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.44

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

Monthly EM&A Report No.44
(Period from 1 February to 28 February 2022)

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

Document No.

KSZHJV	/	312	/	Monthly EM&A	/	0044	/	A
Issuer		**Project Code**		**Type of Document**		**Sequential No.**		**Revision Index**

	Prepared by:	Certified by:	Verified by:
Name	Joe Ho	F.C. Tsang	Mandy To
Position	Environmental Team	Environmental Team Leader	Independent Environmental Checker
Signature			
Date:	11 March 2022	11 March 2022	11 March 2022

Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
A	First Submission	14 March 2022

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 44th 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 February to 28 February 2022.

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:
  - Reclamation works
  - PVD Remedial Works
  - Installation of Instrumentation
  - Site Investigation works for foundation
  - Foundation works
- Seawall Portion:
  - Installation of caisson
  - Installation of Chinese Pod
  - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
  - Construction of wave wall along the vertical seawall

A5. The major environmental impacts brought by the above construction activities include:

- Deterioration of water quality of nearby water body by reclamation

A6. 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;

- Regulation on rate and means for filling works as stipulated in Table 1 of FEP or the approved Supporting Document for Reviewing Dredging Rate and Filling Rate,
- whichever is applicable;
- 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

A7. The EM&A works for water quality, construction waste, marine mammal and White-Bellied Sea Eagle (WBSE) were conducted during the reporting period in accordance with the Updated EM&A Manual.

A8. No exceedance of the Action or Limit Levels in relation to noise, construction waste and WBSE monitoring was recorded in the reporting month.

A9. During the reporting period, sixteen (16) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Eighteen (18) 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. No project-related Action Level & Limit Level exceedance was recorded from 1 February 2022 to 28 February 2022.

A10. Weekly site inspections of the construction work by ET were carried out on 8, 17 and 23 February 2022 to audit the mitigation measures implementation status. Monthly joint site inspection was carried out on 17 February 2022 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. There was no change to be reported that may affect the on-going EM&A programme.

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:
  - Reclamation works
  - PVD Remedial works
  - Installation of instrumentation
  - Site Investigation works for foundation
  - Foundation works
- Seawall Portion:
  - Installation of caisson
  - Installation of Chinese Pod
  - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
  - Construction of wave wall along the vertical seawall

A15. The major environmental impacts brought by the above construction activities will include:

- Deterioration of water quality of nearby water body by reclamation.

A16. 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;
- Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
- 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 rainstorm; 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 Jan 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.

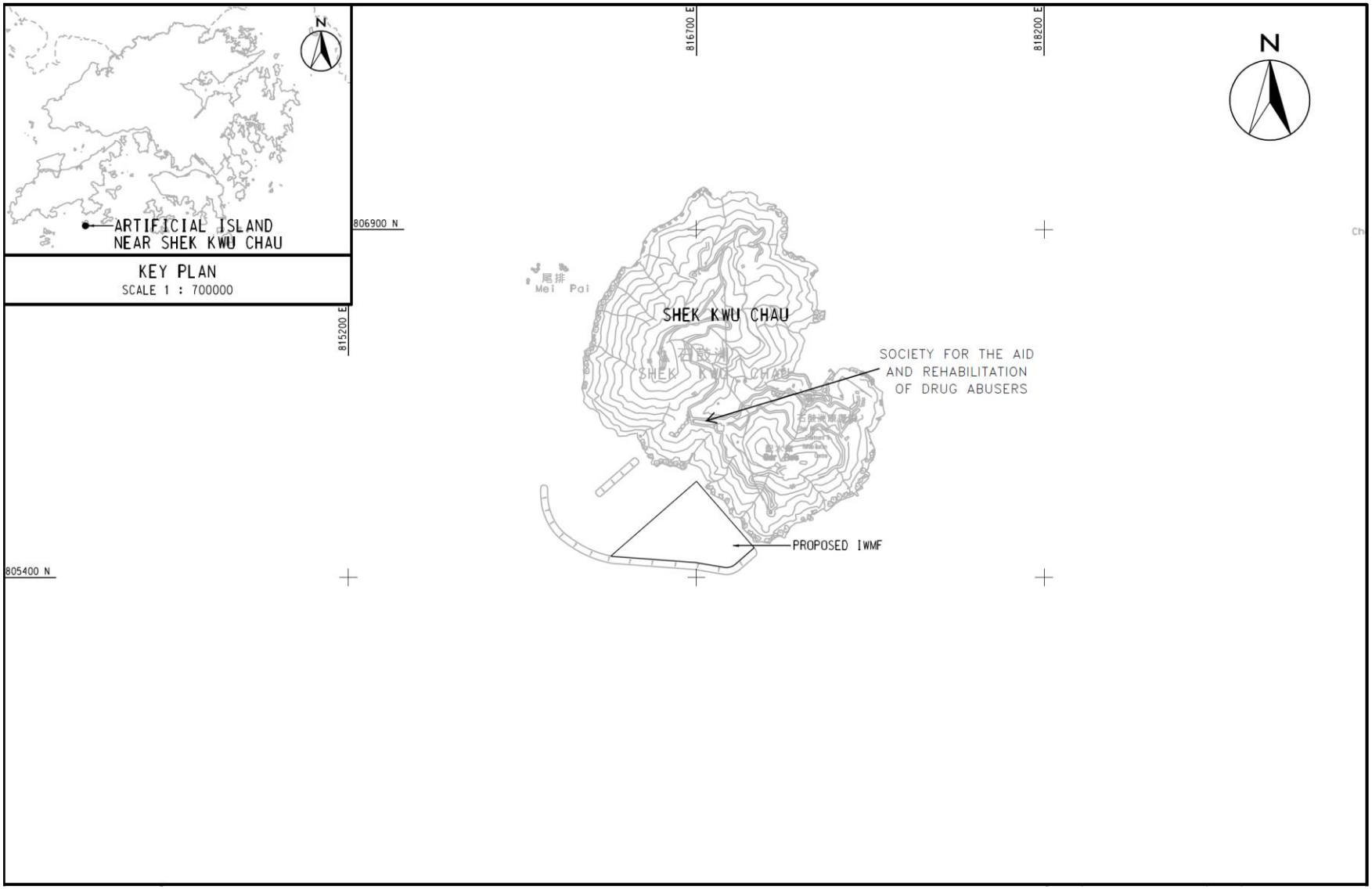


Figure 1.1 Location of the IWMF at the Artificial Island near SKC

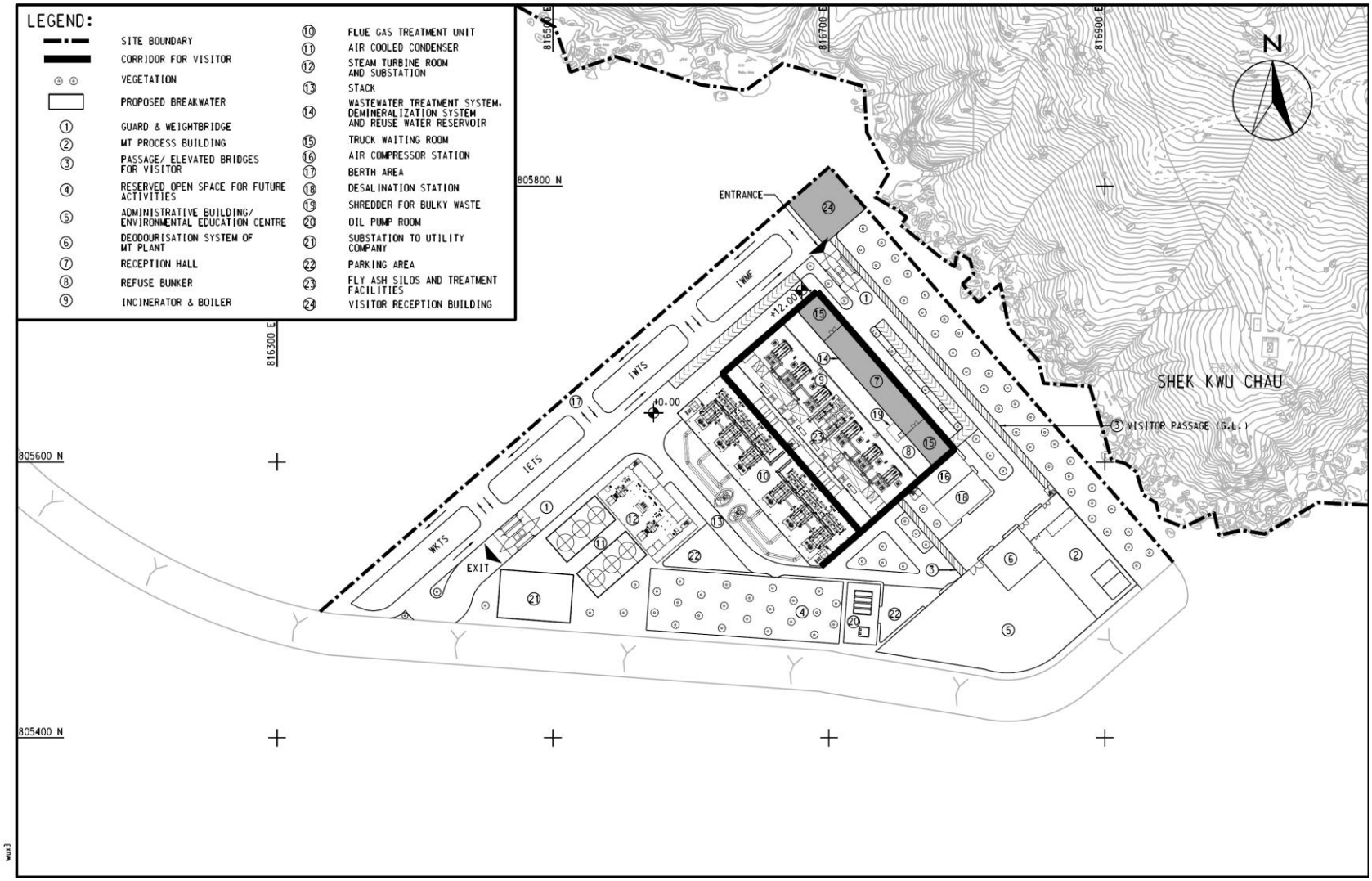


Figure 1.2 General Layout of the IWMF at the Artificial Island near SKC

1.2 The Reporting Scope

1.2.1 This is the 44th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 February 2022 to 28 February 2022.

1.3 Project Organization

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

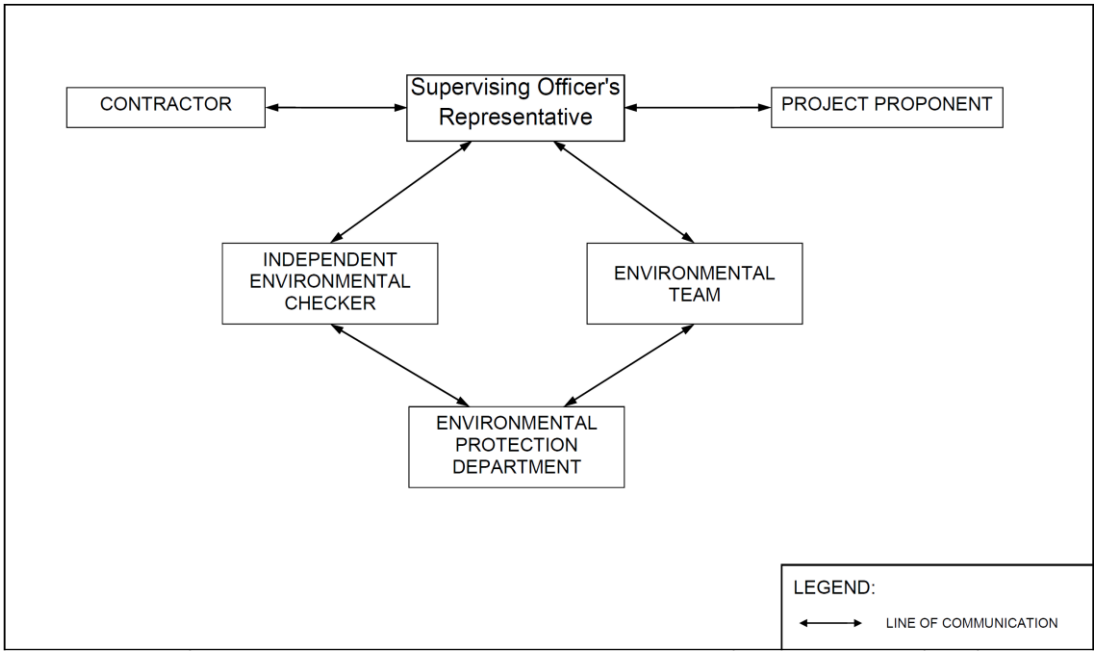


Figure 1.3 Project Organization Chart

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	Kenny Yu	2192-0606
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	• Reclamation works	• On-going
	• PVD Remedial works	• On-going
	• Installation of Instrumentation	• On-going
	• Site Investigation works for foundation	• On-going
	• Foundation works	• On-going
Seawall portion	• Installation of caisson	• On-going
	• Installation of Chinese Pod	• On-going
	• Caisson extension works, from +3mPD to +6mPD, at Seawall A and B	• On-going
	• Construction of wave wall along the vertical seawall	• On-going

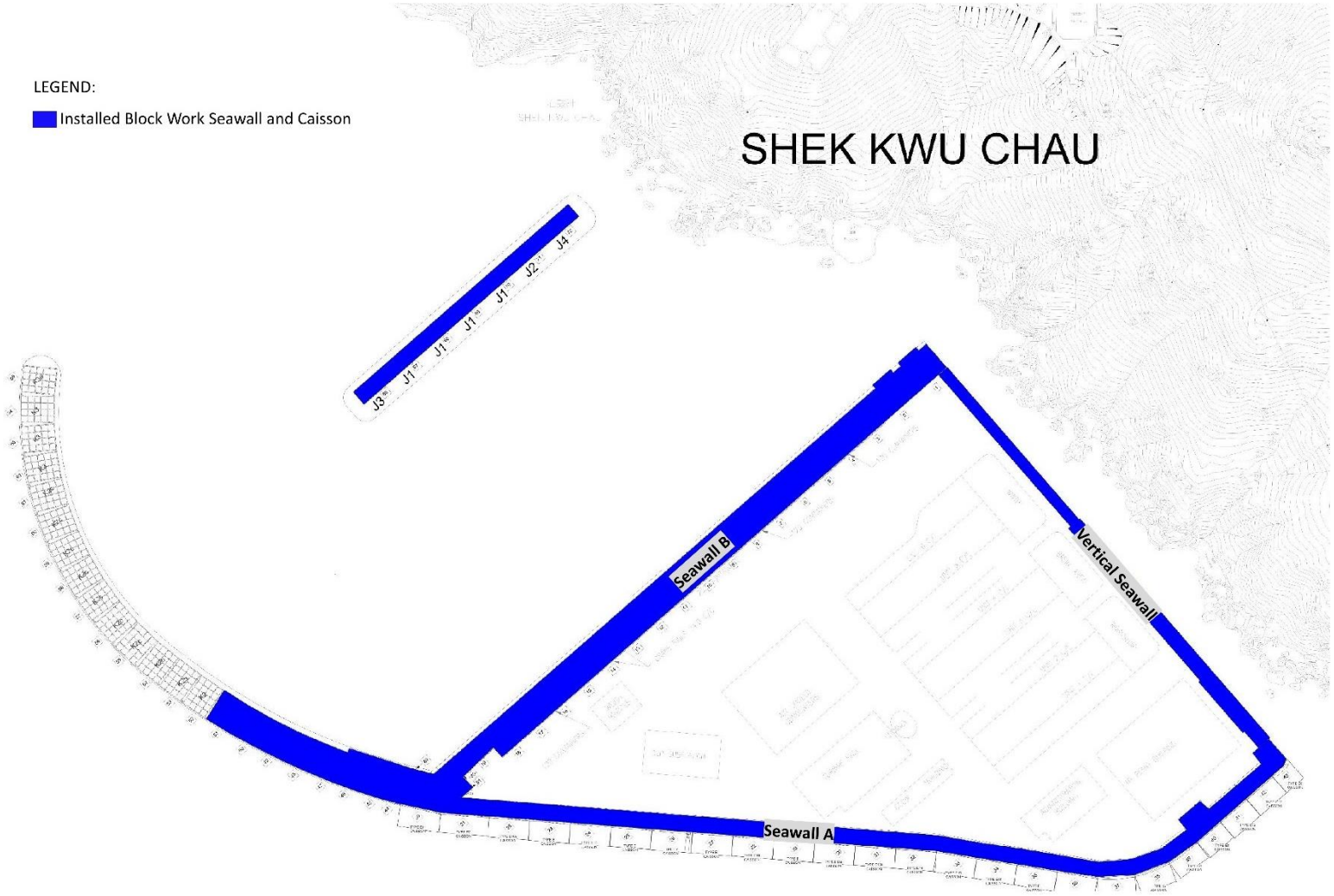


Figure 1.4 Location of Major Construction Activities Undertaken during the Reporting Month

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	WT00033787-2019	22/08/2019 – 31/08/2024	
	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-RS0972-21	13/12/2021– 12/06/2022	Portion 1, 1A & 1B
Construction Noise Permit (Percussive piling)	PP-RS0018-21	15/11/2021– 14/05/2022	Portion 1, 1A & 1B
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	On-going
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-tagging	Re-tagging at Indirect Impact Site was conducted on 23 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	On-going
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 until the end of May 2019.

Parameters	Status
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
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 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.

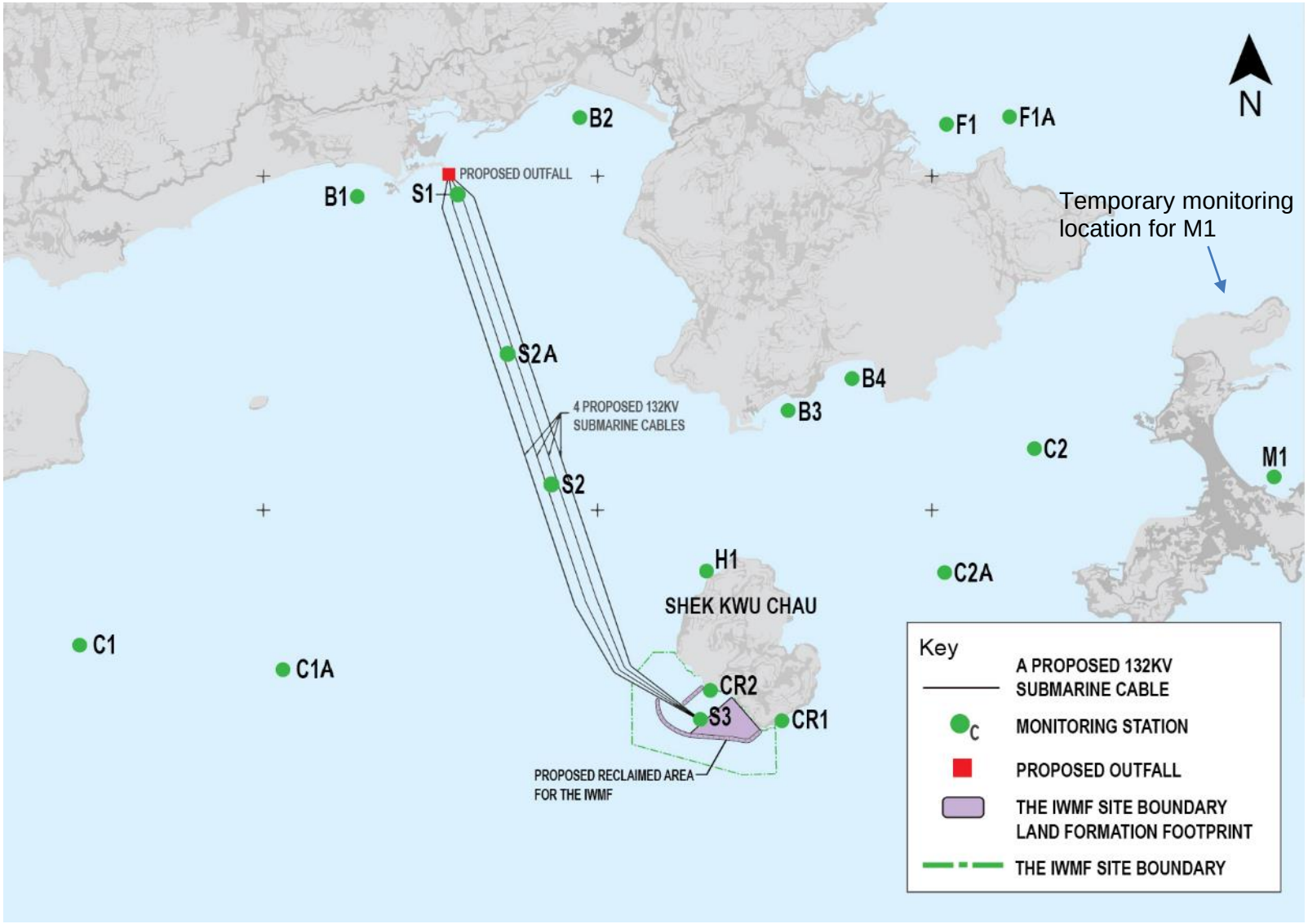


Figure 2.1 Water monitoring locations at Artificial Island near SKC

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 recorded in the data record sheets 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 3, 5, 7, 9, 11, 14, 16, 18, 21, 23, 25 and 28 February 2022.

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 results 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.	31.24	9.33	9.30	8.24	7.6	8.60	17.7
	Min.	29.85	8.00	8.01	8.07	3.7	4.00	15.8
	Max.	32.83	10.43	10.39	8.40	12.6	24.00	19.4
B2	Avg.	31.42	9.40	9.39	8.24	7.4	8.26	17.6
	Min.	29.50	8.22	8.24	7.99	4.1	4.00	15.7
	Max.	33.15	10.66	10.83	8.39	11.1	27.00	19.5
B3	Avg.	31.24	9.45	9.43	8.23	7.7	8.70	17.7
	Min.	29.51	8.38	8.41	8.07	4.4	2.50	15.8
	Max.	33.20	10.67	10.80	8.37	13.7	29.00	19.3
B4	Avg.	31.07	9.45	9.44	8.25	7.8	9.29	17.7
	Min.	29.38	8.44	8.41	8.03	3.8	3.00	15.7
	Max.	32.54	10.46	10.76	8.42	12.9	32.00	19.4
C1A	Avg.	31.39	9.59	9.58	8.23	9.7	9.74	17.7
	Min.	29.49	8.25	8.39	7.93	6.6	3.00	15.7
	Max.	32.91	10.69	10.76	8.41	16.8	30.00	19.5
C2A	Avg.	31.35	9.41	9.41	8.24	9.9	9.68	17.6
	Min.	29.90	8.08	8.09	8.04	7.1	2.50	15.8
	Max.	33.02	10.74	10.79	8.42	19.3	31.00	19.6
CR1	Avg.	31.27	9.58	9.59	8.22	7.6	8.92	17.6
	Min.	29.55	8.42	8.47	8.05	4.3	3.00	15.8
	Max.	32.89	10.86	10.84	8.43	10.9	25.00	19.5
CR2	Avg.	31.30	9.48	9.47	8.23	7.7	8.92	17.7
	Min.	29.53	8.36	8.25	8.02	4.5	3.00	16.0
	Max.	33.02	11.19	11.09	8.42	10.5	24.00	19.4
F1A	Avg.	31.27	9.35	9.36	8.22	7.9	9.17	17.6
	Min.	29.81	8.16	8.08	8.06	4.3	3.00	15.7
	Max.	33.52	10.79	11.09	8.40	12.2	29.00	19.2
H1	Avg.	31.19	9.55	9.55	8.24	7.5	9.65	17.7
	Min.	29.69	7.94	8.00	8.04	4.2	3.00	15.7
	Max.	32.99	10.83	10.82	8.40	9.9	30.00	19.3
M1	Avg.	31.13	9.40	9.39	8.20	7.5	9.60	17.6
	Min.	28.76	8.21	8.13	8.05	4.3	3.00	15.7
	Max.	33.05	10.67	10.63	8.44	11.4	27.00	19.3
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.

2.8.3 During the impact monitoring period for February 2022, sixteen (16) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Eighteen (18) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Investigations were carried out immediately for each exceedance during the reporting period.

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

2.8.5 Mitigation measures minimizing the adverse impacts on water implemented 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 0700-1900 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.**

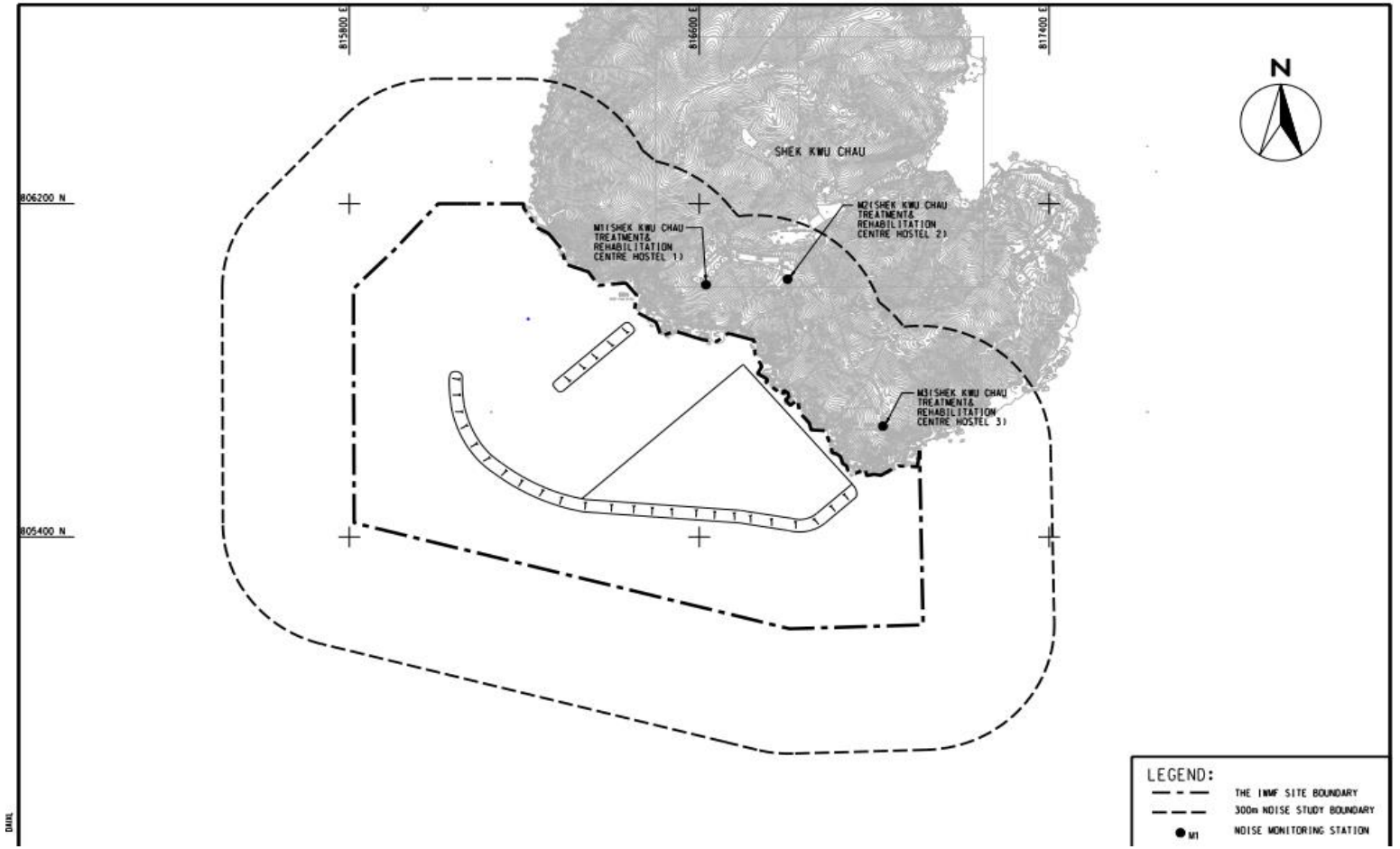


Figure 3.1 Noise monitoring locations at SKC

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-minutes 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 minutes 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-minutes 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 lead 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-filed 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.
- For Noise monitoring was carried out for 30 mins 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 were 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	NTi XL2 SVANTEK 971
Sound Calibrator	Svantek SV33B

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 4, 7, 15 and 21 February 2022. Impact monitoring for noise impact for evening time and night time was carried out on 4 & 5, 7 & 8, 15 & 16, 21 & 22 February 2022. 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, Sound from road maintenance work on 15 Feb 2022 morning
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	55.9 – 62.3	58.4 – 66.2	45.8 – 55.0
M2	54.4 – 66.5[1]	55.0 – 68.5	49.7 – 62.9
M3	57.1 – 60.3	59.4 – 63.8	50.9 – 55.0

Note:
[1] The relatively high noise was caused by the road maintenance work on 15 February 2022 morning near M2 station.

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	42.3 – 57.1	44.8 – 59.1	39.5 – 54.7
M2	47.8 – 53.9	48.8 – 54.9	46.4 – 52.3
M3	49.6 – 57.3	50.0 – 59.0	49.1 – 55.6

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

Location	Measured Noise Level in dB(A)[1]		
	Range of $L_{eq\ 5min}$	Range of $L_{10\ 5min}$	Range of $L_{90\ 5min}$
M1	42.2 – 49.8	44.1 – 50.6	39.9 – 48.9
M2	45.5 – 52.8	46.5 – 54.2	44.5 – 51.4
M3	49.5 – 53.6	49.8 – 54.9	48.8 – 52.4

Note:
[1] No construction work was conducted during the night time period in February 2022.

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, no C&D material was generated on site in the reporting month. For C&D waste, no metals were 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. 400 kg and 225 L of chemical wastes were collected by the licensed chemical waste collector. No other types of wastes (e.g. general refuse) was disposed of at designated landfill. 3247.8 m^3 of public fill and 4029.0 m^3 of fill rock was imported respectively 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 Although there is not much waste generation anticipated in the coming month from the Project, 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 February 2022

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)
Feb 2022	0	0	0	0	0	0	3.2478	4.0290	0	0	0	0.4000	0.2250	0

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.

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-months monthly monitoring for 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 45th Months (postponed to 8th to 76th month due to diver accident in Shek Kwu Chau in October 2018)	Quarterly Survey	13
	46th to 76th Months (The marine construction work is anticipated to be completed by March 2022, the frequency of monitoring will be changed to bi-annual with reference to the Updated EM&A Mannual (Rev.E))	Bi-annually Survey	5
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:

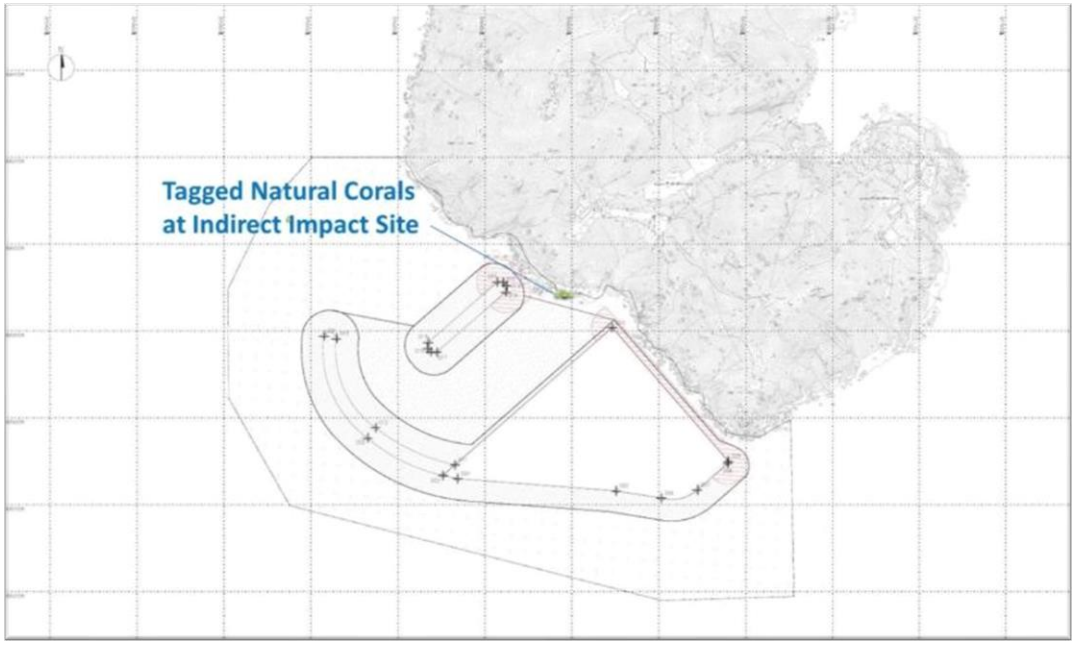


Figure 5.1 Tagged Natural Corals at Indirect Impact Site Near SKC for re-tagging after typhoon Mangkhut

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 No coral monitoring survey had been done during the reporting period. The 13th quarterly coral monitoring during construction phase at both Indirect Impact Site and Control Site scheduled in March 2022.

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:

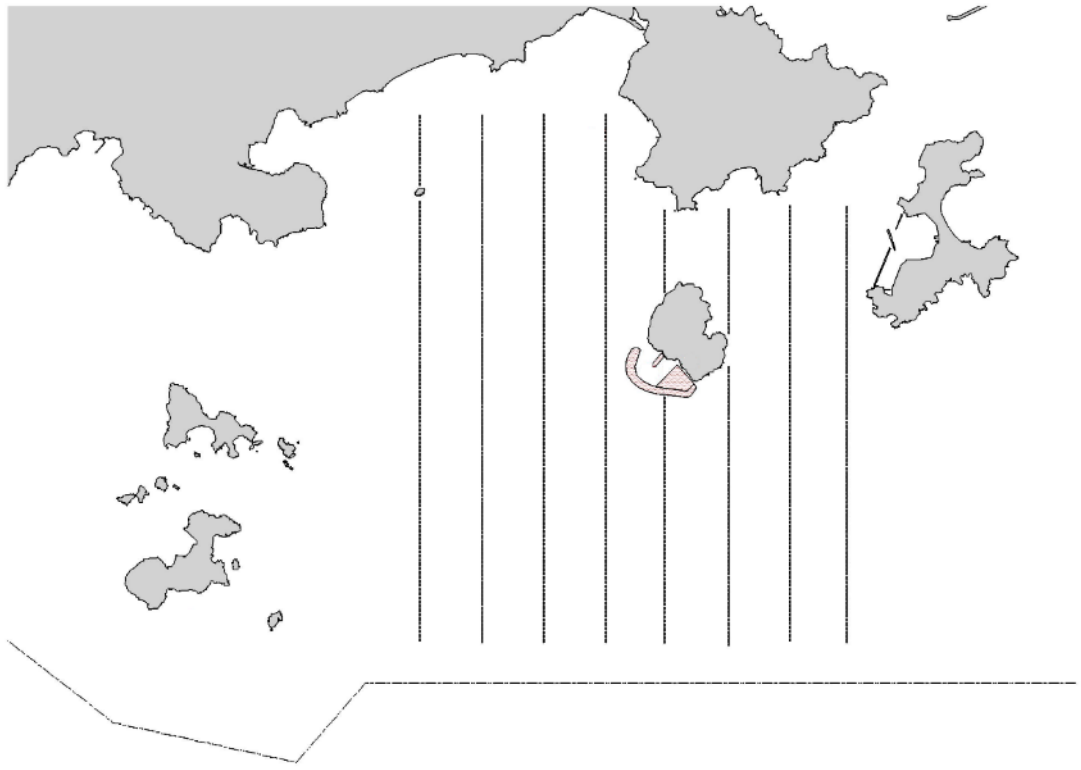


Figure 6.1 Line Transects for Marine Mammal Surveys

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).

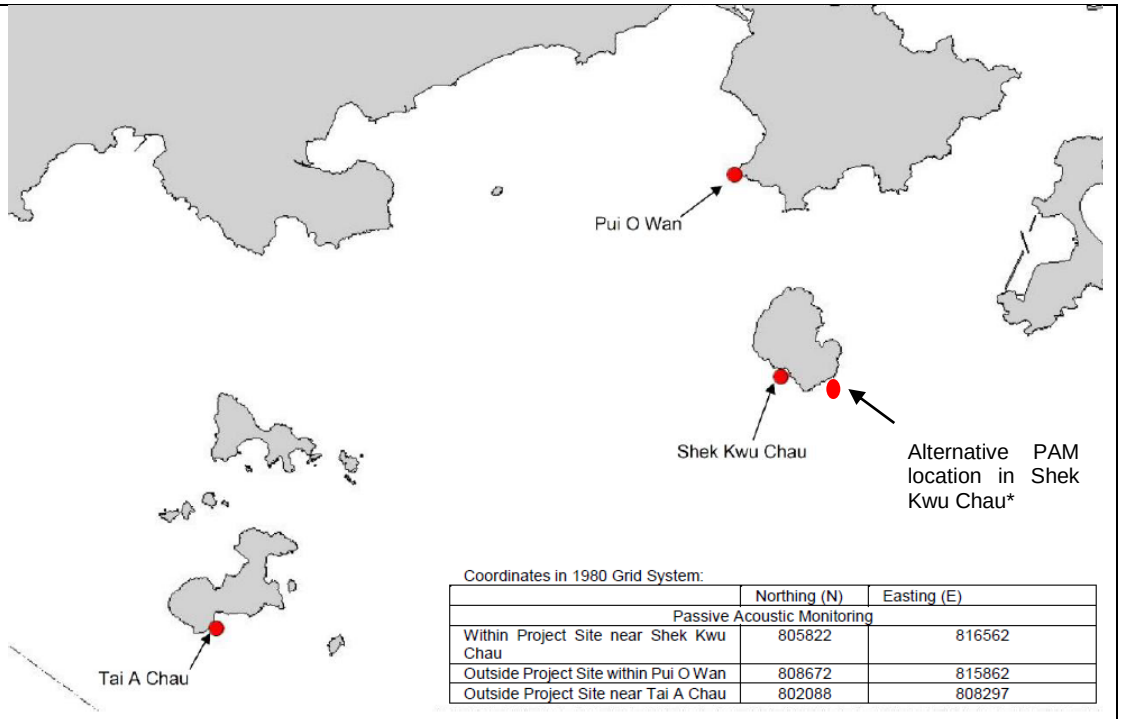
6.2.1.9 The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort sightings per 100 units of survey effort. In addition, the derived unit for actual porpoise density was termed DPSE, representing the number of dolphins/porpoise per 100 units of survey effort. Among 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.

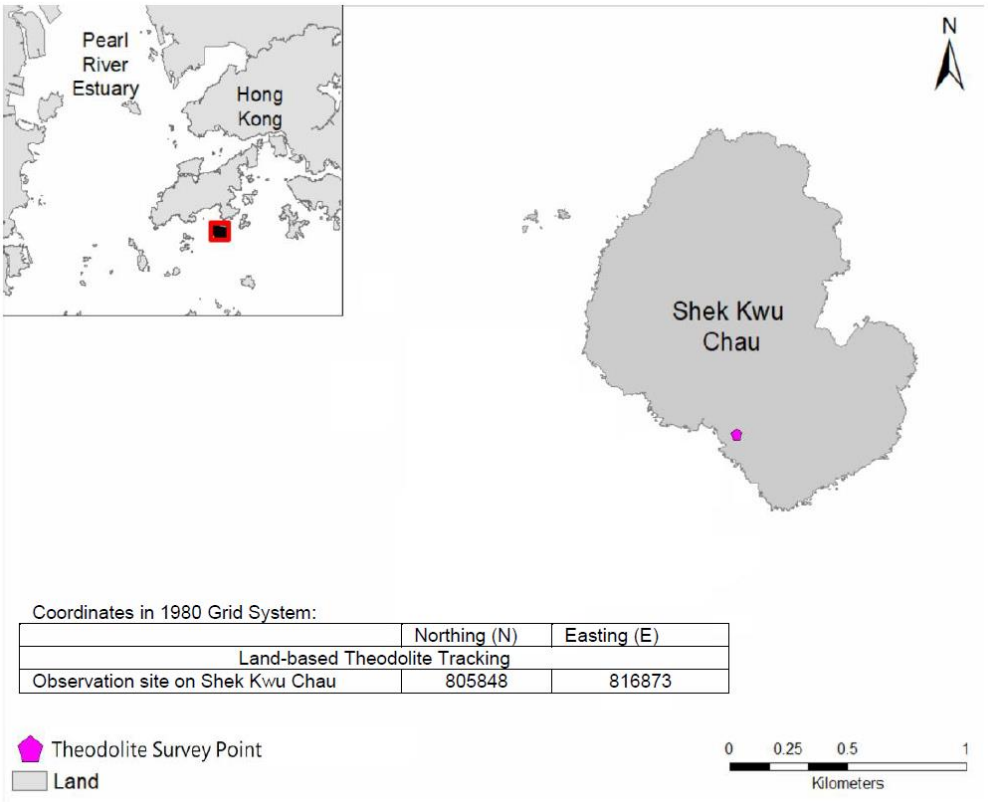


Figure 6.3 Locations of Land-based Theodolite Tracking

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.

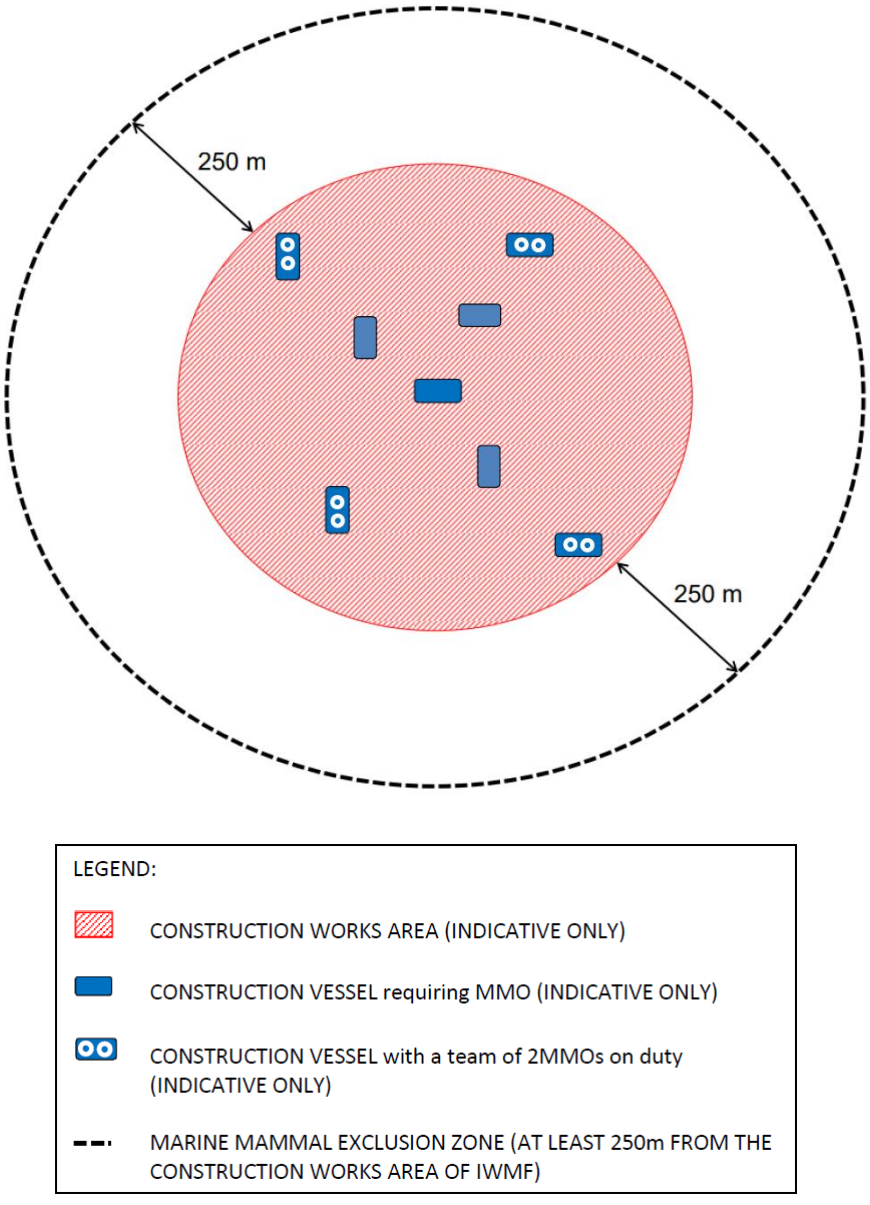


Figure 6.4 Illustration of Typical MMEZ

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 an hour by MMO for confirming that there is no any 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 has 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 14 and 25 February 2022. As this is the designated peak season (December - May), two surveys were completed. A total of 79.9 km on effort (transects only) survey length was completed, 86.5% of which was conducted at Beaufort Sea State 2 or better (**Table 6.4**). Two (2) on effort sightings and Four (4) opportunistic sightings of finless porpoise were recorded and confirmed by qualified ecologist (**Table 6.5, Figure 6.5**). Representative photos taken of sighting recorded on 14 February 2022 during vessel-based line-transect survey is presented in **Figure 6.6**.

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

Date	Area*	Beaufort	Effort (km)	Season	Vessel	Effort Type**
14 February 2022	SEL	1	5.9	WINTER	SEAMAR HK	P
		2	23.1			
		3	10.8			
25 February 2022	SEL	0	2.9	WINTER	SEAMAR HK	P
		1	8.2			
		2	29			

* 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 February 2022 Vessel-based Line-transect Survey

Date	Species	Sighting No.	Time	Group Size	PSD	Behaviour	Lat.	Long.	Area	Effort	Season
14 Feb 2022	Finless Porpoise	104	12:16	2	212	Other	22.19422	113.9643	SEL	On	Winter
14 Feb 2022	Finless Porpoise	105	12:34	4	N/A	Travelling	22.19342	113.9643	SEL	Opp	Winter
14 Feb 2022	Finless Porpoise	106	12:55	2	N/A	Unknown	22.21232	113.9538	SEL	Opp	Winter
14 Feb 2022	Finless Porpoise	107	13:08	1	N/A	Other	22.19613	113.9541	SEL	Opp	Winter
14 Feb 2022	Finless Porpoise	108	13:37	1	101	Unknown	22.18595	113.9444	SEL	On	Winter
25 Feb 2022	Finless Porpoise	109	14:53	3	N/A	Unknown	22.19339	113.9718	SEL	Opp	Winter

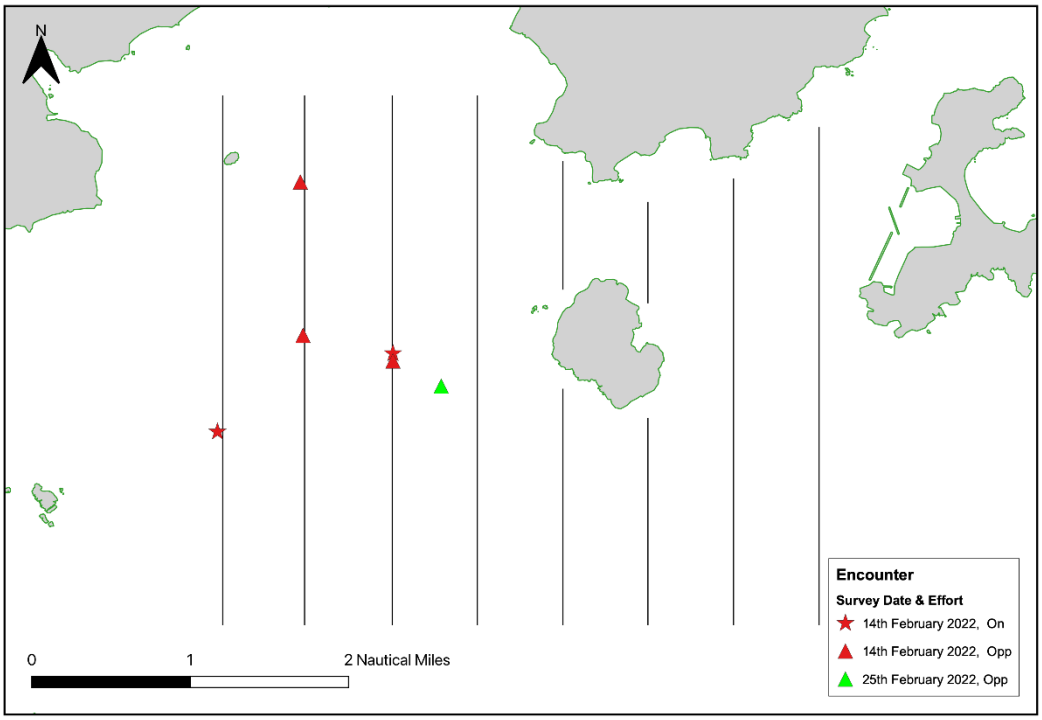


Figure 6.5 Location of sightings recorded during February 2022 Vessel-based Line-transect Survey

Figure 6.6 Representative Photos taken of sighting recorded and screen grab of sound spectrogram for sighting recorded during 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 conducted during the peak porpoise months, Feb-Apr 2018 and Dec-May 2008-09, respectively, and cannot be compared to the month of February. The EIA was conducted during the peak porpoise months (Dec-May

2008-09) and can be compared to the survey month of February. The AFCD long term monitoring data can also be compared directly to February 2022 Impact Survey results. The February 2019, 2020 & 2021 impact survey results could be compared directly to February 2022 impact survey results. It was noted that the 7th, 20th & 32nd month of impact monitoring is February 2019, 2020 & 2021 respectively and these data were included.

6.4.1.3 A review of the Beaufort Sea State in February 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 49.7% and 100% of survey effort has been conducted at Beaufort Sea State 2 or better in the past. For this project in February 2022, 86.5% of the survey was conducted at Beaufort Sea State 2 or better and, as such, survey conditions in February 2022 were a just below the average recorded for this month by previous AFCD surveys, the EIA and the baseline survey (Average: 87.0%).

6.4.1.4 A review of the porpoise sightings in the survey area for February between 2009-2018 indicated that that there are fluctuations between the number of sightings usually recorded. For all weather conditions, and for the seven years data available (no surveys are recorded for 2009, 2011 and 2012), zero (0) sighting was recorded in one year (2018 conducted by AFCD), two (2) sightings were recorded in one year (2015 conducted by AFCD), five (5) sightings were recorded in three years (2013 and 2014 conducted by AFCD and 2009 included in EIA), seven (7) sightings were recorded in two years (2016 and 2017 conducted by AFCD), nineteen (19) sightings were recorded in one year (2010 conducted by AFCD). The EIA included February (2009) and recorded five (5) sightings and an encounter rate of 3.3 sightings per 40km surveyed. The baseline survey was conducted between February – April 2018 and the encounter rate for February (2018 baseline monitoring) was 5.9 sightings per 40 km. The February 2022 encounter rate of 1.0 sightings per 40km is lower than the average recorded for this month by the AFCD Long term monitoring programme (Average: 5.4 sightings per 40km). For the first year of impact monitoring, five (5) on effort finless porpoise sightings were made. For the second year of impact monitoring, four (4) on effort sightings were made. For the third year of impact monitoring, five (5) on effort 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. With only a small area being surveyed by vessels, with no control area, and as porpoise density is obviously low in such a small area, it is difficult to discern significant changes in sightings occurrence from vessel surveys alone. The sightings data presented in AFCD long term monitoring reports indicate encounter rates do vary for this month, however, this month's encounter rate is low, when compared to previous years. To increase the dataset for vessel-based surveys, acoustic towed array surveys have been conducted concomitantly with visual surveys and a separate report will be 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.

