procurement of Precast Concete Wall Panel Moulding & Fabrication	60	25	58.33%	14-Feb-23 A	24-Mar-23	04-Mar-23	28-Mar-23	4	
IWMF Substation		90	90		25-Mar-23	22-Jun-23	29-Mar-23	26-Jun-23	4	
06-8070(6D)	Precasting of Concrete Panels	60	60	0%	25-Mar-23	23-May-23	29-Mar-23	27-May-23	4	
06-8080(6D)	Factory Acceptance Test (FAT)	60	60	0%	24-Apr-23	22-Jun-23	28-Apr-23	26-Jun-23	4	
Procurement for IWMF Equipments for BS Works		120	120		05-Mar-23	02-Jul-23	05-Mar-23	02-Jul-23	0	
06-8300(6E)	Material Submission and Approval	60	60	0%	05-Mar-23	03-May-23	05-Mar-23	03-May-23	0	
06-8310(6E)	Material & Equipment Procurement	90	90	0%	05-Mar-23	02-Jun-23	05-Mar-23	02-Jun-23	0	



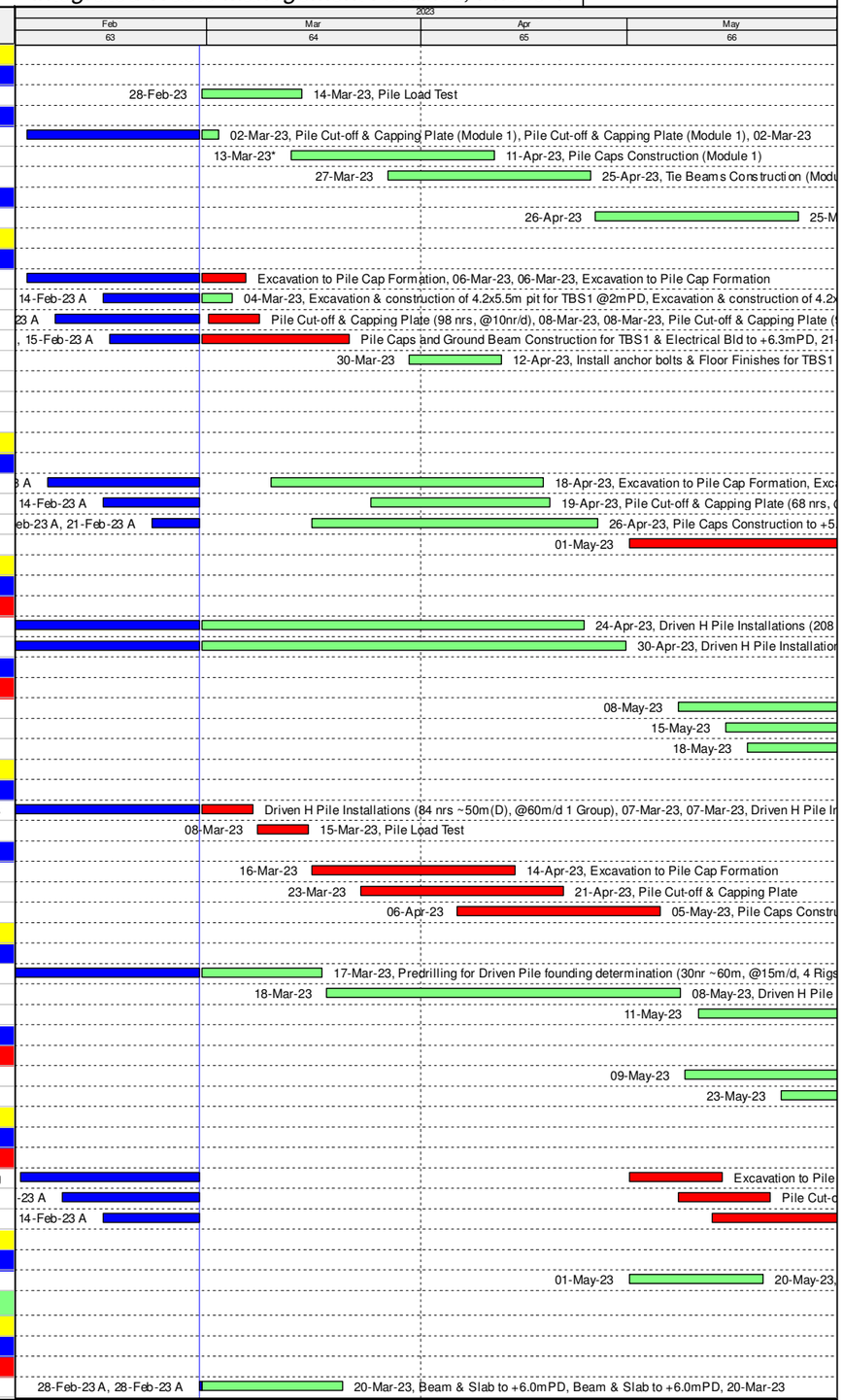
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
06-8320(6E)	Factory Acceptance Test (FAT)	60	60	0%	04-May-23	02-Jul-23	04-May-23	02-Jul-23	0	
Delivery of Cast-in pipes, Fittings and Anchor Bolts for Structures (if applicable)		0	0		28-Feb-23	28-Feb-23	06-Mar-23	02-May-23	63	
04-1805(6F)	Wastewater Treatment Plant (30d)	0	0	0%	28-Feb-23		02-May-23		63	
04-1815(6F)	Turbine Hall Building (30d)	0	0	0%	28-Feb-23		06-Mar-23		6	
04-1820(6F)	Compressor & CCCW Building (90d)	0	0	0%	28-Feb-23		10-Mar-23		11	
04-1870(6F)	Elevated Drive Way and Associated Structures (90d)	0	0	0%	28-Feb-23		03-Apr-23		34	
04-1880(6F)	IWMF Substation (30d)	0	0	0%	28-Feb-23		27-Mar-23		27	
Maritime Works		1306	170		30-Nov-19 A	16-Aug-23	03-Mar-23	02-Dec-23	108	
Marine Construction		1306	170		30-Nov-19 A	16-Aug-23	03-Mar-23	02-Dec-23	108	
Phase I - Construction of Perimeter Seawalls		1176	170		30-Nov-19 A	16-Aug-23	01-May-23	02-Dec-23	108	
Seawall and Berth at DCM Area		973	93		30-Nov-19 A	31-May-23	01-May-23	02-Dec-23	185	
Seawall Structural Works		973	93		30-Nov-19 A	31-May-23	01-May-23	02-Dec-23	185	
08-1115(3)	Caisson infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	250	63	74.8%	30-Nov-19 A	01-May-23	01-May-23	02-Jul-23	62	
Remain Works		293	93		10-Oct-21 A	31-May-23	19-May-23	02-Dec-23	185	
08-1120	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall A	220	75	65.91%	10-Oct-21 A	31-May-23	19-May-23	01-Aug-23	62	
08-1120-1(6)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B	220	75	65.91%	10-Oct-21 A	13-May-23	19-Sep-23	02-Dec-23	203	
08-1120-2(M55)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B No. C1	60	30	50%	31-May-22 A	29-Mar-23	19-Oct-23	17-Nov-23	233	
08-1120-4(M55)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B No. C7	60	30	50%	31-May-22 A	29-Mar-23	04-Jun-23	03-Jul-23	96	
Seawall at Dredging Area		160	43		11-Jul-22 A	16-Aug-23	20-Oct-23	02-Dec-23	108	
Remain Works		160	43		11-Jul-22 A	16-Aug-23	20-Oct-23	02-Dec-23	108	
08-1170	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level (Bay 1 to Bay 8)	160	43	73%	11-Jul-22 A	16-Aug-23	20-Oct-23	02-Dec-23	108	
Phase II - Reclamation, Breakwater and Berth Construction		789	120		08-Feb-21 A	27-Jun-23	03-Mar-23	31-Jul-23	34	
Reclamation		131	72		18-Oct-22 A	10-May-23	03-Mar-23	13-May-23	3	
Reclamation Works		131	72		18-Oct-22 A	10-May-23	03-Mar-23	13-May-23	3	
Surcharge Period		60	47		18-Oct-22 A	15-Apr-23	03-Mar-23	18-Apr-23	3	
08-3130(6)	Loading @ +11&+13mPD at South Edge Area (Area 5)	60	47	21.67%	18-Oct-22 A	15-Apr-23	03-Mar-23	18-Apr-23	3	
Surcharge Removal		131	72		01-Jan-23 A	10-May-23	03-Mar-23	13-May-23	3	
08-3200-2(M57)	Remove Surcharge at West Edge Area (Area 7B1) (30,500m3 @ 4000m3/d)	45	33	26.67%	01-Jan-23 A	01-Apr-23	03-Mar-23	04-Apr-23	3	
08-3210(6)	Remove Surcharge at South Edge Area (Area 5) (96,700m3 @ 4000m3/d)	25	25	0%	16-Apr-23	10-May-23	19-Apr-23	13-May-23	3	
Breakwater		516	83		30-Apr-21 A	21-May-23	12-Jun-23	31-Jul-23	71	
08-1295(3)	Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	200	20	90%	30-Apr-21 A	19-Mar-23	12-Jun-23	01-Jul-23	104	
Remain Works		120	30		31-May-22 A	21-May-23	02-Jul-23	31-Jul-23	71	
08-1300	Construction of Caissons Extension from +3mPD to Deck Level	120	30	75%	31-May-22 A	21-May-23	02-Jul-23	31-Jul-23	71	
Seawall and Berth at Marine Access		179	120		08-Feb-21 A	27-Jun-23	03-Apr-23	01-Jul-23	4	
08-1320(5A)	Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	90	23	74.44%	08-Feb-21 A	22-Mar-23	10-May-23	01-Jun-23	71	
Seawater Intake Structure		90	90		30-Mar-23	27-Jun-23	03-Apr-23	01-Jul-23	4	
08-2400(6D)	Construction of Seawater Intake	90	90	0%	30-Mar-23	27-Jun-23	03-Apr-23	01-Jul-23	4	
Foundation Works		225	166		03-Dec-22 A	12-Aug-23	28-Dec-22	20-Jul-23	-23	
Administration & Viewing Gallery Bld Foundation		79	79		28-Feb-23	17-May-23	16-Apr-23	03-Jul-23	47	
Administration & Viewing Gallery Bld Piling Works (Driven H-pile)		79	79		28-Feb-23	17-May-23	16-Apr-23	03-Jul-23	47	
09-1060	Driven H Pile Installations (141 nrs ~60m(D) & (16 nrs ~60m(D), @ 60m/d 2 Groups)	79	79	0%	28-Feb-23	17-May-23	16-Apr-23	03-Jul-23	47	
Process Building - Waste Bunker & Tipping Hall Bld Foundation		42	42		08-Feb-23 A	10-Apr-23	24-Mar-23	30-Jun-23	81	
Process Building Pile Cap Construction		42	42		08-Feb-23 A	10-Apr-23	24-Mar-23	30-Jun-23	81	
Pile Cap Stage 1 (Module 1)		28	16		09-Feb-23 A	15-Mar-23	21-May-23	30-Jun-23	107	
Process Building (Module 1) Tipping Hall		28	16		09-Feb-23 A	15-Mar-23	21-May-23	30-Jun-23	107	
09-1180	Excavation to Pile Cap Formation	25	13	48%	09-Feb-23 A	12-Mar-23	21-May-23	02-Jun-23	82	
09-1190	Pile Cut-off & Capping Plate (76 nrs, 4nr/d)	19	2	89.47%	23-Feb-23 A	15-Mar-23	29-Jun-23	30-Jun-23	107	
Pile Cap Stage 2 (Module 2)		36	1		08-Feb-23 A	28-Feb-23	23-Apr-23	23-Apr-23	54	
Process Building (Module 2) Bunker		36	1		08-Feb-23 A	28-Feb-23	23-Apr-23	23-Apr-23	54	
09-2390	Pile Caps and Raft Foundation Construction (50m x 36m 4set @100m2/7d)	36	1	97.23%	08-Feb-23 A	28-Feb-23	23-Apr-23	23-Apr-23	54	
Pile Cap Stage 3 (Module 3)		42	42		28-Feb-23	10-Apr-23	24-Mar-23	31-May-23	51	
Process Building (Module 3) WWTP		42	42		28-Feb-23	10-Apr-23	20-Apr-23	31-May-23	51	
09-1240	Excavation to Pile Raft Foundation Formation	25	25	0%	28-Feb-23	24-Mar-23	20-Apr-23	14-May-23	51	
09-1250	Pile Cut-off & Capping Plate (168 nrs, 10nr/d)	17	17	0%	10-Mar-23	27-Mar-23	05-May-23	22-May-23	56	
09-1260	Pile Caps and Raft Foundation Construction (60m x 24m 4set@100m2/7day)	26	26	0%	15-Mar-23	10-Apr-23	05-May-23	31-May-23	51	
09-2550	Excavation to Pile Cap Formation	25	25	0%	28-Feb-23	24-Mar-23	27-Apr-23	21-May-23	58	
09-2560	Pile Cut-off & Capping Plate (22 nrs, 4nr/d)	6	6	0%	21-Mar-23	27-Mar-23	18-May-23	24-May-23	58	
09-2570	Pile Caps Construction (5nrs 2set @ 1/7d)	18	18	0%	16-Mar-23	03-Apr-23	13-May-23	31-May-23	58	
Process Building (Module 3) Bunker		39	39		28-Feb-23	07-Apr-23	24-Mar-23	04-May-23	26	
09-2420	Excavation to Pile Raft Foundation Formation	25	25	0%	28-Feb-23	24-Mar-23	24-Mar-23	17-Apr-23	24	
09-2430	Pile Cut-off & Capping Plate (338 nrs, 15nr/d)	23	23	0%	04-Mar-23	27-Mar-23	11-Apr-23	04-May-23	37	
09-2440	Pile Caps and Raft Foundation Construction (60m x 32m 4set@100m2/7day)	21	21	0%	18-Mar-23	07-Apr-23	11-Apr-23	01-May-23	24	Delink FS to 09-2570
Process Building - Boiler & Flue Gas Treatment Bld Foundation		50	10		23-Dec-22 A	09-Mar-23	06-Mar-23	15-Mar-23	6	
RC Base Slab		50	10		23-Dec-22 A	09-Mar-23	06-Mar-23	15-Mar-23	6	
10-1600	Base Slab Stage 3 (Module 3)	50	10	80%	23-Dec-22 A	09-Mar-23	06-Mar-23	15-Mar-23	6	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

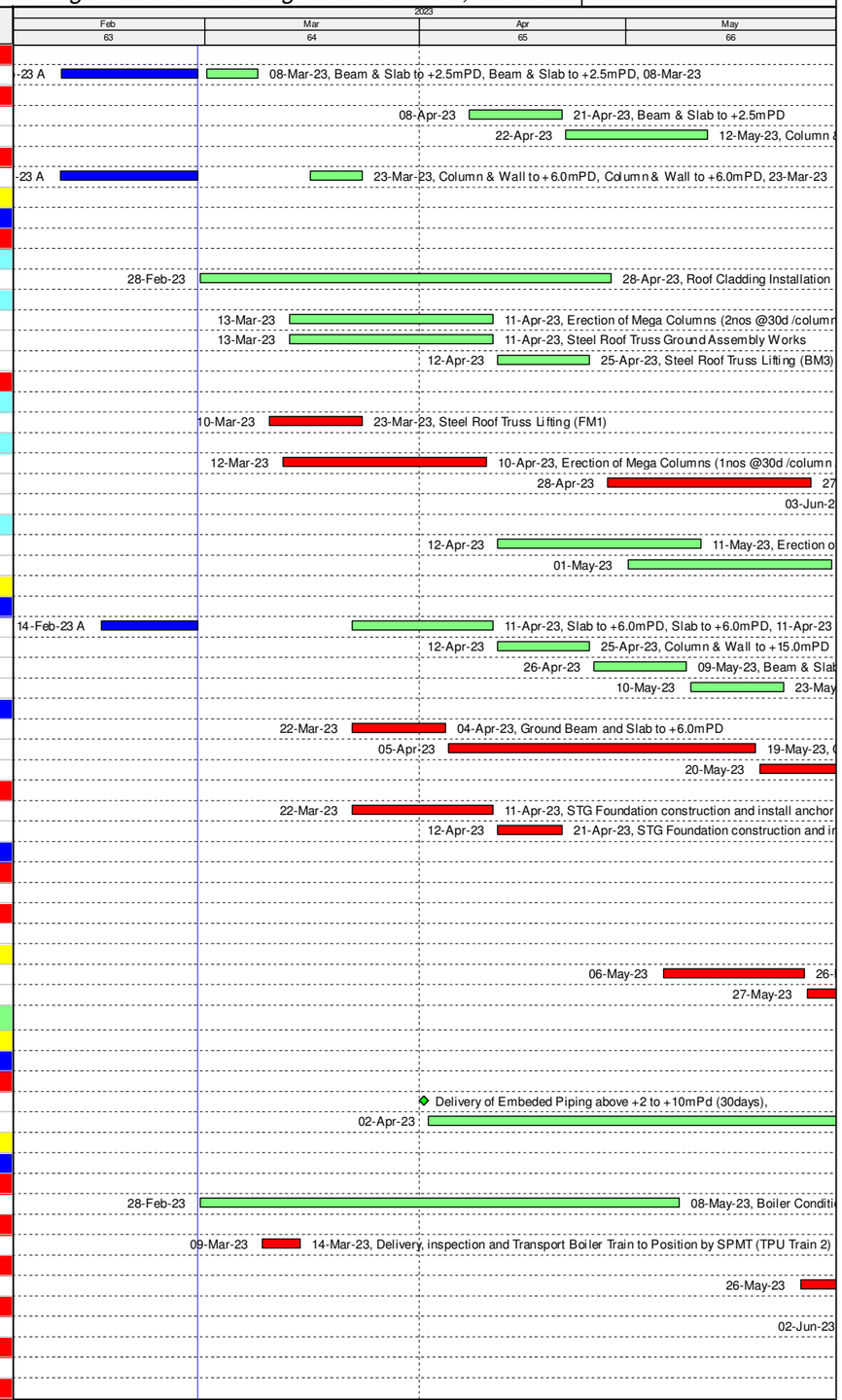
Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
ACC Equipment Foundation		87	87		03-Feb-23 A	25-May-23	24-Mar-23	08-Jun-23	14	
ACC Piling Works (Driven H-pile)		15	15		28-Feb-23	14-Mar-23	28-Mar-23	11-Apr-23	28	
09-1680	Pile Load Test	15	15	0%	28-Feb-23	14-Mar-23	28-Mar-23	11-Apr-23	28	
ACC Pile Cap Construction		44	57		03-Feb-23 A	25-Apr-23	24-Mar-23	09-May-23	14	
09-1700	Pile Cut-off & Capping Plate (Module 1)	18	3	83.33%	03-Feb-23 A	02-Mar-23	24-Mar-23	26-Mar-23	24	
09-1710	Pile Caps Construction (Module 1)	30	30	0%	13-Mar-23*	11-Apr-23	27-Mar-23	25-Apr-23	14	
09-1710-1(6)	Tie Beams Construction (Module 1 @+6.5mPD)	30	30	0%	27-Mar-23	25-Apr-23	10-Apr-23	09-May-23	14	
ACC Equipment Structure		30	30		26-Apr-23	25-May-23	10-May-23	08-Jun-23	14	
09-1720	Base Slab Construction (Module 1 @+6.5mPD)	30	30	0%	26-Apr-23	25-May-23	10-May-23	08-Jun-23	14	
Turbine Hall Bld Foundation		166	166		03-Feb-23 A	12-Aug-23	28-Dec-22	01-Jun-23	-72	
Turbine Hall Pile Caps Construction		166	166		03-Feb-23 A	12-Aug-23	28-Dec-22	01-Jun-23	-72	
09-1750	Excavation to Pile Cap Formation	21	7	66.67%	03-Feb-23 A	06-Mar-23	28-Dec-22	03-Jan-23	-62	
09-1750-1(M62)	Excavation & construction of 4.2x5.5m pit for TBS1 @2mPD	21	5	76.19%	14-Feb-23 A	04-Mar-23	31-Mar-23	04-Apr-23	31	
09-1760	Pile Cut-off & Capping Plate (98 nrs, @10nr/d)	10	8	20%	07-Feb-23 A	08-Mar-23	04-Jan-23	11-Jan-23	-56	
09-1770	Pile Caps and Ground Beam Construction for TBS1 & Electrical Bld to +6.3mPD	30	22	26.67%	15-Feb-23 A	21-Mar-23	28-Dec-22	18-Jan-23	-62	
09-1770-1(M58)	Install anchor bolts & Floor Finishes for TBS1 @+6.3mPD (Post-drilling)	14	14	0%	30-Mar-23	12-Apr-23	05-Apr-23	18-Apr-23	6	
09-1770-2(6G)	Pile Cut-off & Capping Plate (121 nrs, @10nr/d)	12	12	0%	18-Jul-23	29-Jul-23	07-May-23	18-May-23	-72	
09-1770-3(M62)	Excavation & construction of 4.2x5.5m pit for TBS2&3 @2mPD	21	21	0%	18-Jul-23	07-Aug-23	12-May-23	01-Jun-23	-67	
09-1780	Pile Caps Construction	14	14	0%	30-Jul-23	12-Aug-23	19-May-23	01-Jun-23	-72	
Compressor & CCCW Bld Foundation		58	97		06-Feb-23 A	14-Jun-23	09-Apr-23	08-Jun-23	-7	
CCCW Pile Caps Construction		58	97		06-Feb-23 A	14-Jun-23	09-Apr-23	08-Jun-23	-7	
09-2340	Excavation to Pile Cap Formation	43	40	6.98%	06-Feb-23 A	18-Apr-23	09-Apr-23	19-May-23	31	
09-2350	Pile Cut-off & Capping Plate (68 nrs, @10nr/d)	28	26	7.14%	14-Feb-23 A	19-Apr-23	24-Apr-23	20-May-23	31	
09-2350-1(6)	Pile Caps Construction to +5.85mPD (9 nrs, @0.2nr/d)	45	42	6.67%	21-Feb-23 A	26-Apr-23	24-Apr-23	05-Jun-23	40	
09-2360	Ground Beam Construction to +6.25mPD	45	45	0%	01-May-23	14-Jun-23	24-Apr-23	08-Jun-23	-7	
MT Plant & WT Bld Foundation		198	139		23-Dec-22 A	16-Jul-23	04-Mar-23	20-Jul-23	4	
MT Plant & WT Bld Piling Works		194	62		23-Dec-22 A	30-Apr-23	04-Mar-23	14-Jun-23	45	
MT & WT Plant (Driven H-pile)		194	62		23-Dec-22 A	30-Apr-23	04-Mar-23	14-Jun-23	45	
09-1870	Driven H Pile Installations (208 nrs ~45m(D), @60m/d 1 Group)	156	56	64.1%	08-Jan-23 A	24-Apr-23	20-Apr-23	14-Jun-23	51	
09-1870-1(M54)	Driven H Pile Installations (174 nrs ~45m(D), @60m/d 1 Group)	131	62	52.67%	23-Dec-22 A	30-Apr-23	04-Mar-23	04-May-23	4	
MT Plant & WT Bld Pile Cap Construction		70	70		08-May-23	16-Jul-23	12-May-23	20-Jul-23	4	
MT Plant Pile Cap Construction		70	70		08-May-23	16-Jul-23	12-May-23	20-Jul-23	4	
09-1920	Excavation to Pile Cap Formation	25	25	0%	08-May-23	01-Jun-23	12-May-23	05-Jun-23	4	
09-1930	Pile Cut-off & Capping Plate (410nrs, @20/d)	21	21	0%	15-May-23	04-Jun-23	19-May-23	08-Jun-23	4	
09-1940	Pile Caps Construction	60	60	0%	18-May-23	16-Jul-23	22-May-23	20-Jul-23	4	
IWMF Substation Building Foundation		110	67		16-Dec-22 A	05-May-23	18-Feb-23	25-Apr-23	-10	
IWMF Substation Piling Works (Driven H-pile)		70	16		16-Dec-22 A	15-Mar-23	18-Feb-23	05-Mar-23	-10	
09-1980	Driven H Pile Installations (84 nrs ~50m(D), @60m/d 1 Group)	70	8	88.57%	16-Dec-22 A	07-Mar-23	18-Feb-23	25-Feb-23	-10	Revised 74nrs to 84nrs
09-1990	Pile Load Test	8	8	0%	08-Mar-23	15-Mar-23	26-Feb-23	05-Mar-23	-10	
IWMF Substation Pile Cap Construction		51	51		16-Mar-23	05-May-23	06-Mar-23	25-Apr-23	-10	
09-2000	Excavation to Pile Cap Formation	30	30	0%	16-Mar-23	14-Apr-23	06-Mar-23	04-Apr-23	-10	
09-2010	Pile Cut-off & Capping Plate	30	30	0%	23-Mar-23	21-Apr-23	13-Mar-23	11-Apr-23	-10	
09-2020	Pile Caps Construction (24nrs, 4sets @1nr/7d)	30	30	0%	06-Apr-23	05-May-23	27-Mar-23	25-Apr-23	-10	
Elevated Drive Way and Associated Structures Foundation		127	114		03-Dec-22 A	21-Jun-23	03-Mar-23	24-Jun-23	3	
Elevated Drive Way Piling Works (Driven H-pile)		119	106		03-Dec-22 A	13-Jun-23	03-Mar-23	16-Jun-23	3	
09-2020(M57)	Predrilling for Driven Pile founding determination (30nr ~60m, @15m/d, 4 Rigs)	23	18	21.74%	03-Dec-22 A	17-Mar-23	03-Mar-23	20-Mar-23	3	
09-2030(M57)	Driven H Pile Installations Grid RSA - RSG (248nrs ~50m(D), @60m/d 4 Groups)	52	52	0%	18-Mar-23	08-May-23	21-Mar-23	11-May-23	3	
09-2030-2(M45)	Driven H Pile Installations Grid RSY - RSAF (74nrs ~55m(D), @60m/d 2 Groups)	34	34	0%	11-May-23	13-Jun-23	14-May-23	16-Jun-23	3	
Elevated Drive Way Pile Cap Construction		44	44		09-May-23	21-Jun-23	12-May-23	24-Jun-23	3	
Elevated Drive Way RSA to RSG		44	44		09-May-23	21-Jun-23	12-May-23	24-Jun-23	3	
09-2050(M57)	Excavation to Pile Cap Formation	30	30	0%	09-May-23	07-Jun-23	12-May-23	10-Jun-23	3	
09-2060(M57)	Pile Cut-off & Capping Plate	30	30	0%	23-May-23	21-Jun-23	26-May-23	24-Jun-23	3	
Pipe Bridge Foundation		35	35		02-Feb-23 A	04-Jun-23	07-Feb-23	13-Mar-23	-83	
Pipe Bridge B		35	35		02-Feb-23 A	04-Jun-23	07-Feb-23	13-Mar-23	-83	
Pipe Bridge B Pile Caps Construction		35	35		02-Feb-23 A	04-Jun-23	07-Feb-23	13-Mar-23	-83	
09-2470	Excavation to Pile Cap Formation	21	14	33.33%	02-Feb-23 A	14-May-23	07-Feb-23	20-Feb-23	-83	SS to 13-1640 missing
09-2480	Pile Cut-off & Capping Plate (33 nrs, @ 4nr/d)	21	14	33.33%	08-Feb-23 A	21-May-23	14-Feb-23	27-Feb-23	-83	
09-2490	Pile Caps Construction to +5.0mPD (33nr, 4set @ 1nr/7d)	30	23	23.33%	14-Feb-23 A	04-Jun-23	19-Feb-23	13-Mar-23	-83	
Heavy Load Access		20	20		01-May-23	20-May-23	12-May-23	01-Jun-23	12	
Demolition		20	20		01-May-23	20-May-23	12-May-23	01-Jun-23	12	
09-3020(6D)	Removal of Sub Base & Road Base & Foundation Works (Stage 1)	20	20	0%	01-May-23	20-May-23	12-May-23	01-Jun-23	12	
Superstructural Works		173	173		08-Feb-23 A	19-Aug-23	16-Jan-23	12-Jul-23	-38	
Process Buildings - Waste Bunker & Tipping Hall Bld Structure		73	74		08-Feb-23 A	12-May-23	24-Apr-23	12-Jul-23	61	
Waste & Ash Bunker Bld Structure		73	74		08-Feb-23 A	12-May-23	24-Apr-23	12-Jul-23	61	
Process Building (Module 1) Waste & Ash Bunker Bld Structure		21	21		28-Feb-23 A	20-Mar-23	22-Jun-23	12-Jul-23	114	
10-1110	Beam & Slab to +6.0mPD	21	21	0%	28-Feb-23 A	20-Mar-23	22-Jun-23	12-Jul-23	114	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

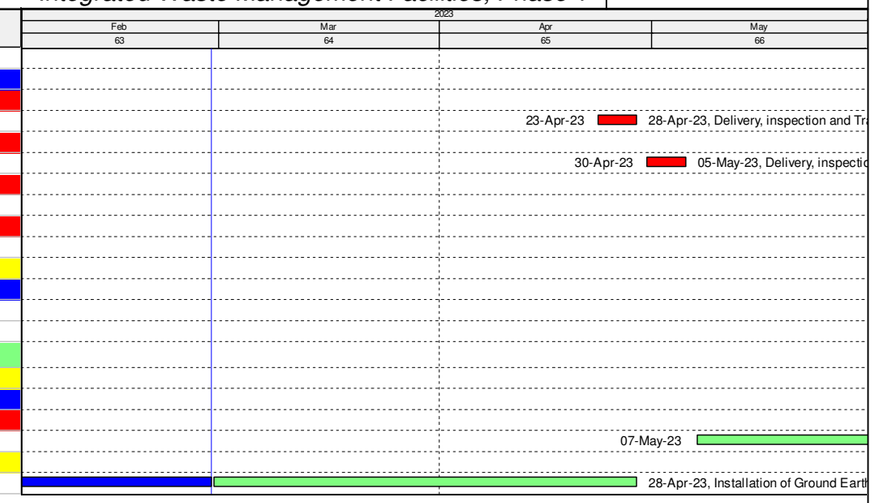
3-Month Rolling Programme (February 2023)

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
Process Building (Module 2) Waste & Ash Bunker Bld Structure		21	8		08-Feb-23 A	08-Mar-23	24-Apr-23	01-May-23	54	
10-1200	Beam & Slab to +2.5mPD	21	8	61.9%	08-Feb-23 A	08-Mar-23	24-Apr-23	01-May-23	54	
Process Building (Module 3) Waste & Ash Bunker Bld Structure		35	35		08-Apr-23	12-May-23	02-May-23	14-Jun-23	33	
10-1310	Beam & Slab to +2.5mPD	14	14	0%	08-Apr-23	21-Apr-23	02-May-23	15-May-23	24	
10-1320	Column & Wall to +6.0mPD	21	21	0%	22-Apr-23	12-May-23	25-May-23	14-Jun-23	33	
Process Building Control Building		21	8		08-Feb-23 A	23-Mar-23	14-Jun-23	21-Jun-23	90	
10-2330	Column & Wall to +6.0mPD	21	8	61.9%	08-Feb-23 A	23-Mar-23	14-Jun-23	21-Jun-23	90	
Process Buildings - Boiler & Flue Gas Treatment Bld Structure		109	109		28-Feb-23	16-Jun-23	16-Jan-23	28-Jun-23	12	
Steel Structure		109	109		28-Feb-23	16-Jun-23	16-Jan-23	28-Jun-23	12	
Boiler Building Steel Structure		60	60		28-Feb-23	28-Apr-23	19-Mar-23	28-Jun-23	61	
Process Building (Module 1) Steel Structure Erection		60	60		28-Feb-23	28-Apr-23	30-Apr-23	28-Jun-23	61	
10-1640	Roof Cladding Installation	60	60	0%	28-Feb-23	28-Apr-23	30-Apr-23	28-Jun-23	61	
Process Building (Module 3) Process Building Steel Structure Erection		44	44		13-Mar-23	25-Apr-23	19-Mar-23	01-May-23	6	
10-1690	Erection of Mega Columns (2nos @30d /column /gang x 2)	30	30	0%	13-Mar-23	11-Apr-23	19-Mar-23	17-Apr-23	6	
10-1700	Steel Roof Truss Ground Assembly Works	30	30	0%	13-Mar-23	11-Apr-23	19-Mar-23	17-Apr-23	6	
10-1710	Steel Roof Truss Lifting (BM3)	14	14	0%	12-Apr-23	25-Apr-23	18-Apr-23	01-May-23	6	
Flue Gas Treatment Bld Steel Structure		99	99		10-Mar-23	16-Jun-23	16-Jan-23	06-Jun-23	-10	
Process Building (Module 1) Steel Structure Erection		14	14		10-Mar-23	23-Mar-23	16-Jan-23	29-Jan-23	-53	
10-1750	Steel Roof Truss Lifting (FM1)	14	14	0%	10-Mar-23	23-Mar-23	16-Jan-23	29-Jan-23	-53	
Process Building (Module 2) Steel Structure Erection		97	97		12-Mar-23	16-Jun-23	02-Mar-23	14-Apr-23	-63	
10-1770	Erection of Mega Columns (1nos @30d /column /gang x 1)	30	30	0%	12-Mar-23	10-Apr-23	02-Mar-23	31-Mar-23	-10	
10-1780	Steel Roof Truss Ground Assembly Works	30	30	0%	28-Apr-23	27-May-23	02-Mar-23	31-Mar-23	-57	
10-1790	Steel Roof Truss Lifting (FM2)	14	14	0%	03-Jun-23	16-Jun-23	01-Apr-23	14-Apr-23	-63	
Process Building (Module 3) Steel Structure Erection		49	49		12-Apr-23	30-May-23	08-May-23	06-Jun-23	7	
10-1810	Erection of Mega Columns (1nos @30d /column /gang x 1)	30	30	0%	12-Apr-23	11-May-23	08-May-23	06-Jun-23	26	
10-1820	Steel Roof Truss Ground Assembly Works	30	30	0%	01-May-23	30-May-23	08-May-23	06-Jun-23	7	
Turbine Hall Bld Structure		151	151		14-Feb-23 A	19-Aug-23	19-Jan-23	15-Jun-23	-65	
Turbine Hall Electrical Bld		63	63		14-Feb-23 A	23-May-23	04-Apr-23	05-Jun-23	13	
10-1910	Slab to +6.0mPD	14	21	0%	14-Feb-23 A	11-Apr-23	04-Apr-23	24-Apr-23	13	
10-1920	Column & Wall to +15.0mPD	14	14	0%	12-Apr-23	25-Apr-23	25-Apr-23	08-May-23	13	
10-1930	Beam & Slab to +15.0mPD	14	14	0%	26-Apr-23	09-May-23	09-May-23	22-May-23	13	
10-1940	Column & Wall to +19.5mPD	14	14	0%	10-May-23	23-May-23	23-May-23	05-Jun-23	13	
Turbine Hall TBS1		89	89		22-Mar-23	18-Jun-23	19-Jan-23	17-Apr-23	-62	
10-2300	Ground Beam and Slab to +6.0mPD	14	14	0%	22-Mar-23	04-Apr-23	19-Jan-23	01-Feb-23	-62	
10-2310	Column & Wall to +15.0mPD & +23.5mPD	45	45	0%	05-Apr-23	19-May-23	02-Feb-23	18-Mar-23	-62	Revised to 45days
10-2320	Beam & Slab to +28.0mPD	30	30	0%	20-May-23	18-Jun-23	19-Mar-23	17-Apr-23	-62	Revised to 30days
STG Foundation (PC1)		31	31		22-Mar-23	21-Apr-23	15-Mar-23	14-Apr-23	-7	
10-1990-1(M58)	STG Foundation construction and install anchor bolts @ +9.5	21	21	0%	22-Mar-23	11-Apr-23	15-Mar-23	04-Apr-23	-7	
10-1990-2(M58)	STG Foundation construction and install anchor bolts @ +10.77	10	10	0%	12-Apr-23	21-Apr-23	05-Apr-23	14-Apr-23	-7	
Turbine Hall TBS2 & 3		21	21		30-Jul-23	19-Aug-23	24-May-23	15-Jun-23	-65	
STG Foundation (PC2)		21	21		30-Jul-23	19-Aug-23	24-May-23	13-Jun-23	-67	
10-1990-3(M58)	STG Foundation construction and install anchor bolts @ +9.5	21	21	0%	30-Jul-23	19-Aug-23	24-May-23	13-Jun-23	-67	
STG Foundation (PC3)		21	21		30-Jul-23	19-Aug-23	26-May-23	15-Jun-23	-65	
10-1990-5(M58)	STG Foundation construction and install anchor bolts @ +9.5	21	21	0%	30-Jul-23	19-Aug-23	26-May-23	15-Jun-23	-65	
IWMF Substation Structure		42	42		06-May-23	16-Jun-23	26-Apr-23	06-Jun-23	-10	
10-2170	Ground Slab and Beam to +6mPD	21	21	0%	06-May-23	26-May-23	26-Apr-23	16-May-23	-10	
10-2180	Column, wall, beam and Slab to +9.0mPD	21	21	0%	27-May-23	16-Jun-23	17-May-23	06-Jun-23	-10	
Process Equipment Installation		213	213		28-Feb-23	28-Sep-23	23-Dec-22	19-Nov-23	52	
Process Buildings - Waste Bunker & Tipping Hall Bld Process Equipment Installation		180	180		01-Apr-23	28-Sep-23	01-May-23	19-Nov-23	52	
Piping and Instrument Installation and Connection Works		180	180		01-Apr-23	28-Sep-23	01-May-23	19-Nov-23	52	
Process Building (WWTP)		180	180		01-Apr-23	28-Sep-23	01-May-23	19-Nov-23	52	
12-3120(6F)	Delivery of Embeded Piping above +2 to +10mPd (30days)	0	0	0%		01-Apr-23		01-May-23	30	
12-3160(6F)	Piping Installation Works	180	180	0%	02-Apr-23	28-Sep-23	24-May-23	19-Nov-23	52	
Process Buildings - Boiler House & Flue Gas Treatment Bld Process Equipment Installation		167	167		28-Feb-23	13-Aug-23	23-Dec-22	27-Jul-23	-17	
Process Building (Installation TPU Module)		167	167		28-Feb-23	13-Aug-23	23-Dec-22	27-Jul-23	-17	
TPU Train 1		70	70		28-Feb-23	08-May-23	19-May-23	27-Jul-23	80	
13-1040	Boiler Condition Check and Repair	70	70	0%	28-Feb-23	08-May-23	19-May-23	27-Jul-23	80	
TPU Train 2		6	6		09-Mar-23	14-Mar-23	23-Dec-22	28-Dec-22	-76	
13-1120	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 2)	6	6	0%	09-Mar-23	14-Mar-23	23-Dec-22	28-Dec-22	-76	
TPU Train 3		6	6		26-May-23	31-May-23	01-Mar-23	06-Mar-23	-86	
13-1210	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 3)	6	6	0%	26-May-23	31-May-23	01-Mar-23	06-Mar-23	-86	
TPU Train 4		6	6		02-Jun-23	07-Jun-23	08-Mar-23	13-Mar-23	-86	
13-1300	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 4)	6	6	0%	02-Jun-23	07-Jun-23	08-Mar-23	13-Mar-23	-86	
TPU Train 5		6	6		01-Aug-23	06-Aug-23	07-May-23	12-May-23	-86	
13-1390	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 5)	6	6	0%	01-Aug-23	06-Aug-23	07-May-23	12-May-23	-86	
TPU Train 6		6	6		08-Aug-23	13-Aug-23	14-May-23	19-May-23	-86	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	Remaining Duration	Activity % Complete	Current Start	Current Finish	Late Start	Late Finish	Total Float	M63 Remarks
13-1480	Delivery, inspection and Transport Boiler Train to Position by SPMT (TPU Train 6)	6	6	0%	08-Aug-23	13-Aug-23	14-May-23	19-May-23	-86	
Process Building (Installation of Flue Gas Module)		91	91		23-Apr-23	22-Jul-23	30-Jan-23	27-Apr-23	-86	
FGC Train 1		6	6		23-Apr-23	28-Apr-23	30-Jan-23	04-Feb-23	-83	
13-1570	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 1)	6	6	0%	23-Apr-23	28-Apr-23	30-Jan-23	04-Feb-23	-83	
FGC Train 2		6	6		30-Apr-23	05-May-23	06-Feb-23	11-Feb-23	-83	
13-1640	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 2)	6	6	0%	30-Apr-23	05-May-23	06-Feb-23	11-Feb-23	-83	
FGC Train 3		6	6		10-Jul-23	15-Jul-23	15-Apr-23	20-Apr-23	-86	
13-1710	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 3)	6	6	0%	10-Jul-23	15-Jul-23	15-Apr-23	20-Apr-23	-86	
FGC Train 4		6	6		17-Jul-23	22-Jul-23	22-Apr-23	27-Apr-23	-86	
13-1780	Delivery, inspection and Transport Flue Gas Train to Position by SPMT (FGC Train 4)	6	6	0%	17-Jul-23	22-Jul-23	22-Apr-23	27-Apr-23	-86	
Turbine Hall Bld Equipment Installation		61	61		22-Jun-23	21-Aug-23	21-Apr-23	20-Jun-23	-62	
Turbine Hall Module 1 Installation		61	61		22-Jun-23	21-Aug-23	21-Apr-23	20-Jun-23	-62	
13-2120	STG and TBS Module 1 Installation	60	60	0%	23-Jun-23	21-Aug-23	22-Apr-23	20-Jun-23	-62	
13-2160(6)	Install Maintenance Girder & Crane at Module 1 @+22.247mPd	30	30	0%	22-Jun-23	21-Jul-23	21-Apr-23	20-May-23	-62	
Landscape, External Road and Drains Works		340	128		28-Apr-22 A	05-Jul-23	13-May-23	25-Jul-23	20	
Drainage Works		60	60		07-May-23	05-Jul-23	27-May-23	25-Jul-23	20	
Box Culvert		60	60		07-May-23	05-Jul-23	27-May-23	25-Jul-23	20	
East Culvert (3.5m x 2.5m x 118m)		60	60		07-May-23	05-Jul-23	27-May-23	25-Jul-23	20	
14-2000	Excavation to Formation	60	60	0%	07-May-23	05-Jul-23	27-May-23	25-Jul-23	20	
Earthing System		180	60		28-Apr-22 A	28-Apr-23	13-May-23	11-Jul-23	74	
16-1900-2(6)	Installation of Ground Earthing Mesh	180	60	66.67%	28-Apr-22 A	28-Apr-23	13-May-23	11-Jul-23	74	



Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Appendix B Summary of Implementation Status of Environmental Mitigation

Appendix B

Table B.1 Implementation Schedule for Air Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S3b.8.1	Air Pollution Control (Construction Dust) Regulation & Good Site Practices • Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading	Work site / During the construction period	Contractor		✓			Air Pollution Control (Construction Dust) Regulation	Implemented N/A for dust control measures for transportation outside site boundary

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.								
S3b.6.3	<u>Odour Removal by Deodorizers</u> • Deodorizers with 95% odour removal efficiency would be installed for the air ventilated from the mechanical treatment plant before discharge to the atmosphere	Waste reception halls, the waste storage area, the mechanical treatment plant / During design & operation phase	IWMF Operator	✓		✓		EIAO-TM	N/A
S3b.8.2	<u>Air Pollution Control and Stack Monitoring</u>	IWMF stack emissions / During	IWMF Operator	✓		✓		EIAO-TM, Supporting Document for	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stack will meet the proposed target emission limits. • Voluntary Enhancement Measures in Flue Gas Cleaning and Emission Monitoring: 1. Two-stage bag filter system with reagent recirculation; 2. In addition to SCR, provide SNCR for removal of NO_x; tighten emission limit for half-hourly and daily NO_x to 160 mg/m^3 and 80 mg/m_3 respectively; 3. Well-mixed feed waste: to minimize the fluctuation of pollutant loading on the flue gas treatment system; 4. Two more AQMSs would be set up at South Lantau and Shek Kwu Chau respectively; 5. Limit levels will be set under the IWMF DBO contract to require that waste feed shall cease if any of the air pollutant has exceeded 95% of the emission concentration limit as stipulated in the Special Process license; and	design & operation phase						Application for Variation of Environmental Permit (EP-429/2012)	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	6. Each incineration chamber shall be fitted with auxiliary burners to ensure complete burn out of the combustion gases.								
-	<u>Treated Fly Ash and Air Pollution Control Residues:</u> • During testing and commissioning, the Contractor shall sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. • During the first six months of operation, if the requirements in (a) could be fully conformed with, the Contractor shall sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	of the Environmental Permit. The Contractor shall take two samples from each shipload for testing and the Contractor shall not dispose of any of that shipload of treated fly ash and air pollution control residues until the test results confirm that the two samples conform to the limits and the criteria. If a test result confirms that any one of the two samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test treated fly ash and air pollution control residues before disposal. • Provided that there is no non-conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous sixmonth period in the Operation Period, the testing frequency shall be reduced to monthly interval.Two samples from one shipload of treated fly ash and air								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	pollution control residues shall be collected and tested for conformance to the Incineration Residue Pollution Control Limits and leachability criteria. The Contractor shall not dispose of any of the treated fly ash and air pollution control residues in the shipload which the samples are taken until the test results confirm that the samples conform to the limits and the criteria. If the test result confirm that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit for the next six months.								
-	<u>Bottom Ash:</u> • During testing and commissioning, the Contractor shall sample and test every container of bottom ash for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test every	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	container of bottom ash for conformance to the leachability criteria for the next six months. • During the first six months of operation, if the requirements in (d) could be fully conformed with, the Contractor shall sample and test one shipload of bottom ash each month for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. The Contractor shall take two samples from the shipload for testing and the Contractor shall not dispose of any of that shipload of bottom ash until the test results confirm that the two samples conform to the criteria. If a test result confirms that any one of the two samples does not conform to the criteria, the Contractor shall be required to sample and test each shipload of bottom ash for conformance to the leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test bottom ash before disposal. • Provided that there is no non-conformance to the leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous six month period in the								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	Operation Period, the Contractor shall be allowed to take two samples from any one shipload of bottom ash once every six months for conformance to the leachability criteria. The Contractor shall not dispose of any of the bottom ash in the shipload which the samples are taken until the test results confirm that the samples conform to the criteria. If the test result confirm that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test one shipload of bottom ash each month for conformance to the leachability criteria shown in Table 2 of the Environmental Permit for the next six months as stipulated above.								