6.4.1.6 The number of sightings in February 2022 is lower than average, although years with no sightings/little effort have occurred previously during the AFCD long term monitoring programme. The February 2022 encounter rate is lower than the encounter rates recorded during the past three construction years (2019-21: 1.5-2.4 sightings per 40 km). It is noted that, in general, shipping vessel intensity traversing the habitat in the Southern Lantau area remains decreased, due to ongoing Covid-19 transboundary restrictions, however, vessel traffic not related to this project have

used the SEL survey area for anchoring throughout February, thus diverting the research vessel from the fixed transects. Works, for other projects, in the area adjacent to this Project site have also intensified and are therefore likely impacting 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 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 to 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 to 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 to 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 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 along the western part of SKC, boat survey was used for the monitoring survey. In order to increase the chance of finding the WBSEs, monitoring survey was carried out early in the morning. The weather condition of monitoring survey was shown in **Table 7.2**.

Table 7.2 Weather Conditions during the WBSE Monitoring

Date	Condition	Temperature (°C)
10 February 2022	- North wind force 4 to 5 - Sunny Day	16
24 February 2022	- North wind force 3 to 4 - Sunny Day	13

7.5.2 During the monitoring survey, the two adult WBSEs were recorded staying around the new nest (**Figure 7.1**) and at least one adult was staying in the nest during the monitoring period. Besides the two adults, one chick was recorded on 24th February 2022 monitoring. No abnormal behaviors of the adults were recorded.

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

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

7.5.5 Since one chick was recorded on 24th February 2022, 7-day consecutive monitoring was carried out to monitor the behaviour of the WBSEs and their responses to construction disturbance from 25th February 2022 to 3 March 2022. The monitoring result of the 7-day consecutive monitoring will be presented in the 45th EM&A monthly report.

Figure 7.1 Location of WBSE Nest on SKC

7.5.6 Photo record of WBSE from the survey this month is shown below:

Adult WBSE staying next to the nest and chick was record inside the nest on 24th February 2022

Adult WBSE staying next to the nest on 24th February 2022

WBSE Chick record inside the nest on 24th February 2022

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**.

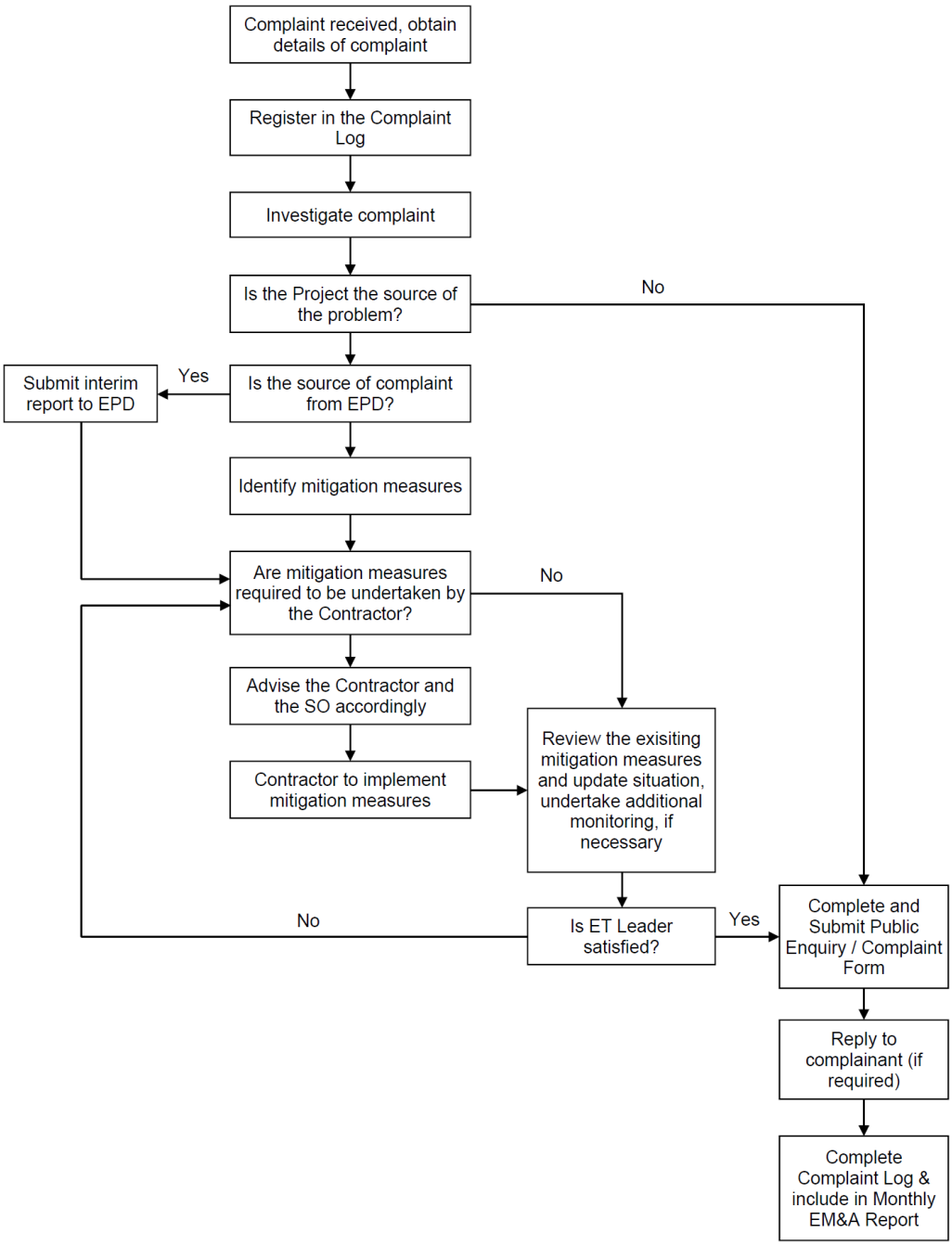


Figure 8.1 Environmental Complaint Handling Procedures

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
03-02-2022												
05-02-2022												
07-02-2022												
09-02-2022												
11-02-2022												
14-02-2022												
16-02-2022												
18-02-2022												
21-02-2022												
23-02-2022												
25-02-2022												
28-02-2022												
No. of SS Exceedances	**3**	**0**	**0**	**2**	**2**	**1**	**1**	**2**	**0**	**0**	**0**	**2**

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
03-02-2022												
05-02-2022												
07-02-2022												
09-02-2022												
11-02-2022												
14-02-2022												
16-02-2022												
18-02-2022												
21-02-2022												
23-02-2022												
25-02-2022												
28-02-2022												
No. of SS Exceedances	**1**	**2**	**4**	**3**	**2**	**2**	**2**	**2**	**0**	**0**	**0**	**3**

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 Sixteen (16) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Eighteen (18) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Investigations were carried out immediately for each of the exceedance cases during the reporting period.

8.3 No project-related Action Level and Limit Level exceedance was recorded from the 1 February 2022 to 28 February 2022 as shown in **Appendix N**.

8.4 No exceedance of the Action and Limit Levels of the regular WBSE monitoring and coral monitoring was recorded during the reporting period.

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

8.6 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 8, 17 and 23 February 2022 at the site portions listed in **Table 9.1** below.

Table 9.1 Site Inspection Record

Date	Inspected Site Portion	Time
8 February 2022	Portion 1, 1A & 1B (near SKC)	11:00 – 12:15 AM
17 February 2022	Portion 1, 1A & 1B (near SKC)	10:50 – 12:00 AM
23 February 2022	Portion 1, 1A & 1B (near SKC)	11:00 – 12:30 AM

9.2 One joint site inspection with IEC was carried out on 17 February 2022.

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

Table 9.2 Site Observations

Date	Environmental Observations	Follow-up Status
8 February 2022 (Site inspection)	Observation(s) and Recommendation(s) 1. Drip tray should be provided for chemical storage at piling platform. 2. Oil stain on ground at piling platform should be cleared.	1. Chemical storage drum had been placed in container with drip tray. 2. The oil strained soil had been removed and treated as chemical waste. The chemical waste had been collected by waste collector on 10 February 2022.
17 February 2022 (Site inspection)	Observation(s) and Recommendation(s) 1. At vertical seawall, drip tray for generator was not plugged. 2. At seawall A, the faded NRMM label of generator 040102 should be replaced.	1. At vertical seawall, drip tray for generator had been plugged. 2. At seawall A, the faded NRMM label of generator 040102 had been replaced.
23 February 2022 (Site inspection)	Observation(s) and Recommendation(s) Nil	Nil

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:
  - Reclamation works
  - PVD Remedial Works
  - Installation of Instrumentation
  - Site Investigation works for foundation
  - Foundation works
- Seawall Portion:
  - Installation of caisson
  - Installation of Chinese Pod
  - 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 water quality, 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;
- Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
- 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 rainstorm; 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, water quality and ecology monitoring will be conducted at the same monitoring locations in the next reporting period.

11. CONCLUSION AND RECOMMENDATIONS

11.1 This 44th monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 February to 28 February 2022, 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 February to 28 February 2022.

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 on-site housekeeping and the proper storage of the chemicals and construction waste and dust control measure by covering the stockpile of dusty material with impervious sheeting.

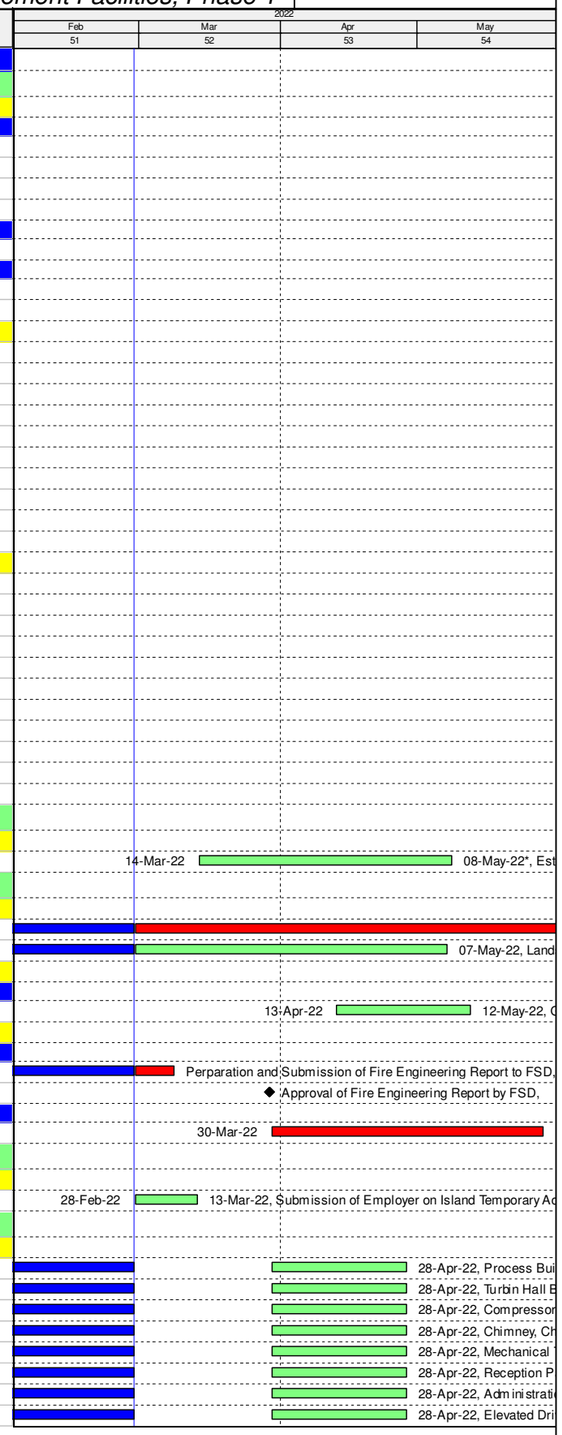
11.5 No environmental complaint was received in the reporting period.

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

11.7 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

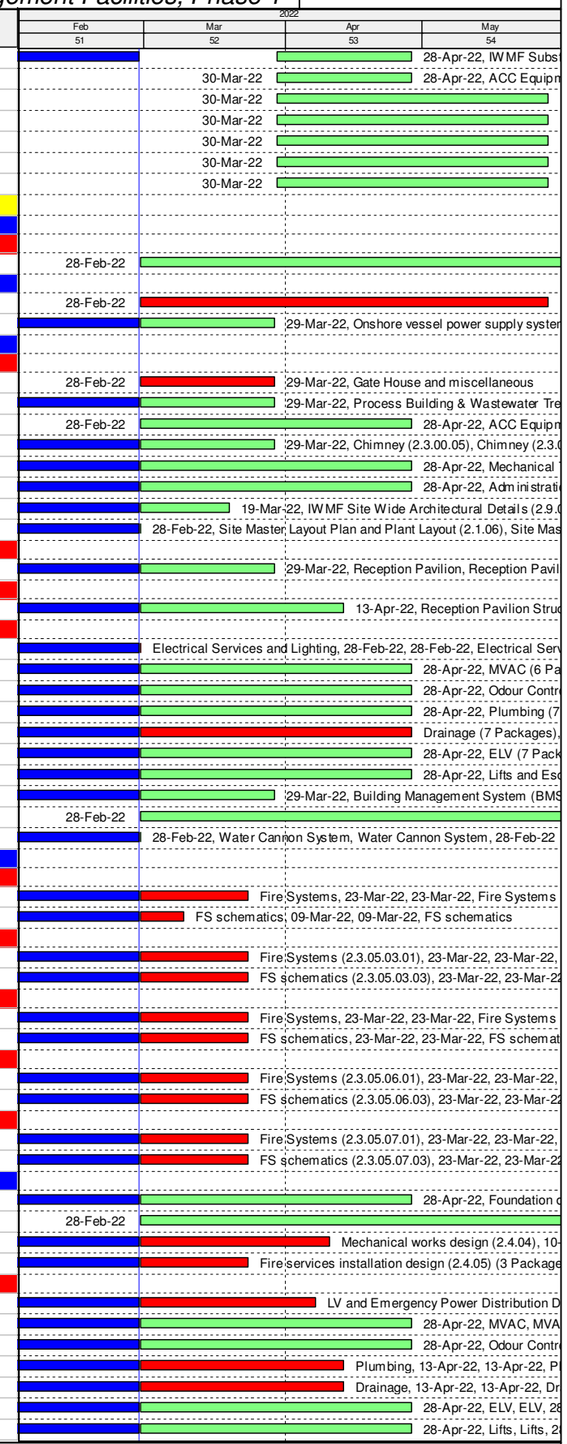
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
Project: EP_SP_66_12-WP6D-M51 Programme for Design and Construction Works WP6D-M51		2939	2939	53.05%		1380		22-Nov-17 A	08-Dec-25	04-Jan-22	11-Jun-26	185	
WBS: EP_SP_66_12-WP6D-M51.01 Key Dates		2939	2939	67.81%		946		22-Nov-17 A	08-Dec-25	28-Feb-22	11-Jun-26	185	
WBS: EP_SP_66_12-WP6D-M51.01.1 Contractual Key Dates		2815	2815	86.68%		375		22-Nov-17 A	06-Aug-25	28-Feb-22	06-Aug-25	0	
WBS: EP_SP_66_12-WP6D-M51.01.1.1 Design and Construction Phase		2759	2759	88.44%		319		22-Nov-17 A	11-Jun-25	28-Feb-22	11-Jun-25	0	
01-1000	Contract Award/Date of Acceptance of Tender	0	0	100%	100%	0	Mandatory Start	22-Nov-17 A		28-Feb-22			
01-1010	Date of Commencement of the Design and the Works	0	0	100%	100%	0	Mandatory Start	15-Dec-17 A		28-Feb-22			
01-1015(3)(M12)	Original Substantial Completion of the Works	0	0	0%	0%	0	Mandatory Finish		27-Jul-24*		27-Jul-24	0	
01-1020	Extended Substantial Completion of The Works	0	0	0%	0%	0	Mandatory Finish		11-Jun-25*		11-Jun-25	0	
WBS: EP_SP_66_12-WP6D-M51.01.1.3 Extension of Time Granted		319	319	0%		319		27-Jul-24	11-Jun-25	27-Jul-24	11-Jun-25	0	
01-1015-1(3)(M12)	Extension of time granted (Claim No.1 to No.72) *Claim No.9 excluded	319	319	0%	0%	319		27-Jul-24	11-Jun-25	27-Jul-24	11-Jun-25	0	
WBS: EP_SP_66_12-WP6D-M51.01.1.2 Operation Phase		56	56	0%		56		12-Jun-25	06-Aug-25	12-Jun-25	06-Aug-25	0	
01-1030	Commencement of Operation	0	0	0%	0%	0		12-Jun-25		12-Jun-25		0	
01-1230	Issue Certificate of Completion of the Works (56 days after Substantial Completion)	0	0	0%	0%	0	Finish On		06-Aug-25*		06-Aug-25	0	
WBS: EP_SP_66_12-WP6D-M51.01.2 Planned Completion Dates		820	820	0%		820		10-Sep-23	08-Dec-25	30-Sep-23	08-Dec-25	0	
01-1030(5a)	Grid Connection Agreement (GCA)	0	0	0%	0%	0	As Late As Possil		31-Oct-23		31-Oct-23	0	
01-1040	Incoming Power Energization to IWMF Substation	0	0	0%	0%	0	Finish On		31-Oct-24*		30-Oct-24	0	
01-1050	Export Power to Grid	0	0	0%	0%	0	Finish On or After		31-Oct-24*		17-Jan-25	79	
01-1060	Issuance of FS Certificate	0	0	0%	0%	0			30-Sep-24		11-Dec-24	72	
01-1070	Completion of Civil Provision for Transmission	0	0	0%	0%	0	Finish On or Befor		10-Sep-23*		30-Sep-23	20	
01-1080	Commencement of C1.3.4.11 System Commissioning Test	0	0	0%	0%	0		05-Feb-25		12-Dec-24		-55	
01-1090	Completion of C1.3.4.11 System Commission Test	0	0	0%	0%	0			27-Feb-25		03-Jan-25	-55	
01-1100	Physical Completion of 90 Days Plant Commissioning Test Works	0	0	0%	0%	0			11-Jun-25		21-May-25	-21	
01-1110(3)(M15)	Planned Substantial Completion of the Works	0	0	0%	0%	0			05-Aug-25		11-Jun-25	-55	
01-1110-1(5a)	Completion of 180 Days for Installation, T&C of CCTV System and Onshore Power System at Portion	0	0	0%	0%	0	Finish On or Befor		08-Dec-25*		08-Dec-25	0	
WBS: EP_SP_66_12-WP6D-M51.01.3 Dates of Site Pocessions		2736	2735	72%		766		15-Dec-17 A	12-Jun-25	02-Mar-22	11-Jun-26	365	
01-1120	Possession of Portion 1	0	0	100%	100%	0			15-Dec-17 A		02-Mar-22		
01-1130	Possession of Portion 1A	0	0	100%	100%	0			15-Dec-17 A		02-Mar-22		
01-1140	Possession of Portion 1B	0	0	100%	100%	0			15-Dec-17 A		02-Mar-22		
01-1150	Possession of Portion 2	0	0	0%	0%	0		12-Jun-25		12-Jun-25		0	
01-1160	Possession of Portion 3	0	0	0%	0%	0	As Late As Possil		07-May-23		09-May-23	2	
01-1170	Possession of Portion 4	0	0	0%	0%	0	As Late As Possil		07-May-23		09-May-23	2	
01-1180	Possession of Portion 5	0	0	0%	0%	0	As Late As Possil		07-May-23		09-May-23	2	
01-1190	Possession of Portion 6	0	0	0%	0%	0	Start On or After	01-Dec-24*		12-Dec-24		11	
01-1200	Possession of Portion 7	0	0	100%	100%	0	Finish On or Befor		05-Jan-18 A		11-Jun-25		
01-1210	Possession of Portion 7A	0	0	100%	100%	0	Finish On or Befor		07-Dec-18 A		11-Jun-25		
01-1210(5a)	Possession of Portion 8	0	0	100%	100%	0		29-Apr-20 A		11-Jun-26			
WBS: EP_SP_66_12-WP6D-M51.02 Contract Preliminaries		56	56	0%		56		14-Mar-22	08-May-22	07-May-22	01-Jul-22	54	
WBS: EP_SP_66_12-WP6D-M51.02.1 Employer's Accommodations		56	56	0%		56		14-Mar-22	08-May-22	07-May-22	01-Jul-22	54	
02-1020	Establishment of Employer's On Island Temporary Accommodation	56	56	0%	0%	56	Finish On or Befor	14-Mar-22	08-May-22*	07-May-22	01-Jul-22	54	
WBS: EP_SP_66_12-WP6D-M51.03 Licence/Permit Applications		2120	2255	43.4%		1200		10-Apr-19 A	11-Jun-25	25-Feb-22	11-Jun-25	0	
WBS: EP_SP_66_12-WP6D-M51.03.1 License/Permit for Construction		2120	2141	43.4%		1200		02-Aug-19 A	11-Jun-25	28-Feb-22	11-Jun-25	0	
03-1360(2)	CNP for 24Hrs	2120	2141	43.4%	43.4%	1200		02-Aug-19 A	11-Jun-25	28-Feb-22	11-Jun-25	0	
03-1370_1(M34)	Landscape and Visual Plan	180	730	61.67%	61.67%	69		08-May-20	07-May-22	14-Mar-22	21-May-22	14	
WBS: EP_SP_66_12-WP6D-M51.03.2 DG Licence		30	30	0%		30		13-Apr-22	12-May-22	03-May-22	01-Jun-22	20	
WBS: EP_SP_66_12-WP6D-M51.03.2.1 Day Tank & Fuel Oil Storage (Cat 5)		30	30	0%		30		13-Apr-22	12-May-22	03-May-22	01-Jun-22	20	
03-1400	General Building Plans and FSI Provision Design Submission to FSD (Cat 5)	30	30	0%	0%	30		13-Apr-22	12-May-22	03-May-22	01-Jun-22	20	
WBS: EP_SP_66_12-WP6D-M51.03.4 Fire Services Installations (FSI) Certificatie		820	1145	89.02%		90		10-Apr-19 A	28-May-22	25-Feb-22	18-May-22	-10	
WBS: EP_SP_66_12-WP6D-M51.03.4.3 Fire Engineering Report		760	1085	96.05%		30		10-Apr-19 A	29-Mar-22	25-Feb-22	19-Mar-22	-10	
05-3000	Perparation and Submission of Fire Engineering Report to FSD	550	1064	98.36%	98.36%	9		10-Apr-19 A	08-Mar-22	25-Feb-22	05-Mar-22	-3	
05-4450	Approval of Fire Engineering Report by FSD	0	0	0%	0%	0			29-Mar-22		19-Mar-22	-10	
WBS: EP_SP_66_12-WP6D-M51.03.4.1 Fire Services Installations Certificate Inspection		60	60	0%		60		30-Mar-22	28-May-22	20-Mar-22	18-May-22	-10	
03-1550-1(6D)	Submission of GBP, VAC, SPS, SES and FSI Provision Design	60	60	0%	0%	60		30-Mar-22	28-May-22	20-Mar-22	18-May-22	-10	
WBS: EP_SP_66_12-WP6D-M51.04 General Submissions		14	14	0%		14		28-Feb-22	13-Mar-22	23-Apr-22	06-May-22	54	
WBS: EP_SP_66_12-WP6D-M51.04.3 Accommodation Plans		14	14	0%		14		28-Feb-22	13-Mar-22	23-Apr-22	06-May-22	54	
04-1030	Submission of Employer on Island Temporary Accommodation Plan	14	14	0%	0%	14		28-Feb-22	13-Mar-22	23-Apr-22	06-May-22	54	
WBS: EP_SP_66_12-WP6D-M51.05 Design Submissions		1384	1598	85.91%		195		27-Apr-18 A	10-Sep-22	26-Jan-22	04-Sep-22	-6	
WBS: EP_SP_66_12-WP6D-M51.05.3 General Building Plan		302	452	80.13%		60		03-Mar-21 A	28-May-22	03-Apr-22	01-Jun-22	4	
04-1600(M42)	Process Building & Wastewater Treatment Plant	135	330	77.78%	77.78%	30		03-Jun-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1610(M42)	Turbin Hall Building	135	422	77.78%	77.78%	30		03-Mar-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1620(M42)	Compressor & CCCW Building	135	422	77.78%	77.78%	30		03-Mar-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1630(M42)	Chimney	135	422	77.78%	77.78%	30		03-Mar-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1640(M42)	Mechanical Treatment Plant & Water Treatment Plant	135	330	77.78%	77.78%	30		03-Jun-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1650(M42)	Reception Pavilion	135	330	77.78%	77.78%	30		03-Jun-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1660(M42)	Administration Building and Viewing Gallery	135	330	77.78%	77.78%	30		03-Jun-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1670(M42)	Elevated Drive Way and Associated Structures	135	422	77.78%	77.78%	30		03-Mar-21 A	28-Apr-22	03-May-22	01-Jun-22	34	



3-Month Rolling Programme (February 2022)

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

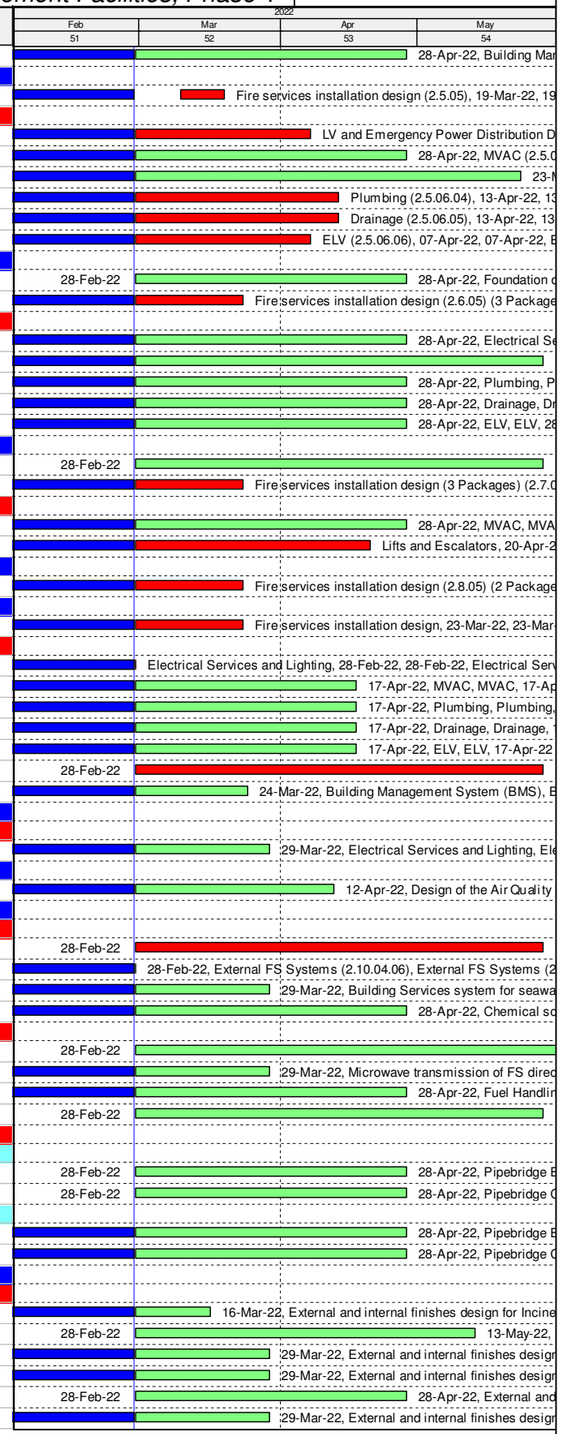
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
04-1680(M42)	IWMF Substation	135	422	77.78%	77.78%	30		03-Mar-21 A	28-Apr-22	03-May-22	01-Jun-22	34	
04-1690(M46)	ACC Equipment Structure	30	30	0%	0%	30		30-Mar-22	28-Apr-22	03-May-22	01-Jun-22	34	
04-1700	Vessel Offloading Point	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
04-1710	Vehicle Fuel Filling Station	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
04-1720	Fuel Filling Kiosk	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
04-1730	Weighbridge	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
04-1740	Seawater Intake Structure	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.01 AIP Design Package Submissions		1294	1508	91.89%		105		27-Apr-18 A	12-Jun-22	05-Feb-22	20-Aug-22	69	
WBS: EP_SP_66_12-WP6D-M51.05.01.01 AIP Process and Layout Design (2.1)		105	105	0%		105		28-Feb-22	12-Jun-22	08-Mar-22	20-Jun-22	8	
WBS: EP_SP_66_12-WP6D-M51.05.01.01.2 MSW treatment process design for mechanical treatment (2.1.02)		105	105	0%		105		28-Feb-22	12-Jun-22	08-Mar-22	20-Jun-22	8	
05-1090	Mechanical Treatment Plant	105	105	0%	0%	105		28-Feb-22	12-Jun-22	08-Mar-22	20-Jun-22	8	
WBS: EP_SP_66_12-WP6D-M51.05.01.02 AIP Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		363	641	75.21%		90		26-Aug-20 A	28-May-22	15-Feb-22	15-May-22	-13	
05-2970	Onshore crane Facility (2.2.11)	90	90	0%	0%	90		28-Feb-22	28-May-22	15-Feb-22	15-May-22	-13	
05-2980	Onshore vessel power supply system (2.2.12)	135	581	77.78%	65%	30		26-Aug-20 A	29-Mar-22	02-Mar-22	31-Mar-22	2	
WBS: EP_SP_66_12-WP6D-M51.05.01.03 AIP Incineration Plant Buildings (2.3)		1294	1508	91.89%		105		27-Apr-18 A	12-Jun-22	18-Feb-22	20-Aug-22	69	
WBS: EP_SP_66_12-WP6D-M51.05.01.03.1 General Layout Drawings and Fire Saftey Strategy (2.3.00)		1249	1463	95.2%		60		27-Apr-18 A	28-Apr-22	18-Feb-22	01-Jun-22	34	
04-1700(M46)	Gate House and miscellaneous	30	30	0%	0%	30		28-Feb-22	29-Mar-22	18-Feb-22	19-Mar-22	-10	
05-1210	Process Building & Wastewater Treatment Plant (2.3.00.01 & 2.5.00.01)	105	695	71.43%	45%	30		04-May-20	29-Mar-22	03-Apr-22	02-May-22	34	
05-1220	ACC Equipment Structure	60	60	0%	0%	60		28-Feb-22	28-Apr-22	03-Apr-22	01-Jun-22	34	
05-1620	Chimney (2.3.00.05)	105	303	71.43%	25%	30		31-May-21	29-Mar-22	03-May-22	01-Jun-22	64	
05-1640	Mechanical Treatment Plant & Water Treatment Plant (2.4.00 & 2.6.00)	105	1330	42.86%	45%	60		07-Sep-18 A	28-Apr-22	03-Apr-22	01-Jun-22	34	
05-2020	Administration Building and Viewing Gallery (2.7.00)	135	1365	55.56%	65%	60		03-Aug-18 A	28-Apr-22	03-Apr-22	01-Jun-22	34	
05-2640	IWMF Site Wide Architectural Details (2.9.00)	105	327	80.95%	5%	20		27-Apr-21 A	19-Mar-22	14-Mar-22	02-Apr-22	14	
05-3020	Site Master Layout Plan and Plant Layout (2.1.06)	105	1403	100%	65%	0		27-Apr-18 A	28-Feb-22	23-Mar-22	23-Mar-22	24	
WBS: EP_SP_66_12-WP6D-M51.05.01.03.2 Foundation design (2.3.01)		135	516	77.78%		30		30-Oct-20 A	29-Mar-22	03-May-22	01-Jun-22	64	
05-3090	Reception Pavilion	135	516	77.78%	5%	30		30-Oct-20 A	29-Mar-22	03-May-22	01-Jun-22	64	
WBS: EP_SP_66_12-WP6D-M51.05.01.03.3 Structural design (2.3.02)		105	225	57.14%		45		01-Sep-21 A	13-Apr-22	13-May-22	26-Jun-22	74	
05-1350	Reception Pavilion Structural Design	105	225	57.14%	5%	45		01-Sep-21 A	13-Apr-22	13-May-22	26-Jun-22	74	
WBS: EP_SP_66_12-WP6D-M51.05.01.03.7 Building services design (excluding fire services installation design) (2.3.06)		1287	1433	91.84%		105		11-Jul-18 A	12-Jun-22	21-Feb-22	20-Aug-22	69	
05-1550	Electrical Services and Lighting	150	1145	100%	25%	0		10-Jan-19 A	28-Feb-22	21-Feb-22	21-Feb-22	-6	
05-1560	MVAC (6 Packages)	105	1205	42.86%	25%	60		10-Jan-19 A	28-Apr-22	08-Apr-22	06-Jun-22	39	
05-1570	Odour Control	135	1388	55.56%	25%	60		11-Jul-18 A	28-Apr-22	08-Apr-22	06-Jun-22	39	
05-1580	Plumbing (7 Packages)	210	1200	71.43%	25%	60		15-Jan-19 A	28-Apr-22	30-Mar-22	28-May-22	30	
05-1590	Drainage (7 Packages)	135	1200	55.56%	25%	60		15-Jan-19 A	28-Apr-22	28-Feb-22	28-Apr-22	0	
05-1600	ELV (7 Packages)	135	1205	55.56%	25%	60		10-Jan-19 A	28-Apr-22	24-Mar-22	22-May-22	24	
05-1610	Lifts and Escalators (2 Packages)	135	851	55.56%	5%	60		30-Dec-19 A	28-Apr-22	07-Mar-22	05-May-22	7	
05-1630	Building Management System (BMS)	135	744	77.78%	45%	30		16-Mar-20 A	29-Mar-22	06-May-22	04-Jun-22	67	
05-1770	Vehicle & Container Wash System	105	105	0%	0%	105		28-Feb-22	12-Jun-22	08-May-22	20-Aug-22	69	
05-1770-1(M20)	Water Cannon System	135	993	100%	45%	0		11-Jun-19 A	28-Feb-22	23-Mar-22	23-Mar-22	24	
WBS: EP_SP_66_12-WP6D-M51.05.01.03.3 AIP Fire services installation design (2.3.05)		384	1182	93.75%		24		28-Dec-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.3.1 Process Building (2.3.05.01)		135	1169	82.22%		24		10-Jan-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-1510	Fire Systems	105	1169	77.14%	5%	24		10-Jan-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-1530	FS schematics	135	1155	92.59%	5%	10		10-Jan-19 A	09-Mar-22	28-Feb-22	09-Mar-22	0	
WBS: EP_SP_66_12-WP6D-M51.05.01.3.3 Turbine Hall Building (2.3.05.03)		105	1182	77.14%		24		28-Dec-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5400	Fire Systems (2.3.05.03.01)	105	1182	77.14%	5%	24		28-Dec-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5420-1(M22)	FS schematics (2.3.05.03.03)	90	1182	73.33%	5%	24		28-Dec-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.3.5 Elevated Drive Way and Associated Structures (2.3.05.05)		180	829	86.67%		24		16-Dec-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5445(M22)	Fire Systems	180	829	86.67%	5%	24		16-Dec-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5450-1(M22)	FS schematics	135	829	82.22%	5%	24		16-Dec-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.3.6 Reception Pavilion (2.3.05.06)		270	902	91.11%		24		04-Oct-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5460(M22)	Fire Systems (2.3.05.06.01)	270	902	91.11%	5%	24		04-Oct-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5470-1(M22)	FS schematics (2.3.05.06.03)	135	902	82.22%	5%	24		04-Oct-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.3.7 Compressor & Closed Circuit (2.3.05.07)		140	925	82.86%		24		11-Sep-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5480-1(M22)	Fire Systems (2.3.05.07.01)	140	925	82.86%	5%	24		11-Sep-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-5490-1(M22)	FS schematics (2.3.05.07.03)	135	925	82.22%	5%	24		11-Sep-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.04 AIP Mechanical Treatment Plant Building (2.4)		1140	1181	90.79%		105		20-Mar-19 A	12-Jun-22	24-Feb-22	20-Jun-22	8	
05-1650	Foundation design (2.4.01)	135	1027	55.56%	5%	60		07-Jul-19 A	28-Apr-22	15-Apr-22	13-Jun-22	46	
05-1670	Electrical and instrumentation works design (2.4.03)	105	105	0%	0%	105		28-Feb-22	12-Jun-22	08-Mar-22	20-Jun-22	8	
05-1680	Mechanical works design (2.4.04)	90	97	53.33%	0%	42		04-Jan-22 A	10-Apr-22	28-Feb-22	10-Apr-22	0	
05-1690	Fire services installation design (2.4.05) (3 Packages)	135	1100	82.22%	5%	24		20-Mar-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.04.7 Building services design (excluding fire services installation design) (2.4.06)		1081	1136	94.45%		60		20-Mar-19 A	28-Apr-22	28-Feb-22	06-Jun-22	39	
05-1700	LV and Emergency Power Distribution Design	135	1115	71.11%	25%	39		20-Mar-19 A	07-Apr-22	28-Feb-22	07-Apr-22	0	
05-1710	MVAC	135	1131	55.56%	5%	60		25-Mar-19 A	28-Apr-22	08-Apr-22	06-Jun-22	39	
05-1720	Odour Control	105	139	42.86%	5%	60		11-Dec-21 A	28-Apr-22	08-Apr-22	06-Jun-22	39	
05-1730	Plumbing	135	1121	66.67%	25%	45		20-Mar-19 A	13-Apr-22	28-Feb-22	13-Apr-22	0	
05-1740	Drainage	135	1121	66.67%	5%	45		20-Mar-19 A	13-Apr-22	28-Feb-22	13-Apr-22	0	
05-1750	ELV	135	1136	55.56%	25%	60		20-Mar-19 A	28-Apr-22	24-Mar-22	22-May-22	24	
05-1760	Lifts	135	851	55.56%	5%	60		30-Dec-19 A	28-Apr-22	22-Mar-22	20-May-22	22	



3-Month Rolling Programme (February 2022)

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

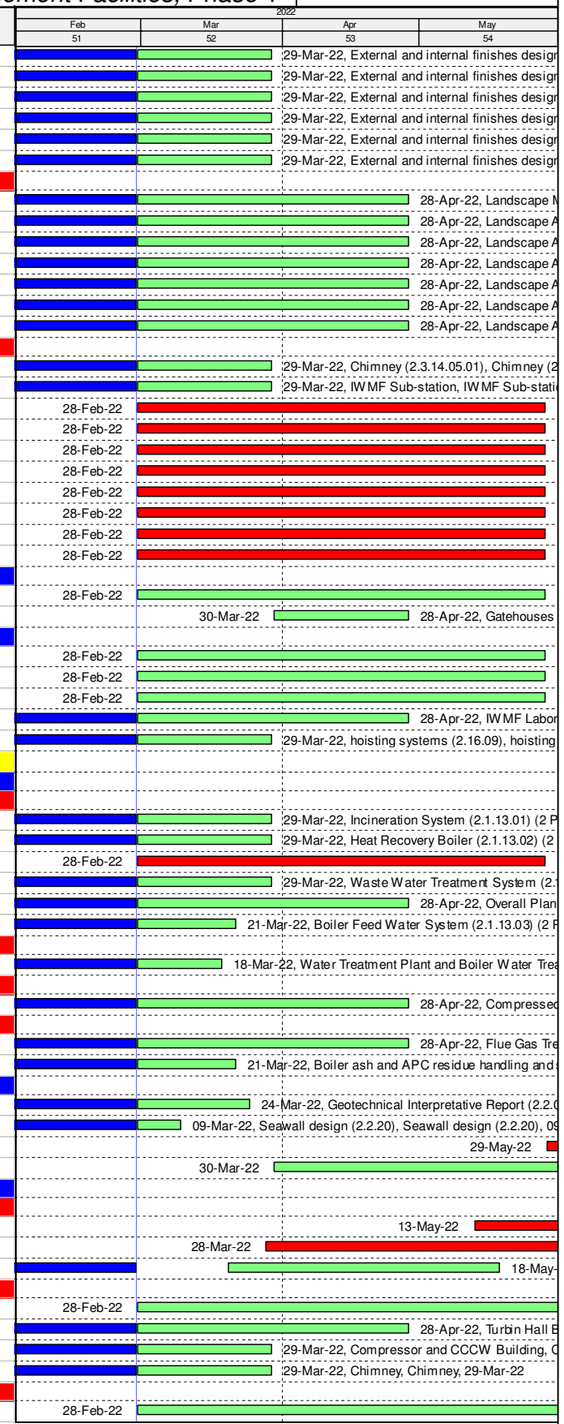
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
05-1760-1(M20)	Building Management System (BMS)	5	255	0%	5%	60		17-Aug-21 A	28-Apr-22	06-Apr-22	04-Jun-22	37	
WBS: EP_SP_66_12-WP6D-M51.05.01.05 AIP Wastewater Treatment Plant (2.5)		1170	1224	92.74%		85		16-Jan-19 A	23-May-22	28-Feb-22	06-Jun-22	14	
05-2790	Fire services installation design (2.5.05)	135	1159	92.59%	5%	10		16-Jan-19 A	19-Mar-22	10-Mar-22	19-Mar-22	0	
WBS: EP_SP_66_12-WP6D-M51.05.01.05.7 Building services design (excluding fire services installation design) (2.5.06)		1170	1224	92.74%		85		16-Jan-19 A	23-May-22	28-Feb-22	06-Jun-22	14	
05-1830	LV and Emergency Power Distribution Design (2.5.06.01)	135	1178	71.11%	25%	39		16-Jan-19 A	07-Apr-22	28-Feb-22	07-Apr-22	0	
05-1840	MVAC (2.5.06.02)	135	1199	55.56%	25%	60		16-Jan-19 A	28-Apr-22	08-Apr-22	06-Jun-22	39	
05-1850	Odour Control (2.5.06.03)	105	265	19.05%	5%	85		01-Sep-21 A	23-May-22	14-Mar-22	06-Jun-22	14	
05-1860	Plumbing (2.5.06.04)	135	1184	66.67%	25%	45		16-Jan-19 A	13-Apr-22	28-Feb-22	13-Apr-22	0	
05-1870	Drainage (2.5.06.05)	135	1184	66.67%	25%	45		16-Jan-19 A	13-Apr-22	28-Feb-22	13-Apr-22	0	
05-1880	ELV (2.5.06.06)	135	1178	71.11%	25%	39		16-Jan-19 A	07-Apr-22	28-Feb-22	07-Apr-22	0	
WBS: EP_SP_66_12-WP6D-M51.05.01.06 AIP Water Treatment Plant Building (2.6)		1095	1166	91.78%		90		20-Mar-19 A	28-May-22	24-Feb-22	20-Aug-22	84	
05-1910	Foundation design (2.6.01)	60	60	0%	0%	60		28-Feb-22	28-Apr-22	15-Apr-22	13-Jun-22	46	
05-1950	Fire services installation design (2.6.05) (3 Packages)	105	1100	77.14%	5%	24		20-Mar-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.06.7 Building services design (excluding fire services installation design) (2.6.06)		135	1166	33.33%		90		20-Mar-19 A	28-May-22	24-Mar-22	20-Aug-22	84	
05-1960	Electrical Services and Lighting (2.6.06.01)	135	1136	55.56%	25%	60	Start On or After	20-Mar-19 A	28-Apr-22	24-Mar-22	22-May-22	24	
05-1970	MVAC	135	1161	33.33%	5%	90		25-Mar-19 A	28-May-22	23-May-22	20-Aug-22	84	
05-1990	Plumbing	135	1136	55.56%	25%	60		20-Mar-19 A	28-Apr-22	14-Apr-22	12-Jun-22	45	
05-2000	Drainage	135	1136	55.56%	5%	60		20-Mar-19 A	28-Apr-22	14-Apr-22	12-Jun-22	45	
05-2010	ELV	135	1136	55.56%	25%	60		20-Mar-19 A	28-Apr-22	08-May-22	06-Jul-22	69	
WBS: EP_SP_66_12-WP6D-M51.05.01.07 AIP Administration Building (2.7)		941	999	90.44%		90		03-Sep-19 A	28-May-22	24-Feb-22	21-Jul-22	54	
05-2050	Electrical and instrumentation works design (2.7.03)	90	90	0%	0%	90		28-Feb-22	28-May-22	23-Apr-22	21-Jul-22	54	
05-2060	Fire services installation design (3 Packages) (2.7.04)	135	933	82.22%	5%	24		03-Sep-19 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.07.6 Building services design (excluding fire services installation design) (2.7.05)		227	969	73.57%		60		03-Sep-19 A	28-Apr-22	28-Feb-22	22-May-22	24	
05-2080	MVAC	135	969	55.56%	65%	60		03-Sep-19 A	28-Apr-22	24-Mar-22	22-May-22	24	
05-2130	Lifts and Escalators	135	843	61.48%	5%	52		30-Dec-19 A	20-Apr-22	28-Feb-22	20-Apr-22	0	
WBS: EP_SP_66_12-WP6D-M51.05.01.08 AIP IWMF Substation (2.8)		135	1213	82.22%		24		27-Nov-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
05-2190	Fire services installation design (2.8.05) (2 Packages)	135	1213	82.22%	5%	24		27-Nov-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.1 AIP Chimney		1195	1279	92.47%		90		27-Nov-18 A	28-May-22	05-Feb-22	06-Jun-22	9	
05-7390	Fire services installation design	135	1213	82.22%	0%	24		27-Nov-18 A	23-Mar-22	24-Feb-22	19-Mar-22	-4	
WBS: EP_SP_66_12-WP6D-M51.05.01.1.1 Building services design (excluding fire services installation design)		210	251	57.14%		90		20-Sep-21 A	28-May-22	05-Feb-22	06-Jun-22	9	
05-5430(5a)	Electrical Services and Lighting	90	161	100%	5%	0		20-Sep-21 A	28-Feb-22	21-Feb-22	21-Feb-22	-6	
05-5440(5a)	MVAC	90	210	45.56%	5%	49		20-Sep-21 A	17-Apr-22	19-Apr-22	06-Jun-22	50	
05-5450(5a)	Plumbing	90	210	45.56%	5%	49		20-Sep-21 A	17-Apr-22	10-Apr-22	28-May-22	41	
05-5460-1(5a)	Drainage	90	210	45.56%	5%	49		20-Sep-21 A	17-Apr-22	11-Mar-22	28-Apr-22	11	
05-5470(5a)	ELV	90	210	45.56%	5%	49		20-Sep-21 A	17-Apr-22	04-Apr-22	22-May-22	35	
05-5480-2(5a)	Lift	90	90	0%	0%	90		28-Feb-22	28-May-22	05-Feb-22	05-May-22	-23	
05-5490(5a)	Building Management System (BMS)	90	149	72.22%	5%	25		27-Oct-21 A	24-Mar-22	11-May-22	04-Jun-22	72	
WBS: EP_SP_66_12-WP6D-M51.05.01.4 AIP Elevated Drive Way and Associated Structures Foundation		105	1175	71.43%		30		10-Jan-19 A	29-Mar-22	23-Apr-22	22-May-22	54	
WBS: EP_SP_66_12-WP6D-M51.05.01.4.1 Building services design (excluding fire services installation design)		105	1175	71.43%		30		10-Jan-19 A	29-Mar-22	23-Apr-22	22-May-22	54	
05-7090	Electrical Services and Lighting	105	1175	71.43%	5%	30		10-Jan-19 A	29-Mar-22	23-Apr-22	22-May-22	54	
WBS: EP_SP_66_12-WP6D-M51.05.01.09 AIP Air Quality Monitoring Stations (2.9)		90	133	51.11%		44		01-Dec-21 A	12-Apr-22	02-Mar-22	14-Apr-22	2	
05-2250	Design of the Air Quality Monitoring Stations (2.9.01)	90	133	51.11%	51.11%	44		01-Dec-21 A	12-Apr-22	02-Mar-22	14-Apr-22	2	
WBS: EP_SP_66_12-WP6D-M51.05.01.10 AIP Roads and Utilities (2.10)		1081	1343	90.29%		105		09-Oct-18 A	12-Jun-22	13-Feb-22	20-Jul-22	38	
WBS: EP_SP_66_12-WP6D-M51.05.01.10.4 Water supply system design on the Artificial Island (2.10.04)		911	937	90.12%		90		04-Nov-19 A	28-May-22	13-Feb-22	13-May-22	-15	
05-2360	Water Tanks (2.10.04.05)	90	90	0%	0%	90		28-Feb-22	28-May-22	13-Feb-22	13-May-22	-15	
05-2370	External FS Systems (2.10.04.06)	105	847	100%	5%	0		04-Nov-19 A	28-Feb-22	08-Mar-22	08-Mar-22	9	
05-2370-2(M24)	Building Services system for seawater intake (2.10.04.09)	105	749	71.43%	5%	30		11-Mar-20 A	29-Mar-22	14-Apr-22	13-May-22	45	
05-2370-3(5a)	Chemical scrubber system for odour control (2.10.04.10)	105	478	42.86%	25%	60		06-Jan-21 A	28-Apr-22	15-Mar-22	13-May-22	15	
WBS: EP_SP_66_12-WP6D-M51.05.01.10.6 Design of telecommunication and other utilities (2.10.06)		1081	1294	90.29%		105		27-Nov-18 A	12-Jun-22	08-Mar-22	20-Jul-22	38	
05-2430	Site ELV Network System - Navigation aids concept / schematics (2.10.06.06)	105	105	0%	0%	105		28-Feb-22	12-Jun-22	07-Apr-22	20-Jul-22	38	
05-2440	Microwave transmission of FS direct link (2.10.06.07)	105	1219	71.43%	45%	30		27-Nov-18 A	29-Mar-22	21-Apr-22	20-May-22	52	
05-2450	Fuel Handling System concept / schematics (2.10.06.08)	135	826	55.56%	5%	60		24-Jan-20 A	28-Apr-22	07-Apr-22	05-Jun-22	38	
05-3840-1(M22)	Automatic Traffic Control System (ATCS) (2.10.06.12)	90	90	0%	0%	90		28-Feb-22	28-May-22	08-Mar-22	05-Jun-22	8	
WBS: EP_SP_66_12-WP6D-M51.05.01.10.7 Utility ducts/Pipebridges design (2.10.25)		241	1298	75.1%		60		09-Oct-18 A	28-Apr-22	02-Mar-22	05-May-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.01.10.7.3 Layout Plan for Pipe Bridge Network		60	60	0%		60		28-Feb-22	28-Apr-22	02-Mar-22	05-May-22	7	
05-6010	Pipebridge B	60	60	0%	0%	60		28-Feb-22	28-Apr-22	02-Mar-22	30-Apr-22	2	
05-6020	Pipebridge C	60	60	0%	0%	60		28-Feb-22	28-Apr-22	07-Mar-22	05-May-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.01.10.7.2 Structure Plan for Pipe Bridge		135	1298	55.56%		60		09-Oct-18 A	28-Apr-22	02-Mar-22	05-May-22	7	
05-6070	Pipebridge B	90	1298	33.33%	5%	60		09-Oct-18 A	28-Apr-22	02-Mar-22	30-Apr-22	2	
05-6080	Pipebridge C	135	1298	55.56%	5%	60		09-Oct-18 A	28-Apr-22	07-Mar-22	05-May-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.01.11 AIP Architectural, Finishes and Landscaping Works (2.11)		606	790	85.15%		90		30-Mar-20 A	28-May-22	21-Feb-22	05-Jul-22	38	
WBS: EP_SP_66_12-WP6D-M51.05.01.11.1 External and internal finishes design		560	775	86.61%		75		30-Mar-20 A	13-May-22	06-Mar-22	05-Jul-22	53	
05-2510	External and internal finishes design for Incineration Plant Building (2.11.01)	105	682	83.81%	5%	17		04-May-20	16-Mar-22	06-Mar-22	22-Mar-22	6	
05-2520	External and internal finishes design for ACC Equipment Yard	75	75	0%	0%	75		28-Feb-22	13-May-22	22-Apr-22	05-Jul-22	53	
05-2530	External and internal finishes design for Turbine Hall Building	105	695	71.43%	5%	30		04-May-20	29-Mar-22	28-Apr-22	27-May-22	59	
05-2540	External and internal finishes design for CCCW Building	105	695	71.43%	5%	30		04-May-20	29-Mar-22	31-Mar-22	29-Apr-22	31	
05-2550	External and internal finishes design for Chimney	60	60	0%	5%	60		28-Feb-22	28-Apr-22	28-Apr-22	26-Jun-22	59	
05-2560	External and internal finishes design for Reception Pavilion	105	730	71.43%	5%	30		30-Mar-20 A	29-Mar-22	28-May-22	26-Jun-22	89	



3-Month Rolling Programme (February 2022)

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

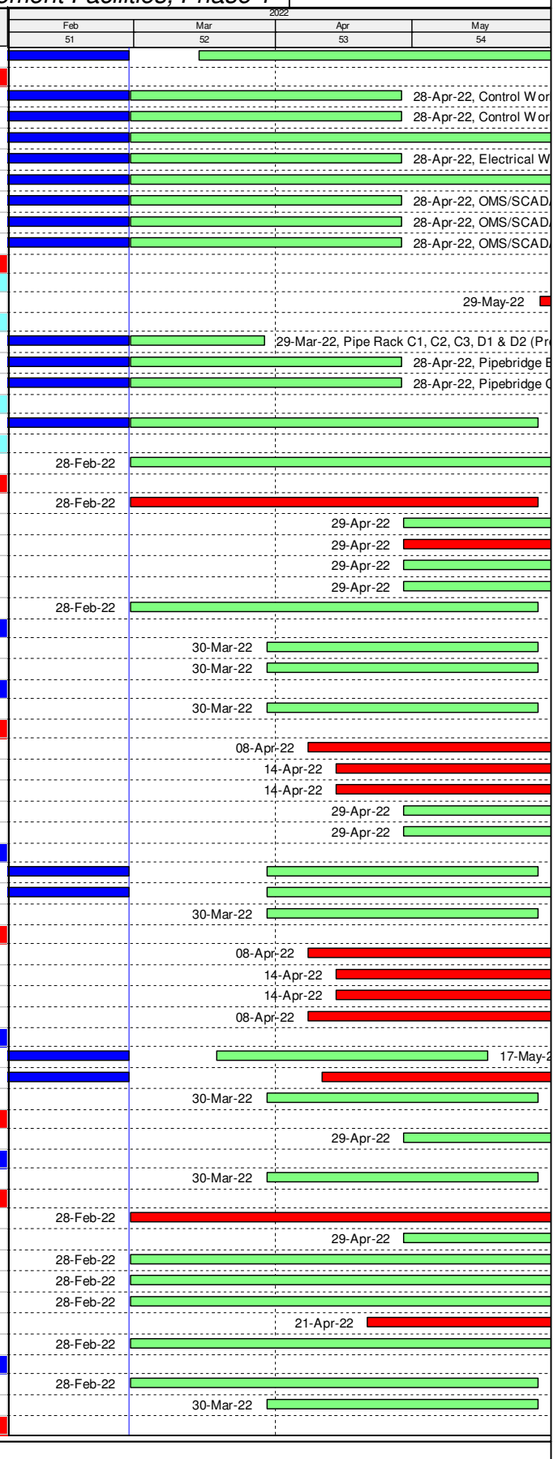
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
05-2570	External and internal finishes design for MT Plant Building (2.11.02)	105	702	71.43%	5%	30		27-Apr-20 A	29-Mar-22	28-May-22	26-Jun-22	89	
05-2580	External and internal finishes design for the Wastewater Treatment Plant (2.11.03)	105	695	71.43%	25%	30		04-May-20	29-Mar-22	28-May-22	26-Jun-22	89	
05-2590	External and internal finishes design for the Water Treatment Plant Building (2.11.04)	105	337	71.43%	25%	30		27-Apr-21 A	29-Mar-22	28-May-22	26-Jun-22	89	
05-2600	External and internal finishes design for the Administration Building (2.11.05)	105	702	71.43%	5%	30		27-Apr-20 A	29-Mar-22	28-May-22	26-Jun-22	89	
05-2610	External and internal finishes design for the IWMF Substation (2.11.06)	105	730	71.43%	45%	30		30-Mar-20 A	29-Mar-22	28-May-22	26-Jun-22	89	
05-5410	External and internal finishes design for Elevated Driveway	105	695	71.43%	25%	30		04-May-20	29-Mar-22	28-May-22	26-Jun-22	89	
WBS: EP_SP_66_12-WP6D-M51.05.01.11.7 Landscaping Works (2.11.07)		180	721	66.67%		60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2620	Landscape Masterplan & Landscape Design for Water Feature (2.11.07.01)	105	679	42.86%	5%	60		19-Jun-20 A	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_1(M34)	Landscape Architectural Design for Turbine Hall Building (2.11.07.04)	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_2(M34)	Landscape Architectural Design for Reception Pavilion (2.11.07.06)	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_3(M34)	Landscape Architectural Design for MT Plant Building and Water Treatment Plant Building (2.11.07.07	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_4(M34)	Landscape Architectural Design for Administration Building (2.11.07.08)	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_5(M34)	Landscape Architectural Design for IWMF Substation (2.11.07.09)	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
05-2920_6(M34)	Landscape Architectural Design for Process Building (2.11.07.10)	105	721	42.86%	5%	60		08-May-20	28-Apr-22	07-May-22	05-Jul-22	68	
WBS: EP_SP_66_12-WP6D-M51.05.01.11.11 Facade Structural Design		149	362	39.6%		90		01-Jun-21 A	28-May-22	21-Feb-22	21-May-22	-7	
05-8000(M45)10	Chimney (2.3.14.05.01)	90	302	66.67%	0%	30		01-Jun-21 A	29-Mar-22	22-Apr-22	21-May-22	53	
05-8010(M45)10	IWMF Sub-station	90	302	66.67%	0%	30		01-Jun-21 A	29-Mar-22	22-Apr-22	21-May-22	53	
05-8020(6D)10	Process Building & Wastewater Treatment Plant (2.6.14.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8030(6D)10	Compressor & CCCW Building (2.3.14.04.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8040(6D)10	Reception Pavilion (2.3.14.07.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8050(6D)10	Mechnical Treatment Plant & Desalination Plant Building (2.4.14.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8060(6D)10	Adminstration Building and Viewing Gallery (2.7.12.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8070(6D)10	Turbine Hall Building	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8080(6D)10	Elevated Driveway and Associated Structures	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
05-8090(6D)10	Sky Deck near Administration Building Structural Design	90	90	0%	0%	90		28-Feb-22	28-May-22	21-Feb-22	21-May-22	-7	
WBS: EP_SP_66_12-WP6D-M51.05.01.15 AIP Miscellaneous Detailing (2.15)		90	90	0%		90		28-Feb-22	28-May-22	15-Apr-22	13-Jul-22	46	
05-2730	Covered walkway at passenger berth (2.15.02)	90	90	0%	0%	90		28-Feb-22	28-May-22	15-Apr-22	13-Jul-22	46	
05-2740	Gatehouses (2.15.03)	30	30	0%	0%	30		30-Mar-22	28-Apr-22	03-May-22	01-Jun-22	34	
WBS: EP_SP_66_12-WP6D-M51.05.01.16 AIP Auxiliary Plant Systems (2.16)		575	746	84.35%		90		13-May-20	28-May-22	04-Mar-22	01-Jun-22	4	
05-2760	Maintenance workshops (2.16.01)	90	90	0%	0%	90		28-Feb-22	28-May-22	04-Mar-22	01-Jun-22	4	
05-2770	Vehicle Fuel Filling Station (2.16.02)	90	90	0%	0%	90		28-Feb-22	28-May-22	04-Mar-22	01-Jun-22	4	
05-2780	Stores systems (2.16.03)	90	90	0%	0%	90		28-Feb-22	28-May-22	04-Mar-22	01-Jun-22	4	
05-2780-1(5a)	IWMF Laboratory (2.16.04)	135	716	55.56%	45%	60		13-May-20	28-Apr-22	03-Apr-22	01-Jun-22	34	
05-2780-2(5a)	hoisting systems (2.16.09)	135	560	77.78%	65%	30		16-Sep-20 A	29-Mar-22	03-May-22	01-Jun-22	64	
WBS: EP_SP_66_12-WP6D-M51.05.02 DDA Design Package Submissions		1330	1427	85.34%		195		15-Oct-18 A	10-Sep-22	26-Jan-22	04-Sep-22	-6	
WBS: EP_SP_66_12-WP6D-M51.05.02.01 DDA Process and Layout Design (2.1)		606	766	85.15%		90		23-Apr-20 A	28-May-22	26-Jan-22	21-Jul-22	54	
WBS: EP_SP_66_12-WP6D-M51.05.02.01.1 MSW treatment process design for incineration (2.1.13)		606	766	85.15%		90		23-Apr-20 A	28-May-22	26-Jan-22	09-Jun-22	12	
05-5090	Incineration System (2.1.13.01) (2 Packages)	105	608	71.43%	5%	30		30-Jul-20 A	29-Mar-22	12-Mar-22	10-Apr-22	12	
05-5100	Heat Recovery Boiler (2.1.13.02) (2 Packages)	105	706	71.43%	5%	30		23-Apr-20 A	29-Mar-22	11-Apr-22	10-May-22	42	
05-5120	Leachate Collection and Treatment (2.1.13.05) (2 Packages)	90	90	0%	0%	90		28-Feb-22	28-May-22	26-Jan-22	25-Apr-22	-33	
05-5130	Waste Water Treatment System (2.1.13.06) (2 Packages)	105	434	71.43%	65%	30		20-Jan-21 A	29-Mar-22	09-Apr-22	08-May-22	40	
05-5140	Overall Plan Water Scheme (2.1.13.07)	105	464	42.86%	5%	60		20-Jan-21 A	28-Apr-22	11-Apr-22	09-Jun-22	42	
05-5150	Boiler Feed Water System (2.1.13.03) (2 Packages)	105	596	79.05%	45%	22		03-Aug-20 A	21-Mar-22	19-Apr-22	10-May-22	50	
WBS: EP_SP_66_12-WP6D-M51.05.02.01.2 MSW treatment process design for mechanical treatment (2.1.14)		105	455	81.9%		19		19-Dec-20 A	18-Mar-22	23-Mar-22	10-Apr-22	23	
05-3510	Water Treatment Plant and Boiler Water Treatment (Demin Unit) Plant	105	455	81.9%	5%	19		19-Dec-20 A	18-Mar-22	23-Mar-22	10-Apr-22	23	
WBS: EP_SP_66_12-WP6D-M51.05.02.01.3 Waste heat recovery and Power generation system (2.1.15)		105	511	42.86%		60		04-Dec-20 A	28-Apr-22	23-May-22	21-Jul-22	84	
05-5240	Compressed Air Plants	105	511	42.86%	25%	60		04-Dec-20 A	28-Apr-22	23-May-22	21-Jul-22	84	
WBS: EP_SP_66_12-WP6D-M51.05.02.01.4 Flue gas treatment process design for incineration (2.1.16)		105	736	42.86%		60		23-Apr-20 A	28-Apr-22	12-Mar-22	10-May-22	12	
05-4660	Flue Gas Treatment System (2 Packages)	105	736	42.86%	45%	60		23-Apr-20 A	28-Apr-22	12-Mar-22	10-May-22	12	
05-4980	Boiler ash and APC residue handling and solidification (2 Packages)	105	698	79.05%	45%	22		23-Apr-20 A	21-Mar-22	19-Apr-22	10-May-22	50	
WBS: EP_SP_66_12-WP6D-M51.05.02.02 DDA Ground Treatment, Reclamation, Seawall, Breakwater, Berth (2.2)		1315	1412	86.31%		180		15-Oct-18 A	26-Aug-22	07-Mar-22	13-Aug-22	-13	
05-3430-2(M37)	Geotechnical Interpretative Report (2.2.02.02)	105	1257	76.19%	65%	25		15-Oct-18 A	24-Mar-22	03-May-22	27-May-22	64	
05-3450	Seawall design (2.2.20)	60	1214	83.33%	65%	10		12-Nov-18 A	09-Mar-22	07-Mar-22	16-Mar-22	7	
05-3480	Onshore crane Facility (2.2.23)	90	90	0%	0%	90		29-May-22	26-Aug-22	16-May-22	13-Aug-22	-13	
05-3490	Onshore vessel power supply system (2.2.24)	135	135	0%	0%	135		30-Mar-22	11-Aug-22	01-Apr-22	13-Aug-22	2	
WBS: EP_SP_66_12-WP6D-M51.05.02.03 DDA Incineration Plant Buildings (2.3)		741	1091	73.68%		195		16-Sep-19 A	10-Sep-22	22-Feb-22	26-Aug-22	-15	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.1 General Layout Drawings and Fire Saftey Strategy (2.3.25)		234	440	51.28%		114		28-Apr-21 A	11-Jul-22	24-Mar-22	01-Jul-22	-10	
05-3290	Process Building & Wastewater Treatment Plant	60	60	0%	0%	60		13-May-22	11-Jul-22	03-May-22	01-Jul-22	-10	
05-3520	Site Master Layout Plan and Plant Layout	90	90	0%	0%	90		28-Mar-22	25-Jun-22	24-Mar-22	21-Jun-22	-4	
05-4800	IWMF Site Wide Architectural Details	105	386	42.86%	5%	60		28-Apr-21 A	18-May-22	03-Apr-22	01-Jun-22	14	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.2 Foundation design (2.3.13)		286	370	52.8%		135		08-Jul-21 A	12-Jul-22	16-Mar-22	05-Aug-22	24	
05-3230	ACC Equipment Yard	135	135	0%	0%	135		28-Feb-22	12-Jul-22	24-Mar-22	05-Aug-22	24	
05-3240	Turbin Hall Building	135	295	55.56%	25%	60		08-Jul-21 A	28-Apr-22	18-Mar-22	16-May-22	18	
05-3250	Compressor and CCCW Building	90	83	66.67%	0%	30		06-Jan-22 A	29-Mar-22	16-Mar-22	14-Apr-22	16	
05-3260	Chimney	135	133	77.78%	5%	30		17-Nov-21 A	29-Mar-22	28-Apr-22	27-May-22	59	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.3 Structural design (2.3.14)		212	360	50.47%		105		18-Jun-21 A	12-Jun-22	19-Mar-22	25-Aug-22	74	
05-5330	Process Building	105	105	0%	0%	105		28-Feb-22	12-Jun-22	19-Mar-22	01-Jul-22	19	



3-Month Rolling Programme (February 2022)

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

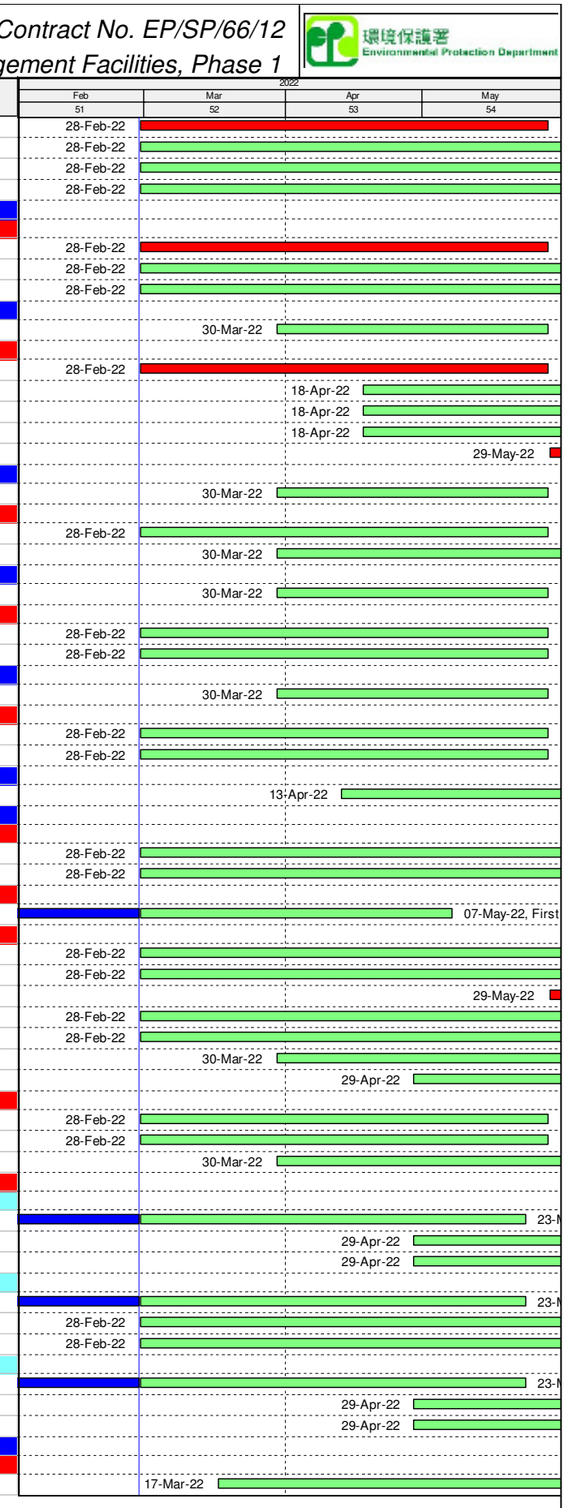
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
05-5390	Reception Pavilion Structural Design	105	360	14.29%	5%	90		18-Jun-21 A	12-Jun-22	28-May-22	25-Aug-22	74	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.8 Operation Management System (2.3.15.04)		592	1001	82.26%		105		16-Sep-19 A	12-Jun-22	03-Apr-22	16-Jul-22	34	
05-3390-1(M46)	Control Works Design SCADA & PLC Control System - Hardware Design	105	956	42.86%	65%	60		16-Sep-19 A	28-Apr-22	18-May-22	16-Jul-22	79	
05-3390-2(M46)	Control Works Design SCADA & PLC Control System - Software Design	105	205	42.86%	45%	60		06-Oct-21 A	28-Apr-22	18-May-22	16-Jul-22	79	
05-3390-3(6D)	Control Works Design SCADA & PLC Control System - Functional Description Specification (FDS) c	105	336	0%	65%	105		12-Jul-21 A	12-Jun-22	03-Apr-22	16-Jul-22	34	
05-3390-4(M46)	Electrical Works Design Package 2 (Power Island) - Generator Related Equipment	105	669	42.86%	50%	60		29-Jun-20 A	28-Apr-22	18-May-22	16-Jul-22	79	
05-3390-5(6D)	OMS/SCADA/DCS - Hardware Component Details	105	735	0%	65%	105		08-Jun-20 A	12-Jun-22	03-Apr-22	16-Jul-22	34	
05-3390-6(M46)	OMS/SCADA/DCS - System Networks Details	105	583	42.86%	65%	60		23-Sep-20 A	28-Apr-22	18-May-22	16-Jul-22	79	
05-3390-8(M46)	OMS/SCADA/DCS - OLM Panel Design for Power Island	105	500	42.86%	5%	60		15-Dec-20 A	28-Apr-22	18-May-22	16-Jul-22	79	
05-3420	OMS/SCADA/DCS - 3rd Party System for Power Island & Communication Data Tables for Power Isla	105	205	42.86%	65%	60		06-Oct-21 A	28-Apr-22	18-May-22	16-Jul-22	79	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.5 Mechanical works design (2.3.16)		560	744	65.18%		195		28-Aug-20 A	10-Sep-22	02-Mar-22	20-Aug-22	-21	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.5.1 Plant and Equipment		105	105	0%		105		29-May-22	10-Sep-22	26-Apr-22	08-Aug-22	-33	
05-3650	Leachate collection and treatment	105	105	0%	0%	105		29-May-22	10-Sep-22	26-Apr-22	08-Aug-22	-33	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.5.2 Process Pipeworks (Incl. Ductworks) and Valves		105	609	42.86%		60		28-Aug-20 A	28-Apr-22	02-Mar-22	30-Apr-22	2	
05-4350	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	579	71.43%	5%	30		28-Aug-20 A	29-Mar-22	01-Apr-22	30-Apr-22	32	
05-4370	Pipebridge B (Between CCCW Area & Turbine Hall)	105	609	42.86%	5%	60		28-Aug-20 A	28-Apr-22	02-Mar-22	30-Apr-22	2	
05-4380	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	609	42.86%	5%	60		28-Aug-20 A	28-Apr-22	02-Mar-22	30-Apr-22	2	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.5.3 Process steel structure support (For eqipment, piping & duct, cable tray etc)		105	639	14.29%		90		28-Aug-20 A	28-May-22	21-May-22	18-Aug-22	82	
05-3540	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	639	14.29%	5%	90		28-Aug-20 A	28-May-22	21-May-22	18-Aug-22	82	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.5.4 Equipment and piping insulation		105	105	0%		105		28-Feb-22	12-Jun-22	08-May-22	20-Aug-22	69	
05-4570	Closed Circuit Cooling Water System	105	105	0%	0%	105		28-Feb-22	12-Jun-22	08-May-22	20-Aug-22	69	
WBS: EP_SP_66_12-WP6D-M51.05.02.03.7 Building services design (excluding fire services installation design) (2.3.18)		150	150	0%		150		28-Feb-22	27-Jul-22	22-Feb-22	26-Aug-22	30	
05-3690	Electrical Services and Lighting (7 Packages)	90	90	0%	0%	90		28-Feb-22	28-May-22	22-Feb-22	22-May-22	-6	
05-3720	Plumbing (7 Packages)	90	90	0%	0%	90		29-Apr-22	27-Jul-22	29-May-22	26-Aug-22	30	
05-3730	Drainage (7 Packages)	90	90	0%	0%	90		29-Apr-22	27-Jul-22	29-Apr-22	27-Jul-22	0	
05-3740	ELV (7 Packages)	90	90	0%	0%	90		29-Apr-22	27-Jul-22	23-May-22	20-Aug-22	24	
05-3750	Lifts and Escalators	90	90	0%	0%	90		29-Apr-22	27-Jul-22	06-May-22	03-Aug-22	7	
05-3780-2(M20)	Water Cannon System	90	90	0%	0%	90		28-Feb-22	28-May-22	24-Mar-22	21-Jun-22	24	
WBS: EP_SP_66_12-WP6D-M51.05.02.7 DDA Fire services installation design (2.3.17)		60	60	0%		60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
05-3660	Fire Systems	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
05-3680	FS schematics	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.04 DDA Mechanical Treatment Plant Building (2.4)		150	150	0%		150		30-Mar-22	26-Aug-22	03-Apr-22	26-Aug-22	0	
05-5210	Fire services installation design (2.4.17)	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.04.7 Building services design (excluding fire services installation design) (2.4.18)		141	141	0%		141		08-Apr-22	26-Aug-22	08-Apr-22	26-Aug-22	0	
05-3850	LV and Emergency Power Distribution Design	135	135	0%	0%	135		08-Apr-22	20-Aug-22	08-Apr-22	20-Aug-22	0	
05-3880	Plumbing	135	135	0%	0%	135		14-Apr-22	26-Aug-22	14-Apr-22	26-Aug-22	0	
05-3890	Drainage	105	105	0%	0%	105		14-Apr-22	27-Jul-22	14-Apr-22	27-Jul-22	0	
05-3900	Lighting and small power	90	90	0%	0%	90		29-Apr-22	27-Jul-22	23-May-22	20-Aug-22	24	
05-3910	Lifts and Escalators	75	75	0%	0%	75		29-Apr-22	12-Jul-22	21-May-22	03-Aug-22	22	
WBS: EP_SP_66_12-WP6D-M51.05.02.05 DDA Wastewater Treatment Plant (2.5)		150	596	0%		150		08-Jan-21 A	26-Aug-22	03-Apr-22	26-Aug-22	0	
05-3950	Electrical and instrumentation works design (2.5.15)	90	370	33.33%	5%	60		24-May-21	28-May-22	15-May-22	13-Jul-22	46	
05-3960	Mechanical works design (2.5.16) (5 Packages)	90	536	0%	5%	90		08-Jan-21 A	27-Jun-22	09-May-22	06-Aug-22	40	
05-3970	Fire services installation design (2.5.17) (2 Packages)	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.05.7 Building services design (excluding fire services installation design) (2.5.18)		141	141	0%		141		08-Apr-22	26-Aug-22	08-Apr-22	26-Aug-22	0	
05-3980	LV and Emergency Power Distribution Design for IWMF Waste Water Treatment Plant	135	135	0%	0%	135		08-Apr-22	20-Aug-22	08-Apr-22	20-Aug-22	0	
05-4010	Plumbing	135	135	0%	0%	135		14-Apr-22	26-Aug-22	14-Apr-22	26-Aug-22	0	
05-4020	Drainage	105	105	0%	0%	105		14-Apr-22	27-Jul-22	14-Apr-22	27-Jul-22	0	
05-4030	ELV	135	135	0%	0%	135		08-Apr-22	20-Aug-22	08-Apr-22	20-Aug-22	0	
WBS: EP_SP_66_12-WP6D-M51.05.02.06 DDA Water Treatment Plant Building (2.6)		124	483	0%		131		01-Apr-21 A	27-Jul-22	03-Apr-22	20-Aug-22	24	
05-4080	Electrical and instrumentation works design (2.6.15)	105	198	42.86%	5%	60		01-Nov-21 A	17-May-22	23-Apr-22	21-Jun-22	35	
05-4090	Mechanical works design (2.6.16)	90	465	0%	5%	90		01-Apr-21 A	09-Jul-22	11-Apr-22	09-Jul-22	0	
05-4100	Fire services installation design (2.6.17)	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.06.7 Building services design (excluding fire services installation design) (2.6.18)		90	90	0%		90		29-Apr-22	27-Jul-22	23-May-22	20-Aug-22	24	
05-4110	Electrical Services and Lighting	90	90	0%	0%	90		29-Apr-22	27-Jul-22	23-May-22	20-Aug-22	24	
WBS: EP_SP_66_12-WP6D-M51.05.02.07 DDA Administration Building (2.7)		165	165	0%		165		28-Feb-22	11-Aug-22	07-Feb-22	04-Sep-22	24	
05-4210	Fire services installation design (2.7.14)	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.07.6 Building services design (excluding fire services installation design) (2.7.15)		165	165	0%		165		28-Feb-22	11-Aug-22	07-Feb-22	04-Sep-22	24	
05-4220	Electrical Services and Lighting	105	105	0%	0%	105		28-Feb-22	12-Jun-22	07-Feb-22	22-May-22	-21	
05-4230	MVAC	105	105	0%	0%	105		29-Apr-22	11-Aug-22	23-May-22	04-Sep-22	24	
05-4250	Plumbing	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-May-22	26-Aug-22	75	
05-4260	Drainage	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-Apr-22	27-Jul-22	45	
05-4270	ELV	105	105	0%	0%	105		28-Feb-22	12-Jun-22	08-May-22	20-Aug-22	69	
05-4280	Lifts and Escalators	105	105	0%	0%	105		21-Apr-22	03-Aug-22	21-Apr-22	03-Aug-22	0	
05-4280-1	Building Management System (BMS)	105	105	0%	0%	105		28-Feb-22	12-Jun-22	21-May-22	02-Sep-22	82	
WBS: EP_SP_66_12-WP6D-M51.05.02.08 DDA IWMF Substation (2.8)		135	135	0%		135		28-Feb-22	12-Jul-22	22-Feb-22	26-Aug-22	45	
05-4320	Electrical and instrumentation works design (2.8.15)	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-4340	Fire services installation design (2.8.17)	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.08.7 Building services design (excluding fire services installation design) (2.8.18)		135	135	0%		135		28-Feb-22	12-Jul-22	22-Feb-22	26-Aug-22	45	



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

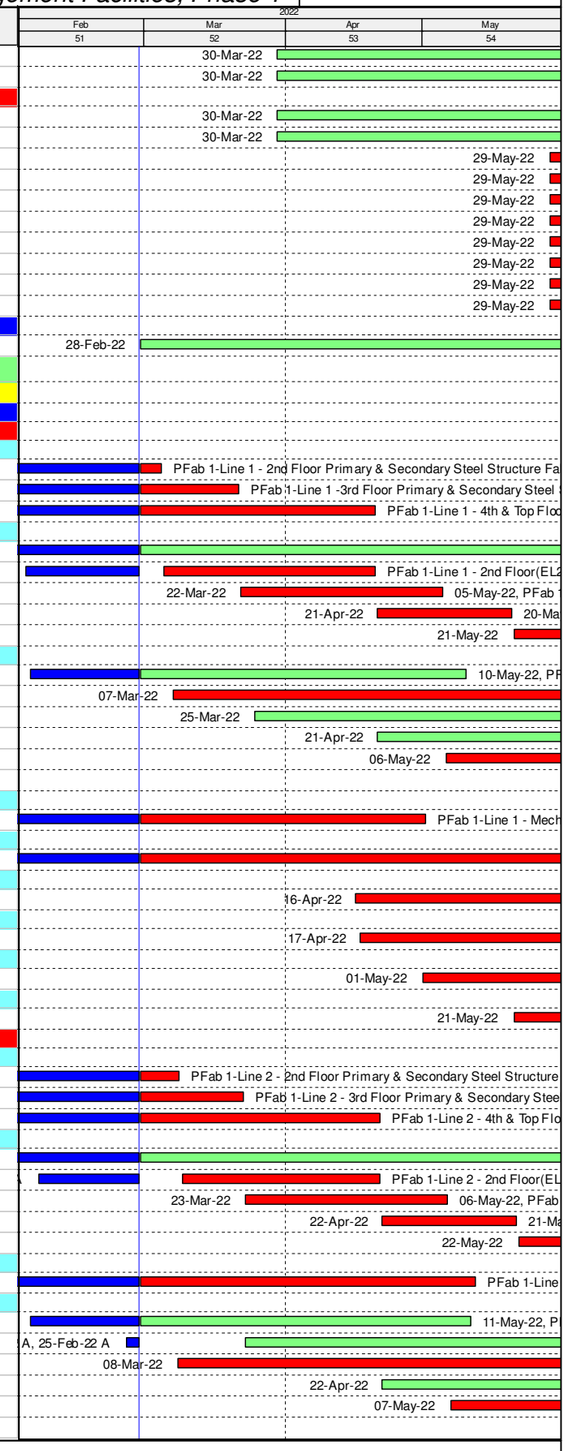
3-Month Rolling Programme (February 2022)

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
05-4990	Electrical Services and Lighting	90	90	0%	0%	90		28-Feb-22	28-May-22	22-Feb-22	22-May-22	-6	
05-5010	Plumbing	135	135	0%	0%	135		28-Feb-22	12-Jul-22	14-Apr-22	26-Aug-22	45	
05-5020	Drainage	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-Apr-22	27-Jul-22	45	
05-5030	ELV	135	135	0%	0%	135		28-Feb-22	12-Jul-22	08-Apr-22	20-Aug-22	39	
WBS: EP_SP_66_12-WP6D-M51.05.02.9 DDA Air Cool Condensers Equipment (2.3.06)		135	135	0%		135		28-Feb-22	12-Jul-22	22-Feb-22	26-Aug-22	45	
WBS: EP_SP_66_12-WP6D-M51.05.02.9.7 Building services design (excluding fire services installation design) (2.3.06)		135	135	0%		135		28-Feb-22	12-Jul-22	22-Feb-22	26-Aug-22	45	
05-5510	Electrical Services and Lighting	90	90	0%	0%	90		28-Feb-22	28-May-22	22-Feb-22	22-May-22	-6	
05-5520	Plumbing	135	135	0%	0%	135		28-Feb-22	12-Jul-22	14-Apr-22	26-Aug-22	45	
05-5530	ELV	135	135	0%	0%	135		28-Feb-22	12-Jul-22	08-Apr-22	20-Aug-22	39	
WBS: EP_SP_66_12-WP6D-M51.05.02.1 DDA Chimney		180	180	0%		180		28-Feb-22	26-Aug-22	22-Feb-22	26-Aug-22	0	
05-5540-2(6D)	Fire services installation design	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.1.1 Building services design (excluding fire services installation design)		180	180	0%		180		28-Feb-22	26-Aug-22	22-Feb-22	26-Aug-22	0	
05-6000-1(5a)	Electrical Services and Lighting	90	90	0%	0%	90		28-Feb-22	28-May-22	22-Feb-22	22-May-22	-6	
05-6020-1(5a)	Plumbing	90	90	0%	0%	90		18-Apr-22	16-Jul-22	29-May-22	26-Aug-22	41	
05-6030-1(5a)	Drainage	90	90	0%	0%	90		18-Apr-22	16-Jul-22	29-Apr-22	27-Jul-22	11	
05-6040-1(5a)	ELV	90	90	0%	0%	90		18-Apr-22	16-Jul-22	23-May-22	20-Aug-22	35	
05-6050-1(5a)	Lift	90	90	0%	0%	90		29-May-22	26-Aug-22	06-May-22	03-Aug-22	-23	
WBS: EP_SP_66_12-WP6D-M51.05.02.4 DDA Elevated Drive Way and Associated Structures Foundation		120	120	0%		120		28-Feb-22	27-Jun-22	03-Apr-22	20-Aug-22	54	
05-5540-3(6D)	Fire services installation design	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.4.1 Building services design (excluding fire services installation design)		120	120	0%		120		28-Feb-22	27-Jun-22	23-May-22	20-Aug-22	54	
05-5560	Building Management System (BMS)	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-7240	Electrical Services and Lighting	90	90	0%	0%	90		30-Mar-22	27-Jun-22	23-May-22	20-Aug-22	54	
WBS: EP_SP_66_12-WP6D-M51.05.02.5 DDA Reception Pavilion		90	90	0%		90		28-Feb-22	28-May-22	03-Apr-22	20-Aug-22	84	
05-5540-4(6D)	Fire services installation design	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.5.1 Building services design (excluding fire services installation design)		90	90	0%		90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-2130-1	Building Management System (BMS)	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-7290	Electrical Services and Lighting	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
WBS: EP_SP_66_12-WP6D-M51.05.02.6 DDA CCCW Building		90	90	0%		90		28-Feb-22	28-May-22	03-Apr-22	20-Aug-22	84	
05-5540-5(6D)	Fire services installation design	60	60	0%	0%	60		30-Mar-22	28-May-22	03-Apr-22	01-Jun-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.6.1 Building services design (excluding fire services installation design)		90	90	0%		90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-2130-2	Building Management System (BMS)	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
05-7340	Electrical Services and Lighting	90	90	0%	0%	90		28-Feb-22	28-May-22	23-May-22	20-Aug-22	84	
WBS: EP_SP_66_12-WP6D-M51.05.02.09 DDA Air Quality Monitoring Stations (2.9)		90	90	0%		90		13-Apr-22	11-Jul-22	15-Apr-22	13-Jul-22	2	
05-4490	Design of the Air Quality Monitoring Stations (2.9.03)	90	90	0%	0%	90		13-Apr-22	11-Jul-22	15-Apr-22	13-Jul-22	2	
WBS: EP_SP_66_12-WP6D-M51.05.02.10 DDA Roads and Utilities (2.10)		468	702	58.33%		195		09-Oct-20 A	10-Sep-22	04-Mar-22	02-Sep-22	-8	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.2 Sewerage design on the Artificial Island (2.10.14)		135	135	0%		135		28-Feb-22	12-Jul-22	15-Mar-22	27-Jul-22	15	
05-4430	Foul Sewerage	135	135	0%	0%	135		28-Feb-22	12-Jul-22	15-Mar-22	27-Jul-22	15	
05-4440	Contaminated Sewerage	135	135	0%	0%	135		28-Feb-22	12-Jul-22	15-Mar-22	27-Jul-22	15	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.3 Drainage system design on the Artificial Island (2.10.15)		105	164	34.29%		69		25-Nov-21 A	07-May-22	04-Mar-22	11-May-22	4	
05-5320	First Flush Drainage System concept	105	164	34.29%	5%	69		25-Nov-21 A	07-May-22	04-Mar-22	11-May-22	4	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.4 Water supply system design on the Artificial Island (2.10.16)		195	195	0%		195		28-Feb-22	10-Sep-22	09-Mar-22	26-Aug-22	-15	
05-5250	Potable Water Distribution System	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-May-22	26-Aug-22	75	
05-5260	Recycled Water System	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-May-22	26-Aug-22	75	
05-5290	Water Tanks	105	105	0%	0%	105		29-May-22	10-Sep-22	14-May-22	26-Aug-22	-15	
05-5300	External FS Systems	105	105	0%	0%	105		28-Feb-22	12-Jun-22	09-Mar-22	21-Jun-22	9	
05-5300-1(M24)	E&M system for seawater intake (2.10.16.07)	105	105	0%	0%	105		28-Feb-22	12-Jun-22	14-May-22	26-Aug-22	75	
05-5300-2(M24)	Building Services system for seawater intake (2.10.16.09)	105	105	0%	0%	105		30-Mar-22	12-Jul-22	14-May-22	26-Aug-22	45	
05-5300-3(5a)	Chemical scrubber system for odour control (2.10.16.10)	105	105	0%	0%	105		29-Apr-22	11-Aug-22	14-May-22	26-Aug-22	15	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.6 Design of telecommunication and other utilities (2.10.18)		135	135	0%		135		28-Feb-22	12-Jul-22	18-Apr-22	02-Sep-22	52	
05-3400 (M21)	Computerised Maintenance Management System (CMMS)	90	90	0%	0%	90		28-Feb-22	28-May-22	18-Apr-22	16-Jul-22	49	
05-3410 (M21)	Information and Document Management System (IDMS)	90	90	0%	0%	90		28-Feb-22	28-May-22	18-Apr-22	16-Jul-22	49	
05-4640	Microwave transmission of FS direct link	105	105	0%	0%	105		30-Mar-22	12-Jul-22	21-May-22	02-Sep-22	52	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.7 Utility ducts/Pipebridges design (2.10.26)		438	672	62.33%		165		09-Oct-20 A	11-Aug-22	17-Mar-22	18-Aug-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.7.3 Layout Plan for Pipe Bridge Network		211	672	21.8%		165		09-Oct-20 A	11-Aug-22	01-May-22	18-Aug-22	7	
05-7000	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	135	592	37.04%	5%	85		09-Oct-20 A	23-May-22	26-May-22	18-Aug-22	87	
05-7010	Pipebridge B	90	90	0%	0%	90		29-Apr-22	27-Jul-22	01-May-22	29-Jul-22	2	
05-7020	Pipebridge C	105	105	0%	0%	105		29-Apr-22	11-Aug-22	06-May-22	18-Aug-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.7.1 Foundaion Plan for Pipe Bridge		408	642	66.91%		135		09-Oct-20 A	12-Jul-22	17-Mar-22	18-Aug-22	37	
05-7030	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	135	592	37.04%	5%	85		09-Oct-20 A	23-May-22	26-May-22	18-Aug-22	87	
05-7040	Pipebridge B	135	135	0%	5%	135		28-Feb-22	12-Jul-22	17-Mar-22	29-Jul-22	17	
05-7050	Pipebridge C	135	135	0%	0%	135		28-Feb-22	12-Jul-22	06-Apr-22	18-Aug-22	37	
WBS: EP_SP_66_12-WP6D-M51.05.02.10.7.2 Structure Plan for Pipe Bridge		303	672	45.54%		165		09-Oct-20 A	11-Aug-22	01-May-22	18-Aug-22	7	
05-7060	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	135	592	37.04%	5%	85		09-Oct-20 A	23-May-22	26-May-22	18-Aug-22	87	
05-7070	Pipebridge B	90	90	0%	0%	90		29-Apr-22	27-Jul-22	01-May-22	29-Jul-22	2	
05-7080	Pipebridge C	105	105	0%	0%	105		29-Apr-22	11-Aug-22	06-May-22	18-Aug-22	7	
WBS: EP_SP_66_12-WP6D-M51.05.02.11 DDA Architectural, Finishes and Landscaping Works (2.11)		163	163	0%		163		17-Mar-22	26-Aug-22	23-Mar-22	25-Aug-22	-1	
WBS: EP_SP_66_12-WP6D-M51.05.02.11.1 External and internal finishes design		103	103	0%		103		17-Mar-22	27-Jun-22	23-Mar-22	25-Aug-22	59	
05-4670	External and internal finishes design for Incineration Plant Building (2.11.15)	90	90	0%	0%	90		17-Mar-22	14-Jun-22	23-Mar-22	20-Jun-22	6	



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

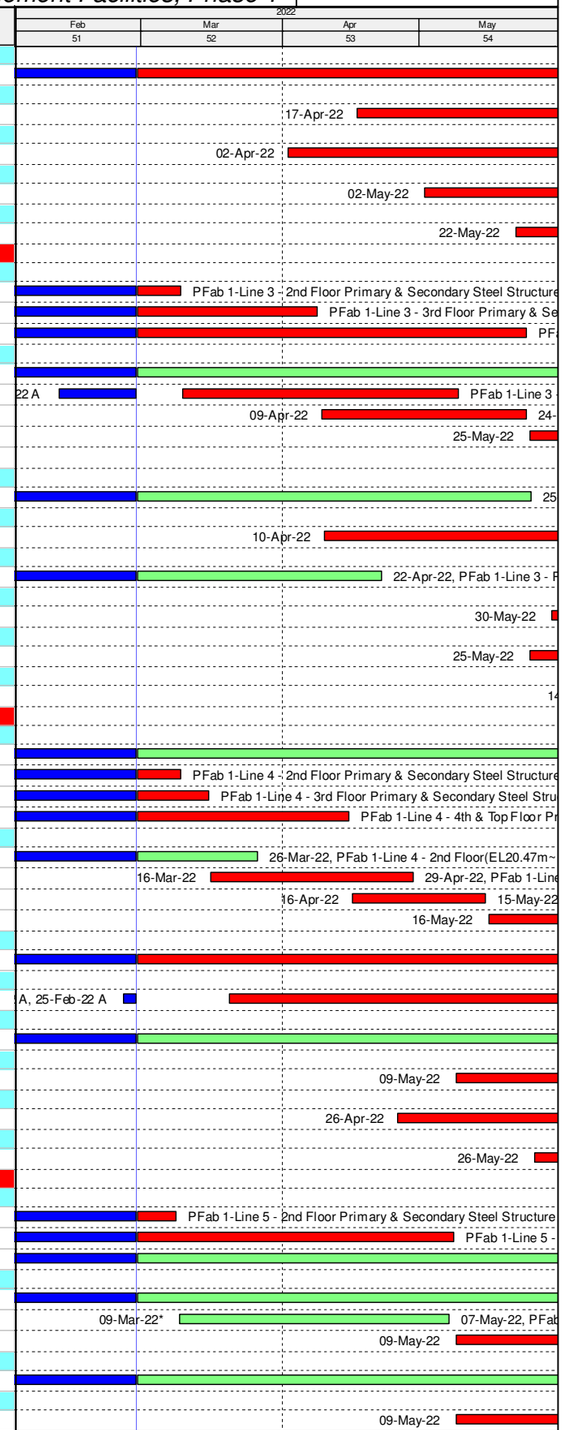
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
05-4690	External and internal finishes design for Turbine Hall Building	90	90	0%	0%	90		30-Mar-22	27-Jun-22	28-May-22	25-Aug-22	59	
05-4700	External and internal finishes design for CCCW Building	90	90	0%	0%	90		30-Mar-22	27-Jun-22	30-Apr-22	28-Jul-22	31	
WBS: EP_SP_66_12-WP6D-M51.05.02.11.10 Facade Structural Design		150	150	0%		150		30-Mar-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8000(M45)	Chimney (2.3.14.05.01)	90	90	0%	0%	90		30-Mar-22	27-Jun-22	22-May-22	19-Aug-22	53	
05-8010(M45)	IWMF Sub-station	90	90	0%	0%	90		30-Mar-22	27-Jun-22	22-May-22	19-Aug-22	53	
05-8020(6D)	Process Building & Wastewater Treatment Plant (2.6.14.01)	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8030(6D)	Compressor & CCCW Building (2.3.14.04.01)	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8040(6D)	Reception Pavilion (2.3.14.07.01)	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8050(6D)	Mechnical Treatment Plant & Desalination Plant Building (2.4.14.01)	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8060(6D)	Adminstration Building and Viewing Gallery (2.7.12.01)	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8070(6D)	Turbine Hall Building	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8080(6D)	Elevated Driveway and Associated Structures	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
05-8090(6D)	Sky Deck near Administration Building Structural Design	90	90	0%	0%	90		29-May-22	26-Aug-22	22-May-22	19-Aug-22	-7	
WBS: EP_SP_66_12-WP6D-M51.05.02.12 DDA Testing and Commissioning (2.12)		105	105	0%		105		28-Feb-22	12-Jun-22	06-May-22	18-Aug-22	67	
05-4810	Factory Acceptance Testing plan (2.12.09.01)	105	105	0%	0%	105		28-Feb-22	12-Jun-22	06-May-22	18-Aug-22	67	
WBS: EP_SP_66_12-WP6D-M51.06 Procurement of Major Equipment		818	852	60.39%		324		18-Sep-20 A	17-Jan-23	04-Jan-22	11-Apr-23	84	
WBS: EP_SP_66_12-WP6D-M51.06.1 Off-site Fabrication of Incineration Modules		818	852	60.39%		324		18-Sep-20 A	17-Jan-23	04-Jan-22	11-Apr-23	84	
WBS: EP_SP_66_12-WP6D-M51.06.1.26 Fabrication of Module (TPU)		818	830	63.08%		302		18-Sep-20 A	26-Dec-22	04-Jan-22	09-Mar-23	73	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1 Process Island Furnace Boiler line 1		770	810	63.37%		282		18-Sep-20 A	06-Dec-22	04-Jan-22	27-Oct-22	-40	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.9 Structure Fabrication		489	411	89.37%		52		06-Mar-21 A	20-Apr-22	04-Jan-22	26-Mar-22	-25	
06-TPU-1-1040	PFab 1-Line 1 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	364	96%	96%	5		06-Mar-21 A	04-Mar-22	04-Jan-22	08-Jan-22	-55	Extracted Activity
06-TPU-1-1050	PFab 1-Line 1 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	375	82.4%	82.4%	22		12-Mar-21 A	21-Mar-22	04-Jan-22	25-Jan-22	-55	Extracted Activity
06-TPU-1-1060	PFab 1-Line 1 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	109	200	52.29%	52.29%	52		03-Oct-21 A	20-Apr-22	03-Feb-22	26-Mar-22	-25	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.1 Structure Erection		229	266	3.49%		221		14-Jan-22 A	06-Oct-22	21-Jan-22	27-Oct-22	21	
06-TPU-1-1100	PFab 1-Line 1 - Tertiary Structure Erection	90	266	0%	0%	221		14-Jan-22 A	06-Oct-22	21-Mar-22	27-Oct-22	21	Extracted Activity
06-TPU-1-1110	PFab 1-Line 1 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	77	21.67%	21.67%	47		03-Feb-22 A	20-Apr-22	21-Jan-22	08-Mar-22	-43	Extracted Activity
06-TPU-1-1140	PFab 1-Line 1 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		22-Mar-22	05-May-22	26-Jan-22	11-Mar-22	-55	Extracted Activity
06-TPU-1-1180	PFab 1-Line 1 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		21-Apr-22	20-May-22	25-Feb-22	26-Mar-22	-55	Extracted Activity
06-TPU-1-1230	PFab 1-Line 1 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		21-May-22	19-Jun-22	27-Mar-22	25-Apr-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.2 Mechanical Erection		200	216	3.95%		192		04-Feb-22 A	07-Sep-22	11-Jan-22	14-Jul-22	-55	
06-TPU-1-1120	PFab 1-Line 1 Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	96	10%	10%	72		04-Feb-22 A	10-May-22	04-May-22	14-Jul-22	65	Extracted Activity
06-TPU-1-1130	PFab 1-Line 1 Mechanical Installation - Boiler Pre-Assembly	105	105	0%	0%	105	As Late As Possil	07-Mar-22	19-Jun-22	11-Jan-22	25-Apr-22	-55	Extracted Activity
06-TPU-1-1150	PFab 1-Line 1 Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	80	0%	0%	80		25-Mar-22	12-Jun-22	26-Apr-22	14-Jul-22	32	Extracted Activity
06-TPU-1-1190	PFab 1-Line 1 Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Trans	80	80	0%	0%	80		21-Apr-22	09-Jul-22	26-Apr-22	14-Jul-22	5	Extracted Activity
06-TPU-1-1210	PFab 1-Line 1 Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	80	0%	0%	80		06-May-22	24-Jul-22	26-Apr-22	14-Jul-22	-10	Extracted Activity
06-TPU-1-1240	PFab 1-Line 1 Mechanical Installation - Boiler Lifting & Installation	80	80	0%	0%	80		20-Jun-22	07-Sep-22	26-Apr-22	14-Jul-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.10 Mechanical Fabrication		300	591	79%		63		18-Sep-20 A	01-May-22	20-Feb-22	23-Apr-22	-8	
06-TPU-1-1000	PFab 1-Line 1 Mechanical Installation - Boiler Pre-Assembly (By yard)	300	591	79%	79%	63		18-Sep-20 A	01-May-22	20-Feb-22	23-Apr-22	-8	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.11 Piping Fabrication		200	531	26%		148		10-Feb-21 A	25-Jul-22	20-Feb-22	17-Jul-22	-8	
06-TPU-1-1030	PFab 1-Line 1 - Piping Fabrication	200	531	26%	26%	148		10-Feb-21 A	25-Jul-22	20-Feb-22	17-Jul-22	-8	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.3 Piping Installation		190	190	0%		190		16-Apr-22	22-Oct-22	20-Feb-22	28-Aug-22	-55	
06-TPU-1-1160	PFab 1-Line 1 - Piping installation	190	190	0%	0%	190		16-Apr-22	22-Oct-22	20-Feb-22	28-Aug-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.12 E&I Fabrication		200	200	0%		200		17-Apr-22	02-Nov-22	21-Feb-22	08-Sep-22	-55	
06-TPU-1-1170	PFab 1-Line 1 - E&I Fabrication	200	200	0%	0%	200	As Late As Possil	17-Apr-22	02-Nov-22	21-Feb-22	08-Sep-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.4 E&I Installation		190	190	0%		190		01-May-22	06-Nov-22	07-Mar-22	12-Sep-22	-55	
06-TPU-1-1200	PFab 1-Line 1 - E&I Installation	190	190	0%	0%	190		01-May-22	06-Nov-22	07-Mar-22	12-Sep-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M1.6 Insulation		200	200	0%		200		21-May-22	06-Dec-22	27-Mar-22	12-Oct-22	-55	
06-TPU-1-1220	PFab 1-Line 1 - Insulation	200	200	0%	0%	200		21-May-22	06-Dec-22	27-Mar-22	12-Oct-22	-55	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2 Process Island Furnace Boiler line 2		526	811	46.19%		283		18-Sep-20 A	07-Dec-22	09-Jan-22	02-Nov-22	-35	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.9 Structure Fabrication		232	364	77.16%		53		23-Apr-21 A	21-Apr-22	09-Jan-22	02-Mar-22	-50	
06-TPU-2-1040	PFab 1-Line 2 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	320	92.8%	92.8%	9		23-Apr-21 A	08-Mar-22	09-Jan-22	17-Jan-22	-50	Extracted Activity
06-TPU-2-1050	PFab 1-Line 2 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	115	284	80%	80%	23		12-Jun-21 A	22-Mar-22	09-Jan-22	31-Jan-22	-50	Extracted Activity
06-TPU-2-1070	PFab 1-Line 2 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	109	196	51.38%	51.38%	53		08-Oct-21 A	21-Apr-22	09-Jan-22	02-Mar-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.1 Structure Erection		234	244	14.96%		199		14-Jan-22 A	14-Sep-22	24-Jan-22	02-Nov-22	49	
06-TPU-2-1090	PFab 1-Line 2 - Tertiary Structure Erection	90	244	0%	0%	199		14-Jan-22 A	14-Sep-22	18-Apr-22	02-Nov-22	49	Extracted Activity
06-TPU-2-1110	PFab 1-Line 2 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	75	26.67%	26.67%	44		06-Feb-22 A	21-Apr-22	24-Jan-22	08-Mar-22	-44	Extracted Activity
06-TPU-2-1140	PFab 1-Line 2 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		23-Mar-22	06-May-22	01-Feb-22	17-Mar-22	-50	Extracted Activity
06-TPU-2-1170	PFab 1-Line 2 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		22-Apr-22	21-May-22	03-Mar-22	01-Apr-22	-50	Extracted Activity
06-TPU-2-1220	PFab 1-Line 2 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		22-May-22	20-Jun-22	02-Apr-22	01-May-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.10 Mechanical Fabrication		270	602	72.59%		74		18-Sep-20 A	12-May-22	11-Feb-22	25-Apr-22	-17	
06-TPU-2-1000	PFab 1-Line 2 - Mechanical Fabrication (By yard)	270	602	72.59%	72.59%	74		18-Sep-20 A	12-May-22	11-Feb-22	25-Apr-22	-17	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.2 Mechanical Erection		200	217	3.45%		193		04-Feb-22 A	08-Sep-22	17-Jan-22	20-Jul-22	-50	
06-TPU-2-1100	PFab 1-Line 2 - Mechanical Installation - 1st Floor (Below EL20.47m) (Including Combustion Grate)	80	97	8.75%	8.75%	73		04-Feb-22 A	11-May-22	09-May-22	20-Jul-22	70	Extracted Activity
06-TPU-2-1120	PFab 1-Line 2 - Mechanical Installation - 2nd Floor(EL20.47m~EL26.72m) (Including Deaerator)	80	115	0%	0%	89		25-Feb-22 A	19-Jun-22	23-Apr-22	20-Jul-22	31	Extracted Activity
06-TPU-2-1130	PFab 1-Line 2 - Mechanical Installation - Boiler Pre-Assembly	105	105	0%	0%	105	As Late As Possil	08-Mar-22	20-Jun-22	17-Jan-22	01-May-22	-50	Extracted Activity
06-TPU-2-1180	PFab 1-Line 2 - Mechanical Installation - 3rd Floor(EL26.72m~EL37.72m) (Including Boiler Ash Tran	80	80	0%	0%	80		22-Apr-22	10-Jul-22	02-May-22	20-Jul-22	10	Extracted Activity
06-TPU-2-1200	PFab 1-Line 2 - Mechanical Installation - 4th Floor(EL37.72m~EL47.22m) (Including Air Ducts)	80	80	0%	0%	80		07-May-22	25-Jul-22	02-May-22	20-Jul-22	-5	Extracted Activity
06-TPU-2-1230	PFab 1-Line 2 - Mechanical Installation - Boiler Lifting & Installation	80	80	0%	0%	80		21-Jun-22	08-Sep-22	02-May-22	20-Jul-22	-50	Extracted Activity