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

Table B.2 Implementation Schedule for Noise Impact Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S4b.8	Good site practices to limit noise emissions at source and use of quiet plant and working methods, whenever practicable.	Work Sites / Construction Period	EPD and its contractors		✓			EIAO-TM	Implemented
S4b.6 & S4b.8	All the ventilation fans installed in the below will be provided with silencers or acoustics treatment. (i) Stack of the incinerator (ii) Ventilation systems within the IWMF Enclosure and discharge silencer or other acoustic treatment equipment should be installed in the air-cooled chillers Other than provision of silencer or other acoustic treatment equipment for the stack of the incinerator and ventilation system, the detailed design should incorporate the following good practice in order to minimize the nuisance on the neighboring NSRs. (i) The exhaust of the ventilation system and any opening of the building should be located facing away from any NSRs; and (ii) Louver or other acoustic treatment equipment could also be applied to the exhaust of the ventilation system.	Within IWMF area / Construction Period	EPD and its contractors	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
-	<u>Voluntary Enhancement Measure</u> • Provision of air-conditioner and double glazed windows to nearby NSR at Shek Kwu Chau (i.e. SARDA) as precautionary measures.	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	Implemented

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

Table B.3 Implementation Schedule for Water Quality Measures for the Artificial Island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
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	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	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. • Water pumped out from foundation piles must be discharged into silt removal facilities. • 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. • During rainstorms, exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Other measures that need to 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.								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• 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.								
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		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.3	There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the run-off and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression and general cleaning etc., can minimize water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO license which is under the ambit of regional office of EPD.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented Discharge License was issued on 15/02/2022
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		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor
S5b.8.1.5	Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas which	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	appropriately equipped to control these discharges.								
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		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor
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. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.8	Sewage Effluent Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible. For appropriate disposal and maintenance of these facilities.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
S5b.8.1.9	Reclamation and Construction of Breakwaters • The proposed dredging and reclamation should be commenced in phases. The breakwaters and seawalls should be constructed and the reclamation should be started within the enclosed breakwaters after the completion of the breakwater. Silt curtain should be applied around caissons / blockwork during the filling of the cell to prevent the loss of fine in the filling material. • The maximum production rate for dredging for the anti-scouring protection layer shall not exceed the permitted maximum daily dredging rate and carried out within its respective distance from the nearest non-translocatable coral community by the dredging contractor as specified in S.2.18 of the Further Environmental Permit (no.:FEP-01/429/2012/A). It is recommended to employ closed grab with small capacity of 2 m^3 to control the dredging rate. • Any gap that may need to be provided for marine access will be located at the middle	Work site / During the marine construction period	Contractor		✓			EIAO-TM; WPCO, Supporting Document for Application for Variation of Environmental Permit (EP-429/2012) Further Environmental Permit No. FEP-01/429/2012/A	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	of the North Western seawall, away from the identified coral communities and will be shielded by silt curtains systems to control sediment plume dispersion. • The silt curtain system at marine access opening should be closed as soon as the barges passes through the marine access opening in order to minimize the period of curtain opening. Filling should only be carried out behind the silt curtain when the silt curtain is completely closed. • To enhance the effectiveness of the silt curtain at the marine access, the northern breakwater would be built before the commencement of the reclamation to reduce the current velocity towards the marine access opening. • The silt curtain system at marine access opening should be regularly checked and maintained to ensure proper functioning. • Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25% which is in line with the CEDD's General Specification; • The filling for reclamation should be carried out behind the seawall. The filling material should only consist of public fill, rock and sand. The filling composition and filling rates at each filling area should follow those delineated in Table 1 of the FEP-01/429/2012/. The filling above high watermark is not restricted;								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• No dredging should be carried out within 16m to the nearest non-translocatable coral community; • Daily site audit including full-time on-site monitoring by the ET is recommended during the dredging for anti-scouring protection layer for checking the compliance with the permitted no. of grab; • Closed grab dredger should be used to minimize the loss of sediment during the raising of the loaded grabs through the water column; • Frame-type silt curtains should be deployed around the dredging operations; • Floating-type silt curtains should be used to surround the circular cell during the sheetpiling work; • The descent speed of grabs should be controlled to minimize the seabed impact speed; • Barges should be loaded carefully to avoid splashing of material; • All barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; • All barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	maintained to ensure that the decks are not washed by wave action. • No DCM works should be carried out within 100m to the nearest non-translocatable coral colony / colonies. • Silt curtains should be employed to enclose DCM field trial and any full scale DCM work to minimize the potential impacts on water aspect. • A sand blanket is to be placed on top of the marine deposit using tremie pipes prior to the DCM ground treatment to avoid seabed sediment disturbance.								
S5b.8.2.3	Operational Phase Discharges A pipeline drainage system will serve the development area collecting surface runoff from paved areas, roof, etc. Sustainable drainage principle would be adopted in the drainage system design to minimize peak surface runoff, maximize permeable surface and maximize beneficial use of rainwater.	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO	N/A
S5b.8.2.4	Oil interceptors should be provided in the drainage system of any potentially contaminated areas (such as truck parking area and maintenance workshop) and regularly cleaned to prevent the release of oil products into the storm water drainage system in case of accidental spillages. Accidental spillage should be cleaned up as soon as practicable and all waste oils and fuels should be collected and handled in	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO; WDO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	compliance with the Waste Disposal Ordinance.								
S5b.8.2.5	Refuse Entrapment Collection and removal of floating refuse should be performed at regular intervals for keeping the water within the Project site boundary and the neighboring water free from rubbish.	Within the Project site / During the operational phase	IWMF Operator			✓		WPCO	N/A
S5b.8.2.6	Transportation of bottom ash, fly ash and APC residues to WENT Landfill for disposal Covered container should be used in the shipping of the incineration waste to limit the contact between the incineration waste and the marine water. A comprehensive emergency response plan for any accidental spillage should be submitted by the operation contractor to the EPD for agreement before the operation of the facilities. Salvage and cleanup action to recover the spilled incineration waste containers following the spillage should be carried out according to the emergency response plan to mitigate the environmental impact in case of spillage.	Transportation of Incineration Ash / During the operational phase	IWMF Operator			✓			N/A

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

Table B.4 Implementation Schedule for Waste Management Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
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); • Provide staff training for proper waste management and chemical handling procedures; • Provide sufficient waste disposal points and regular waste collection; • Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and • Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and • Employ licensed waste collector to collect waste.	Work Site/ During Construction Period	Contractor		✓			WDO; LDO; ETWB TCW No. 19/2005; EIAO-TM	Deficiency of Mitigation Measures but rectified by the Contractor

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.5.1.3	<u>Waste Reduction Measures</u> Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: • Design foundation works that could minimize the amount of excavated material to be generated. • Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; • Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage the collection of aluminum cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force; • Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and	Work Site/ During Design & Construction Period	Contractor	✓	✓				Implemented. N/A for demolition items

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Plan and stock construction materials carefully to minimize amount of waste to be generated and to avoid unnecessary generation of waste.								
6b.5.1.7	<u>Dredged Sediment – Application of Dumping Permit</u> The project proponent should agree in advance with MFC of CEDD on the site allocation. The project proponent or contractor for the dredging works shall then apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The project proponent or contractor should also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged sediment prior to the commencement of the dredging works.	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓	✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.8	<u>Dredged Sediment – Sediment Quality Report</u> The project proponent or contractor will need to satisfy the appropriate authorities that the quality of the marine sediment to be dredged has been identified according to the requirements of ETWB TCW 34/2002. This should be completed well before the dredging works and would include at least the submission of a formal Sediment Quality Report under Tier I of ETWB TCW No. 34/2002 to DEP for approval. Subject to advice from DEP, it is possible that further marine SI in	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓				DASO ETWB TCW 34/2002	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	accordance with ETWB TCW 34/2002 might be necessary for the application of dumping permit under DASO. In such case, a sediment sampling and testing proposal shall be submitted to and approved by DEP before the additional marine SI works.								
6b.5.1.9	Dredged Sediment – Sediment Transportation The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	Seawall and Reclamation site / Construction Period	EPD and its contractor		✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.10	Construction and Demolition Materials In order to minimize the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below: • A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	(EMP), should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to *ETWB TCW No. 31/2004*).								
6b.5.1.11 – 6b.5.1.12	The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	All surplus C&D materials arising from or in connection with construction works should become the property of the Contractor when it is removed unless otherwise stated. The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.								
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	Work Site/ During Construction Period	Contractor		✓			Waste Disposal (Chemical Waste) (General) Regulation	Implemented.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	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.								
6b.5.1.14	General Refuse General refuse should be stored in enclosed bins or compaction units separate from 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		✓			Public Health and Municipal Services Ordinance	Deficiency of Mitigation Measures but rectified by the Contractor
6b.5.1.16 – 6b.5.1.33	Biogas Generation The Contractor shall review the data and analysis results, and the data from further Site Investigation, if any. Subject to the review findings, the following gas protection measures may be considered if necessary: - gas monitoring after reclamation; - passive ventilation; - gas impermeable membrane; - ventilation with "at risk" rooms; - protection of utilities or below ground services;	Reclamation site (if dredging at the reclamation site is not required) / Design & Construction Period	Designer and/or contractor	✓	✓			EPD/TR8/97	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- precautions during construction works; - precautions prior to entry of belowground services								
6b.5.2.1	<u>Good Site Practices</u> It is recommended that the following good operational practices should be adopted to minimise waste management impacts: • Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation; • Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; • Use of a waste haulier licensed to collect specific category of waste; • A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004.	IWMF Site/During Operation Period	IWMF Operator			✓		Waste Disposal Ordinance (Cap.354); Waste Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 1/2004	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Training of site personnel in proper waste management and chemical waste handling procedures; • Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; • Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Provision of sufficient waste disposal points and regular collection for disposal; • Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and • Implementation of a recording system for the amount of wastes generated, and disposed of (including recycled the disposal sites).								
6b.5.2.2	<u>Waste Reduction Measures</u> Good management and control can prevent the generation of significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction: • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;	IWMF Site/ During Operation Period	IWMF Operator			✓			Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Encourage collection of aluminum cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and • Any unused chemicals or those with remaining functional capacity should be reused as far as practicable.								
6b.5.2.3	Storage, Handling, Treatment, Collection and Disposal of Incineration By-Products The following measures are recommended for the storage, handling and collection of the incineration by-products: • Ash should be stored in storage silos; • Ash should be handled and conveyed in closed systems fully segregatedfrom the ambient environment; • Ash should be wetted with water to control fugitive dust, where necessary; • All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal;	IWMF Site/ During Operation Period	IWMF Operator			✓		Incineration Residue Pollution Control Limits	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• The ash should be transported in covered trucks or containers to the designated landfill site. The Contractor should provide EPD with chemical analysis results of the bottom ash, and treated fly ash and APC residues to confirm that the ash/residue can comply with the proposed Incineration Residue Pollution Control Limits before disposal.								
6b.6.3.1	<u>Fuel Oil Tank Construction and Test</u> • The fuel tank to be installed should be of specified durability. • Double skin tanks are preferred. • Underground fuel storage tank should be placed within a concrete pit. • The concrete pit shall be accessible to allow regular tank integrity tests to be carried out at regular intervals. • Tank integrity tests should be conducted by an independent qualified surveyor or structural engineer. • Any potential problems identified in the test should be rectified as soon as possible.	Fuel Oil Storage Tank/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.6.3.1	<u>Fuel Oil Pipeline Construction and Test</u> • Installation of aboveground fuel oil pipelines is preferable; if underground pipelines are unavoidable, concrete lined trenches should be constructed to contain the pipelines. • Double skin pipelines are preferred. • Distance between the fuel oil refuelling points and the fuel oil storage tank shall be minimized. • Integrity tests for the pipelines should be conducted by an independent qualified surveyor or structural engineer at regular intervals. • Any potential problems identified in the test should be rectified as soon as possible.	Fuel Oil Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A
6b.6.3.1	<u>Fuel Oil Leakage Detection</u> • Installation of leak detection device at storage tank and pipelines. • Installation and use of pressure gauges (e.g. at the two ends of a filling line) in fuel filling, which allows unexpected pressure drop or difference and sign of leakage to be detected.	Fuel Oil Storage Tank and Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A
6b.6.3.1	<u>Fuel Oil Storage Tank Refuelling</u>	Fuel Oil Refuelling Point/	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Storage tank refuelling (from road tanker) should only be conducted by authorized staff of the oil company using the company's standard procedures.	During Operation Period							
6b.6.3.1	Fuel Oil Spillage Response An Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incidents in detail. General procedures to be taken in case of fuel oil spillage are presented below. • Training - Training on oil spill response actions should be given to relevant staff. The training shall cover the followings: ➢Tools & resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and fire fighting equipment; ➢General methods to deal with oil spillage and fire incidents; ➢Procedures for emergency drills in the event of oil spills and fire; and ➢Regular drills shall be carried out. • Communication -Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident	IWMF Site/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	so that necessary assistance from relevant department can be quickly sought. • Response Procedures -Any fuel oil spillage within the IWMF site should be immediately reported to the Plant Manager with necessary details including location, source, possible cause and extent of the spillage. -Plant Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response procedures shall include the following: ➢Identify and isolate the source of spillage as soon as possible. ➢Contain the oil spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels. ➢Remove the oil spillage. ➢Clean up the contaminated area. ➢If the oil spillage occurs during storage tank refuelling, the refueling operation should immediately be stopped. ➢Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	procedures for chemical wastes are discussed in the following paragraphs.								
6b.6.3.2	<u>Chemicals and Chemical Wastes Handling & Storage</u> • Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas. • The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • The storage areas for chemicals and chemical wastes shall have an impermeable floor or surface. The impermeable floor/ surface shall possess the following properties: - Not liable to chemically react with the materials and their containers to be stored. - Able to withstand normal loading and physical damage caused by container handling - The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained ➢ For liquid chemicals and chemical wastes storage, the	Chemicals and Chemical Wastes Storage Area / During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	storage area should be bunded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater. ➢ Storage containers shall be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed. ➢ Chemical handling shall be conducted by trained workers under supervision.								
6b.6.3.2	<u>Chemicals and Chemical Wastes Spillage Response</u> A Chemicals and/ or Chemical Wastes Spillage Response Plan shall be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals/ chemical waste spillages are presented below. • Training - Training on spill response actions should be given to relevant staff. The training shall cover the followings:	IWMF Site/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	➢ Tools & resources to handle spillage, e.g. locations of spill handling equipment; ➢ General methods to deal with spillage; and ➢ Procedures for emergency drills in the event of spills. • Communication - Establish communication channel with FSD and EPD to report the spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures - Any spillage within the IWMF site should be reported to the Plant Manager. - Plant Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures shall include the followings: ➢ Identify and isolate the source of spillage as soon as possible; ➢ Contain the spillage and avoid infiltration into soil/								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas); ➢ Remove the spillage; the removal method/ procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed; ➢ Clean up the contaminated area (in case the spillage occurs at locations out of the designated storage areas); and ➢ The waste arising from the cleanup operation should be considered as chemical wastes.								
6b.6.3.3	<u>Preventive Measures for Incineration By-products Handling</u> The recommended measures listed below can minimize the potential contamination to the surrounding environment due to the incineration by-products: • Ash should be stored in storage silos; • Ash should be handled and conveyed in closed systems fully segregated	Storage, Handling & Collection of Incineration Ash at IWMF/ During Operation Period	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	from the ambient environment; • Ash should be wetted with water to control fugitive dust, where necessary; • All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal; • The ash should be transported in covered trucks or containers to the designated landfill site.								
6b.6.3.4 -6b.6.3.6	<u>Incident Record</u> After any spillage, an incident report should be prepared by the Plant Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary. The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken.	IWMF Site/ During Operation Period	IWMF Operator			✓		Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the IWMF operator should be responsible for the cleanup of the affected area. The responses procedures described in **Section 6b.6.3.1** and **Section 6b.6.3.2** of EIA report should be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the *Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.*								

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

Table B.5 Implementation Schedule for Ecological Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.2.1	<u>Measures to avoid direct loss of intertidal habitat</u> • The site boundary has been proposed to avoid direct contact with the intertidal natural rocky shore of Shek Kwu Chau. It avoids direct loss of intertidal communities and the existing natural rocky shore habitat, where Reef Egret and White-bellied Sea Eagle have been recorded within and in the vicinity of this habitat.	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.2	<u>Measures to minimise loss of coastal subtidal habitat</u> • Extensive coral colonies were recorded at the coastal hard bottom habitat at Shek Kwu Chau. To avoid and minimise the extensive direct impact on the coral colonies, the proposed reclamation area has been moved further offshore to minimise loss of subtial habitat near shore.	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.3	<u>Zero Discharge Scheme</u> • The design scheme of the Project has avoided discharge of wastewater into the marine environment. A zero discharge scheme would be adopted during the operation of the Project. An on-site wastewater treatment plant would be	IWMF site	Design team, IWMF operator	✓		✓		WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	provided to treat the wastewater generated from the IWMF (mainly human sewage). The treated effluent would be re-used in the incineration plant and mechanical treatment plant, or for onsite washdown and landscape.								
7b.8.2.4	<u>Measures to avoid loss of plant species of conservation importance</u> • Landing portal construction works would not cause direct lost to the recorded individual of protected plant species, • *Aquilaria sinensis*, at the coastal shrubland habitat at Cheung Sha. As a precautionary measure, the plant should be tagged with eye-catching tape and fenced off prior to works, in order to avoid any damage by workers.	Cheung Sha landing portal	Design team, Contractor	✓	✓		✓	EIAO-TM	N/A
7b.8.3.1 - 7b.8.3.15	<u>Measures to minimise water quality impact</u> • Measures for water quality as recommended in **Section 5b** of the EIA Report should be implemented.	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
7b.8.3.16 - 7b.8.3.30	<u>Measures to minimise disturbance on Finless Porpoise</u> *Minimisation of Habitat Loss for Finless Porpoise*	IWMF site, work site, marine traffic route	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM, Supporting Document for Application for Variation of the Environmental	Implemented for avoidance of construction works that may produce underwater acoustic disturbance, Vessel Travel Route implementation, training of staff; N/A for others

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Substantial revision has been made on the layout plan and form of the breakwater, in order to minimise the potential loss of important habitat for Finless Porpoise. The revision has greatly reduced the size of the embayment area, as well as the Project footprint. As a result, the size of habitat loss for Finless Porpoise has reduced from the original ~50 ha, down to ~31 ha. *Avoidance of peak season for finless porpoise occurrence* • To minimise potential acoustic disturbance from construction activities on Finless Porpoise, construction works that may produce underwater acoustic disturbance should be scheduled outside the months with peak Finless Porpoise occurrence (December to May), including: - sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); - sheet piling works for construction of the shorter section of breakwater (Phase 1);							Permit (EP-429/2012)	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- sheet piling works for construction of the remaining section of breakwater (Phase 3) and - bored piling works for berth area (Phase 3) Such works should be restricted within June to November. This approach would not only avoid the peak season for Finless Porpoise occurrence, the magnitude of impacts arise from acoustic disturbance would also be minimised. • Since the DCM ground treatment and the installation of precast seawalls and breakwaters should generate no underwater acoustic disturbance to Finless Porpoise, no specific mitigation measures are required. *Opt for quieter construction methods and plants* • Considering the sensitivity of marine mammals to underwater acoustic disturbance, instead of the previously proposed conventional breakwater and reclamation peripheral structure, which requires noisy piling works, the current circular cells structure for								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	breakwater and reclamation peripheral structure is proposed. A quieter sheet piling method using vibratory hammer or hydraulic impact hammer, should be adopted for the installation of circular cells for cellular cofferdam and northern breakwater during Phase 1, and southern breakwater Phase 3; • Non-percussive bore piling method would be adopted for the installation of tubular piles for the berth construction during Phase 3. *Monitored exclusion zones* • During the installation/re-installation/relocation process of floating type silt curtains, in order to avoid the accidental entrance and entrapment of marine mammals within the silt curtains, a monitored exclusion zone of 250 m radius from silt curtain should be implemented. The exclusion zone should be closely monitored by an experienced marine mammal observer at least 30 minutes before the start of installation/re-installation/relocation process. 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								

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				Des	C	O	Dec		
	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. *Marine mammal watching plan* • Upon the completion of the installation/re-installation/relocation of floating type silt curtain, all marine works would be conducted within a fully enclosed environment within the silt curtain, hence exclusion zone monitoring would no longer								

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				Des	C	O	Dec		
	be required. Subsequently, a marine mammal watching plan should be implemented. The plan should include regular inspection of silt curtains, and visual inspection of the waters surrounded by the curtains. Special attention should be paid to Phase 2 (reclamation) where the floating type still curtain would be opened occasionally for vessel access, leaving a temporary 50 m opening. An action plan should be devised to cope with any unpredicted incidents such as the case when marine mammals are found within the waters surrounded by the silt curtains. *Small openings at silt curtains* • The openings for vessel access at the silt curtains should be as small as possible to minimise the risk of accidental entrance. *Adoption of regular travel route* • During construction and operation, captains of all vessels should adopt regular travel route, in order to minimize the chance of vessel collision with								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine mammals, which may otherwise result in damage to health or mortality. The regular travel route should avoid areas with high sighting density of Finless Porpoise as much as possible. *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. • Passive acoustic monitoring and land-based theodolite monitoring surveys should be adopted to verify the predicted impacts and effectiveness of the proposed mitigation measures. *Training of Staff* • Staff, including captains of vessels, should be aware of the guidelines for safe vessel operations in the presence of cetaceans during construction and operation phases. Adequate trainings should be provided								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.3.31 - 7b.8.3.34	<u>Measures to minimise impact on corals</u> *Coral translocation* • Coral communities within and in proximity to the proposed dredging sites would be disturbed by the Project due to the dredging operations. In order to minimise direct loss of coral communities, translocation of corals that are attached to movable rocks with diameter less than 50 cm are recommended. In order to avoid disturbance to corals during the spawning period, the spawning season of corals (June to August) should be avoided; and that translocation should be carried out during the winter season (November- March). • The REA survey results suggest that the 198 directly affected coral colonies were attached to movable rocks (less than 50 cm in diameter). It is technically feasible to translocate them to avoid direct loss. • Prior to coral translocation, a more detailed baseline survey, including a coral mapping survey, is recommended to further confirm the	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented, tagged coral found missing after hitting by typhoons Re-tagging of 10 coral colonies at indirect impact site and control site were conducted in November and December 2018 respectively.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	exact number and location of coral colonies within the potentially affected area. A more detailed coral translocation plan, including selection of suitable recipient site, plan for coral translocation, and event / action plan for coral monitoring should be submitted upon approval of this Project, prior to commencement of construction works. Advice from relevant governmental departments (i.e. AFCD) and professionals would be sought after, in order to identify a desirable location for the relocation of coral communities. Post-translocation monitoring on the translocated corals should also be considered. *Coral monitoring programme* • A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the coral communities at the coasts of Shek Kwu Chau during construction of the Project. *Phasing of Works* • To minimize environmental impacts, the proposed phasing of construction works has been carefully designed to								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	reduce the amount of concurrent works, hence minimize SS elevation and the associated impacts on corals.								
7b.8.3.35 - 7b.8.3.41	Specific measures to minimize disturbance on breeding White-bellied Sea Eagle *Avoidance of noisy works during the breeding season of White-bellied Sea Eagle* • To minimize potential noise disturbance from construction activities on WBSE, noisy construction works should be scheduled outside their breeding season (December to May) to minimise potential degradation in breeding ground quality and breeding activities, including: - sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); - sheet piling works for construction of the shorter section of breakwater (Phase 1); - sheet piling works for construction of the remaining section of breakwater (Phase 3); and - bored piling works for berth area (Phase 3).	IWMF site, marine traffic route	Design Team, Contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	Opt for quieter construction methods and plants • To minimise potential construction noise disturbance on WBSE, quieter construction methods and plants should be adopted. The recommended noise mitigation measures in the **Noise** chapter (**Section 4b.8** of the EIA Report) should be implemented to minimise potential noise disturbance to acceptable levels. *Restriction on vessel access near the nest of White-bellied Sea Eagle* • During construction and operation, in order to minimize disturbance on the existing WBSE nest, a pre-defined practical route to restrict vessel access near the nest should be adopted to keep vessels and boats as far away from the nest as possible. *White-bellied Sea Eagle monitoring programme* • A WBSE monitoring programme is recommended to assess any adverse and unacceptable impacts to the breeding activities of WBSE during construction and operation of the								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	Project. Monitoring surveys for WBSE would include pre-construction phase (twice per month for duration of three months during their breeding season -between December and May, immediately before the commencement of works), construction phase, and operation phase (two years after the completion of construction works). • Surveys should be conducted twice per month during their breeding season (from December to May); and once per month outside breeding season (June to November). More details on monitoring for WBSE are presented in the EM&A Manual. *Education of staff* • Staff, including captains of all vessels during construction and operation phases, should be aware of the ecological importance of WBSE. Awareness should be raised among staff to minimise any intentional or unintentional disturbance to the nest. *Minimisation of Glare Disturbance*								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• To minimise glare disturbance on WBSE, which may cause disorientation of birds by interfering with their magnetic compass, and disruption in behavioural patterns such as reproduction, fat storage and foraging pattern, any un-necessary outdoor lighting should be avoided, and in-ward and down-ward pointing of lights should be adopted.								
-	Construction of Seawall/Breakwaters • To widen the open channel between the Artificial Island and Shek Kwu Chau. • To design the precast concrete seawall with environmental friendly features.	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A
7b.8.3.42	Opt for Quieter Construction Methods and Plants • Quieter construction methods and plants should be used to minimise disturbance to the nearby terrestrial habitat and the associated wildlife.	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
7b.8.3.43	Measures to minimize impacts from artificial lighting • Unnecessary lighting should be avoided, and shielding of lights should be provided to minimize disturbance from light pollution on fauna groups.	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓		EIAO-TM	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.3.44 - 7b.8.3.45	<u>Measures to minimize accidental spillage</u> • Regular maintenance of vessels, vehicles and equipment that may cause leakage and spillage should only be undertaken within pre-designated areas, which are appropriately equipped to control the associated discharges. • Oils, fuels and chemicals should be contained in suitable containers, and 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	Contractor, IWMF operator		✓	✓	✓	EIAO-TM	Deficiency of Mitigation Measures but rectified by the Contractor.
7b.8.3.46	<u>Measures to minimise sewage effluent</u> • Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce.	Work site	Contractor		✓			EIAO-TM	N/A
7b.8.3.47	<u>Measures to minimise drainage and construction runoff</u>	Work site	Contractor		✓		✓	EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	• Potential ecological impacts resulted from potential degradation of water quality due to unmitigated surface runoff could be minimised via the detailed mitigation measures in **Section 5b.8** of the EIA Report. The following presents some of the mitigation measures: - On-site drainage system with implemented sedimentation control facilities. - Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. - Provision of embankment at boundaries of earthworks for flood protection. - Water pumped out from foundation piles must be discharged into silt removal facilities. - During rainstorms, exposed slope/soil surfaces should be covered by tarpaulin or other means, as far as practicable. - Exposed soil surface should be minimized to reduce siltation and runoff. - Earthwork final surfaces should be well compacted. Subsequent permanent surface protection should be immediately performed.								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- Open stockpiles of construction materials, and construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms.								
7b.8.3.48	Measures to minimise impacts from general construction activities • To avoid the entering of construction solid waste into the nearby habitats, construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby habitats. It is recommended to clean the construction sites on a regular basis.	Work site	Contractor		✓			EIAO-TM	Implemented
7b.8.3.49	Pest Control Good waste management practices should be adopted at the IWMF in order to minimise the risk of introduction of pest to the island: - Transportation of wastes in enclosed containers - Waste storage area should be well maintained and cleaned - Waste should only be disposed of at designated areas - Timely removal of the newly arrived waste - Removal of items that are capable of retaining water	IWMF site	IWMF operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	- Rapid clean up of any waste spillages - Maintenance of a tidy and clean site environment - Regular application of pest control - Education of staff the importance of site cleanliness								
7b.8.3.50	<u>Control of Marine Habitat Quality during Operation Phase</u> • Depending on the seabed condition of the approach channel for marine vessels during operation phase of the IWMF, maintenance dredging may be required to ensure safe access. In order to avoid degradation in water quality due to elevation in SS and dispersion of sediment plume due to dredging works, it is recommended that any future maintenance dredging works should not be carried out within 100 m from the shore, similar to that of the dredging for anti-scouring protection layer during construction phase. All maintenance dredging works should be carried out with the implementation of silt curtain to control the dispersion of SS. The production rate should comply with the permit dredging rate and number of grab per hour.	IWMF site	IWMF operator			✓		EIAO-TM; WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
7b.8.4.1 – 7b.8.4.8	<u>Compensation of loss of important habitat of Finless Porpoise</u> *Designation of Marine Park* • The Project Proponent has made a firm commitment to seek to designate a marine park of approximately 700 ha in the waters between Soko Islands and Shek Kwu Chau, in accordance with the statutory process stipulated in the Marine Parks Ordinance, as a compensation measure for the habitat loss arising from the construction of the IWMF at the artificial island near SKC. • The Project Proponent shall seek to complete the designation by 2018 to tie in with the operation of the IWMF at the artificial island near SKC. • A further study should be carried out to review relevant previous studies and collate available information on the ecological characters of the proposed area for marine park designation; and review available survey data for Finless Porpoise, water quality, fisheries, marine traffic and planned development projects in the vicinity. Based on the findings, ecological profiles of the proposed area for	Waters between Shek Kwu Chau and Soko Islands	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine park designation should be established, and the extent and location of the proposed marine park be determined. The adequacy of enhancement measures should also be reviewed. • In addition, a management plan for the proposed marine park should be proposed, covering information on the responsible departments for operation and management (O&M) of the marine park, as well as the O&M duties of each of the departments involved. Consultation with relevant government departments and stakeholders should be conducted under the study. The study should be submitted to Director of Environmental Protection (DEP) for approval before the commencement of construction works. • The Project Proponent should provide assistance to AFCD during the process of the marine park designation. .								
7b.8.5.1 – 7b.8.5.4	<u>Additional Enhancement or Precautionary Measures</u> *Deployment of Artificial Reefs* • Deployment of artificial reefs (ARs) is an enhancement measure for the	Within the proposed marine park under this study	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	marine habitats. ARs are proposed to be deployed within the proposed marine park under this Project. The exact location, dimension and type of ARs to be deployed are to be further investigated along with the further study of the proposed marine park under this Project. The proposed ARs would be deployed at the same time as the complete designation of marine park. *Release of Fish Fry at Artificial Reefs and Marine Park* • Release of fish fry at the proposed ARs, as well as the proposed marine park under this study, should enhance the fish resources in the nearby waters, and subsequently food sources for Finless Porpoise. The proposed ARs with various micro-habitats would have the potential to provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD.								

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

Table B.6 Implementation Schedule for Fisheries Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
8b.8.1.2	Measure to minimize loss of and disturbance on fisheries resources • Alteration to the phasing of works, construction method, and layout plan of the IWMF at the artificial island near SKC has been made. The total fishing ground to be permanently lost due to the project has been significantly reduced from ~50 ha to ~31 ha. By adopting the current circular cells instead of the conventional seawall construction method, SS elevation would be greatly reduced, minimizing adverse impact on the health of fisheries resources.	IWMF site	Design team, contractor	✓	✓		✓	EIAO-TM	N/A
8b.8.1.3	Measure to minimize impingement and entrainment • Provision of a screen at the water intake point for desalination plant would be essential to minimize the risk of impingement and entrainment of fisheries resources (including fish, larvae and egg) through the intake point.	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
8b.8.1.4-8b.8.1.6	<u>Measures to control water quality</u> • No wastewater effluent, anti-fouling agent, heavy metals and other contaminants would be released during operation phase of the Project. • Mitigation measures recommended in the water quality impact assessment during construction and operation would serve to protect fisheries resources from indirect impacts resulted from the Project	Work site, IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
8b.8.1.7 – 8b.8.1.8	<u>Additional Enhancement / Precautionary Measures</u> • Artificial Reefs (ARs) are proposed to be deployed within the proposed marine park under this Project as an enhancement measure for the marine habitats. This enhancement feature would bring positive impacts to the previously identified important spawning and nursery ground for fisheries resources. *Release of Fish Fry at Artificial Reefs* • Release of fish fry has been proposed under this Project. The proposed deployment of ARs within the proposed marine park would provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD.	Within the proposed marine park in the waters between Soko Islands and Shek Kwu Chau	Project Proponent	✓		✓		EIAO-TM	N/A

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Table B.7 Implementation Schedule for Landscape and Visual Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MLVC- 01	Grass-hydroseeded bare soil surface and stock pile area	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-02	<u>Landscape Design</u> 1) Early planting using fast grow trees and tall shrubs at strategic locations within site as buffer to block view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works. 2) Use of tree species of dense tree crown to serve as visual barrier. 3) Hard and soft landscape treatment (e.g. trees and shrubs) of open areas within development to provide a background for the outdoor containers from open view, shade and shelter, and a green appearance from surrounding viewpoints. 4) Planting strip along the periphery of the project site. 5) Selected tree species suitable for the coastal condition.	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MLVC-03	<u>Adoption of Natural Features of the Existing Shoreline</u> 1) Use of boulders in different sizes and with the similar textures of the existing rocky shores for the construction of breakwater and artificial shoreline in order to blend into the existing natural shoreline. 2) Use of cellular cofferdam together with the natural boulders to form a curvature shoreline for the reclamation area to echo with the natural shoreline of SKC.	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-04	<u>Greening Design (Rooftop & Vertical Greening)</u> 1) Implementation of rooftop and vertical greening (vertical building envelope) along the periphery of each building block to increase the amenity value of the work, moderate temperature extremes and enhance building energy performance. The greening appearance of the building shall enhance its visual harmony with the natural surroundings as well as reduce the apparent visual mass of the structure. 2) Sufficient space between concrete enclosure and stack to minimize heat transfer. 3) Introduction of landscape decks at the stack to further enhance the overall natural and green concept unique for this site.	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVC-01	<u>Visual Mitigation and Aesthetic Design</u> 1) Use of natural materials with recessive color to minimize the bulkiness of the building. 2) Adoption of innovative aesthetic design to the chimney to minimize or visually mitigate the massing of the chimney so as to reduce its visual impact to the surroundings. 3) Color of the chimney in a gradual changing manner to match with the color of the sky. 4) Provision of observation deck for public enjoyment at the top of the chimney to diminish the feeling of chimney. 5) Provision of sky gardens between the two stacks to allow additional greening for enhancing the aesthetic quality. Maintenance access (elevator and staircase) from the ground floor to the sky gardens will be provided to allow maintenance of the sky gardens. 6) Integration of the visitor's walkway with different material façade design of incinerator plant to enhance the aesthetic quality.	Structures in IWMF / During design & constructio n phases	Contractor	✓	✓				N/A
S10b.10 MVC-02	Control of the security floodlight for construction areas at night to avoid excessive glare to the surrounding receiver.	Work site / During construction phase	Contractor		✓				Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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S10b.10 MVC-03	Optimization of the construction sequence and construction programme to minimize the duration of impact.	Work site / During design & construction phases	Contractor	✓	✓				Implemented
S10b.10 MVC-04	Storage of the backfilling materials for site formation & construction materials / wastes on site at a maximum height of 2m, covered with an impermeable material of visually un-obtrusive material (in earth tone).	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MVC-05	Reduction of the number of construction traffic at the site to practical minimum.	Work site / During construction phase	Contractor		✓				Implemented
S10b.10 MLVO-01	<u>Planting Maintenance</u> Provision of proper planting maintenance and replacement of defective plant species on the new planting areas to enhance aesthetic and landscape quality.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-01	<u>Environmental Education Centre</u> Development of an Environmental Education Center, in which regular exhibitions and lectures to promote environmental awareness and waste reduction concept would be provided, as a part of the IWMF for the general public to alleviate negative public perceptions of the development.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-02	<u>Control of Light</u> Control the numbers of lights and their intensity to a level that is good enough to meet the safety requirements at night but not excessive.	Project site / During Operation phase	Contractor			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVO-03	Control of Operation Time Minimization of the frequency of waste transportation to practical minimum (e.g. limit the reception of MSW from 8 am to 8 pm)	Project site / During Operation phase	Contractor			✓			N/A

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Appendix C Impact Monitoring Schedule of the Reporting Month

Impact Monitoring Schedule for IWMF

Mar-23

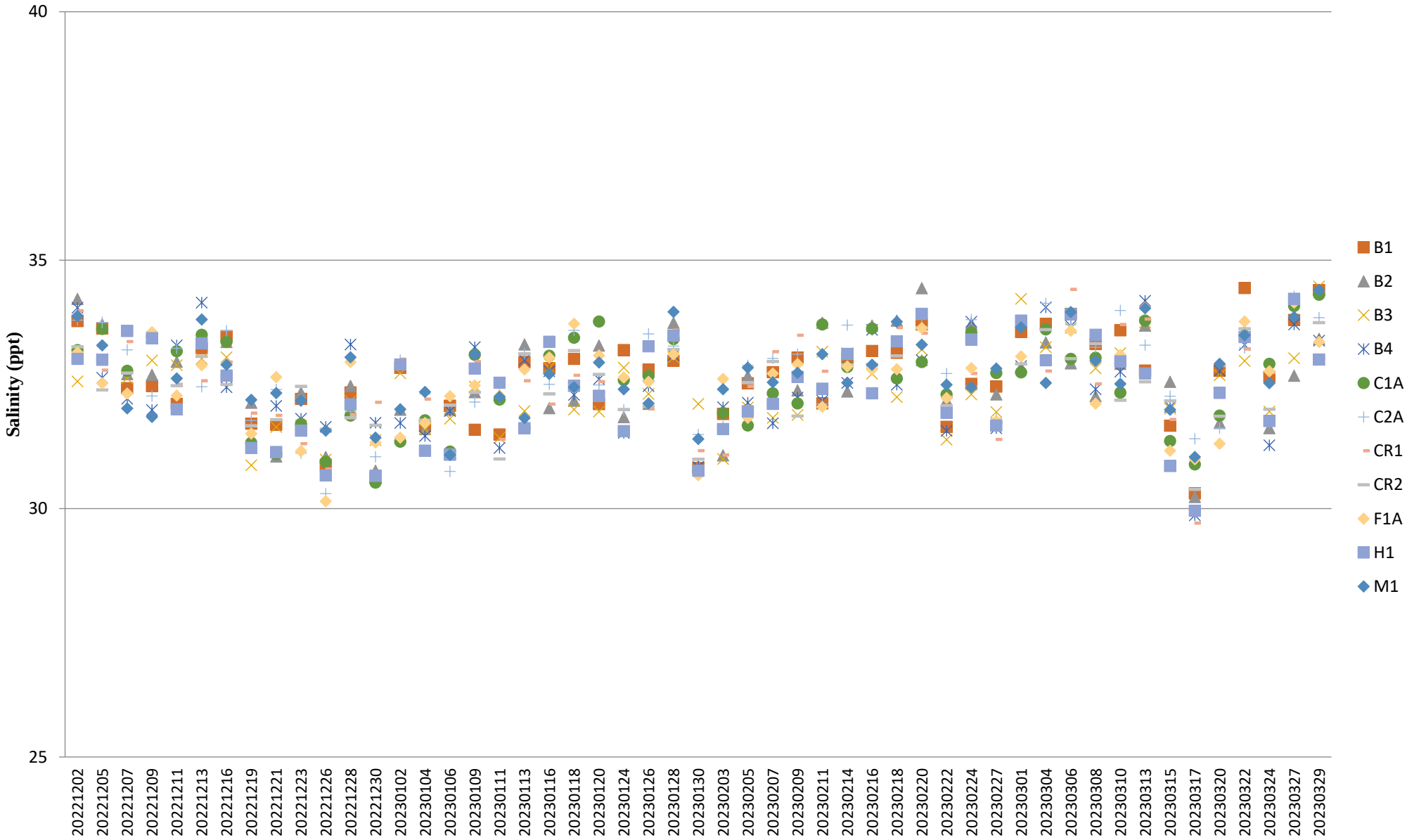
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 16:46 - 23:59 Flood Tide: 00:31 - 16:46 Monitoring Time: #$&Mid-ebb: 17:07 - 19:00 *Mid-flood: 08:00 - 10:23	2	3	4 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:05 - 12:45 Flood Tide: 12:45 - 19:35 Monitoring Time: #$Mid-ebb: 10:13 - 12:37 Mid-flood: 14:24 - 17:55
5	6 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:11 - 14:26 Flood Tide: 14:26 - 20:53 Monitoring Time: Mid-ebb: 10:33 - 14:03 $Mid-flood: 15:54 - 19:00 Daytime & Evening Noise monitoring for M1, M2 & M3	7 Impact Night time Noise monitoring for M1, M2 & M3	8 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:20 - 15:44 Flood Tide: 04:21 - 10:20 Monitoring Time: Mid-ebb: 11:17 - 14:47 *#$Mid-flood: 08:00 - 10:02	9	10 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:05 - 17:02 Flood Tide: 05:05 - 11:05 Monitoring Time: Mid-ebb: 12:18 - 15:48 *#$Mid-flood: 08:00 - 10:47	11
12	13 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:20 - 19:27 Flood Tide: 06:14 - 12:20 Monitoring Time: Mid-ebb: 14:08 - 17:38 *Mid-flood: 08:00 - 11:02	14	15 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 13:46 - 23:59 Flood Tide: 00:00 - 13:46 Monitoring Time: #$Mid-ebb: 17:07 - 19:00 *Mid-flood: 08:00 - 11:30 Ecology monitoring for WBSE	16 Impact Daytime & Evening Noise monitoring for M1, M2 & M3	17 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 16:53 - 23:59 Flood Tide: 00:34 - 16:53 Monitoring Time: #$Mid-ebb: 17:14 - 19:00 *Mid-flood: 08:00 - 10:28 Night time Noise monitoring for M1, M2 & M3 Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey	18
19	20 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:45 - 14:03 Flood Tide: 14:03 - 20:23 Monitoring Time: Mid-ebb: 10:09 - 13:39 Mid-flood: 15:28 - 18:58 Daytime & Evening Noise monitoring for M1, M2 & M3	21 Impact Night time Noise monitoring for M1, M2 & M3	22 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:21 - 15:40 Flood Tide: 15:40 - 22:10 Monitoring Time: Mid-ebb: 11:15 - 14:45 #$&Mid-flood: 15:59 - 19:00	23 Impact Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey	24 Impact Monitoring Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:04 - 17:12 Flood Tide: 04:47 - 11:04 Monitoring Time: Mid-ebb: 12:23 - 15:53 *#$Mid-flood: 08:00 - 10:45	25
26	27 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:30 - 20:03 Flood Tide: 05:42 - 12:30 Monitoring Time: Mid-ebb: 14:31 - 18:01 *Mid-flood: 08:00 - 10:51 Daytime & Evening Noise monitoring for M1, M2 & M3	28 Impact Night time Noise monitoring for M1, M2 & M3 Ecology monitoring for WBSE 17th Quarterly Coral Monitoring at Indirect Impact Site and Control Site	29 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 14:01 - 23:31 Flood Tide: 00:00 - 14:01 Monitoring Time: #$Mid-ebb: 14:29 - 17:59 #$Mid-flood: 09:48 - 13:18 Ecology monitoring for WBSE	30 Impact Ecology monitoring for WBSE	31 Impact Ecology monitoring for WBSE	