3-Month Rolling Programme (February 2022)

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

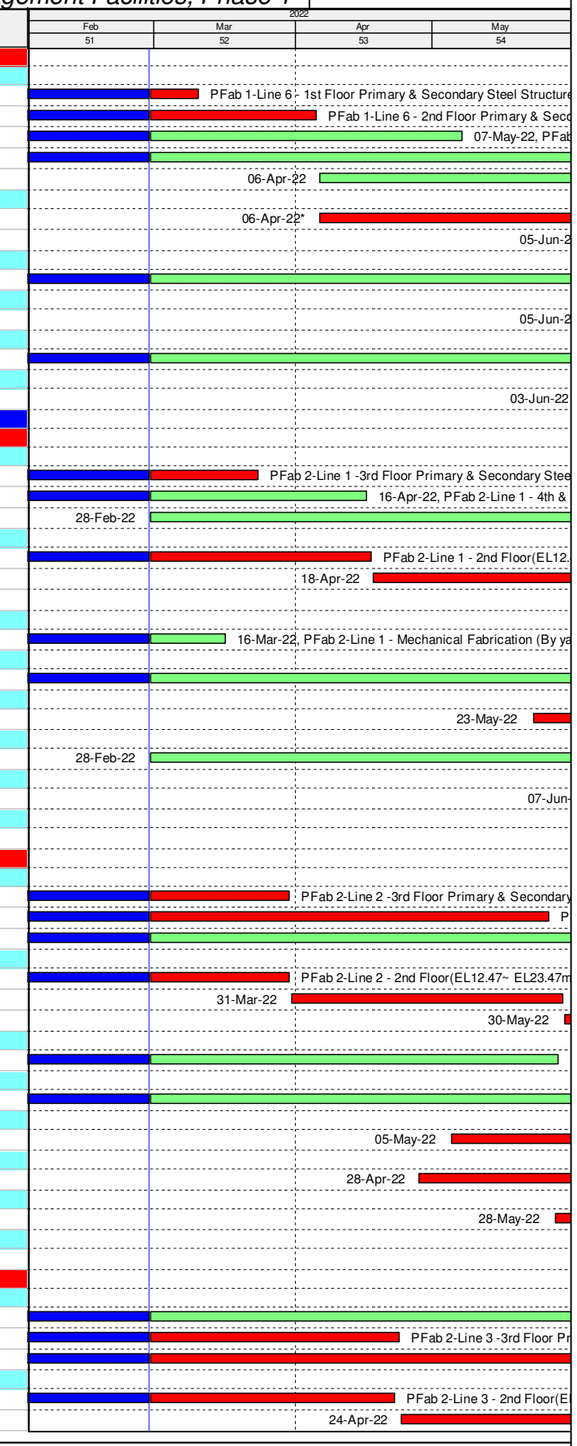
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.11 Piping Fabrication		180	504	17.78%		148		09-Mar-21 A	25-Jul-22	11-Feb-22	08-Jul-22	-17	
06-TPU-2-1030	PFab 1-Line 2 - Piping Fabrication	180	504	17.78%	17.78%	148		09-Mar-21 A	25-Jul-22	11-Feb-22	08-Jul-22	-17	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.3 Piping Installation		190	190	0%		190		17-Apr-22	23-Oct-22	26-Feb-22	03-Sep-22	-50	
06-TPU-2-1160	PFab 1-Line 2 - Piping Installation	190	190	0%	0%	190		17-Apr-22	23-Oct-22	26-Feb-22	03-Sep-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.12 E&I Fabrication		180	180	0%		180		02-Apr-22	28-Sep-22	11-Feb-22	09-Aug-22	-50	
06-TPU-2-1150	PFab 1-Line 2 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	02-Apr-22	28-Sep-22	11-Feb-22	09-Aug-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.4 E&I Installation		190	190	0%		190		02-May-22	07-Nov-22	13-Mar-22	18-Sep-22	-50	
06-TPU-2-1190	PFab 1-Line 2 - E&I Installation	190	190	0%	0%	190		02-May-22	07-Nov-22	13-Mar-22	18-Sep-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M2.6 Insulation		200	200	0%		200		22-May-22	07-Dec-22	02-Apr-22	18-Oct-22	-50	
06-TPU-2-1210	PFab 1-Line 2 - Insulation	200	200	0%	0%	200		22-May-22	07-Dec-22	02-Apr-22	18-Oct-22	-50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3 Process Island Furnace Boiler line 3		510	814	43.92%		286		18-Sep-20 A	10-Dec-22	02-Feb-22	01-Jan-23	22	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.9 Structure Fabrication		291	390	70.45%		86		30-Apr-21 A	24-May-22	02-Feb-22	28-Apr-22	-26	
06-TPU-3-1040	PFab 1-Line 3 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	109	314	90.83%	90.83%	10		30-Apr-21 A	09-Mar-22	20-Feb-22	01-Mar-22	-8	Extracted Activity
06-TPU-3-1050	PFab 1-Line 3 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	109	192	63.3%	63.3%	40		29-Sep-21 A	08-Apr-22	02-Feb-22	13-Mar-22	-26	Extracted Activity
06-TPU-3-1080	PFab 1-Line 3 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	200	195	57%	57%	86		11-Nov-21 A	24-May-22	02-Feb-22	28-Apr-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.1 Structure Erection		276	303	6.52%		258		14-Jan-22 A	12-Nov-22	02-Mar-22	01-Jan-23	50	
06-TPU-3-1090	PFab 1-Line 3 - Tertiary Structure Erection	90	303	0%	0%	258		14-Jan-22 A	12-Nov-22	19-Apr-22	01-Jan-23	50	Extracted Activity
06-TPU-3-1100	PFab 1-Line 3 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	88	0%	0%	61		11-Feb-22 A	09-May-22	02-Mar-22	01-May-22	-8	Extracted Activity
06-TPU-3-1130	PFab 1-Line 3 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		09-Apr-22	24-May-22	15-Mar-22	28-Apr-22	-26	Extracted Activity
06-TPU-3-1160	PFab 1-Line 3 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		25-May-22	23-Jun-22	29-Apr-22	28-May-22	-26	Extracted Activity
06-TPU-3-1210	PFab 1-Line 3 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		24-Jun-22	23-Jul-22	29-May-22	27-Jun-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.10 Mechanical Fabrication		270	615	67.78%		87		18-Sep-20 A	25-May-22	02-Apr-22	27-Jun-22	33	
06-TPU-3-1000	PFab 1-Line 3 - Mechanical Fabrication (By yard)	270	615	67.78%	67.78%	87		18-Sep-20 A	25-May-22	02-Apr-22	27-Jun-22	33	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.2 Mechanical Erection		105	105	0%		105		10-Apr-22	23-Jul-22	15-Mar-22	27-Jun-22	-26	
06-TPU-3-1140	PFab 1-Line 3 - Mechanical Installation - Boiler Pre Assembly	105	105	0%	0%	105	As Late As Possil	10-Apr-22	23-Jul-22	15-Mar-22	27-Jun-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.11 Piping Fabrication		180	410	70%		54		09-Mar-21 A	22-Apr-22	29-Apr-22	21-Jun-22	60	
06-TPU-3-1030	PFab 1-Line 3 - Piping Fabrication	180	410	70%	70%	54		09-Mar-21 A	22-Apr-22	29-Apr-22	21-Jun-22	60	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.3 Piping Installation		180	180	0%		180		30-May-22	25-Nov-22	04-May-22	30-Oct-22	-26	
06-TPU-3-1180	PFab 1-Line 3 - Piping Installation	180	180	0%	0%	180		30-May-22	25-Nov-22	04-May-22	30-Oct-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.12 E&I Fabrication		180	180	0%		180		25-May-22	20-Nov-22	29-Apr-22	25-Oct-22	-26	
06-TPU-3-1170	PFab 1-Line 3 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	25-May-22	20-Nov-22	29-Apr-22	25-Oct-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M3.4 E&I Installation		180	180	0%		180		14-Jun-22	10-Dec-22	19-May-22	14-Nov-22	-26	
06-TPU-3-1200	PFab 1-Line 3 - E&I Installation	180	180	0%	0%	180		14-Jun-22	10-Dec-22	19-May-22	14-Nov-22	-26	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4 Process Island Furnace Boiler line 4		520	805	46.72%		277		18-Sep-20 A	01-Dec-22	21-Feb-22	24-Nov-22	-7	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.9 Structure Fabrication		254	649	19.69%		204		10-Dec-20 A	19-Sep-22	21-Feb-22	10-Oct-22	21	
06-TPU-4-1010	PFab 1-Line 4 - Tertiary Structure Fabrication	200	649	0%	0%	204		10-Dec-20 A	19-Sep-22	21-Mar-22	10-Oct-22	21	Extracted Activity
06-TPU-4-1030	PFab 1-Line 4 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	385	92%	92%	10		18-Feb-21 A	09-Mar-22	21-Feb-22	02-Mar-22	-7	Extracted Activity
06-TPU-4-1050	PFab 1-Line 4 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	285	87.2%	87.2%	16		04-Jun-21 A	15-Mar-22	21-Feb-22	08-Mar-22	-7	Extracted Activity
06-TPU-4-1080	PFab 1-Line 4 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	125	161	62.4%	62.4%	47		06-Nov-21 A	15-Apr-22	21-Feb-22	08-Apr-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.1 Structure Erection		91	140	0%		107		26-Jan-22 A	14-Jun-22	10-Mar-22	07-Jun-22	-7	
06-TPU-4-1100	PFab 1-Line 4 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	60	55%	55%	27		26-Jan-22 A	26-Mar-22	10-Mar-22	05-Apr-22	10	Extracted Activity
06-TPU-4-1120	PFab 1-Line 4 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		16-Mar-22	29-Apr-22	10-Mar-22	23-Apr-22	-6	Extracted Activity
06-TPU-4-1150	PFab 1-Line 4 - 4th Floor(EL37.72m~EL47.22m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		16-Apr-22	15-May-22	09-Apr-22	08-May-22	-7	Extracted Activity
06-TPU-4-1190	PFab 1-Line 4 - Top Floor(EL47.22m~EL54.47m) Primary & Secondary Steel Structure Erection	30	30	0%	0%	30		16-May-22	14-Jun-22	09-May-22	07-Jun-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.10 Mechanical Fabrication		270	649	55.19%		121		18-Sep-20 A	28-Jun-22	21-Feb-22	21-Jun-22	-7	
06-TPU-4-1000	PFab 1-Line 4 - Mechanical Fabrication (By yard)	270	649	55.19%	55.19%	121		18-Sep-20 A	28-Jun-22	21-Feb-22	21-Jun-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.2 Mechanical Erection		125	124	19.52%		101		25-Feb-22 A	28-Jun-22	13-Mar-22	21-Jun-22	-7	
06-TPU-4-1110	PFab 1-Line 4 - Mechanical Installation - Boiler Pre Assembly	125	124	19.52%	19.52%	101	As Late As Possil	25-Feb-22 A	28-Jun-22	13-Mar-22	21-Jun-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.11 Piping Fabrication		180	501	19.44%		145		09-Mar-21 A	22-Jul-22	19-Apr-22	10-Sep-22	50	
06-TPU-4-1040	PFab 1-Line 4 - Piping Fabrication	180	501	19.44%	19.44%	145		09-Mar-21 A	22-Jul-22	19-Apr-22	10-Sep-22	50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.3 Piping Installation		190	190	0%		190		09-May-22	14-Nov-22	02-May-22	07-Nov-22	-7	
06-TPU-4-1180	PFab 1-Line 4 - Piping Installation	190	190	0%	0%	190		09-May-22	14-Nov-22	02-May-22	07-Nov-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.12 E&I Fabrication		180	180	0%		180		26-Apr-22	22-Oct-22	19-Apr-22	15-Oct-22	-7	
06-TPU-4-1160	PFab 1-Line 4 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	26-Apr-22	22-Oct-22	19-Apr-22	15-Oct-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M4.4 E&I Installation		190	190	0%		190		26-May-22	01-Dec-22	19-May-22	24-Nov-22	-7	
06-TPU-4-1200	PFab 1-Line 4 - E&I Installation	190	190	0%	0%	190		26-May-22	01-Dec-22	19-May-22	24-Nov-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M5 Process Island Furnace Boiler line 5		573	830	47.29%		302		18-Sep-20 A	26-Dec-22	18-Feb-22	09-Mar-23	73	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M5.9 Structure Fabrication		260	465	61.15%		101		01-Mar-21 A	08-Jun-22	18-Feb-22	12-Jun-22	4	
06-TPU-5-1030	PFab 1-Line 5 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	373	92.8%	92.8%	9		01-Mar-21 A	08-Mar-22	18-Feb-22	26-Feb-22	-10	Extracted Activity
06-TPU-5-1050	PFab 1-Line 5 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	328	44%	44%	70		15-Jun-21 A	08-May-22	18-Feb-22	28-Apr-22	-10	Extracted Activity
06-TPU-5-1070	PFab 1-Line 5 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	125	211	19.2%	19.2%	101		10-Nov-21 A	08-Jun-22	04-Mar-22	12-Jun-22	4	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M5.1 Structure Erection		321	347	5.92%		302		14-Jan-22 A	26-Dec-22	29-Mar-22	09-Mar-23	73	
06-TPU-5-1090	PFab 1-Line 5 - Tertiary Structure Erection	90	347	0%	0%	302		14-Jan-22 A	26-Dec-22	12-May-22	09-Mar-23	73	Extracted Activity
06-TPU-5-1110	PFab 1-Line 5 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60	Start On or After	09-Mar-22*	07-May-22	29-Mar-22	27-May-22	20	Extracted Activity
06-TPU-5-1140	PFab 1-Line 5 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		09-May-22	22-Jun-22	29-Apr-22	12-Jun-22	-10	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M5.10 Mechanical Fabrication		270	658	51.85%		130		18-Sep-20 A	07-Jul-22	19-Apr-22	26-Aug-22	50	
06-TPU-5-1000	PFab 1-Line 5 - Mechanical Fabrication (By yard)	270	658	51.85%	51.85%	130		18-Sep-20 A	07-Jul-22	19-Apr-22	26-Aug-22	50	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M5.2 Mechanical Erection		120	120	0%		120		09-May-22	05-Sep-22	29-Apr-22	26-Aug-22	-10	
06-TPU-5-1130	PFab 1-Line 5 - Mechanical Installation - Boiler Pre-Assembly	120	120	0%	0%	120	As Late As Possil	09-May-22	05-Sep-22	29-Apr-22	26-Aug-22	-10	Extracted Activity



3-Month Rolling Programme (February 2022)

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

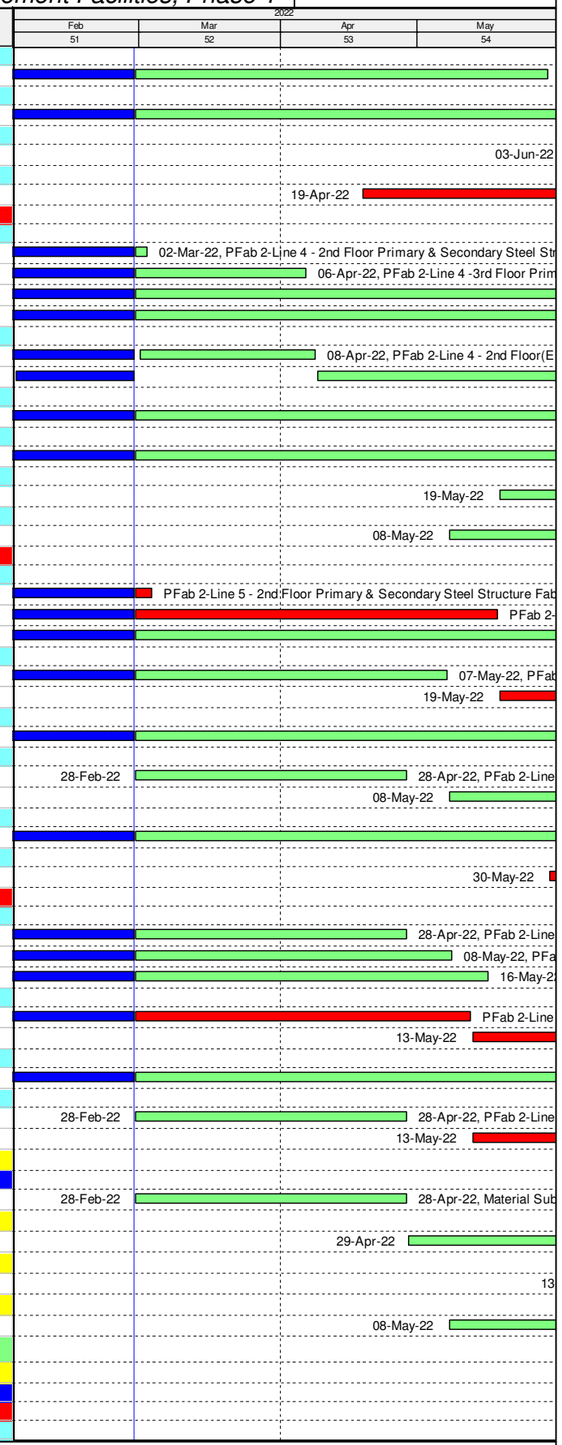
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6 Process Island Furnace Boiler line 6		518	803	46.9%		275		18-Sep-20 A	29-Nov-22	20-Feb-22	21-Nov-22	-8	
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.9 Structure Fabrication		449	596	54.11%		206		03-Feb-21 A	21-Sep-22	20-Feb-22	31-Oct-22	40	
06-TPU-6-1010	PFab 1-Line 6 - 1st Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	401	91.2%	91.2%	11		03-Feb-21 A	10-Mar-22	20-Feb-22	03-Mar-22	-8	Extracted Activity
06-TPU-6-1020	PFab 1-Line 6 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	379	70.4%	70.4%	37		23-Mar-21 A	05-Apr-22	20-Feb-22	29-Mar-22	-8	Extracted Activity
06-TPU-6-1040	PFab 1-Line 6 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	125	225	44.8%	44.8%	69		25-Sep-21 A	07-May-22	07-Mar-22	14-May-22	7	Extracted Activity
06-TPU-6-1060	PFab 1-Line 6 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	125	214	0%	0%	127		03-Dec-21 A	04-Jul-22	07-Mar-22	11-Jul-22	7	Extracted Activity
06-TPU-6-1090	PFab 1-Line 6 - Tertiary Structure Fabrication	169	169	0%	0%	169		06-Apr-22	21-Sep-22	16-May-22	31-Oct-22	40	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.1 Structure Erection		105	105	0%		105		06-Apr-22	19-Jul-22	29-Mar-22	11-Jul-22	-8	
06-TPU-6-1100	PFab 1-Line 6 - 2nd Floor(EL20.47m~EL26.72m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60	Start On or After	06-Apr-22*	04-Jun-22	29-Mar-22	27-May-22	-8	Extracted Activity
06-TPU-6-1130	PFab 1-Line 6 - 3rd Floor(EL26.72m~EL37.72m)Primary & Secondary Steel Structure Erection	45	45	0%	0%	45		05-Jun-22	19-Jul-22	28-May-22	11-Jul-22	-8	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.10 Mechanical Fabrication		270	664	49.63%		136		18-Sep-20 A	13-Jul-22	27-Apr-22	09-Sep-22	58	
06-TPU-6-1000	PFab 1-Line 6 - Mechanical Fabrication (By yard)	270	664	49.63%	49.63%	136		18-Sep-20 A	13-Jul-22	27-Apr-22	09-Sep-22	58	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.2 Mechanical Erection		105	105	0%		105		05-Jun-22	17-Sep-22	28-May-22	09-Sep-22	-8	
06-TPU-6-1140	PFab 1-Line 6 - Mechanical Installation - Boiler Pre Assembly	105	105	0%	0%	105	As Late As Possi	05-Jun-22	17-Sep-22	28-May-22	09-Sep-22	-8	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.11 Piping Fabrication		180	501	11.67%		159		23-Mar-21 A	05-Aug-22	26-May-22	31-Oct-22	87	
06-TPU-6-1030	PFab 1-Line 6 - Piping Fabrication	180	501	11.67%	11.67%	159		23-Mar-21 A	05-Aug-22	26-May-22	31-Oct-22	87	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.26.M6.12 E&I Fabrication		180	180	0%		180		03-Jun-22	29-Nov-22	26-May-22	21-Nov-22	-8	
06-TPU-6-1120	PFab 1-Line 6 - E&I Fabrication	180	180	0%	0%	180	As Late As Possi	03-Jun-22	29-Nov-22	26-May-22	21-Nov-22	-8	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7 Fabrication of Module (FGC)		567	768	42.85%		324		11-Dec-20 A	17-Jan-23	06-Jan-22	11-Apr-23	84	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1 Process Island FGC line 1		567	758	42.85%		324		21-Dec-20 A	17-Jan-23	06-Jan-22	25-Nov-22	-53	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.9 Structure Fabrication		403	458	49.12%		205		20-Jun-21 A	20-Sep-22	31-Jan-22	11-Oct-22	21	
06-FGC-1-1050	PFab 2-Line 1 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	277	80.08%	80.08%	24		20-Jun-21 A	23-Mar-22	31-Jan-22	23-Feb-22	-28	Extracted Activity
06-FGC-1-1070	PFab 2-Line 1 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	184	60%	60%	48		15-Oct-21 A	16-Apr-22	08-Mar-22	24-Apr-22	8	Extracted Activity
06-FGC-1-1100	PFab 2-Line 1 - Tertiary Structure Fabrication	205	205	0%	0%	205		28-Feb-22	20-Sep-22	21-Mar-22	11-Oct-22	21	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.1 Structure Erection		177	236	4.47%		169		23-Dec-21 A	15-Aug-22	06-Jan-22	23-Jun-22	-53	
06-FGC-1-1080	PFab 2-Line 1 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	116	18.33%	18.33%	49		23-Dec-21 A	17-Apr-22	06-Jan-22	23-Feb-22	-53	Extracted Activity
06-FGC-1-1120	PFab 2-Line 1 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		18-Apr-22	16-Jun-22	24-Feb-22	24-Apr-22	-53	Extracted Activity
06-FGC-1-1160	PFab 2-Line 1 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		17-Jun-22	15-Aug-22	25-Apr-22	23-Jun-22	-53	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.10 Mechanical Fabrication		270	451	93.7%		17		21-Dec-20 A	16-Mar-22	21-Mar-22	06-Apr-22	21	
06-FGC-1-1000	PFab 2-Line 1 - Mechanical Fabrication (By yard)	270	451	93.7%	93.7%	17		21-Dec-20 A	16-Mar-22	21-Mar-22	06-Apr-22	21	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.11 Piping Fabrication		180	470	0%		195		29-May-21	10-Sep-22	21-Mar-22	01-Oct-22	21	
06-FGC-1-1030	PFab 2-Line 1 - Piping Fabrication	180	470	0%	0%	195		29-May-21	10-Sep-22	21-Mar-22	01-Oct-22	21	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.3 Piping Installation		180	180	0%		180		23-May-22	18-Nov-22	31-Mar-22	26-Sep-22	-53	
06-FGC-1-1140	PFab 2-Line 1 - Piping Installation	180	180	0%	0%	180		23-May-22	18-Nov-22	31-Mar-22	26-Sep-22	-53	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.12 E&I Fabrication		180	180	0%		180		28-Feb-22	26-Aug-22	21-Mar-22	16-Sep-22	21	
06-FGC-1-1110	PFab 2-Line 1 - E&I Fabrication	180	180	0%	0%	180		28-Feb-22	26-Aug-22	21-Mar-22	16-Sep-22	21	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.4 E&I Installation		180	180	0%		180		07-Jun-22	03-Dec-22	15-Apr-22	11-Oct-22	-53	
06-FGC-1-1150	PFab 2-Line 1 - E&I Installation	180	180	0%	0%	180		07-Jun-22	03-Dec-22	15-Apr-22	11-Oct-22	-53	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M1.6 Insulation		200	200	0%		200		02-Jul-22	17-Jan-23	10-May-22	25-Nov-22	-53	
06-FGC-1-1180	PFab 2-Line 1 - Insulation	200	200	0%	0%	200		02-Jul-22	17-Jan-23	10-May-22	25-Nov-22	-53	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2 Process Island FGC line 2		552	728	44.01%		309		05-Jan-21 A	02-Jan-23	28-Jan-22	14-Dec-22	-19	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.9 Structure Fabrication		293	481	34.47%		192		15-May-21	07-Sep-22	28-Jan-22	28-Sep-22	21	
06-FGC-2-1040	PFab 2-Line 2 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	320	74.17%	74.17%	31		15-May-21	30-Mar-22	28-Jan-22	27-Feb-22	-31	Extracted Activity
06-FGC-2-1070	PFab 2-Line 2 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	330	26.67%	26.67%	88		01-Jul-21 A	26-May-22	31-Jan-22	28-Apr-22	-28	Extracted Activity
06-FGC-2-1080	PFab 2-Line 2 - Tertiary Structure Fabrication	180	321	0%	0%	192		22-Oct-21 A	07-Sep-22	21-Mar-22	28-Sep-22	21	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.1 Structure Erection		180	232	16.06%		151		09-Dec-21 A	28-Jul-22	28-Jan-22	27-Jun-22	-31	
06-FGC-2-1090	PFab 2-Line 2 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	112	48.33%	48.33%	31		09-Dec-21 A	30-Mar-22	28-Jan-22	27-Feb-22	-31	Extracted Activity
06-FGC-2-1110	PFab 2-Line 2 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		31-Mar-22	29-May-22	28-Feb-22	28-Apr-22	-31	Extracted Activity
06-FGC-2-1160	PFab 2-Line 2 - 4th Floor (EL34.47~ EL44.22m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		30-May-22	28-Jul-22	29-Apr-22	27-Jun-22	-31	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.10 Mechanical Fabrication		270	509	66.67%		90		05-Jan-21 A	28-May-22	28-Mar-22	25-Jun-22	28	
06-FGC-2-1000	PFab 2-Line 2 - Mechanical Fabrication (By yard)	270	509	66.67%	66.67%	90		05-Jan-21 A	28-May-22	28-Mar-22	25-Jun-22	28	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.11 Piping Fabrication		180	532	0%		262		03-Jun-21 A	16-Nov-22	28-Mar-22	14-Dec-22	28	
06-FGC-2-1050	PFab 2-Line 2 - Piping Fabrication	180	532	0%	0%	262		03-Jun-21 A	16-Nov-22	28-Mar-22	14-Dec-22	28	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.3 Piping Installation		180	180	0%		180		05-May-22	31-Oct-22	04-Apr-22	30-Sep-22	-31	
06-FGC-2-1140	PFab 2-Line 2 - Piping Installation	180	180	0%	0%	180		05-May-22	31-Oct-22	04-Apr-22	30-Sep-22	-31	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.12 E&I Fabrication		180	180	0%		180		28-Apr-22	24-Oct-22	28-Mar-22	23-Sep-22	-31	
06-FGC-2-1130	PFab 2-Line 2 - E&I Fabrication	180	180	0%	0%	180	As Late As Possi	28-Apr-22	24-Oct-22	28-Mar-22	23-Sep-22	-31	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.4 E&I Installation		175	175	0%		175		28-May-22	18-Nov-22	27-Apr-22	18-Oct-22	-31	
06-FGC-2-1150	PFab 2-Line 2 - E&I Installation	175	175	0%	0%	175		28-May-22	18-Nov-22	27-Apr-22	18-Oct-22	-31	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M2.6 Insulation		200	200	0%		200		17-Jun-22	02-Jan-23	17-May-22	02-Dec-22	-31	
06-FGC-2-1180	PFab 2-Line 2 - Insulation	200	200	0%	0%	200		17-Jun-22	02-Jan-23	17-May-22	02-Dec-22	-31	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3 Process Island FGC line 3		528	729	46.01%		285		11-Dec-20 A	09-Dec-22	21-Feb-22	29-Dec-22	20	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.9 Structure Fabrication		279	709	5.02%		265		11-Dec-20 A	19-Nov-22	21-Feb-22	10-Dec-22	21	
06-FGC-3-1000	PFab 2-Line 3 - Tertiary Structure Fabrication	180	709	0%	0%	265		11-Dec-20 A	19-Nov-22	20-Mar-22	10-Dec-22	21	Extracted Activity
06-FGC-3-1070	PFab 2-Line 3 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	296	54.17%	54.17%	55		02-Jul-21 A	23-Apr-22	21-Feb-22	16-Apr-22	-7	Extracted Activity
06-FGC-3-1080	PFab 2-Line 3 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	340	6.67%	6.67%	112		15-Jul-21 A	19-Jun-22	24-Feb-22	15-Jun-22	-4	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.1 Structure Erection		143	181	19.52%		115		24-Dec-21 A	22-Jun-22	22-Feb-22	15-Jun-22	-7	
06-FGC-3-1090	PFab 2-Line 3 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	120	10%	10%	54		24-Dec-21 A	22-Apr-22	22-Feb-22	16-Apr-22	-6	Extracted Activity
06-FGC-3-1130	PFab 2-Line 3 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		24-Apr-22	22-Jun-22	17-Apr-22	15-Jun-22	-7	Extracted Activity



3-Month Rolling Programme (February 2022)

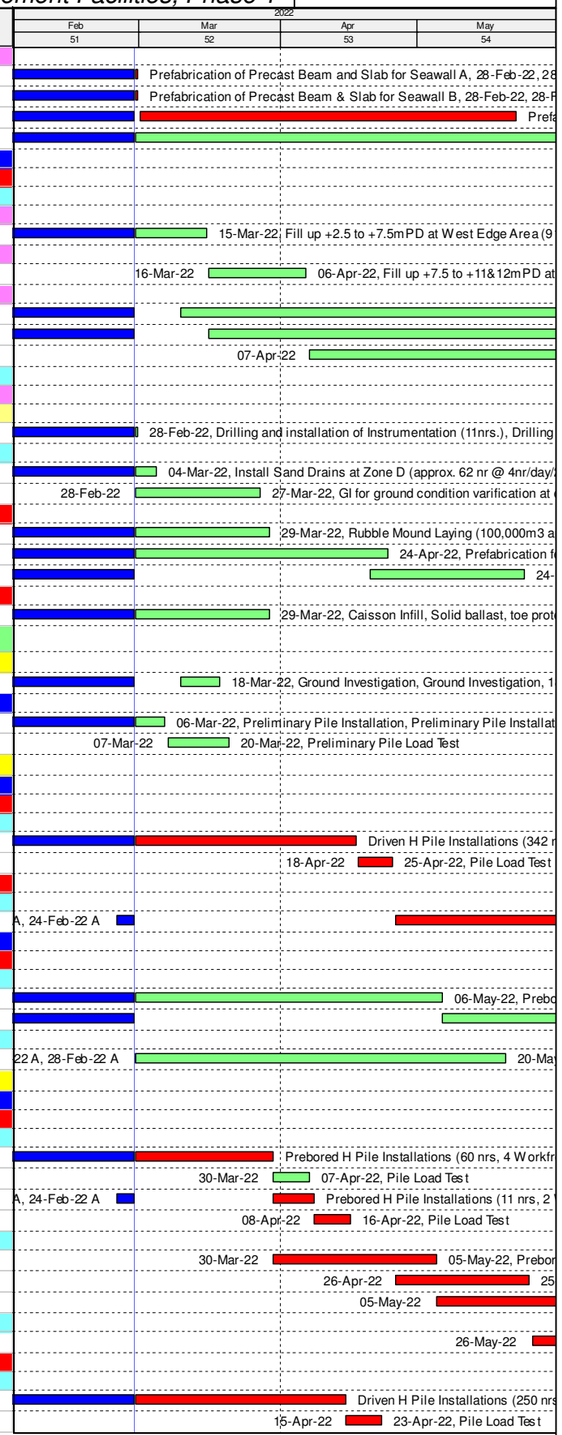
Remaining Work
Actual Work
Critical Remaining Work
Milestone
Actual Milestone
Critical Milestone

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.10 Mechanical Fabrication		270	510	66.3%		91		05-Jan-21 A	29-May-22	12-Apr-22	11-Jul-22	43	
06-FGC-3-1010	PFab 2-Line 3 - Mechanical Fabrication (By yard)	270	510	66.3%	66.3%	91		05-Jan-21 A	29-May-22	12-Apr-22	11-Jul-22	43	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.11 Piping Fabrication		180	532	0%		262		03-Jun-21 A	16-Nov-22	12-Apr-22	29-Dec-22	43	
06-FGC-3-1050	PFab 2-Line 3 - Piping Fabrication	180	532	0%	0%	262		03-Jun-21 A	16-Nov-22	12-Apr-22	29-Dec-22	43	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.3 Piping Installation		190	190	0%		190		03-Jun-22	09-Dec-22	27-May-22	02-Dec-22	-7	
06-FGC-3-1140	PFab 2-Line 3 - Piping Installation	190	190	0%	0%	190		03-Jun-22	09-Dec-22	27-May-22	02-Dec-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M3.12 E&I Fabrication		180	180	0%		180		19-Apr-22	15-Oct-22	12-Apr-22	08-Oct-22	-7	
06-FGC-3-1110	PFab 2-Line 3 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	19-Apr-22	15-Oct-22	12-Apr-22	08-Oct-22	-7	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4 Process Island FGC line 4		513	723	40.73%		304		05-Jan-21 A	28-Dec-22	06-Mar-22	26-Feb-23	60	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.9 Structure Fabrication		360	567	15.56%		304		10-Jun-21 A	28-Dec-22	06-Mar-22	30-Jan-23	33	
06-FGC-4-1040	PFab 2-Line 4 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	266	97.5%	97.5%	3		10-Jun-21 A	02-Mar-22	06-Mar-22	08-Mar-22	6	Extracted Activity
06-FGC-4-1050	PFab 2-Line 4 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	242	68.42%	68.42%	38		08-Aug-21 A	06-Apr-22	08-Mar-22	14-Apr-22	8	Extracted Activity
06-FGC-4-1060	PFab 2-Line 4 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	278	17.5%	17.5%	99		02-Sep-21 A	06-Jun-22	07-Mar-22	13-Jun-22	7	Extracted Activity
06-FGC-4-1070	PFab 2-Line 4 - Tertiary Structure Fabrication	180	430	0%	0%	304		25-Oct-21 A	28-Dec-22	02-Apr-22	30-Jan-23	33	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.1 Structure Erection		162	172	38.89%		99		18-Dec-21 A	07-Jun-22	07-Mar-22	13-Jun-22	6	
06-FGC-4-1090	PFab 2-Line 4 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	112	35%	35%	39		18-Dec-21 A	08-Apr-22	07-Mar-22	14-Apr-22	6	Extracted Activity
06-FGC-4-1110	PFab 2-Line 4 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	126	0%	0%	60		02-Feb-22 A	07-Jun-22	15-Apr-22	13-Jun-22	6	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.10 Mechanical Fabrication		270	570	44.07%		151		05-Jan-21 A	28-Jul-22	14-May-22	11-Oct-22	75	
06-FGC-4-1000	PFab 2-Line 4 - Mechanical Fabrication (By yard)	270	570	44.07%	44.07%	151		05-Jan-21 A	28-Jul-22	14-May-22	11-Oct-22	75	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.11 Piping Fabrication		180	553	0%		289		09-Jun-21 A	13-Dec-22	14-May-22	26-Feb-23	75	
06-FGC-4-1030	PFab 2-Line 4 - Piping Fabrication	180	553	0%	0%	289		09-Jun-21 A	13-Dec-22	14-May-22	26-Feb-23	75	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.3 Piping Installation		190	190	0%		190		19-May-22	24-Nov-22	25-May-22	30-Nov-22	6	
06-FGC-4-1150	PFab 2-Line 4 - Piping Installation	190	190	0%	0%	190		19-May-22	24-Nov-22	25-May-22	30-Nov-22	6	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M4.12 E&I Fabrication		180	180	0%		180		08-May-22	03-Nov-22	14-May-22	09-Nov-22	6	
06-FGC-4-1140	PFab 2-Line 4 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	08-May-22	03-Nov-22	14-May-22	09-Nov-22	6	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5 Process Island FGC line 5		514	738	37.93%		319		05-Jan-21 A	12-Jan-23	26-Feb-22	11-Apr-23	89	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.9 Structure Fabrication		173	326	37.57%		108		25-Jul-21 A	15-Jun-22	26-Feb-22	15-Jul-22	30	
06-FGC-5-1030	PFab 2-Line 5 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	222	96.67%	96.67%	4		25-Jul-21 A	03-Mar-22	26-Feb-22	01-Mar-22	-2	Extracted Activity
06-FGC-5-1040	PFab 2-Line 5 -3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	259	33.33%	33.33%	80		02-Sep-21 A	18-May-22	26-Feb-22	16-May-22	-2	Extracted Activity
06-FGC-5-1060	PFab 2-Line 5 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	242	10%	10%	108		17-Oct-21 A	15-Jun-22	30-Mar-22	15-Jul-22	30	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.1 Structure Erection		109	191	0%		140		08-Jan-22 A	17-Jul-22	09-Mar-22	15-Jul-22	-2	
06-FGC-5-1080	PFab 2-Line 5 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	120	0%	0%	69		08-Jan-22 A	07-May-22	09-Mar-22	16-May-22	9	Extracted Activity
06-FGC-5-1120	PFab 2-Line 5 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		19-May-22	17-Jul-22	17-May-22	15-Jul-22	-2	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.10 Mechanical Fabrication		270	569	44.44%		150		05-Jan-21 A	27-Jul-22	18-Mar-22	14-Aug-22	18	
06-FGC-5-1000	PFab 2-Line 5 - Mechanical Fabrication (By yard)	270	569	44.44%	44.44%	150		05-Jan-21 A	27-Jul-22	18-Mar-22	14-Aug-22	18	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.2 Mechanical Erection		129	129	0%		129		28-Feb-22	06-Jul-22	18-Mar-22	15-Jul-22	9	
06-FGC-5-1090	PFab 2-Line 5 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	60	0%	0%	60		28-Feb-22	28-Apr-22	18-Mar-22	16-May-22	18	Extracted Activity
06-FGC-5-1110	PFab 2-Line 5 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	60	0%	0%	60		08-May-22	06-Jul-22	17-May-22	15-Jul-22	9	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.11 Piping Fabrication		180	574	0%		319		18-Jun-21 A	12-Jan-23	28-May-22	11-Apr-23	89	
06-FGC-5-1020	PFab 2-Line 5 - Piping Fabrication	180	574	0%	0%	319		18-Jun-21 A	12-Jan-23	28-May-22	11-Apr-23	89	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M5.12 E&I Fabrication		180	180	0%		180		30-May-22	25-Nov-22	28-May-22	23-Nov-22	-2	
06-FGC-5-1130	PFab 2-Line 5 - E&I Fabrication	180	180	0%	0%	180	As Late As Possil	30-May-22	25-Nov-22	28-May-22	23-Nov-22	-2	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M6 Process Island FGC line 6		370	610	48.36%		191		05-Jan-21 A	06-Sep-22	26-Feb-22	18-Sep-22	12	
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M6.9 Structure Fabrication		164	296	52.44%		78		25-Jul-21 A	16-May-22	02-Mar-22	09-Jul-22	54	
06-FGC-6-1020	PFab 2-Line 6 - 2nd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	278	50%	50%	60		25-Jul-21 A	28-Apr-22	02-Mar-22	30-Apr-22	2	Extracted Activity
06-FGC-6-1030	PFab 2-Line 6 - 3rd Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate.etc)	120	249	41.67%	41.67%	70		02-Sep-21 A	08-May-22	02-Mar-22	10-May-22	2	Extracted Activity
06-FGC-6-1060	PFab 2-Line 6 - 4th & Top Floor Primary & Secondary Steel Structure Fabricate (Beam/Cloumn/Plate	120	212	35%	35%	78		17-Oct-21 A	16-May-22	23-Apr-22	09-Jul-22	54	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M6.1 Structure Erection		103	189	0%		134		04-Jan-22 A	11-Jul-22	26-Feb-22	09-Jul-22	-2	
06-FGC-6-1080	PFab 2-Line 6 - 2nd Floor(EL12.47~ EL23.47m) Primary & Secondary Steel Structure Erection	60	129	0%	0%	74		04-Jan-22 A	12-May-22	26-Feb-22	10-May-22	-2	Extracted Activity
06-FGC-6-1110	PFab 2-Line 6 - 3rd Floor(EL23.47~ EL34.47m) Primary & Secondary Steel Structure Erection	60	60	0%	0%	60		13-May-22	11-Jul-22	11-May-22	09-Jul-22	-2	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M6.10 Mechanical Fabrication		270	610	29.26%		191		05-Jan-21 A	06-Sep-22	12-Mar-22	18-Sep-22	12	
06-FGC-6-1000	PFab 2-Line 6 - Mechanical Fabrication (By yard)	270	610	29.26%	29.26%	191		05-Jan-21 A	06-Sep-22	12-Mar-22	18-Sep-22	12	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.1.7.M6.2 Mechanical Erection		134	134	0%		134		28-Feb-22	11-Jul-22	12-Mar-22	09-Jul-22	-2	
06-FGC-6-1090	PFab 2-Line 6 - 1st Floor (Below EL12.47m) (Including Silencer ID fan)	60	60	0%	0%	60		28-Feb-22	28-Apr-22	12-Mar-22	10-May-22	12	Extracted Activity
06-FGC-6-1120	PFab 2-Line 6 - 2nd Floor (EL12.47~ EL23.47m) (Including Dosing system bicar)	60	60	0%	0%	60		13-May-22	11-Jul-22	11-May-22	09-Jul-22	-2	Extracted Activity
WBS: EP_SP_66_12-WP6D-M51.06.7 Procurement for HV Transformers and Associated Equipment		60	60	0%		60		28-Feb-22	28-Apr-22	02-Apr-22	31-May-22	33	
WBS: EP_SP_66_12-WP6D-M51.06.7.2 Procurement of Switchboard/Pannels and Cables		60	60	0%		60		28-Feb-22	28-Apr-22	02-Apr-22	31-May-22	33	
06-2090(1)	Material Submission and Approval	60	60	0%	0%	60		28-Feb-22	28-Apr-22	02-Apr-22	31-May-22	33	
WBS: EP_SP_66_12-WP6D-M51.06.10 Procruement and Off-site Fabrication of Pipe Bridges (Incl. Pipings)		90	90	0%		90		29-Apr-22	27-Jul-22	01-May-22	29-Jul-22	2	
06-1390(1)	Material Submission and Approval	90	90	0%	0%	90		29-Apr-22	27-Jul-22	01-May-22	29-Jul-22	2	
WBS: EP_SP_66_12-WP6D-M51.06.16 Procurement for Lighting System		90	90	0%		90		13-Jun-22	10-Sep-22	23-May-22	20-Aug-22	-21	
06-1630	Material Submission and Approval	90	90	0%	0%	90		13-Jun-22	10-Sep-22	23-May-22	20-Aug-22	-21	
WBS: EP_SP_66_12-WP6D-M51.06.31 Off-site Precasting of Box Culvert		75	75	0%		75		08-May-22	21-Jul-22	12-May-22	25-Jul-22	4	
06-8100(6D)	Procurement of Precast Concete Wall Panel Moulding & Fabrication	75	75	0%	0%	75		08-May-22	21-Jul-22	12-May-22	25-Jul-22	4	
WBS: EP_SP_66_12-WP6D-M51.08 Maritime Works		701	837	68.89%		218		19-Jun-20 A	03-Oct-22	28-Feb-22	06-Nov-22	34	
WBS: EP_SP_66_12-WP6D-M51.08.1 Marine Construction		701	837	68.89%		218		19-Jun-20 A	03-Oct-22	28-Feb-22	06-Nov-22	34	
WBS: EP_SP_66_12-WP6D-M51.08.1.1 Phase I - Construction of Perimeter Seawalls		292	354	34.93%		190		17-Sep-21 A	05-Sep-22	28-Feb-22	23-Sep-22	18	
WBS: EP_SP_66_12-WP6D-M51.08.1.1.1 Seawall and Berth at DCM Area		292	354	34.93%		190		17-Sep-21 A	05-Sep-22	28-Feb-22	23-Sep-22	18	
WBS: EP_SP_66_12-WP6D-M51.08.1.1.1.5 Seawall Structural Works		292	354	34.93%		190		17-Sep-21 A	05-Sep-22	28-Feb-22	23-Sep-22	18	