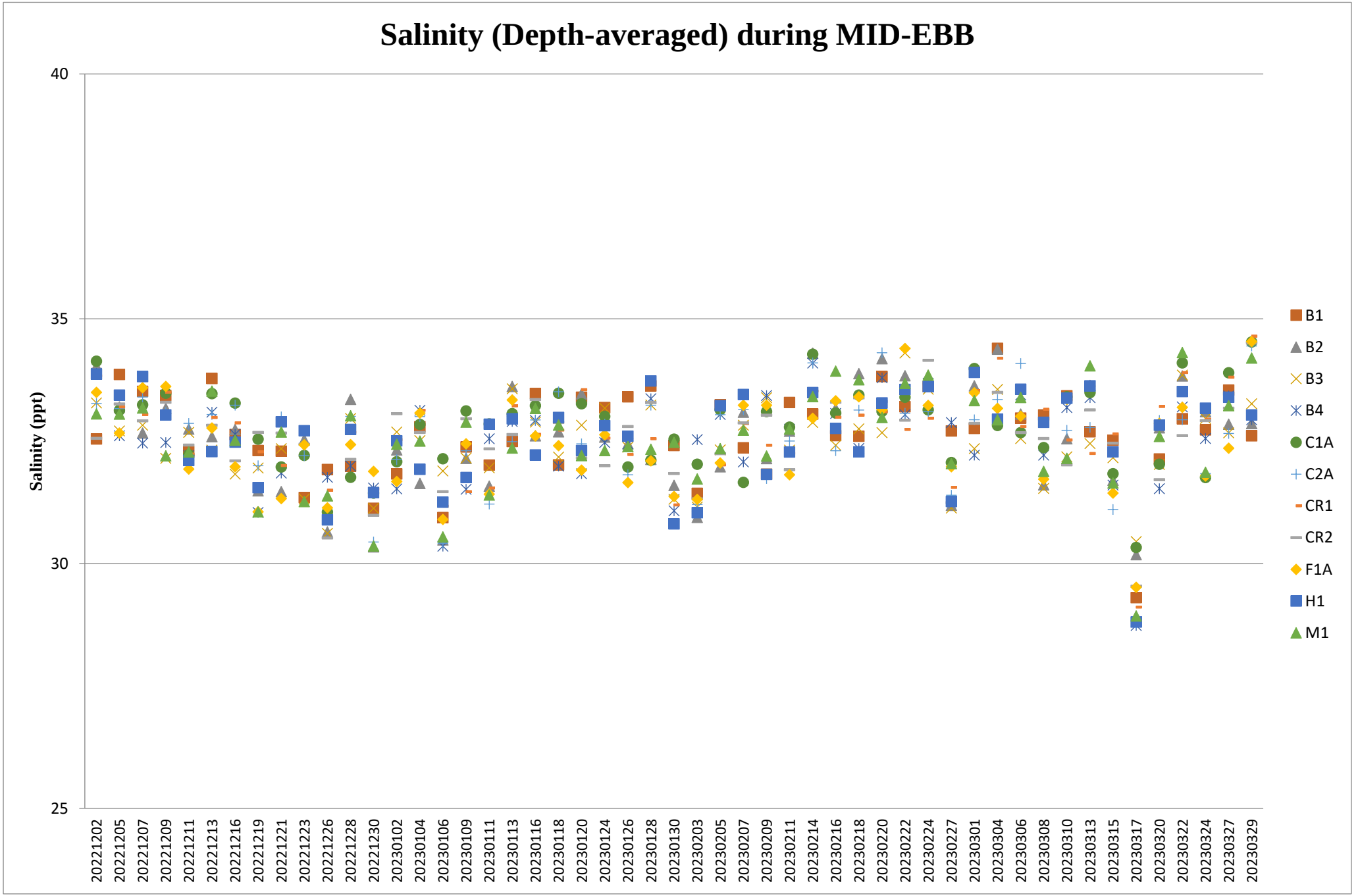
Remarks:
1. Daytime Noise Monitoring (07:00-1900), Evening Time Noise Monitoring (1900-2300), Night Time Noise Monitoring (2300-0700)
2. Water Quality Monitoring for S1,S2 and S3 will only conduct during DCM works, refer to Detailed DCM Plan
3. No marine construction work is tentatively scheduled to be carried out in March 2023

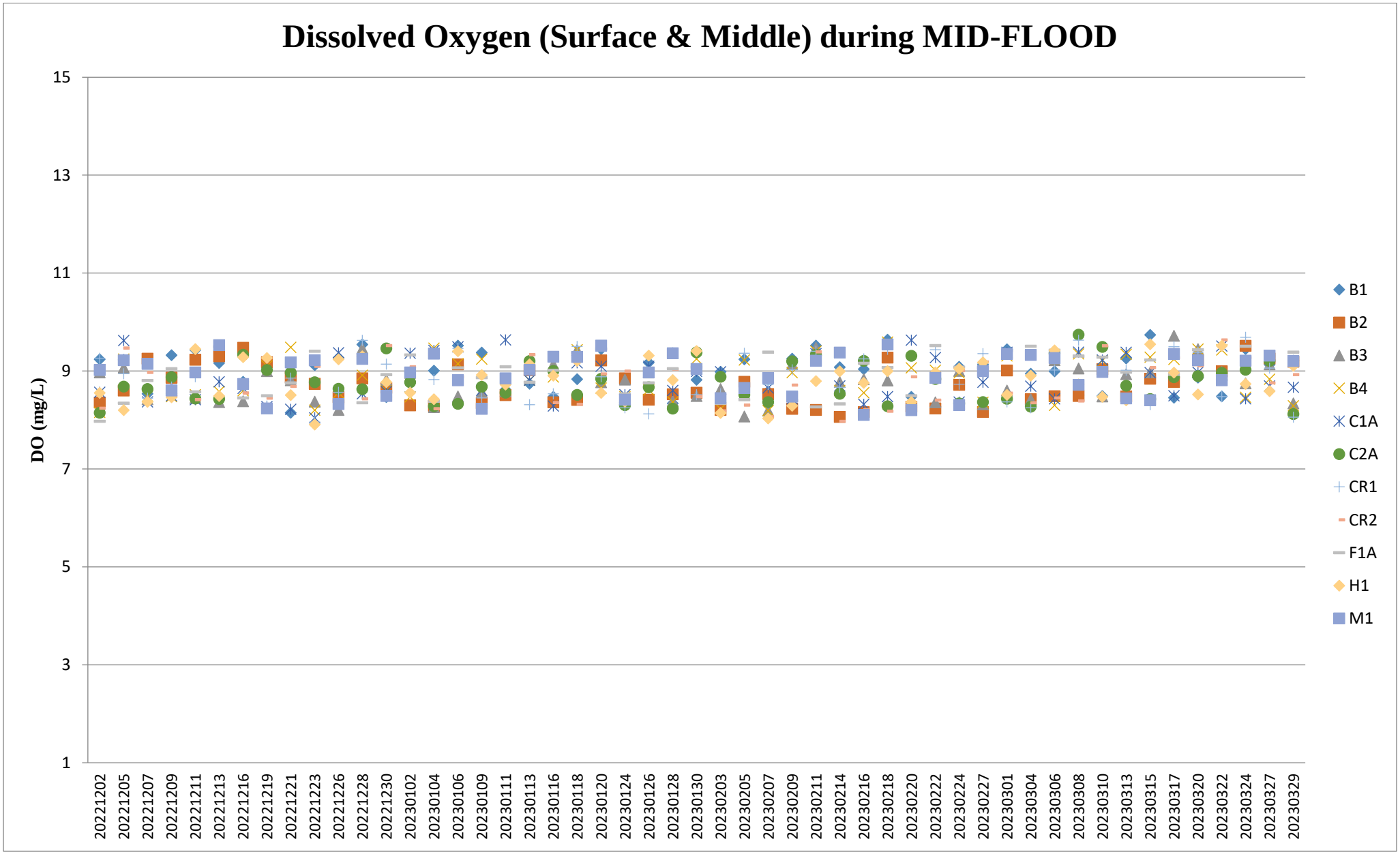
Note:
* - as per Marine Department Notice No 107 of 2018, all vessels employed for the works should stay in the works area outside the hours of works (0700 to 2300). Due to safty concern, Water Quality Monitoring would start at 0800.
# - Prioritized routing: Mid-Ebb: C1→S3→CR2→CR1→H1→Remaining stations and Mid-Flood: C2→CR1→S3→CR2→H1→Remaining stations
$ - Since predicted tide is shorter than 3.5 hours, method of 90% tidal period as monitoring time is approached.
& - Due to safety concern for sampling event in night-time, method of 90% tidal period as monitoring time is approached and end at 1900.

Appendix D Water Quality Monitoring Data

Salinity (Depth-averaged) during MID-FLOOD

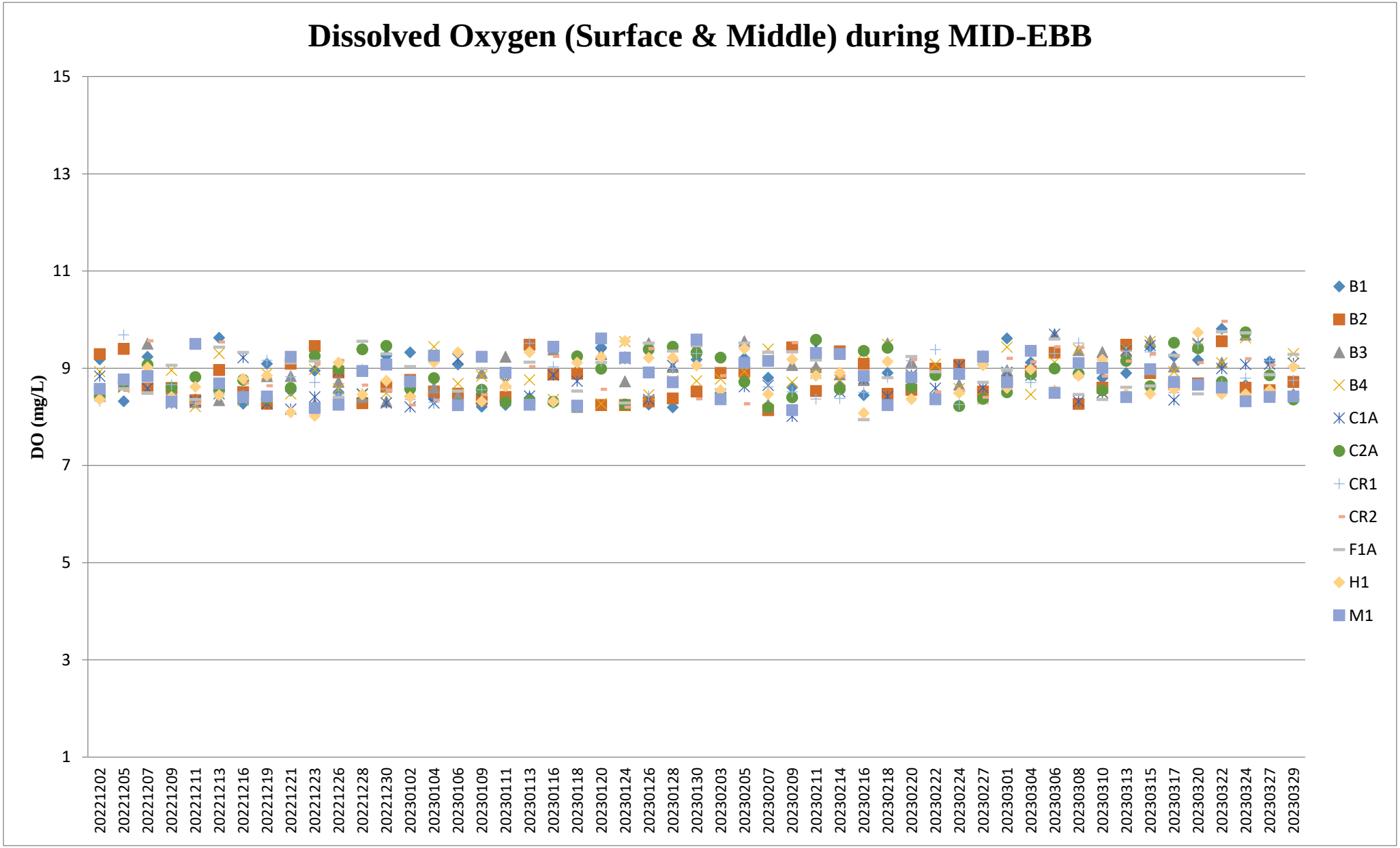



Salinity (Depth-averaged) during MID-EBB
Salinity (ppt)
40
35
30
25
20221202
20221205
20221207
20221209
20221211
20221213
20221216
20221219
20221221
20221223
20221226
20221228
20221230
20230102
20230104
20230106
20230109
20230111
20230113
20230116
20230118
20230120
20230124
20230126
20230128
20230130
20230203
20230205
20230207
20230209
20230211
20230214
20230216
20230218
20230220
20230222
20230224
20230227
20230301
20230304
20230306
20230308
20230310
20230313
20230315
20230317
20230320
20230322
20230324
20230327
20230329
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1



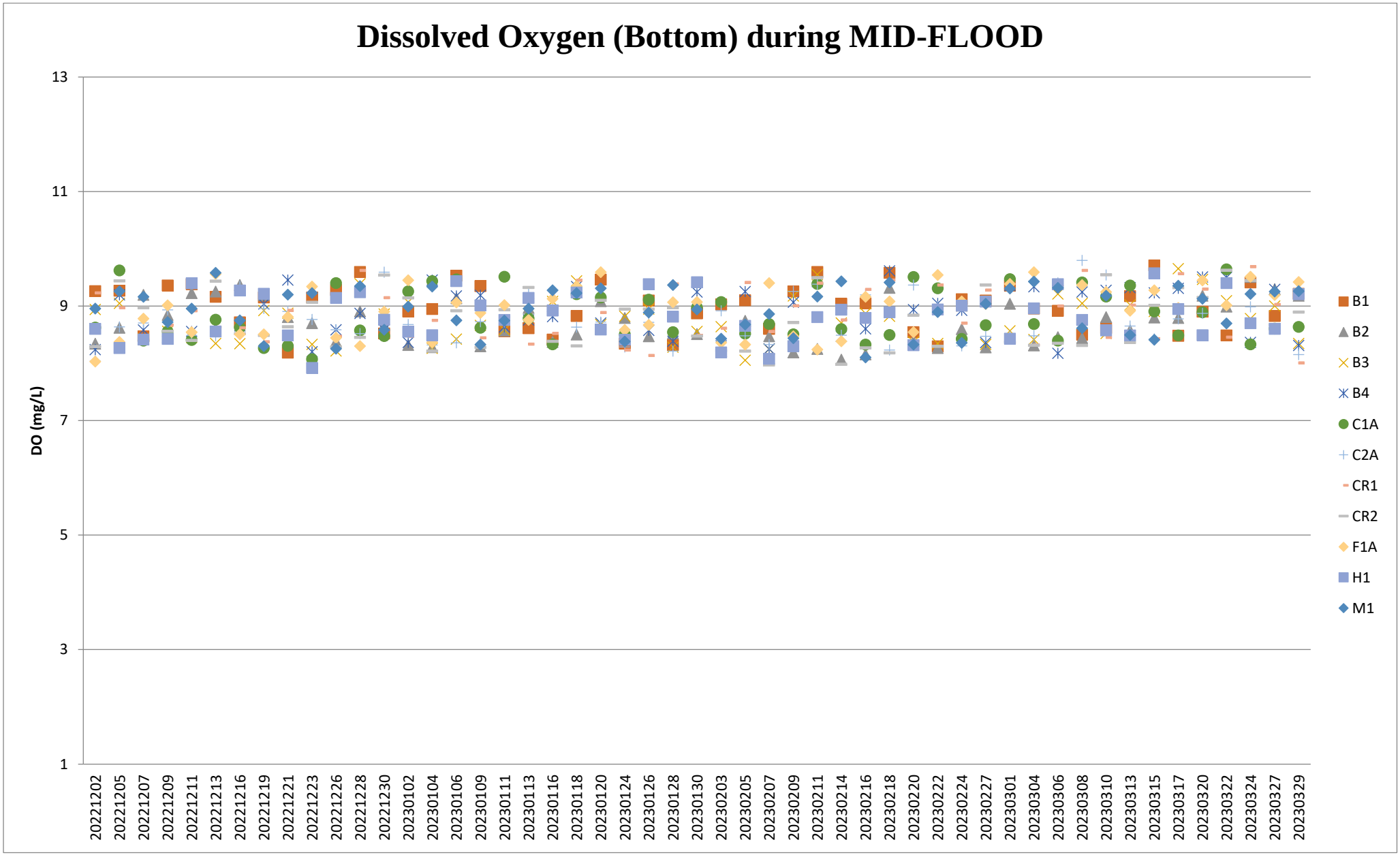
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.7** of the monthly EM&A report.



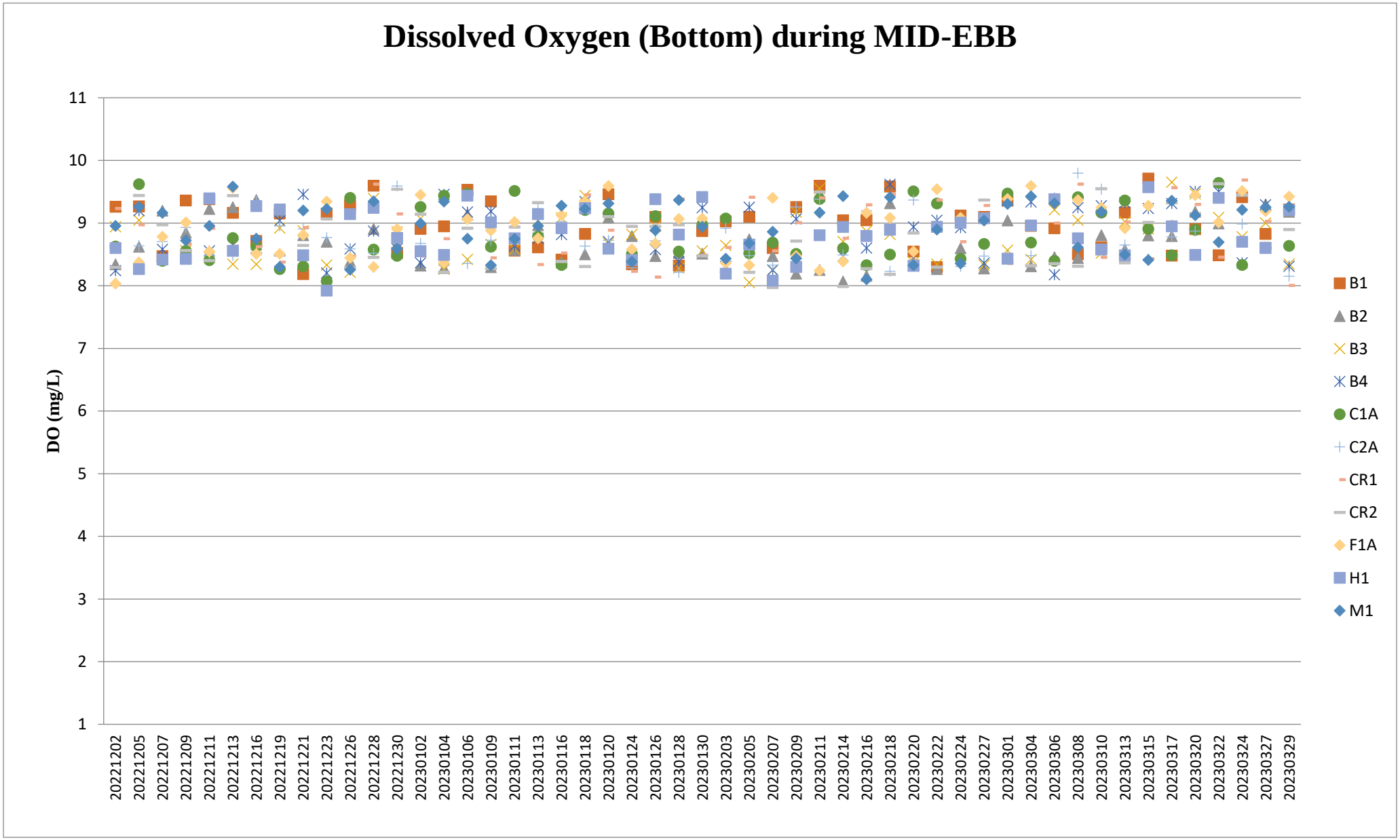
Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.7** of the monthly EM&A report.



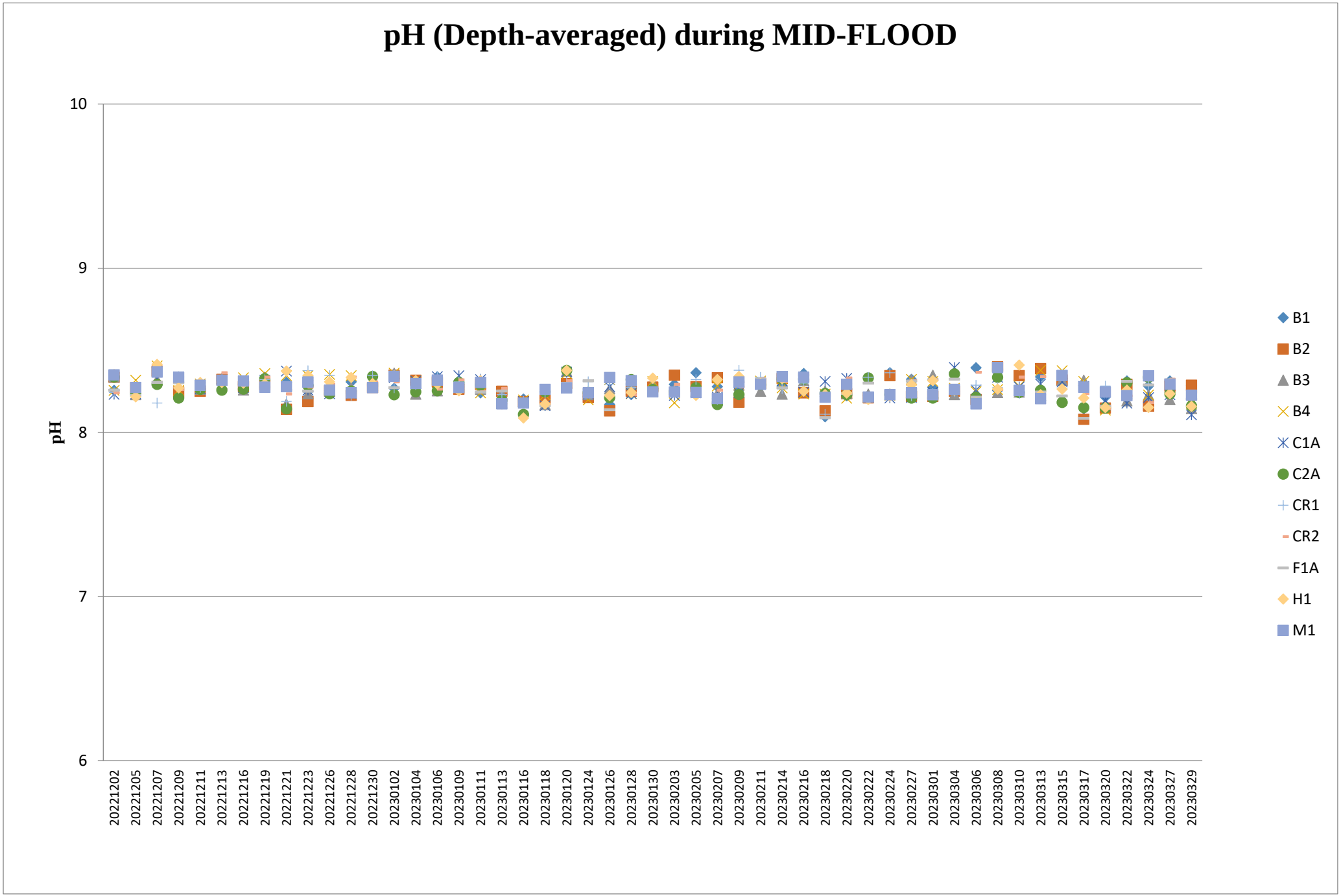
Note:

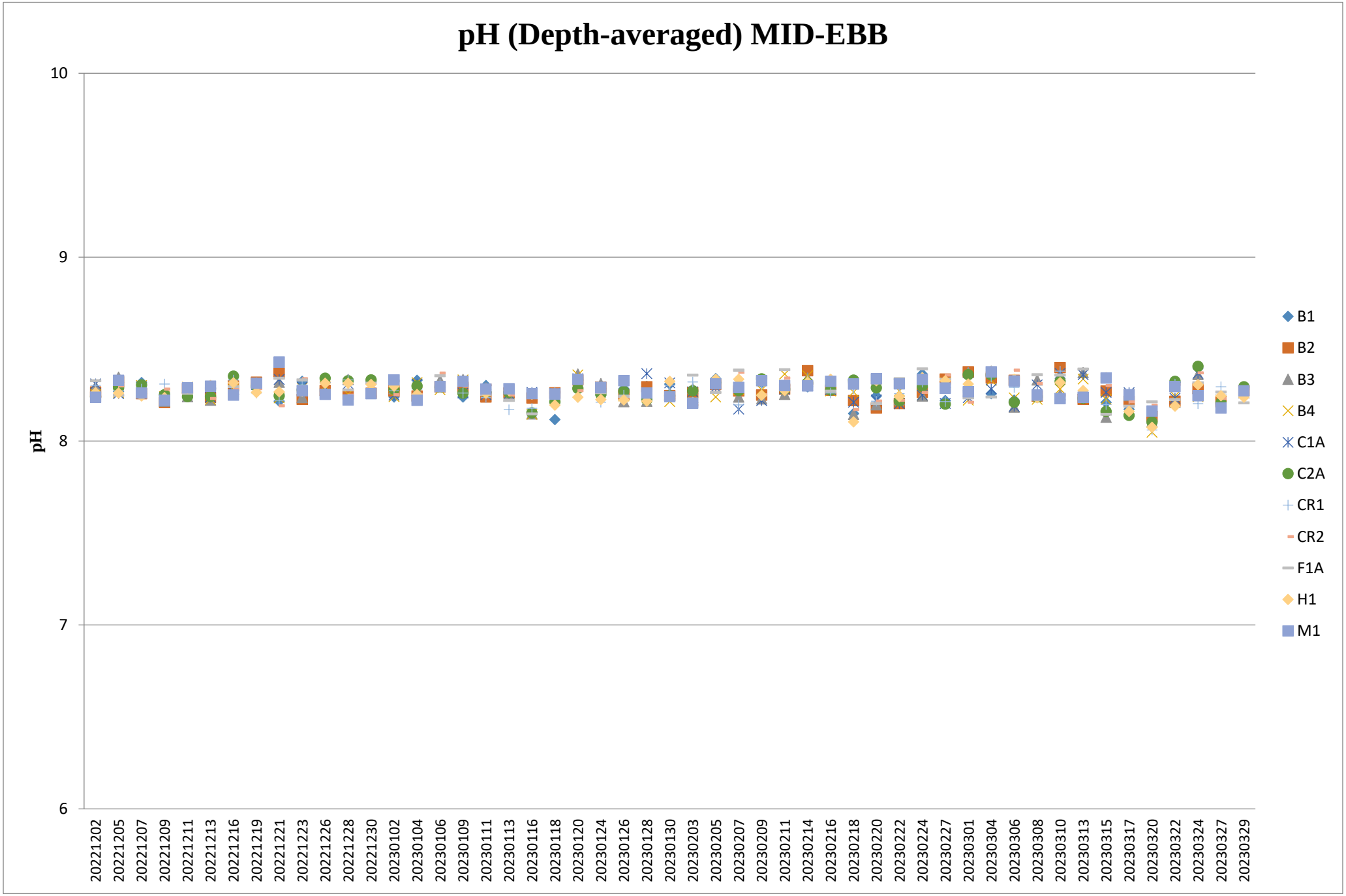
1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.7** of the monthly EM&A report.



Note:

1. The Action and Limit Levels of dissolved oxygen can be referred to **Table 2.7** of the monthly EM&A report.


pH (Depth-averaged) during MID-FLOOD
pH
10
9
8
7
6
20221202
20221205
20221207
20221209
20221211
20221213
20221216
20221219
20221221
20221223
20221226
20221228
20221230
20230102
20230104
20230106
20230109
20230111
20230113
20230116
20230118
20230120
20230124
20230126
20230128
20230130
20230203
20230205
20230207
20230209
20230211
20230214
20230216
20230218
20230220
20230222
20230224
20230227
20230301
20230304
20230306
20230308
20230310
20230313
20230315
20230317
20230320
20230322
20230324
20230327
20230329
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1


pH (Depth-averaged) MID-EBB
pH
10
9
8
7
6
20221202
20221205
20221207
20221209
20221211
20221213
20221216
20221219
20221221
20221223
20221226
20221228
20221230
20230102
20230104
20230106
20230109
20230111
20230113
20230116
20230118
20230120
20230124
20230126
20230128
20230130
20230203
20230205
20230207
20230209
20230211
20230214
20230216
20230218
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20230224
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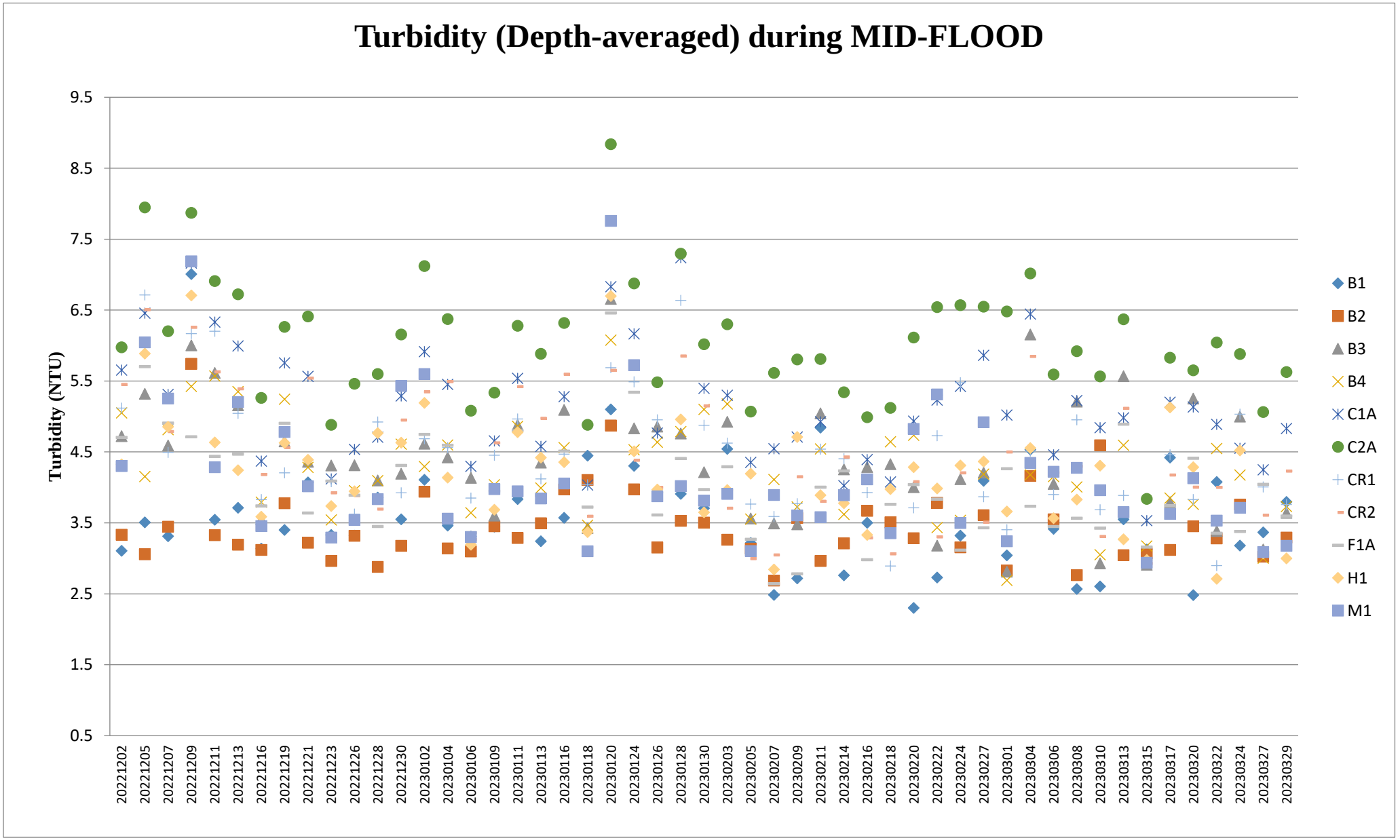
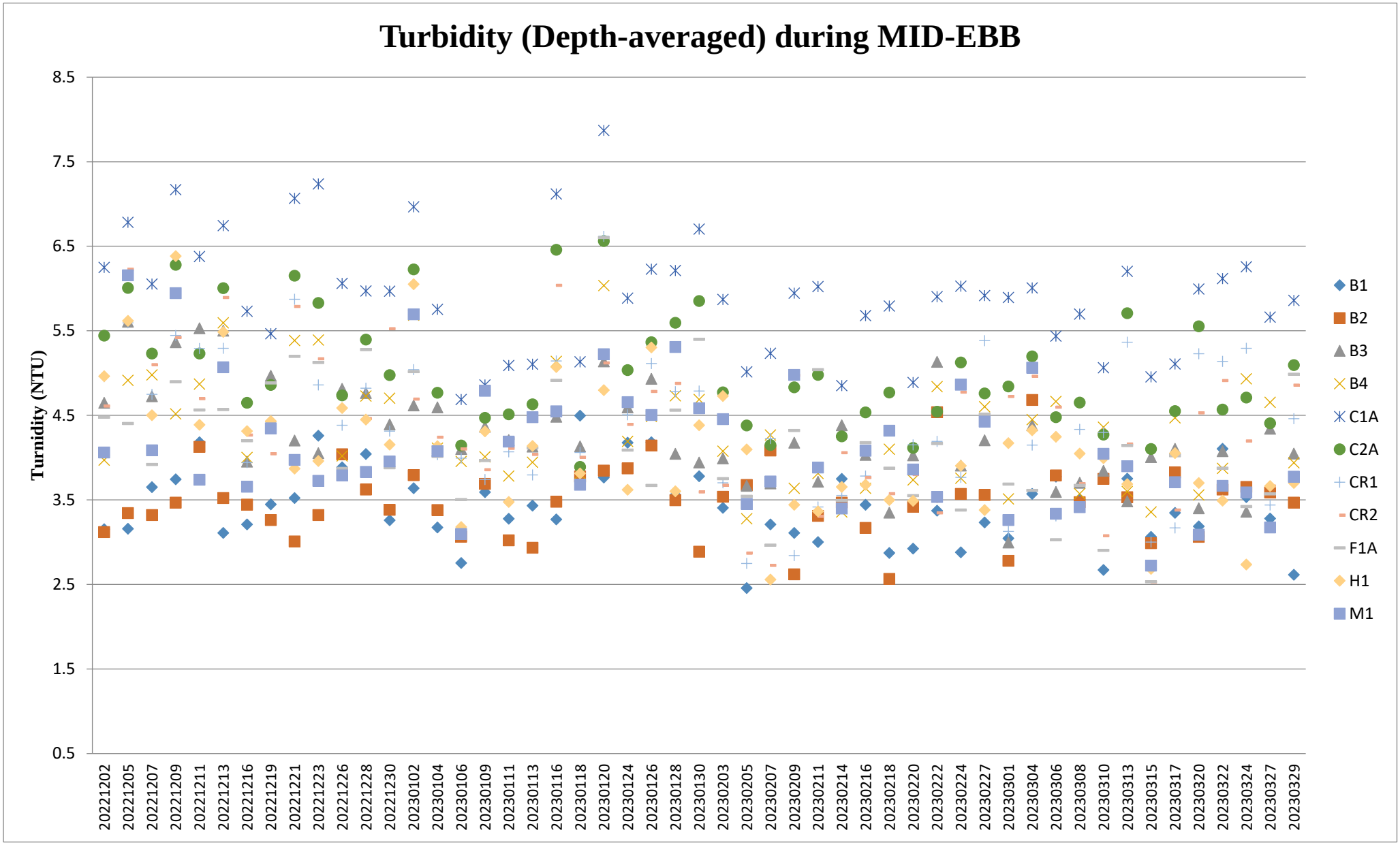
20230301
20230304
20230306
20230308
20230310
20230313
20230315
20230317
20230320
20230322
20230324
20230327
20230329
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1



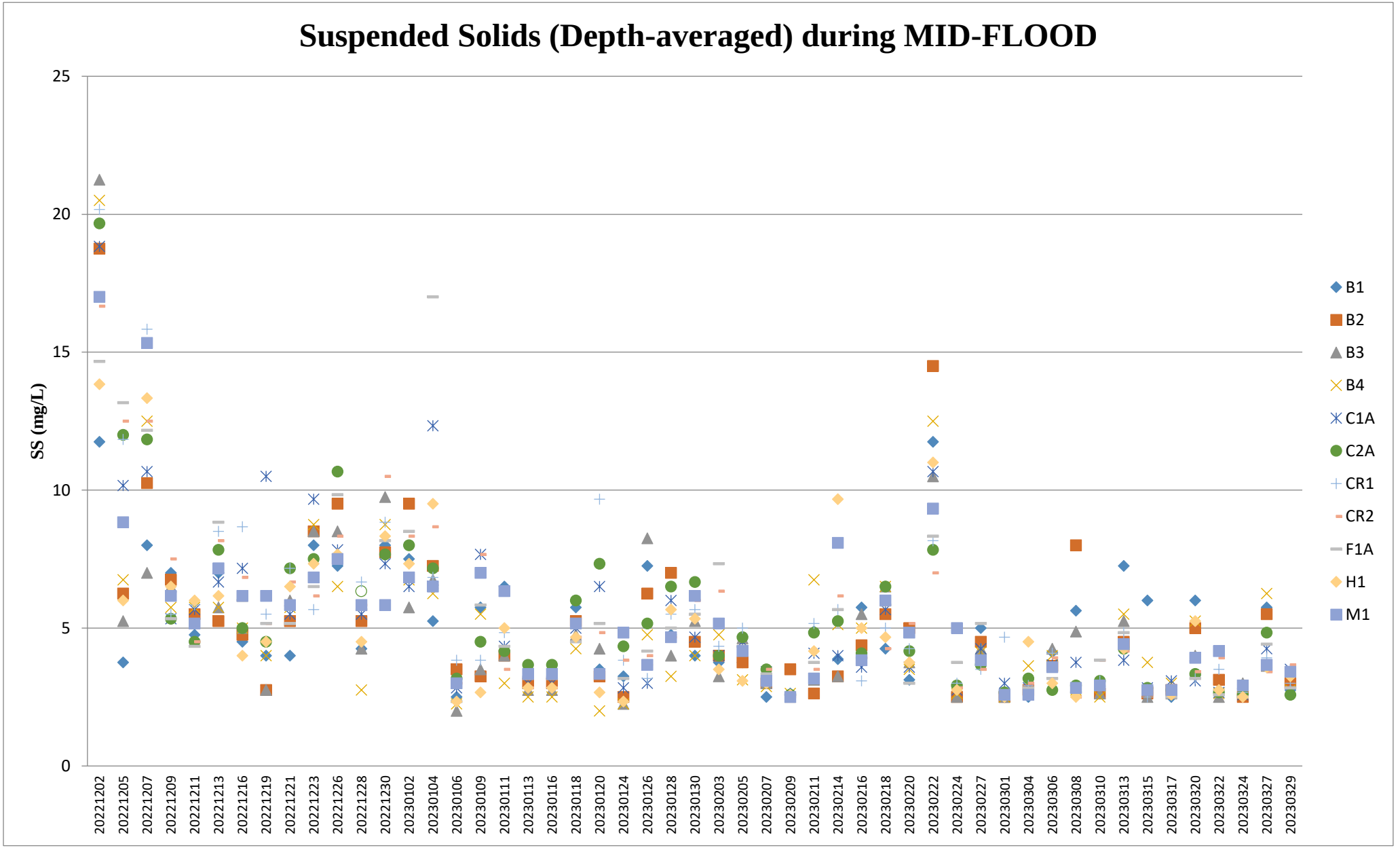
Note:

1. The Action and Limit Levels of turbidity can be referred to **Table 2.7** of the monthly EM&A report.



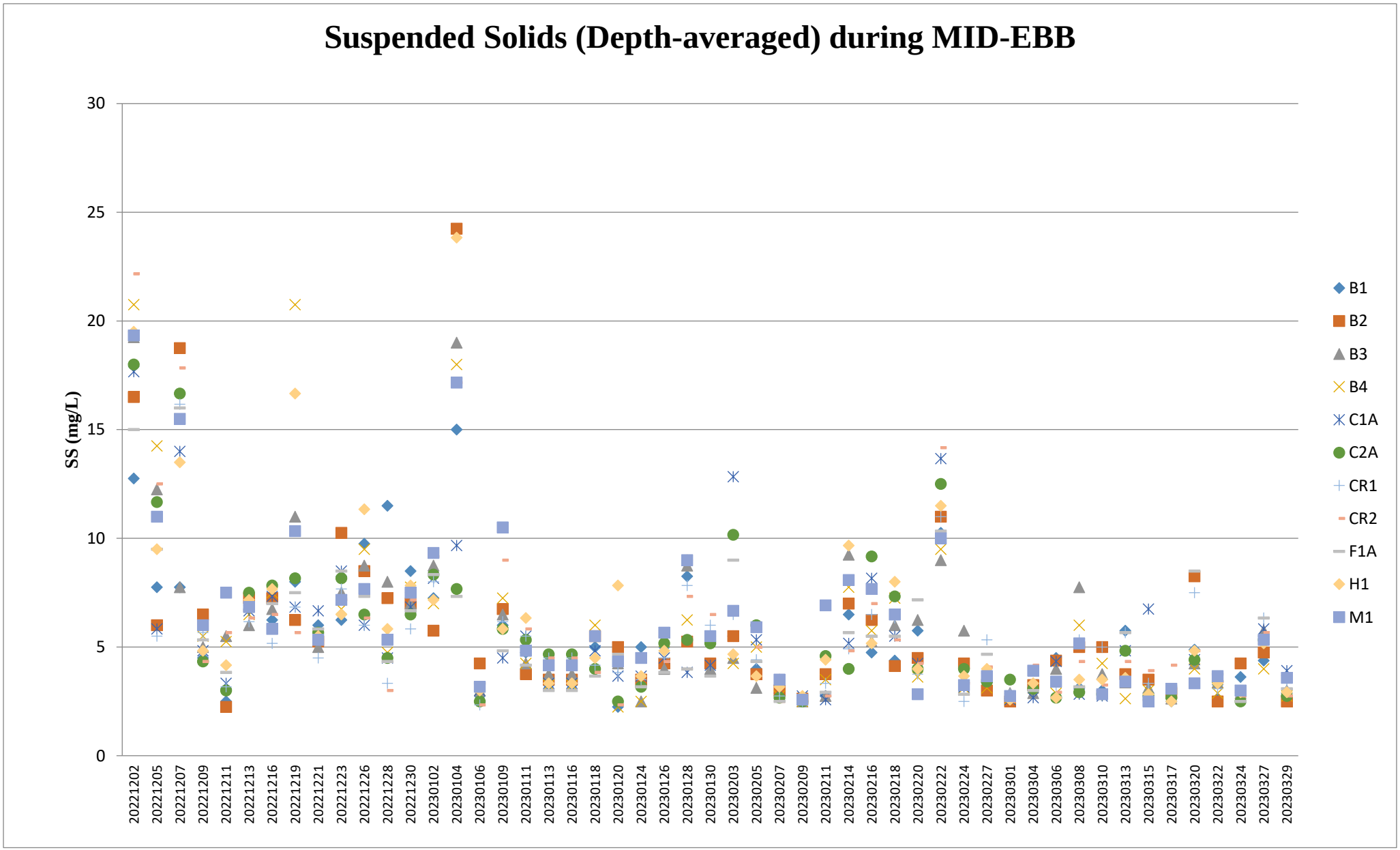
Note:

1. The Action and Limit Levels of turbidity can be referred to **Table 2.7** of the monthly EM&A report.



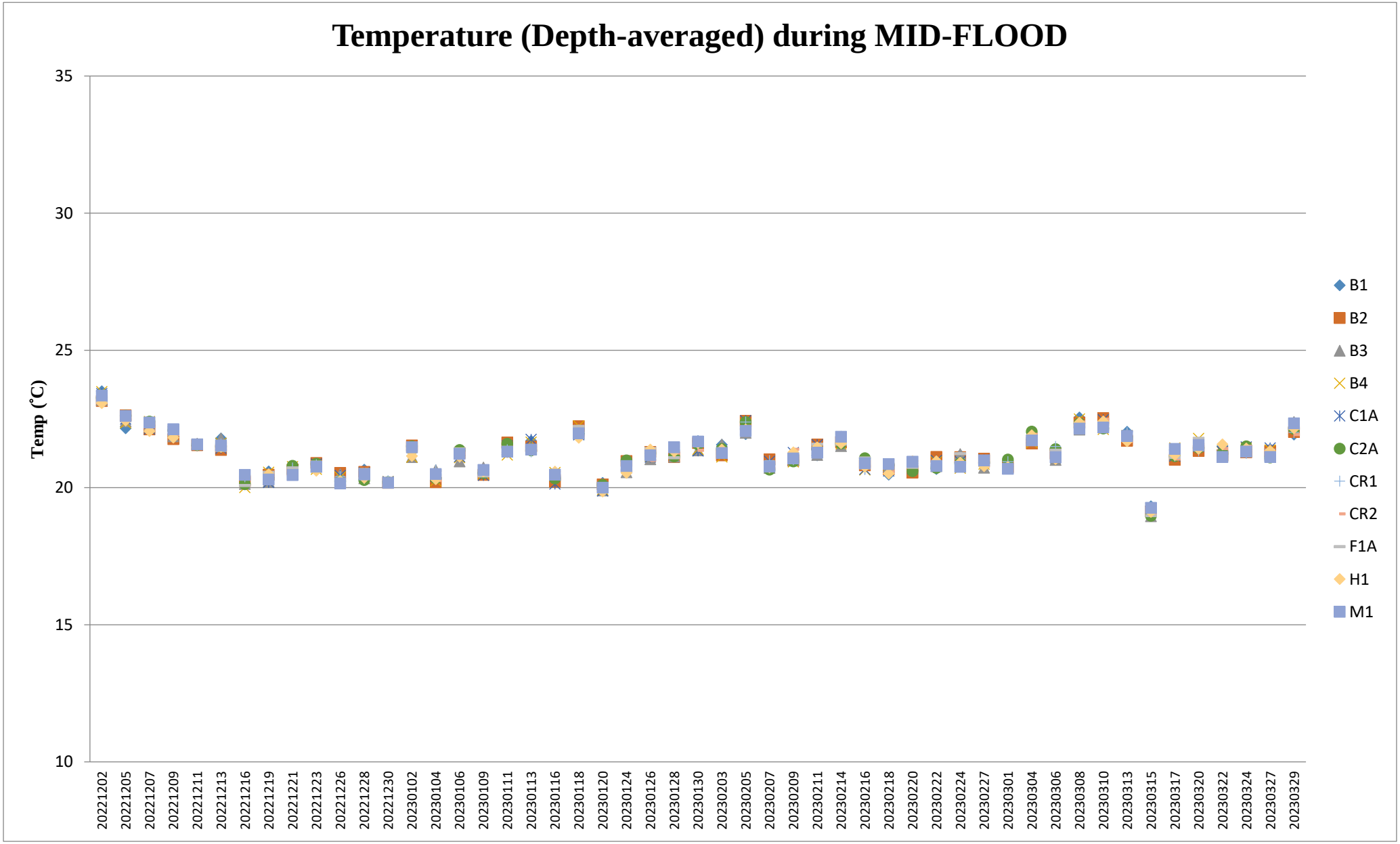
Note:

1. The Action and Limit Levels of suspended solids can be referred to **Table 2.7** of the monthly EM&A report.



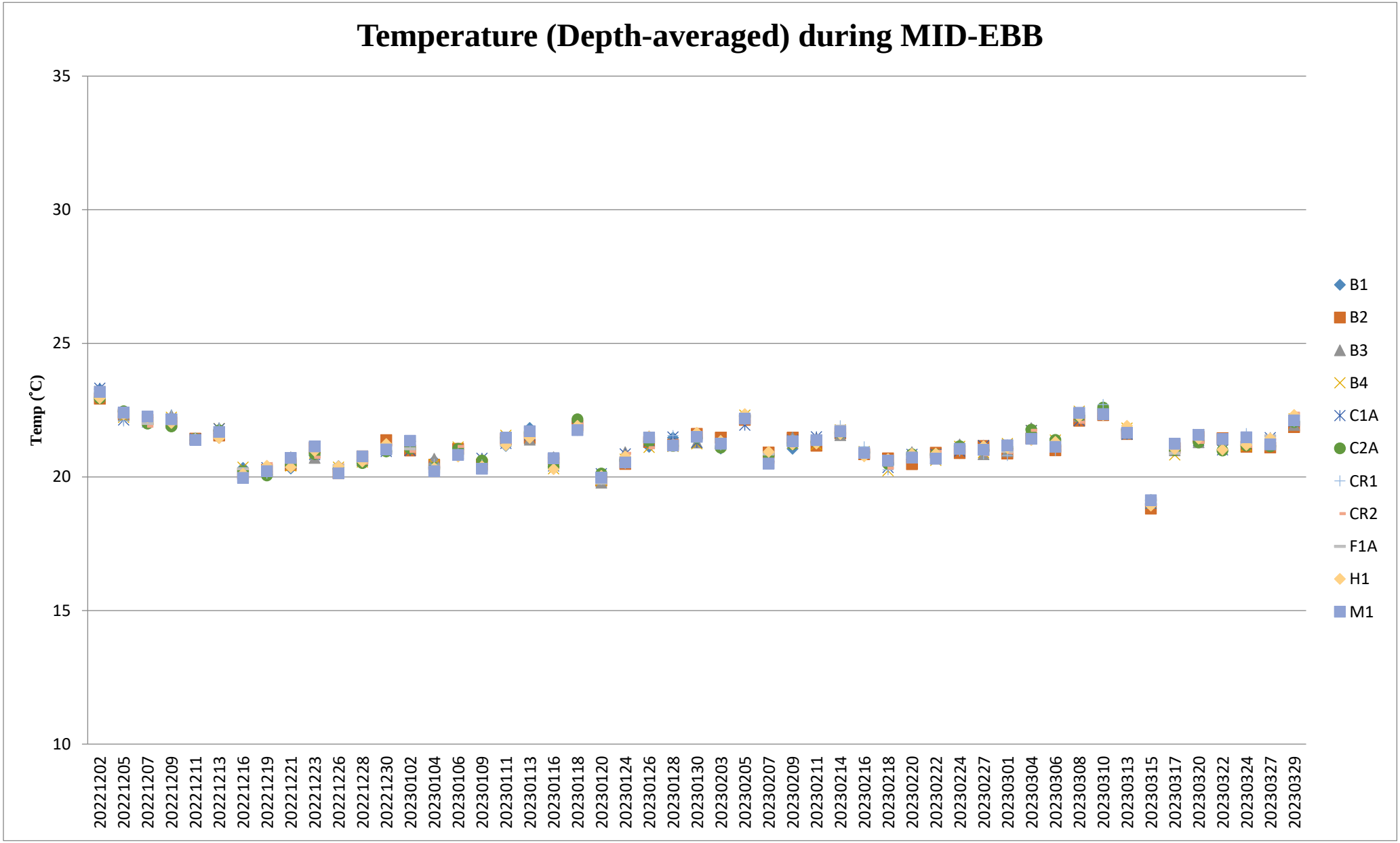
Note:

1. The Action and Limit Levels of suspended solids can be referred to **Table 2.7** of the monthly EM&A report



Note:

1. The Action and Limit Levels of temperature can be referred to **Table 2.7** of the monthly EM&A report.



Note:

1. The Action and Limit Levels of temperature can be referred to **Table 2.7** of the monthly EM&A report.

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:24	9.44	8.23	33.56	20.92	2.9	2.5
B1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:24	9.44	8.27	33.49	20.97	3.1	2.5
B1	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.8	09:23	9.42	8.28	33.67	20.98	3.0	2.5
B1	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.8	09:23	9.29	8.3	33.5	21.01	3.2	2.5
B2	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:39	8.95	8.21	32.85	20.79	2.4	2.5
B2	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:39	9.07	8.23	32.86	20.76	2.5	2.5
B2	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.6	09:38	8.99	8.21	32.83	20.75	3.4	2.5
B2	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.6	09:38	9.09	8.23	32.84	20.68	3.0	2.5
B3	20230301	Sunny	Moderate	Mid-Flood	Surface	1	10:07	8.61	8.33	34.32	21.04	2.6	2.5
B3	20230301	Sunny	Moderate	Mid-Flood	Surface	1	10:07	8.59	8.39	34.13	20.91	2.6	2.5
B3	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.8	10:06	8.62	8.3	34.3	20.92	2.9	2.5
B3	20230301	Sunny	Moderate	Mid-Flood	Bottom	3.8	10:06	8.51	8.37	34.14	20.94	3.2	2.5
B4	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:57	9.22	8.28	32.93	20.76	2.3	2.5
B4	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:57	9.4	8.28	32.9	20.77	2.3	2.5
B4	20230301	Sunny	Moderate	Mid-Flood	Bottom	4.1	09:56	9.35	8.33	32.76	20.86	3.1	2.5
B4	20230301	Sunny	Moderate	Mid-Flood	Bottom	4.1	09:56	9.37	8.35	32.88	20.78	3.1	2.5
C1A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:53	9.33	8.23	32.82	20.66	4.6	3
C1A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:53	9.43	8.24	32.69	20.78	4.3	3
C1A	20230301	Sunny	Moderate	Mid-Flood	Middle	4.95	08:52	9.3	8.26	32.82	20.78	4.9	4
C1A	20230301	Sunny	Moderate	Mid-Flood	Middle	4.95	08:52	9.33	8.28	32.67	20.64	5.0	2.5
C1A	20230301	Sunny	Moderate	Mid-Flood	Bottom	8.9	08:51	9.45	8.2	32.78	20.64	5.6	2.5
C1A	20230301	Sunny	Moderate	Mid-Flood	Bottom	8.9	08:51	9.49	8.26	32.66	20.7	5.8	3
C2A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:02	8.43	8.19	33.85	20.92	6.3	2.5
C2A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:02	8.43	8.22	33.79	21.08	6.1	2.5
C2A	20230301	Sunny	Moderate	Mid-Flood	Middle	5.65	08:01	8.4	8.2	33.66	21.05	6.5	2.5
C2A	20230301	Sunny	Moderate	Mid-Flood	Middle	5.65	08:01	8.46	8.27	33.79	21.06	6.7	3
C2A	20230301	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:00	8.54	8.18	33.77	21	6.4	3
C2A	20230301	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:00	8.41	8.19	33.7	21.04	6.9	2.5
CR1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:30	8.38	8.27	33.82	20.88	3.8	2.5
CR1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:30	8.36	8.28	33.75	21.01	3.3	2.5
CR1	20230301	Sunny	Moderate	Mid-Flood	Middle	6.45	08:29	8.36	8.2	33.77	21	3.1	8
CR1	20230301	Sunny	Moderate	Mid-Flood	Middle	6.45	08:29	8.32	8.29	33.91	20.91	3.5	6
CR1	20230301	Sunny	Moderate	Mid-Flood	Bottom	11.9	08:28	8.38	8.18	33.97	20.86	3.4	5
CR1	20230301	Sunny	Moderate	Mid-Flood	Bottom	11.9	08:28	8.33	8.21	33.9	21	3.3	4
CR2	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:38	8.57	8.29	32.96	20.65	4.1	3
CR2	20230301	Sunny	Moderate	Mid-Flood	Surface	1	08:38	8.52	8.33	32.98	20.62	3.9	2.5
CR2	20230301	Sunny	Moderate	Mid-Flood	Middle	5.9	08:37	8.43	8.34	32.93	20.54	4.3	2.5
CR2	20230301	Sunny	Moderate	Mid-Flood	Middle	5.9	08:37	8.43	8.34	32.93	20.59	4.7	2.5
CR2	20230301	Sunny	Moderate	Mid-Flood	Bottom	10.8	08:36	8.37	8.28	32.85	20.56	5.1	2.5
CR2	20230301	Sunny	Moderate	Mid-Flood	Bottom	10.8	08:36	8.37	8.35	32.82	20.59	5.0	2.5
F1A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.45	8.28	32.97	20.83	3.5	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
F1A	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.38	8.31	33.16	20.8	4.0	2.5
F1A	20230301	Sunny	Moderate	Mid-Flood	Middle	3.8	09:21	9.55	8.33	33.03	20.78	4.0	2.5
F1A	20230301	Sunny	Moderate	Mid-Flood	Middle	3.8	09:21	9.51	8.35	32.96	20.71	4.6	2.5
F1A	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.6	09:20	9.38	8.28	33.15	20.76	4.6	2.5
F1A	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.6	09:20	9.39	8.37	33.1	20.77	4.9	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	10:07	8.49	8.33	33.86	20.75	3.5	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	10:07	8.53	8.36	33.75	20.7	3.0	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Middle	3.75	10:06	8.56	8.26	33.8	20.8	4.0	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Middle	3.75	10:06	8.5	8.31	33.77	20.76	3.5	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.5	10:05	8.39	8.27	33.79	20.74	4.0	2.5
H1	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.5	10:05	8.47	8.36	33.72	20.72	3.9	2.5
M1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:01	9.44	8.18	33.66	20.72	2.7	2.5
M1	20230301	Sunny	Moderate	Mid-Flood	Surface	1	09:01	9.26	8.2	33.6	20.6	3.1	3
M1	20230301	Sunny	Moderate	Mid-Flood	Middle	3.8	09:00	9.28	8.25	33.62	20.69	3.5	2.5
M1	20230301	Sunny	Moderate	Mid-Flood	Middle	3.8	09:00	9.25	8.24	33.61	20.68	3.1	2.5
M1	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.6	08:59	9.29	8.24	33.72	20.7	3.4	2.5
M1	20230301	Sunny	Moderate	Mid-Flood	Bottom	6.6	08:59	9.32	8.26	33.65	20.7	3.7	2.5
B1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:30	9.65	8.26	32.9	20.97	2.8	2.5
B1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:30	9.58	8.29	32.58	20.78	2.8	2.5
B1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.9	17:29	9.55	8.27	32.8	20.96	3.3	3
B1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.9	17:29	9.59	8.27	32.76	20.76	3.2	2.5
B2	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:43	8.75	8.35	33.47	21.01	2.5	2.5
B2	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:43	8.72	8.37	33.7	20.84	2.6	2.5
B2	20230301	Sunny	Moderate	Mid-Ebb	Bottom	4.8	17:42	8.62	8.38	33.57	20.82	3.1	2.5
B2	20230301	Sunny	Moderate	Mid-Ebb	Bottom	4.8	17:42	8.59	8.41	33.78	20.83	3.0	2.5
B3	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:08	8.96	8.34	32.34	21	3.0	3
B3	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:08	8.96	8.37	32.46	21.01	2.8	3
B3	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.4	17:07	8.9	8.37	32.28	20.92	3.2	2.5
B3	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.4	17:07	8.78	8.41	32.3	20.94	2.9	3
B4	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:18	9.41	8.21	32.32	21.29	3.5	2.5
B4	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:18	9.46	8.25	32.13	21.11	3.3	3
B4	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.6	17:17	9.42	8.21	32.24	21.31	3.6	2.5
B4	20230301	Sunny	Moderate	Mid-Ebb	Bottom	3.6	17:17	9.41	8.22	32.17	21.28	3.6	2.5
C1A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:09	8.92	8.26	33.86	21.22	5.9	3
C1A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:09	8.92	8.24	34.19	21.16	5.7	2.5
C1A	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.65	17:08	8.95	8.26	33.93	21.17	5.8	2.5
C1A	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.65	17:08	8.98	8.23	34.1	21.17	5.9	2.5
C1A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.3	17:07	8.93	8.2	33.83	21.27	5.9	2.5
C1A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.3	17:07	9.02	8.23	33.99	21.17	6.2	2.5
C2A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:39	8.53	8.32	33.1	21.15	4.9	2.5
C2A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:39	8.48	8.35	32.89	21	4.7	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C2A	20230301	Sunny	Moderate	Mid-Ebb	Middle	5.8	18:38	8.32	8.37	32.99	21.15	4.8	4
C2A	20230301	Sunny	Moderate	Mid-Ebb	Middle	5.8	18:38	8.41	8.4	32.85	21.06	4.5	7
C2A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	10.6	18:37	8.5	8.32	32.93	21.16	4.9	2.5
C2A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	10.6	18:37	8.41	8.41	32.86	21.07	5.2	2.5
CR1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:24	8.93	8.27	33.56	20.82	3.0	2.5
CR1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:24	8.93	8.28	33.61	20.75	3.3	2.5
CR1	20230301	Sunny	Moderate	Mid-Ebb	Middle	6.2	18:23	8.89	8.28	33.64	20.76	2.9	2.5
CR1	20230301	Sunny	Moderate	Mid-Ebb	Middle	6.2	18:23	9.02	8.34	33.45	20.89	3.2	4
CR1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	11.4	18:22	8.99	8.24	33.44	20.85	3.4	2.5
CR1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	11.4	18:22	9.04	8.33	33.48	20.73	3.0	3
CR2	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:15	9.2	8.2	33.05	20.98	4.4	2.5
CR2	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:15	9.21	8.22	32.84	20.85	4.4	2.5
CR2	20230301	Sunny	Moderate	Mid-Ebb	Middle	5.95	18:14	9.23	8.21	32.88	20.9	4.7	2.5
CR2	20230301	Sunny	Moderate	Mid-Ebb	Middle	5.95	18:14	9.23	8.22	32.91	20.98	4.3	2.5
CR2	20230301	Sunny	Moderate	Mid-Ebb	Bottom	10.9	18:13	9.35	8.2	32.78	20.82	5.3	2.5
CR2	20230301	Sunny	Moderate	Mid-Ebb	Bottom	10.9	18:13	9.27	8.22	32.72	20.95	5.3	2.5
F1A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:38	8.94	8.26	33.43	21	3.9	2.5
F1A	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:38	9	8.22	33.57	20.96	3.6	3
F1A	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.6	17:37	9.02	8.22	33.34	20.93	3.2	2.5
F1A	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.6	17:37	9.06	8.21	33.56	20.94	3.3	2.5
F1A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.2	17:36	9.07	8.26	33.43	20.98	4.3	2.5
F1A	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.2	17:36	8.96	8.24	33.59	20.93	3.9	3
H1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:06	8.68	8.35	33.97	21.15	3.6	3
H1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	18:06	8.51	8.37	34.03	21.02	3.6	2.5
H1	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.4	18:05	8.63	8.26	33.73	21.02	4.3	2.5
H1	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.4	18:05	8.68	8.27	33.85	21.06	4.4	2.5
H1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	7.8	18:04	8.56	8.28	34.07	21.22	4.9	2.5
H1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	7.8	18:04	8.62	8.33	33.79	21.09	4.3	2.5
M1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:55	8.68	8.23	33.45	21.2	3.6	2.5
M1	20230301	Sunny	Moderate	Mid-Ebb	Surface	1	17:55	8.74	8.25	33.2	21.11	3.3	3
M1	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.9	17:54	8.7	8.24	33.21	21.15	2.8	2.5
M1	20230301	Sunny	Moderate	Mid-Ebb	Middle	4.9	17:54	8.59	8.32	33.44	21.24	2.9	3
M1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.8	17:53	8.72	8.28	33.37	21.17	3.3	3
M1	20230301	Sunny	Moderate	Mid-Ebb	Bottom	8.8	17:53	8.63	8.29	33.3	21.21	3.7	2.5
B1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:03	9.01	8.27	33.83	21.67	4.0	2.5
B1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:03	8.88	8.28	33.66	21.68	4.6	2.5
B1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.4	11:02	9	8.23	33.72	21.63	4.6	2.5
B1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.4	11:02	8.91	8.22	33.66	21.55	4.9	2.5
B2	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:22	8.46	8.23	33.26	21.65	3.7	2.5
B2	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:22	8.38	8.29	33.25	21.64	3.5	3
B2	20230304	Cloudy	Moderate	Mid-Flood	Bottom	3.5	11:21	8.3	8.26	33.45	21.57	4.6	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B2	20230304	Cloudy	Moderate	Mid-Flood	Bottom	3.5	11:21	8.32	8.22	33.4	21.57	4.9	3
B3	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:53	8.46	8.2	33.29	21.93	6.0	2.5
B3	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:53	8.38	8.24	33.14	21.86	6.0	3
B3	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.1	11:52	8.36	8.24	33.34	21.98	6.2	2.5
B3	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.1	11:52	8.47	8.24	33.21	21.96	6.5	2.5
B4	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	9.26	8.23	34.09	21.6	3.9	5
B4	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	9.41	8.29	34.05	21.7	3.8	3
B4	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.4	11:42	9.28	8.24	34.09	21.64	4.3	4
B4	20230304	Cloudy	Moderate	Mid-Flood	Bottom	4.4	11:42	9.39	8.31	33.97	21.66	4.7	2.5
C1A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	10:44	8.71	8.33	33.63	21.85	6.3	3
C1A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	10:44	8.67	8.42	33.67	21.79	6.2	2.5
C1A	20230304	Cloudy	Moderate	Mid-Flood	Middle	5.4	10:43	8.56	8.38	33.5	21.83	6.6	2.5
C1A	20230304	Cloudy	Moderate	Mid-Flood	Middle	5.4	10:43	8.66	8.42	33.57	21.87	6.3	2.5
C1A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	9.8	10:42	8.66	8.4	33.59	21.84	6.4	2.5
C1A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	9.8	10:42	8.71	8.42	33.67	21.73	6.9	4
C2A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	12:30	8.29	8.33	34.07	22.06	6.6	4
C2A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	12:30	8.25	8.39	34.19	21.97	6.8	4
C2A	20230304	Cloudy	Moderate	Mid-Flood	Middle	6	12:29	8.46	8.3	34.12	22.04	7.3	2.5
C2A	20230304	Cloudy	Moderate	Mid-Flood	Middle	6	12:29	8.27	8.36	34.17	21.99	7.1	3
C2A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	11	12:28	8.46	8.34	34.12	22.08	7.0	3
C2A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	11	12:28	8.5	8.41	34.11	22.09	7.4	2.5
CR1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	12:12	8.22	8.23	32.69	21.92	4.0	2.5
CR1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	12:12	8.28	8.24	32.78	21.98	4.1	3
CR1	20230304	Cloudy	Moderate	Mid-Flood	Middle	6.2	12:11	8.27	8.27	32.83	21.97	4.7	2.5
CR1	20230304	Cloudy	Moderate	Mid-Flood	Middle	6.2	12:11	8.45	8.21	32.75	21.87	4.1	4
CR1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	11.4	12:10	8.23	8.24	32.82	21.87	5.2	2.5
CR1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	11.4	12:10	8.41	8.29	32.73	21.84	5.0	3
CR2	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:59	8.28	8.21	33.53	21.92	5.7	3
CR2	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:59	8.42	8.25	33.69	21.91	5.9	3
CR2	20230304	Cloudy	Moderate	Mid-Flood	Middle	5.7	11:58	8.27	8.23	33.5	21.94	5.9	2.5
CR2	20230304	Cloudy	Moderate	Mid-Flood	Middle	5.7	11:58	8.46	8.27	33.64	22.02	6.2	4
CR2	20230304	Cloudy	Moderate	Mid-Flood	Bottom	10.4	11:57	8.31	8.28	33.71	21.92	5.5	2.5
CR2	20230304	Cloudy	Moderate	Mid-Flood	Bottom	10.4	11:57	8.32	8.29	33.54	21.92	5.9	3
F1A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:19	9.48	8.3	32.48	21.83	3.6	2.5
F1A	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:19	9.53	8.34	32.57	21.75	3.6	2.5
F1A	20230304	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:18	9.59	8.29	32.48	21.88	3.7	3
F1A	20230304	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:18	9.56	8.38	32.53	21.75	3.5	2.5
F1A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:17	9.57	8.27	32.51	21.81	4.0	4
F1A	20230304	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:17	9.61	8.36	32.6	21.84	4.0	2.5
H1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:50	8.92	8.24	33.01	21.91	4.3	8
H1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	11:50	8.89	8.26	33.07	21.96	4.5	7

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
H1	20230304	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:49	9	8.26	32.98	21.89	4.2	4
H1	20230304	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:49	8.92	8.27	32.92	21.86	4.0	3
H1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:48	8.94	8.27	33.04	21.99	5.4	2.5
H1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:48	8.98	8.24	32.89	21.82	4.9	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	10:54	9.3	8.21	32.61	21.66	4.4	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Surface	1	10:54	9.35	8.27	32.53	21.73	4.0	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:53	9.34	8.27	32.46	21.67	4.4	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:53	9.43	8.25	32.53	21.8	4.5	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:52	9.44	8.28	32.44	21.71	4.7	2.5
M1	20230304	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:52	9.41	8.29	32.6	21.75	4.1	3
B1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:48	9.06	8.28	34.43	21.84	3.1	4
B1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:48	9.18	8.23	34.35	21.7	3.2	2.5
B1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:47	9.13	8.28	34.35	21.82	3.7	2.5
B1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:47	9.21	8.24	34.45	21.82	4.3	3
B2	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:01	8.82	8.32	34.27	21.42	4.6	2.5
B2	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:01	9.05	8.36	34.46	21.4	4.6	2.5
B2	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	15:00	8.92	8.33	34.34	21.49	4.9	5
B2	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	15:00	9.03	8.36	34.44	21.47	4.7	3
B3	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:37	8.96	8.36	33.55	21.91	3.7	4
B3	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:37	8.98	8.39	33.55	21.78	3.7	2.5
B3	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	14:36	8.88	8.38	33.67	21.87	5.1	2.5
B3	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	14:36	8.85	8.39	33.45	21.73	5.0	2.5
B4	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:47	8.35	8.3	32.96	21.73	3.8	2.5
B4	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:47	8.57	8.34	32.84	21.76	4.3	4
B4	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	14:46	8.46	8.33	32.9	21.71	5.2	3
B4	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	14:46	8.44	8.35	32.97	21.76	4.6	3
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	8.9	8.28	32.84	21.7	5.7	2.5
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	8.81	8.33	32.72	21.8	5.6	2.5
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	5.4	14:26	8.94	8.27	32.82	21.8	5.9	3
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	5.4	14:26	8.88	8.31	32.87	21.67	5.9	3
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	14:25	8.85	8.25	32.73	21.71	6.6	2.5
C1A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	14:25	8.91	8.26	32.93	21.72	6.4	2.5
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	8.89	8.34	33.35	21.74	4.8	3
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	8.86	8.35	33.38	21.75	5.0	4
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	5.75	14:26	8.98	8.36	33.52	21.79	5.2	4
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	5.75	14:26	8.79	8.37	33.28	21.8	5.1	2.5
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	14:25	8.98	8.36	33.31	21.73	5.6	2.5
C2A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	14:25	9.03	8.38	33.27	21.79	5.5	2.5
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	8.69	8.31	34.33	21.36	4.1	6
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	8.72	8.38	34.36	21.33	4.6	3
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	6.15	15:47	8.55	8.33	34.09	21.39	4.0	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	6.15	15:47	8.64	8.38	34.09	21.48	3.7	2.5
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	15:46	8.5	8.31	34.11	21.49	4.4	2.5
CR1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	15:46	8.47	8.38	34.19	21.37	4.0	3
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	9.11	8.32	33.51	21.66	4.9	8
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	9.16	8.36	33.46	21.82	4.4	5
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Middle	6.1	15:34	9.13	8.38	33.56	21.8	4.8	4
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Middle	6.1	15:34	9.01	8.39	33.44	21.75	5.2	2.5
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	15:33	9.03	8.37	33.38	21.75	5.1	3
CR2	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	15:33	9.12	8.38	33.63	21.66	5.4	2.5
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:11	9.33	8.25	33.09	21.3	3.2	4
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:11	9.35	8.24	33.27	21.44	3.2	3
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	4.25	15:10	9.25	8.23	33.1	21.46	3.5	2.5
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Middle	4.25	15:10	9.28	8.25	33.21	21.46	3.4	3
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	15:09	9.33	8.23	33.06	21.37	4.3	3
F1A	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	15:09	9.46	8.24	33.28	21.41	4.0	2.5
H1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:26	8.99	8.38	33.03	21.34	3.9	2.5
H1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:26	8.96	8.38	32.9	21.34	4.0	3
H1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	3.9	15:25	8.84	8.36	32.89	21.45	4.5	6
H1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	3.9	15:25	8.83	8.38	33.06	21.45	4.4	3
H1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	6.8	15:24	8.97	8.39	32.9	21.34	4.6	3
H1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	6.8	15:24	9.03	8.38	32.9	21.37	4.6	2.5
M1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:31	9.25	8.38	32.87	21.33	4.6	4
M1	20230304	Cloudy	Moderate	Mid-Ebb	Surface	1	15:31	9.47	8.38	32.88	21.44	4.9	5
M1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	4.35	15:30	9.34	8.39	32.97	21.45	5.0	5
M1	20230304	Cloudy	Moderate	Mid-Ebb	Middle	4.35	15:30	9.46	8.38	33.1	21.47	5.6	4
M1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	15:29	9.47	8.38	32.95	21.42	5.2	2.5
M1	20230304	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	15:29	9.41	8.35	32.86	21.45	5.1	3
B1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:35	9.28	8.19	33.03	21.29	3.6	3
B1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:35	9.34	8.25	32.93	21.21	4.2	6
B1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.7	11:34	9.22	8.24	33	21.17	3.6	6
B1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.7	11:34	9.24	8.21	32.92	21.25	3.7	3
B2	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:50	9.38	8.34	33.1	20.97	3.8	7
B2	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:50	9.26	8.3	33.06	20.97	3.6	4
B2	20230306	Sunny	Moderate	Mid-Ebb	Bottom	4.4	11:49	9.36	8.31	33.04	20.97	3.9	4
B2	20230306	Sunny	Moderate	Mid-Ebb	Bottom	4.4	11:49	9.48	8.37	33.01	21.08	3.9	2.5
B3	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:49	9.74	8.16	32.5	21.4	3.4	3
B3	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:49	9.66	8.21	32.5	21.28	3.3	4
B3	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:48	9.6	8.22	32.61	21.35	4.1	6
B3	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:48	9.48	8.15	32.61	21.3	3.6	3
B4	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:39	9.18	8.25	33.47	21.36	4.4	2.5
B4	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:39	9.07	8.25	33.44	21.32	4.6	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B4	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.9	12:38	9.12	8.22	33.42	21.41	4.7	2.5
B4	20230306	Sunny	Moderate	Mid-Ebb	Bottom	3.9	12:38	9.19	8.22	33.45	21.43	5.0	4
C1A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:10	9.83	8.14	32.65	21.29	5.1	4
C1A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:10	9.57	8.16	32.69	21.19	5.0	5
C1A	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.8	11:09	9.75	8.21	32.83	21.3	5.4	5
C1A	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.8	11:09	9.61	8.2	32.59	21.24	5.4	7
C1A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	8.6	11:08	9.68	8.21	32.62	21.24	6.0	2.5
C1A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	8.6	11:08	9.7	8.21	32.67	21.28	5.7	2.5
C2A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:58	8.88	8.26	34.11	21.44	3.8	2.5
C2A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:58	9.11	8.19	34.03	21.31	4.4	2.5
C2A	20230306	Sunny	Moderate	Mid-Ebb	Middle	6.2	12:57	9.07	8.2	34.2	21.36	4.3	2.5
C2A	20230306	Sunny	Moderate	Mid-Ebb	Middle	6.2	12:57	9.17	8.19	34.11	21.44	4.3	3
C2A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	11.4	12:56	9.06	8.22	34.13	21.31	5.3	3
C2A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	11.4	12:56	8.93	8.21	33.94	21.44	4.7	2.5
CR1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:41	9.39	8.29	32.84	21.02	3.0	2.5
CR1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:41	9.22	8.25	32.73	20.92	2.9	2.5
CR1	20230306	Sunny	Moderate	Mid-Ebb	Middle	6.65	12:40	9.39	8.32	32.72	20.97	3.5	2.5
CR1	20230306	Sunny	Moderate	Mid-Ebb	Middle	6.65	12:40	9.17	8.31	32.7	21.06	3.2	3
CR1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	12.3	12:39	9.19	8.33	32.88	20.89	3.8	5
CR1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	12.3	12:39	9.25	8.25	32.92	21.06	3.5	4
CR2	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:27	9.38	8.37	32.62	20.93	4.7	2.5
CR2	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:27	9.51	8.42	32.57	21.02	4.0	4
CR2	20230306	Sunny	Moderate	Mid-Ebb	Middle	5.45	12:26	9.41	8.41	32.76	21.05	4.9	3
CR2	20230306	Sunny	Moderate	Mid-Ebb	Middle	5.45	12:26	9.3	8.36	32.74	21.02	4.8	2.5
CR2	20230306	Sunny	Moderate	Mid-Ebb	Bottom	9.9	12:25	9.28	8.38	32.59	20.98	4.4	3
CR2	20230306	Sunny	Moderate	Mid-Ebb	Bottom	9.9	12:25	9.43	8.38	32.76	20.91	4.9	2.5
F1A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:06	9.62	8.37	33.06	20.99	2.7	2.5
F1A	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:06	9.58	8.39	32.97	20.97	2.7	3
F1A	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.6	12:05	9.65	8.3	32.98	21.01	3.2	3
F1A	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.6	12:05	9.65	8.35	33.06	20.94	2.7	2.5
F1A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	8.2	12:04	9.53	8.33	32.94	21.07	3.4	2.5
F1A	20230306	Sunny	Moderate	Mid-Ebb	Bottom	8.2	12:04	9.79	8.3	33.05	20.96	3.6	2.5
H1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:15	8.54	8.31	33.7	21.35	4.2	2.5
H1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	12:15	8.54	8.36	33.52	21.37	3.9	3
H1	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.3	12:14	8.58	8.33	33.51	21.26	3.9	3
H1	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.3	12:14	8.64	8.36	33.65	21.23	4.3	2.5
H1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	7.6	12:13	8.53	8.31	33.55	21.33	4.5	2.5
H1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	7.6	12:13	8.52	8.35	33.43	21.36	4.8	2.5
M1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:43	8.6	8.33	33.36	21.11	2.7	5
M1	20230306	Sunny	Moderate	Mid-Ebb	Surface	1	11:43	8.39	8.3	33.51	21.21	3.1	3
M1	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:42	8.63	8.34	33.49	21.21	3.8	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
M1	20230306	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:42	8.51	8.34	33.41	21.06	3.5	2.5
M1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:41	8.58	8.33	33.33	21.05	3.5	3
M1	20230306	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:41	8.56	8.32	33.25	21.13	3.5	4
B1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:18	8.88	8.42	34	21.27	3.7	6
B1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:18	9.1	8.35	34.01	21.3	3.6	4
B1	20230306	Sunny	Moderate	Mid-Flood	Bottom	4	16:17	8.96	8.41	33.82	21.42	3.3	4
B1	20230306	Sunny	Moderate	Mid-Flood	Bottom	4	16:17	8.87	8.39	33.83	21.4	3.1	2.5
B2	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:31	8.55	8.17	32.92	21.24	3.5	5
B2	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:31	8.42	8.21	32.9	21.3	3.2	3
B2	20230306	Sunny	Moderate	Mid-Flood	Bottom	3.5	16:30	8.5	8.2	32.91	21.21	3.7	2.5
B2	20230306	Sunny	Moderate	Mid-Flood	Bottom	3.5	16:30	8.41	8.22	32.96	21.22	3.7	4
B3	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:06	9.18	8.24	33.59	20.97	3.4	4
B3	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:06	9.26	8.25	33.58	20.96	3.9	7
B3	20230306	Sunny	Moderate	Mid-Flood	Bottom	3.7	16:05	9.17	8.26	33.69	21.03	4.5	3
B3	20230306	Sunny	Moderate	Mid-Flood	Bottom	3.7	16:05	9.25	8.21	33.66	21.07	4.3	3
B4	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:16	8.33	8.21	33.6	21.08	3.7	3
B4	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:16	8.26	8.23	33.61	21.22	4.0	5
B4	20230306	Sunny	Moderate	Mid-Flood	Bottom	4.6	16:15	8.22	8.27	33.65	21.27	4.4	5
B4	20230306	Sunny	Moderate	Mid-Flood	Bottom	4.6	16:15	8.13	8.28	33.85	21.2	4.6	3
C1A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	15:56	8.36	8.26	32.93	21	4.3	7
C1A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	15:56	8.5	8.24	33.01	21.02	4.2	5
C1A	20230306	Sunny	Moderate	Mid-Flood	Middle	5.85	15:55	8.54	8.26	33	21.02	4.4	2.5
C1A	20230306	Sunny	Moderate	Mid-Flood	Middle	5.85	15:55	8.45	8.32	33	21.21	4.5	2.5
C1A	20230306	Sunny	Moderate	Mid-Flood	Bottom	10.7	15:54	8.41	8.23	33.17	21.09	4.9	2.5
C1A	20230306	Sunny	Moderate	Mid-Flood	Bottom	10.7	15:54	8.38	8.24	32.97	21.16	4.5	2.5
C2A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	15:56	9.39	8.21	33.68	21.42	5.3	2.5
C2A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	15:56	9.33	8.22	33.73	21.43	5.3	2.5
C2A	20230306	Sunny	Moderate	Mid-Flood	Middle	5.7	15:55	9.43	8.22	33.8	21.33	5.7	2.5
C2A	20230306	Sunny	Moderate	Mid-Flood	Middle	5.7	15:55	9.42	8.2	33.52	21.32	5.5	3
C2A	20230306	Sunny	Moderate	Mid-Flood	Bottom	10.4	15:54	9.33	8.25	33.74	21.35	5.9	3
C2A	20230306	Sunny	Moderate	Mid-Flood	Bottom	10.4	15:54	9.48	8.18	33.74	21.55	5.9	3
CR1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:18	9.05	8.31	34.36	21.57	3.5	6
CR1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:18	8.99	8.29	34.46	21.45	3.4	4
CR1	20230306	Sunny	Moderate	Mid-Flood	Middle	6.2	17:17	9.04	8.24	34.52	21.52	4.1	4
CR1	20230306	Sunny	Moderate	Mid-Flood	Middle	6.2	17:17	8.97	8.32	34.31	21.44	3.8	2.5
CR1	20230306	Sunny	Moderate	Mid-Flood	Bottom	11.4	17:16	8.94	8.24	34.48	21.45	4.4	5
CR1	20230306	Sunny	Moderate	Mid-Flood	Bottom	11.4	17:16	9.06	8.32	34.34	21.54	4.2	3
CR2	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:04	8.46	8.32	33.12	21.27	3.7	2.5
CR2	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:04	8.44	8.4	32.99	21.34	3.9	4
CR2	20230306	Sunny	Moderate	Mid-Flood	Middle	5.4	17:03	8.41	8.37	33.06	21.4	4.4	4
CR2	20230306	Sunny	Moderate	Mid-Flood	Middle	5.4	17:03	8.37	8.38	32.94	21.27	4.3	7