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

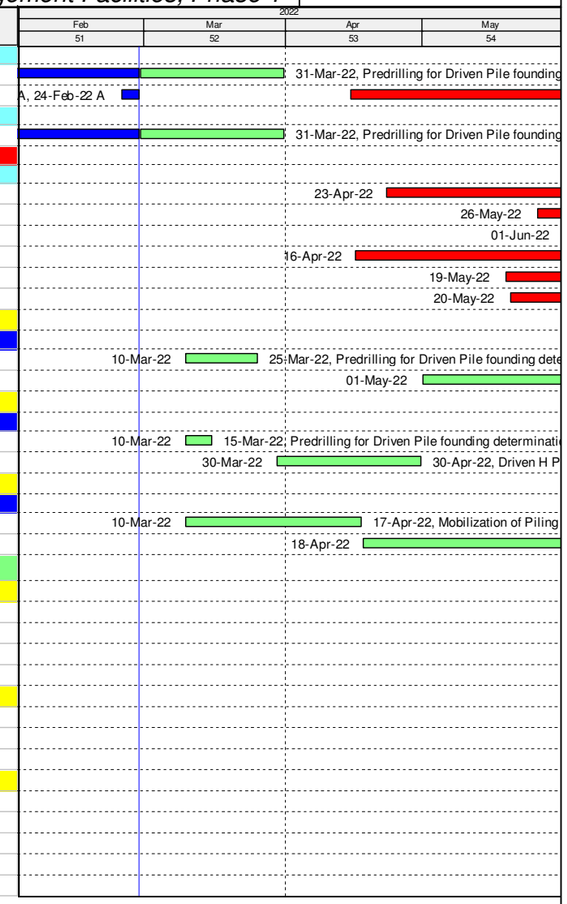
Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
	WBS: EP_SP_66_12-WP6D-M51.08.1.1.1.5.1 Remain Works	292	354	34.93%		190		17-Sep-21 A	05-Sep-22	28-Feb-22	23-Sep-22	18	
08-1105-08(6)	Prefabrication of Precast Beam and Slab for Seawall A	140	161	99.29%	99.29%	1		21-Sep-21 A	28-Feb-22	28-Feb-22	28-Feb-22	0	
08-1105-09(6)	Prefabrication of Precast Beam & Slab for Seawall B	140	161	99.29%	99.29%	1		21-Sep-21 A	28-Feb-22	28-Feb-22	28-Feb-22	0	
08-1105-11(6)	Prefabrication of Precast Copping for Vertical Seawall	140	140	40.71%	40.71%	83		03-Jan-22 A	22-May-22	01-Mar-22	22-May-22	0	
08-1120	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall A	220	354	13.64%	13.64%	190		17-Sep-21 A	05-Sep-22	18-Mar-22	23-Sep-22	18	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2 Phase II - Reclamation, Breakwater and Berth Construction	701	837	68.89%		218		19-Jun-20 A	03-Oct-22	02-Mar-22	06-Nov-22	34	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1 Reclamation	430	635	49.3%		218		07-Jan-21 A	03-Oct-22	02-Mar-22	06-Nov-22	34	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.6 Reclamation Works	414	432	47.34%		218		29-Jul-21 A	03-Oct-22	02-Mar-22	06-Nov-22	34	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.6.1 Reclamation Fill	32	230	50%		16		29-Jul-21 A	15-Mar-22	02-Mar-22	17-Mar-22	2	
08-3040(6)	Fill up +2.5 to +7.5mPD at West Edge Area (91,000m3 @ 4000m3/d)	32	230	50%	50%	16		29-Jul-21 A	15-Mar-22	02-Mar-22	17-Mar-22	2	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.6.3 Surcharge Filling	22	22	0%		22		16-Mar-22	06-Apr-22	19-Apr-22	10-May-22	34	
08-3060(6)	Fill up +7.5 to +11&12mPD at West Edge Area (Stage 6) (55,000m3 @ 2500m3/d)	22	22	0%	0%	22		16-Mar-22	06-Apr-22	19-Apr-22	10-May-22	34	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.6.4 Surcharge Period	308	313	32.47%		208		25-Nov-21 A	03-Oct-22	17-Mar-22	06-Nov-22	34	
08-3110-1(6)	Loading @ +12mPD at ACC Building & Substation (Stage 4)	180	208	42.78%	42.78%	103		25-Nov-21 A	20-Jun-22	17-Mar-22	27-Jun-22	7	
08-3120(6)	Loading @ +11&+13mPD at at East Edge Area (Stage 5)	180	255	1.11%	1.11%	178		29-Dec-21 A	09-Sep-22	18-Mar-22	11-Sep-22	2	
08-3120-1(6)	Loading @ +11&12mPD at West Edge Area (Stage 6)	180	180	0%	0%	180		07-Apr-22	03-Oct-22	11-May-22	06-Nov-22	34	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.1 Instrumentation	88	215	98.86%		1		29-Jul-21 A	28-Feb-22	17-Mar-22	17-Mar-22	17	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.1.1 Instruments above +2.5mPD	88	215	98.86%		1		29-Jul-21 A	28-Feb-22	17-Mar-22	17-Mar-22	17	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.1.1.7 IWMF Substation (East)	88	215	98.86%		1		29-Jul-21 A	28-Feb-22	17-Mar-22	17-Mar-22	17	
08-2060 (M42)	Drilling and installation of Instrumentation (11nrs.)	88	215	98.86%	98.86%	1		29-Jul-21 A	28-Feb-22	17-Mar-22	17-Mar-22	17	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.1.2 PVD Remedial Works	87	445	67.82%		28		07-Jan-21 A	27-Mar-22	12-Mar-22	12-Jun-22	77	
08-1390 (M34)15	Install Sand Drains at Zone D (approx. 62 nr @ 4nr/day/2 set of equipment)	16	422	68.75%	68.75%	5		07-Jan-21 A	04-Mar-22	12-Mar-22	16-Mar-22	12	
08-1390 (M34)20	GI for ground condition varification at other Zone for PVD (10 nr approx @0.5 nr/day) Inc Report	28	28	0%	0%	28		28-Feb-22	27-Mar-22	16-May-22	12-Jun-22	77	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.2 Breakwater	374	705	77.07%		86		19-Jun-20 A	24-May-22	04-Apr-22	28-Jun-22	35	
08-1280	Rubble Mound Laying (100,000m3 approx, @550m3/d)	188	570	84.04%	84.04%	30		06-Sep-20 A	29-Mar-22	30-Apr-22	29-May-22	61	
08-1285(1)	Prefabrication for Caission	180	675	69%	69%	56		19-Jun-20 A	24-Apr-22	04-Apr-22	29-May-22	35	
08-1290	Caisson Laying (Total 29nrs, @2 nrs/week)	150	517	77.33%	77.33%	34		24-Dec-20 A	24-May-22	26-May-22	28-Jun-22	35	
	WBS: EP_SP_66_12-WP6D-M51.08.1.2.3 Seawall and Berth at Marine Access	30	376	0%		30		19-Mar-21 A	29-Mar-22	30-May-22	28-Jun-22	91	
08-1320(5A)	Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	30	376	0%	0%	30		19-Mar-21 A	29-Mar-22	30-May-22	28-Jun-22	91	
	WBS: EP_SP_66_12-WP6D-M51.09 Foundation Works	336	420	44.94%		185		08-Jul-21 A	31-Aug-22	21-Feb-22	10-Oct-22	40	
	WBS: EP_SP_66_12-WP6D-M51.09.0 Site Investigation and Preliminary Pile	272	256	92.28%		21		08-Jul-21 A	20-Mar-22	20-Mar-22	24-Apr-22	34	
09-1000	Ground Investigation	180	254	95%	95%	9		08-Jul-21 A	18-Mar-22	15-Apr-22	24-Apr-22	36	
	WBS: EP_SP_66_12-WP6D-M51.09.0.13 Preliminary Percussive H Pile	172	184	87.79%		21		18-Sep-21 A	20-Mar-22	20-Mar-22	09-Apr-22	20	
09-1020	Preliminary Pile Installation	7	170	0%	0%	7		18-Sep-21 A	06-Mar-22	20-Mar-22	26-Mar-22	20	
09-1030	Preliminary Pile Load Test	14	14	0%	0%	14		07-Mar-22	20-Mar-22	27-Mar-22	09-Apr-22	20	
	WBS: EP_SP_66_12-WP6D-M51.09.2 Process Building - Waste Bunker & Tipping Hall Bld Foundation	268	301	49.64%		135		15-Sep-21 A	13-Jul-22	25-Feb-22	23-Jul-22	11	
	WBS: EP_SP_66_12-WP6D-M51.09.2.4 Piling Works (Driven H-pile)	174	292	27.66%		126		15-Sep-21 A	03-Jul-22	25-Feb-22	01-Jul-22	-2	
	WBS: EP_SP_66_12-WP6D-M51.09.2.4.1 Piling Stage 1 (Module 1)	118	223	51.69%		57		15-Sep-21 A	25-Apr-22	25-Feb-22	22-Apr-22	-3	
	WBS: EP_SP_66_12-WP6D-M51.09.2.4.1.2 Bunker	118	223	51.69%		57		15-Sep-21 A	25-Apr-22	25-Feb-22	22-Apr-22	-3	
09-1120	Driven H Pile Installations (342 nrs ~40m(D), @60m/d 4 Workfronts)	49	215	0%	0%	49		15-Sep-21 A	17-Apr-22	25-Feb-22	14-Apr-22	-3	1/342 Completed
09-1130	Pile Load Test	8	8	0%	0%	8		18-Apr-22	25-Apr-22	15-Apr-22	22-Apr-22	-3	
	WBS: EP_SP_66_12-WP6D-M51.09.2.4.3 Piling Stage 3 (Module 3)	82	130	16%		69		24-Feb-22 A	03-Jul-22	24-Apr-22	01-Jul-22	-2	
	WBS: EP_SP_66_12-WP6D-M51.09.2.4.3.2 Bunker	82	130	16%		69		24-Feb-22 A	03-Jul-22	24-Apr-22	01-Jul-22	-2	
09-2210	Driven H Pile Installations (297 nrs ~40m(D), @60m/d 4 Workfronts)	82	130	16%	16%	69		24-Feb-22 A	03-Jul-22	24-Apr-22	01-Jul-22	-2	47 inprogress
	WBS: EP_SP_66_12-WP6D-M51.09.2.1 Piling Works (Socket H-pile)	268	292	49.64%		135		24-Sep-21 A	13-Jul-22	05-Mar-22	23-Jul-22	11	
	WBS: EP_SP_66_12-WP6D-M51.09.2.1.2 Piling Stage 1 (Module 1)	268	292	49.64%		135		24-Sep-21 A	13-Jul-22	05-Mar-22	23-Jul-22	11	
	WBS: EP_SP_66_12-WP6D-M51.09.2.1.2.1 Tipping Hall	268	292	49.64%		135		24-Sep-21 A	13-Jul-22	05-Mar-22	18-Jul-22	6	
09-2190	Prebored H Pile Installations (43 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)	86	225	21%	21%	68		24-Sep-21 A	06-May-22	05-Mar-22	12-May-22	6	6/43 Completed, 6 inprogress
09-2230	Prebored H Pile Installations (41 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)	82	201	18.2%	18.2%	67		24-Dec-21 A	13-Jul-22	12-May-22	18-Jul-22	6	3/41 Completed, 9 inprogress
	WBS: EP_SP_66_12-WP6D-M51.09.2.1.2.2 Bunker	96	82	15%		82		28-Feb-22 A	20-May-22	03-May-22	23-Jul-22	64	
09-2260	Prebored H Pile Installations (48 nrs, 2 Workfronts @4d/no.) Workfront (3# 4#)	96	82	15%	15%	82		28-Feb-22 A	20-May-22	03-May-22	23-Jul-22	64	
	WBS: EP_SP_66_12-WP6D-M51.09.3 Process Building - Boiler & Flue Gas Treatment Bld Foundation	202	251	33.66%		134		03-Nov-21 A	11-Jul-22	21-Feb-22	01-Jul-22	-10	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1 Boiler Building & Flue Gas Foundation	202	251	33.66%		134		03-Nov-21 A	11-Jul-22	21-Feb-22	01-Jul-22	-10	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.1 Piling Works (Socket H-pile)	182	189	32.42%		123		24-Dec-21 A	30-Jun-22	23-Feb-22	27-Jun-22	-3	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.1.2 Piling Stage 1 (Module 1)	111	113	57.45%		47		24-Dec-21 A	16-Apr-22	23-Feb-22	16-Apr-22	1	
09-2580	Prebored H Pile Installations (60 nrs, 4 Workfronts @4d/no.) Workfront (5# 6# 7# 8#)	69	96	56%	56%	30		24-Dec-21 A	30-Mar-22	23-Feb-22	25-Mar-22	-4	26/60 Completed, 15 inprogress
09-2590	Pile Load Test	8	8	0%	0%	8		30-Mar-22	07-Apr-22	09-Apr-22	16-Apr-22	10	
09-2700	Prebored H Pile Installations (11 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)	22	43	59%	59%	9		24-Feb-22 A	08-Apr-22	30-Mar-22	08-Apr-22	1	3/11 Completed, 7 inprogress
09-2700-1(6D)	Pile Load Test	8	8	0%	0%	8		08-Apr-22	16-Apr-22	09-Apr-22	16-Apr-22	1	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.1.1 Piling Stage 2 (Module 2)	80	80	0%		80		30-Mar-22	18-Jun-22	26-Mar-22	13-Jun-22	-4	
09-2300	Prebored H Pile Installations (18 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)	36	36	0%	0%	36		30-Mar-22	05-May-22	26-Mar-22	30-Apr-22	-4	
09-2600	Prebored H Pile Installations (15 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)	30	30	0%	0%	30		26-Apr-22	25-May-22	23-Apr-22	22-May-22	-3	
09-2610	Prebored H Pile Installations (22 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)	44	44	0%	0%	44		05-May-22	18-Jun-22	01-May-22	13-Jun-22	-4	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.1.3 Piling Stage 3 (Module 3)	36	36	0%		36		26-May-22	30-Jun-22	23-May-22	27-Jun-22	-3	
09-2620	Prebored H Pile Installations (18 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)	36	36	0%	0%	36		26-May-22	30-Jun-22	23-May-22	27-Jun-22	-3	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.2 Piling Works (Driven H-pile)	194	228	42.88%		111		03-Nov-21 A	18-Jun-22	21-Feb-22	12-Jun-22	-6	
	WBS: EP_SP_66_12-WP6D-M51.09.3.1.2.1 Piling Stage 1 (Module 1)	113	144	52.18%		54		30-Nov-21 A	23-Apr-22	21-Feb-22	17-Apr-22	-5	
09-1320	Driven H Pile Installations (250 nrs ~40m(D), @60m/d 4 Workfronts)	96	136	52%	52%	46		30-Nov-21 A	15-Apr-22	21-Feb-22	08-Apr-22	-7	45/250 Completed, 169 inprogress
09-1330	Pile Load Test	8	8	0%	0%	8		15-Apr-22	23-Apr-22	10-Apr-22	17-Apr-22	-5	



3-Month Rolling Programme (February 2022)

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

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M51 Remarks
WBS: EP_SP_66_12-WP6D-M51.09.3.1.2.2 Piling Stage 2 (Module 2)		194	228	42.88%		111		03-Nov-21 A	18-Jun-22	07-Mar-22	11-Jun-22	-7	
09-1340(6)	Predrilling for Driven Pile founding determination (64nr ~60m, @15m/d, 4 Rigs)	64	149	50%	50%	32		03-Nov-21 A	31-Mar-22	07-Mar-22	08-Apr-22	7	
09-1350	Driven H Pile Installations (243 nrs ~40m(D), @60m/d 4 Workfronts)	79	115	18%	18%	65		24-Feb-22 A	18-Jun-22	08-Apr-22	11-Jun-22	-7	1/243 Completed, 84 inprogress
WBS: EP_SP_66_12-WP6D-M51.09.3.1.2.3 Piling Stage 3 (Module 3)		42	149	23.81%		32		03-Nov-21 A	31-Mar-22	12-May-22	12-Jun-22	73	
09-1370(6)	Predrilling for Driven Pile founding determination (63nr ~60m, @15m/d, 8 Rigs)	42	149	23.81%	23.81%	32		03-Nov-21 A	31-Mar-22	12-May-22	12-Jun-22	73	
WBS: EP_SP_66_12-WP6D-M51.09.3.1.9 Pile Caps Construction		87	87	0%		87		16-Apr-22	11-Jul-22	17-Apr-22	01-Jul-22	-10	
WBS: EP_SP_66_12-WP6D-M51.09.3.1.9.1 Pile Cap Stage 1 (Module 1)		87	87	0%		87		16-Apr-22	11-Jul-22	17-Apr-22	01-Jul-22	-10	
09-1400	Excavation to Pile Cap Formation (TPU)	45	45	0%	0%	45		23-Apr-22	07-Jun-22	18-Apr-22	01-Jun-22	-5	
09-1410	Pile Cut-off & Capping Plate (188 nrs, 10nr/d)	19	19	0%	0%	19		26-May-22	14-Jun-22	21-May-22	08-Jun-22	-5	
09-1420	Pile Caps Construction (28 nrs, 5set @1/7d)	41	41	0%	0%	41		01-Jun-22	11-Jul-22	22-May-22	01-Jul-22	-10	
09-1420-1(6D)	Excavation to Pile Cap Formation (FGC)	45	45	0%	0%	45		16-Apr-22	31-May-22	17-Apr-22	31-May-22	1	
09-1420-2(6D)	Pile Cut-off & Capping Plate (187 nrs, 10nr/d)	19	19	0%	0%	19		19-May-22	07-Jun-22	20-May-22	07-Jun-22	1	
09-1420-3(6D)	Pile Caps Construction (28 nrs, 5set @1/7d)	42	42	0%	0%	42		20-May-22	01-Jul-22	21-May-22	01-Jul-22	1	
WBS: EP_SP_66_12-WP6D-M51.09.5 Turbine Hall Bld Foundation		153	153	0%		153		10-Mar-22	09-Aug-22	01-May-22	25-Aug-22	16	
WBS: EP_SP_66_12-WP6D-M51.09.5.1 Piling Works (Driven H-pile)		153	153	0%		153		10-Mar-22	09-Aug-22	01-May-22	25-Aug-22	16	
09-1720(6)	Predrilling for Driven Pile founding determination (32nr ~60m, @15m/d, 8 Rigs)	16	16	0%	0%	16		10-Mar-22	25-Mar-22	01-May-22	16-May-22	52	
09-1730	Driven H Pile Installations (219 nrs ~55m(D), @60m/d 2 Workfronts)	101	101	0%	0%	101		01-May-22	09-Aug-22	17-May-22	25-Aug-22	16	
WBS: EP_SP_66_12-WP6D-M51.09.6 Compressor & CCCW Bld Foundation		52	52	0%		52		10-Mar-22	30-Apr-22	09-Apr-22	16-May-22	16	
WBS: EP_SP_66_12-WP6D-M51.09.6.1 Piling Works (Driven H-pile)		52	52	0%		52		10-Mar-22	30-Apr-22	09-Apr-22	16-May-22	16	
09-2310(6)	Predrilling for Driven Pile founding determination (6nr ~60m, @15m/d, 4 Rigs)	6	6	0%	0%	6		10-Mar-22	15-Mar-22	09-Apr-22	14-Apr-22	30	
09-2320	Driven H Pile Installations (68 nrs ~55m(D), @60m/d 2 Workfronts)	32	32	0%	0%	32		30-Mar-22	30-Apr-22	15-Apr-22	16-May-22	16	
WBS: EP_SP_66_12-WP6D-M51.09.7 Chimney Foundation		175	175	0%		175		10-Mar-22	31-Aug-22	19-Apr-22	10-Oct-22	40	
WBS: EP_SP_66_12-WP6D-M51.09.7.1 Piling Works (Bored Pile)		175	175	0%		175		10-Mar-22	31-Aug-22	19-Apr-22	10-Oct-22	40	
09-1810-1(6D)	Mobilization of Piling Plants & Equipments and Site Setup	39	39	0%	0%	39		10-Mar-22	17-Apr-22	19-Apr-22	27-May-22	40	
09-1820	Bored Pile Set #1 (6 nrs, @22d/no.)	136	136	0%	0%	136		18-Apr-22	31-Aug-22	28-May-22	10-Oct-22	40	
WBS: EP_SP_66_12-WP6D-M51.15 Works By CLP		476	476	0%		476		13-Jun-23	01-Oct-24	15-May-23	04-Jan-25	95	
WBS: EP_SP_66_12-WP6D-M51.15.1 Installation of Transmission System		350	350	0%		350		13-Jun-23	27-May-24	15-May-23	25-May-24	-2	
15-0800	450 days Prior to Commencement of System Commissioning Test	0	0	0%	0%	0		13-Jun-23		15-May-23		-29	
15-0900	Completion of Civil Provision for Transmission	0	0	0%	0%	0			10-Sep-23		30-Sep-23	20	
15-1000	Construction of Transmission System	90	90	0%	0%	90		13-Jun-23	10-Sep-23	03-Jul-23	30-Sep-23	20	
15-1002	Cable Testing	30	30	0%	0%	30		27-Apr-24	27-May-24	26-Apr-24	25-May-24	-2	
WBS: EP_SP_66_12-WP6D-M51.15.2 Remaining Installation Works by CLP		240	240	0%		240		30-Nov-23	26-Jul-24	30-Nov-23	31-Aug-24	36	
15-1005	Handover of CLP Equipment Room no later than 10 mths before energization	0	0	0%	0%	0	As Late As Possil	30-Nov-23		30-Nov-23		0	
15-1010	Commencement of 132kV cable termination no later than 4 mths before energization	0	0	0%	0%	0		27-May-24		25-May-24		-2	
15-1010-1(6)	Overall testing and commissioning of 2 x CHS-IWMF circuits	60	60	0%	0%	60		27-May-24	26-Jul-24	03-Jul-24	31-Aug-24	36	
WBS: EP_SP_66_12-WP6D-M51.15.3 Metering & Energization		66	66	0%		66		26-Jul-24	01-Oct-24	01-Sep-24	04-Jan-25	95	
15-1020	Incoming Power System Final Inspection and Metering works	30	30	0%	0%	30		26-Jul-24	25-Aug-24	01-Sep-24	30-Sep-24	36	
15-1030	Energization of Incoming Power Supply Main System	0	0	0%	0%	0	Start On	01-Oct-24*		01-Oct-24		0	
15-1040	Energization of Incoming Power Supply Sub System	0	0	0%	0%	0	Start On or After	01-Oct-24*		04-Jan-25		95	
15-1050	Export Power System Final Inspection and Metering works	30	30	0%	0%	30		26-Jul-24	25-Aug-24	01-Sep-24	30-Sep-24	36	
15-1060	Connection to Grid	0	0	0%	0%	0			25-Aug-24		25-Dec-24	122	



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	Discharge Licenses were issued on 22/08/2019 (WT00033787-2019) and 15/02/2022 (WT00039438-2021) respectively.
S5b.8.1.4	Accidental Spillage 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	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		
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 foundation and 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	Implemented.
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								

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		
	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								

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		
	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
				Des	C	O	Dec		
	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

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

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
				Des	C	O	Dec		
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

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

Appendix C Impact Monitoring Schedule of the Reporting Month

Impact Monitoring Schedule for IWMF

Feb-22

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
				Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:00 - 16:21 Flood Tide: 05:00 - 12:00 Monitoring Time: Mid-ebb: 12:25 - 15:55 *#Mid-flood: 08:00 - 10:15	Impact Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 13:26 - 18:00 Flood Tide: 06:23 - 13:26 Monitoring Time: Mid-ebb: 13:58 - 17:28 Mid-flood: 08:09 - 11:39 Night time Noise monitoring for M1, M2 & M3
6	7	8	9	10	11	12
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 14:37 - 20:00 Flood Tide: 07:14 - 14:37 Monitoring Time: &Mid-ebb: 15:33 - 19:00 Mid-flood: 09:10 - 12:40 Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 16:05 - 23:00 Flood Tide: 08:00 - 16:05 Monitoring Time: #$&Mid-ebb: 16:25 - 19:00 Mid-flood: 10:17 - 13:47	Impact Ecology monitoring for WBSE	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 17:45 - 23:59 Flood Tide: 01:12 - 17:45 Monitoring Time: #&Mid-ebb: 18:03 - 19:00 *#Mid-flood: 08:00 - 11:13	
13	14	15	16	17	18	19
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:00 - 13:00 Flood Tide: 13:00 - 20:00 Monitoring Time: Mid-ebb: 10:09 - 12:51 Mid-flood: 14:45 - 18:15 Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey	Impact Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:40 - 15:00 Flood Tide: 15:00 - 21:00 Monitoring Time: Mid-ebb: 11:05 - 14:35 #$Mid-flood: 15:18 - 18:48 Night time Noise monitoring for M1, M2 & M3		Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:01 - 16:00 Flood Tide: 05:00 - 11:01 Monitoring Time: Mid-ebb: 11:45 - 15:15 *#Mid-flood: 08:00 - 10:42	
20	21	22	23	24	25	26
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:32 - 18:20 Flood Tide: 06:18 - 12:32 Monitoring Time: Mid-ebb: 13:41 - 17:11 *Mid-flood: 08:00 - 11:10 Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 13:41 - 20:34 Flood Tide: 07:16 - 13:41 Monitoring Time: Mid-ebb: 15:22 - 18:52 Mid-flood: 08:43 - 12:13	Impact Ecology monitoring for WBSE	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 15:50 - 23:59 Flood Tide: 09:00 - 15:50 Monitoring Time: #$&Mid-ebb: 16:14 - 19:00 Mid-flood: 10:40 - 14:10 Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey Ecology monitoring for WBSE	Impact Ecology monitoring for WBSE
27	28					
Impact Ecology monitoring for WBSE	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:40 - 13:00 Flood Tide: 13:00 - 19:00 Monitoring Time: Mid-ebb: 09:50 - 12:50 Mid-flood: 14:15 - 17:45 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

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

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	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:19	8.65	8.19	32.47	17.63	7.2	6
B1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:19	8.66	8.17	32.41	17.79	7.4	6
B1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	4	09:18	8.59	8.14	32.53	17.65	7.1	7
B1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	4	09:18	8.46	8.14	32.71	17.57	6.9	7
B2	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:36	8.78	8.21	33.15	17.52	6.7	10
B2	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:36	8.86	8.18	32.94	17.38	7.8	11
B2	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:35	8.72	8.18	33.03	17.54	7.3	9
B2	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:35	8.78	8.17	33.03	17.58	8.1	7
B3	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	8.41	8.31	33.07	17.76	6.4	7
B3	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	8.38	8.25	33.2	17.7	7.0	7
B3	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.5	09:40	8.41	8.3	33.14	17.63	7.5	10
B3	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.5	09:40	8.56	8.34	32.89	17.77	7.5	11
B4	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:29	8.7	8.06	32.27	17.69	6.3	11
B4	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:29	8.71	8.05	32.37	17.9	6.0	11
B4	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.8	09:28	8.71	8.07	32.3	17.68	7.1	13
B4	20220203	Cloudy	Moderate	Mid-Flood	Bottom	3.8	09:28	8.88	8.04	32.28	17.79	6.4	12
C1A	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:51	8.37	8.22	32.53	17.48	6.9	16
C1A	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:51	8.25	8.26	32.61	17.41	6.8	14
C1A	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:50	8.39	8.26	32.81	17.38	7.0	7
C1A	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:50	8.35	8.23	32.67	17.4	7.2	8
C1A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:49	8.39	8.2	32.52	17.53	8.1	10
C1A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:49	8.4	8.22	32.67	17.38	8.1	9
C2A	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.22	8.13	32.59	17.41	8.9	9
C2A	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.11	8.1	32.42	17.4	8.2	9
C2A	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:01	8.08	8.13	32.57	17.48	8.4	21
C2A	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:01	8.08	8.15	32.45	17.53	8.6	24
C2A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:00	8.09	8.12	32.5	17.64	9.4	8
C2A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:00	8.31	8.14	32.71	17.58	9.0	11
CR1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:21	8.52	8.13	32.58	17.55	5.6	14
CR1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:21	8.91	8.15	32.66	17.35	5.5	13
CR1	20220203	Cloudy	Moderate	Mid-Flood	Middle	6.35	08:20	8.57	8.19	32.84	17.35	5.8	22
CR1	20220203	Cloudy	Moderate	Mid-Flood	Middle	6.35	08:20	8.48	8.12	32.7	17.47	6.3	19
CR1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	11.7	08:19	8.59	8.14	32.89	17.3	6.3	20
CR1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	11.7	08:19	8.47	8.22	32.6	17.33	6.0	17
CR2	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:33	8.41	8.23	33.02	17.6	5.2	14
CR2	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:33	8.37	8.14	32.85	17.57	5.2	16
CR2	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.95	08:32	8.67	8.14	32.98	17.41	5.6	11
CR2	20220203	Cloudy	Moderate	Mid-Flood	Middle	5.95	08:32	8.36	8.18	33.01	17.37	6.2	14
CR2	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.9	08:31	8.25	8.15	32.98	17.5	6.1	14
CR2	20220203	Cloudy	Moderate	Mid-Flood	Bottom	10.9	08:31	8.29	8.22	32.92	17.57	5.8	9

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	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:02	8.67	8.27	33.52	17.77	6.6	7
F1A	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	09:02	8.75	8.25	33.26	17.8	6.7	7
F1A	20220203	Cloudy	Moderate	Mid-Flood	Middle	4.4	09:01	8.79	8.21	33.44	17.67	7.6	7
F1A	20220203	Cloudy	Moderate	Mid-Flood	Middle	4.4	09:01	8.78	8.31	33.32	17.87	7.3	9
F1A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	7.8	09:00	8.62	8.23	33.24	17.65	7.3	9
F1A	20220203	Cloudy	Moderate	Mid-Flood	Bottom	7.8	09:00	8.62	8.21	33.4	17.8	7.2	7
H1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	10:03	8.89	8.24	32.49	17.81	5.5	13
H1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	10:03	8.85	8.32	32.62	17.83	5.7	15
H1	20220203	Cloudy	Moderate	Mid-Flood	Middle	3.85	10:02	8.84	8.3	32.72	17.64	5.8	10
H1	20220203	Cloudy	Moderate	Mid-Flood	Middle	3.85	10:02	8.39	8.28	32.45	17.69	5.3	10
H1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	6.7	10:01	8.71	8.32	32.72	17.66	6.1	14
H1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	6.7	10:01	8.91	8.26	32.58	17.74	5.9	15
M1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:37	8.31	8.16	32.81	17.54	6.0	13
M1	20220203	Cloudy	Moderate	Mid-Flood	Surface	1	08:37	8.48	8.14	32.77	17.51	5.9	14
M1	20220203	Cloudy	Moderate	Mid-Flood	Middle	3.8	08:36	8.41	8.11	33.02	17.32	6.2	13
M1	20220203	Cloudy	Moderate	Mid-Flood	Middle	3.8	08:36	8.53	8.16	33.05	17.41	5.7	15
M1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	6.6	08:35	8.56	8.08	32.84	17.49	5.7	11
M1	20220203	Cloudy	Moderate	Mid-Flood	Bottom	6.6	08:35	8.31	8.13	32.9	17.45	5.7	11
B1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:52	8.69	8.13	31.86	17.84	7.3	12
B1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:52	8.54	8.14	31.88	17.87	6.8	12
B1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:51	8.48	8.09	31.88	17.82	7.0	16
B1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	12:51	8.47	8.1	32.01	17.86	7.4	18
B2	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:08	8.53	8.04	31.23	17.63	5.3	9
B2	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:08	8.55	8.07	31.3	17.55	5.0	11
B2	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	13:07	8.57	7.99	31.34	17.63	6.0	10
B2	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	13:07	8.59	8.01	31.22	17.64	6.4	10
B3	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:40	8.88	8.11	32.34	17.82	6.1	9
B3	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:40	8.8	8.15	32.51	17.84	6.2	10
B3	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4	12:39	8.72	8.14	32.52	17.72	6.2	17
B3	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	4	12:39	8.77	8.07	32.42	17.83	6.2	17
B4	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:48	8.79	8.05	32.46	17.97	7.1	12
B4	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:48	9.42	8.05	32.29	17.97	6.9	10
B4	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:47	9.34	8.1	32.44	17.88	6.7	15
B4	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:47	8.72	8.03	32.44	17.88	6.9	12
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	8.95	8.05	32.3	17.8	8.4	16
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	8.85	7.94	32.23	17.88	8.4	14
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.7	12:26	8.9	7.93	32.22	17.89	7.9	17
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.7	12:26	8.84	7.97	32.36	17.84	8.2	17
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	12:25	8.84	7.93	32.28	17.9	8.6	14
C1A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	12:25	8.95	7.95	32.81	17.8	9.0	11

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	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	8.8	8.06	32.56	17.62	7.1	18
C2A	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	12:27	8.83	8.09	32.49	17.59	7.3	16
C2A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	5.8	12:26	8.86	8.04	32.56	17.66	7.7	15
C2A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	5.8	12:26	8.87	8.12	32.53	17.63	7.7	15
C2A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	12:25	8.87	8.11	32.48	17.55	7.5	16
C2A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	12:25	8.79	8.14	32.61	17.65	7.6	16
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	14:01	8.85	8.1	32.28	17.83	6.3	10
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	14:01	8.72	8.11	32.06	17.81	6.7	10
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	6.8	14:00	8.84	8.12	32.07	17.83	6.5	9
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	6.8	14:00	8.68	8.07	32.21	17.81	6.8	12
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	12.6	13:59	8.79	8.11	32.13	17.85	7.0	7
CR1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	12.6	13:59	8.7	8.13	32.12	17.88	6.6	8
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:48	9.17	8.02	32.78	17.82	6.0	10
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:48	8.97	8.04	32.68	17.81	6.7	12
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Middle	5.65	13:47	8.99	8.03	32.7	17.84	6.2	17
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Middle	5.65	13:47	9.06	8.03	32.57	17.73	6.8	17
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	13:46	9.03	8.05	32.55	17.82	6.8	10
CR2	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	13:46	9.07	8.04	32.63	17.8	6.3	8
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:19	8.91	8.08	32.25	17.93	5.4	16
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:19	8.99	8.08	32.47	17.94	5.4	13
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.15	13:18	8.93	8.15	32.26	17.96	6.1	15
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.15	13:18	8.97	8.1	32.33	18.04	5.6	15
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	13:17	8.95	8.09	32.42	17.92	6.0	15
F1A	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	13:17	8.99	8.07	32.27	17.92	6.4	15
H1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:34	9.01	8.11	31.63	17.98	6.2	27
H1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:34	8.98	8.06	31.56	17.97	6.2	26
H1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.1	13:33	9.04	8.07	31.58	17.97	5.8	11
H1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.1	13:33	9	8.16	31.6	17.96	5.3	9
H1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	13:32	9.15	8.12	31.51	18.06	6.6	18
H1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	13:32	9.13	8.04	31.46	17.97	6.1	17
M1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:44	9.14	8.1	31.26	17.9	5.7	16
M1	20220203	Cloudy	Moderate	Mid-Ebb	Surface	1	13:44	9.16	8.12	31.41	17.88	6.3	15
M1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.65	13:43	9.14	8.13	31.32	17.88	5.9	11
M1	20220203	Cloudy	Moderate	Mid-Ebb	Middle	4.65	13:43	9.08	8.13	31.34	17.89	6.5	11
M1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	13:42	9.17	8.12	31.45	17.89	6.9	11
M1	20220203	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	13:42	9.25	8.05	31.47	17.91	6.7	10
B1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:28	9.28	8.21	31.58	17.07	8.4	11
B1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:28	9.11	8.17	31.53	17.11	7.7	11
B1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4.2	09:27	9.2	8.17	31.45	16.93	9.2	5
B1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4.2	09:27	9.19	8.21	31.52	17.06	9.2	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)
B2	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:46	8.71	8.13	31.42	16.75	8.3	5
B2	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:46	8.57	8.07	31.43	16.75	8.1	5
B2	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4	09:45	8.57	8.11	31.47	16.63	9.3	5
B2	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4	09:45	8.66	8.09	31.38	16.58	9.0	5
B3	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:43	8.95	8.13	31.79	16.79	9.1	4
B3	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:43	9.08	8.15	31.6	16.83	8.9	3
B3	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4	10:42	9.23	8.12	31.58	16.91	10.8	4
B3	20220205	Cloudy	Moderate	Mid-Flood	Bottom	4	10:42	9.14	8.08	31.61	16.88	9.8	6
B4	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:34	8.96	8.1	32	16.85	9.3	3
B4	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:34	8.83	8.12	32.03	16.93	8.9	3
B4	20220205	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:33	8.41	8.12	31.56	16.92	9.9	3
B4	20220205	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:33	8.64	8.13	31.88	16.91	9.7	4
C1A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:03	8.65	8.11	32.48	16.87	9.1	8
C1A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:03	8.51	8.18	32.32	16.93	9.2	7
C1A	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:02	8.6	8.11	32.21	16.83	8.7	7
C1A	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:02	8.5	8.09	32.22	16.9	8.4	7
C1A	20220205	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:01	8.55	8.16	32.38	16.83	10.9	13
C1A	20220205	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:01	8.47	8.1	32.32	16.92	10.3	13
C2A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:11	8.94	8.16	32.34	16.8	10.6	7
C2A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:11	8.94	8.09	32.38	16.98	11.3	7
C2A	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:10	9.07	8.15	32.35	16.97	11.4	9
C2A	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:10	8.92	8.1	32.38	16.97	12.1	10
C2A	20220205	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:09	8.89	8.17	32.43	16.84	13.4	8
C2A	20220205	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:09	8.99	8.13	32.42	16.82	13.8	9
CR1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:31	8.84	8.07	32.13	16.81	10.0	4
CR1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:31	8.84	8.08	32	16.88	9.3	4
CR1	20220205	Cloudy	Moderate	Mid-Flood	Middle	6.2	08:30	9.21	8.07	32.17	16.82	9.2	8
CR1	20220205	Cloudy	Moderate	Mid-Flood	Middle	6.2	08:30	8.88	8.08	31.99	16.72	9.6	8
CR1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	11.4	08:29	9.28	8.05	32.05	16.75	9.6	6
CR1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	11.4	08:29	9.27	8.06	32.08	16.84	9.9	6
CR2	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:44	8.74	8.18	32.2	16.86	8.1	6
CR2	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	08:44	8.61	8.11	32.42	16.7	8.8	5
CR2	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.6	08:43	8.62	8.11	32.28	16.74	9.2	3
CR2	20220205	Cloudy	Moderate	Mid-Flood	Middle	5.6	08:43	8.74	8.15	32.36	16.76	8.3	4
CR2	20220205	Cloudy	Moderate	Mid-Flood	Bottom	10.2	08:42	8.68	8.14	32.38	16.79	9.5	5
CR2	20220205	Cloudy	Moderate	Mid-Flood	Bottom	10.2	08:42	8.72	8.11	32.23	16.86	9.4	4
F1A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:56	9.18	8.09	31.72	16.74	9.0	11
F1A	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:56	9.04	8.12	31.65	16.72	8.4	11
F1A	20220205	Cloudy	Moderate	Mid-Flood	Middle	4.1	09:55	9.04	8.14	31.65	16.79	9.5	10
F1A	20220205	Cloudy	Moderate	Mid-Flood	Middle	4.1	09:55	9.11	8.14	31.59	16.61	9.1	10

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	20220205	Cloudy	Moderate	Mid-Flood	Bottom	7.2	09:54	9.21	8.09	31.45	16.69	9.2	9
F1A	20220205	Cloudy	Moderate	Mid-Flood	Bottom	7.2	09:54	9.19	8.12	31.55	16.77	9.5	10
H1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.98	8.17	32.17	16.68	9.6	6
H1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.83	8.12	32.48	16.65	8.6	4
H1	20220205	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:12	9.01	8.1	32.13	16.71	9.3	5
H1	20220205	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:12	9	8.19	32.12	16.84	9.6	4
H1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:11	8.97	8.16	32.44	16.65	9.3	11
H1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:11	8.84	8.13	32.26	16.75	9.9	11
M1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:32	9.16	8.15	31.8	16.77	8.6	4
M1	20220205	Cloudy	Moderate	Mid-Flood	Surface	1	09:32	9.29	8.13	31.89	16.7	8.3	5
M1	20220205	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:31	9.05	8.11	31.77	16.68	8.7	9
M1	20220205	Cloudy	Moderate	Mid-Flood	Middle	3.9	09:31	9.15	8.11	31.61	16.66	9.0	7
M1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:30	8.68	8.09	31.48	16.65	8.9	4
M1	20220205	Cloudy	Moderate	Mid-Flood	Bottom	6.8	09:30	8.88	8.13	31.69	16.75	9.2	4
B1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:20	9.09	8.17	31.88	17.24	9.1	4
B1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:20	9.02	8.21	31.9	17.33	8.6	5
B1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:19	9.07	8.22	31.9	17.26	9.7	5
B1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:19	9.05	8.19	31.95	17.17	8.9	5
B2	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:38	8.42	8.23	32.48	16.85	9.3	8
B2	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:38	8.49	8.17	32.45	16.98	9.8	6
B2	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:37	8.47	8.18	32.44	16.96	9.4	5
B2	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:37	8.41	8.19	32.44	16.99	10.1	5
B3	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:13	9.1	8.22	31.72	17.13	8.9	4
B3	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:13	9.1	8.19	31.64	17.06	8.8	2.5
B3	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	14:12	9.14	8.18	31.74	17.15	8.9	5
B3	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	14:12	9.06	8.17	31.72	17.09	9.1	4
B4	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:22	8.44	8.2	31.62	17.09	9.2	5
B4	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:22	8.47	8.23	31.52	16.93	8.9	4
B4	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:21	8.49	8.18	31.58	16.93	8.8	4
B4	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	14:21	8.46	8.22	31.54	16.92	9.2	6
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:00	9.23	8.21	32.51	17.2	9.8	3
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:00	9.25	8.2	32.61	17.29	9.4	4
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	5.1	13:59	9.25	8.16	32.51	17.15	10.3	4
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	5.1	13:59	9.21	8.19	32.56	17.18	9.5	4
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	9.2	13:58	9.2	8.18	32.58	17.3	12.3	6
C1A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	9.2	13:58	9.31	8.17	32.54	17.31	11.6	5
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:00	8.68	8.09	31.28	16.82	7.9	3
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:00	8.79	8.14	31.25	16.9	8.0	6
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	6.1	13:59	8.75	8.13	31.3	17	8.3	5
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	6.1	13:59	8.67	8.07	31.24	16.96	8.4	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)
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	13:58	8.77	8.13	31.32	16.91	9.5	4
C2A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	13:58	8.65	8.11	31.31	16.78	8.7	2.5
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:31	8.76	8.17	30.96	17.01	7.2	4
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:31	8.76	8.21	31.09	17	8.0	4
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	6.45	15:30	8.83	8.16	31.08	16.93	8.1	6
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	6.45	15:30	8.77	8.19	31	17.01	8.0	6
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	15:29	8.82	8.21	31.01	16.91	7.5	5
CR1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	11.9	15:29	8.79	8.22	31.08	16.92	8.2	6
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:18	9.05	8.15	32.07	17.43	8.7	6
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:18	9.14	8.16	32.03	17.33	8.4	6
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Middle	5.4	15:17	9.08	8.15	32.12	17.29	7.9	8
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Middle	5.4	15:17	9.1	8.18	32.05	17.4	8.7	6
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	15:16	9.1	8.21	32.01	17.39	8.3	6
CR2	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	15:16	9.09	8.18	32.02	17.43	9.2	5
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:52	8.64	8.2	32.1	17.27	8.1	4
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	14:52	8.62	8.21	32.1	17.25	8.1	4
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	4.3	14:51	8.52	8.25	32.11	17.08	8.2	6
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Middle	4.3	14:51	8.5	8.26	32.17	17.11	8.9	5
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	14:50	8.52	8.22	32.1	17.26	8.2	4
F1A	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	14:50	8.55	8.24	32.16	17.22	8.2	6
H1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:04	9.15	8.09	32.14	16.91	8.9	9
H1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:04	9.07	8.15	32.04	16.85	9.5	9
H1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	3.9	15:03	9.1	8.11	32.12	16.77	8.9	4
H1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	3.9	15:03	9.11	8.15	32.07	16.82	9.1	6
H1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	6.8	15:02	9.15	8.14	32.04	16.93	9.2	5
H1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	6.8	15:02	9.17	8.15	32.13	16.92	9.0	6
M1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:17	9	8.16	31.3	16.99	9.5	5
M1	20220205	Cloudy	Moderate	Mid-Ebb	Surface	1	15:17	9.33	8.21	31.31	16.83	9.2	4
M1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	4.5	15:16	9.38	8.17	31.4	16.93	9.6	4
M1	20220205	Cloudy	Moderate	Mid-Ebb	Middle	4.5	15:16	9.35	8.16	31.35	16.89	10.0	4
M1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	8	15:15	9	8.17	31.29	16.87	9.7	4
M1	20220205	Cloudy	Moderate	Mid-Ebb	Bottom	8	15:15	9.35	8.19	31.36	17.01	9.8	4
B1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:30	9.21	8.12	31.37	17.05	8.5	8
B1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:30	9.19	8.07	31.33	17.11	8.9	7
B1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	10:29	9.19	8.13	31.46	17.07	9.4	5
B1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	10:29	9.19	8.08	31.37	17.1	9.0	4
B2	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:47	8.64	8.23	31.93	17.14	9.1	5
B2	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:47	8.65	8.19	31.81	17.12	8.8	6
B2	20220207	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:46	8.75	8.23	31.93	17.27	9.5	5
B2	20220207	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:46	8.7	8.22	31.89	17.17	9.2	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)
B3	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:26	9.44	8.2	31.45	17.23	8.3	6
B3	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:26	9.56	8.18	31.78	17.3	9.1	4
B3	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:25	9.17	8.17	31.66	17.21	10.6	6
B3	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:25	9.52	8.2	31.59	17.28	9.3	4
B4	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:18	9.15	8.16	31.56	17.08	8.9	4
B4	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:18	9.08	8.19	31.35	17.1	9.2	4
B4	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:17	8.76	8.13	31.28	17.1	11.5	4
B4	20220207	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:17	9.05	8.12	31.43	17.08	10.8	6
C1A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:04	9.07	8.22	31.53	17.17	10.3	6
C1A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:04	9.19	8.2	31.57	17.14	10.1	6
C1A	20220207	Cloudy	Moderate	Mid-Flood	Middle	4.95	10:03	9.12	8.2	31.55	17.26	11.2	5
C1A	20220207	Cloudy	Moderate	Mid-Flood	Middle	4.95	10:03	9.05	8.21	31.64	17.2	10.9	6
C1A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	8.9	10:02	9.19	8.23	31.59	17.23	12.7	7
C1A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	8.9	10:02	9.15	8.21	31.61	17.23	12.1	6
C2A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:12	9.19	8.3	32.35	17.13	11.6	3
C2A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:12	9.21	8.29	32.28	17.11	11.1	4
C2A	20220207	Cloudy	Moderate	Mid-Flood	Middle	5.8	09:11	9.19	8.29	32.39	17.25	12.3	5
C2A	20220207	Cloudy	Moderate	Mid-Flood	Middle	5.8	09:11	9.25	8.34	32.34	17.18	12.0	4
C2A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	10.6	09:10	9.2	8.31	32.39	17.19	15.1	5
C2A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	10.6	09:10	9.35	8.32	32.38	17.11	13.8	4
CR1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	9.57	8.13	31.52	17.13	10.2	5
CR1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:34	9.63	8.07	31.46	17.22	9.8	7
CR1	20220207	Cloudy	Moderate	Mid-Flood	Middle	6.25	09:33	9.52	8.06	31.5	17.27	9.6	5
CR1	20220207	Cloudy	Moderate	Mid-Flood	Middle	6.25	09:33	9.58	8.1	31.49	17.21	10.2	6
CR1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	11.5	09:32	9.57	8.12	31.49	17.29	10.1	5
CR1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	11.5	09:32	9.67	8.09	31.37	17.2	10.3	6
CR2	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:47	10.02	8.09	31.69	17.21	9.7	6
CR2	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	09:47	10.05	8.15	31.69	17.16	9.2	8
CR2	20220207	Cloudy	Moderate	Mid-Flood	Middle	5.95	09:46	9.99	8.12	31.67	17.18	9.4	5
CR2	20220207	Cloudy	Moderate	Mid-Flood	Middle	5.95	09:46	10.08	8.09	31.68	17.19	9.2	4
CR2	20220207	Cloudy	Moderate	Mid-Flood	Bottom	10.9	09:45	10.09	8.15	31.7	17.2	10.5	6
CR2	20220207	Cloudy	Moderate	Mid-Flood	Bottom	10.9	09:45	10.07	8.12	31.64	17.16	10.0	5
F1A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:36	8.3	8.11	31.68	17.04	9.4	6
F1A	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:36	8.35	8.14	31.54	17.07	10.1	6
F1A	20220207	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:35	8.22	8.11	31.4	16.99	10.1	6
F1A	20220207	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:35	8.16	8.12	31.44	16.99	9.8	6
F1A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:34	8.08	8.11	31.47	16.99	10.0	3
F1A	20220207	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:34	8.17	8.11	31.35	17.01	10.8	3
H1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:14	10.04	8.19	32.29	16.96	9.4	4
H1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	11:14	10.01	8.18	32.24	16.94	9.4	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)
H1	20220207	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:13	9.92	8.19	32.29	17.09	9.6	3
H1	20220207	Cloudy	Moderate	Mid-Flood	Middle	3.85	11:13	10.02	8.25	32.29	17.05	9.2	3
H1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:12	10.03	8.18	32.19	17.01	9.0	5
H1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	6.7	11:12	9.94	8.21	32.18	17.09	9.9	5
M1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:11	9.36	8.12	31.35	16.96	9.3	5
M1	20220207	Cloudy	Moderate	Mid-Flood	Surface	1	10:11	9.31	8.11	31.36	16.9	9.6	6
M1	20220207	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:10	9.73	8.11	31.28	17.03	9.8	6
M1	20220207	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:10	9.83	8.07	31.4	17.08	10.0	4
M1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:09	9.92	8.11	31.28	16.98	11.4	5
M1	20220207	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:09	9.84	8.12	31.37	17.01	10.3	5
B1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:57	9.4	8.08	31.67	17.1	8.4	8
B1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:57	9.31	8.09	31.73	17.22	9.2	8
B1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	15:56	9.34	8.07	31.66	17.17	9.8	4
B1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	15:56	9.38	8.08	31.6	17.07	9.4	5
B2	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:13	9.23	8.18	32.57	17.47	8.1	5
B2	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:13	9.18	8.23	32.63	17.46	7.8	7
B2	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:12	9.21	8.21	32.61	17.46	9.2	6
B2	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:12	9.19	8.23	32.6	17.46	9.4	7
B3	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	9.77	8.15	31.37	17.39	8.3	5
B3	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:48	9.74	8.09	31.45	17.42	8.5	4
B3	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	15:47	9.78	8.12	31.38	17.42	9.1	7
B3	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	15:47	9.72	8.15	31.36	17.46	8.9	6
B4	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:58	9.22	8.25	31.12	17.52	8.2	5
B4	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:58	9.27	8.25	31.19	17.46	8.7	7
B4	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	15:57	9.3	8.2	31.15	17.55	9.0	4
B4	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	15:57	9.25	8.23	31.26	17.49	9.1	5
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	9.89	8.19	32.63	17.4	9.4	4
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	9.87	8.17	32.58	17.4	9.7	4
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	5.2	15:34	9.92	8.2	32.64	17.42	9.8	4
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	5.2	15:34	9.85	8.17	32.6	17.41	9.7	5
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	15:33	9.84	8.17	32.58	17.42	10.3	4
C1A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	15:33	9.86	8.16	32.65	17.39	10.7	5
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	9.02	8.17	31.42	17.49	9.3	4
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	15:35	8.93	8.17	31.43	17.53	9.0	5
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	5.65	15:34	8.93	8.16	31.44	17.43	9.9	5
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	5.65	15:34	9.02	8.11	31.36	17.5	9.0	5
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	15:33	9.03	8.12	31.34	17.53	9.1	6
C2A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	15:33	8.99	8.12	31.31	17.53	9.7	6
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	17:06	9.55	8.13	31.66	17.21	7.6	4
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	17:06	9.6	8.1	31.67	17.36	7.7	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)
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	6.85	17:05	9.64	8.13	31.69	17.22	8.3	5
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	6.85	17:05	9.53	8.15	31.77	17.34	7.8	4
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	17:04	9.57	8.15	31.75	17.22	8.0	5
CR1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	17:04	9.53	8.09	31.63	17.27	8.7	6
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:53	8.46	8.09	31.89	17.41	8.9	5
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:53	8.46	8.12	31.99	17.43	9.1	6
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Middle	6.05	16:52	8.45	8.09	31.91	17.39	8.2	5
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Middle	6.05	16:52	8.47	8.12	31.88	17.39	8.3	6
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	16:51	8.43	8.13	31.97	17.4	9.2	6
CR2	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	16:51	8.55	8.09	31.96	17.45	9.2	5
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:26	9.31	8.06	32.84	17.37	8.0	4
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:26	9.34	8.09	32.79	17.42	8.3	4
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.45	16:25	9.43	8.1	32.8	17.33	8.6	4
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.45	16:25	9.43	8.09	32.75	17.41	7.6	4
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	16:24	9.36	8.06	32.81	17.37	8.3	6
F1A	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	16:24	9.31	8.1	32.84	17.43	8.4	5
H1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.35	8.27	32.95	17.36	8.7	5
H1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.39	8.29	32.99	17.4	8.6	5
H1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.05	16:38	9.29	8.23	32.87	17.38	9.5	6
H1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.05	16:38	9.38	8.23	32.88	17.46	8.9	8
H1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	16:37	9.29	8.27	32.89	17.32	9.7	7
H1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	16:37	9.34	8.29	32.92	17.46	9.6	5
M1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:50	9.25	8.29	31.89	17.46	7.4	4
M1	20220207	Cloudy	Moderate	Mid-Ebb	Surface	1	16:50	9.24	8.28	31.79	17.4	7.6	5
M1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.55	16:49	9.27	8.28	31.85	17.48	7.8	6
M1	20220207	Cloudy	Moderate	Mid-Ebb	Middle	4.55	16:49	9.23	8.28	31.76	17.44	7.8	4
M1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	8.1	16:48	9.29	8.24	31.78	17.45	8.0	4
M1	20220207	Cloudy	Moderate	Mid-Ebb	Bottom	8.1	16:48	9.33	8.26	31.76	17.43	8.4	6
B1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:40	8.31	8.21	32.35	17.29	8.3	8
B1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:40	8.43	8.16	32.44	17.39	8.3	8
B1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	4.5	11:39	8.49	8.18	32.47	17.34	8.3	7
B1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	4.5	11:39	8.34	8.19	32.48	17.34	8.7	8
B2	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	8.46	8.28	32.72	17.09	8.6	8
B2	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	8.57	8.26	32.71	17.18	8.2	6
B2	20220209	Cloudy	Moderate	Mid-Flood	Bottom	3.7	11:56	8.49	8.27	32.81	17.13	8.3	12
B2	20220209	Cloudy	Moderate	Mid-Flood	Bottom	3.7	11:56	8.63	8.28	32.76	17.01	9.2	15
B3	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	12:31	8.65	8.21	31.78	17.18	8.2	4
B3	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	12:31	8.49	8.17	31.84	17.2	7.9	4
B3	20220209	Cloudy	Moderate	Mid-Flood	Bottom	3.5	12:30	8.99	8.2	31.8	17.25	9.3	8
B3	20220209	Cloudy	Moderate	Mid-Flood	Bottom	3.5	12:30	8.77	8.17	31.87	17.22	8.9	9