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR2	20230306	Sunny	Moderate	Mid-Flood	Bottom	9.8	17:02	8.31	8.38	33.04	21.24	4.5	3
CR2	20230306	Sunny	Moderate	Mid-Flood	Bottom	9.8	17:02	8.39	8.34	32.95	21.4	4.5	3
F1A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:40	9.36	8.22	33.7	21.27	3.3	3
F1A	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:40	9.49	8.17	33.65	21.36	3.2	2.5
F1A	20230306	Sunny	Moderate	Mid-Flood	Middle	4.35	16:39	9.37	8.23	33.45	21.36	3.2	3
F1A	20230306	Sunny	Moderate	Mid-Flood	Middle	4.35	16:39	9.29	8.2	33.42	21.39	3.5	2.5
F1A	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.7	16:38	9.42	8.23	33.57	21.4	4.1	5
F1A	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.7	16:38	9.3	8.23	33.67	21.41	3.4	3
H1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:56	9.47	8.15	33.85	21.03	3.3	2.5
H1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	16:56	9.37	8.14	34.03	21.02	3.3	3
H1	20230306	Sunny	Moderate	Mid-Flood	Middle	4.05	16:55	9.41	8.21	34.05	21.14	3.7	3
H1	20230306	Sunny	Moderate	Mid-Flood	Middle	4.05	16:55	9.26	8.21	33.87	21.07	3.7	4
H1	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.1	16:54	9.31	8.19	33.8	21.02	3.7	2.5
H1	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.1	16:54	9.45	8.16	33.84	20.95	3.8	3
M1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:00	9.33	8.18	33.93	21.11	4.1	2.5
M1	20230306	Sunny	Moderate	Mid-Flood	Surface	1	17:00	9.2	8.16	34.11	21.08	3.7	2.5
M1	20230306	Sunny	Moderate	Mid-Flood	Middle	4.15	16:59	9.22	8.16	34.01	21.19	4.7	2.5
M1	20230306	Sunny	Moderate	Mid-Flood	Middle	4.15	16:59	9.34	8.21	33.88	21.1	3.9	3
M1	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.3	16:58	9.37	8.14	33.92	21.16	4.5	4
M1	20230306	Sunny	Moderate	Mid-Flood	Bottom	7.3	16:58	9.26	8.19	33.87	21	4.5	7
B1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:12	8.59	8.25	33.36	22.58	2.4	2.5
B1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:12	8.42	8.21	33.31	22.58	2.4	4
B1	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.5	09:11	8.52	8.25	33.34	22.6	2.8	7
B1	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.5	09:11	8.48	8.31	33.23	22.47	2.6	9
B2	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:24	8.56	8.39	32.23	22.48	2.6	7
B2	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:24	8.42	8.4	32.39	22.3	2.2	4
B2	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.7	09:23	8.42	8.4	32.15	22.38	3.2	10
B2	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.7	09:23	8.46	8.41	32.27	22.34	3.1	11
B3	20230308	Sunny	Moderate	Mid-Flood	Surface	1	10:02	8.98	8.23	32.9	22.09	5.2	7
B3	20230308	Sunny	Moderate	Mid-Flood	Surface	1	10:02	9.12	8.24	32.88	22.05	5.3	7
B3	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.7	10:01	9.01	8.27	32.76	22.21	5.2	3
B3	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.7	10:01	9.08	8.23	32.74	22.11	5.1	2.5
B4	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:52	9.36	8.25	32.42	22.51	3.7	2.5
B4	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:52	9.34	8.3	32.42	22.37	3.7	3
B4	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.9	09:51	9.17	8.24	32.34	22.56	4.3	3
B4	20230308	Sunny	Moderate	Mid-Flood	Bottom	3.9	09:51	9.32	8.25	32.42	22.57	4.4	2.5
C1A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:46	9.37	8.32	33.11	22.27	5.0	3
C1A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:46	9.4	8.35	33.04	22.29	4.9	2.5
C1A	20230308	Sunny	Moderate	Mid-Flood	Middle	5.15	08:45	9.59	8.33	32.92	22.19	5.3	4
C1A	20230308	Sunny	Moderate	Mid-Flood	Middle	5.15	08:45	9.44	8.36	33.16	22.07	5.1	4
C1A	20230308	Sunny	Moderate	Mid-Flood	Bottom	9.3	08:44	9.49	8.31	33.06	22.17	5.5	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C1A	20230308	Sunny	Moderate	Mid-Flood	Bottom	9.3	08:44	9.33	8.34	32.91	22.18	5.6	5
C2A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.78	8.36	33.17	22.35	5.7	3
C2A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.7	8.37	33.23	22.29	5.4	2.5
C2A	20230308	Sunny	Moderate	Mid-Flood	Middle	5.85	08:01	9.73	8.29	33.41	22.39	5.9	2.5
C2A	20230308	Sunny	Moderate	Mid-Flood	Middle	5.85	08:01	9.75	8.31	33.32	22.35	5.7	4
C2A	20230308	Sunny	Moderate	Mid-Flood	Bottom	10.7	08:00	9.78	8.33	33.16	22.41	6.3	2.5
C2A	20230308	Sunny	Moderate	Mid-Flood	Bottom	10.7	08:00	9.81	8.35	33.19	22.25	6.5	3
CR1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:18	9.54	8.26	32.47	22.29	4.4	2.5
CR1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:18	9.72	8.28	32.45	22.15	5.1	2.5
CR1	20230308	Sunny	Moderate	Mid-Flood	Middle	6.05	08:17	9.52	8.27	32.48	22.23	4.8	2.5
CR1	20230308	Sunny	Moderate	Mid-Flood	Middle	6.05	08:17	9.77	8.28	32.51	22.1	5.0	2.5
CR1	20230308	Sunny	Moderate	Mid-Flood	Bottom	11.1	08:16	9.73	8.24	32.54	22.14	5.0	2.5
CR1	20230308	Sunny	Moderate	Mid-Flood	Bottom	11.1	08:16	9.51	8.31	32.6	22.09	5.5	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:33	8.4	8.31	33.41	22.38	4.3	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Surface	1	08:33	8.37	8.23	33.24	22.4	3.7	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Middle	5.95	08:32	8.28	8.24	33.22	22.33	4.5	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Middle	5.95	08:32	8.28	8.27	33.28	22.45	3.9	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Bottom	10.9	08:31	8.3	8.23	33.36	22.4	4.7	2.5
CR2	20230308	Sunny	Moderate	Mid-Flood	Bottom	10.9	08:31	8.32	8.28	33.4	22.37	4.8	2.5
F1A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:30	9.27	8.35	32.19	22.24	3.6	2.5
F1A	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:30	9.34	8.43	32.01	22.22	3.4	2.5
F1A	20230308	Sunny	Moderate	Mid-Flood	Middle	3.95	09:29	9.26	8.35	32.08	22.06	3.5	2.5
F1A	20230308	Sunny	Moderate	Mid-Flood	Middle	3.95	09:29	9.36	8.35	32.21	22.27	3.0	2.5
F1A	20230308	Sunny	Moderate	Mid-Flood	Bottom	6.9	09:28	9.48	8.37	32.04	22.19	3.7	3
F1A	20230308	Sunny	Moderate	Mid-Flood	Bottom	6.9	09:28	9.25	8.44	32.13	22.12	4.1	3
H1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:49	8.64	8.24	33.42	22.45	3.3	2.5
H1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:49	8.81	8.25	33.52	22.31	3.7	2.5
H1	20230308	Sunny	Moderate	Mid-Flood	Middle	4.2	09:48	8.74	8.26	33.48	22.43	3.6	2.5
H1	20230308	Sunny	Moderate	Mid-Flood	Middle	4.2	09:48	8.76	8.28	33.51	22.29	4.2	2.5
H1	20230308	Sunny	Moderate	Mid-Flood	Bottom	7.4	09:47	8.74	8.27	33.62	22.44	4.2	2.5
H1	20230308	Sunny	Moderate	Mid-Flood	Bottom	7.4	09:47	8.77	8.28	33.43	22.25	3.9	2.5
M1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:10	8.68	8.4	32.92	22.2	4.0	3
M1	20230308	Sunny	Moderate	Mid-Flood	Surface	1	09:10	8.75	8.4	33.02	22.06	4.3	3
M1	20230308	Sunny	Moderate	Mid-Flood	Middle	4.25	09:09	8.53	8.34	32.89	22.22	4.0	3
M1	20230308	Sunny	Moderate	Mid-Flood	Middle	4.25	09:09	8.68	8.43	33.06	22.14	4.4	3
M1	20230308	Sunny	Moderate	Mid-Flood	Bottom	7.5	09:08	8.67	8.39	33.06	22.13	4.5	2.5
M1	20230308	Sunny	Moderate	Mid-Flood	Bottom	7.5	09:08	8.55	8.41	32.86	22.17	4.5	2.5
B1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:41	8.91	8.26	33.13	22.23	3.1	2.5
B1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:41	8.86	8.25	32.93	22.23	3.4	3
B1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	3.8	11:40	8.92	8.23	32.96	22.15	3.6	3
B1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	3.8	11:40	9.02	8.25	33.12	22.28	3.9	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B2	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:52	8.32	8.22	31.53	22.17	3.2	8
B2	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:52	8.21	8.26	31.58	22.11	3.2	4
B2	20230308	Sunny	Moderate	Mid-Ebb	Bottom	4.5	11:51	8.39	8.24	31.62	21.97	3.9	4
B2	20230308	Sunny	Moderate	Mid-Ebb	Bottom	4.5	11:51	8.27	8.26	31.69	22.15	3.7	4
B3	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:29	9.38	8.32	31.49	22.24	3.6	9
B3	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:29	9.36	8.34	31.55	22.33	3.5	11
B3	20230308	Sunny	Moderate	Mid-Ebb	Bottom	4.1	11:28	9.22	8.31	31.5	22.16	3.8	7
B3	20230308	Sunny	Moderate	Mid-Ebb	Bottom	4.1	11:28	9.38	8.36	31.59	22.39	3.9	4
B4	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:39	9.4	8.25	32.22	22.48	3.6	6
B4	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:39	9.38	8.21	32.23	22.55	3.4	6
B4	20230308	Sunny	Moderate	Mid-Ebb	Bottom	3.5	11:38	9.38	8.22	32.16	22.35	3.9	4
B4	20230308	Sunny	Moderate	Mid-Ebb	Bottom	3.5	11:38	9.3	8.23	32.25	22.45	3.4	8
C1A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.19	8.32	32.38	22.22	5.4	2.5
C1A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.44	8.33	32.34	21.98	5.5	3
C1A	20230308	Sunny	Moderate	Mid-Ebb	Middle	5.2	11:18	8.39	8.27	32.32	22.14	6.0	3
C1A	20230308	Sunny	Moderate	Mid-Ebb	Middle	5.2	11:18	8.32	8.34	32.29	22.21	5.8	2.5
C1A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	9.4	11:17	8.3	8.27	32.41	22.07	5.9	3
C1A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	9.4	11:17	8.39	8.3	32.48	22.04	5.7	3
C2A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.92	8.24	31.8	22.27	4.3	3
C2A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.85	8.22	31.84	22.35	4.3	4
C2A	20230308	Sunny	Moderate	Mid-Ebb	Middle	5.75	11:18	8.91	8.24	31.72	22.35	4.7	2.5
C2A	20230308	Sunny	Moderate	Mid-Ebb	Middle	5.75	11:18	8.89	8.23	31.74	22.2	4.4	2.5
C2A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	10.5	11:17	8.95	8.25	31.82	22.29	5.3	2.5
C2A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	10.5	11:17	8.97	8.26	31.78	22.16	4.9	3
CR1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:36	9.51	8.23	33.18	22.4	3.9	3
CR1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:36	9.53	8.31	33.2	22.45	4.0	3
CR1	20230308	Sunny	Moderate	Mid-Ebb	Middle	6.25	12:35	9.56	8.23	33.16	22.46	4.4	7
CR1	20230308	Sunny	Moderate	Mid-Ebb	Middle	6.25	12:35	9.42	8.26	33.18	22.3	4.0	8
CR1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	11.5	12:34	9.6	8.24	33.05	22.25	4.9	7
CR1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	11.5	12:34	9.36	8.26	33.15	22.25	4.9	4
CR2	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9.47	8.31	32.55	22.1	3.2	3
CR2	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9.39	8.32	32.6	22.09	3.4	4
CR2	20230308	Sunny	Moderate	Mid-Ebb	Middle	6	12:24	9.56	8.31	32.57	22	3.6	4
CR2	20230308	Sunny	Moderate	Mid-Ebb	Middle	6	12:24	9.51	8.33	32.45	21.92	3.7	4
CR2	20230308	Sunny	Moderate	Mid-Ebb	Bottom	11	12:23	9.42	8.27	32.59	22.09	4.2	4
CR2	20230308	Sunny	Moderate	Mid-Ebb	Bottom	11	12:23	9.5	8.34	32.55	22.07	4.1	7
F1A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:01	8.44	8.36	31.66	22.29	3.7	2.5
F1A	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:01	8.48	8.38	31.77	22.32	3.5	2.5
F1A	20230308	Sunny	Moderate	Mid-Ebb	Middle	3.95	12:00	8.27	8.32	31.74	22.51	3.8	2.5
F1A	20230308	Sunny	Moderate	Mid-Ebb	Middle	3.95	12:00	8.33	8.34	31.66	22.32	4.0	2.5
F1A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	6.9	11:59	8.45	8.37	31.72	22.51	3.6	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
F1A	20230308	Sunny	Moderate	Mid-Ebb	Bottom	6.9	11:59	8.33	8.4	31.78	22.3	3.5	6
H1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:16	8.83	8.22	32.94	22.18	4.2	4
H1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:16	8.86	8.26	32.93	22.3	3.9	3
H1	20230308	Sunny	Moderate	Mid-Ebb	Middle	4.15	12:15	8.62	8.24	32.84	22.19	3.8	2.5
H1	20230308	Sunny	Moderate	Mid-Ebb	Middle	4.15	12:15	8.82	8.22	32.87	22.36	3.7	2.5
H1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	7.3	12:14	8.65	8.24	32.95	22.34	4.1	5
H1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	7.3	12:14	8.86	8.23	32.78	22.18	4.7	4
M1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:21	9.11	8.26	31.98	22.37	3.6	4
M1	20230308	Sunny	Moderate	Mid-Ebb	Surface	1	12:21	9.1	8.24	31.96	22.35	3.3	5
M1	20230308	Sunny	Moderate	Mid-Ebb	Middle	4.55	12:20	9.1	8.21	31.84	22.49	3.5	7
M1	20230308	Sunny	Moderate	Mid-Ebb	Middle	4.55	12:20	9.08	8.26	31.78	22.52	3.1	5
M1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	8.1	12:19	9.12	8.25	31.89	22.32	3.4	4
M1	20230308	Sunny	Moderate	Mid-Ebb	Bottom	8.1	12:19	9.16	8.28	31.85	22.37	3.6	6
B1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:06	8.42	8.23	33.68	22.42	2.1	2.5
B1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:06	8.56	8.26	33.63	22.45	2.0	2.5
B1	20230310	Sunny	Moderate	Mid-Flood	Bottom	4.4	09:05	8.64	8.23	33.45	22.54	3.1	2.5
B1	20230310	Sunny	Moderate	Mid-Flood	Bottom	4.4	09:05	8.59	8.24	33.59	22.6	3.3	4
B2	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.02	8.35	32.9	22.59	4.2	2.5
B2	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.04	8.35	32.94	22.5	4.1	3
B2	20230310	Sunny	Moderate	Mid-Flood	Bottom	3.4	09:21	8.78	8.32	33.01	22.52	4.6	2.5
B2	20230310	Sunny	Moderate	Mid-Flood	Bottom	3.4	09:21	8.83	8.36	32.79	22.53	5.4	2.5
B3	20230310	Sunny	Moderate	Mid-Flood	Surface	1	10:17	8.5	8.26	33.04	22.22	2.5	3
B3	20230310	Sunny	Moderate	Mid-Flood	Surface	1	10:17	8.46	8.23	33.2	22.25	2.9	2.5
B3	20230310	Sunny	Moderate	Mid-Flood	Bottom	3.9	10:16	8.53	8.24	33.21	22.29	3.1	2.5
B3	20230310	Sunny	Moderate	Mid-Flood	Bottom	3.9	10:16	8.51	8.25	33.07	22.29	3.2	2.5
B4	20230310	Sunny	Moderate	Mid-Flood	Surface	1	10:07	9.2	8.28	32.69	22.13	3.0	2.5
B4	20230310	Sunny	Moderate	Mid-Flood	Surface	1	10:07	9.22	8.29	32.78	22.12	2.9	2.5
B4	20230310	Sunny	Moderate	Mid-Flood	Bottom	4.4	10:06	9.34	8.26	32.82	22.14	3.0	2.5
B4	20230310	Sunny	Moderate	Mid-Flood	Bottom	4.4	10:06	9.21	8.3	32.73	22.1	3.3	2.5
C1A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:43	9.27	8.25	32.46	22.43	4.6	3
C1A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:43	9.18	8.29	32.48	22.43	4.4	3
C1A	20230310	Sunny	Moderate	Mid-Flood	Middle	5.55	08:42	9.12	8.29	32.21	22.51	5.0	4
C1A	20230310	Sunny	Moderate	Mid-Flood	Middle	5.55	08:42	9.13	8.29	32.16	22.51	4.8	2.5
C1A	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.1	08:41	9.16	8.25	32.45	22.47	5.1	2.5
C1A	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.1	08:41	9.17	8.29	32.22	22.52	5.1	2.5
C2A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.54	8.24	34.11	22.2	5.3	2.5
C2A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.44	8.24	33.96	22.15	5.3	4
C2A	20230310	Sunny	Moderate	Mid-Flood	Middle	5.8	08:01	9.44	8.24	33.75	22.17	5.5	2.5
C2A	20230310	Sunny	Moderate	Mid-Flood	Middle	5.8	08:01	9.61	8.25	34.12	22.08	5.9	3
C2A	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.6	08:00	9.61	8.24	33.94	22.26	5.6	4
C2A	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.6	08:00	9.47	8.25	34.03	22.07	5.8	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:17	8.47	8.25	33.68	22.18	4.0	2.5
CR1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:17	8.52	8.2	33.62	22.18	3.6	4
CR1	20230310	Sunny	Moderate	Mid-Flood	Middle	6.1	08:16	8.69	8.24	33.82	22.36	3.7	2.5
CR1	20230310	Sunny	Moderate	Mid-Flood	Middle	6.1	08:16	8.58	8.26	33.72	22.35	3.3	3
CR1	20230310	Sunny	Moderate	Mid-Flood	Bottom	11.2	08:15	8.45	8.25	33.71	22.33	3.6	4
CR1	20230310	Sunny	Moderate	Mid-Flood	Bottom	11.2	08:15	8.45	8.22	33.68	22.3	3.8	2.5
CR2	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:28	9.65	8.3	32.04	22.54	3.1	5
CR2	20230310	Sunny	Moderate	Mid-Flood	Surface	1	08:28	9.38	8.34	32.29	22.51	3.1	4
CR2	20230310	Sunny	Moderate	Mid-Flood	Middle	5.65	08:27	9.63	8.35	32.25	22.55	3.2	3
CR2	20230310	Sunny	Moderate	Mid-Flood	Middle	5.65	08:27	9.62	8.37	32.29	22.45	3.2	3
CR2	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:26	9.45	8.29	32.08	22.48	3.8	5
CR2	20230310	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:26	9.64	8.37	32.11	22.42	3.4	3
F1A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:33	9.19	8.2	33.07	22.22	3.1	5
F1A	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:33	9.37	8.25	33	22.44	3.4	4
F1A	20230310	Sunny	Moderate	Mid-Flood	Middle	4.05	09:32	9.33	8.23	33.22	22.22	3.2	3
F1A	20230310	Sunny	Moderate	Mid-Flood	Middle	4.05	09:32	9.41	8.23	32.99	22.28	3.8	3
F1A	20230310	Sunny	Moderate	Mid-Flood	Bottom	7.1	09:31	9.38	8.22	33.02	22.29	3.4	5
F1A	20230310	Sunny	Moderate	Mid-Flood	Bottom	7.1	09:31	9.11	8.26	33.23	22.32	3.8	3
H1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:46	8.37	8.4	32.96	22.49	3.8	2.5
H1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:46	8.57	8.43	33.1	22.52	3.5	2.5
H1	20230310	Sunny	Moderate	Mid-Flood	Middle	3.9	09:45	8.41	8.39	32.78	22.31	4.6	4
H1	20230310	Sunny	Moderate	Mid-Flood	Middle	3.9	09:45	8.6	8.42	32.82	22.3	4.2	2.5
H1	20230310	Sunny	Moderate	Mid-Flood	Bottom	6.8	09:44	8.6	8.4	33.04	22.5	4.8	3
H1	20230310	Sunny	Moderate	Mid-Flood	Bottom	6.8	09:44	8.55	8.42	33.06	22.34	5.0	3
M1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:14	8.96	8.22	32.58	22.2	3.4	3
M1	20230310	Sunny	Moderate	Mid-Flood	Surface	1	09:14	9	8.26	32.61	22.28	3.2	3
M1	20230310	Sunny	Moderate	Mid-Flood	Middle	4	09:13	9.08	8.26	32.64	22.19	4.4	4
M1	20230310	Sunny	Moderate	Mid-Flood	Middle	4	09:13	9.14	8.27	32.32	22.16	4.1	2.5
M1	20230310	Sunny	Moderate	Mid-Flood	Bottom	7	09:12	9.2	8.26	32.41	22.17	4.7	2.5
M1	20230310	Sunny	Moderate	Mid-Flood	Bottom	7	09:12	9.16	8.26	32.5	22.15	4.1	2.5
B1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:43	8.78	8.37	33.48	22.42	2.4	4
B1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:43	8.81	8.37	33.43	22.46	2.7	3
B1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	3.7	12:42	8.84	8.39	33.32	22.6	3.0	2.5
B1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	3.7	12:42	8.95	8.41	33.48	22.63	2.6	2.5
B2	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:55	8.65	8.38	32.53	22.27	3.4	2.5
B2	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:55	8.55	8.4	32.54	22.36	3.0	2.5
B2	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.8	12:54	8.6	8.4	32.47	22.28	3.9	9
B2	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.8	12:54	8.63	8.42	32.66	22.35	4.7	6
B3	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:30	9.31	8.25	32.26	22.34	3.7	6
B3	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:30	9.35	8.27	32.2	22.36	3.7	4
B3	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.2	12:29	9.28	8.28	32	22.39	4.0	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B3	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.2	12:29	9.31	8.21	32.26	22.37	4.1	2.5
B4	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:40	8.57	8.25	33.25	22.56	4.4	3
B4	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:40	8.44	8.32	33.03	22.46	4.0	3
B4	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.1	12:39	8.5	8.24	33.18	22.5	4.6	5
B4	20230310	Sunny	Moderate	Mid-Ebb	Bottom	4.1	12:39	8.52	8.32	33.28	22.42	4.4	6
C1A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:20	8.49	8.35	33.49	22.46	4.8	2.5
C1A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:20	8.5	8.36	33.33	22.45	5.0	2.5
C1A	20230310	Sunny	Moderate	Mid-Ebb	Middle	5.35	12:19	8.49	8.37	33.3	22.39	4.8	3
C1A	20230310	Sunny	Moderate	Mid-Ebb	Middle	5.35	12:19	8.39	8.41	33.3	22.55	5.0	2.5
C1A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	9.7	12:18	8.44	8.36	33.5	22.42	5.4	3
C1A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	9.7	12:18	8.5	8.36	33.52	22.58	5.3	3
C2A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:20	8.54	8.31	32.63	22.57	4.2	3
C2A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	12:20	8.55	8.31	32.68	22.53	4.0	2.5
C2A	20230310	Sunny	Moderate	Mid-Ebb	Middle	6.1	12:19	8.51	8.31	32.83	22.62	4.2	4
C2A	20230310	Sunny	Moderate	Mid-Ebb	Middle	6.1	12:19	8.55	8.31	32.64	22.54	4.2	2.5
C2A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	11.2	12:18	8.47	8.33	32.88	22.63	4.5	2.5
C2A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	11.2	12:18	8.35	8.38	32.66	22.68	4.5	2.5
CR1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:40	9.05	8.36	32.41	22.72	3.9	6
CR1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:40	9.1	8.41	32.53	22.68	4.3	4
CR1	20230310	Sunny	Moderate	Mid-Ebb	Middle	6.9	13:39	9.27	8.35	32.62	22.69	4.0	7
CR1	20230310	Sunny	Moderate	Mid-Ebb	Middle	6.9	13:39	9.15	8.42	32.56	22.78	4.4	4
CR1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	12.8	13:38	9.22	8.36	32.51	22.68	4.7	5
CR1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	12.8	13:38	9.22	8.38	32.52	22.69	4.6	4
CR2	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:28	8.73	8.26	31.92	22.4	3.0	3
CR2	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:28	8.94	8.26	32.01	22.55	2.8	4
CR2	20230310	Sunny	Moderate	Mid-Ebb	Middle	5.7	13:27	8.89	8.23	32.11	22.51	3.0	3
CR2	20230310	Sunny	Moderate	Mid-Ebb	Middle	5.7	13:27	8.72	8.25	32.01	22.42	2.8	3
CR2	20230310	Sunny	Moderate	Mid-Ebb	Bottom	10.4	13:26	8.91	8.23	31.95	22.42	3.7	4
CR2	20230310	Sunny	Moderate	Mid-Ebb	Bottom	10.4	13:26	8.74	8.26	32.08	22.47	3.2	2.5
F1A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:03	8.38	8.35	33.26	22.38	2.9	2.5
F1A	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:03	8.33	8.37	33.47	22.38	3.2	2.5
F1A	20230310	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:02	8.33	8.33	33.45	22.52	2.8	2.5
F1A	20230310	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:02	8.27	8.34	33.31	22.47	2.6	3
F1A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:01	8.29	8.36	33.29	22.39	2.8	3
F1A	20230310	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:01	8.32	8.4	33.34	22.55	3.1	4
H1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:18	9.18	8.32	33.35	22.42	4.0	4
H1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:18	9.17	8.36	33.38	22.25	3.4	5
H1	20230310	Sunny	Moderate	Mid-Ebb	Middle	3.95	13:17	9.28	8.28	33.43	22.25	3.9	2.5
H1	20230310	Sunny	Moderate	Mid-Ebb	Middle	3.95	13:17	9.08	8.32	33.39	22.33	4.3	4
H1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	6.9	13:16	9.2	8.28	33.27	22.25	4.2	2.5
H1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	6.9	13:16	9.16	8.35	33.44	22.35	4.0	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
M1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:24	8.98	8.25	32.22	22.33	3.6	2.5
M1	20230310	Sunny	Moderate	Mid-Ebb	Surface	1	13:24	9.03	8.2	32.09	22.39	3.8	2.5
M1	20230310	Sunny	Moderate	Mid-Ebb	Middle	4.95	13:23	8.89	8.22	32.1	22.41	3.9	2.5
M1	20230310	Sunny	Moderate	Mid-Ebb	Middle	4.95	13:23	8.92	8.25	32.21	22.21	3.5	2.5
M1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	8.9	13:22	8.99	8.23	32.17	22.36	4.8	3
M1	20230310	Sunny	Moderate	Mid-Ebb	Bottom	8.9	13:22	8.93	8.24	32.09	22.43	4.6	4
B1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:08	9.21	8.32	32.87	22	3.7	8
B1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:08	9.3	8.33	32.66	22.11	3.3	5
B1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:07	9.22	8.32	32.76	22.03	3.6	7
B1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:07	9.12	8.38	32.81	22.01	3.6	9
B2	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:22	8.58	8.36	33.69	21.66	3.0	3
B2	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:22	8.38	8.36	33.71	21.76	2.8	5
B2	20230313	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:21	8.56	8.4	33.73	21.7	3.5	4
B2	20230313	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:21	8.59	8.43	33.6	21.72	3.0	6
B3	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.93	8.2	33.7	21.95	5.4	6
B3	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.94	8.24	33.75	21.9	5.6	4
B3	20230313	Cloudy	Moderate	Mid-Flood	Bottom	4.3	10:12	9.01	8.2	33.77	21.99	5.5	4
B3	20230313	Cloudy	Moderate	Mid-Flood	Bottom	4.3	10:12	9.03	8.26	33.76	21.96	5.7	7
B4	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:03	9.37	8.38	34.26	21.86	4.2	7
B4	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:03	9.31	8.39	34.21	21.93	4.7	6
B4	20230313	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:02	9.37	8.36	34.12	21.92	5.0	4
B4	20230313	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:02	9.27	8.38	34.12	21.89	4.5	5
C1A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:42	9.31	8.27	33.82	21.87	4.3	3
C1A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:42	9.45	8.33	33.84	21.9	4.5	4
C1A	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:41	9.4	8.27	33.67	21.88	5.5	5
C1A	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:41	9.32	8.28	33.84	21.87	5.2	4
C1A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:40	9.4	8.3	33.87	21.86	5.2	4
C1A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:40	9.32	8.32	33.64	21.86	5.3	3
C2A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	08:53	8.66	8.22	33.33	21.85	6.0	3
C2A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	08:53	8.74	8.27	33.24	21.8	5.9	4
C2A	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.95	08:52	8.69	8.26	33.23	21.86	6.2	4
C2A	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.95	08:52	8.73	8.25	33.2	21.79	6.6	2.5
C2A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	10.9	08:51	8.65	8.26	33.47	21.84	6.9	5
C2A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	10.9	08:51	8.65	8.27	33.26	21.8	6.6	7
CR1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:13	9.08	8.26	33.9	22.04	3.8	5
CR1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:13	8.95	8.22	33.93	21.97	3.5	5
CR1	20230313	Cloudy	Moderate	Mid-Flood	Middle	6.05	09:12	9.08	8.21	33.7	22.07	3.7	3
CR1	20230313	Cloudy	Moderate	Mid-Flood	Middle	6.05	09:12	8.98	8.24	33.71	22.02	4.0	5
CR1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	11.1	09:11	9.06	8.2	33.94	21.96	3.8	4
CR1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	11.1	09:11	8.97	8.23	33.7	21.97	4.4	7
CR2	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:28	8.32	8.32	32.48	21.75	5.1	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR2	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:28	8.45	8.34	32.49	21.7	5.0	5
CR2	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.55	09:27	8.37	8.33	32.63	21.66	5.1	3
CR2	20230313	Cloudy	Moderate	Mid-Flood	Middle	5.55	09:27	8.46	8.36	32.43	21.67	4.9	5
CR2	20230313	Cloudy	Moderate	Mid-Flood	Bottom	10.1	09:26	8.31	8.32	32.71	21.69	5.0	5
CR2	20230313	Cloudy	Moderate	Mid-Flood	Bottom	10.1	09:26	8.42	8.37	32.56	21.67	5.6	4
F1A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:23	9	8.26	34.12	21.83	5.0	5
F1A	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	09:23	8.95	8.21	33.97	21.75	4.3	4
F1A	20230313	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:22	8.81	8.26	34.02	21.79	5.1	4
F1A	20230313	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:22	8.79	8.28	33.95	21.77	4.8	5
F1A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:21	8.94	8.22	34.16	21.75	4.7	4
F1A	20230313	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:21	8.89	8.24	34.05	21.86	5.5	7
H1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:47	8.47	8.26	32.63	21.71	2.9	4
H1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	10:47	8.33	8.24	32.68	21.73	2.7	2.5
H1	20230313	Cloudy	Moderate	Mid-Flood	Middle	4.2	10:46	8.34	8.21	32.64	21.69	3.1	4
H1	20230313	Cloudy	Moderate	Mid-Flood	Middle	4.2	10:46	8.48	8.21	32.85	21.69	3.3	5
H1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	7.4	10:45	8.66	8.24	32.71	21.66	3.5	5
H1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	7.4	10:45	8.31	8.21	32.78	21.65	4.2	5
M1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	08:59	8.43	8.2	34.1	21.84	3.1	8
M1	20230313	Cloudy	Moderate	Mid-Flood	Surface	1	08:59	8.45	8.24	34	21.91	3.0	4
M1	20230313	Cloudy	Moderate	Mid-Flood	Middle	4.2	08:58	8.51	8.19	34.06	21.87	4.0	4
M1	20230313	Cloudy	Moderate	Mid-Flood	Middle	4.2	08:58	8.43	8.22	34.02	21.87	3.9	2.5
M1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	7.4	08:57	8.48	8.18	33.99	21.91	4.2	3
M1	20230313	Cloudy	Moderate	Mid-Flood	Bottom	7.4	08:57	8.51	8.2	34.01	21.91	3.7	5
B1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	8.9	8.23	32.82	21.74	3.5	3
B1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	8.9	8.25	32.82	21.77	3.6	3
B1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:32	8.98	8.26	32.52	21.64	4.0	8
B1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:32	8.9	8.28	32.61	21.65	3.8	9
B2	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:46	9.43	8.24	33.68	21.59	3.4	6
B2	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:46	9.54	8.24	33.64	21.61	3.3	4
B2	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	14:45	9.4	8.21	33.6	21.58	3.9	2.5
B2	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	14:45	9.54	8.22	33.64	21.64	3.7	2.5
B3	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:21	9.36	8.38	32.48	21.63	3.5	5
B3	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:21	9.33	8.39	32.45	21.69	3.2	3
B3	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:20	9.44	8.36	32.52	21.59	3.8	3
B3	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:20	9.48	8.36	32.35	21.61	3.5	2.5
B4	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	9.42	8.33	33.46	21.79	3.1	2.5
B4	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	9.35	8.34	33.29	21.81	3.3	2.5
B4	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	14:30	9.38	8.31	33.38	21.79	4.0	2.5
B4	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	14:30	9.45	8.37	33.43	21.91	3.9	3
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	9.35	8.33	33.61	21.61	5.9	5
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	9.38	8.35	33.61	21.66	5.6	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	5	14:09	9.33	8.36	33.48	21.59	6.0	4
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	5	14:09	9.36	8.38	33.31	21.61	6.2	8
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	9	14:08	9.33	8.36	33.59	21.56	7.0	4
C1A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	9	14:08	9.35	8.39	33.35	21.58	6.7	5
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	9.2	8.26	32.89	21.76	5.4	4
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	9.1	8.22	32.78	21.77	5.3	4
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	6.25	14:09	9.1	8.22	32.88	21.77	6.2	5
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	6.25	14:09	9.08	8.23	32.88	21.77	6.0	4
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	14:08	9.06	8.25	32.64	21.79	5.7	6
C2A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	14:08	9.18	8.22	32.61	21.76	5.7	6
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:30	9.28	8.24	32.29	21.82	5.4	9
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:30	9.41	8.26	32.32	21.82	5.4	5
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	6.5	15:29	9.2	8.23	32.2	21.85	4.9	3
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	6.5	15:29	9.38	8.22	32.29	21.83	5.6	5
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	12	15:28	9.24	8.23	32.2	21.86	5.5	6
CR1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	12	15:28	9.25	8.23	32.19	21.83	5.4	6
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:19	9.19	8.21	33.05	21.52	3.6	4
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:19	9.1	8.24	33.18	21.55	3.7	4
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:18	9.08	8.24	33.22	21.62	4.6	3
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:18	9.11	8.25	32.98	21.52	3.9	6
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:17	9.03	8.23	33.2	21.6	4.6	6
CR2	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:17	9.16	8.23	33.2	21.6	4.6	3
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:54	8.66	8.36	33.69	21.7	4.4	8
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	14:54	8.56	8.38	33.73	21.69	3.9	6
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.6	14:53	8.55	8.41	33.72	21.68	3.9	5
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.6	14:53	8.62	8.41	33.49	21.66	3.5	5
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	14:52	8.68	8.39	33.59	21.62	4.6	4
F1A	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	14:52	8.61	8.4	33.52	21.67	4.7	6
H1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:10	8.46	8.28	33.77	21.89	3.5	2.5
H1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:10	8.48	8.3	33.54	21.94	3.7	3
H1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.2	15:09	8.47	8.25	33.54	21.92	4.0	4
H1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.2	15:09	8.47	8.31	33.78	21.89	3.5	5
H1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	15:08	8.57	8.25	33.57	21.94	3.9	4
H1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	15:08	8.53	8.26	33.58	21.93	3.6	3
M1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:14	8.37	8.24	33.93	21.61	3.8	4
M1	20230313	Cloudy	Moderate	Mid-Ebb	Surface	1	15:14	8.44	8.24	34.15	21.71	3.6	3
M1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.45	15:13	8.33	8.26	34.13	21.63	3.5	2.5
M1	20230313	Cloudy	Moderate	Mid-Ebb	Middle	4.45	15:13	8.33	8.22	33.97	21.67	3.7	4
M1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	15:12	8.33	8.24	34.07	21.66	4.5	3
M1	20230313	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	15:12	8.42	8.23	33.99	21.64	4.4	4
B1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:15	9.84	8.36	31.79	19.25	3.1	6

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:15	9.63	8.35	31.76	19.25	2.7	5
B1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:14	9.68	8.31	31.57	19.39	3.3	8
B1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:14	9.74	8.29	31.55	19.38	3.4	5
B2	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:30	8.99	8.3	32.55	19.05	2.9	3
B2	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:30	8.69	8.33	32.63	19.19	2.6	2.5
B2	20230315	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:29	8.69	8.33	32.59	19.2	3.6	2.5
B2	20230315	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:29	8.91	8.31	32.42	19.09	3.1	2.5
B3	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:21	8.94	8.34	32.07	18.97	3.1	2.5
B3	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:21	9	8.31	31.97	18.96	2.9	2.5
B3	20230315	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:20	8.92	8.29	32.12	18.94	2.9	2.5
B3	20230315	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:20	8.89	8.33	31.88	18.95	2.7	2.5
B4	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:10	9.27	8.4	32.13	19.15	2.9	6
B4	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:10	9.29	8.33	31.85	19.25	3.1	4
B4	20230315	Cloudy	Moderate	Mid-Flood	Bottom	4	10:09	9.24	8.37	32.02	19.23	3.2	2.5
B4	20230315	Cloudy	Moderate	Mid-Flood	Bottom	4	10:09	9.22	8.4	32.19	19.25	3.6	2.5
C1A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:48	9.04	8.31	31.38	19.33	3.6	3
C1A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:48	8.89	8.29	31.29	19.24	3.5	2.5
C1A	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.4	09:47	8.85	8.32	31.37	19.21	3.3	4
C1A	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.4	09:47	8.76	8.31	31.3	19.27	3.7	2.5
C1A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	9.8	09:46	9.02	8.31	31.47	19.27	3.5	2.5
C1A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	9.8	09:46	8.79	8.3	31.35	19.2	3.5	2.5
C2A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	08:56	8.53	8.17	32.38	18.89	3.4	2.5
C2A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	08:56	8.32	8.2	32.35	18.98	3.6	2.5
C2A	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.9	08:55	8.4	8.17	32.1	19.06	4.1	2.5
C2A	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.9	08:55	8.49	8.21	32.29	19	3.9	2.5
C2A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	10.8	08:54	8.42	8.17	32.14	18.89	4.2	4
C2A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	10.8	08:54	8.43	8.17	32.31	18.98	3.9	3
CR1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:18	8.3	8.28	31.94	19.2	2.9	2.5
CR1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:18	8.32	8.28	31.83	19.15	2.9	2.5
CR1	20230315	Cloudy	Moderate	Mid-Flood	Middle	6.1	09:17	8.51	8.26	31.77	19.2	2.9	2.5
CR1	20230315	Cloudy	Moderate	Mid-Flood	Middle	6.1	09:17	8.29	8.25	31.65	19.16	2.8	2.5
CR1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	11.2	09:16	8.35	8.27	31.69	19.13	3.0	2.5
CR1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	11.2	09:16	8.51	8.26	31.88	19.1	3.2	2.5
CR2	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	8.95	8.37	32.16	19.01	3.1	2.5
CR2	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	9.19	8.34	32.29	19.01	2.8	2.5
CR2	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.9	09:33	9.06	8.32	32.12	19.04	2.7	3
CR2	20230315	Cloudy	Moderate	Mid-Flood	Middle	5.9	09:33	9.08	8.32	32.15	19.03	2.9	2.5
CR2	20230315	Cloudy	Moderate	Mid-Flood	Bottom	10.8	09:32	9.03	8.36	32.13	19.01	2.8	4
CR2	20230315	Cloudy	Moderate	Mid-Flood	Bottom	10.8	09:32	8.99	8.36	32.14	19.05	3.3	2.5
F1A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:30	9.25	8.2	30.99	18.9	3.0	2.5
F1A	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:30	9.2	8.21	31.32	18.98	2.8	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
F1A	20230315	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:29	9.2	8.23	31.2	19.02	3.0	2.5
F1A	20230315	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:29	9.36	8.2	31.25	18.94	3.1	2.5
F1A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:28	9.31	8.26	31.14	19.04	3.6	2.5
F1A	20230315	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:28	9.24	8.23	31.09	18.97	3.4	2.5
H1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:56	9.41	8.31	30.72	19.05	3.0	2.5
H1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	10:56	9.68	8.25	30.9	19.16	3.1	2.5
H1	20230315	Cloudy	Moderate	Mid-Flood	Middle	3.85	10:55	9.62	8.24	30.95	19.2	2.6	4
H1	20230315	Cloudy	Moderate	Mid-Flood	Middle	3.85	10:55	9.71	8.27	30.79	19.12	3.0	2.5
H1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	6.7	10:54	9.46	8.26	30.81	19.07	3.0	2.5
H1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	6.7	10:54	9.68	8.25	30.97	19.09	3.2	2.5
M1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:06	8.28	8.33	32.14	19.2	2.6	2.5
M1	20230315	Cloudy	Moderate	Mid-Flood	Surface	1	09:06	8.53	8.34	32.13	19.33	2.7	2.5
M1	20230315	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:05	8.35	8.34	32.01	19.27	2.9	2.5
M1	20230315	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:05	8.55	8.4	31.86	19.3	2.9	4
M1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:04	8.4	8.34	31.84	19.21	3.0	2.5
M1	20230315	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:04	8.42	8.33	31.96	19.27	3.6	2.5
B1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:31	9.46	8.21	32.51	19.13	2.9	4
B1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:31	9.42	8.21	32.49	19.16	2.5	2.5
B1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	17:30	9.48	8.23	32.5	19.14	3.5	2.5
B1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	17:30	9.43	8.19	32.58	19.09	3.4	2.5
B2	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.91	8.3	31.74	18.75	2.9	5
B2	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.89	8.27	31.69	18.77	2.4	4
B2	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	17:41	8.86	8.25	31.7	18.88	3.4	2.5
B2	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	17:41	8.82	8.27	31.68	18.86	3.2	2.5
B3	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:08	9.64	8.12	32.22	19.02	3.9	2.5
B3	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:08	9.49	8.14	32.13	19.07	4.1	4
B3	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	17:07	9.77	8.16	32.19	18.93	4.4	3
B3	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	17:07	9.61	8.1	32.1	19.07	3.7	3
B4	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:18	9.49	8.19	31.63	19.06	3.1	2.5
B4	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:18	9.61	8.26	31.62	19.03	3.0	3
B4	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	17:17	9.42	8.24	31.61	19	3.6	4
B4	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	17:17	9.38	8.22	31.55	18.94	3.7	2.5
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:09	9.37	8.2	31.81	19.04	4.9	9
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:09	9.57	8.3	31.73	18.97	4.8	10
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	5.4	17:08	9.64	8.29	31.74	19.1	4.8	9
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	5.4	17:08	9.43	8.24	31.92	19.01	5.0	7
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	17:07	9.63	8.28	31.89	18.94	5.1	3
C1A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	17:07	9.64	8.28	31.91	19	5.1	2.5
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:40	8.71	8.21	31.08	19.12	3.7	3
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:40	8.55	8.12	31.08	19.12	4.0	3
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.05	18:39	8.62	8.12	31.09	19.06	4.2	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.05	18:39	8.75	8.19	31.05	19.19	3.9	2.5
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	18:38	8.75	8.16	31.25	19.19	4.5	2.5
C2A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	18:38	8.78	8.17	31.07	19.04	4.3	3
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:24	9.2	8.22	32.7	19.09	2.9	2.5
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:24	9.47	8.19	32.57	19.07	2.6	2.5
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.5	18:23	9.32	8.17	32.61	19.14	3.0	6
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.5	18:23	9.49	8.21	32.69	19.17	2.9	4
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	12	18:22	9.29	8.19	32.62	19.04	3.2	2.5
CR1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	12	18:22	9.3	8.21	32.7	19.04	3.5	2.5
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:14	9.26	8.33	32.54	19.14	2.4	2.5
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:14	9.32	8.26	32.52	19.18	2.3	2.5
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.1	18:13	9.14	8.3	32.38	19.13	2.7	7
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Middle	6.1	18:13	9.4	8.33	32.46	19.25	2.5	6
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	18:12	9.35	8.34	32.51	19.24	2.6	2.5
CR2	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	18:12	9.37	8.25	32.34	19.19	2.8	3
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:39	8.67	8.14	31.42	18.99	2.3	2.5
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	17:39	8.6	8.12	31.41	18.96	2.3	2.5
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	3.95	17:38	8.55	8.16	31.48	18.96	2.6	2.5
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Middle	3.95	17:38	8.63	8.13	31.48	18.9	2.6	3
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	17:37	8.52	8.16	31.42	19.05	2.9	2.5
F1A	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	17:37	8.72	8.16	31.41	19	2.6	2.5
H1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:04	8.44	8.36	32.35	18.92	2.2	2.5
H1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:04	8.51	8.36	32.2	18.9	2.6	4
H1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	4.4	18:03	8.53	8.3	32.26	18.98	2.7	2.5
H1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	4.4	18:03	8.72	8.38	32.34	18.94	3.1	2.5
H1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	18:02	8.69	8.34	32.19	18.9	2.9	2.5
H1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	18:02	8.76	8.33	32.34	18.94	2.7	3
M1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:00	8.87	8.3	31.65	19.18	2.3	2.5
M1	20230315	Cloudy	Moderate	Mid-Ebb	Surface	1	18:00	9.09	8.37	31.59	19.18	2.7	2.5
M1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	4.6	17:59	8.92	8.37	31.58	19.18	2.2	2.5
M1	20230315	Cloudy	Moderate	Mid-Ebb	Middle	4.6	17:59	9.13	8.29	31.72	19.13	2.4	2.5
M1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	17:58	8.92	8.39	31.62	19.06	3.1	2.5
M1	20230315	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	17:58	9.12	8.34	31.72	19.06	3.5	2.5
B1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:44	8.48	8.11	30.13	21.36	4.5	2.5
B1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:44	8.43	8.12	30.29	21.33	3.8	2.5
B1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	4.6	10:43	8.49	8.04	30.42	21.37	4.4	2.5
B1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	4.6	10:43	8.47	8.08	30.37	21.42	5.0	2.5
B2	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:57	8.73	8.1	30.37	21	2.9	3
B2	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:57	8.83	8.1	30.21	20.99	3.0	2.5
B2	20230317	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:56	8.8	8.07	30.12	21.05	3.0	2.5
B2	20230317	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:56	8.78	8.05	30.22	21.02	3.6	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B3	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:29	9.68	8.37	29.88	21.27	3.7	2.5
B3	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:29	9.76	8.31	29.99	21.19	3.6	3
B3	20230317	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:28	9.61	8.3	30.02	21.13	3.8	2.5
B3	20230317	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:28	9.69	8.29	29.94	21.19	4.1	2.5
B4	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:19	9.25	8.3	29.83	21.45	3.7	2.5
B4	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:19	9.22	8.31	29.88	21.38	3.9	3
B4	20230317	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:18	9.35	8.36	29.9	21.48	3.7	2.5
B4	20230317	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:18	9.27	8.27	29.85	21.46	4.1	4
C1A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:22	8.51	8.31	30.84	21.15	4.9	4
C1A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:22	8.48	8.26	30.81	21.17	4.9	3
C1A	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.05	10:21	8.47	8.27	31.02	21.11	5.1	2.5
C1A	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.05	10:21	8.49	8.24	30.75	21.11	5.3	2.5
C1A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	9.1	10:20	8.45	8.3	30.94	21.18	5.5	2.5
C1A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	9.1	10:20	8.52	8.3	30.95	21.17	5.5	4
C2A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	8.88	8.13	31.46	21.09	5.6	3
C2A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	8.86	8.17	31.23	21.15	5.4	3
C2A	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.6	09:33	8.71	8.16	31.32	21.1	6.0	2.5
C2A	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.6	09:33	8.74	8.12	31.41	21.2	5.9	2.5
C2A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	10.2	09:32	8.73	8.17	31.51	21.18	6.0	2.5
C2A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	10.2	09:32	8.82	8.15	31.49	21.15	6.0	3
CR1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	9.52	8.3	29.65	21.11	4.0	2.5
CR1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	9.47	8.27	29.75	21.06	3.9	2.5
CR1	20230317	Cloudy	Moderate	Mid-Flood	Middle	6.45	09:49	9.48	8.31	29.64	21.18	4.2	2.5
CR1	20230317	Cloudy	Moderate	Mid-Flood	Middle	6.45	09:49	9.56	8.26	29.76	21.19	4.7	2.5
CR1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	11.9	09:48	9.63	8.31	29.77	21.17	4.9	2.5
CR1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	11.9	09:48	9.5	8.27	29.67	21.19	5.0	4
CR2	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:01	9.19	8.25	30.42	21.07	3.6	3
CR2	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:01	9.36	8.23	30.52	21.1	3.7	4
CR2	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.8	10:00	9.28	8.19	30.27	21.09	4.4	2.5
CR2	20230317	Cloudy	Moderate	Mid-Flood	Middle	5.8	10:00	9.28	8.22	30.3	21.04	4.1	2.5
CR2	20230317	Cloudy	Moderate	Mid-Flood	Bottom	10.6	09:59	9.26	8.3	30.28	20.96	5.0	3
CR2	20230317	Cloudy	Moderate	Mid-Flood	Bottom	10.6	09:59	9.38	8.23	30.52	20.98	4.2	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:57	8.88	8.07	30.88	21.12	3.4	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:57	8.98	8.07	30.8	21.17	3.1	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:56	9.04	8.06	31.08	21.1	3.9	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:56	8.92	8.09	31.08	21.09	3.5	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:55	8.92	8.12	31.04	21.1	4.0	2.5
F1A	20230317	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:55	9.01	8.1	31.07	21.03	4.6	2.5
H1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	8.95	8.22	29.91	21.14	4.6	2.5
H1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	8.98	8.19	29.97	21.25	5.2	2.5
H1	20230317	Cloudy	Moderate	Mid-Flood	Middle	3.8	10:08	8.88	8.21	30.05	21.25	5.3	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
H1	20230317	Cloudy	Moderate	Mid-Flood	Middle	3.8	10:08	8.96	8.2	30.04	21.14	4.7	2.5
H1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	6.6	10:07	8.98	8.2	29.82	21.11	5.6	3
H1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	6.6	10:07	8.91	8.23	29.94	21.24	5.4	2.5
M1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:35	9.32	8.21	30.99	21.38	3.3	2.5
M1	20230317	Cloudy	Moderate	Mid-Flood	Surface	1	09:35	9.38	8.31	31.02	21.46	3.4	4
M1	20230317	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:34	9.34	8.3	31.01	21.48	3.6	2.5
M1	20230317	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:34	9.48	8.29	31.03	21.36	3.4	2.5
M1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:33	9.34	8.26	31.15	21.35	4.4	2.5
M1	20230317	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:33	9.37	8.28	31.03	21.45	3.7	2.5
B1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:32	9.25	8.18	29.22	21.14	3.3	2.5
B1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:32	9.24	8.16	29.41	21.2	3.1	2.5
B1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	17:31	9.35	8.2	29.16	21.15	3.4	2.5
B1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	17:31	9.19	8.15	29.43	21.11	3.6	2.5
B2	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.75	8.21	30.24	21.17	3.7	2.5
B2	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.58	8.21	30.13	21.04	3.3	2.5
B2	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	17:41	8.64	8.19	30.11	21.06	4.5	2.5
B2	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	17:41	8.73	8.26	30.25	21.06	3.8	4
B3	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:10	9.01	8.2	30.48	20.93	4.0	2.5
B3	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:10	9.06	8.27	30.48	20.96	4.2	2.5
B3	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	17:09	8.93	8.29	30.46	21.05	4.0	3
B3	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	17:09	8.91	8.23	30.38	21.05	4.2	2.5
B4	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:20	8.88	8.29	28.59	20.79	4.3	2.5
B4	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:20	8.97	8.23	28.64	20.87	4.2	2.5
B4	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	17:19	8.98	8.23	28.85	20.9	4.7	2.5
B4	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	17:19	9.02	8.27	28.86	20.74	4.7	4
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:11	8.35	8.24	30.21	21.28	5.1	4
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:11	8.35	8.3	30.31	21.1	4.9	3
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	5.35	17:10	8.34	8.28	30.46	21.1	5.0	2.5
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	5.35	17:10	8.41	8.22	30.27	21.1	5.2	2.5
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	9.7	17:09	8.28	8.31	30.49	21.19	5.3	4
C1A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	9.7	17:09	8.23	8.23	30.24	21.15	5.2	2.5
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:39	9.51	8.17	28.65	20.94	4.3	2.5
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:39	9.54	8.12	28.83	21	4.6	2.5
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	5.8	18:38	9.52	8.2	28.83	20.97	4.8	2.5
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	5.8	18:38	9.54	8.11	28.78	20.96	4.2	3
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	18:37	9.55	8.1	28.7	21.1	4.9	2.5
C2A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	18:37	9.62	8.14	28.86	21.07	4.6	3
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:23	8.55	8.23	29.03	21.31	3.1	2.5
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:23	8.45	8.26	29.06	21.18	2.9	2.5
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	6.45	18:22	8.51	8.26	29	21.29	3.2	2.5
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	6.45	18:22	8.43	8.19	29.04	21.3	3.3	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	18:21	8.57	8.23	29.31	21.13	3.0	2.5
CR1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	18:21	8.47	8.2	29.22	21.17	3.6	2.5
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:13	9.19	8.27	29.61	21.12	2.8	2.5
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:13	9.31	8.18	29.74	21.14	3.0	2.5
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Middle	6.05	18:12	9.35	8.18	29.46	21.21	3.3	2.5
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Middle	6.05	18:12	9.17	8.28	29.48	21.07	3.6	2.5
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	18:11	9.24	8.19	29.43	21.04	4.2	8
CR2	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	18:11	9.36	8.18	29.49	21.07	3.5	7
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:40	9.23	8.14	29.52	20.91	3.9	2.5
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:40	9.31	8.22	29.52	20.84	4.0	4
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	4.15	17:39	9.44	8.21	29.49	20.87	4.2	4
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Middle	4.15	17:39	9.45	8.22	29.59	21	3.9	3
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	17:38	9.36	8.19	29.51	20.88	4.2	2.5
F1A	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	17:38	9.28	8.16	29.47	20.86	4.0	3
H1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:06	8.48	8.18	28.75	21.02	3.7	2.5
H1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	18:06	8.66	8.2	28.78	20.98	4.0	2.5
H1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	3.95	18:05	8.53	8.13	28.85	21.1	4.4	2.5
H1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	3.95	18:05	8.57	8.13	28.72	21.12	4.3	2.5
H1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	18:04	8.55	8.1	28.96	21.1	3.7	2.5
H1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	18:04	8.53	8.23	28.77	20.97	4.4	2.5
M1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:59	8.78	8.25	28.87	21.29	3.2	2.5
M1	20230317	Cloudy	Moderate	Mid-Ebb	Surface	1	17:59	8.66	8.27	29.03	21.19	3.8	4
M1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	4.45	17:58	8.82	8.21	29.05	21.21	4.0	2.5
M1	20230317	Cloudy	Moderate	Mid-Ebb	Middle	4.45	17:58	8.62	8.31	28.83	21.16	3.5	4
M1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	17:57	8.66	8.25	28.97	21.29	3.6	3
M1	20230317	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	17:57	8.62	8.22	28.83	21.29	4.2	2.5
B1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:30	9.13	8.17	32.09	21.36	3.4	2.5
B1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:30	9.21	8.17	32.12	21.31	3.2	3
B1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	11:29	9.12	8.15	32.2	21.39	3.1	6
B1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	11:29	9.24	8.16	32.13	21.29	3.0	8
B2	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:43	8.66	8.13	32.82	21.54	2.9	10
B2	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:43	8.72	8.12	32.73	21.54	2.8	10
B2	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	4.7	11:42	8.63	8.13	32.78	21.42	3.5	6
B2	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	4.7	11:42	8.68	8.16	32.76	21.51	3.1	7
B3	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:52	9.43	8.12	32.03	21.24	3.5	7
B3	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:52	9.48	8.1	32.15	21.33	3.0	5
B3	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	12:51	9.53	8.08	31.98	21.31	3.6	2.5
B3	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	12:51	9.61	8.12	31.93	21.31	3.5	2.5
B4	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:42	9.46	8.08	31.39	21.59	3.8	5
B4	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:42	9.5	8.08	31.52	21.58	3.6	6
B4	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:41	9.41	7.99	31.56	21.58	3.3	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B4	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:41	9.53	8.04	31.65	21.6	3.6	2.5
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:06	9.57	8.17	32.14	21.4	5.9	3
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:06	9.45	8.13	31.99	21.34	5.7	4
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	5.5	11:05	9.54	8.08	31.87	21.45	6.1	7
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	5.5	11:05	9.5	8.17	32.15	21.31	5.9	6
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	10	11:04	9.45	8.11	31.92	21.31	6.2	2.5
C1A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	10	11:04	9.6	8.09	32.11	21.37	6.1	4
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:45	9.37	8.09	33.06	21.26	5.2	2.5
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:45	9.45	8.09	33.03	21.27	5.1	4
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6.1	12:44	9.43	8.12	32.84	21.26	5.8	4
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6.1	12:44	9.53	8.12	33	21.24	5.6	7
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	12:43	9.49	8.08	32.81	21.37	6.0	3
C2A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	12:43	9.38	8.12	32.81	21.33	5.7	6
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	9.51	8.06	33.31	21.57	4.8	6
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	9.49	8.04	33.07	21.53	5.4	3
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6.35	12:26	9.48	8.05	33.2	21.54	5.6	9
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6.35	12:26	9.43	8.08	33.17	21.59	5.0	8
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11.7	12:25	9.49	8.03	33.18	21.48	5.4	10
CR1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11.7	12:25	9.55	8.1	33.32	21.51	5.3	9
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:16	9.14	8.19	31.59	21.37	4.1	6
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:16	9.09	8.16	31.71	21.29	4.4	5
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6	12:15	9.11	8.19	31.77	21.32	4.8	3
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Middle	6	12:15	9.16	8.22	31.58	21.26	4.6	4
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11	12:14	9.08	8.18	31.8	21.25	4.5	6
CR2	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	11	12:14	9.13	8.23	31.83	21.27	4.8	5
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	8.48	8.24	32.93	21.4	3.1	11
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	8.47	8.21	32.73	21.44	2.9	11
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.3	12:05	8.33	8.23	32.68	21.49	3.1	9
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.3	12:05	8.41	8.15	32.99	21.34	3.0	10
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	12:04	8.46	8.21	32.95	21.49	3.1	5
F1A	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	12:04	8.37	8.24	32.9	21.44	3.3	5
H1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	9.68	8.03	32.75	21.4	3.6	3
H1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	9.79	8.13	32.79	21.41	3.3	3
H1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.25	12:05	9.66	8.13	32.83	21.5	3.6	4
H1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.25	12:05	9.76	8.02	32.84	21.39	3.8	4
H1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	12:04	9.66	8.07	32.9	21.46	3.9	7
H1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	12:04	9.68	8.07	32.83	21.43	4.0	8
M1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:42	8.64	8.21	32.57	21.5	2.7	2.5
M1	20230320	Cloudy	Moderate	Mid-Ebb	Surface	1	11:42	8.68	8.21	32.61	21.61	2.9	2.5
M1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.7	11:41	8.75	8.14	32.44	21.52	2.9	6
M1	20230320	Cloudy	Moderate	Mid-Ebb	Middle	4.7	11:41	8.74	8.18	32.66	21.61	3.1	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
M1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	11:40	8.76	8.14	32.63	21.6	3.2	2.5
M1	20230320	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	11:40	8.6	8.1	32.67	21.6	3.7	2.5
B1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:52	8.88	8.22	32.7	21.47	2.3	7
B1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:52	8.85	8.26	32.79	21.45	2.3	8
B1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.9	15:51	8.88	8.18	32.87	21.43	2.7	6
B1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.9	15:51	8.92	8.2	32.73	21.45	2.7	3
B2	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:05	9.24	8.15	31.72	21.33	3.5	6
B2	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:05	9.2	8.15	31.81	21.41	3.2	7
B2	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.4	16:04	9.21	8.13	31.66	21.29	3.6	3
B2	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.4	16:04	9.15	8.16	31.7	21.32	3.5	4
B3	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:39	9.4	8.15	32.6	21.44	5.0	3
B3	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:39	9.49	8.17	32.64	21.51	4.9	6
B3	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:38	9.53	8.17	32.81	21.54	5.6	4
B3	20230320	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:38	9.4	8.18	32.68	21.64	5.4	3
B4	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:49	9.52	8.16	32.73	21.71	3.5	7
B4	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:49	9.37	8.16	32.79	21.76	3.9	7
B4	20230320	Cloudy	Moderate	Mid-Flood	Bottom	4.6	15:48	9.55	8.11	32.79	21.87	3.6	3
B4	20230320	Cloudy	Moderate	Mid-Flood	Bottom	4.6	15:48	9.46	8.11	32.78	21.81	4.1	4
C1A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:30	9.03	8.18	31.77	21.54	4.9	4
C1A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:30	8.92	8.2	31.85	21.53	4.9	3
C1A	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.3	15:29	8.97	8.17	32.05	21.4	5.2	4
C1A	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.3	15:29	8.92	8.24	31.88	21.49	4.9	2.5
C1A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	9.6	15:28	8.92	8.18	31.81	21.54	5.3	2.5
C1A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	9.6	15:28	8.86	8.19	31.85	21.53	5.7	2.5
C2A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:30	8.93	8.14	31.53	21.45	5.6	2.5
C2A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	15:30	8.86	8.16	31.61	21.39	5.3	2.5
C2A	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.5	15:29	8.87	8.14	31.68	21.47	5.7	3
C2A	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.5	15:29	8.94	8.16	31.77	21.43	5.6	6
C2A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	10	15:28	8.89	8.15	31.6	21.4	5.9	3
C2A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	10	15:28	8.85	8.14	31.5	21.49	5.9	3
CR1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:51	9.37	8.29	32.88	21.26	3.8	3
CR1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:51	9.39	8.3	32.8	21.35	3.6	2.5
CR1	20230320	Cloudy	Moderate	Mid-Flood	Middle	6.1	16:50	9.4	8.26	32.86	21.39	3.8	2.5
CR1	20230320	Cloudy	Moderate	Mid-Flood	Middle	6.1	16:50	9.35	8.3	32.95	21.33	3.3	4
CR1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	11.2	16:49	9.26	8.24	32.8	21.38	4.3	4
CR1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	11.2	16:49	9.33	8.3	32.96	21.3	4.2	3
CR2	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:38	9.06	8.14	31.9	21.51	3.4	3
CR2	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:38	9.15	8.14	31.83	21.56	3.7	3
CR2	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.75	16:37	9.11	8.13	31.81	21.61	4.5	4
CR2	20230320	Cloudy	Moderate	Mid-Flood	Middle	5.75	16:37	9.07	8.17	31.73	21.65	4.3	5
CR2	20230320	Cloudy	Moderate	Mid-Flood	Bottom	10.5	16:36	9.12	8.13	31.95	21.56	3.9	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR2	20230320	Cloudy	Moderate	Mid-Flood	Bottom	10.5	16:36	9.18	8.16	31.93	21.62	4.3	3
F1A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	9.44	8.18	31.34	21.89	4.3	4
F1A	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	9.43	8.17	31.25	21.72	4.1	2.5
F1A	20230320	Cloudy	Moderate	Mid-Flood	Middle	3.8	16:11	9.42	8.16	31.23	21.75	4.5	4
F1A	20230320	Cloudy	Moderate	Mid-Flood	Middle	3.8	16:11	9.43	8.15	31.22	21.9	3.8	3
F1A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	6.6	16:10	9.49	8.15	31.34	21.74	5.0	2.5
F1A	20230320	Cloudy	Moderate	Mid-Flood	Bottom	6.6	16:10	9.4	8.14	31.43	21.79	4.8	3
H1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:31	8.52	8.15	32.37	21.48	3.9	5
H1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:31	8.52	8.17	32.39	21.42	4.4	6
H1	20230320	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:30	8.46	8.12	32.17	21.37	4.1	8
H1	20230320	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:30	8.39	8.13	32.28	21.36	4.5	7
H1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:29	8.44	8.16	32.33	21.47	4.8	3
H1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:29	8.54	8.17	32.43	21.37	4.1	2.5
M1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:32	9.21	8.23	32.84	21.6	3.7	5
M1	20230320	Cloudy	Moderate	Mid-Flood	Surface	1	16:32	9.23	8.23	33.03	21.48	3.8	3
M1	20230320	Cloudy	Moderate	Mid-Flood	Middle	4	16:31	9.14	8.23	32.86	21.58	4.0	6
M1	20230320	Cloudy	Moderate	Mid-Flood	Middle	4	16:31	9.19	8.24	32.83	21.55	4.0	3
M1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	7	16:30	9.14	8.26	33.02	21.56	4.5	2.5
M1	20230320	Cloudy	Moderate	Mid-Flood	Bottom	7	16:30	9.11	8.28	32.88	21.53	4.7	4
B1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:30	9.77	8.34	32.94	20.96	3.9	2.5
B1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:30	9.85	8.28	32.91	21.08	4.4	3
B1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:29	9.86	8.31	32.98	21.03	4.2	2.5
B1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:29	9.77	8.34	33	21.01	4.0	2.5
B2	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:42	9.47	8.18	33.77	21.45	3.5	2.5
B2	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:42	9.64	8.18	33.92	21.46	3.4	2.5
B2	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:41	9.45	8.25	33.77	21.51	4.0	2.5
B2	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:41	9.46	8.26	33.87	21.38	3.6	2.5
B3	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:13	9.06	8.22	33.94	21.44	4.5	3
B3	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:13	9.17	8.19	33.84	21.36	3.9	2.5
B3	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	13:12	9.16	8.24	33.83	21.45	4.2	3
B3	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	13:12	9.21	8.19	33.79	21.41	3.7	5
B4	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	9.03	8.24	33.29	21.35	3.9	3
B4	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	9.19	8.26	33.14	21.41	3.8	3
B4	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	13:02	9.05	8.23	33.09	21.41	4.0	2.5
B4	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	13:02	9.01	8.25	33.27	21.34	3.8	3
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	9.02	8.18	34.11	20.98	5.8	2.5
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	8.97	8.24	34.1	20.98	5.9	4
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	5.5	12:05	9.13	8.23	34.14	20.99	6.0	3
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	5.5	12:05	8.93	8.27	34.12	21.01	6.1	2.5
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	10	12:04	9.14	8.24	33.98	21.05	6.6	4
C1A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	10	12:04	9.08	8.24	34.13	21.09	6.3	5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:39	8.84	8.34	32.87	20.99	4.3	3
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:39	8.6	8.31	32.91	21.06	4.6	5
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	6.25	13:38	8.68	8.28	32.95	20.93	4.5	2.5
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	6.25	13:38	8.81	8.34	32.86	20.98	4.5	3
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	13:37	8.73	8.33	33.05	21.02	4.6	4
C2A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	13:37	8.78	8.35	32.99	20.95	4.8	3
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:25	8.7	8.26	33.75	21.48	4.6	2.5
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:25	8.67	8.33	33.98	21.37	5.0	3
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	6.75	13:24	8.78	8.27	33.9	21.46	4.7	4
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	6.75	13:24	8.84	8.33	33.86	21.45	5.6	3
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	12.5	13:23	8.61	8.32	33.98	21.34	5.6	3
CR1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	12.5	13:23	8.87	8.35	33.93	21.32	5.3	3
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:14	10.08	8.28	32.56	21.41	4.5	2.5
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:14	9.85	8.3	32.67	21.39	5.0	4
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Middle	5.7	13:13	10.1	8.33	32.71	21.29	5.1	3
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Middle	5.7	13:13	9.98	8.32	32.5	21.45	4.8	4
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	13:12	9.85	8.3	32.59	21.39	4.9	4
CR2	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	13:12	9.83	8.32	32.64	21.28	5.2	3
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:28	9.85	8.2	33.13	21.34	3.5	3
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:28	9.66	8.23	33.19	21.21	3.5	2.5
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.05	12:27	9.67	8.18	33.22	21.33	3.8	4
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.05	12:27	9.87	8.23	33.2	21.37	4.2	6
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	12:26	9.88	8.25	33.25	21.34	4.3	3
F1A	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	12:26	9.76	8.27	33.14	21.29	4.0	4
H1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:06	8.47	8.19	33.47	21.09	3.3	4
H1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	13:06	8.47	8.22	33.58	20.98	3.4	3
H1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.4	13:05	8.48	8.17	33.5	21.04	3.9	3
H1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.4	13:05	8.46	8.17	33.56	21.04	3.6	4
H1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	13:04	8.46	8.2	33.54	20.96	3.4	3
H1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	13:04	8.54	8.19	33.43	21	3.3	3
M1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	8.59	8.31	34.18	21.51	3.5	3
M1	20230322	Cloudy	Moderate	Mid-Ebb	Surface	1	12:06	8.62	8.34	34.35	21.39	3.3	4
M1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.8	12:05	8.73	8.29	34.28	21.37	3.8	4
M1	20230322	Cloudy	Moderate	Mid-Ebb	Middle	4.8	12:05	8.48	8.28	34.3	21.37	4.0	3
M1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	12:04	8.47	8.29	34.35	21.37	4.0	4
M1	20230322	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	12:04	8.71	8.27	34.4	21.51	3.4	4
B1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:23	8.49	8.29	34.42	21.49	4.2	2.5
B1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:23	8.47	8.29	34.39	21.55	3.9	2.5
B1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4.6	16:22	8.47	8.33	34.46	21.56	4.2	3
B1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4.6	16:22	8.5	8.34	34.48	21.46	4.0	3
B2	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:36	8.93	8.27	33.61	21.22	2.9	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B2	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:36	9.05	8.32	33.49	21.08	3.3	4
B2	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4.1	16:35	8.97	8.27	33.47	21.24	3.4	3
B2	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4.1	16:35	9.01	8.31	33.72	21.16	3.6	2.5
B3	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	9.03	8.16	33	21.46	3.3	2.5
B3	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	8.93	8.19	32.94	21.61	3.4	2.5
B3	20230322	Cloudy	Moderate	Mid-Flood	Bottom	3.8	16:11	9.05	8.23	32.86	21.53	3.6	2.5
B3	20230322	Cloudy	Moderate	Mid-Flood	Bottom	3.8	16:11	9.13	8.19	33.09	21.45	3.4	2.5
B4	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:22	9.52	8.2	33.28	21.27	4.4	2.5
B4	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:22	9.34	8.26	33.22	21.28	4.4	2.5
B4	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4	16:21	9.57	8.23	33.25	21.34	4.9	2.5
B4	20230322	Cloudy	Moderate	Mid-Flood	Bottom	4	16:21	9.43	8.24	33.42	21.27	4.5	3
C1A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	9.55	8.15	33.51	21.36	4.8	2.5
C1A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	9.47	8.23	33.5	21.22	4.4	2.5
C1A	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.25	16:00	9.42	8.17	33.44	21.32	4.4	2.5
C1A	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.25	16:00	9.47	8.17	33.56	21.33	5.0	3
C1A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	9.5	15:59	9.57	8.16	33.52	21.24	5.4	3
C1A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	9.5	15:59	9.71	8.18	33.32	21.36	5.4	2.5
C2A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	9.01	8.31	33.25	21.25	6.1	3
C2A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	8.91	8.32	33.21	21.27	5.9	2.5
C2A	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.8	16:00	9.15	8.27	33.27	21.25	6.0	2.5
C2A	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.8	16:00	9.2	8.31	33.22	21.2	5.9	2.5
C2A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	10.6	15:59	9.09	8.3	33.24	21.17	6.4	3
C2A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	10.6	15:59	8.91	8.3	33.2	21.29	6.0	2.5
CR1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:22	8.58	8.26	33.29	21.06	2.8	5
CR1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:22	8.37	8.27	33.16	21.23	2.7	3
CR1	20230322	Cloudy	Moderate	Mid-Flood	Middle	6.1	17:21	8.35	8.19	33.15	21.08	2.9	3
CR1	20230322	Cloudy	Moderate	Mid-Flood	Middle	6.1	17:21	8.57	8.3	33.32	21.06	3.0	3
CR1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	11.2	17:20	8.43	8.24	33.18	21.21	3.0	4
CR1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	11.2	17:20	8.48	8.28	33.17	21.13	3.0	3
CR2	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:09	9.7	8.2	33.69	21.4	4.0	2.5
CR2	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:09	9.57	8.28	33.71	21.37	3.8	4
CR2	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.95	17:08	9.79	8.2	33.64	21.46	3.7	4
CR2	20230322	Cloudy	Moderate	Mid-Flood	Middle	5.95	17:08	9.66	8.23	33.59	21.43	4.1	3
CR2	20230322	Cloudy	Moderate	Mid-Flood	Bottom	10.9	17:07	9.67	8.18	33.46	21.44	4.0	5
CR2	20230322	Cloudy	Moderate	Mid-Flood	Bottom	10.9	17:07	9.58	8.24	33.63	21.43	4.5	5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:44	8.75	8.32	33.73	21.08	3.0	2.5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	16:44	8.89	8.31	33.87	21.15	3.0	2.5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:43	9.04	8.3	33.79	21.17	3.2	2.5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:43	8.75	8.3	33.71	21.04	3.6	2.5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:42	8.96	8.31	33.73	21.14	3.8	2.5
F1A	20230322	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:42	9.06	8.32	33.76	21.15	3.5	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
H1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:01	9.52	8.27	33.35	21.57	2.2	2.5
H1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:01	9.51	8.3	33.56	21.51	2.6	2.5
H1	20230322	Cloudy	Moderate	Mid-Flood	Middle	3.9	17:00	9.53	8.23	33.44	21.55	2.6	3
H1	20230322	Cloudy	Moderate	Mid-Flood	Middle	3.9	17:00	9.49	8.29	33.49	21.58	2.7	3
H1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	6.8	16:59	9.42	8.21	33.46	21.61	3.1	2.5
H1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	6.8	16:59	9.38	8.24	33.4	21.61	3.0	3
M1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:03	8.78	8.23	33.33	21.05	3.4	4
M1	20230322	Cloudy	Moderate	Mid-Flood	Surface	1	17:03	8.84	8.28	33.49	21.17	3.1	5
M1	20230322	Cloudy	Moderate	Mid-Flood	Middle	3.85	17:02	8.73	8.19	33.52	21.08	3.4	4
M1	20230322	Cloudy	Moderate	Mid-Flood	Middle	3.85	17:02	8.69	8.24	33.45	21.16	4.1	4
M1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	6.7	17:01	8.63	8.2	33.54	21.17	3.5	3
M1	20230322	Cloudy	Moderate	Mid-Flood	Bottom	6.7	17:01	8.76	8.2	33.59	21.09	3.7	5
B1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:19	9.41	8.25	32.62	21.38	3.0	2.5
B1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:19	9.48	8.28	32.59	21.45	2.9	2.5
B1	20230324	Sunny	Moderate	Mid-Flood	Bottom	3.7	09:18	9.41	8.3	32.78	21.46	3.5	2.5
B1	20230324	Sunny	Moderate	Mid-Flood	Bottom	3.7	09:18	9.41	8.3	32.62	21.39	3.4	2.5
B2	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:34	9.52	8.19	31.64	21.33	3.7	2.5
B2	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:34	9.51	8.12	31.67	21.2	3.9	2.5
B2	20230324	Sunny	Moderate	Mid-Flood	Bottom	4	09:33	9.45	8.17	31.63	21.3	3.8	2.5
B2	20230324	Sunny	Moderate	Mid-Flood	Bottom	4	09:33	9.56	8.16	31.53	21.29	3.6	2.5
B3	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:20	8.82	8.22	31.9	21.31	5.1	2.5
B3	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:20	8.67	8.23	31.9	21.38	4.6	4
B3	20230324	Sunny	Moderate	Mid-Flood	Bottom	4	10:19	8.83	8.24	32.01	21.4	5.3	3
B3	20230324	Sunny	Moderate	Mid-Flood	Bottom	4	10:19	8.73	8.22	31.99	21.28	5.1	2.5
B4	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:10	8.39	8.23	31.28	21.41	4.0	3
B4	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:10	8.53	8.24	31.24	21.48	4.1	3
B4	20230324	Sunny	Moderate	Mid-Flood	Bottom	3.9	10:09	8.38	8.21	31.37	21.5	4.5	2.5
B4	20230324	Sunny	Moderate	Mid-Flood	Bottom	3.9	10:09	8.35	8.23	31.2	21.39	4.1	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:51	8.36	8.23	32.95	21.49	4.2	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:51	8.5	8.24	32.99	21.37	4.2	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Middle	5.65	08:50	8.43	8.21	32.85	21.43	4.6	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Middle	5.65	08:50	8.42	8.2	32.84	21.53	4.6	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:49	8.3	8.18	32.88	21.54	5.0	2.5
C1A	20230324	Sunny	Moderate	Mid-Flood	Bottom	10.3	08:49	8.36	8.21	32.96	21.54	4.7	3
C2A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.07	8.33	31.83	21.59	5.6	2.5
C2A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:02	8.98	8.37	31.65	21.44	5.8	2.5
C2A	20230324	Sunny	Moderate	Mid-Flood	Middle	5.5	08:01	8.97	8.3	31.75	21.51	5.9	2.5
C2A	20230324	Sunny	Moderate	Mid-Flood	Middle	5.5	08:01	8.9	8.32	31.82	21.43	6.0	2.5
C2A	20230324	Sunny	Moderate	Mid-Flood	Bottom	10	08:00	9.05	8.37	31.62	21.5	5.9	3
C2A	20230324	Sunny	Moderate	Mid-Flood	Bottom	10	08:00	8.92	8.32	31.7	21.54	6.0	2.5
CR1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:21	9.74	8.28	32.77	21.2	4.7	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:21	9.63	8.31	32.68	21.31	5.0	2.5
CR1	20230324	Sunny	Moderate	Mid-Flood	Middle	6	08:20	9.58	8.27	32.7	21.2	4.9	2.5
CR1	20230324	Sunny	Moderate	Mid-Flood	Middle	6	08:20	9.8	8.32	32.8	21.25	5.1	2.5
CR1	20230324	Sunny	Moderate	Mid-Flood	Bottom	11	08:19	9.59	8.25	32.73	21.23	5.2	3
CR1	20230324	Sunny	Moderate	Mid-Flood	Bottom	11	08:19	9.78	8.32	32.76	21.28	5.4	3
CR2	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:36	9.29	8.17	31.98	21.53	3.3	2.5
CR2	20230324	Sunny	Moderate	Mid-Flood	Surface	1	08:36	9.26	8.22	32.02	21.54	3.4	2.5
CR2	20230324	Sunny	Moderate	Mid-Flood	Middle	5.45	08:35	9.24	8.17	31.98	21.54	4.2	2.5
CR2	20230324	Sunny	Moderate	Mid-Flood	Middle	5.45	08:35	9.26	8.17	31.93	21.43	3.7	2.5
CR2	20230324	Sunny	Moderate	Mid-Flood	Bottom	9.9	08:34	9.47	8.2	32.11	21.44	3.9	3
CR2	20230324	Sunny	Moderate	Mid-Flood	Bottom	9.9	08:34	9.42	8.16	31.96	21.57	3.4	5
F1A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:35	9.48	8.29	32.77	21.51	3.1	2.5
F1A	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:35	9.53	8.31	32.84	21.46	3.2	2.5
F1A	20230324	Sunny	Moderate	Mid-Flood	Middle	3.95	09:34	9.53	8.3	32.75	21.41	2.8	2.5
F1A	20230324	Sunny	Moderate	Mid-Flood	Middle	3.95	09:34	9.37	8.3	32.75	21.35	3.0	2.5
F1A	20230324	Sunny	Moderate	Mid-Flood	Bottom	6.9	09:33	9.49	8.27	32.74	21.51	4.1	2.5
F1A	20230324	Sunny	Moderate	Mid-Flood	Bottom	6.9	09:33	9.53	8.26	32.73	21.53	4.1	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:00	8.72	8.12	31.74	21.44	4.5	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	10:00	8.75	8.19	31.81	21.44	4.5	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Middle	4	09:59	8.82	8.12	31.74	21.47	4.1	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Middle	4	09:59	8.71	8.14	31.75	21.42	4.6	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Bottom	7	09:58	8.74	8.15	31.83	21.36	4.5	2.5
H1	20230324	Sunny	Moderate	Mid-Flood	Bottom	7	09:58	8.66	8.19	31.71	21.44	5.0	2.5
M1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:15	9.17	8.34	32.6	21.33	3.1	3
M1	20230324	Sunny	Moderate	Mid-Flood	Surface	1	09:15	9.25	8.34	32.52	21.31	3.7	3
M1	20230324	Sunny	Moderate	Mid-Flood	Middle	3.7	09:14	9.35	8.36	32.55	21.28	3.1	2.5
M1	20230324	Sunny	Moderate	Mid-Flood	Middle	3.7	09:14	9.26	8.31	32.42	21.28	3.4	4
M1	20230324	Sunny	Moderate	Mid-Flood	Bottom	6.4	09:13	9.24	8.36	32.44	21.37	4.5	2.5
M1	20230324	Sunny	Moderate	Mid-Flood	Bottom	6.4	09:13	9.18	8.35	32.6	21.34	4.5	2.5
B1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:46	8.57	8.23	32.69	21.07	3.5	2.5
B1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:46	8.74	8.27	32.74	21.15	3.0	4
B1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	3.6	12:45	8.56	8.26	32.8	21.21	3.5	3
B1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	3.6	12:45	8.74	8.28	32.69	21.21	4.2	5
B2	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:58	8.49	8.23	33.08	21.09	3.8	5
B2	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:58	8.71	8.31	33.1	21.07	3.7	3
B2	20230324	Sunny	Moderate	Mid-Ebb	Bottom	4	12:57	8.68	8.29	33.09	21.2	3.5	3
B2	20230324	Sunny	Moderate	Mid-Ebb	Bottom	4	12:57	8.72	8.31	33.14	21.17	3.7	6
B3	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:36	9.67	8.38	32.93	21.38	3.4	3
B3	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:36	9.71	8.32	32.98	21.36	3.6	3
B3	20230324	Sunny	Moderate	Mid-Ebb	Bottom	4.3	12:35	9.81	8.38	32.96	21.43	3.3	2.5
B3	20230324	Sunny	Moderate	Mid-Ebb	Bottom	4.3	12:35	9.55	8.37	32.97	21.45	3.2	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B4	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:46	9.55	8.19	32.53	21.12	4.6	3
B4	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:46	9.7	8.28	32.56	21.16	4.9	3
B4	20230324	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:45	9.59	8.23	32.57	21.11	4.8	2.5
B4	20230324	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:45	9.58	8.27	32.55	21.26	5.4	2.5
C1A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9	8.33	31.77	21.47	6.2	2.5
C1A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9.16	8.41	31.81	21.48	6.0	2.5
C1A	20230324	Sunny	Moderate	Mid-Ebb	Middle	5.5	12:24	8.97	8.4	31.69	21.52	6.2	2.5
C1A	20230324	Sunny	Moderate	Mid-Ebb	Middle	5.5	12:24	8.95	8.35	31.78	21.44	6.4	2.5
C1A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	10	12:23	8.95	8.38	31.75	21.43	6.3	4
C1A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	10	12:23	8.91	8.34	31.75	21.5	6.5	4
C2A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9.77	8.41	31.84	21.16	4.8	2.5
C2A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	12:25	9.71	8.43	31.78	21.21	4.1	2.5
C2A	20230324	Sunny	Moderate	Mid-Ebb	Middle	6	12:24	9.65	8.4	31.81	21.23	5.2	2.5
C2A	20230324	Sunny	Moderate	Mid-Ebb	Middle	6	12:24	9.77	8.42	31.85	21.08	4.4	2.5
C2A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	11	12:23	9.76	8.38	31.87	21.26	4.7	2.5
C2A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	11	12:23	9.81	8.4	31.89	21.11	5.1	2.5
CR1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:43	8.75	8.21	32.97	21.68	5.3	2.5
CR1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:43	8.84	8.2	32.97	21.65	5.1	3
CR1	20230324	Sunny	Moderate	Mid-Ebb	Middle	6.35	13:42	8.81	8.2	32.98	21.65	5.7	2.5
CR1	20230324	Sunny	Moderate	Mid-Ebb	Middle	6.35	13:42	8.77	8.17	32.9	21.49	4.9	4
CR1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	11.7	13:41	8.69	8.23	32.94	21.64	5.4	2.5
CR1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	11.7	13:41	8.8	8.21	32.94	21.61	5.3	3
CR2	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:32	9.22	8.37	32.95	21.07	3.9	2.5
CR2	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:32	9.17	8.34	32.87	21.22	3.7	2.5
CR2	20230324	Sunny	Moderate	Mid-Ebb	Middle	5.9	13:31	9.09	8.39	32.98	21.09	4.6	2.5
CR2	20230324	Sunny	Moderate	Mid-Ebb	Middle	5.9	13:31	9.13	8.41	32.97	21.2	4.6	4
CR2	20230324	Sunny	Moderate	Mid-Ebb	Bottom	10.8	13:30	9.15	8.34	32.86	21.16	4.1	2.5
CR2	20230324	Sunny	Moderate	Mid-Ebb	Bottom	10.8	13:30	9.1	8.38	32.89	21.11	4.3	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:08	9.74	8.32	31.82	21.24	3.0	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:08	9.71	8.34	31.72	21.31	3.1	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.05	13:07	9.78	8.26	31.8	21.28	3.7	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.05	13:07	9.73	8.35	31.74	21.17	3.6	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	7.1	13:06	9.78	8.32	31.8	21.32	3.9	2.5
F1A	20230324	Sunny	Moderate	Mid-Ebb	Bottom	7.1	13:06	9.75	8.31	31.85	21.28	3.3	2.5
H1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:23	8.5	8.35	33.11	21.25	2.4	3
H1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:23	8.43	8.3	33.1	21.22	2.8	2.5
H1	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.5	13:22	8.59	8.29	33.25	21.21	2.8	4
H1	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.5	13:22	8.69	8.34	33.22	21.2	3.0	2.5
H1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	8	13:21	8.49	8.28	33.2	21.08	2.7	2.5
H1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	8	13:21	8.43	8.28	33.16	21.18	2.7	3
M1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:30	8.33	8.23	31.83	21.57	3.1	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
M1	20230324	Sunny	Moderate	Mid-Ebb	Surface	1	13:30	8.31	8.25	31.86	21.55	3.6	3
M1	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:29	8.39	8.23	31.82	21.51	3.3	3
M1	20230324	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:29	8.25	8.21	31.98	21.41	3.8	3
M1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:28	8.3	8.27	31.86	21.39	3.7	2.5
M1	20230324	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:28	8.28	8.29	31.85	21.46	4.0	2.5
B1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:09	9.38	8.34	33.85	21.44	2.9	6
B1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:09	8.88	8.31	33.74	21.38	3.2	5
B1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	4.5	09:08	8.77	8.33	33.75	21.3	3.7	7
B1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	4.5	09:08	8.88	8.27	33.84	21.48	3.6	5
B2	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:24	9.28	8.32	32.75	21.34	2.9	6
B2	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:24	9.23	8.27	32.66	21.25	2.9	6
B2	20230327	Cloudy	Moderate	Mid-Flood	Bottom	3.5	09:23	9.28	8.25	32.62	21.38	3.5	6
B2	20230327	Cloudy	Moderate	Mid-Flood	Bottom	3.5	09:23	9.31	8.29	32.66	21.35	2.9	4
B3	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:58	9.15	8.23	33.1	21.22	2.9	2.5
B3	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:58	9.12	8.22	32.94	21.26	2.9	3
B3	20230327	Cloudy	Moderate	Mid-Flood	Bottom	3.4	09:57	9.01	8.16	32.94	21.15	3.3	6
B3	20230327	Cloudy	Moderate	Mid-Flood	Bottom	3.4	09:57	8.99	8.19	33.12	21.29	3.3	3
B4	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:49	8.82	8.27	33.64	21.37	2.6	4
B4	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:49	8.84	8.27	33.78	21.46	2.8	6
B4	20230327	Cloudy	Moderate	Mid-Flood	Bottom	4	09:48	9.21	8.27	33.68	21.31	3.1	6
B4	20230327	Cloudy	Moderate	Mid-Flood	Bottom	4	09:48	9.37	8.28	33.71	21.35	3.5	9
C1A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:46	8.65	8.21	34.11	21.39	4.2	5
C1A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:46	8.74	8.22	34.06	21.51	3.8	8
C1A	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.05	08:45	8.69	8.23	34.08	21.51	4.2	4
C1A	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.05	08:45	8.72	8.25	34.02	21.51	4.0	2.5
C1A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	9.1	08:44	8.71	8.21	34.1	21.38	4.6	3
C1A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	9.1	08:44	8.5	8.25	34.07	21.34	4.8	3
C2A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	9.29	8.2	34.19	21.15	4.9	6
C2A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	9.12	8.26	34.4	21.07	4.7	4
C2A	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:01	9.17	8.24	34.19	21.04	5.1	5
C2A	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:01	9.1	8.23	34.24	21.12	4.9	3
C2A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:00	9.11	8.24	34.25	21.05	5.4	4
C2A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:00	9.29	8.23	34.36	21.14	5.3	7
CR1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:18	9.05	8.25	34.11	21.45	3.5	4
CR1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:18	9.07	8.3	34.03	21.39	3.7	5
CR1	20230327	Cloudy	Moderate	Mid-Flood	Middle	6.35	08:17	8.98	8.27	34.13	21.4	4.5	3
CR1	20230327	Cloudy	Moderate	Mid-Flood	Middle	6.35	08:17	9.06	8.29	34.19	21.35	3.7	2.5
CR1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	11.7	08:16	8.95	8.33	34.1	21.42	4.4	6
CR1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	11.7	08:16	9.1	8.34	34.24	21.39	4.3	3
CR2	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:32	8.73	8.34	34.24	21.23	3.5	3
CR2	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:32	8.78	8.27	34.27	21.18	3.4	4