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	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:21	8.81	8.23	31.58	17.32	9.3	7
B4	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:21	8.88	8.21	31.63	17.32	9.5	6
B4	20220209	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:20	9.03	8.18	31.57	17.29	10.3	5
B4	20220209	Cloudy	Moderate	Mid-Flood	Bottom	4.2	11:20	8.99	8.21	31.66	17.28	9.8	5
C1A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:14	9	8.14	32.79	17.42	9.3	4
C1A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:14	8.97	8.11	32.9	17.44	9.6	3
C1A	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.9	11:13	8.95	8.16	32.91	17.48	9.8	4
C1A	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.9	11:13	8.89	8.13	32.91	17.44	9.9	4
C1A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10.8	11:12	8.86	8.12	32.77	17.39	10.1	4
C1A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10.8	11:12	8.89	8.2	32.84	17.45	9.6	4
C2A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:19	9.34	8.23	32.08	16.99	9.7	3
C2A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:19	9.34	8.22	32.14	16.99	9.7	5
C2A	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.5	10:18	9.25	8.19	32.16	17.07	9.5	4
C2A	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.5	10:18	9.45	8.23	32.2	17.09	10.0	5
C2A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10	10:17	9.39	8.21	32.19	17.08	11.4	5
C2A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10	10:17	9.4	8.25	32.07	16.93	12.7	5
CR1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:41	8.59	8.24	31.43	17.11	8.2	8
CR1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:41	8.43	8.24	31.54	17.03	8.4	8
CR1	20220209	Cloudy	Moderate	Mid-Flood	Middle	6.55	10:40	8.42	8.21	31.5	17.06	8.8	8
CR1	20220209	Cloudy	Moderate	Mid-Flood	Middle	6.55	10:40	8.49	8.17	31.53	17.06	8.6	9
CR1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	12.1	10:39	8.58	8.18	31.51	17.11	9.6	5
CR1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	12.1	10:39	8.48	8.24	31.52	16.96	9.5	4
CR2	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:56	8.58	8.17	31.34	17.28	7.0	4
CR2	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	10:56	8.69	8.14	31.26	17.32	6.6	5
CR2	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.7	10:55	8.63	8.17	31.27	17.29	7.7	9
CR2	20220209	Cloudy	Moderate	Mid-Flood	Middle	5.7	10:55	8.61	8.13	31.25	17.22	7.0	9
CR2	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10.4	10:54	8.45	8.15	31.33	17.29	8.0	5
CR2	20220209	Cloudy	Moderate	Mid-Flood	Bottom	10.4	10:54	8.45	8.19	31.35	17.26	7.9	6
F1A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	8.97	8.16	31.86	17.04	7.5	4
F1A	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	9.01	8.18	31.96	17.07	7.3	5
F1A	20220209	Cloudy	Moderate	Mid-Flood	Middle	4.1	11:42	9.07	8.18	31.73	17.02	8.3	4
F1A	20220209	Cloudy	Moderate	Mid-Flood	Middle	4.1	11:42	8.85	8.18	31.84	17.05	7.9	4
F1A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	7.2	11:41	8.83	8.15	31.5	17.02	10.6	5
F1A	20220209	Cloudy	Moderate	Mid-Flood	Bottom	7.2	11:41	8.92	8.17	31.6	17.03	9.5	4
H1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	12:25	8.03	8.32	31.57	17.54	8.1	6
H1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	12:25	7.94	8.35	31.67	17.39	7.6	7
H1	20220209	Cloudy	Moderate	Mid-Flood	Middle	3.75	12:24	8.11	8.31	31.67	17.52	7.9	5
H1	20220209	Cloudy	Moderate	Mid-Flood	Middle	3.75	12:24	7.98	8.36	31.58	17.49	8.1	6
H1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	6.5	12:23	8	8.39	31.68	17.38	8.1	3
H1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	6.5	12:23	8.08	8.3	31.67	17.54	8.9	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)
M1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:18	8.43	8.21	31.35	17.11	8.4	7
M1	20220209	Cloudy	Moderate	Mid-Flood	Surface	1	11:18	8.5	8.16	31.46	17.16	8.2	6
M1	20220209	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:17	8.21	8.18	31.34	17.1	8.7	8
M1	20220209	Cloudy	Moderate	Mid-Flood	Middle	4.2	11:17	8.44	8.21	31.48	17.11	8.3	6
M1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:16	8.13	8.15	31.52	17.02	9.2	12
M1	20220209	Cloudy	Moderate	Mid-Flood	Bottom	7.4	11:16	8.33	8.19	31.41	17.08	8.8	15
B1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:54	8	8.3	32.7	17.26	7.7	12
B1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:54	8.12	8.28	32.68	17.37	8.2	10
B1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	16:53	8.01	8.26	32.78	17.36	8.2	6
B1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	16:53	8.07	8.28	32.83	17.32	8.2	6
B2	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:10	8.23	8.35	31.73	17.06	7.1	4
B2	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:10	8.22	8.38	31.86	17.15	7.6	4
B2	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	17:09	8.24	8.37	31.79	17.12	7.7	6
B2	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.6	17:09	8.26	8.39	31.74	17.23	8.2	6
B3	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.01	8.15	32.28	17.37	7.3	6
B3	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.04	8.12	32.35	17.48	6.6	6
B3	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:38	8.89	8.17	32.28	17.52	7.3	7
B3	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:38	9	8.1	32.3	17.51	7.8	5
B4	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:48	9.06	8.39	31.58	17.52	7.3	4
B4	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:48	9.07	8.37	31.58	17.68	7.5	6
B4	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:47	9.09	8.37	31.62	17.65	8.0	5
B4	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:47	9.09	8.42	31.67	17.61	7.7	6
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	9.24	8.37	31.68	17.42	9.0	6
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	9.22	8.31	31.63	17.46	9.6	7
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.9	16:26	9.26	8.35	31.66	17.4	9.6	4
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.9	16:26	9.33	8.36	31.59	17.52	9.4	5
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	16:25	9.31	8.31	31.65	17.4	10.2	5
C1A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	16:25	9.2	8.33	31.62	17.56	10.7	5
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	8.17	8.3	32.9	17.18	8.6	5
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	8.33	8.36	32.93	17.06	7.8	6
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	5.65	16:26	8.22	8.31	32.92	17.18	9.0	5
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	5.65	16:26	8.3	8.38	33.02	17.09	8.9	5
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	16:25	8.23	8.31	33.02	17.22	9.6	9
C2A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	16:25	8.33	8.35	32.98	17.13	9.4	9
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	18:06	8.61	8.26	32.66	17.22	7.1	6
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	18:06	8.71	8.3	32.69	17.36	6.5	5
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	6.65	18:05	8.72	8.31	32.67	17.3	7.1	5
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	6.65	18:05	8.66	8.29	32.63	17.21	7.1	4
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	12.3	18:04	8.71	8.29	32.69	17.32	7.3	6
CR1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	12.3	18:04	8.66	8.31	32.72	17.25	7.0	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	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:52	9.11	8.21	32.86	17.33	7.8	9
CR2	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:52	9.16	8.2	32.79	17.32	7.8	9
CR2	20220209	Cloudy	Moderate	Mid-Ebb	Middle	6.05	17:51	9.13	8.19	32.81	17.34	8.2	6
CR2	20220209	Cloudy	Moderate	Mid-Ebb	Middle	6.05	17:51	9.16	8.24	32.93	17.26	8.3	5
CR2	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	17:50	9.04	8.18	32.86	17.33	8.6	6
CR2	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	17:50	9.1	8.19	32.81	17.27	9.1	7
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:16	9.36	8.31	32.52	17.49	7.6	7
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:16	9.36	8.37	32.48	17.53	7.7	7
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4	17:15	9.35	8.34	32.41	17.52	8.4	5
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4	17:15	9.33	8.35	32.52	17.59	8.1	4
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	7	17:14	9.32	8.29	32.43	17.47	8.3	5
F1A	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	7	17:14	9.29	8.34	32.54	17.41	8.9	5
H1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:38	8.04	8.19	31.76	17.59	8.7	5
H1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:38	8.04	8.18	31.68	17.47	8.3	6
H1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.1	17:37	8.08	8.21	31.72	17.64	8.1	5
H1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.1	17:37	8.17	8.2	31.61	17.58	9.2	6
H1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	17:36	8.1	8.19	31.62	17.47	9.2	7
H1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	17:36	8.19	8.2	31.71	17.49	8.4	8
M1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:41	8.74	8.44	31.99	17.33	8.1	8
M1	20220209	Cloudy	Moderate	Mid-Ebb	Surface	1	17:41	8.84	8.37	32.02	17.33	7.9	9
M1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.7	17:40	8.68	8.41	31.94	17.35	8.0	10
M1	20220209	Cloudy	Moderate	Mid-Ebb	Middle	4.7	17:40	8.83	8.42	32.01	17.39	7.7	10
M1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	17:39	8.84	8.44	31.97	17.38	8.5	4
M1	20220209	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	17:39	8.8	8.38	31.94	17.25	7.8	6
B1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:23	9.39	8.31	31.6	18.1	6.5	4
B1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:23	9.28	8.36	31.5	18.1	6.4	5
B1	20220211	Sunny	Moderate	Mid-Flood	Bottom	4.3	09:22	9.34	8.29	31.7	18.23	7.5	6
B1	20220211	Sunny	Moderate	Mid-Flood	Bottom	4.3	09:22	9.39	8.34	31.47	18.17	7.3	6
B2	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:40	10.66	8.35	30.93	18.39	7.0	4
B2	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:40	10.63	8.36	30.99	18.42	7.2	5
B2	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.8	09:39	10.76	8.38	31.07	18.44	7.0	6
B2	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.8	09:39	10.83	8.33	30.97	18.38	7.2	5
B3	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:40	10.16	8.19	30.68	18.65	7.7	5
B3	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:40	10.11	8.22	30.58	18.63	7.3	6
B3	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.3	10:39	10.06	8.18	30.46	18.66	8.3	10
B3	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.3	10:39	10.24	8.24	30.55	18.7	8.3	12
B4	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:29	9.63	8.2	30.59	18.55	6.7	6
B4	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:29	9.49	8.26	30.56	18.49	6.4	5
B4	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.5	10:28	8.99	8.28	30.68	18.56	7.8	8
B4	20220211	Sunny	Moderate	Mid-Flood	Bottom	3.5	10:28	9.01	8.26	30.54	18.61	7.3	10

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	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:57	10.41	8.2	31.66	18.3	9.8	4
C1A	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:57	10.49	8.16	31.71	18.34	9.5	4
C1A	20220211	Sunny	Moderate	Mid-Flood	Middle	5.25	08:56	10.49	8.16	31.85	18.24	10.2	11
C1A	20220211	Sunny	Moderate	Mid-Flood	Middle	5.25	08:56	10.46	8.15	31.81	18.34	10.0	9
C1A	20220211	Sunny	Moderate	Mid-Flood	Bottom	9.5	08:55	10.42	8.13	31.68	18.38	9.9	7
C1A	20220211	Sunny	Moderate	Mid-Flood	Bottom	9.5	08:55	10.44	8.16	31.69	18.25	10.3	5
C2A	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.61	8.32	30.61	18.09	9.9	4
C2A	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:02	9.69	8.28	30.62	18.04	10.4	4
C2A	20220211	Sunny	Moderate	Mid-Flood	Middle	5.85	08:01	9.59	8.28	30.47	18.1	11.8	5
C2A	20220211	Sunny	Moderate	Mid-Flood	Middle	5.85	08:01	9.8	8.28	30.41	18.19	10.9	8
C2A	20220211	Sunny	Moderate	Mid-Flood	Bottom	10.7	08:00	9.55	8.33	30.44	18.12	13.4	4
C2A	20220211	Sunny	Moderate	Mid-Flood	Bottom	10.7	08:00	9.61	8.3	30.62	18.05	12.3	5
CR1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:25	9.54	8.26	31.74	18.18	6.3	7
CR1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:25	9.44	8.19	31.91	18.02	6.2	8
CR1	20220211	Sunny	Moderate	Mid-Flood	Middle	6.5	08:24	9.5	8.24	31.95	18.1	6.9	5
CR1	20220211	Sunny	Moderate	Mid-Flood	Middle	6.5	08:24	9.38	8.18	31.77	18.06	6.3	5
CR1	20220211	Sunny	Moderate	Mid-Flood	Bottom	12	08:23	9.44	8.26	31.81	18.18	7.3	4
CR1	20220211	Sunny	Moderate	Mid-Flood	Bottom	12	08:23	9.5	8.2	31.83	18.03	6.7	7
CR2	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:39	9.81	8.13	31.17	18.09	7.3	6
CR2	20220211	Sunny	Moderate	Mid-Flood	Surface	1	08:39	9.77	8.18	31.28	17.93	6.7	5
CR2	20220211	Sunny	Moderate	Mid-Flood	Middle	5.8	08:38	9.74	8.18	31.24	17.93	7.3	6
CR2	20220211	Sunny	Moderate	Mid-Flood	Middle	5.8	08:38	9.84	8.18	31.39	18.11	7.4	8
CR2	20220211	Sunny	Moderate	Mid-Flood	Bottom	10.6	08:37	9.96	8.18	31.31	18.06	8.1	8
CR2	20220211	Sunny	Moderate	Mid-Flood	Bottom	10.6	08:37	9.82	8.16	31.33	17.96	7.9	9
F1A	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:50	10.15	8.14	30.9	18.23	6.3	10
F1A	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:50	10.18	8.13	30.96	18.28	6.7	9
F1A	20220211	Sunny	Moderate	Mid-Flood	Middle	4.4	09:49	10.15	8.19	30.76	18.22	8.6	6
F1A	20220211	Sunny	Moderate	Mid-Flood	Middle	4.4	09:49	10.2	8.18	31.01	18.3	7.7	4
F1A	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.8	09:48	10.4	8.22	30.99	18.29	9.3	6
F1A	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.8	09:48	10.31	8.18	30.84	18.3	9.4	5
H1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:08	9.48	8.33	30.79	18.26	5.9	5
H1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	10:08	9.43	8.32	30.64	18.13	6.4	5
H1	20220211	Sunny	Moderate	Mid-Flood	Middle	4.05	10:07	9.49	8.26	30.76	18.22	5.8	6
H1	20220211	Sunny	Moderate	Mid-Flood	Middle	4.05	10:07	9.65	8.32	30.61	18.18	6.3	8
H1	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.1	10:06	9.6	8.3	30.64	18.24	6.1	10
H1	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.1	10:06	9.46	8.25	30.69	18.2	6.6	9
M1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:25	9.76	8.19	30.85	18.12	7.1	6
M1	20220211	Sunny	Moderate	Mid-Flood	Surface	1	09:25	9.99	8.22	30.92	18.17	6.9	8
M1	20220211	Sunny	Moderate	Mid-Flood	Middle	4.25	09:24	9.88	8.13	31.01	18.15	6.9	17
M1	20220211	Sunny	Moderate	Mid-Flood	Middle	4.25	09:24	9.78	8.13	30.79	18.2	7.3	15

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	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.5	09:23	10.56	8.15	30.6	18.17	8.3	13
M1	20220211	Sunny	Moderate	Mid-Flood	Bottom	7.5	09:23	9.68	8.18	30.8	18.11	8.1	16
B1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:28	9.43	8.31	31.34	18.1	5.3	15
B1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:28	9.47	8.34	31.18	18.11	5.4	12
B1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	4.1	18:27	9.4	8.4	31.33	17.97	6.7	5
B1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	4.1	18:27	9.39	8.38	31.22	17.97	6.8	6
B2	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:41	10.66	8.25	31.4	18.28	6.4	4
B2	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:41	10.61	8.25	31.42	18.36	6.2	6
B2	20220211	Sunny	Moderate	Mid-Ebb	Bottom	4.1	18:40	10.48	8.28	31.5	18.17	6.8	6
B2	20220211	Sunny	Moderate	Mid-Ebb	Bottom	4.1	18:40	10.66	8.26	31.38	18.35	7.1	7
B3	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:55	10.39	8.29	32.01	18.04	7.2	6
B3	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:55	10.29	8.29	31.85	18.11	7.3	7
B3	20220211	Sunny	Moderate	Mid-Ebb	Bottom	3.8	19:54	10.29	8.3	31.84	18.01	7.5	7
B3	20220211	Sunny	Moderate	Mid-Ebb	Bottom	3.8	19:54	10.28	8.3	31.88	17.97	7.3	6
B4	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	20:03	10.33	8.34	30.89	18.15	8.0	9
B4	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	20:03	10.23	8.36	31	18.26	8.4	11
B4	20220211	Sunny	Moderate	Mid-Ebb	Bottom	3.3	20:02	10.24	8.36	31.03	18.28	8.2	6
B4	20220211	Sunny	Moderate	Mid-Ebb	Bottom	3.3	20:02	10.4	8.34	30.97	18.19	8.2	8
C1A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:05	10.5	8.27	31.3	18.07	8.4	6
C1A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:05	10.51	8.27	31.42	18.18	8.2	6
C1A	20220211	Sunny	Moderate	Mid-Ebb	Middle	5	18:04	10.59	8.21	31.4	18.08	8.9	5
C1A	20220211	Sunny	Moderate	Mid-Ebb	Middle	5	18:04	10.47	8.21	31.39	18.05	9.0	7
C1A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	9	18:03	10.43	8.24	31.22	18.1	9.3	5
C1A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	9	18:03	10.59	8.29	31.2	18.07	9.5	5
C2A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	20:18	10.53	8.33	31.95	18.42	7.3	5
C2A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	20:18	10.38	8.27	32.06	18.41	7.8	6
C2A	20220211	Sunny	Moderate	Mid-Ebb	Middle	5.65	20:17	10.43	8.26	32.09	18.3	7.7	5
C2A	20220211	Sunny	Moderate	Mid-Ebb	Middle	5.65	20:17	10.41	8.29	32.15	18.48	7.4	4
C2A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	10.3	20:16	10.38	8.25	31.96	18.35	7.7	5
C2A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	10.3	20:16	10.6	8.34	31.92	18.4	8.8	6
CR1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:34	9.93	8.36	31.6	17.92	7.6	12
CR1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:34	9.95	8.39	31.54	18.02	7.6	9
CR1	20220211	Sunny	Moderate	Mid-Ebb	Middle	6.25	19:33	10.02	8.34	31.44	18.02	7.5	4
CR1	20220211	Sunny	Moderate	Mid-Ebb	Middle	6.25	19:33	9.97	8.41	31.37	17.96	8.2	5
CR1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	11.5	19:32	9.96	8.42	31.49	17.96	8.1	11
CR1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	11.5	19:32	9.93	8.43	31.38	17.94	8.0	8
CR2	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:20	9.36	8.3	31.79	18.21	8.6	14
CR2	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:20	9.34	8.25	31.94	18.13	8.5	10
CR2	20220211	Sunny	Moderate	Mid-Ebb	Middle	5.45	19:19	9.34	8.31	31.83	18.02	8.8	13
CR2	20220211	Sunny	Moderate	Mid-Ebb	Middle	5.45	19:19	9.51	8.33	31.93	18.16	8.0	14

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	20220211	Sunny	Moderate	Mid-Ebb	Bottom	9.9	19:18	9.49	8.3	31.85	18.06	8.3	6
CR2	20220211	Sunny	Moderate	Mid-Ebb	Bottom	9.9	19:18	9.41	8.31	31.88	18.13	8.4	7
F1A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:05	9.7	8.19	30.85	18.29	8.3	7
F1A	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:05	9.53	8.17	30.76	18.26	7.8	5
F1A	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.6	18:04	9.61	8.2	30.72	18.25	8.4	6
F1A	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.6	18:04	9.59	8.14	30.85	18.33	8.1	6
F1A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	8.2	18:03	9.59	8.23	30.79	18.27	8.9	7
F1A	20220211	Sunny	Moderate	Mid-Ebb	Bottom	8.2	18:03	9.72	8.2	30.9	18.37	8.2	5
H1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:06	10.44	8.26	30.68	18.22	7.6	6
H1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	19:06	10.36	8.3	30.66	18.31	7.6	7
H1	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.45	19:05	10.38	8.25	30.59	18.21	8.0	4
H1	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.45	19:05	10.45	8.27	30.42	18.29	8.4	6
H1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	7.9	19:04	10.42	8.24	30.65	18.31	7.7	6
H1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	7.9	19:04	10.38	8.26	30.55	18.18	7.9	7
M1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:30	10.47	8.23	31.31	18.27	6.7	11
M1	20220211	Sunny	Moderate	Mid-Ebb	Surface	1	18:30	10.43	8.29	31.17	18.29	7.2	9
M1	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.7	18:29	10.51	8.21	31.14	18.24	7.0	14
M1	20220211	Sunny	Moderate	Mid-Ebb	Middle	4.7	18:29	10.44	8.23	31.28	18.39	7.0	13
M1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	8.4	18:28	10.32	8.25	31.35	18.38	7.4	7
M1	20220211	Sunny	Moderate	Mid-Ebb	Bottom	8.4	18:28	10.33	8.29	31.29	18.22	7.7	6
B1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:35	9.84	8.34	30.64	18.93	4.9	4
B1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:35	9.89	8.39	30.75	18.85	5.3	5
B1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.8	10:34	9.87	8.34	30.67	18.77	6.1	4
B1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.8	10:34	9.8	8.39	30.59	18.81	5.6	5
B2	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:53	9.89	8.35	32.17	18.96	6.5	4
B2	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:53	9.94	8.3	32.03	19.02	6.1	5
B2	20220214	Sunny	Moderate	Mid-Ebb	Bottom	4.7	10:52	9.96	8.37	32.16	18.98	6.5	6
B2	20220214	Sunny	Moderate	Mid-Ebb	Bottom	4.7	10:52	9.92	8.3	32.22	18.96	6.1	5
B3	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:42	9.53	8.31	30.92	19.08	5.2	5
B3	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:42	9.64	8.29	30.91	19.06	4.9	5
B3	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:41	9.48	8.34	30.83	18.96	4.4	4
B3	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:41	9.44	8.28	30.8	19.04	4.6	5
B4	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:52	10.28	8.27	30.77	19.05	6.0	4
B4	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:52	10.26	8.3	30.68	18.97	5.6	4
B4	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.3	12:51	10.42	8.27	30.69	18.95	6.6	5
B4	20220214	Sunny	Moderate	Mid-Ebb	Bottom	3.3	12:51	10.38	8.26	30.71	19.01	6.4	5
C1A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:11	10.26	8.31	31.35	18.64	8.4	3
C1A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	10:11	10.32	8.35	31.44	18.69	8.3	3
C1A	20220214	Sunny	Moderate	Mid-Ebb	Middle	5.25	10:10	10.24	8.37	31.37	18.75	9.0	5
C1A	20220214	Sunny	Moderate	Mid-Ebb	Middle	5.25	10:10	10.26	8.39	31.35	18.71	9.5	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	20220214	Sunny	Moderate	Mid-Ebb	Bottom	9.5	10:09	10.21	8.38	31.43	18.76	9.7	3
C1A	20220214	Sunny	Moderate	Mid-Ebb	Bottom	9.5	10:09	10.35	8.38	31.32	18.66	9.3	5
C2A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:05	9.33	8.38	31.3	18.81	7.6	2.5
C2A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:05	9.33	8.34	31.21	18.92	7.2	2.5
C2A	20220214	Sunny	Moderate	Mid-Ebb	Middle	6.2	12:04	9.39	8.42	31.37	18.86	8.4	5
C2A	20220214	Sunny	Moderate	Mid-Ebb	Middle	6.2	12:04	9.24	8.4	31.29	18.96	8.1	4
C2A	20220214	Sunny	Moderate	Mid-Ebb	Bottom	11.4	12:03	9.27	8.36	31.33	19	8.7	4
C2A	20220214	Sunny	Moderate	Mid-Ebb	Bottom	11.4	12:03	9.31	8.37	31.21	18.91	8.7	4
CR1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:46	9.61	8.39	31.1	18.62	6.3	4
CR1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:46	9.62	8.39	31.1	18.7	5.8	4
CR1	20220214	Sunny	Moderate	Mid-Ebb	Middle	6.5	11:45	9.49	8.37	30.95	18.67	5.7	5
CR1	20220214	Sunny	Moderate	Mid-Ebb	Middle	6.5	11:45	9.47	8.4	31.08	18.6	6.5	5
CR1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	12	11:44	9.51	8.39	30.95	18.72	6.6	4
CR1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	12	11:44	9.51	8.37	30.97	18.6	6.7	3
CR2	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:33	9.5	8.22	30.76	18.63	7.9	4
CR2	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:33	9.49	8.2	30.6	18.57	8.1	5
CR2	20220214	Sunny	Moderate	Mid-Ebb	Middle	5.5	11:32	9.51	8.25	30.62	18.58	7.4	4
CR2	20220214	Sunny	Moderate	Mid-Ebb	Middle	5.5	11:32	9.44	8.24	30.59	18.6	8.2	5
CR2	20220214	Sunny	Moderate	Mid-Ebb	Bottom	10	11:31	9.51	8.28	30.69	18.77	8.3	5
CR2	20220214	Sunny	Moderate	Mid-Ebb	Bottom	10	11:31	9.61	8.23	30.6	18.55	8.5	5
F1A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:06	9.99	8.16	30.96	18.87	6.9	8
F1A	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	12:06	10.14	8.21	30.75	18.79	6.9	6
F1A	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.45	12:05	9.83	8.2	30.91	18.85	7.3	4
F1A	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.45	12:05	9.88	8.2	30.9	18.92	7.3	4
F1A	20220214	Sunny	Moderate	Mid-Ebb	Bottom	7.9	12:04	9.88	8.21	30.84	18.88	7.7	3
F1A	20220214	Sunny	Moderate	Mid-Ebb	Bottom	7.9	12:04	9.79	8.23	30.95	18.75	7.5	5
H1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	9.38	8.28	31.41	18.79	4.3	5
H1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	9.53	8.3	31.37	18.65	5.0	4
H1	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:18	9.56	8.29	31.41	18.72	4.7	5
H1	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:18	9.42	8.27	31.54	18.77	4.2	5
H1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:17	9.48	8.29	31.37	18.8	4.8	3
H1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:17	9.45	8.28	31.41	18.71	5.1	3
M1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:40	9.53	8.15	31	18.88	7.4	5
M1	20220214	Sunny	Moderate	Mid-Ebb	Surface	1	11:40	9.57	8.22	30.89	18.84	7.3	3
M1	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.7	11:39	9.32	8.18	30.94	18.97	7.1	6
M1	20220214	Sunny	Moderate	Mid-Ebb	Middle	4.7	11:39	9.44	8.16	30.82	18.94	7.8	6
M1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	8.4	11:38	9.3	8.19	30.78	18.97	8.2	4
M1	20220214	Sunny	Moderate	Mid-Ebb	Bottom	8.4	11:38	9.48	8.17	30.93	18.83	7.4	6
B1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:09	9.42	8.35	31.33	18.94	6.8	4
B1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:09	9.59	8.38	31.3	18.92	7.7	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)
B1	20220214	Sunny	Moderate	Mid-Flood	Bottom	4.3	15:08	9.36	8.38	31.21	18.94	7.4	11
B1	20220214	Sunny	Moderate	Mid-Flood	Bottom	4.3	15:08	9.44	8.3	31.25	18.85	7.4	11
B2	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:24	9.49	8.26	32.32	19.1	8.3	5
B2	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:24	9.68	8.2	32.34	19.16	8.2	5
B2	20220214	Sunny	Moderate	Mid-Flood	Bottom	3.5	15:23	9.45	8.28	32.22	19.12	8.4	6
B2	20220214	Sunny	Moderate	Mid-Flood	Bottom	3.5	15:23	9.51	8.22	32.28	19.09	8.7	6
B3	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:59	9.38	8.21	32.27	18.99	9.5	5
B3	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:59	9.39	8.15	32.28	18.84	9.3	5
B3	20220214	Sunny	Moderate	Mid-Flood	Bottom	3.7	14:58	9.41	8.2	32.41	18.91	9.7	4
B3	20220214	Sunny	Moderate	Mid-Flood	Bottom	3.7	14:58	9.32	8.15	32.31	18.85	10.1	5
B4	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:08	9.72	8.36	32.54	19.13	8.0	5
B4	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:08	9.78	8.3	32.52	19.25	7.7	5
B4	20220214	Sunny	Moderate	Mid-Flood	Bottom	4.5	15:07	9.78	8.36	32.39	19.13	8.5	3
B4	20220214	Sunny	Moderate	Mid-Flood	Bottom	4.5	15:07	9.47	8.35	32.36	19.23	7.7	4
C1A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:47	8.99	8.38	32.67	19.1	9.8	6
C1A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:47	8.78	8.38	32.69	19.19	9.4	6
C1A	20220214	Sunny	Moderate	Mid-Flood	Middle	4.95	14:46	9.01	8.34	32.62	19.2	11.6	7
C1A	20220214	Sunny	Moderate	Mid-Flood	Middle	4.95	14:46	8.69	8.3	32.71	19.04	11.2	5
C1A	20220214	Sunny	Moderate	Mid-Flood	Bottom	8.9	14:45	8.87	8.34	32.61	19.16	9.9	8
C1A	20220214	Sunny	Moderate	Mid-Flood	Bottom	8.9	14:45	8.82	8.39	32.57	19.18	10.5	5
C2A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:47	8.83	8.12	31.16	19.19	10.5	5
C2A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	14:47	9.06	8.14	31.27	19.15	10.7	4
C2A	20220214	Sunny	Moderate	Mid-Flood	Middle	5.75	14:46	9.03	8.09	31.18	19.12	12.1	12
C2A	20220214	Sunny	Moderate	Mid-Flood	Middle	5.75	14:46	9.09	8.14	31.16	19.08	11.1	12
C2A	20220214	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:45	8.88	8.12	31.11	19.13	12.8	9
C2A	20220214	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:45	8.95	8.13	31.15	19.1	13.5	5
CR1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:19	9.9	8.32	32.68	19.19	10.0	5
CR1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:19	9.82	8.32	32.54	19.21	9.3	6
CR1	20220214	Sunny	Moderate	Mid-Flood	Middle	6.1	16:18	10.05	8.34	32.55	19.27	9.3	5
CR1	20220214	Sunny	Moderate	Mid-Flood	Middle	6.1	16:18	10.17	8.33	32.65	19.13	9.4	6
CR1	20220214	Sunny	Moderate	Mid-Flood	Bottom	11.2	16:17	10.06	8.34	32.71	19.15	9.6	5
CR1	20220214	Sunny	Moderate	Mid-Flood	Bottom	11.2	16:17	10.11	8.35	32.61	19.23	9.5	5
CR2	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:05	9.4	8.36	32.68	19.26	7.6	5
CR2	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:05	9.19	8.36	32.64	19.28	7.8	4
CR2	20220214	Sunny	Moderate	Mid-Flood	Middle	5.4	16:04	9.39	8.33	32.63	19.11	7.7	4
CR2	20220214	Sunny	Moderate	Mid-Flood	Middle	5.4	16:04	9.25	8.34	32.77	19.28	7.7	6
CR2	20220214	Sunny	Moderate	Mid-Flood	Bottom	9.8	16:03	9.14	8.32	32.79	19.18	7.7	10
CR2	20220214	Sunny	Moderate	Mid-Flood	Bottom	9.8	16:03	9.31	8.36	32.7	19.16	7.9	10
F1A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.75	8.29	32.41	19.11	9.6	6
F1A	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.95	8.28	32.54	19.14	9.4	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)
F1A	20220214	Sunny	Moderate	Mid-Flood	Middle	4.05	15:32	9.82	8.31	32.41	19.17	9.1	7
F1A	20220214	Sunny	Moderate	Mid-Flood	Middle	4.05	15:32	9.89	8.24	32.47	19.08	9.0	6
F1A	20220214	Sunny	Moderate	Mid-Flood	Bottom	7.1	15:31	9.84	8.28	32.46	19.18	10.3	7
F1A	20220214	Sunny	Moderate	Mid-Flood	Bottom	7.1	15:31	9.92	8.27	32.53	19.16	9.6	7
H1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:52	9.54	8.19	31.54	19.24	6.9	4
H1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	15:52	9.34	8.15	31.65	19.21	7.0	5
H1	20220214	Sunny	Moderate	Mid-Flood	Middle	3.75	15:51	9.51	8.2	31.61	19.24	7.9	6
H1	20220214	Sunny	Moderate	Mid-Flood	Middle	3.75	15:51	9.4	8.2	31.58	19.29	7.0	6
H1	20220214	Sunny	Moderate	Mid-Flood	Bottom	6.5	15:50	9.3	8.21	31.6	19.14	8.1	4
H1	20220214	Sunny	Moderate	Mid-Flood	Bottom	6.5	15:50	9.32	8.15	31.54	19.21	8.0	4
M1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:00	10.17	8.07	31.87	19.03	8.7	8
M1	20220214	Sunny	Moderate	Mid-Flood	Surface	1	16:00	10.02	8.16	31.86	18.99	8.2	8
M1	20220214	Sunny	Moderate	Mid-Flood	Middle	4.35	15:59	9.88	8.12	31.87	19.11	8.1	6
M1	20220214	Sunny	Moderate	Mid-Flood	Middle	4.35	15:59	10.14	8.08	31.77	19.11	8.9	7
M1	20220214	Sunny	Moderate	Mid-Flood	Bottom	7.7	15:58	9.86	8.07	31.81	19.12	8.3	6
M1	20220214	Sunny	Moderate	Mid-Flood	Bottom	7.7	15:58	9.95	8.15	31.83	19.06	8.4	6
B1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:33	10.03	8.23	30.54	19.23	7.2	14
B1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:33	9.87	8.23	30.79	19.23	7.3	15
B1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	11:32	9.86	8.21	30.47	19.22	7.1	10
B1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	11:32	9.86	8.24	31.3	19.14	7.7	10
B2	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:48	10.4	8.24	32.91	19.14	6.4	16
B2	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:48	10.3	8.22	32.18	19.19	7.1	16
B2	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	11:47	10.31	8.24	32.62	19.1	7.4	11
B2	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	4.1	11:47	10.42	8.19	32.12	19.2	7.0	11
B3	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:39	9.44	8.22	30.9	18.95	4.7	10
B3	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:39	9.53	8.27	30.85	18.9	4.9	10
B3	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	12:38	9.21	8.27	30.74	19.09	5.3	15
B3	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	12:38	9.34	8.29	30.86	18.99	5.2	15
B4	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:30	9.99	8.24	31.3	19.03	5.3	10
B4	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:30	9.88	8.3	31.12	19.05	5.1	11
B4	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	12:29	10.76	8.27	30.79	18.87	5.9	12
B4	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	12:29	10.39	8.29	31.05	18.96	5.7	12
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:10	9.59	8.21	32.01	19.25	9.1	16
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:10	9.64	8.21	32.38	19.23	9.0	16
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Middle	5.05	11:09	9.68	8.19	31.88	19.21	9.7	7
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Middle	5.05	11:09	9.77	8.23	31.93	19.29	9.4	6
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	9.1	11:08	9.64	8.25	32.54	19.29	9.5	14
C1A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	9.1	11:08	9.71	8.19	32.59	19.26	10.4	14
C2A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	13:01	10.68	8.3	30.95	18.99	7.7	10
C2A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	13:01	10.74	8.26	30.74	19.07	7.5	10

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	20220216	Cloudy	Moderate	Mid-Ebb	Middle	5.65	13:00	10.67	8.27	31.16	18.98	8.6	25
C2A	20220216	Cloudy	Moderate	Mid-Ebb	Middle	5.65	13:00	10.71	8.27	30.71	19.05	8.6	25
C2A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	12:59	10.7	8.29	30.7	19	8.3	28
C2A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	10.3	12:59	10.79	8.29	31.65	19.07	8.0	27
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:41	10.28	8.36	32.27	19.29	5.2	24
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:41	10.19	8.35	31.86	19.32	5.6	25
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	6.85	12:40	10.32	8.35	31.72	19.31	5.5	16
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	6.85	12:40	10.34	8.32	31.56	19.36	4.8	16
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	12:39	10.17	8.31	31.89	19.33	5.8	17
CR1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	12:39	10.18	8.32	32.44	19.31	6.0	17
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:28	10.18	8.33	31.7	19.28	7.0	12
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:28	10.16	8.38	31.26	19.27	6.0	12
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Middle	6	12:27	10.19	8.32	31.18	19.2	7.2	13
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Middle	6	12:27	10.21	8.34	30.94	19.22	6.6	13
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	11	12:26	10.09	8.32	31.73	19.22	6.9	16
CR2	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	11	12:26	10.1	8.31	31.23	19.19	7.1	17
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:54	9.32	8.36	30.93	19.05	6.7	25
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:54	9.36	8.38	30.8	19.09	6.3	26
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Middle	4.25	11:53	10.05	8.33	30.89	18.99	7.7	29
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Middle	4.25	11:53	9.84	8.34	31.12	19.07	7.7	29
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	11:52	9.9	8.19	30.74	19.15	8.3	24
F1A	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	11:52	10.06	8.22	30.87	19.11	8.7	23
H1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:15	10.69	8.31	31.42	19.12	5.6	15
H1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	12:15	10.83	8.24	31.24	19.11	5.5	17
H1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	3.95	12:14	10.77	8.24	30.92	19.16	5.5	16
H1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	3.95	12:14	10.73	8.24	31.63	19.1	5.5	17
H1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	12:13	10.76	8.24	30.7	19.06	6.1	11
H1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	12:13	10.82	8.25	31.23	19.1	5.8	11
M1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:29	9.5	8.33	31.2	19.21	6.2	20
M1	20220216	Cloudy	Moderate	Mid-Ebb	Surface	1	11:29	9.46	8.3	31.08	19.22	5.6	20
M1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	4.95	11:28	9.39	8.26	31.03	19.2	6.9	18
M1	20220216	Cloudy	Moderate	Mid-Ebb	Middle	4.95	11:28	9.49	8.28	30.64	19.15	6.8	16
M1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	8.9	11:27	9.51	8.22	30.8	19.17	7.2	18
M1	20220216	Cloudy	Moderate	Mid-Ebb	Bottom	8.9	11:27	9.46	8.31	31.1	19.15	7.8	17
B1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:44	10.12	8.37	31.54	19.37	7.5	7
B1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:44	10.1	8.39	31.36	19.42	7.2	5
B1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	4.2	15:43	10.08	8.33	31.57	19.37	7.4	10
B1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	4.2	15:43	9.95	8.34	31.41	19.39	7.5	10
B2	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	9.55	8.18	32.08	19.48	5.6	11
B2	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:01	9.54	8.21	32.28	19.42	5.4	11

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	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.5	16:00	9.59	8.18	32.15	19.43	5.6	12
B2	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.5	16:00	9.61	8.17	32.07	19.43	5.2	12
B3	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:33	9.52	8.36	32.14	19.2	5.1	16
B3	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:33	9.45	8.36	32.19	19.27	4.6	16
B3	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:32	9.46	8.37	31.97	19.26	5.0	12
B3	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:32	9.44	8.31	32.11	19.22	4.7	12
B4	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:42	10.03	8.35	30.92	19.39	5.4	9
B4	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:42	9.98	8.33	31.06	19.3	6.3	9
B4	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.6	15:41	9.97	8.33	30.85	19.27	5.7	12
B4	20220216	Cloudy	Moderate	Mid-Flood	Bottom	3.6	15:41	9.98	8.32	31.06	19.38	6.8	12
C1A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:20	10.28	8.34	31	19.52	7.2	24
C1A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:20	10.15	8.39	30.85	19.43	7.5	24
C1A	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.95	15:19	10.19	8.37	30.75	19.5	7.5	23
C1A	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.95	15:19	10.31	8.35	31	19.41	7.5	21
C1A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.9	15:18	10.26	8.34	30.82	19.52	8.0	15
C1A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.9	15:18	10.16	8.36	30.75	19.54	8.4	15
C2A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:20	9.58	8.29	31.72	19.45	8.0	25
C2A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	15:20	9.59	8.29	31.74	19.47	7.9	23
C2A	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.7	15:19	9.4	8.31	31.99	19.45	8.5	13
C2A	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.7	15:19	9.41	8.26	31.97	19.5	8.3	13
C2A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.4	15:18	9.57	8.29	31.74	19.56	9.2	12
C2A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.4	15:18	9.6	8.27	31.77	19.56	9.0	15
CR1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:56	10.13	8.26	31.77	19.44	4.6	7
CR1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:56	10.07	8.22	31.69	19.35	4.3	6
CR1	20220216	Cloudy	Moderate	Mid-Flood	Middle	6.3	16:55	10.21	8.22	31.92	19.36	5.0	12
CR1	20220216	Cloudy	Moderate	Mid-Flood	Middle	6.3	16:55	10.17	8.21	31.79	19.45	4.6	12
CR1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	11.6	16:54	10.22	8.26	31.73	19.37	4.9	5
CR1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	11.6	16:54	10.14	8.23	31.73	19.34	4.9	4
CR2	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:40	10.18	8.35	30.76	19.41	4.5	10
CR2	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:40	10.18	8.31	30.86	19.31	4.6	10
CR2	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.6	16:39	10.21	8.36	30.91	19.41	4.8	6
CR2	20220216	Cloudy	Moderate	Mid-Flood	Middle	5.6	16:39	10.3	8.32	30.97	19.34	4.6	4
CR2	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.2	16:38	10.16	8.34	30.81	19.3	4.9	5
CR2	20220216	Cloudy	Moderate	Mid-Flood	Bottom	10.2	16:38	10.28	8.35	30.76	19.28	5.3	7
F1A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	9.59	8.25	32.11	19.09	4.4	13
F1A	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:12	9.53	8.27	32.04	19.02	4.3	17
F1A	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.2	16:11	9.63	8.23	32.02	19.01	4.3	17
F1A	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.2	16:11	9.46	8.23	32.19	19.05	4.9	17
F1A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.4	16:10	9.55	8.26	32.25	19.09	4.4	14
F1A	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.4	16:10	9.5	8.27	32.03	19.04	4.7	14

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	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:28	9.86	8.12	30.75	19.33	5.0	12
H1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:28	9.99	8.13	30.92	19.29	4.6	12
H1	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.05	16:27	9.96	8.12	30.72	19.24	4.5	7
H1	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.05	16:27	10.02	8.12	30.74	19.29	4.8	8
H1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.1	16:26	9.9	8.11	30.91	19.32	5.1	25
H1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.1	16:26	9.91	8.16	30.79	19.28	5.3	26
M1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:38	9.91	8.37	31.87	19.26	4.7	12
M1	20220216	Cloudy	Moderate	Mid-Flood	Surface	1	16:38	9.86	8.34	31.74	19.3	4.5	12
M1	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:37	9.89	8.38	31.71	19.26	4.7	11
M1	20220216	Cloudy	Moderate	Mid-Flood	Middle	4.3	16:37	9.84	8.34	31.71	19.24	4.9	11
M1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:36	9.96	8.33	31.77	19.28	5.1	11
M1	20220216	Cloudy	Moderate	Mid-Flood	Bottom	7.6	16:36	9.78	8.37	31.74	19.25	4.9	11
B1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:21	9.48	8.09	30.62	18.82	8.1	4
B1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:21	9.38	8.15	30.62	18.85	8.3	6
B1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	3.6	09:20	9.31	8.16	30.47	18.77	8.4	5
B1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	3.6	09:20	9.55	8.13	30.52	18.83	8.3	6
B2	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:37	10.37	8.23	30.2	18.57	7.6	6
B2	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:37	10.54	8.24	30.17	18.56	6.9	7
B2	20220218	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:36	10.55	8.21	30.28	18.58	8.1	7
B2	20220218	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:36	10.59	8.19	30.17	18.53	8.2	5
B3	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	10:05	9.45	8.22	31.18	18.61	6.1	5
B3	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	10:05	9.66	8.24	31.19	18.58	6.3	6
B3	20220218	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:04	9.33	8.28	30.92	18.7	7.6	6
B3	20220218	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:04	9.39	8.25	31.03	18.66	7.4	5
B4	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:55	9.56	8.2	30.53	18.69	7.8	6
B4	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:55	9.35	8.18	30.51	18.54	7.4	7
B4	20220218	Cloudy	Moderate	Mid-Flood	Bottom	4.4	09:54	9.75	8.22	30.75	18.46	8.7	11
B4	20220218	Cloudy	Moderate	Mid-Flood	Bottom	4.4	09:54	9.69	8.17	30.62	18.52	8.3	11
C1A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:55	10.54	8.18	30.42	18.65	6.7	16
C1A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:55	10.47	8.19	30.38	18.63	6.6	20
C1A	20220218	Cloudy	Moderate	Mid-Flood	Middle	6	08:54	10.36	8.08	30.52	18.6	7.2	18
C1A	20220218	Cloudy	Moderate	Mid-Flood	Middle	6	08:54	10.6	8.08	30.42	18.59	7.0	18
C1A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	11	08:53	10.48	8.14	30.49	18.65	7.4	14
C1A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	11	08:53	10.38	8.07	30.37	18.58	7.6	17
C2A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	10.25	8.17	30.59	18.7	8.6	6
C2A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	10.26	8.23	30.65	18.67	8.3	8
C2A	20220218	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:01	10.25	8.17	30.64	18.66	8.7	7
C2A	20220218	Cloudy	Moderate	Mid-Flood	Middle	5.7	08:01	10.34	8.18	30.63	18.66	8.4	6
C2A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:00	10.31	8.14	30.68	18.65	9.2	6
C2A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	10.4	08:00	10.16	8.2	30.56	18.7	9.2	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)
CR1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:22	10.14	8.25	31.27	18.75	5.8	6
CR1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:22	10.21	8.34	31.35	18.74	5.7	7
CR1	20220218	Cloudy	Moderate	Mid-Flood	Middle	6	08:21	10.05	8.27	31.33	18.76	5.4	7
CR1	20220218	Cloudy	Moderate	Mid-Flood	Middle	6	08:21	10.08	8.31	31.34	18.69	6.3	8
CR1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	11	08:20	10.09	8.26	31.31	18.7	6.0	8
CR1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	11	08:20	10.14	8.31	31.35	18.71	6.1	8
CR2	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	9.23	8.32	30.94	18.63	7.7	6
CR2	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	9.06	8.41	30.87	18.65	8.2	8
CR2	20220218	Cloudy	Moderate	Mid-Flood	Middle	5.85	08:35	9.18	8.31	30.85	18.67	7.6	11
CR2	20220218	Cloudy	Moderate	Mid-Flood	Middle	5.85	08:35	9.07	8.37	30.84	18.73	7.8	14
CR2	20220218	Cloudy	Moderate	Mid-Flood	Bottom	10.7	08:34	9.17	8.37	30.17	18.68	7.8	14
CR2	20220218	Cloudy	Moderate	Mid-Flood	Bottom	10.7	08:34	9.15	8.34	30.94	18.63	8.5	18
F1A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:17	9.36	8.14	30.57	18.55	6.8	7
F1A	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	09:17	9.4	8.16	30.71	18.54	6.9	5
F1A	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.4	09:16	9.49	8.12	30.6	18.68	7.2	6
F1A	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.4	09:16	9.44	8.16	30.63	18.56	7.4	5
F1A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.8	09:15	9.46	8.15	30.4	18.6	8.7	7
F1A	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.8	09:15	9.45	8.17	30.57	18.63	8.2	7
H1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	10:04	10.64	8.25	30.63	18.69	6.5	7
H1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	10:04	10.44	8.21	30.65	18.77	6.3	6
H1	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.25	10:03	10.67	8.25	30.61	18.72	6.2	12
H1	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.25	10:03	10.48	8.24	30.59	18.7	6.6	11
H1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.5	10:02	10.41	8.27	30.6	18.71	6.6	26
H1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.5	10:02	10.6	8.2	30.72	18.73	6.3	30
M1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:52	8.74	8.21	30.6	18.54	4.9	7
M1	20220218	Cloudy	Moderate	Mid-Flood	Surface	1	08:52	8.71	8.18	30.66	18.62	5.2	8
M1	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.05	08:51	8.8	8.19	30.72	18.57	5.0	16
M1	20220218	Cloudy	Moderate	Mid-Flood	Middle	4.05	08:51	8.76	8.14	30.65	18.55	4.3	15
M1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.1	08:50	9.16	8.18	30.53	18.63	5.4	16
M1	20220218	Cloudy	Moderate	Mid-Flood	Bottom	7.1	08:50	8.94	8.16	30.63	18.59	5.1	15
B1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:10	8.93	8.29	30.84	18.8	6.1	16
B1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:10	8.88	8.29	30.93	18.7	6.9	14
B1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:09	8.91	8.26	30.81	18.8	6.9	7
B1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:09	8.99	8.28	30.83	18.8	7.5	6
B2	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:26	10.17	8.21	31.82	18.9	7.3	7
B2	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:26	10.18	8.26	31.94	19	6.8	6
B2	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	4.9	12:25	10.21	8.23	31.83	19	8.3	6
B2	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	4.9	12:25	10.17	8.3	31.96	18.99	7.6	7
B3	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:23	9.99	8.32	31.14	18.5	6.3	4
B3	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:23	10.13	8.3	31.05	18.56	6.2	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)
B3	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:22	10.13	8.33	31.14	18.63	7.2	6
B3	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:22	10.01	8.25	31.13	18.48	7.6	6
B4	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:33	9.69	8.36	31.37	18.81	6.7	14
B4	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:33	9.73	8.35	31.52	18.77	7.1	17
B4	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	12:32	9.78	8.35	31.35	18.91	7.0	14
B4	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	12:32	9.67	8.35	31.41	18.75	7.4	15
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	11:47	9.49	8.29	30.76	18.68	8.9	7
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	11:47	9.49	8.29	30.72	18.65	9.1	8
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.95	11:46	9.43	8.3	30.76	18.67	10.6	6
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.95	11:46	9.46	8.28	30.7	18.72	9.4	5
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	8.9	11:45	9.44	8.21	30.74	18.64	9.9	6
C1A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	8.9	11:45	9.43	8.3	30.69	18.61	10.3	7
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:10	8.91	8.19	31.57	18.69	7.8	5
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:10	8.96	8.23	31.45	18.84	7.6	7
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	5.95	12:09	9.06	8.23	31.42	18.7	7.9	7
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	5.95	12:09	9.01	8.22	31.57	18.84	8.8	6
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	12:08	8.95	8.13	31.42	18.76	8.9	8
C2A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	12:08	8.92	8.21	31.39	18.81	8.4	7
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:22	9.94	8.08	31.08	18.55	7.7	5
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:22	9.83	8.13	31.1	18.6	7.2	5
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	6.55	13:21	9.87	8.1	31.1	18.52	7.1	4
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	6.55	13:21	9.87	8.13	31.19	18.62	7.6	6
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	13:20	9.98	8.16	31.25	18.63	7.7	7
CR1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	13:20	9.9	8.18	31.09	18.49	8.0	9
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:05	9.68	8.24	30.36	18.67	6.0	6
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:05	9.66	8.27	30.44	18.62	6.9	5
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Middle	6.05	13:04	9.65	8.33	30.47	18.73	6.8	6
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Middle	6.05	13:04	9.79	8.28	30.49	18.74	7.1	8
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	13:03	9.73	8.3	30.48	18.68	6.6	5
CR2	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	13:03	9.77	8.28	30.39	18.76	7.4	5
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:02	9.2	8.33	30.79	18.62	7.3	5
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:02	9.15	8.24	30.8	18.55	6.5	5
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.35	13:01	9.16	8.32	30.66	18.68	7.6	5
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.35	13:01	9.16	8.25	30.67	18.6	6.8	6
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	13:00	9.17	8.27	30.73	18.63	7.6	5
F1A	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	13:00	9.16	8.32	30.81	18.67	7.1	6
H1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:53	9.56	8.22	30.29	19.02	7.9	16
H1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	12:53	9.64	8.23	30.36	18.97	8.7	15
H1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.2	12:52	9.56	8.23	30.34	18.92	7.9	16
H1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.2	12:52	9.59	8.29	30.38	19.02	8.8	14

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	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	12:51	9.55	8.23	30.36	18.87	8.9	11
H1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	12:51	9.61	8.23	30.42	18.98	8.8	9
M1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:27	9.05	8.18	31.48	18.9	6.6	7
M1	20220218	Cloudy	Moderate	Mid-Ebb	Surface	1	13:27	8.97	8.15	31.34	18.94	6.8	8
M1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.9	13:26	9.04	8.21	31.36	19.02	6.8	6
M1	20220218	Cloudy	Moderate	Mid-Ebb	Middle	4.9	13:26	9.02	8.21	31.33	19.03	7.0	6
M1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	13:25	8.95	8.2	31.34	18.95	7.8	5
M1	20220218	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	13:25	8.97	8.15	31.45	19.05	7.6	5
B1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:24	8.94	8.19	30.75	16.96	12.1	15
B1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:24	8.96	8.17	30.95	16.9	12.0	18
B1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:23	8.97	8.16	30.94	16.9	12.6	24
B1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:23	9.09	8.18	30.95	16.94	12.2	24
B2	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	9.25	8.23	30.18	16.68	10.7	19
B2	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	9.21	8.3	30.45	16.8	10.9	17
B2	20220221	Cloudy	Moderate	Mid-Flood	Bottom	4.1	09:40	9.28	8.27	30.38	16.68	11.1	22
B2	20220221	Cloudy	Moderate	Mid-Flood	Bottom	4.1	09:40	9.23	8.23	30.42	16.76	11.1	27
B3	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:51	9.48	8.18	30.22	16.92	9.8	20
B3	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:51	9.67	8.19	30.34	17	10.6	20
B3	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:50	9.66	8.21	30.29	16.99	11.4	29
B3	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:50	9.48	8.16	30.03	16.86	11.2	23
B4	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:34	8.93	8.24	30.5	16.81	11.4	29
B4	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:34	8.88	8.24	30.42	16.93	11.6	31
B4	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:33	8.73	8.22	30.3	16.89	12.5	30
B4	20220221	Cloudy	Moderate	Mid-Flood	Bottom	3.5	10:33	8.66	8.21	30.43	16.95	12.9	32
C1A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:54	9.89	8.32	29.93	16.86	13.5	18
C1A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:54	10.11	8.29	29.92	16.94	13.8	18
C1A	20220221	Cloudy	Moderate	Mid-Flood	Middle	5	08:53	9.91	8.32	29.89	16.92	13.9	18
C1A	20220221	Cloudy	Moderate	Mid-Flood	Middle	5	08:53	9.96	8.31	30.03	16.95	14.1	17
C1A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	9	08:52	9.85	8.25	30.05	16.89	16.3	13
C1A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	9	08:52	10.04	8.26	30.15	16.98	15.5	15
C2A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	9.14	8.32	31.24	16.84	14.5	18
C2A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	9.14	8.32	31.13	16.88	13.8	15
C2A	20220221	Cloudy	Moderate	Mid-Flood	Middle	5.65	08:01	9.21	8.35	31.11	16.86	17.9	18
C2A	20220221	Cloudy	Moderate	Mid-Flood	Middle	5.65	08:01	9.12	8.29	31.29	16.97	19.3	15
C2A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	10.3	08:00	9.25	8.31	31.12	16.82	18.6	18
C2A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	10.3	08:00	9.14	8.33	31.23	16.94	18.3	14
CR1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:20	9.94	8.15	29.89	16.83	9.3	11
CR1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:20	9.97	8.14	29.79	16.83	8.7	11
CR1	20220221	Cloudy	Moderate	Mid-Flood	Middle	6.15	08:19	9.96	8.11	29.69	16.66	9.3	18
CR1	20220221	Cloudy	Moderate	Mid-Flood	Middle	6.15	08:19	9.86	8.13	29.94	16.66	9.4	19

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	20220221	Cloudy	Moderate	Mid-Flood	Bottom	11.3	08:18	9.85	8.15	29.76	16.79	10.6	17
CR1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	11.3	08:18	10.05	8.15	29.99	16.66	10.9	20
CR2	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	8.69	8.16	31.31	16.89	8.8	20
CR2	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	8.55	8.17	31.13	16.86	8.6	24
CR2	20220221	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:35	8.75	8.17	31.02	16.93	8.7	17
CR2	20220221	Cloudy	Moderate	Mid-Flood	Middle	5.55	08:35	8.79	8.19	31.05	16.84	8.3	17
CR2	20220221	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:34	8.65	8.19	31.09	16.82	9.2	23
CR2	20220221	Cloudy	Moderate	Mid-Flood	Bottom	10.1	08:34	8.69	8.21	31.27	16.84	9.0	21
F1A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:02	9.39	8.15	30.64	16.77	9.3	13
F1A	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:02	9.31	8.17	30.45	16.71	9.8	14
F1A	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:01	9.26	8.24	30.43	16.68	11.5	17
F1A	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.1	10:01	9.3	8.2	30.37	16.68	11.7	13
F1A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:00	9.08	8.18	30.24	16.69	12.2	17
F1A	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.2	10:00	9.14	8.14	30.33	16.73	12.2	16
H1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:07	10.09	8.19	30.35	16.85	8.2	21
H1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	10:07	9.99	8.15	30.52	16.83	8.0	25
H1	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.25	10:06	10.08	8.11	30.17	16.85	8.9	27
H1	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.25	10:06	9.93	8.18	30.18	16.99	8.1	22
H1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.5	10:05	10.12	8.18	30.38	17	9.8	19
H1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.5	10:05	10.11	8.18	30.29	17	9.9	20
M1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:36	9.27	8.17	30.25	16.66	8.0	18
M1	20220221	Cloudy	Moderate	Mid-Flood	Surface	1	09:36	9.19	8.16	30.15	16.68	7.8	16
M1	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.35	09:35	9.22	8.13	30.26	16.69	7.7	17
M1	20220221	Cloudy	Moderate	Mid-Flood	Middle	4.35	09:35	9.13	8.17	30.1	16.72	8.0	17
M1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.7	09:34	9.05	8.18	30.22	16.68	8.3	16
M1	20220221	Cloudy	Moderate	Mid-Flood	Bottom	7.7	09:34	9.25	8.15	30.09	16.77	8.2	14
B1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	8.61	8.32	30.8	17.25	8.0	15
B1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:10	8.57	8.31	30.89	17.33	8.1	18
B1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:09	8.47	8.3	30.77	17.34	8.6	13
B1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:09	8.71	8.34	30.9	17.33	8.2	13
B2	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	9.06	8.19	30.21	17.28	8.7	14
B2	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:27	9.01	8.2	30.39	17.41	8.4	13
B2	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	4.8	14:26	8.86	8.17	30.21	17.31	9.2	13
B2	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	4.8	14:26	8.76	8.22	30.33	17.42	8.7	17
B3	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:55	8.97	8.26	31.7	17.01	8.9	18
B3	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:55	9.04	8.28	31.58	17.01	8.2	21
B3	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	13:54	9.05	8.22	31.52	17.01	9.6	18
B3	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	13:54	8.84	8.27	31.65	16.97	8.7	15
B4	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:04	9.89	8.18	31.7	17	6.8	18
B4	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:04	9.83	8.17	31.77	17.13	6.8	19

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	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:03	9.76	8.17	31.77	17.07	7.9	14
B4	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:03	9.71	8.25	31.64	17.05	8.0	15
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:43	8.92	8.1	31.54	17.13	9.7	14
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:43	8.62	8.16	31.54	17.08	9.8	17
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.8	13:42	8.89	8.11	31.56	17.11	10.8	17
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.8	13:42	8.64	8.11	31.56	17.13	10.4	18
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	13:41	8.74	8.1	31.52	17.02	12.5	30
C1A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	13:41	8.63	8.13	31.49	17.06	11.8	28
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:43	9.37	8.22	30.19	16.93	9.1	31
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	13:43	9.38	8.22	30.08	16.91	9.6	29
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	5.75	13:42	9.4	8.3	30.09	16.93	9.5	22
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	5.75	13:42	9.45	8.23	30.12	17	9.8	28
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	13:41	9.19	8.24	30.1	16.95	10.7	24
C2A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	13:41	9.26	8.27	30.09	16.94	9.9	29
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	15:19	8.68	8.26	30.28	17.15	8.7	19
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	15:19	8.65	8.31	30.14	17.27	9.1	16
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Middle	6.5	15:18	8.58	8.22	30.26	17.17	8.9	20
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Middle	6.5	15:18	8.62	8.26	30.26	17.25	9.8	24
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	12	15:17	8.59	8.3	30.26	17.25	9.2	17
CR1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	12	15:17	8.56	8.26	30.29	17.21	9.8	16
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	15:05	9.45	8.08	31.21	16.96	8.6	23
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	15:05	9.53	8.15	31.1	17.05	8.8	20
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Middle	6.1	15:04	9.38	8.08	31.25	16.97	8.9	19
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Middle	6.1	15:04	9.23	8.19	31.13	16.98	9.2	15
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	15:03	9.58	8.17	31.26	17.05	9.5	21
CR2	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	15:03	9.39	8.09	31.16	16.9	9.2	18
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:34	8.91	8.37	30.9	17.08	8.9	17
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:34	8.88	8.36	30.85	17.22	7.7	16
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.35	14:33	8.97	8.33	30.91	17.14	8.3	17
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.35	14:33	9.07	8.4	30.92	17.13	8.0	19
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	14:32	9.03	8.29	30.8	17.21	8.9	21
F1A	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	14:32	8.9	8.34	30.85	17.15	8.6	19
H1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:53	9.89	8.2	31.56	17.22	8.3	16
H1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:53	10.09	8.19	31.53	17.23	8.5	15
H1	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.1	14:52	9.78	8.27	31.48	17.14	8.4	13
H1	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.1	14:52	9.94	8.29	31.43	17.15	8.5	15
H1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	14:51	9.9	8.27	31.58	17.27	9.5	15
H1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	7.2	14:51	9.91	8.2	31.56	17.17	8.9	14
M1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	9.05	8.22	31.63	17.38	8.0	18
M1	20220221	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	9.01	8.14	31.58	17.37	9.1	20

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	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.5	14:57	9.19	8.12	31.59	17.32	8.8	27
M1	20220221	Cloudy	Moderate	Mid-Ebb	Middle	4.5	14:57	9.09	8.23	31.72	17.38	8.9	26
M1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	8	14:56	9.14	8.14	31.71	17.29	8.8	25
M1	20220221	Cloudy	Moderate	Mid-Ebb	Bottom	8	14:56	9.07	8.16	31.68	17.32	9.5	23
B1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	9.5	8.3	30.09	15.82	8.9	7
B1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	9.46	8.25	29.89	15.93	8.7	9
B1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:08	9.49	8.33	30.07	15.78	9.7	13
B1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:08	9.59	8.25	29.85	15.91	10.1	16
B2	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:25	8.8	8.21	29.57	15.81	7.3	11
B2	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:25	8.85	8.19	29.74	15.78	7.0	8
B2	20220223	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:24	8.89	8.21	29.66	15.8	8.1	9
B2	20220223	Cloudy	Moderate	Mid-Flood	Bottom	3.8	10:24	8.86	8.21	29.59	15.79	7.6	7
B3	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	11:01	8.74	8.26	30.31	16.02	7.6	14
B3	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	11:01	8.78	8.23	30.23	16.01	7.7	11
B3	20220223	Cloudy	Moderate	Mid-Flood	Bottom	4.3	11:00	8.56	8.26	30.17	16.07	8.7	17
B3	20220223	Cloudy	Moderate	Mid-Flood	Bottom	4.3	11:00	8.78	8.25	30.13	16.04	8.4	18
B4	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:52	8.98	8.29	30.13	15.68	8.2	16
B4	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:52	8.99	8.24	30.29	15.65	8.3	12
B4	20220223	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:51	8.51	8.29	30.2	15.83	9.2	13
B4	20220223	Cloudy	Moderate	Mid-Flood	Bottom	4.1	10:51	8.85	8.31	30.31	15.76	8.5	14
C1A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	9.38	8.3	29.5	15.8	9.7	18
C1A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:41	9.41	8.23	29.72	15.73	9.4	16
C1A	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.05	09:40	9.37	8.28	29.49	15.74	8.1	13
C1A	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.05	09:40	9.47	8.26	29.49	15.86	8.7	16
C1A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	9.1	09:39	9.34	8.29	29.71	15.77	7.6	13
C1A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	9.1	09:39	9.36	8.29	29.7	15.86	7.3	14
C2A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	08:49	9.82	8.23	30.97	15.82	12.8	8
C2A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	08:49	9.91	8.23	30.91	15.85	12.5	9
C2A	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.6	08:48	9.94	8.2	30.86	15.88	11.4	11
C2A	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.6	08:48	9.78	8.27	30.73	15.79	10.3	12
C2A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	10.2	08:47	9.81	8.21	30.87	15.78	9.9	11
C2A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	10.2	08:47	9.95	8.28	30.84	15.92	9.2	13
CR1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:12	10	8.24	29.75	15.85	8.0	10
CR1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:12	10.05	8.27	29.68	15.91	7.6	10
CR1	20220223	Cloudy	Moderate	Mid-Flood	Middle	6	09:11	9.93	8.3	29.55	15.94	7.9	15
CR1	20220223	Cloudy	Moderate	Mid-Flood	Middle	6	09:11	9.91	8.25	29.76	15.86	8.7	13
CR1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	11	09:10	9.99	8.33	29.62	15.94	9.0	15
CR1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	11	09:10	9.9	8.32	29.77	15.95	8.3	18
CR2	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:25	9.77	8.38	29.69	16	8.7	11
CR2	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:25	9.64	8.38	29.69	16.1	8.9	12

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	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:24	9.77	8.38	29.65	16	9.4	10
CR2	20220223	Cloudy	Moderate	Mid-Flood	Middle	5.45	09:24	9.72	8.42	29.64	16.06	9.7	13
CR2	20220223	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:23	9.74	8.33	29.58	15.97	9.1	12
CR2	20220223	Cloudy	Moderate	Mid-Flood	Bottom	9.9	09:23	9.63	8.34	29.6	15.98	9.3	9
F1A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:12	9.16	8.22	30.17	15.76	9.7	14
F1A	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:12	9.08	8.23	29.99	15.75	9.8	15
F1A	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.8	10:11	9.49	8.18	30.08	15.79	9.4	10
F1A	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.8	10:11	9.33	8.18	30.11	15.78	9.7	12
F1A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.6	10:10	9.39	8.19	29.81	15.68	9.6	15
F1A	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.6	10:10	9.26	8.21	30.04	15.73	9.7	16
H1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:52	9.54	8.27	29.7	15.84	5.8	11
H1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	10:52	9.64	8.29	29.69	15.75	6.5	9
H1	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.95	10:51	9.53	8.32	29.81	15.79	6.6	11
H1	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.95	10:51	9.49	8.28	29.71	15.75	7.1	10
H1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.9	10:50	9.52	8.26	29.78	15.71	6.3	11
H1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.9	10:50	9.64	8.32	29.74	15.78	7.3	9
M1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	9.85	8.2	29.89	15.81	7.2	8
M1	20220223	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	9.78	8.24	29.63	15.73	7.4	9
M1	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:43	9.55	8.24	28.76	15.79	7.8	11
M1	20220223	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:43	9.48	8.23	30.01	15.8	8.0	9
M1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:42	9.38	8.2	29.87	15.67	8.7	9
M1	20220223	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:42	9.46	8.21	29.99	15.73	8.5	10
B1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:49	9.73	8.18	31.42	15.94	10.5	9
B1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:49	9.91	8.23	31.54	15.92	9.7	8
B1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	15:48	9.8	8.25	31.56	15.82	10.3	9
B1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	15:48	9.79	8.21	31.55	15.85	10.0	10
B2	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:05	9.59	8.33	31.73	15.77	10.7	10
B2	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:05	9.6	8.3	31.58	15.76	9.6	10
B2	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:04	9.61	8.36	31.59	15.73	10.6	10
B2	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	16:04	9.54	8.38	31.72	15.9	9.6	8
B3	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:37	9.03	8.17	30.93	15.97	9.9	11
B3	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:37	9.07	8.13	30.98	15.86	11.5	9
B3	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	15:36	9.07	8.18	30.87	15.98	12.9	11
B3	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	15:36	9.02	8.15	30.91	15.84	13.7	10
B4	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:46	9.43	8.31	30.13	16.26	9.9	8
B4	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:46	9.48	8.28	30.11	16.35	10.2	8
B4	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:45	9.36	8.28	29.97	16.24	10.6	12
B4	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	4	15:45	9.39	8.27	30.03	16.19	11.7	14
C1A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:24	8.71	8.22	31.34	16.13	12.2	9
C1A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:24	8.66	8.22	31.34	16.1	12.7	11

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	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.45	15:23	8.68	8.25	31.45	16.17	13.6	21
C1A	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.45	15:23	8.53	8.29	31.47	16.14	13.1	19
C1A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	9.9	15:22	8.65	8.29	31.33	16.1	16.8	15
C1A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	9.9	15:22	8.61	8.3	31.45	16.11	15.5	15
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:24	8.99	8.16	31.65	15.97	9.9	21
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	15:24	9.07	8.14	31.56	16.03	9.7	21
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.9	15:23	8.94	8.14	31.66	15.98	12.2	10
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.9	15:23	9.02	8.2	31.55	16.08	11.9	9
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	15:22	8.94	8.16	31.5	16.01	14.8	15
C2A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	15:22	9.1	8.22	31.54	15.97	13.7	13
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:58	9.87	8.08	31	15.87	8.9	14
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:58	10.08	8.11	31.11	15.94	9.0	15
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	6.2	16:57	10	8.08	31.02	15.83	8.4	9
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	6.2	16:57	9.95	8.16	31.1	15.92	8.4	9
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	11.4	16:56	9.98	8.11	31.18	15.81	8.9	10
CR1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	11.4	16:56	9.98	8.13	31	15.9	8.6	9
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:44	9.44	8.28	30.53	16	8.1	12
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:44	9.27	8.28	30.48	16.03	8.8	14
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.4	16:43	9.4	8.33	30.41	16.12	8.9	9
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Middle	5.4	16:43	9.41	8.35	30.51	16.16	8.6	10
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	16:42	9.33	8.33	30.37	16.14	8.8	8
CR2	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	16:42	9.31	8.35	30.56	16.12	9.3	8
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:17	9.26	8.15	30.39	16.21	7.3	9
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:17	9.24	8.08	30.38	16.24	7.5	7
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.35	16:16	9.26	8.09	30.4	16.18	7.9	10
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.35	16:16	9.33	8.16	30.56	16.18	8.4	13
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	16:15	9.3	8.1	30.45	16.3	8.2	10
F1A	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	16:15	9.13	8.13	30.36	16.26	8.9	9
H1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:31	9.2	8.23	30.31	15.98	9.4	13
H1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:31	9.37	8.23	30.37	15.94	9.5	16
H1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.45	16:30	9.3	8.29	30.3	15.84	9.5	9
H1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.45	16:30	9.15	8.28	30.39	16.03	9.9	9
H1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	16:29	9.19	8.27	30.23	15.94	9.9	8
H1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	16:29	9.25	8.25	30.28	15.93	9.7	9
M1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:41	8.76	8.19	31.15	16.05	8.3	9
M1	20220223	Cloudy	Moderate	Mid-Ebb	Surface	1	16:41	8.76	8.19	31.2	16.03	8.5	11
M1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.5	16:40	8.88	8.18	31.27	16.07	8.3	11
M1	20220223	Cloudy	Moderate	Mid-Ebb	Middle	4.5	16:40	8.76	8.18	31.18	16.03	8.9	13
M1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	8	16:39	8.91	8.17	31.06	16.1	8.7	9
M1	20220223	Cloudy	Moderate	Mid-Ebb	Bottom	8	16:39	8.82	8.18	31.09	16.22	9.0	10

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	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:03	9.85	8.19	30.54	16.67	5.7	7
B1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:03	9.93	8.14	30.68	16.66	5.9	8
B1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	4.3	12:02	9.87	8.11	30.82	16.62	6.0	6
B1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	4.3	12:02	10.02	8.14	30.83	16.59	6.1	7
B2	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:20	9.37	8.28	31.25	16.43	4.6	7
B2	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:20	9.38	8.26	31.37	16.37	4.8	7
B2	20220225	Cloudy	Moderate	Mid-Flood	Bottom	3.4	12:19	9.29	8.23	31.2	16.53	6.0	7
B2	20220225	Cloudy	Moderate	Mid-Flood	Bottom	3.4	12:19	9.4	8.26	31.16	16.46	5.8	9
B3	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:42	9.26	8.27	30.44	16.84	7.2	8
B3	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:42	9.16	8.29	30.32	16.88	7.1	10
B3	20220225	Cloudy	Moderate	Mid-Flood	Bottom	3.6	12:41	9.35	8.3	29.9	16.94	8.8	7
B3	20220225	Cloudy	Moderate	Mid-Flood	Bottom	3.6	12:41	9.23	8.26	30.52	16.85	8.7	9
B4	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:32	9.36	8.26	30.13	16.77	8.9	8
B4	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:32	9.28	8.31	29.98	16.84	8.3	9
B4	20220225	Cloudy	Moderate	Mid-Flood	Bottom	4.2	12:31	9.5	8.35	29.74	16.96	9.8	8
B4	20220225	Cloudy	Moderate	Mid-Flood	Bottom	4.2	12:31	9.3	8.33	30.97	16.88	9.3	8
C1A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:37	9.97	8.26	30.03	16.84	8.8	6
C1A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:37	10.03	8.3	29.81	16.96	8.0	5
C1A	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.6	11:36	10.06	8.28	29.97	16.76	9.2	12
C1A	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.6	11:36	10.02	8.25	30.02	16.97	9.9	10
C1A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.2	11:35	9.96	8.25	30.1	16.82	11.8	8
C1A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.2	11:35	9.96	8.29	29.97	16.96	11.3	8
C2A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	10:42	9.69	8.24	30.09	16.73	10.9	6
C2A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	10:42	9.77	8.23	30.08	16.82	11.3	6
C2A	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.9	10:41	9.77	8.28	29.9	16.8	12.4	15
C2A	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.9	10:41	9.79	8.29	29.96	16.68	12.9	14
C2A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.8	10:40	9.67	8.26	29.95	16.79	14.2	7
C2A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.8	10:40	9.82	8.24	30.04	16.76	15.4	8
CR1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:03	9.71	8.28	30.36	16.9	7.9	9
CR1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:03	9.64	8.3	30.39	16.92	7.6	8
CR1	20220225	Cloudy	Moderate	Mid-Flood	Middle	6.2	11:02	9.78	8.29	30.46	16.9	8.1	6
CR1	20220225	Cloudy	Moderate	Mid-Flood	Middle	6.2	11:02	9.69	8.32	30.36	16.8	8.2	8
CR1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	11.4	11:01	9.83	8.35	30.22	16.78	8.2	8
CR1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	11.4	11:01	9.8	8.34	30.46	16.78	8.2	8
CR2	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:17	10.07	8.27	30.36	16.62	5.8	5
CR2	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:17	9.9	8.28	30.55	16.73	5.5	7
CR2	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.7	11:16	10.08	8.29	30.44	16.66	5.4	6
CR2	20220225	Cloudy	Moderate	Mid-Flood	Middle	5.7	11:16	10.03	8.32	30.47	16.69	6.1	5
CR2	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.4	11:15	9.86	8.26	30.31	16.7	6.3	6
CR2	20220225	Cloudy	Moderate	Mid-Flood	Bottom	10.4	11:15	10.04	8.29	30.41	16.66	6.3	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)
F1A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:05	9.09	8.23	30.35	16.27	6.8	7
F1A	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:05	9.08	8.24	30.04	16.34	7.3	8
F1A	20220225	Cloudy	Moderate	Mid-Flood	Middle	4.2	12:04	9.19	8.15	30.17	16.23	7.8	8
F1A	20220225	Cloudy	Moderate	Mid-Flood	Middle	4.2	12:04	9.06	8.17	30.35	16.29	7.5	7
F1A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	7.4	12:03	9.28	8.25	29.85	16.22	8.3	14
F1A	20220225	Cloudy	Moderate	Mid-Flood	Bottom	7.4	12:03	9.14	8.2	30.31	16.36	8.0	14
H1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:47	9.25	8.33	30.35	16.53	8.2	10
H1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	12:47	9.23	8.32	30.51	16.57	7.8	7
H1	20220225	Cloudy	Moderate	Mid-Flood	Middle	3.75	12:46	9.06	8.29	30.38	16.5	8.2	8
H1	20220225	Cloudy	Moderate	Mid-Flood	Middle	3.75	12:46	9.09	8.29	30.39	16.49	7.7	9
H1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	6.5	12:45	9.07	8.31	30.25	16.68	8.8	7
H1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	6.5	12:45	9.18	8.29	30.56	16.7	8.8	6
M1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:27	10.38	8.18	30.17	16.41	7.3	6
M1	20220225	Cloudy	Moderate	Mid-Flood	Surface	1	11:27	10.46	8.21	30.29	16.38	8.2	5
M1	20220225	Cloudy	Moderate	Mid-Flood	Middle	4.3	11:26	10.39	8.19	30.35	16.39	8.3	4
M1	20220225	Cloudy	Moderate	Mid-Flood	Middle	4.3	11:26	10.3	8.2	30.33	16.42	8.6	6
M1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	7.6	11:25	10.42	8.24	30.02	16.36	9.7	8
M1	20220225	Cloudy	Moderate	Mid-Flood	Bottom	7.6	11:25	10.39	8.18	30.15	16.45	9.0	9
B1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.88	8.37	30.91	16.65	5.3	5
B1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:39	9.95	8.39	30.89	16.77	4.8	6
B1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:38	9.82	8.4	30.63	16.57	5.7	7
B1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:38	9.82	8.4	30.67	16.74	5.8	7
B2	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:54	9.8	8.22	30	16.78	5.0	9
B2	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:54	9.87	8.2	29.83	16.79	4.5	6
B2	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	4.9	16:53	9.69	8.24	30.02	16.63	5.7	7
B2	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	4.9	16:53	9.74	8.23	29.84	16.75	5.1	8
B3	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	9.77	8.3	29.51	16.93	7.7	7
B3	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:27	9.67	8.31	29.7	16.85	7.4	9
B3	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	16:26	9.7	8.3	29.54	16.96	7.7	6
B3	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	16:26	9.7	8.31	29.62	16.97	8.0	8
B4	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:37	10.46	8.3	30.93	16.91	7.4	7
B4	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:37	10.25	8.29	30.93	16.88	7.1	7
B4	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:36	10.29	8.26	30.92	16.88	7.3	7
B4	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	16:36	10.4	8.26	30.97	16.74	7.7	10
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:16	10.18	8.22	30.15	16.63	9.2	15
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:16	10.04	8.21	30.24	16.75	9.5	15
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.2	16:15	10.04	8.19	30.09	16.57	9.5	9
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.2	16:15	10.11	8.21	30.14	16.6	9.8	8
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	16:14	10.21	8.22	30.3	16.59	10.6	9
C1A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	16:14	10.04	8.17	30.35	16.76	10.3	7

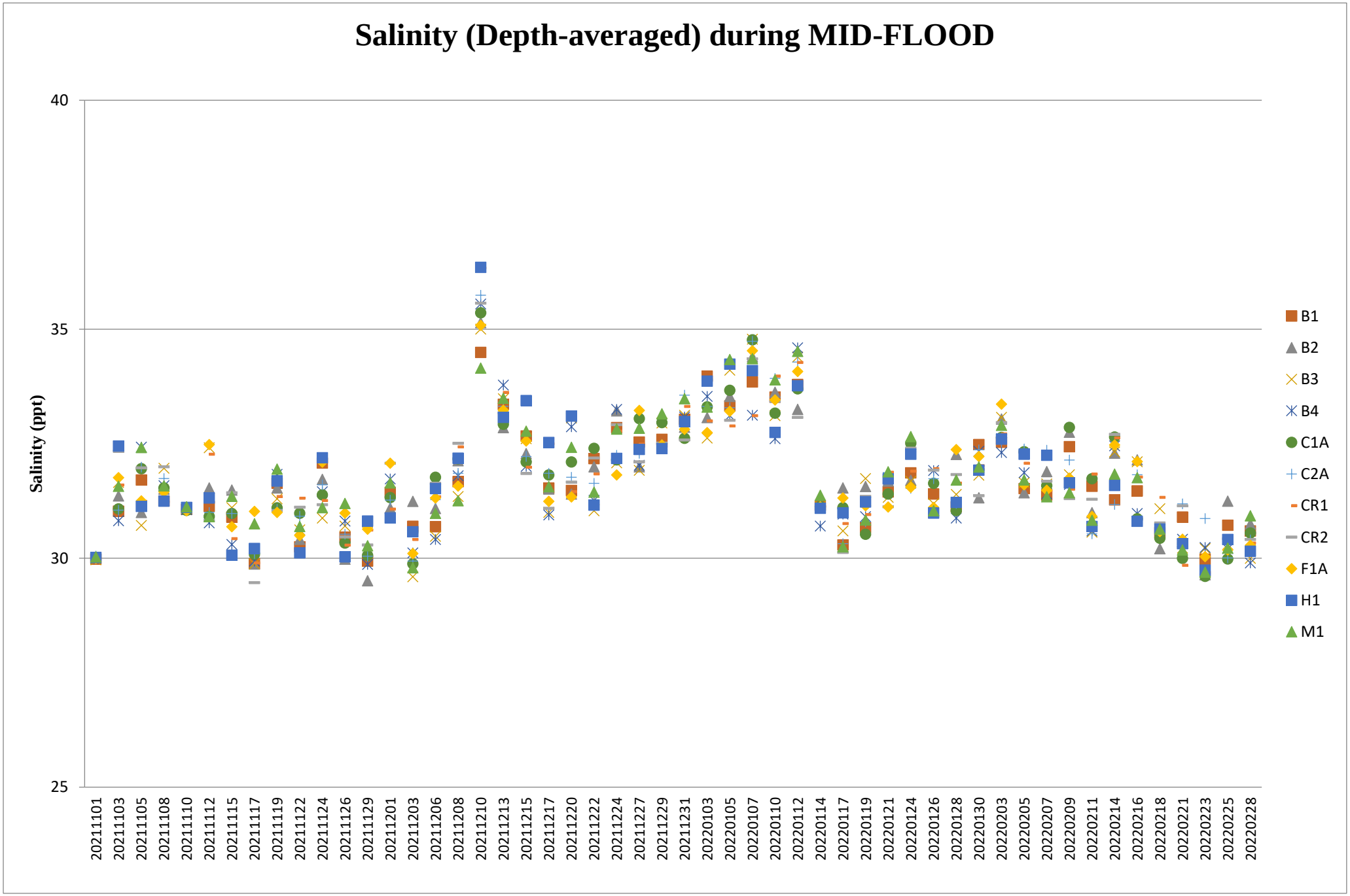
Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:16	9.9	8.25	30.43	16.68	8.1	10
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	16:16	10.03	8.29	30.51	16.54	8.1	8
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.7	16:15	10.06	8.23	30.52	16.57	9.0	7
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.7	16:15	9.79	8.28	30.37	16.55	8.5	8
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	16:14	10	8.25	30.6	16.74	9.2	7
C2A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	16:14	10	8.26	30.35	16.7	8.9	7
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:45	10.15	8.15	30.5	16.57	8.5	9
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:45	9.87	8.2	30.66	16.67	8.0	9
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	6.85	17:44	9.95	8.17	30.61	16.59	8.2	11
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	6.85	17:44	9.9	8.19	30.5	16.62	8.3	10
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	17:43	9.95	8.15	30.7	16.61	8.4	8
CR1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	12.7	17:43	9.94	8.16	30.51	16.72	8.6	8
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:33	10.08	8.38	29.56	16.54	7.9	7
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:33	9.89	8.39	29.67	16.57	8.8	8
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.9	17:32	10.1	8.36	29.71	16.6	8.4	8
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Middle	5.9	17:32	9.9	8.36	29.64	16.61	8.6	7
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	17:31	10.11	8.38	29.53	16.67	8.3	7
CR2	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	17:31	9.87	8.37	29.76	16.51	8.2	8
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:04	8.97	8.38	30.83	16.83	8.6	8
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:04	9.06	8.37	30.81	16.75	8.5	9
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	3.95	17:03	8.84	8.37	30.73	16.89	8.1	8
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Middle	3.95	17:03	8.83	8.34	30.65	16.73	8.1	8
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	17:02	8.95	8.32	30.71	16.77	8.6	8
F1A	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	17:02	8.83	8.37	30.62	16.83	8.3	9
H1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:20	9.96	8.28	31.14	16.94	7.4	7
H1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:20	9.96	8.26	31.12	16.77	7.2	8
H1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	4.2	17:19	10.13	8.27	31.19	16.77	7.6	9
H1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	4.2	17:19	9.98	8.26	31.17	16.73	7.1	8
H1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	17:18	9.97	8.29	31.03	16.88	7.8	8
H1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	7.4	17:18	10.18	8.31	31.17	16.77	8.4	8
M1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:29	9.61	8.27	29.95	17.02	8.1	9
M1	20220225	Cloudy	Moderate	Mid-Ebb	Surface	1	17:29	9.47	8.27	30	16.97	7.3	9
M1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	4.9	17:28	9.52	8.27	29.95	16.93	8.5	7
M1	20220225	Cloudy	Moderate	Mid-Ebb	Middle	4.9	17:28	9.45	8.31	29.91	17.05	7.7	8
M1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	17:27	9.48	8.32	30.07	16.95	8.0	9
M1	20220225	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	17:27	9.53	8.3	29.93	17.03	7.9	6
B1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	10:21	10.36	8.28	29.95	17.73	4.2	6
B1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	10:21	10.43	8.22	29.98	17.71	4.5	7
B1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	10:20	10.24	8.24	29.96	17.72	5.3	5
B1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	10:20	10.39	8.24	29.99	17.72	5.3	7

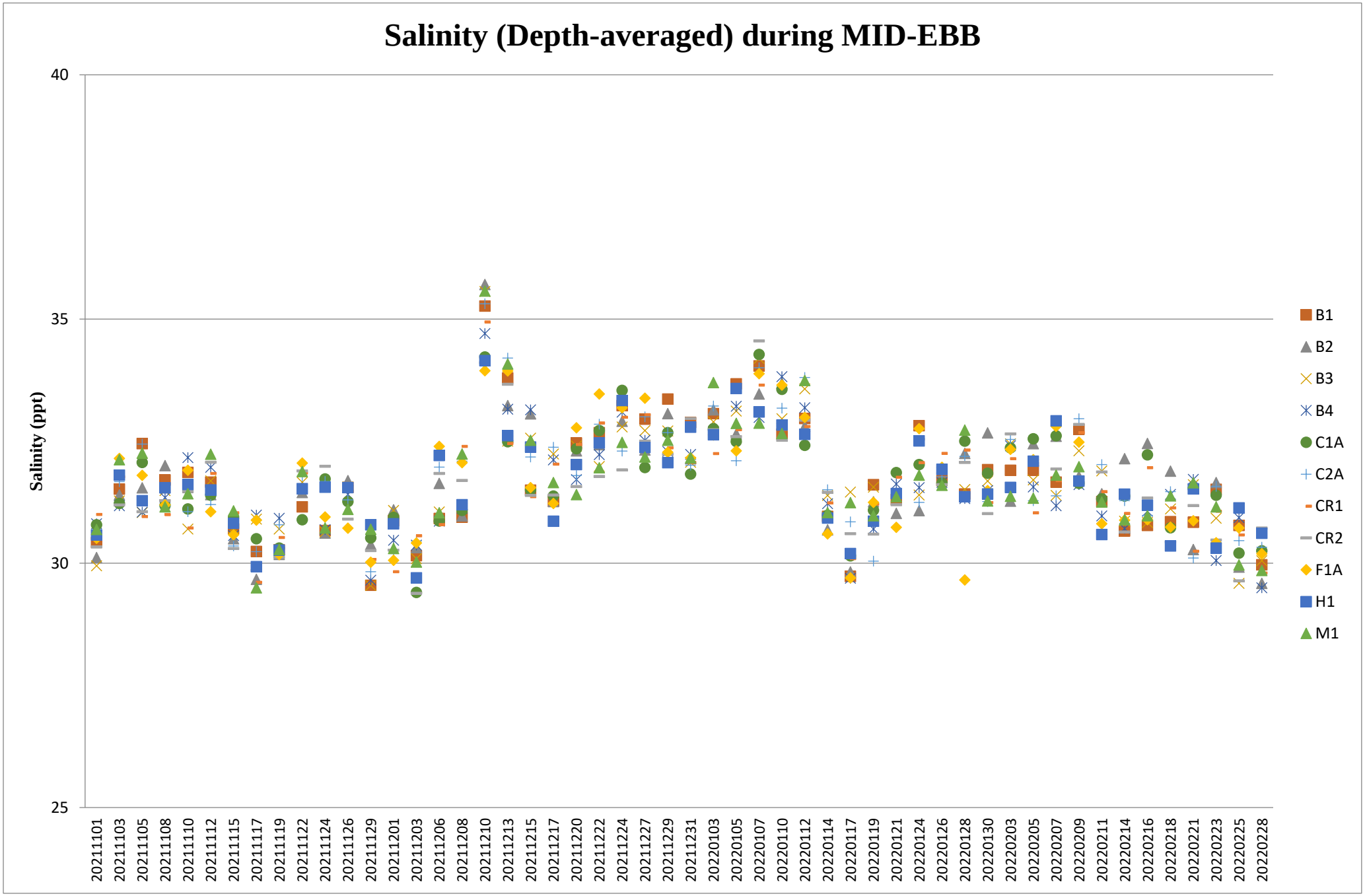
Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
B2	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	10:36	9.72	8.25	29.6	17.9	4.1	7
B2	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	10:36	9.68	8.33	29.59	17.89	4.6	9
B2	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	10:35	9.67	8.33	29.67	17.93	4.7	5
B2	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	10:35	9.66	8.27	29.5	17.86	5.1	9
B3	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	12:04	10.67	8.26	30.12	17.69	6.2	5
B3	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	12:04	10.55	8.28	30.11	17.66	6.4	5
B3	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:03	10.8	8.32	29.92	17.62	7.2	5
B3	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	12:03	10.77	8.25	30.07	17.77	6.8	3
B4	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	12:13	10.05	8.33	29.47	17.65	4.7	7
B4	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	12:13	9.97	8.34	29.38	17.78	4.6	4
B4	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:12	10.33	8.41	29.49	17.85	5.3	5
B4	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	12:12	10.18	8.36	29.66	17.73	5.1	8
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	09:52	10.59	8.29	30.27	17.71	8.1	4
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	09:52	10.52	8.26	30.18	17.88	7.8	6
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.9	09:51	10.43	8.3	30.32	17.8	8.9	7
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.9	09:51	10.57	8.21	30.29	17.8	8.9	7
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	09:50	10.6	8.2	30.24	17.69	9.4	5
C1A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	09:50	10.67	8.28	30.24	17.8	9.1	7
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:52	10.49	8.39	30.25	17.63	7.7	4
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:52	10.72	8.37	30.31	17.79	7.6	7
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.15	11:51	10.53	8.32	30.27	17.75	8.4	4
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.15	11:51	10.66	8.39	30.35	17.65	7.8	4
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	11:50	10.69	8.32	30.43	17.76	8.5	7
C2A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	11:50	10.53	8.38	30.37	17.79	8.1	5
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:31	10.8	8.34	29.74	17.78	6.2	5
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:31	10.85	8.38	29.78	17.68	7.2	6
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.55	11:30	10.64	8.34	29.89	17.66	6.9	5
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.55	11:30	10.86	8.32	29.8	17.69	7.3	7
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	11:29	10.63	8.37	29.78	17.65	7.0	7
CR1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	11:29	10.84	8.31	29.82	17.79	7.2	4
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:17	11.19	8.22	30.66	17.73	7.8	7
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:17	11.04	8.27	30.69	17.8	7.5	7
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.15	11:16	11.18	8.3	30.81	17.81	7.8	5
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Middle	6.15	11:16	11.15	8.24	30.82	17.82	7.5	6
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	11:15	11.09	8.22	30.68	17.88	8.3	6
CR2	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	11.3	11:15	10.99	8.3	30.69	17.7	7.5	5
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:37	10.68	8.39	30.23	17.64	5.9	4
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:37	10.72	8.38	30.28	17.79	5.7	4
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.6	11:36	10.79	8.29	30.41	17.83	6.6	4
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.6	11:36	10.69	8.33	30.33	17.77	6.3	6

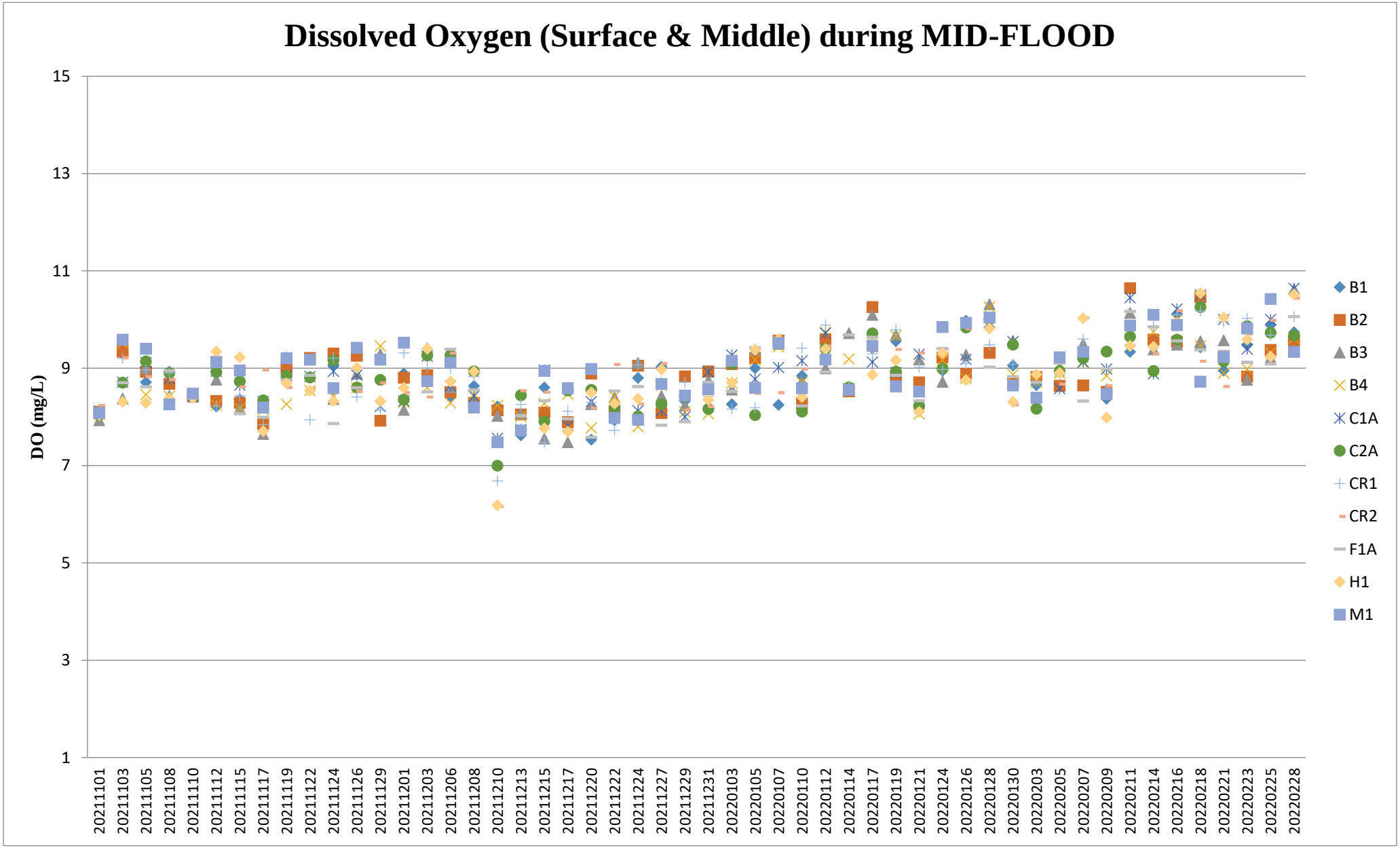
Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) Note 1	SS (mg/L)
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	11:35	11.09	8.34	29.99	17.68	8.9	4
F1A	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	11:35	10.89	8.31	29.95	17.68	8.0	4
H1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:02	9.78	8.31	30.66	17.87	6.3	7
H1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:02	9.98	8.27	30.59	17.86	6.8	4
H1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.35	11:01	9.79	8.21	30.68	17.87	7.0	7
H1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.35	11:01	9.96	8.3	30.68	17.96	6.9	4
H1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	11:00	9.91	8.26	30.53	17.97	7.1	9
H1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	11:00	9.91	8.23	30.57	18.02	6.5	6
M1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:00	10.6	8.24	29.84	17.73	5.7	6
M1	20220228	Cloudy	Moderate	Mid-Ebb	Surface	1	11:00	10.58	8.26	29.9	17.77	5.9	7
M1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:59	10.67	8.22	29.9	17.65	6.0	6
M1	20220228	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:59	10.65	8.29	29.93	17.63	5.3	9
M1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.1	10:58	10.49	8.28	29.78	17.64	5.6	4
M1	20220228	Cloudy	Moderate	Mid-Ebb	Bottom	8.1	10:58	10.63	8.24	29.79	17.71	6.1	6
B1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:41	9.83	8.27	30.59	17.85	4.0	5
B1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:41	9.65	8.22	30.59	17.97	4.0	7
B1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.4	14:40	9.67	8.24	30.53	17.81	4.6	5
B1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.4	14:40	9.85	8.28	30.67	17.86	3.7	8
B2	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:57	9.57	8.2	30.85	18.07	4.1	7
B2	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:57	9.54	8.25	30.65	18.14	4.6	8
B2	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.6	14:56	9.47	8.18	30.76	18.09	4.6	5
B2	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.6	14:56	9.47	8.3	30.72	18.08	5.4	5
B3	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:29	10.59	8.28	30.14	17.77	4.8	7
B3	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:29	10.65	8.3	30.03	17.72	4.5	10
B3	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.5	14:28	10.55	8.3	29.88	17.67	5.0	7
B3	20220228	Cloudy	Moderate	Mid-Flood	Bottom	3.5	14:28	10.58	8.35	29.93	17.69	5.3	8
B4	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:39	9.63	8.32	29.91	18.2	4.2	7
B4	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:39	9.6	8.35	29.9	18.19	3.8	8
B4	20220228	Cloudy	Moderate	Mid-Flood	Bottom	4	14:38	9.76	8.34	29.9	18.23	4.2	7
B4	20220228	Cloudy	Moderate	Mid-Flood	Bottom	4	14:38	9.58	8.36	29.86	18.1	4.9	6
C1A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:17	10.69	8.41	30.39	17.94	8.0	4
C1A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:17	10.59	8.29	30.63	18.07	8.2	4
C1A	20220228	Cloudy	Moderate	Mid-Flood	Middle	5.45	14:16	10.55	8.33	30.66	17.93	7.9	5
C1A	20220228	Cloudy	Moderate	Mid-Flood	Middle	5.45	14:16	10.59	8.3	30.46	18.04	8.1	5
C1A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	9.9	14:15	10.59	8.29	30.62	17.91	8.9	7
C1A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	9.9	14:15	10.76	8.33	30.54	17.99	8.4	5
C2A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:17	9.65	8.35	30.27	17.97	8.5	4
C2A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	14:17	9.7	8.28	30.42	18.05	8.4	5
C2A	20220228	Cloudy	Moderate	Mid-Flood	Middle	6	14:16	9.89	8.4	30.4	18.02	7.9	7
C2A	20220228	Cloudy	Moderate	Mid-Flood	Middle	6	14:16	9.82	8.27	30.5	18	8.2	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)
C2A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	11	14:15	9.87	8.31	30.51	18.05	9.3	7
C2A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	11	14:15	9.72	8.39	30.29	17.87	8.6	4
CR1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:52	10.14	8.21	30.3	17.89	5.7	7
CR1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:52	9.99	8.1	30.41	17.91	6.5	7
CR1	20220228	Cloudy	Moderate	Mid-Flood	Middle	6.35	15:51	10.09	8.11	30.39	17.95	6.6	6
CR1	20220228	Cloudy	Moderate	Mid-Flood	Middle	6.35	15:51	10.21	8.21	30.22	17.88	5.7	7
CR1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	11.7	15:50	10.19	8.17	30.29	17.93	6.4	9
CR1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	11.7	15:50	10.08	8.19	30.36	17.9	6.3	9
CR2	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:37	10.33	8.16	30.37	18.1	6.2	6
CR2	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:37	10.55	8.29	30.49	18.1	6.2	9
CR2	20220228	Cloudy	Moderate	Mid-Flood	Middle	5.6	15:36	10.56	8.21	30.38	18.1	6.4	6
CR2	20220228	Cloudy	Moderate	Mid-Flood	Middle	5.6	15:36	10.49	8.22	30.35	17.92	7.0	3
CR2	20220228	Cloudy	Moderate	Mid-Flood	Bottom	10.2	15:35	10.55	8.24	30.46	18.07	7.0	5
CR2	20220228	Cloudy	Moderate	Mid-Flood	Bottom	10.2	15:35	10.48	8.17	30.4	18	6.6	6
F1A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:08	10.07	8.19	30.21	17.66	4.8	10
F1A	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:08	10.05	8.2	30.25	17.75	4.6	8
F1A	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.15	15:07	10.06	8.17	30.25	17.75	5.4	7
F1A	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.15	15:07	10.11	8.27	30.25	17.77	5.1	8
F1A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.3	15:06	10.18	8.26	30.34	17.72	5.6	6
F1A	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.3	15:06	10.06	8.24	30.38	17.76	4.9	5
H1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:24	10.53	8.31	30.21	18.16	5.3	5
H1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:24	10.5	8.4	30.13	18.06	5.4	6
H1	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.15	15:23	10.39	8.28	29.95	18.06	6.4	7
H1	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.15	15:23	10.33	8.38	30.22	18.09	6.2	4
H1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.3	15:22	10.46	8.34	30.16	18.1	5.7	6
H1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.3	15:22	10.31	8.28	30.23	18.21	6.1	5
M1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:35	9.3	8.13	30.99	17.77	5.5	6
M1	20220228	Cloudy	Moderate	Mid-Flood	Surface	1	15:35	9.37	8.23	30.82	17.7	6.6	7
M1	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.05	15:34	9.38	8.16	31.01	17.77	6.3	5
M1	20220228	Cloudy	Moderate	Mid-Flood	Middle	4.05	15:34	9.32	8.16	30.83	17.71	6.7	8
M1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.1	15:33	9.25	8.22	31.01	17.82	6.7	6
M1	20220228	Cloudy	Moderate	Mid-Flood	Bottom	7.1	15:33	9.35	8.13	30.89	17.81	6.4	4

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.