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
CR2	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:31	8.76	8.31	34.2	21.15	3.9	4
CR2	20230327	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:31	8.53	8.35	34.3	21.2	3.7	2.5
CR2	20230327	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:30	8.72	8.32	34.19	21.23	3.2	4
CR2	20230327	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:30	8.63	8.35	34.2	21.12	3.9	3
F1A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:16	9.33	8.33	34.09	21.02	3.4	4
F1A	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:16	9.28	8.32	34.12	21.04	3.4	2.5
F1A	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:15	9.17	8.33	34.23	20.97	4.3	6
F1A	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:15	9.24	8.33	34.15	20.95	4.6	4
F1A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:14	9.18	8.3	34.1	21.02	3.9	5
F1A	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:14	9.2	8.31	34.17	21.09	4.7	5
H1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	8.6	8.22	34.21	21.36	2.9	5
H1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	8.57	8.27	34.26	21.42	2.8	3
H1	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:49	8.62	8.22	34.18	21.28	3.2	2.5
H1	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.05	09:49	8.48	8.24	34.21	21.32	3.1	4
H1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:48	8.63	8.22	34.3	21.34	3.2	4
H1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.1	09:48	8.57	8.24	34.16	21.3	3.3	3
M1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:55	9.33	8.31	33.83	21.07	2.7	5
M1	20230327	Cloudy	Moderate	Mid-Flood	Surface	1	08:55	9.3	8.32	33.86	21.08	2.7	3
M1	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.1	08:54	9.09	8.31	33.93	21.18	3.3	5
M1	20230327	Cloudy	Moderate	Mid-Flood	Middle	4.1	08:54	9.12	8.34	33.84	21.18	3.0	3
M1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.2	08:53	9.23	8.23	33.79	21.09	3.2	3
M1	20230327	Cloudy	Moderate	Mid-Flood	Bottom	7.2	08:53	9.27	8.25	33.88	21.12	3.7	3
B1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	9.14	8.19	33.41	21.18	3.2	5
B1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	9.14	8.2	33.61	21.25	3.0	6
B1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:57	9.2	8.18	33.65	21.12	3.4	2.5
B1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:57	9.13	8.2	33.5	21.14	3.6	4
B2	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:10	8.48	8.21	32.81	21.14	3.7	7
B2	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:10	8.62	8.24	32.82	21.11	3.6	6
B2	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:09	8.61	8.2	32.9	21.09	3.5	3
B2	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:09	8.64	8.2	32.85	21.06	3.6	3
B3	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:32	8.55	8.19	32.57	21.19	3.9	5
B3	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:32	8.49	8.25	32.74	21.23	3.9	6
B3	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	14:31	8.48	8.23	32.65	21.27	4.6	7
B3	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	14:31	8.56	8.24	32.72	21.33	5.0	5
B4	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:42	8.46	8.22	33.4	21.35	4.3	3
B4	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:42	8.41	8.23	33.32	21.35	4.6	5
B4	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	14:41	8.43	8.19	33.47	21.26	5.1	5
B4	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	14:41	8.57	8.23	33.5	21.32	4.7	3
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	9.21	8.2	33.84	21.44	5.3	5
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	8.96	8.22	33.84	21.5	5.5	4
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.85	14:32	9.15	8.25	33.92	21.43	5.7	6

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.85	14:32	8.96	8.2	34.04	21.51	5.8	8
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	14:31	9.22	8.25	33.86	21.49	5.9	5
C1A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	14:31	9.2	8.22	33.88	21.46	5.7	7
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	16:09	8.85	8.21	32.58	21.07	4.1	8
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	16:09	8.86	8.2	32.62	21.14	4.7	7
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	6.2	16:08	8.81	8.21	32.68	21.21	4.3	4
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	6.2	16:08	8.87	8.22	32.68	21.12	4.2	7
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	11.4	16:07	8.73	8.2	32.73	21.13	4.7	3
C2A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	11.4	16:07	8.77	8.21	32.66	21.17	4.5	3
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:53	9.12	8.26	33.73	21.38	3.4	10
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:53	9.18	8.27	33.78	21.47	3.3	7
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	6.45	15:52	9.12	8.31	33.89	21.5	3.4	4
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	6.45	15:52	9.16	8.32	33.68	21.42	3.1	5
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	15:51	9.13	8.3	33.92	21.37	3.8	6
CR1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	15:51	9.04	8.31	33.84	21.46	3.7	6
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:41	9.07	8.24	33.16	21.44	3.5	5
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:41	9.06	8.19	33.08	21.48	3.7	4
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:40	9.1	8.23	33.3	21.38	3.5	4
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:40	9.05	8.24	33.09	21.42	3.7	7
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:39	9.15	8.24	33.15	21.39	3.7	6
CR2	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:39	8.97	8.25	33.27	21.4	4.0	8
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:07	8.89	8.25	32.43	21.49	2.9	6
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:07	8.85	8.28	32.4	21.46	3.1	3
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.5	15:06	8.79	8.27	32.27	21.56	3.8	8
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.5	15:06	8.85	8.28	32.25	21.61	3.8	6
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8	15:05	8.89	8.23	32.36	21.46	3.7	8
F1A	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8	15:05	8.86	8.29	32.42	21.6	4.0	7
H1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:33	8.54	8.25	33.42	21.38	3.4	4
H1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:33	8.55	8.25	33.33	21.44	3.6	5
H1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.2	15:32	8.57	8.23	33.33	21.5	3.7	6
H1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.2	15:32	8.47	8.26	33.45	21.43	3.3	5
H1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	15:31	8.55	8.23	33.38	21.38	4.3	5
H1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	15:31	8.47	8.26	33.46	21.52	3.7	6
M1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:30	8.4	8.16	33.14	21.22	2.9	3
M1	20230327	Cloudy	Moderate	Mid-Ebb	Surface	1	15:30	8.42	8.2	33.35	21.22	2.7	5
M1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.85	15:29	8.5	8.16	33.39	21.27	3.2	5
M1	20230327	Cloudy	Moderate	Mid-Ebb	Middle	4.85	15:29	8.66	8.19	33.22	21.21	3.0	7
M1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	15:28	8.48	8.17	33.12	21.15	3.7	7
M1	20230327	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	15:28	8.41	8.2	33.13	21.21	3.6	5
B1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:07	9.17	8.24	34.66	22.1	3.5	3
B1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:07	9.25	8.3	34.63	22.28	3.9	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.9	11:06	9.2	8.31	33.72	21.13	3.6	2.5
B1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.9	11:06	9.23	8.29	34.58	22.2	4.1	3
B2	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:23	9.14	8.3	33.38	22.05	2.7	2.5
B2	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:23	9.24	8.27	33.49	22.04	2.8	2.5
B2	20230329	Cloudy	Moderate	Mid-Flood	Bottom	4.1	11:22	9.2	8.26	33.39	21.98	4.0	4
B2	20230329	Cloudy	Moderate	Mid-Flood	Bottom	4.1	11:22	9.16	8.32	33.4	22.03	3.7	3
B3	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	12:19	8.32	8.18	34.62	22.4	3.5	3
B3	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	12:19	8.35	8.1	34.45	22.43	3.7	3
B3	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.6	12:18	8.4	8.14	34.41	22.33	3.8	2.5
B3	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.6	12:18	8.29	8.16	34.4	22.41	3.7	2.5
B4	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	12:09	8.3	8.19	33.29	22.34	3.5	2.5
B4	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	12:09	8.28	8.19	33.35	22.35	3.4	2.5
B4	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.8	12:08	8.25	8.18	33.42	22.35	4.4	3
B4	20230329	Cloudy	Moderate	Mid-Flood	Bottom	3.8	12:08	8.37	8.13	33.46	22.3	3.7	3
C1A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:40	8.61	8.15	34.42	22.3	5.0	3
C1A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:40	8.72	8.09	34.35	22.35	5.0	4
C1A	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.3	10:39	8.71	8.08	34.23	22.33	4.5	4
C1A	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.3	10:39	8.72	8.08	34.31	22.32	4.8	4
C1A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	9.6	10:38	8.66	8.09	34.29	22.27	4.7	3
C1A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	9.6	10:38	8.61	8.15	34.22	22.15	5.0	3
C2A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	8.17	8.15	33.76	22.13	5.6	2.5
C2A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	09:50	8.07	8.15	33.82	22.15	5.6	2.5
C2A	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.95	09:49	8.2	8.17	33.76	22.16	5.6	2.5
C2A	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.95	09:49	8.22	8.16	33.79	22.3	5.3	2.5
C2A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	10.9	09:48	8.06	8.18	34	22.06	5.9	2.5
C2A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	10.9	09:48	8.24	8.15	33.92	22.04	5.8	3
CR1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:08	8.01	8.17	33.07	22.12	3.8	2.5
CR1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:08	8.1	8.13	32.9	22.09	3.6	2.5
CR1	20230329	Cloudy	Moderate	Mid-Flood	Middle	6	10:07	8.1	8.16	33.01	21.97	3.7	3
CR1	20230329	Cloudy	Moderate	Mid-Flood	Middle	6	10:07	7.94	8.19	33	22	3.6	3
CR1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	11	10:06	8.07	8.13	33.11	21.94	4.0	3
CR1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	11	10:06	7.94	8.17	33.06	21.96	3.8	4
CR2	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:23	8.9	8.25	33.74	21.8	4.1	3
CR2	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	10:23	8.95	8.22	33.68	22.02	3.7	4
CR2	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.9	10:22	8.87	8.22	33.79	22.05	3.9	3
CR2	20230329	Cloudy	Moderate	Mid-Flood	Middle	5.9	10:22	9.03	8.26	33.76	21.81	4.6	4
CR2	20230329	Cloudy	Moderate	Mid-Flood	Bottom	10.8	10:21	8.88	8.28	33.77	21.95	4.9	5
CR2	20230329	Cloudy	Moderate	Mid-Flood	Bottom	10.8	10:21	8.91	8.24	33.7	21.96	4.2	3
F1A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:41	9.32	8.2	33.36	22.18	3.6	2.5
F1A	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:41	9.45	8.16	33.38	22.09	3.5	2.5
F1A	20230329	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:40	9.32	8.24	33.29	22.08	3.4	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
F1A	20230329	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:40	9.38	8.22	33.37	22.27	3.1	3
F1A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:39	9.46	8.17	33.39	22.02	3.9	3
F1A	20230329	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:39	9.38	8.22	33.31	22.25	4.1	3
H1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:52	9.09	8.13	32.89	22.07	2.8	2.5
H1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:52	9.12	8.19	33.02	22.22	3.0	2.5
H1	20230329	Cloudy	Moderate	Mid-Flood	Middle	3.75	11:51	9.13	8.17	33.1	22.16	2.7	2.5
H1	20230329	Cloudy	Moderate	Mid-Flood	Middle	3.75	11:51	9.16	8.15	32.86	22.18	3.0	4
H1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	6.5	11:50	9.16	8.17	33.09	22.2	3.3	3
H1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	6.5	11:50	9.25	8.14	33.03	22.12	3.2	5
M1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:20	9.17	8.23	34.37	22.26	3.3	4
M1	20230329	Cloudy	Moderate	Mid-Flood	Surface	1	11:20	9.23	8.2	34.35	22.4	3.0	3
M1	20230329	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:19	9.23	8.24	34.41	22.27	3.3	4
M1	20230329	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:19	9.17	8.2	34.34	22.26	3.4	2.5
M1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:18	9.32	8.23	34.55	22.39	2.8	4
M1	20230329	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:18	9.2	8.26	34.36	22.45	3.3	3
B1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:53	8.4	8.27	32.77	22.34	2.6	3
B1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:53	8.5	8.27	32.87	22.24	2.8	2.5
B1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	14:52	8.37	8.3	32.85	22.11	2.5	3
B1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	14:52	8.46	8.29	31.94	21.2	2.5	3
B2	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:05	8.74	8.3	32.84	21.85	3.7	2.5
B2	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:05	8.7	8.24	32.87	21.9	3.7	2.5
B2	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:04	8.76	8.27	32.89	21.81	3.6	2.5
B2	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:04	8.66	8.29	32.84	21.91	3.0	2.5
B3	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:41	8.51	8.28	33.25	21.97	3.6	2.5
B3	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:41	8.43	8.25	33.28	21.9	3.9	4
B3	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	14:40	8.52	8.24	33.27	21.87	4.2	2.5
B3	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	14:40	8.49	8.28	33.26	22.06	4.5	3
B4	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:51	9.31	8.25	32.9	22.25	3.7	2.5
B4	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:51	9.29	8.26	33	22.2	3.6	3
B4	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	14:50	9.41	8.26	32.91	22.07	4.3	3
B4	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	14:50	9.41	8.29	32.93	22.19	4.1	2.5
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	9.13	8.25	34.53	22.1	5.7	2.5
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	9.07	8.3	34.62	22.06	5.8	3
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	5.35	14:30	9.14	8.24	34.47	22.03	5.9	5
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	5.35	14:30	9.05	8.29	34.6	22.19	5.8	4
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	9.7	14:29	9.22	8.24	34.49	22.12	5.9	3
C1A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	9.7	14:29	9.12	8.27	34.45	21.99	6.1	6
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	8.41	8.31	34.55	22.02	5.0	3
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	14:31	8.3	8.32	34.47	21.94	5.1	2.5
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	6.1	14:30	8.25	8.3	34.34	22.13	5.3	2.5
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	6.1	14:30	8.43	8.26	34.54	22.04	5.0	2.5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	14:29	8.41	8.26	34.36	22.03	4.9	3
C2A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	14:29	8.42	8.32	34.39	22.15	5.2	3
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	8.77	8.26	34.63	22.11	3.9	2.5
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	8.73	8.27	34.77	22.04	4.5	2.5
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	6.55	15:47	8.63	8.24	34.67	22.06	4.2	6
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	6.55	15:47	8.62	8.25	34.6	21.99	4.6	4
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	15:46	8.58	8.24	34.61	22.09	4.6	2.5
CR1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	15:46	8.76	8.27	34.6	22.11	5.1	3
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:37	8.97	8.28	34.53	22.31	4.9	3
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:37	9.1	8.29	34.6	22.5	4.5	3
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:36	9.02	8.26	34.56	22.3	4.9	2.5
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Middle	5.8	15:36	9.08	8.3	34.55	22.36	4.9	2.5
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:35	8.95	8.29	34.36	22.41	5.1	2.5
CR2	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	15:35	9.07	8.28	34.41	22.42	4.9	3
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:14	9.23	8.2	34.55	21.96	5.0	2.5
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:14	9.34	8.23	34.59	22.13	4.7	2.5
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.3	15:13	9.25	8.19	34.43	22.01	5.3	4
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.3	15:13	9.33	8.23	34.5	21.98	5.1	2.5
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	15:12	9.33	8.18	34.54	22.01	5.0	3
F1A	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	15:12	9.42	8.22	34.6	22.05	5.0	4
H1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:29	8.98	8.23	33.09	22.35	3.6	4
H1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:29	9.08	8.27	33.1	22.27	3.5	3
H1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.35	15:28	8.96	8.2	32.98	22.36	3.5	2.5
H1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.35	15:28	9.02	8.26	32.99	22.3	3.6	2.5
H1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	15:27	9.13	8.21	32.94	22.38	4.1	3
H1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	15:27	9.13	8.26	33.11	22.27	3.9	2.5
M1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	8.43	8.26	34.23	22.24	3.6	4
M1	20230329	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	8.41	8.28	34.25	22.14	3.6	6
M1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.7	15:34	8.25	8.26	34.07	22.04	3.7	3
M1	20230329	Cloudy	Moderate	Mid-Ebb	Middle	4.7	15:34	8.41	8.27	34.16	22	3.5	2.5
M1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	15:33	8.28	8.28	34.21	22.22	4.1	3
M1	20230329	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	15:33	8.33	8.29	34.26	22.08	4.1	3

Remark:
Note 1: Measurements of turbidity would be rounding to 0.1 NTU for proven accuracy as per the equipment specs during utilization of data.

Appendix E HOKLAS Laboratory Certificate

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，
of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定
listed in the HOKLAS Directory of Accredited Laboratories within the test category of
測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised international Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格顯示在指定範疇所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 000552

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ACUMEN LABORATORY AND TESTING LIMITED
浩科檢測中心有限公司

Lot 12, Tam Kon Shan Road, North Tsing Yi, New Territories, Hong Kong
香港新界青衣北担杆山路12路段

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
在認可諮詢委員會的建議下獲香港認可處執行機關接受為

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO/IEC 17025:2005 and it has been accredited for performing specific tests or calibrations as listed in the scope of accreditation within the test category of

Environmental Testing

此實驗所符合ISO/IEC 17025:2005所訂的要求
並獲認可進行載於認可範圍內下述測試類別中的指定測試或校正工作

環境測試

This accreditation to ISO/IEC 17025:2005 demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2005 的認可資格證明此實驗所具備指定範疇內所須的技術能力並實施一套實驗所質量管理體系(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

WONG Wang-wah, Executive Administrator
執行幹事 黃宏華
Issue Date : 16 July 2014
簽發日期：二零一四年七月十六日

Registration Number : HOKLAS 241
註冊號碼：

Date of First Registration : 16 July 2014
首次註冊日期：二零一四年七月十六日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 001195

Appendix F Water Quality Equipment Calibration Certificate

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-BC010056
Date of Issue : 18 January 2023

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	HORIBA U-53
Manufacturer :	HORIBA
Serial Number :	PORBNFNT
Date of Received :	12 January 2023
Date of Calibration :	17 January 2023
Date of Next Calibration :	16 April 2023
Request No. :	D-BC010056

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500 H^+
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 21e 4500 O
Turbidity	APHA 21e 2130 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	3.94	-0.06	Satisfactory
7.42	7.54	0.12	Satisfactory
10.01	9.92	-0.09	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	11.03	1.03	Satisfactory
23	24.48	1.48	Satisfactory
33	34.19	1.19	Satisfactory

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

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.51	-4.90	Satisfactory
20	19.04	-4.80	Satisfactory
30	29.62	-1.27	Satisfactory

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

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AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager (Chemical Testing)

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-BC010056
Date of Issue : 18 January 2023

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
9.00	8.78	-0.22	Satisfactory
5.88	5.44	-0.44	Satisfactory
2.65	2.25	-0.40	Satisfactory
1.14	0.80	-0.34	Satisfactory

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

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.11	--	Satisfactory
10	10.0	0.0	Satisfactory
20	21.5	7.3	Satisfactory
100	108	8.0	Satisfactory
800	812	1.5	Satisfactory

Tolerance of Turbidity 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 ---

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-BC010055
Date of Issue : 17 January 2023

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	YSI ProDSS (Multi-Parameters)
Manufacturer :	YSI (a xylem brand)
Serial Number :	22C106561
Date of Received :	12 January 2023
Date of Calibration :	17 January 2023
Date of Next Calibration :	16 April 2023
Request No. :	D-BC010055

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500 H^+
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 21e 4500 O
Turbidity	APHA 21e 2130 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.18	0.18	Satisfactory
7.42	7.58	0.16	Satisfactory
10.01	10.14	0.13	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	9.6	-0.4	Satisfactory
23	23.4	0.4	Satisfactory
33	33.2	0.2	Satisfactory

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

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.99	-0.10	Satisfactory
20	20.29	1.45	Satisfactory
30	31.38	4.60	Satisfactory

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

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AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager (Chemical Testing)

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-BC010055
Date of Issue : 17 January 2023

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
9.00	9.03	0.03	Satisfactory
5.88	6.07	0.19	Satisfactory
2.65	3.07	0.42	Satisfactory
1.14	1.31	0.17	Satisfactory

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

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.16	--	Satisfactory
10	9.67	-3.3	Satisfactory
20	18.45	-7.8	Satisfactory
100	92.80	-7.2	Satisfactory
800	768.00	-4.0	Satisfactory

Tolerance of Turbidity 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 ---

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-BC020060
Date of Issue : 17 February 2023

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	HORIBA U-53
Manufacturer :	HORIBA
Serial Number :	PPHNOMXY
Date of Received :	15 February 2023
Date of Calibration :	17 February 2023
Date of Next Calibration :	16 May 2023
Request No. :	D-BC020060

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500 H^+
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 21e 4500 O
Turbidity	APHA 21e 2130 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.03	0.03	Satisfactory
7.42	7.42	0.00	Satisfactory
10.01	9.86	-0.15	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
11	11.36	0.36	Satisfactory
20	21.57	1.57	Satisfactory
35	34.71	-0.29	Satisfactory

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

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.93	-0.70	Satisfactory
20	20.62	3.10	Satisfactory
30	32.00	6.67	Satisfactory

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

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager (Chemical Testing)

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC020060
Date of Issue : 17 February 2023

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.57	8.49	-0.08	Satisfactory
5.53	5.13	-0.40	Satisfactory
2.91	2.66	-0.25	Satisfactory
0.10	0.00	-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	0.00	--	Satisfactory
10	9.65	-3.5	Satisfactory
20	19.5	-2.5	Satisfactory
100	97.1	-2.9	Satisfactory
800	780	-2.5	Satisfactory

Tolerance of Turbidity 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 ---

Appendix G Event / Action Plan for Water Quality Exceedance

Event	Action			
	ET	IEC	SO	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; Repeat measurement on next day of exceedance. (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 SO 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 SO 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 SO 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; Repeat measurement on next working day of exceedance. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	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 Action Level being exceeded by two consecutive sampling days)	Inform the SO 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 SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)

Event	Action			
	ET	IEC	SO	Contractor
Limit level being exceeded by one sampling day	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with Contractor, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (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 SO 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 measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the SO 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 SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)

Event	Action			
	ET	IEC	SO	Contractor
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, SO 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 Limit Level being exceeded by two consecutive sampling days)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)	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 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 Limit Level being exceeded by two consecutive sampling days)	Inform the SO 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 SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures; As directed by the SOR, 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 Limit Level being exceeded by two consecutive sampling days)

Appendix H Noise Monitoring Equipment Calibration Certificate

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***SVANTEK***
Type No.:	***971 (Serial No.: 96063)***
Microphone:	***ACO 7052 E (Serial No.:78092)***
Preamplifier:	***SVANTEK SV 18 (Serial No.:97278)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F., Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 21 June 2022

Date of calibration: 27 June 2022

Date of NEXT calibration: 26 June 2023

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Tang Cheuk Hang
Quality Manager

Date of issue: 27 June 2022

Certificate No.: APJ22-029-CC001

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

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1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature:	24.2 °C
Air Pressure:	1004 hPa
Relative Humidity:	60.8 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	93.7	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	93.7	Ref
			104		103.7	±0.3
			114		113.7	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	93.7	Ref
		Slow			93.7	±0.3

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.0	±1.5
				125	94.0	±1.5
				250	94.0	±1.4
				500	93.9	±1.4
				1000	93.7	Ref
				2000	93.7	±1.6
				4000	95.5	±1.6
				8000	92.3	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	31.5	54.8	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	77.9	-16.1 ±1.5
				250	85.3	-8.6 ±1.4
				500	90.7	-3.2 ±1.4
				1000	93.7	Ref
				2000	95.0	+1.2 ±1.6
				4000	96.6	+1.0 ±1.6
				8000	91.3	-1.1 +2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.2	-0.8 ±1.5
				125	93.8	-0.2 ±1.5
				250	94.0	-0.0 ±1.4
				500	93.9	-0.0 ±1.4
				1000	93.7	Ref
				2000	93.6	-0.2 ±1.6
				4000	94.8	-0.8 ±1.6
				8000	89.4	-3.0 +2.1; -3.1

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5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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SVANTEK

ISO9001 certified

FACTORY CALIBRATION DATA OF THE *SVAN 971 No. C119577*

with preamplifier SVANTEK type SV 18 No. C122487 and

with microphone ACO type 7052E No. 85197

1. CALIBRATION* (acoustical)

LEVEL METER function; Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: **114.03** dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	114.03	114.05	0.02
A	114.03	114.05	0.02
C	114.03	114.05	0.02

Calibration measured with the microphone ACO type 7052E No. 85197. Calibration factor: 0.74 dB.

2. LINEARITY TEST* (electrical)

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 31.5 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 1000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{sin}= 8000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 31.5 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 1000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	-0.0	0.0	-0.0	-0.0	-0.1	-0.1	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{sin}= 8000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.0	0.0

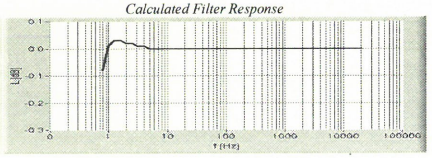
1/3 OCTAVE (1kHz); Range: Low; f_{sin}= 1000 Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

4. FREQUENCY RESPONSE* (electrical)

LEVEL METER function; Characteristic: Z; Range: Low; Input signal =120 dB;

Calculated Filter Response



Measured Filter Response with Preamplifier SV18 (f-frequency, L-level)

f [Hz]	L [dB]	f [Hz]	L [dB]	f [Hz]	L [dB]
10	-0.1	63	0.0	4000	0.0
12.5	-0.0	125	0.0	8000	0.0
16	0.0	250	0.0	16000	0.0
20	0.0	500	0.0	20000	0.0
25	0.0	1000	0.0		
31.5	0.0	2000	0.0		

All frequencies are nominal center values for the 1/3 octave bands

5. INTERNAL NOISE LEVEL* (electrical - compensated)

LEVEL METER function; Range: Low; (Back-light – off) ; Calibration factor: 0dB

Characteristic	Z	A	C
Level [dB]	≤20	≤12	≤12

* measured with preamplifier SVANTEK type SV 18 No. C122487.

6. INTERNAL NOISE LEVEL (acoustical - compensated)

LEVEL METER function; Characteristic: A; (Backlight – off)

Range	Low	High
Indication [dB]	≤15	20.5

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 73421

ENVIRONMENTAL CONDITIONS

Temperature	Relative humidity	Ambient pressure
23 °C	42%	1008 hPa

TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 401	100	Signal generator
2.	SVANTEK	SVAN 912A	4369	Sound & Vibration Analyser
3.	RIGOL	DM3068	DM30155100773	Digital multimeter
4.	SVANTEK	SV33B	93171	Acoustic calibrator
5.	SVANTEK	ST02	-	Microphone equivalent electrical impedance (18pF)

CONFORMITY & TEST DECLARATION

1. Herewith Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass them.

2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the GUM (Central Office of Measures) reference standard - sound level calibrator type 4231 No 2292773.

3. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.

4. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Calibration specialist: Cezary Dardziński ……

Test date: 2022-10-11

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***SVANTEK***
Type No.:	***971 (Serial No.: 96062)***
Microphone:	***ACO 7052 E (Serial No.:79778)***
Preamplifier:	***SVANTEK SV 18 (Serial No.:97276)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F., Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5 Hz to 4k Hz)**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 21 June 2022

Date of calibration: 27 June 2022

Date of NEXT calibration: 26 June 2023

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Tang Cheuk Hang
Quality Manager

Date of issue: 27 June 2022

Certificate No.: APJ22-029-CC002

ACOUSTICS AND AIR TESTING LABORATORY CO LTD (A+A)*L

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Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

1. Calibration Conditions:

Air Temperature:	24.2 **°C**
Air Pressure:	1004 **hPa**
Relative Humidity:	60.8 **%**

2. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

3. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dB SPL	Fast	94	31.5	94.3	±2.0
				63	94.2	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.7	±1.6
				4000	93.1	±1.6

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBA SPL	Fast	94	31.5	54.9	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	94.9	+1.2 ±1.6
				4000	94.2	+1.0 ±1.6

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.5	dBC SPL	Fast	94	31.5	91.3	-3.0 ±2.0
				63	93.4	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.6	-0.2 ±1.6
				4000	92.4	-0.8 ±1.6

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

4. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.15
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***Svantek***
Type No.:	***971 (Serial No.: 103449)***
Microphone:	***ACO 7052E (Serial No.: 78092)***
Preamplifier:	***SV 18 (Serial No.:78763)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F, Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon,
	Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 8kHz)**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 2 February 2023

Date of calibration: 6 February 2023

Date of NEXT calibration: 5 February 2024

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 6 February 2023

Certificate No.: APJ22-136-CC001

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature:	23.9 °C
Air Pressure:	1006 hPa
Relative Humidity:	47.9 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dB SPL	Fast	94	31.5	94.2	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.9	±1.6
				4000	93.6	±1.6
				8000	90.9	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dBA SPL	Fast	94	31.5	54.8	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	95.1	+1.2 ±1.6
				4000	94.6	+1.0 ±1.6
				8000	90.0	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
25-124.3	dBC SPL	Fast	94	31.5	91.2	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.0	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.7	-0.2 ±1.6
				4000	92.9	-0.8 ±1.6
				8000	88.1	−3.0 +2.1: −3.1

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.10
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Certificate No. D224350E

JCSS 0197

CALIBRATION CERTIFICATE

Product	:	SOUND CALIBRATOR
Type	:	NC-75
Serial number	:	34724244
Manufacturer	:	RION CO., LTD.
Calibration quantities	:	Sound pressure level (with reference standard microphone)
Calibration method	:	Measured by specified secondary standard microphone according to JCSS calibration procedure specified by RION.
Ambient conditions	:	Temperature 23.9 ℃, Relative humidity 49 %, Static pressure 99.9 kPa
Calibration date	:	05/07/2022 (DD/MM/YYYY)
Calibration location	:	3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan RION CO., LTD. Calibration Room

We hereby certify that the results of this calibration were as follows.

Issue date : 11/07/2022 (DD/MM/YYYY)

Junichi Kawamura
Manager
Quality Assurance Section,
Quality Assurance Department,
Environmental Instrument Division,
RION CO., LTD.
3-20-41 Higashimotomachi, Kokubunji,
Tokyo 185-8533, Japan

Certificate No. D224350E

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured value	Expanded uncertainty *1
93.99 dB	0.09 dB

Specified secondary standard microphone:
Type : 4160
Serial number : 2973341
Reference Sound pressure : 2×10^{-5} Pa

*1 Defines an interval estimated to have a level of confidence of approximately 95 %.
Coverage factor k=2

Calibration result is the calibration value in ambient conditions during calibration.

BE OUT OF JCSS CALIBRATION

1. Frequency

Measured value	Measurement uncertainty (k=2)
1000.0 Hz	3.9×10^{-4} Hz

Working measurement standard universal counter:
Type : 53132A
Serial number : MY40005574
(JCSS Calibration Certificate No. 21081499079575510)

2. Total distortion

Measured value
0.2 %

Working measurement standard distortion meter:
Type : VA-2230A
Serial number : 11076061
(A2LA Calibration Certificate No. 1501-03080)

- closing -

RION

Appendix I Event / Action Plan for Noise Exceedance

Event	Actions to be taken by Environmental Team as immediate as practicable	Actions to be taken by Independent Environmental Checker as immediate as practicable	Actions to be taken by Supervising Officer's Representative as immediate as practicable	Actions to be taken by Contractor as immediate as practicable
Action Level being exceeded	1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, SO and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working .days after the exceedance is identified)	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the SO accordingly; 3. Advise the SO on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified).	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified).	1. Submit noise mitigation proposals to IEC and SO; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)
Limit Level being exceeded	1. Inform IEC, SO, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and SO on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SO informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Discuss amongst SO, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the SO accordingly. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and SO within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the SO until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Appendix J Noise Monitoring Data

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1 (M1 / N_S1)

Monitoring date: 06, 16, 20, 27 March 2023 (Daytime)

06&07, 16&17, 20&21, 27&28 March 2023 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Mar 2023	13:44	-	14:14	Sunny	61.9	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
06 Mar 2023	19:14	-	19:19	Fine	51.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:29	-	20:34		51.2		
	21:34	-	21:39		51.4		
07 Mar 2023	1:09	-	1:14	Fine	51.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:19	-	3:24		51.8		
	5:19	-	5:24		48.5		
16 Mar 2023	13:58	-	14:28	Sunny	59.5	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
16 Mar 2023	19:18	-	19:23	Fine	45.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:03	-	20:08		44.7		
	21:18	-	21:23		44.8		
17 Mar 2023	1:28	-	1:33	Fine	45.7	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:23	-	3:28		50.9		
	5:18	-	5:23		51.0		
20 Mar 2023	13:36	-	14:06	Fine	61.1	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
20 Mar 2023	19:11	-	19:16	Fine	48.4	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:06	-	20:11		48.3		
	21:26	-	21:31		48.6		
21 Mar 2023	1:26	-	1:31	Cloudy	46.3	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:26	-	3:31		46.1		
	5:26	-	5:31		48.2		
27 Mar 2023	13:35	-	14:05	Fine	58.7	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
27 Mar 2023	19:20	-	19:25	Fine	46.2	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	20:20	-	20:25		42.6		
	21:10	-	21:15		43.6		
28 Mar 2023	1:15	-	1:20	Fine	39.7	SVAN 971 (Serial No. 96062)	Rion NC-75 (No.34724244)
	3:25	-	3:30		40.3		
	5:20	-	5:25		40.9		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2 (M2 / N_S2)

Monitoring date: 06, 16, 20, 27 March 2023 (Daytime)

06&07, 16&17, 20&21, 27&28 March 2023 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Mar 2023	13:49	-	14:19	Sunny	57.1	SVAN 971 (Serial No. C119577)	Rion NC-75 (No.34724244)
06 Mar 2023	19:14	-	19:19	Fine	52.1	SVAN 971 (Serial No. C119577)	Rion NC-75 (No.34724244)
	20:29	-	20:34		53.7		
	21:24	-	21:29		51.6		
07 Mar 2023	1:14	-	1:19	Fine	51.2	SVAN 971 (Serial No. C119577)	Rion NC-75 (No.34724244)
	3:24	-	3:29		51.3		
	5:24	-	5:29		49.4		
16 Mar 2023	13:40	-	14:10	Sunny	57.1	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
16 Mar 2023	19:15	-	19:20	Fine	51.0	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	20:05	-	20:10		50.3		
	21:15	-	21:20		50.8		
17 Mar 2023	1:20	-	1:25	Fine	49.4	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	3:25	-	3:30		51.0		
	5:25	-	5:30		49.7		
20 Mar 2023	13:47	-	14:17	Fine	56.7	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
20 Mar 2023	19:12	-	19:17	Fine	50.5	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	20:07	-	20:12		49.4		
	21:27	-	21:32		50.3		
21 Mar 2023	1:27	-	1:32	Cloudy	48.9	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	3:27	-	3:32		48.7		
	5:27	-	5:32		48.6		
27 Mar 2023	13:42	-	14:12	Fine	57.5	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
27 Mar 2023	19:22	-	19:27	Fine	50.7	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	20:22	-	20:27		50.0		
	21:07	-	21:12		49.6		
28 Mar 2023	1:12	-	1:17	Fine	49.6	SVAN 971 (Serial No. 103449)	Rion NC-75 (No.34724244)
	3:27	-	3:32		49.7		
	5:22	-	5:27		49.7		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3 (M3 / N_S3)

Monitoring date: 06, 16, 20, 27 March 2023 (Daytime)

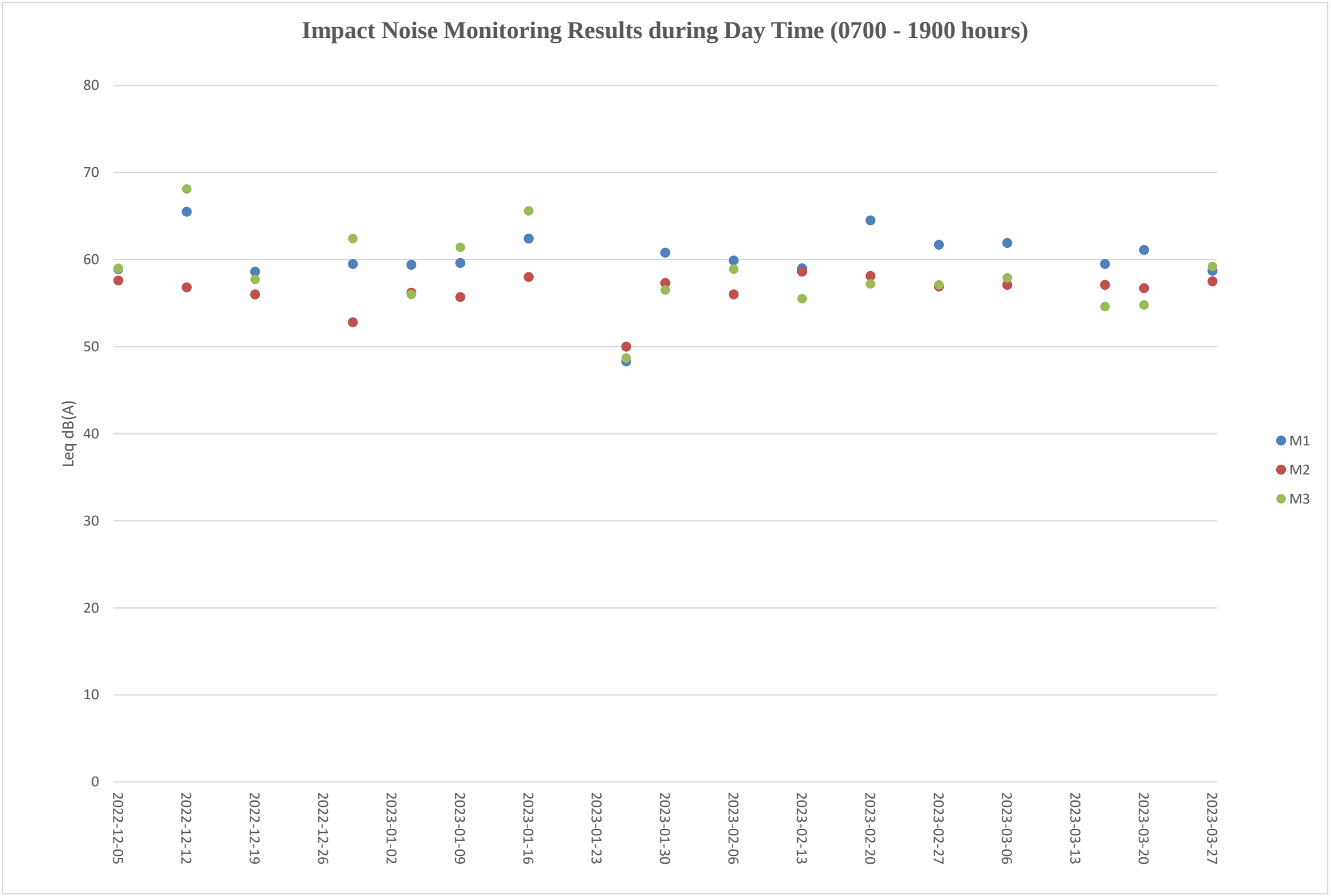
06&07, 16&17, 20&21, 27&28 March 2023 (Evening & Night time)

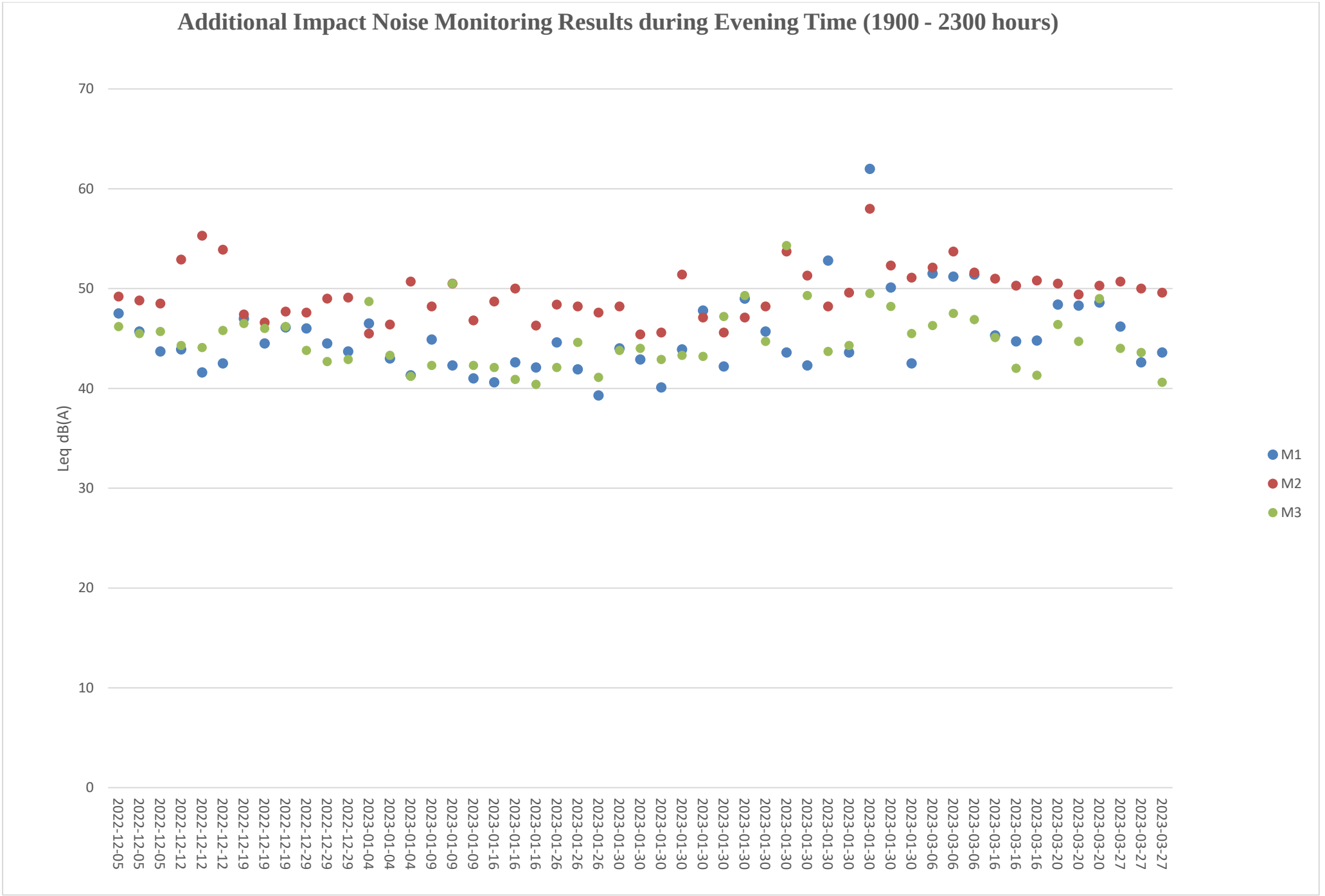
Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Air-conditioner

Noise Monitoring data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
06 Mar 2023	13:43	-	14:13	Sunny	57.9	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
06 Mar 2023	19:13	-	19:18	Fine	46.3	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:28	-	20:33		47.5		
	21:33	-	21:38		46.9		
07 Mar 2023	1:13	-	1:18	Fine	47.7	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:03	-	3:08		47.3		
	5:08	-	5:13		43.6		
16 Mar 2023	13:33	-	14:03	Sunny	54.6	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
16 Mar 2023	19:13	-	19:18	Fine	45.1	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:08	-	20:13		42.0		
	21:23	-	21:28		41.3		
17 Mar 2023	1:18	-	1:23	Fine	45.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:18	-	3:23		48.1		
	5:18	-	5:23		44.3		
20 Mar 2023	13:02	-	13:32	Fine	54.8	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
20 Mar 2023	19:07	-	19:12	Fine	46.4	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:07	-	20:12		44.7		
	21:27	-	21:32		49.0		
21 Mar 2023	1:22	-	1:27	Cloudy	43.3	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:12	-	3:17		39.5		
	5:07	-	5:12		43.3		
27 Mar 2023	13:38	-	14:08	Fine	59.2	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
27 Mar 2023	19:23	-	19:28	Fine	44.0	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	20:23	-	20:28		43.6		
	21:23	-	21:28		40.6		
28 Mar 2023	1:18	-	1:23	Fine	43.4	SVAN 971 (Serial No. 96063)	Rion NC-75 (No.34724244)
	3:23	-	3:28		45.9		
	5:23	-	5:28		46.3		


Impact Noise Monitoring Results during Day Time (0700 - 1900 hours)
Leq dB(A)
80
70
60
50
40
30
20
10
0
2022-12-05
2022-12-12
2022-12-19
2022-12-26
2023-01-02
2023-01-09
2023-01-16
2023-01-23
2023-01-30
2023-02-06
2023-02-13
2023-02-20
2023-02-27
2023-03-06
2023-03-13
2023-03-20
2023-03-27
M1
M2
M3


Additional Impact Noise Monitoring Results during Evening Time (1900 - 2300 hours)
Leq dB(A)
70
60
50
40
30
20
10
0
2022-12-05
2022-12-05
2022-12-05
2022-12-12
2022-12-12
2022-12-12
2022-12-19
2022-12-19
2022-12-19
2022-12-29
2022-12-29
2022-12-29
2023-01-04
2023-01-04
2023-01-04
2023-01-09
2023-01-09
2023-01-09
2023-01-16
2023-01-16
2023-01-16
2023-01-26
2023-01-26
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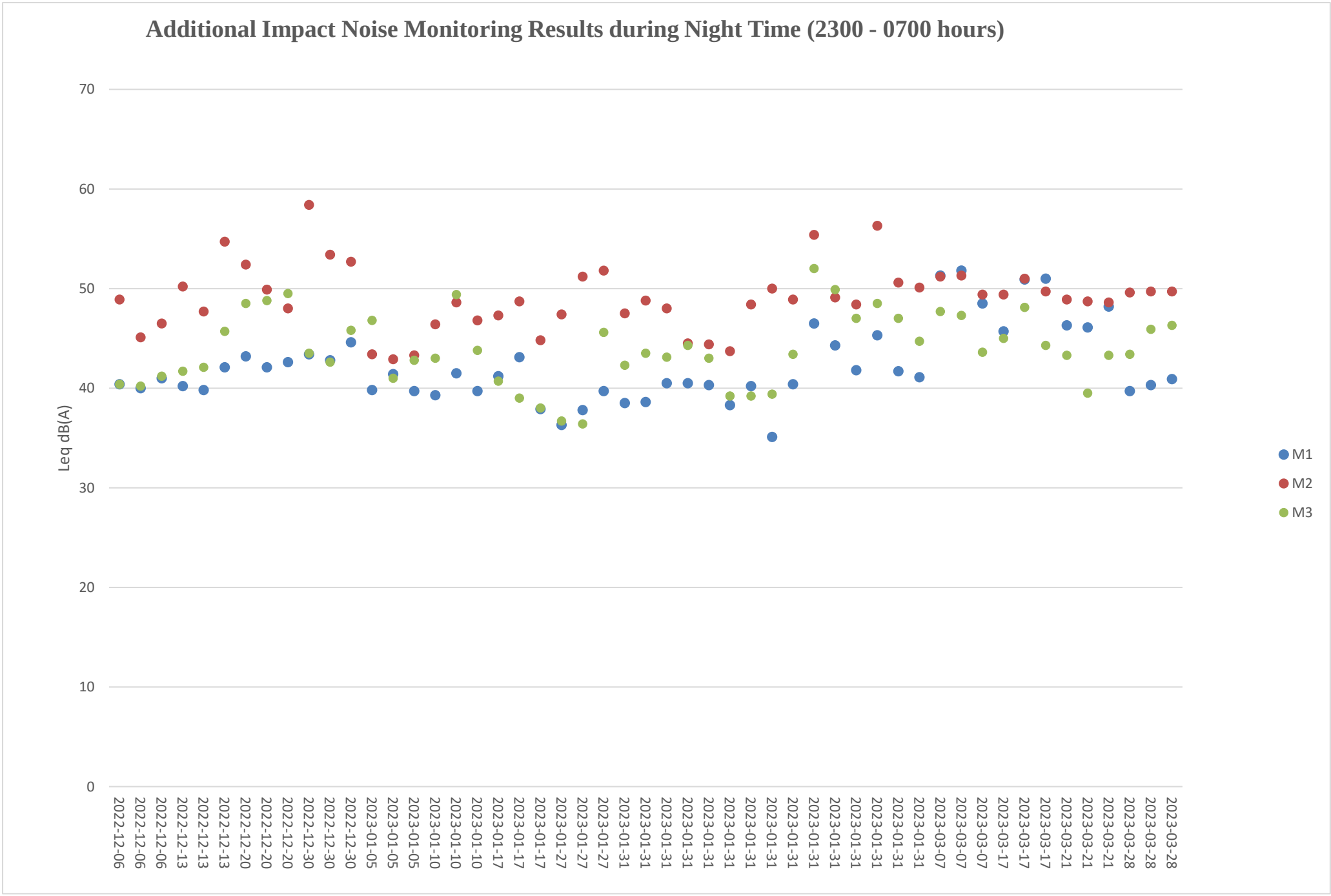
2023-01-30
2023-01-30
2023-03-06
2023-03-06
2023-03-06
2023-03-16
2023-03-16
2023-03-16
2023-03-20
2023-03-20
2023-03-20
2023-03-27
2023-03-27
2023-03-27
M1
M2
M3


Additional Impact Noise Monitoring Results during Night Time (2300 - 0700 hours)
Leq dB(A)
70
60
50
40
30
20
10
0
2022-12-06
2022-12-06
2022-12-06
2022-12-13
2022-12-13
2022-12-13
2022-12-20
2022-12-20
2022-12-20
2022-12-30
2022-12-30
2022-12-30
2023-01-05
2023-01-05
2023-01-05
2023-01-10
2023-01-10
2023-01-10
2023-01-17
2023-01-17
2023-01-17
2023-01-27
2023-01-27
2023-01-27
2023-01-31
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2023-01-31
2023-01-31
2023-03-07
2023-03-07
2023-03-07
2023-03-17
2023-03-17
2023-03-17
2023-03-21
2023-03-21
2023-03-21
2023-03-28
2023-03-28
2023-03-28
M1
M2
M3

Appendix K Waste Flow Table

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2018 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0065
Sep	0	0	0	0	0	2.9619	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	3.0771	0	0	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	6.7871	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	59.0709	0	0	0	0	0	0.2000	0.8700	0
Total	0	0	0	0	0	71.8970	0	0	0	0	0	0.2000	0.8700	0.0195

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2019 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	82.6139	0	0	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	46.7821	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	97.1000	0	0.7552	0	0.2560	0	0	0	0
Apr	0	0	0	0	0	58.0413	0	0	0	0	0	0	0	0
May	0	0	0	0	0	14.5625	0	1.4648	0	0	0	0	0	0.0065
Jun	0	0	0	0	0	0	0	6.8421	0	0	0	0	0	0
Sub-total	0	0	0	0	0	299.0998	0	9.0621	0	0.2560	0	0	0	0.0130
Jul	0	0	0	0	0	0	0	0.4289	0	0	0	0	8.4000	0.0130
Aug	0	0	0	0	0	2.5775	0	10.5600	0	0	0	0	0	0
Sep	0	0	0	0	0	6.1081	0	8.4704	0	0.3530	0	0	0	0.0065
Oct	0	0	0	0	0	9.8875	0	7.1900	0	0	0	0	0	0
Nov	0	0	0	0	0	38.3088	0	19.3105	0	0	0	0	0	0.0195
Dec	0	0	0	0	0	54.3469	0	26.9807	0	0	0	0	0	0.0910
Total	0	0	0	0	0	410.3286	0	82.0026	0	0.6090	0	0	8.4000	0.1430

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2020 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	37.1550	0	25.0812	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	27.7910	0	18.8300	0	0	0	0	0	0.0065
Mar	0	0	0	0	0	22.5669	0	26.1586	0	0	0	0	7.2000	0.0065
Apr	0	0	0	0	0	12.7800	0	10.1825	0	0	0	0	0	0.0195
May	0	0	0	0	0	16.1138	0	24.3740	0	0.4220	0	0	0	0.0195
Jun	0	0	0	0	0	31.5177	0	28.3030	0	0	0	0	0	0.0065
Sub-total	0	0	0	0	0	147.9244	0	132.9293	0	0.4220	0	0	7.2000	0.0650
Jul	0	0	0	0	0	34.7856	17.0606	35.1800	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	27.1375	65.5667	27.9335	0	0	0	0	0	0
Sep	0	0	0	0	0	11.9813	110.1328	43.5435	0	0	0	0	0	0.0195
Oct	0	0	0	0	0	2.8213	131.6600	22.5415	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	0	162.1811	44.6475	0	0.4090	0	0	0.4000	0.0130
Dec	0	0	0	0	0	0	174.9800	57.8380	0	0	0	0	0	0.0130
Total	0	0	0	0	0	224.6501	661.5812	364.6133	0	0.8310	0	0	7.6000	0.1430

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司
Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2021 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	198.1311	36.4775	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	0	143.9511	20.9960	0	0	0	0	0	0.6305
Mar	0	0	0	0	0	0	103.1833	23.4510	0	0	0	0	0	0.0130
Apr	0	0	0	0	0	0	161.2956	27.2810	0	0	0	0	0	0.0130
May	0	0	0	0	0	0	193.3300	20.5265	0	0	0	0	0	0.0715
Jun	0	0	0	0	0	0	141.5728	23.7825	0	0.2440	0	0	0	0.0455
Sub-total	0	0	0	0	0	0	941.4639	152.5145	0	0.2440	0	0	0	0.7800
Jul	0	0	0	0	0	0	105.1083	30.6065	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	0	11.1822	7.5180	0	0	0	0	0	0.0130
Sep	0	0	0	0	0	0	0	5.7575	0	0	0	0	0.6000	0.0390
Oct	0	0	0	0	0	0	0	6.8885	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	6.2975	0	0.1610	0	0	0	0.0130
Dec	0	0	0	0	0	0	0	5.9235	0	0	0	0	0	0
Total	0	0	0	0	0	0	1057.7544	215.5060	0	0.4050	0	0	0.6000	0.8645

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3.
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司

Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2022 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects (see Note 4)	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	0	0	0	0	0	0	4.9389	2.7070	0	0.1550	0	0	0	0.0715
Feb	0	0	0	0	0	0	3.2478	4.0290	0	0	0	0.4000	0.2250	0
Mar	0	0	0	0	0	0	2.3422	2.7820	0	0	0	0	0	0.0780
Apr	0	0	0	0	0	0	18.2189	5.8100	0	0.3120	0	0	0	0.1495
May	0.0648	0	0	0	0.0648	0	16.7711	17.2320	0	0	0	0	0	0.0975
Jun	0.0037	0	0	0	0.0037	0.2115	1.1128	14.1470	36.3000	0.3890	0	0	1.7250	0.0975
Sub-total	0.0685	0	0	0	0.0685	0.2115	46.6317	46.7070	36.3000	0.8560	0	0.4000	1.9500	0.4940
Jul	25.7183	0	0	25.7183	0	0.1125	0.8333	17.5210	0	0.6400	0.0060	0	0	0.1235
Aug	13.2494	0	0	13.2494	0	0	0	24.5210	76.0300	1.8870	0	0	0	0.1170
Sep	24.9072	0	0	24.8494	0.0578	0	0	16.2815	72.0600	0.3060	0	0	0	0.1885
Oct	13.3139	0	0	13.3006	0.0133	0	0	11.8665	78.1000	0.5800	0	0	0	0.2405
Nov	26.5583	0	0	26.5583	0	0	0	7.2055	0	0	0	0	0	0.1105
Dec	29.1411	0	0	29.1411	0	0	0	3.5174	0	0	0	0	0	0.2535
Total	132.9567	0	0	132.8171	0.1396	0.3240	47.4650	127.6199	262.4900	4.2690	0.0060	0.4000	1.9500	1.5275

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3.
(5) Materials recycled.

吉寶西格斯 - 振華聯營公司
Keppel Seghers - Zhen Hua Joint Venture

Monthly Summary Waste Flow Table for 2023 (year)

Project : Integrated Waste Management Facilities, Phase 1 Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects (see Note 4)	Disposed as Public Fill (see Note 4)	Imported Fill Sand (see Note 4)	Imported Fill Public fill (see Note 4)	Imported Fill Rock (see Note 4)	Metals (see Note 5)	Paper/ cardboard packaging (see Note 5)	Plastics (see Note 2, 5)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m^3)	(in ,000m^3)	(in ,000m^3)	(in ,000m^3	(in ,000m^3)	(in ,000m^3)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m^3)
Jan	24.6728	0	0	24.6728	0	0	0	1.3545	0	0.3150	0	0	0	0.1365
Feb	26.7206	0	0	26.7206	0	0	0	1.8990	11.1501	0	0.0007	0	0	0.1235
Mar	22.1089	0	0	22.1089	0	0	0	0.9025	0	0	0	0	0	0.1105
Apr														
May														
Jun														
Sub-total	73.5023	0	0	73.5023	0	0	0	4.1560	11.1501	0.3150	0.0007	0	0	0.3705
Jul														
Aug														
Sep														
Oct														
Nov														
Dec														
Total	73.5023	0	0	73.5023	0	0	0	4.1560	11.1501	0.3150	0.0007	0	0	0.3705

Notes:
(1) Broken concrete for recycling into aggregates.
(2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
(3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m^3 by volume.
(4) Use the conversion factor: sand density = 1.6T/m^3, public fill density = 1.8T/m^3 and rock density = 2T/m^3.
(5) Materials recycled.

Appendix L Event / Action Plan for Coral Monitoring

Event	Action			
	ET Leader	IEC	SO	Contractor
Action Level Exceedance	1. Check monitoring data 2. Inform the IEC, SO ,and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SO accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make the agreement on the measures to be implemented.	1. Inform the SO and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SO; 3. Implement the agreed measures.
Limit Level Exceedance	1. Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, propose enhancement measures for consideration.	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SO accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make the agreement on the measures to be implemented.	1. Inform the SO and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SO; 3. Implement the agreed measures.

Appendix M Event / Action Plan for White-Bellied Sea Eagle

Event	Action		
	Environmental Team	**Audit Team**	**Contractor**
Absence of White-bellied Sea Eagle during a whole day of monitoring.	Inform audit team. Increase monitoring frequency to daily.	Inform site engineer and contractor. If the absence remains: • Review construction activities and noise monitoring records of the associated period; • Identify potential causes of the absence; • Propose remedial measures, such as change of construction method and sequence; • Confirm the feasibility of the proposed remedial measures with site engineer and contractor; • Discuss with environmental team about the effectiveness of the proposed remedial measures.	Implement the agreed remedial measures.

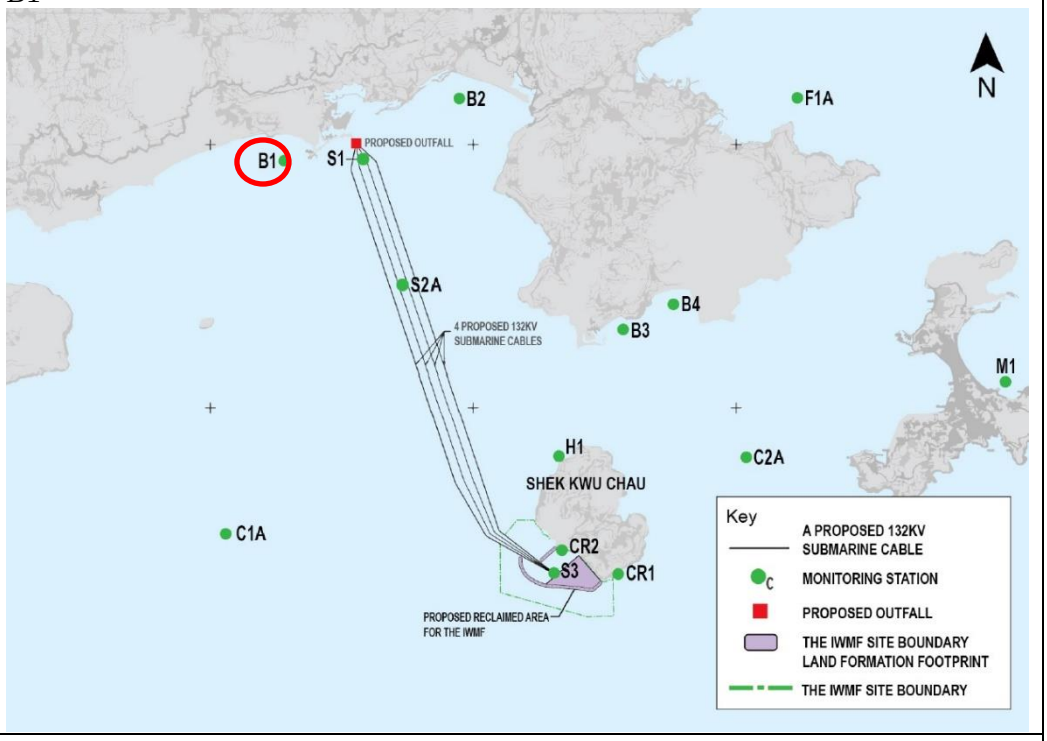
Appendix N Exceedance Report

Statistical Summary of Exceedances in the Reporting Period

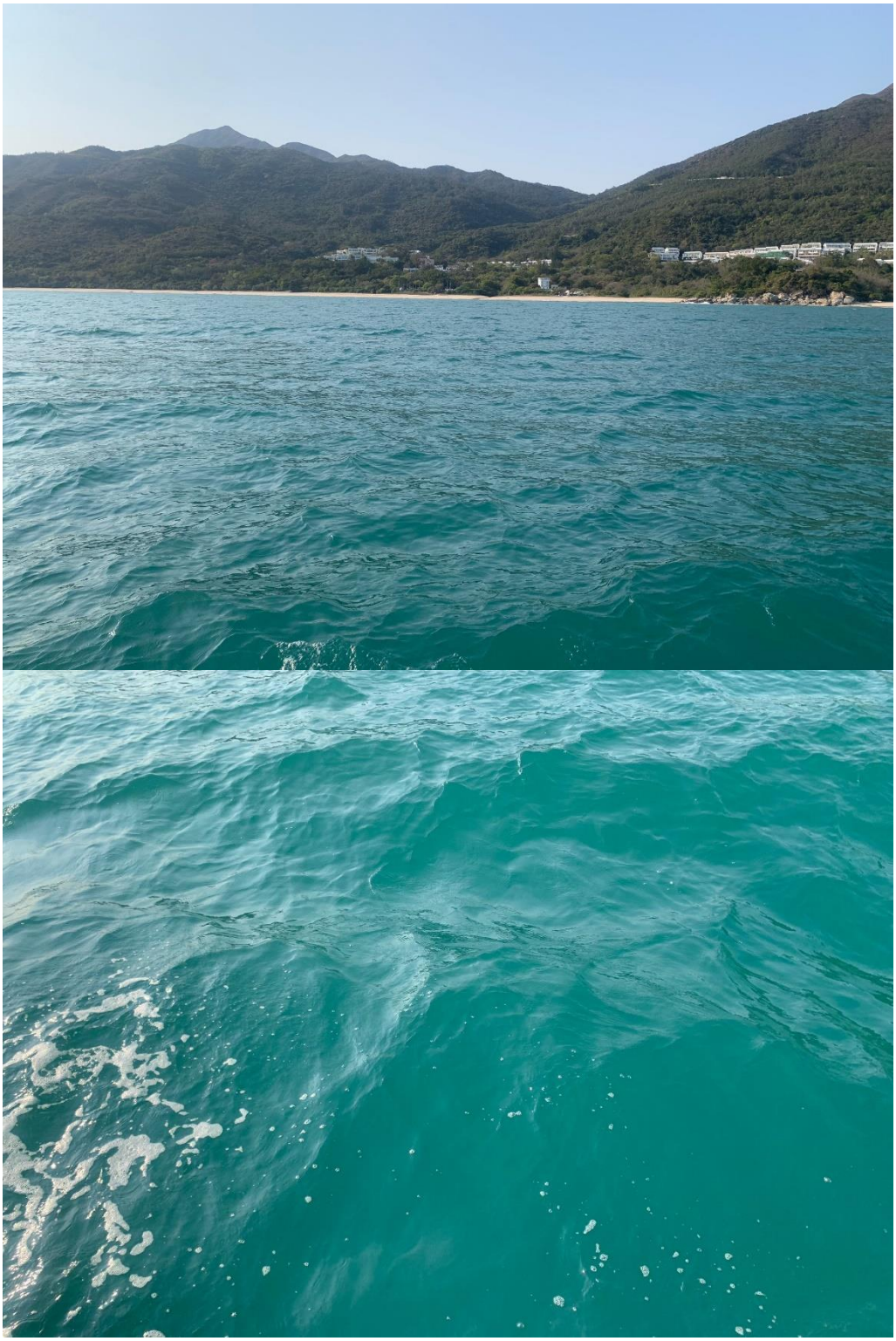
Water Quality (Regular Monitoring)			
Location	**Action Level**	**Limit Level**	**Total**
B1	0	1	1
B2	2	0	2
B3	0	0	0
B4	0	0	0
CR1	0	0	0
CR2	0	0	0
F1A	1	0	1
H1	0	0	0
S1	Not applicable		
S2A	Not applicable		
S3	Not applicable		
M1	0	0	0

Noise (Day Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Evening Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Night Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0	0

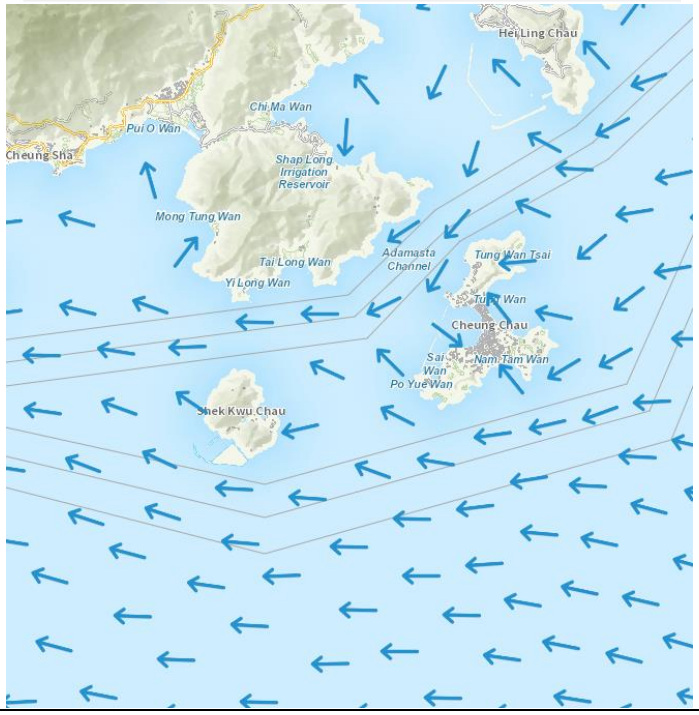
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	06 Mar 2023 (Lab result received on 10 March 2023)		
Time	15:54 – 19:00 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 8.0 mg/L	≥ 10.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	15.3 mg/L (B1)	3.7 mg/L (C1A) 2.8 mg/L (C2A)	5.0 mg/L (B2) 2.9 mg/L (B3) 4.0 mg/L (B4) 3.0 mg/L (H1) 3.2 mg/L (F1A) 4.1 mg/L (CR1) 3.9 mg/L (CR2) 3.6 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 06 Mar 2023 include piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, pile cap construction, blockwork seawall and existing caisson extension, and Process Building construction works. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. An exceedance of limit level was found at B1. B1 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. An exceedance at B1 is deemed to be unrelated to the Project. The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.		

	According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event. No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly site inspection on 07 March 2023. After the investigation, the exceedance on 06 March 2023 during flood tide at B1 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B1: 

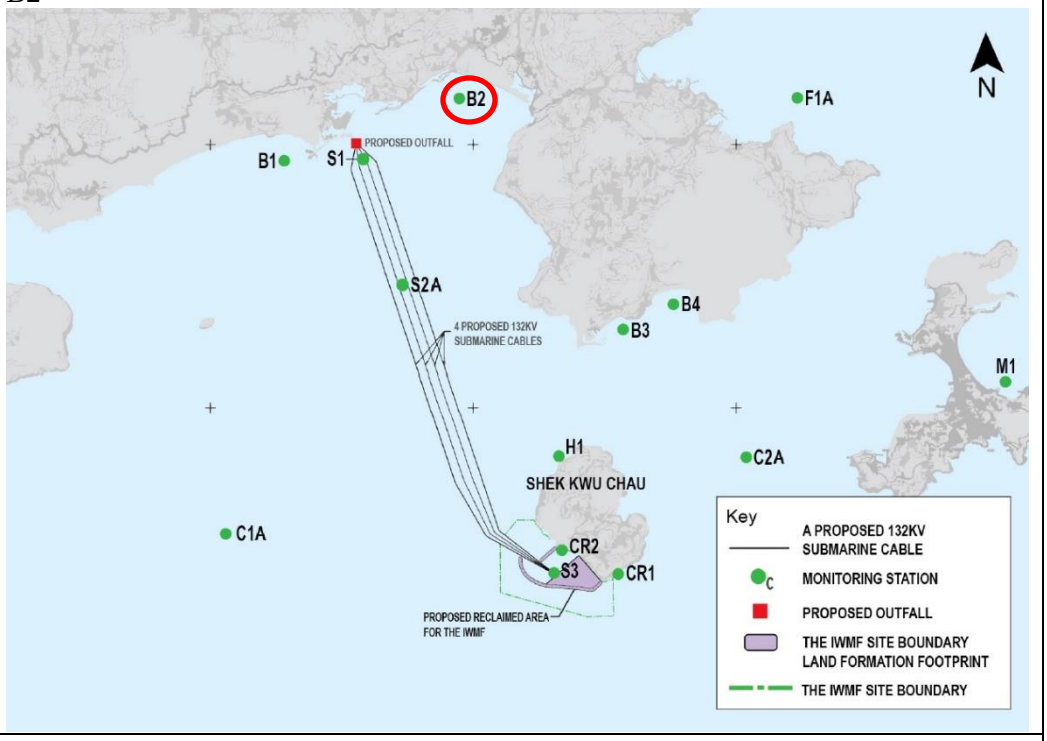
Remarks	Current direction during mid-flood sampling on 06 Mar 2023:



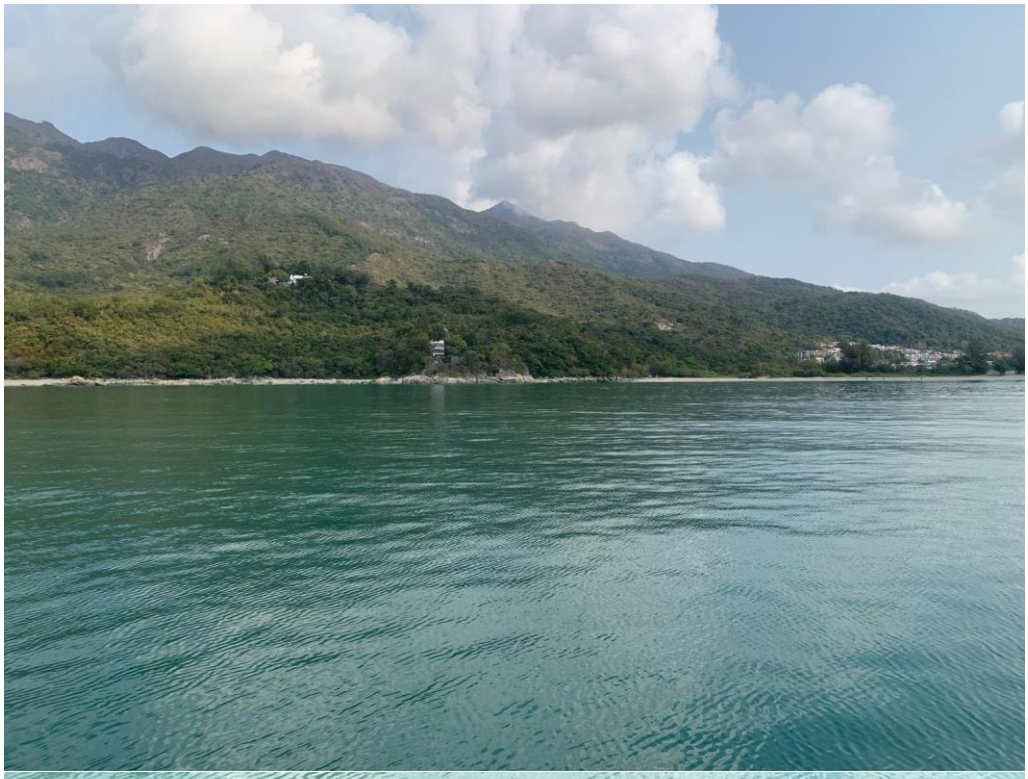
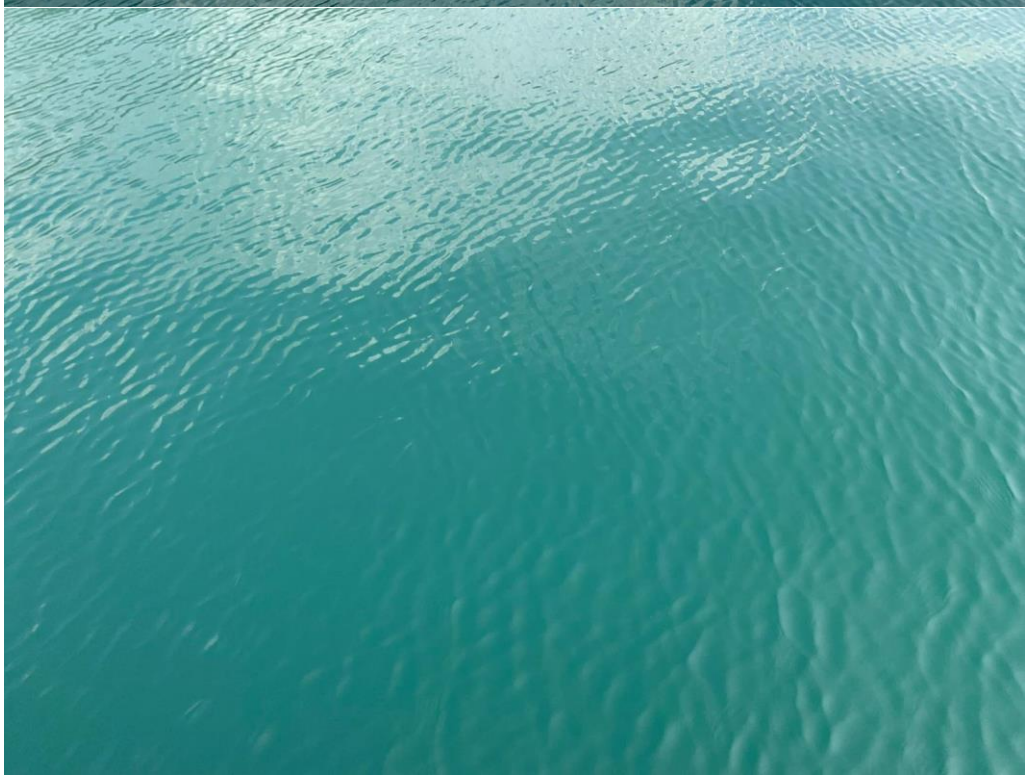
(Sourced from http://current.hydro.gov.hk/en/map.html)

Prepared by	Jack Chow
Date	14 Mar 2023

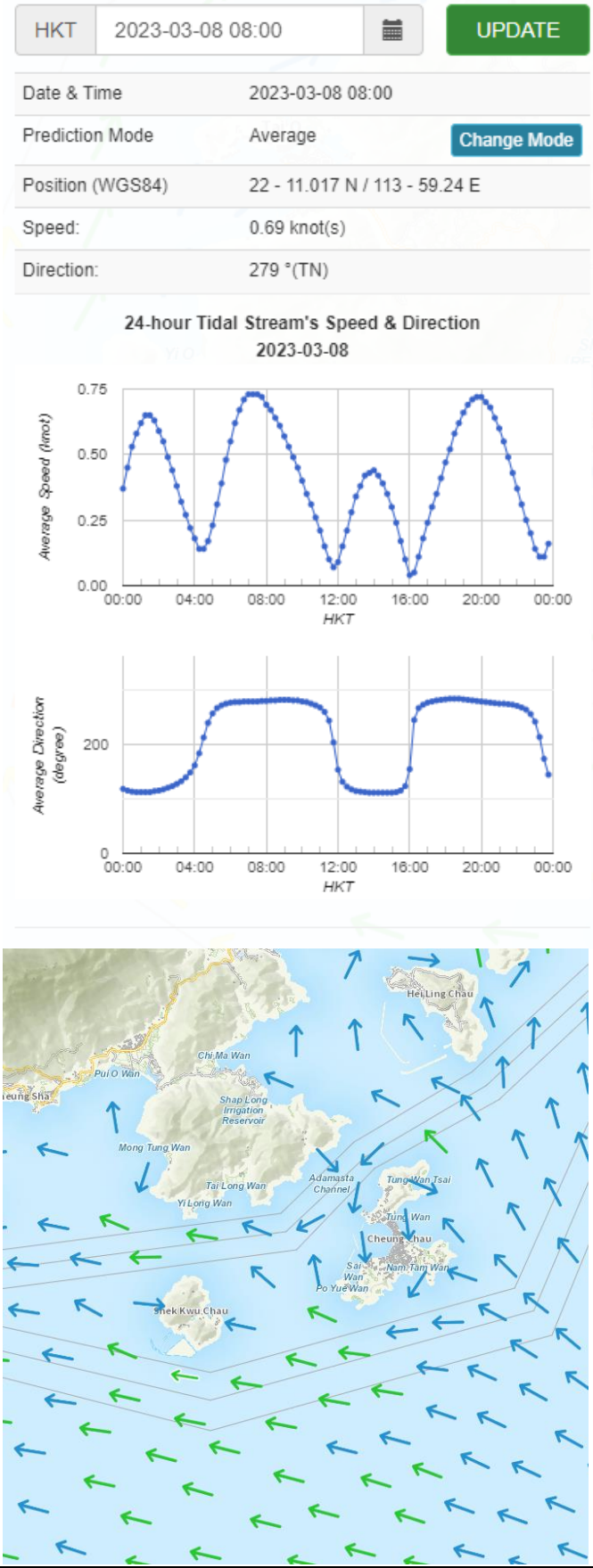
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	08 Mar 2023 (Lab result received on 13 March 2023)		
Time	08:00 – 10:02 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B2 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 8.0 mg/L	≥ 10.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.0 mg/L (B2)	3.8 mg/L (C1A) 2.9 mg/L (C2A)	5.6 mg/L (B1) 4.9 mg/L (B3) 2.8 mg/L (B4) 2.7 mg/L (F1A) 2.5 mg/L (H1) 2.8 mg/L (M1) 2.5 mg/L (CR1) 2.5 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 08 Mar 2023 include piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, pile cap construction, blockwork seawall and existing caisson extension, and Process Building construction works. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. An exceedance of action level was found at B2. B2 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. An exceedance at B2 is deemed to be unrelated to the Project. The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.		

	According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event. No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly site inspection on 14 March 2023. After the investigation, the exceedance on 08 March 2023 during flood tide at B2 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B2:  

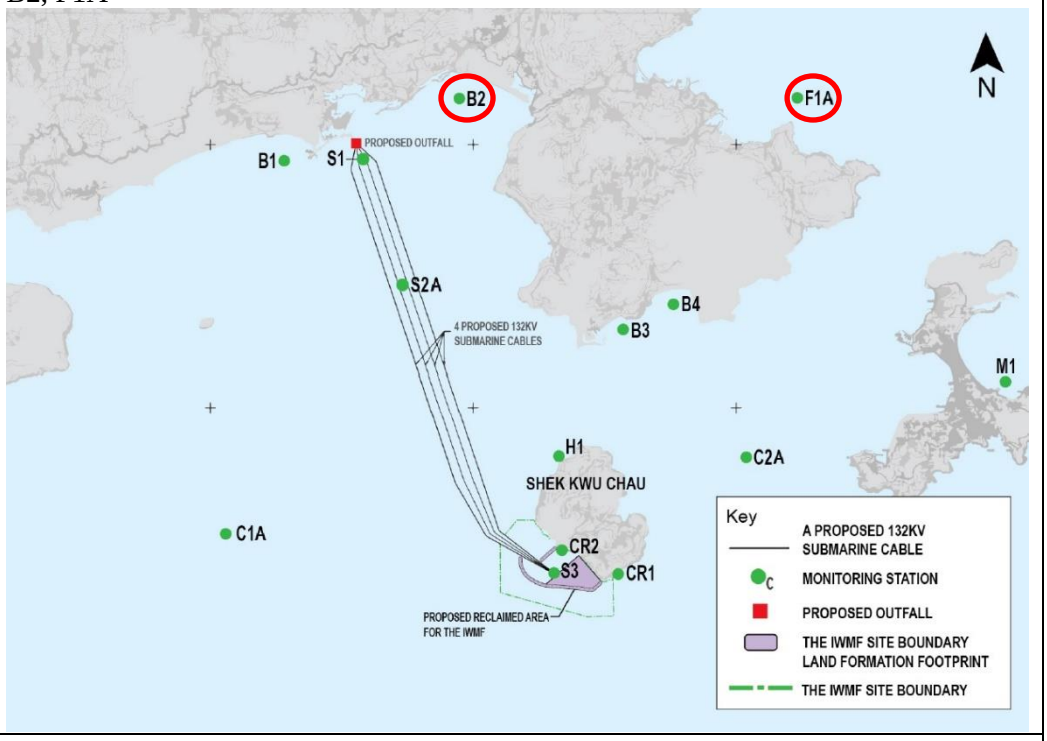
Remarks	Current direction during mid-flood sampling on 08 Mar 2023:



(Sourced from http://current.hydro.gov.hk/en/map.html)

Prepared by	Jack Chow
Date	22 Mar 2023

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	20 Mar 2023 (Lab result received on 27 March 2023)		
Time	10:09 – 13:39 (Mid-Ebb)		
Mid-Ebb			
Monitoring Location	B2, F1A 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 8.0 mg/L	≥ 10.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.3 mg/L (B2) 8.5 mg/L (F1A)	3.1 mg/L (C1A) 3.3 mg/L (C2A)	4.9 mg/L (B1) 4.3 mg/L (B3) 4.0 mg/L (B4) 4.8 mg/L (H1) 3.3 mg/L (M1) 7.5 mg/L (CR1) 4.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 20 Mar 2023 include piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, pile cap construction, blockwork seawall and existing caisson extension, and Process Building construction works. Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. Exceedances of action level were found at B2 and F1A. B2 and F1A are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances at B2 and F1A are deemed to be unrelated to the Project. The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.		

	According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was overcast during the sampling event. No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly site inspection on 21 March 2023. After the investigation, the exceedances on 20 March 2023 during ebb tide at B2 and F1A are deemed to be unrelated to the Project.

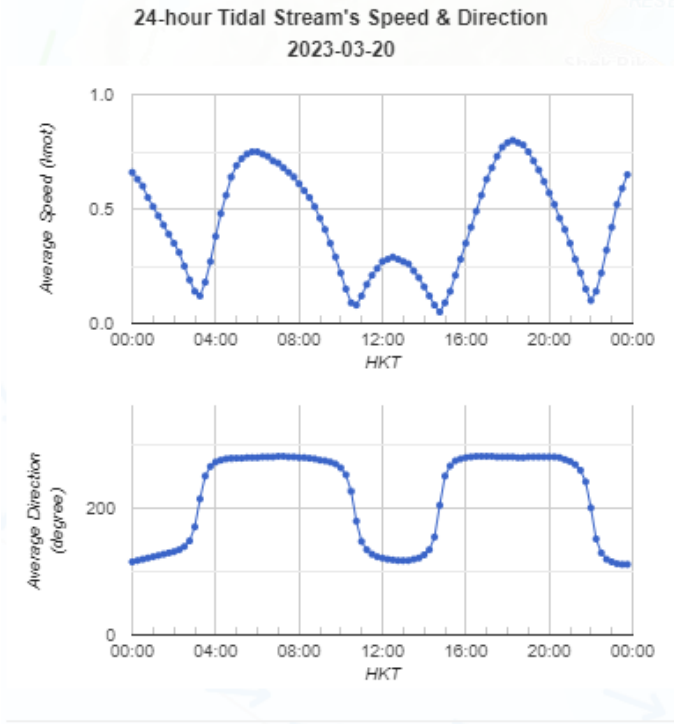
Monitoring photos of stations with exceedance	B2:  

F1A:

Remarks	Current direction during mid-ebb sampling on 20 Mar 2023:

HKT 2023-03-20 11:30 UPDATE

Date & Time	2023-03-20 11:30
Prediction Mode	Average Change Mode
Position (WGS84)	22 - 11.017 N / 113 - 59.24 E
Speed:	0.21 knot(s)
Direction:	127 °(TN)



(Sourced from http://current.hydro.gov.hk/en/map.html)

Prepared by	Jack Chow
Date	30 Mar 2023

Appendix O Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	**Cumulative**	**Complaint Nature**
01 Mar 2023- 31 Mar 2023	0	1	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	**Cumulative**	**Details**
01 Mar 2023- 31 Mar 2023	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	**Cumulative**	**Details**
01 Mar 2023- 31 Mar 2023	0	0	N/A

Appendix P Impact Monitoring Schedule of Next Reporting Month

Impact Monitoring Schedule for IWMF

Apr-23

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Impact Ecology monitoring for WBSE
2 Impact Ecology monitoring for WBSE	3 Impact Daytime & Evening Noise monitoring for M1, M2 & M3 Ecology monitoring for WBSE	4 Impact Night time Noise monitoring for M1, M2 & M3 Ecology monitoring for WBSE	5	6	7	8
9	10	11 Impact Daytime & Evening Noise monitoring for M1, M2 & M3	12 Impact Monitoring Night time Noise monitoring for M1, M2 & M3 Ecology monitoring for WBSE	13	14	15
16	17 Impact Daytime & Evening Noise monitoring for M1, M2 & M3	18 Impact Night time Noise monitoring for M1, M2 & M3	19	20	21	22
23	24 Impact Daytime & Evening Noise monitoring for M1, M2 & M3	25 Impact Night time Noise monitoring for M1, M2 & M3	26 Impact Monitoring Ecology monitoring for WBSE	27	28	29
30						

Remarks:
1. Daytime Noise Monitoring (07:00-1900), Evening Time Noise Monitoring (1900-2300), Night Time Noise Monitoring (2300-0700)
2. Water Quality Monitoring for S1,S2 and S3 will only conduct during DCM works, refer to Detailed DCM Plan
3. No marine construction work is tentatively scheduled to be carried out in April 2023