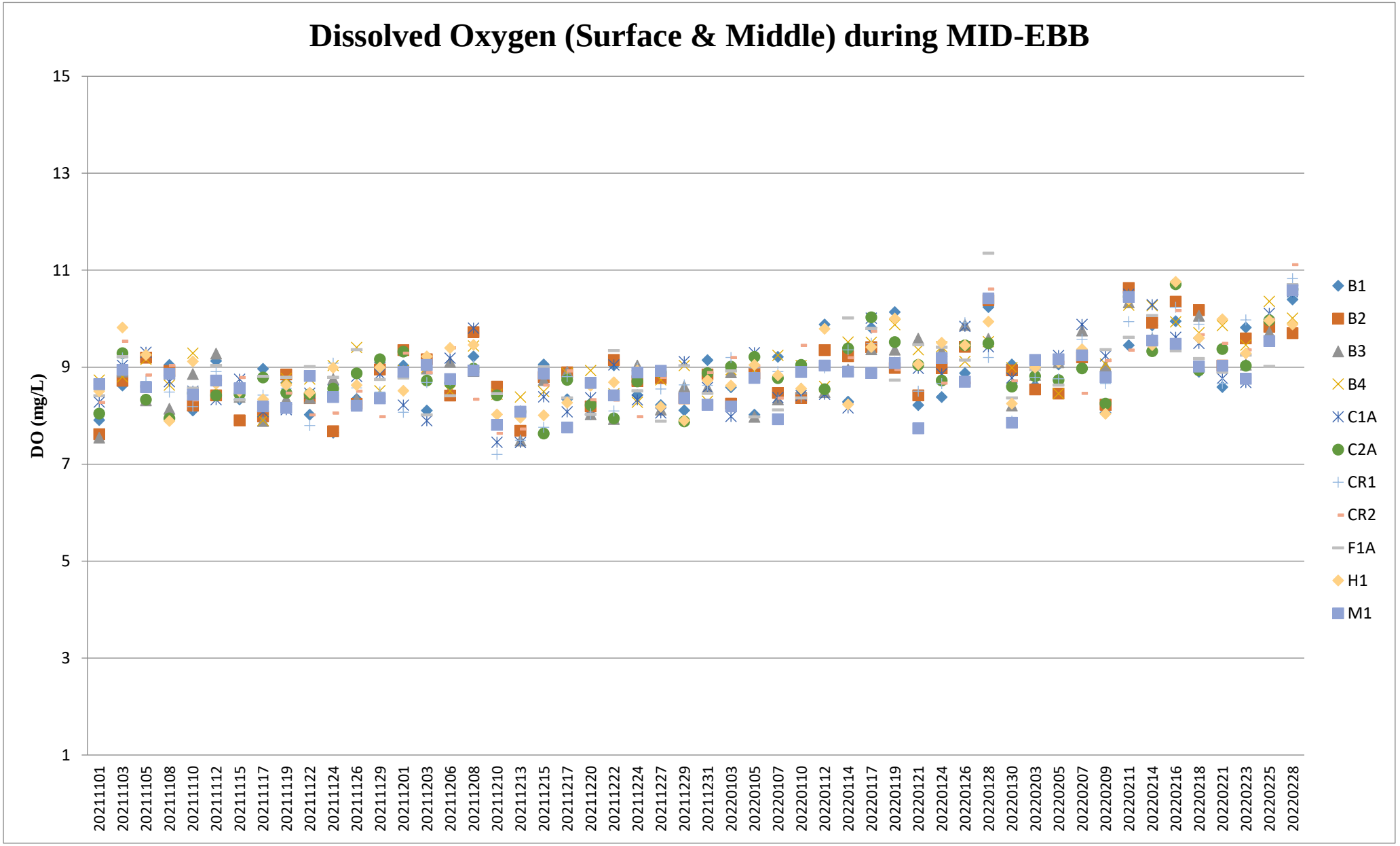

Salinity (Depth-averaged) during MID-FLOOD
Salinity (ppt)
40
35
30
25
20211101
20211103
20211105
20211108
20211110
20211112
20211115
20211117
20211119
20211122
20211124
20211126
20211129
20211201
20211203
20211206
20211208
20211210
20211213
20211215
20211217
20211220
20211222
20211224
20211227
20211229
20211231
20220103
20220105
20220107
20220110
20220112
20220114
20220117
20220119
20220121
20220124
20220126
20220128
20220130
20220203
20220205
20220207
20220209
20220211
20220214
20220216
20220218
20220221
20220223
20220225
20220228
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1


Salinity (Depth-averaged) during MID-EBB
Salinity (ppt)
40
35
30
25
20211101
20211103
20211105
20211108
20211110
20211112
20211115
20211117
20211119
20211122
20211124
20211126
20211129
20211201
20211203
20211206
20211208
20211210
20211213
20211215
20211217
20211220
20211222
20211224
20211227
20211229
20211231
20220103
20220105
20220107
20220110
20220112
20220114
20220117
20220119
20220121
20220124
20220126
20220128
20220130
20220203
20220205
20220207
20220209
20220211
20220214
20220216
20220218
20220221
20220223
20220225
20220228
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1



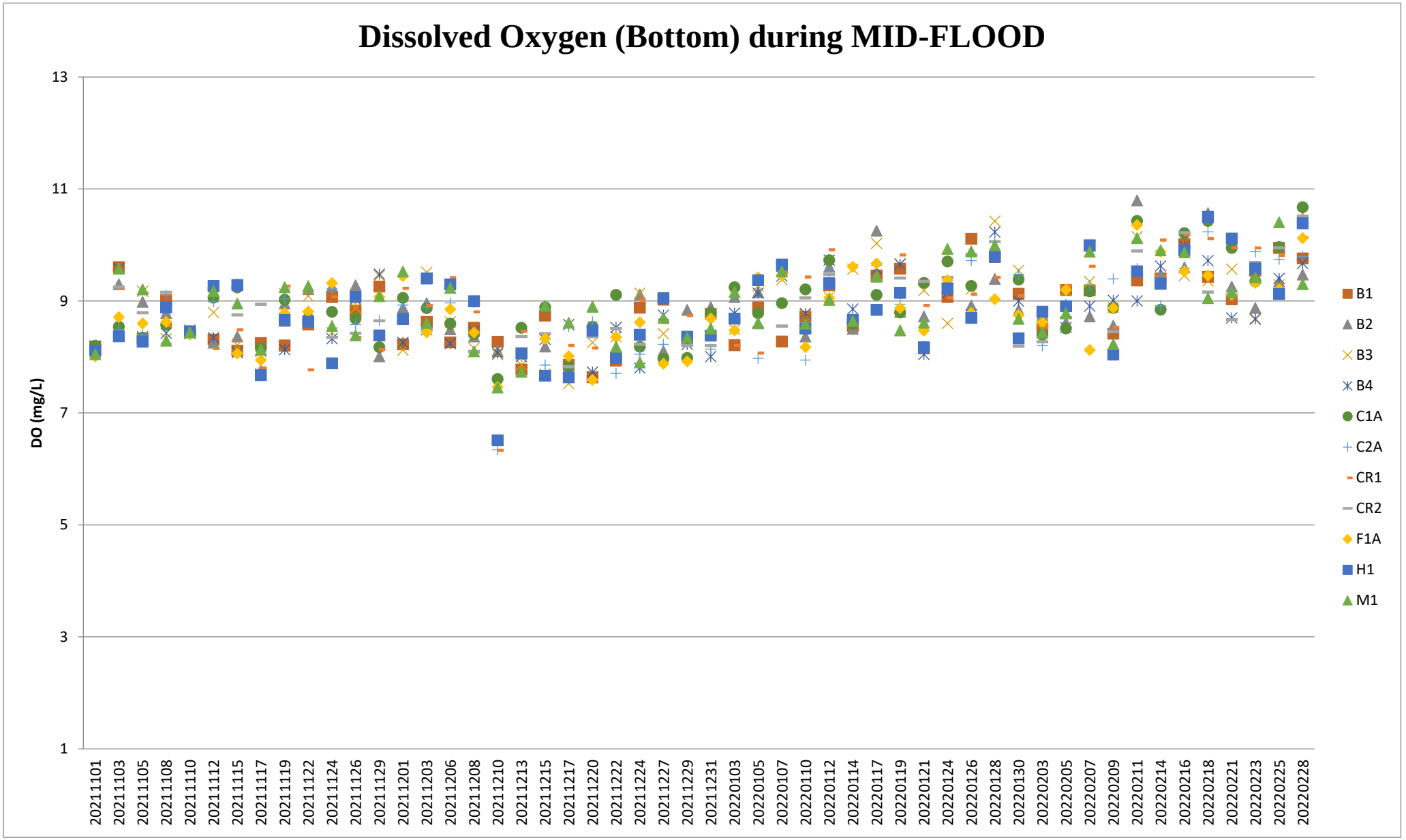
Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.



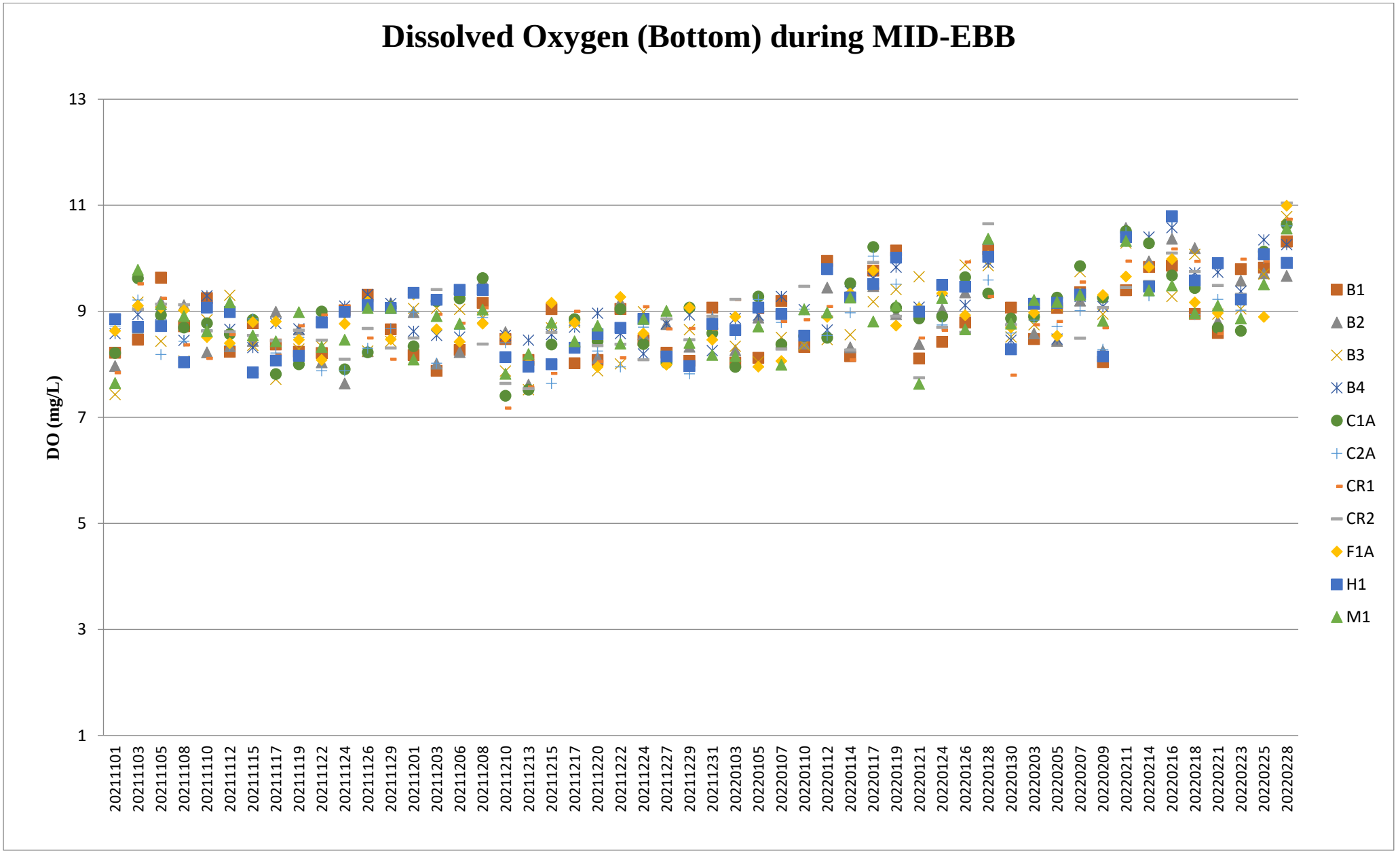
Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.



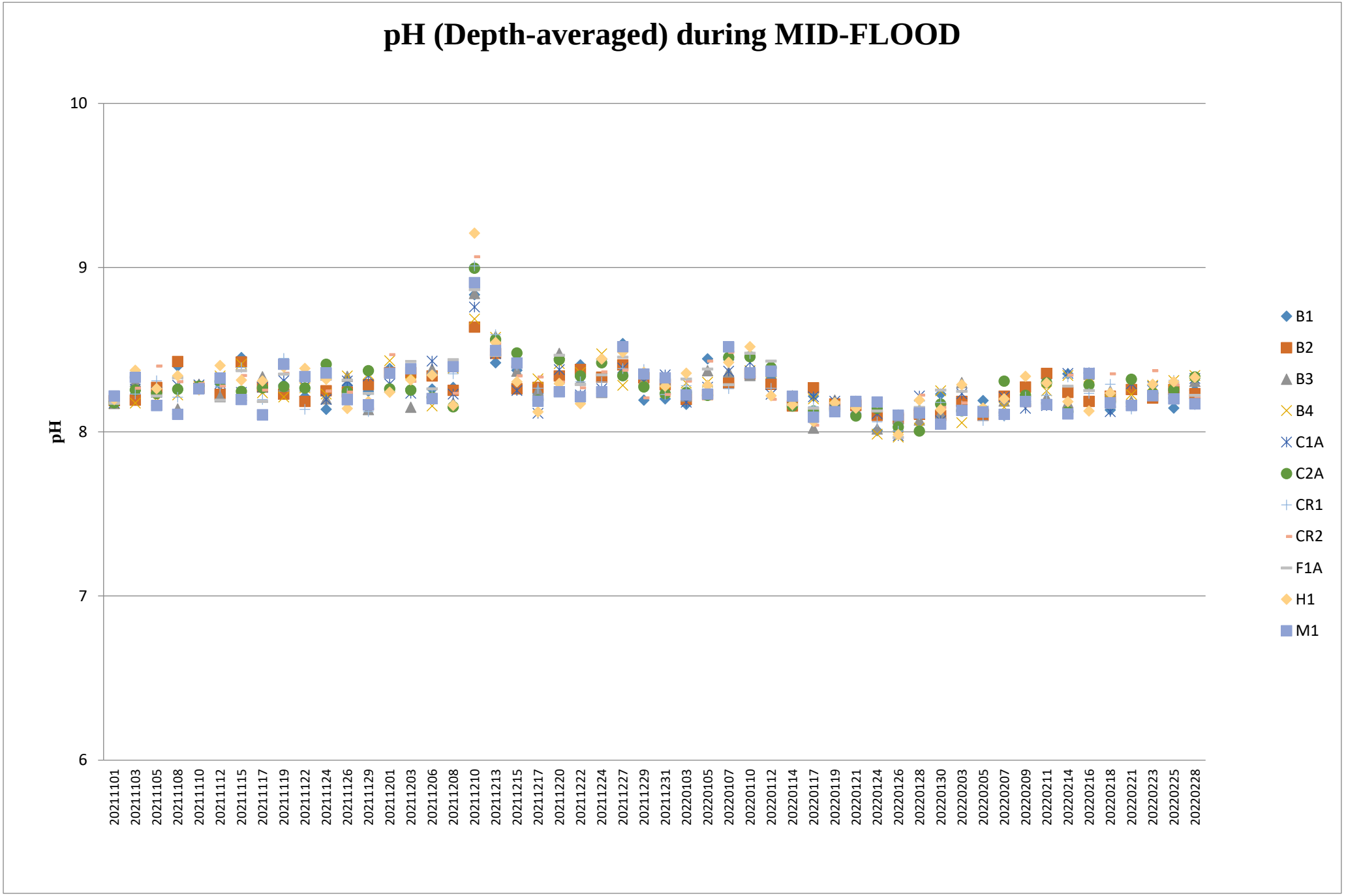
Note:

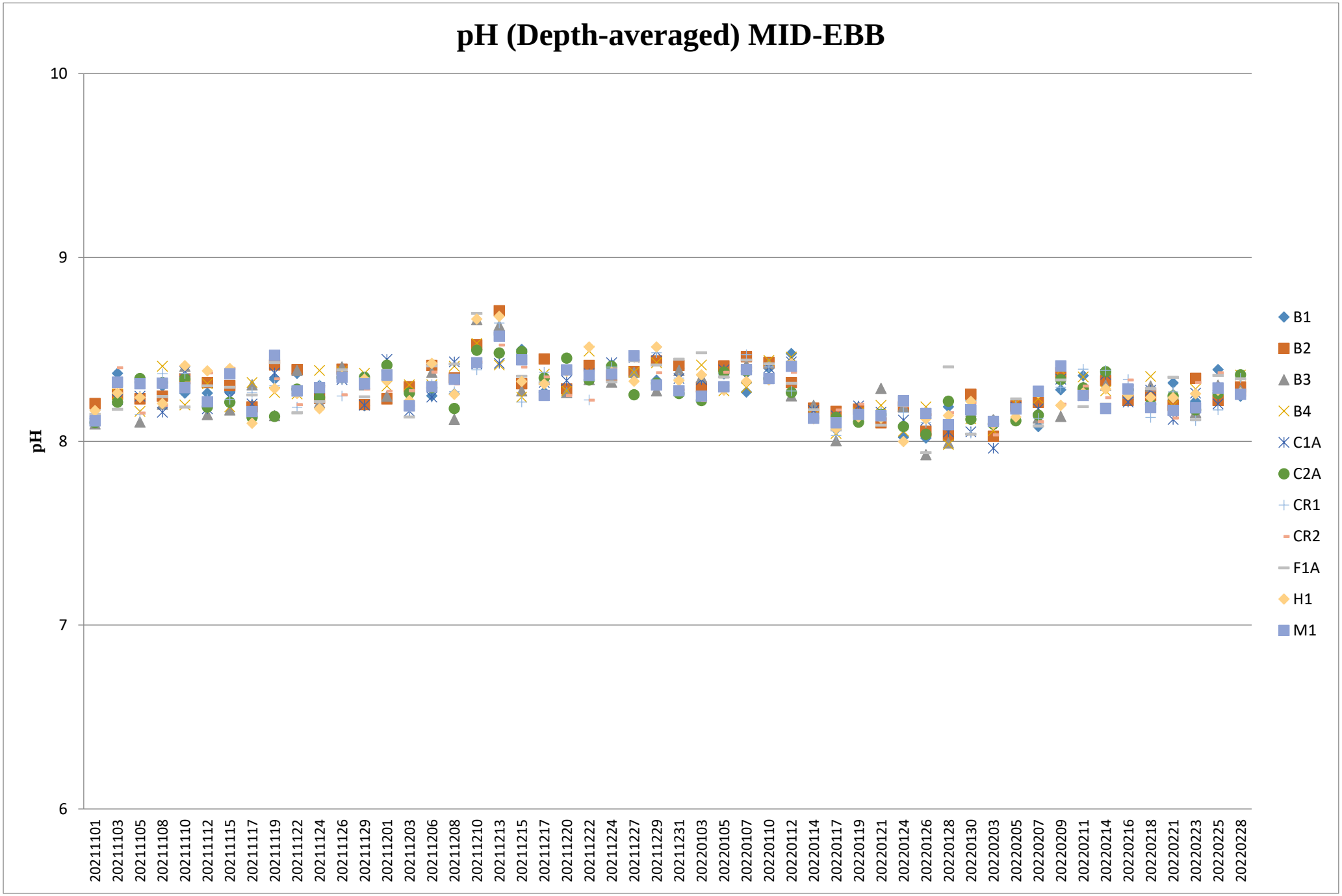
1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

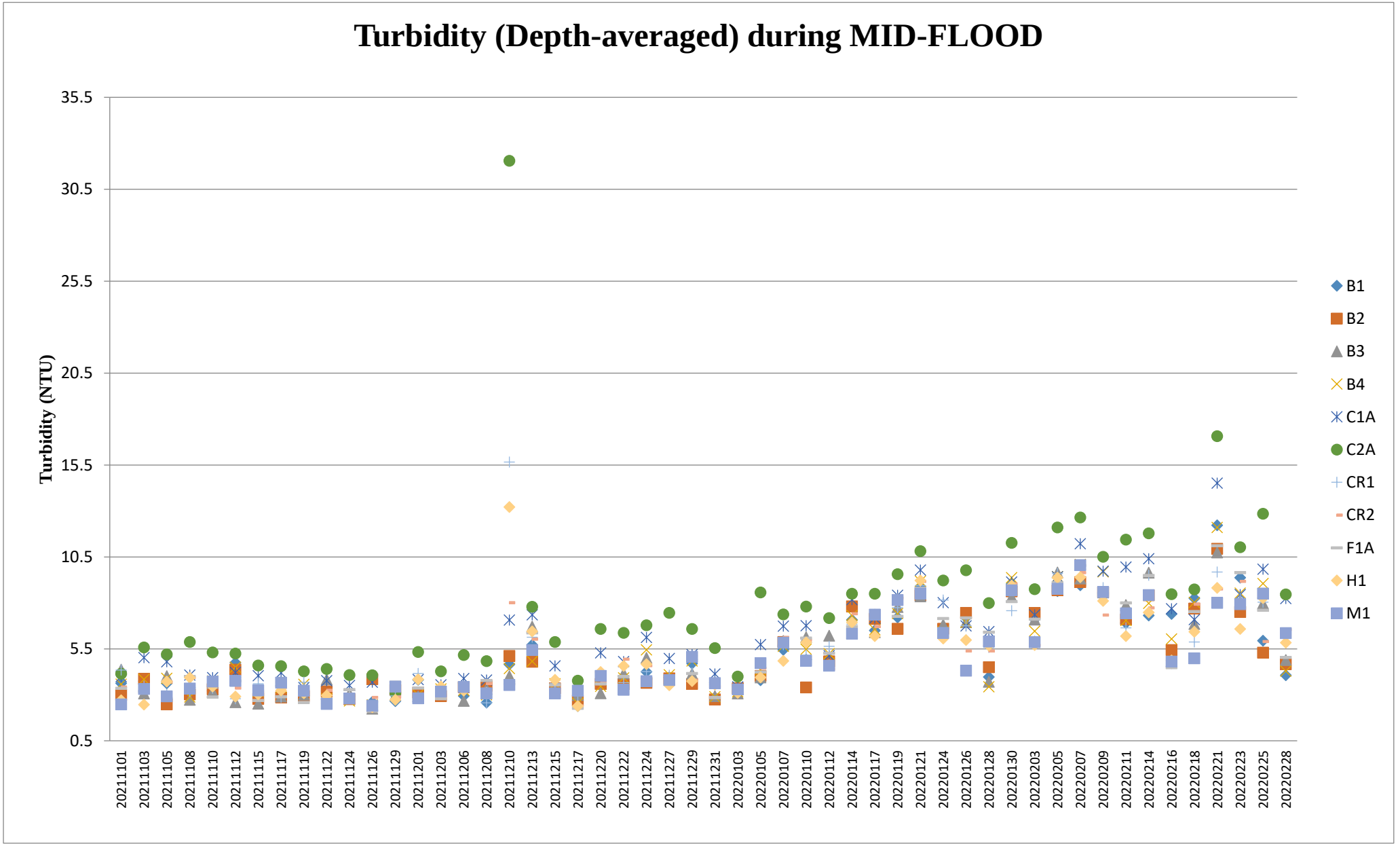


Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

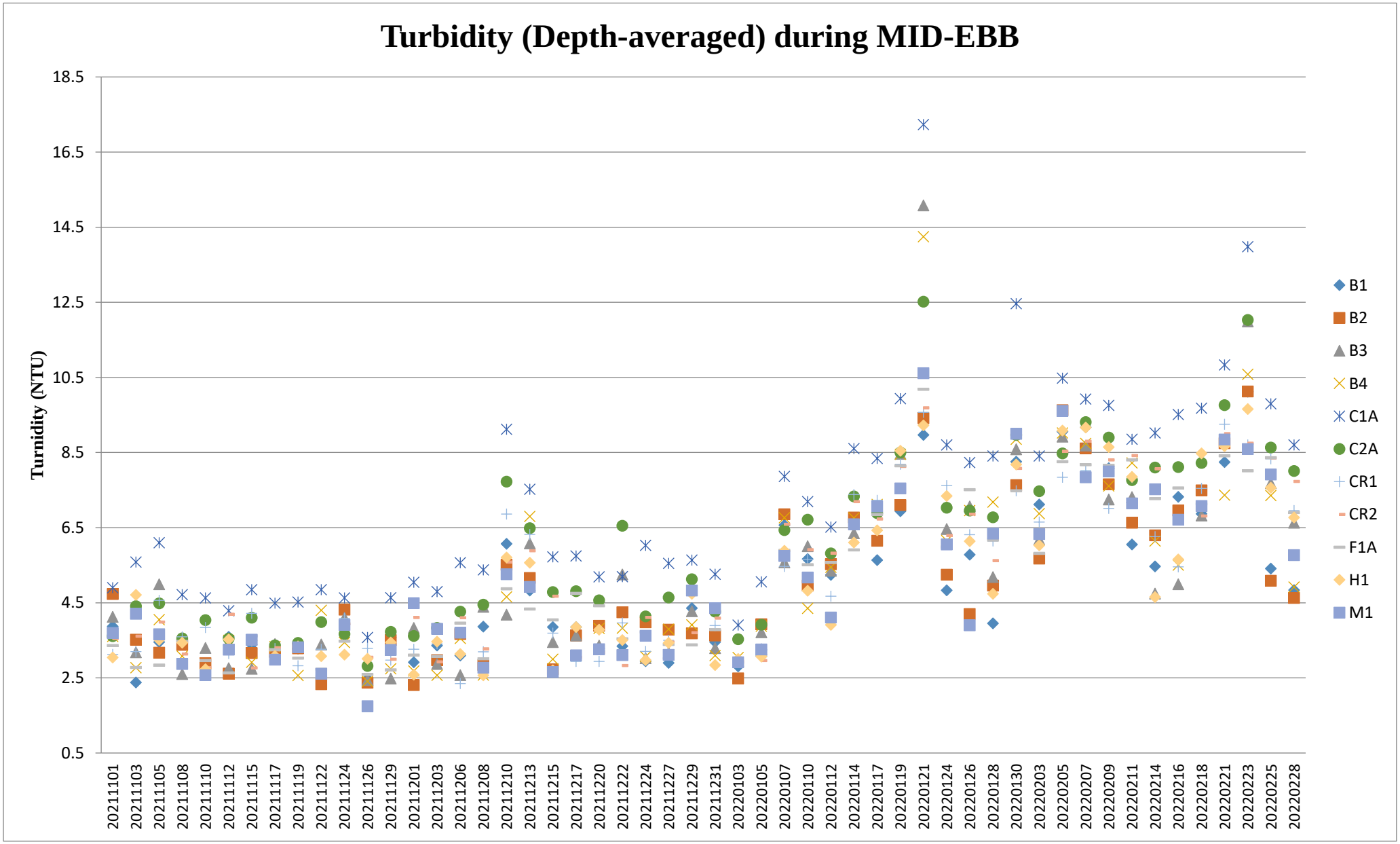

pH (Depth-averaged) during MID-FLOOD
pH
10
9
8
7
6
20211101
20211103
20211105
20211108
20211110
20211112
20211115
20211117
20211119
20211122
20211124
20211126
20211129
20211201
20211203
20211206
20211208
20211210
20211213
20211215
20211217
20211220
20211222
20211224
20211227
20211229
20211231
20220103
20220105
20220107
20220110
20220112
20220114
20220117
20220119
20220121
20220124
20220126
20220128
20220130
20220203
20220205
20220207
20220209
20220211
20220214
20220216
20220218
20220221
20220223
20220225
20220228
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1


pH (Depth-averaged) MID-EBB
pH
10
9
8
7
6
20211101
20211103
20211105
20211108
20211110
20211112
20211115
20211117
20211119
20211122
20211124
20211126
20211129
20211201
20211203
20211206
20211208
20211210
20211213
20211215
20211217
20211220
20211222
20211224
20211227
20211229
20211231
20220103
20220105
20220107
20220110
20220112
20220114
20220117
20220119
20220121
20220124
20220126
20220128
20220130
20220203
20220205
20220207
20220209
20220211
20220214
20220216
20220218
20220221
20220223
20220225
20220228
B1
B2
B3
B4
C1A
C2A
CR1
CR2
F1A
H1
M1



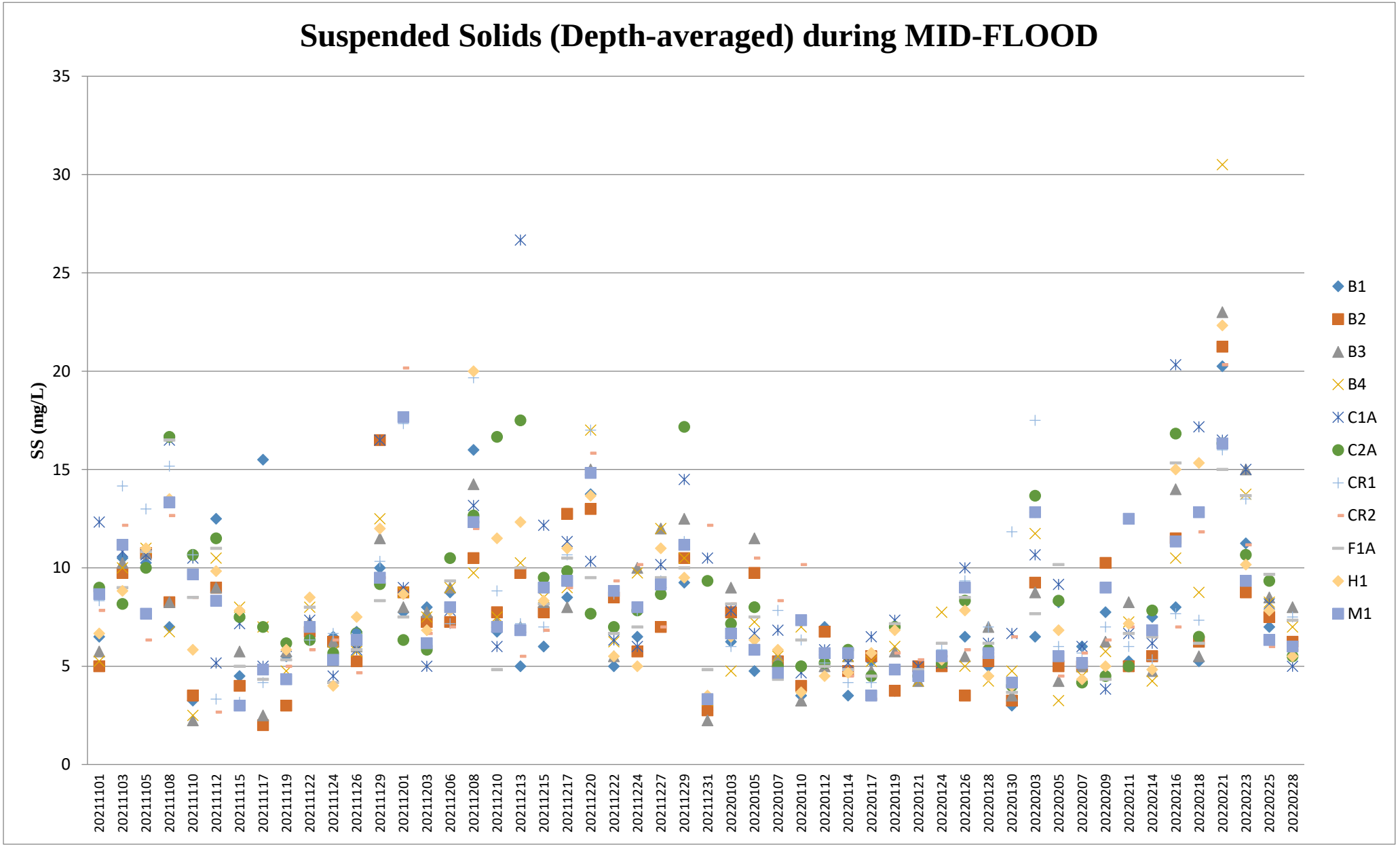
Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.



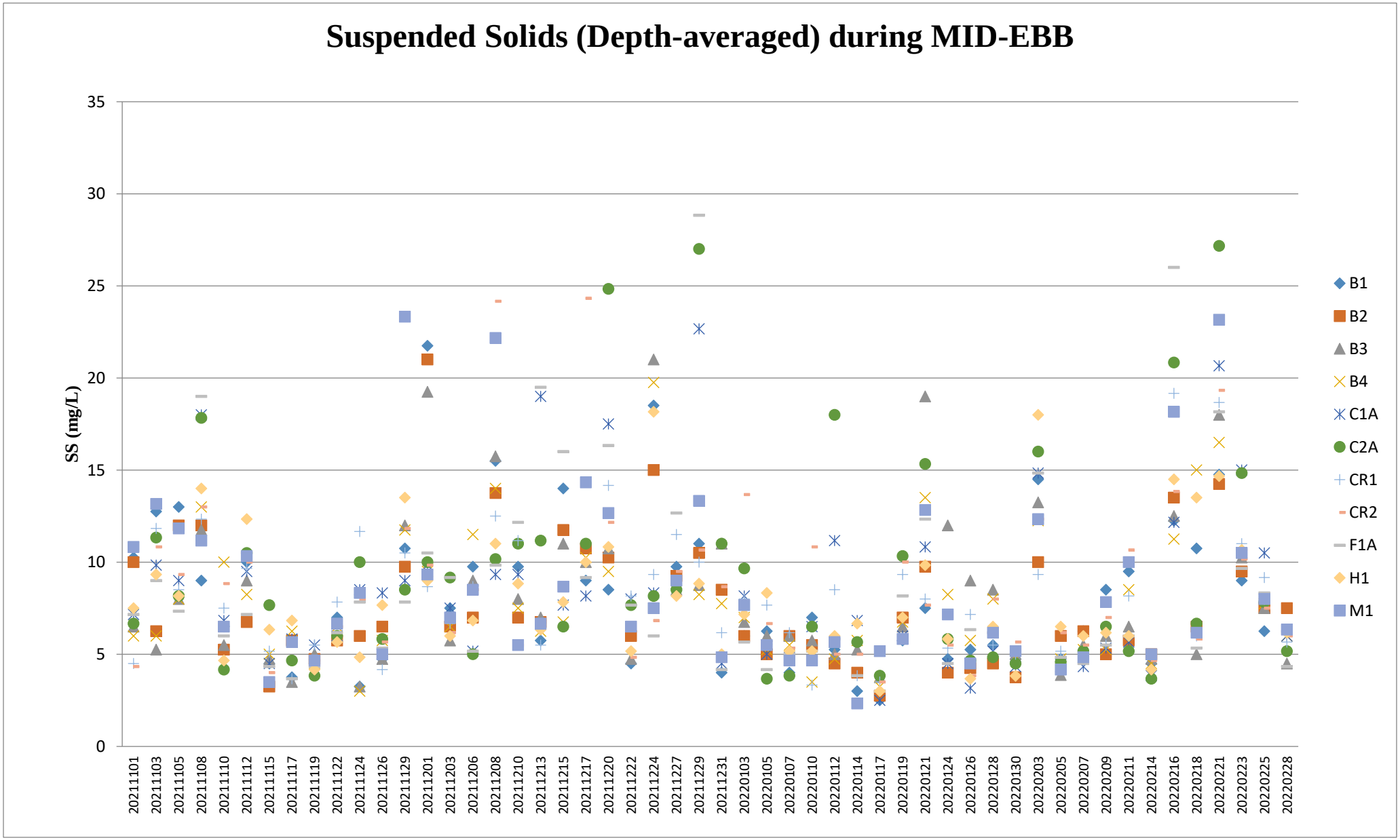
Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.



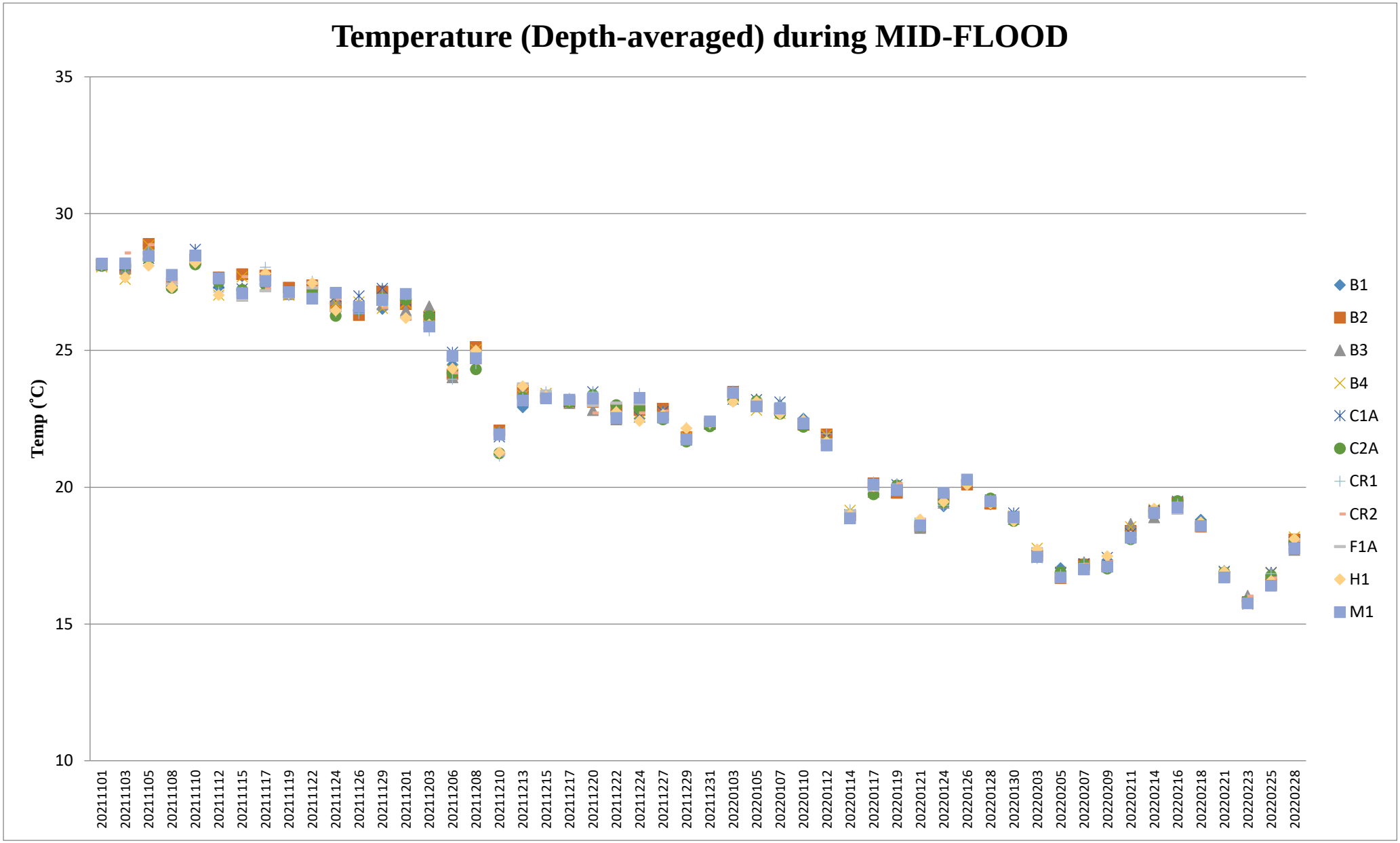
Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.



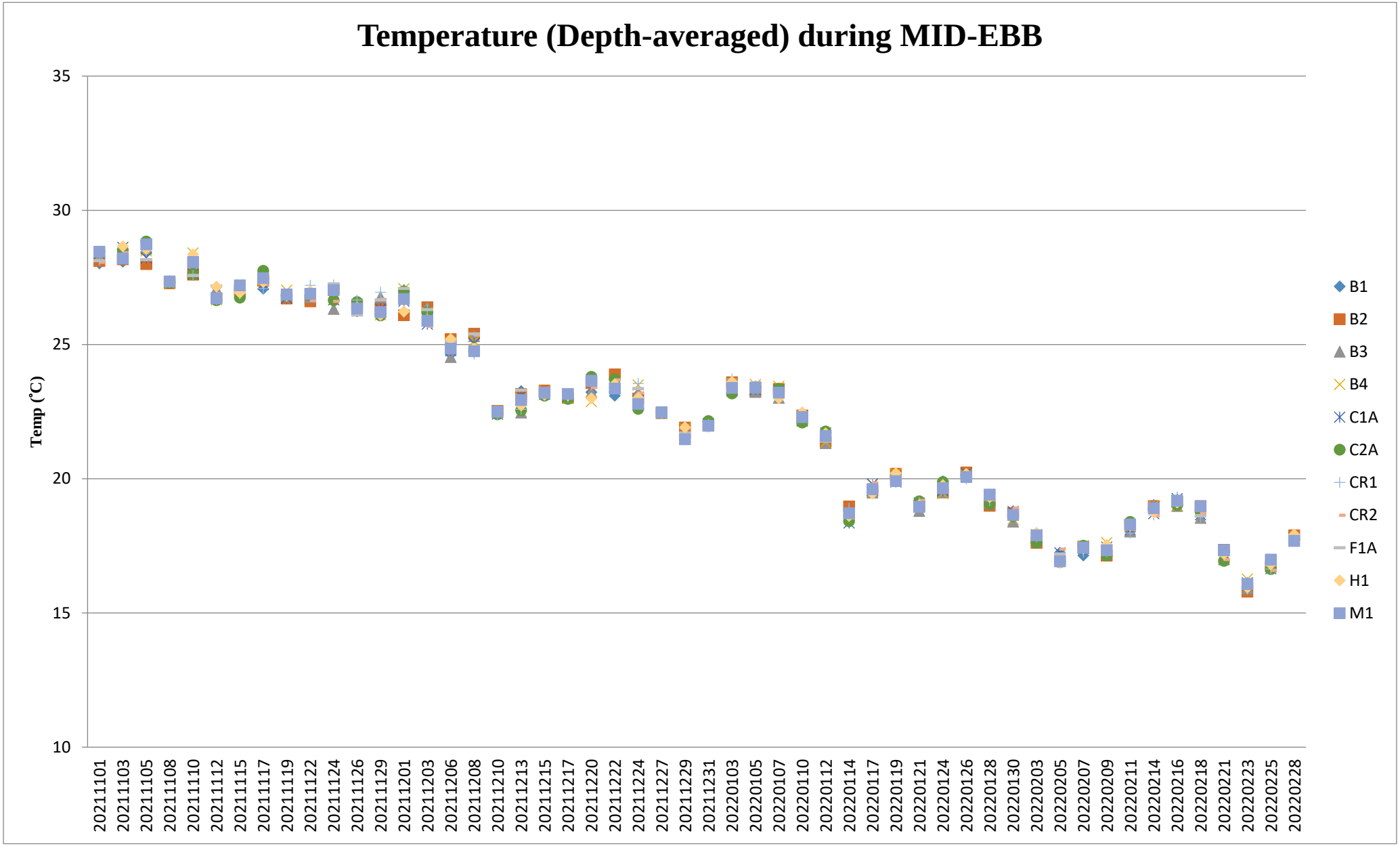
Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report



Note:

1. The Action and Limit Level of temperature can be referred to **Table 2.8** of the monthly EM&A report.



Note:

1. The Action and Limit Level of temperature can be referred to **Table 2.8** of the monthly EM&A report.

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, 14/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-BB010050
Date of Issue : 13 January 2022

PART A - CUSTOMER INFORMATION

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

PART B - SAMPLE INFORMATION

Name of Equipment :	HORIBA U-53
Manufacturer :	HORIBA
Serial Number :	S2A98W8H
Date of Received :	10 January 2022
Date of Calibration :	11 January 2022
Date of Next Calibration :	10 April 2022

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
Turbidity	APHA 21e 2130B
Dissolved oxygen	APHA 21e 4500 O
pH value	APHA 21e 4500 H+
Salinity	APHA 21e 2520B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure

PART D - CALIBRATION RESULT

(1) Turbidity

EXPECTED READING (NTU)	DISPLAY READING (NTU)	TOLERANCE (%)	RESULT
0	0	--	Satisfactory
10	10.4	4.0	Satisfactory
20	20.2	1.0	Satisfactory
100	105	5.0	Satisfactory
800	798	-0.3	Satisfactory

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

(2) Dissolved oxygen

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE (MG/L)	RESULT
8.87	8.84	-0.03	Satisfactory
6.05	6.43	0.38	Satisfactory
4.47	4.67	0.20	Satisfactory
2.03	2.37	0.34	Satisfactory

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

(3) pH value

--- 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
Unit 10, 14/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-BB010050
Date of Issue : 13 January 2022

TARGET (PH UNIT)	DISPLAY READING (PH UNIT)	TOLERANCE	RESULT
4.00	3.96	-0.04	Satisfactory
7.42	7.24	-0.18	Satisfactory
10.01	9.87	-0.14	Satisfactory

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

(4) Salinity

EXPECTED READING (G/L)	DISPLAY READING (G/L)	TOLERANCE (%)	RESULT
10	9.23	-7.70	Satisfactory
20	19.19	-4.05	Satisfactory
30	29.14	-2.87	Satisfactory

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

(5) Temperature

READING OF REF. THERMOMETER (°C)	DISPLAY READING (°C)	TOLERANCE (°C)	RESULT
19	19.25	0.25	Satisfactory
24	23.70	-0.30	Satisfactory
33	32.84	-0.16	Satisfactory

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

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, 14/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-BB020007
Date of Issue : 10 February 2022
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

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

PART B - SAMPLE INFORMATION

Name of Equipment :	HORIBA U-53
Manufacturer :	HORIBA
Serial Number :	PORBNFNT
Date of Received :	07 February 2022
Date of Calibration :	07 February 2022
Date of Next Calibration :	07 May 2022

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
Turbidity	APHA 21e 2130B
Dissolved oxygen	APHA 21e 4500 O
pH value	APHA 21e 4500 H+
Salinity	APHA 21e 2520B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure

PART D - CALIBRATION RESULT

(1) Turbidity

EXPECTED READING (NTU)	DISPLAY READING (NTU)	TOLERANCE (%)	RESULT
0	0	--	Satisfactory
10	9.78	-2.2	Satisfactory
20	20.7	3.5	Satisfactory
100	99.5	-0.5	Satisfactory
800	792	-1.0	Satisfactory

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

(2) Dissolved oxygen

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE (MG/L)	RESULT
9.26	9.29	0.03	Satisfactory
6.81	6.98	0.17	Satisfactory
4.52	5.01	0.49	Satisfactory
3.94	4.37	0.43	Satisfactory

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

(3) pH value

--- 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
Unit 10, 14/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-BB020007
Date of Issue : 10 February 2022

TARGET (PH UNIT)	DISPLAY READING (PH UNIT)	TOLERANCE	RESULT
4.00	3.99	-0.01	Satisfactory
7.42	7.42	0.00	Satisfactory
10.01	10.12	0.11	Satisfactory

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

(4) Salinity

EXPECTED READING (G/L)	DISPLAY READING (G/L)	TOLERANCE (%)	RESULT
10	9.31	-6.90	Satisfactory
20	20.25	1.25	Satisfactory
30	31.68	5.60	Satisfactory

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

(5) Temperature

READING OF REF. THERMOMETER (°C)	DISPLAY READING (°C)	TOLERANCE (°C)	RESULT
18	17.80	-0.2	Satisfactory
26	25.82	-0.18	Satisfactory
32.5	32.14	-0.36	Satisfactory

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

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, 14/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-BA120081
Date of Issue : 16 December 2021
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

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

PART B - SAMPLE INFORMATION

Name of Equipment :	HORIBA U-53
Manufacturer :	HORIBA
Serial Number :	NEKVM2XU
Date of Received :	09 December 2021
Date of Calibration :	15 December 2021
Date of Next Calibration :	14 March 2022

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
Dissolved oxygen	APHA 21e 4500 O
Salinity	APHA 21e 2520B
Turbidity	APHA 21e 2130B

PART D - CALIBRATION RESULT

(1) pH value

TARGET (PH UNIT)	DISPLAY READING	TOLERANCE	RESULT
4.00	3.99	-0.01	Satisfactory
7.42	7.22	-0.20	Satisfactory
10.01	9.81	-0.20	Satisfactory

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

(2) Temperature

READING OF REF. THERMOMETER (°C)	DISPLAY READING (°C)	TOLERANCE (°C)	RESULT
16	16.30	0.30	Satisfactory
22	22.00	0.00	Satisfactory
34	33.38	-0.62	Satisfactory

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

(3) Dissolved oxygen

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE (MG/L)	RESULT
8.39	8.17	-0.22	Satisfactory
6.59	6.79	0.20	Satisfactory

--- 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
Unit 10, 14/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-BA120081
Date of Issue : 16 December 2021

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE (MG/L)	RESULT
5.96	6.10	0.14	Satisfactory
2.21	1.76	-0.45	Satisfactory

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

(4) Salinity

EXPECTED READING (G/L)	DISPLAY READING (G/L)	TOLERANCE (%)	RESULT
10	9.69	-3.10	Satisfactory
20	20.50	2.50	Satisfactory
30	31.18	3.93	Satisfactory

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

(5) Turbidity

EXPECTED READING (NTU)	DISPLAY READING (NTU)	TOLERANCE (%)	RESULT
0	0.17	--	Satisfactory
10	9.90	-1.0	Satisfactory
20	19.7	-1.5	Satisfactory
100	104	4.0	Satisfactory
800	796	-0.5	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:	*NTi Audio*
Type No.:	*XL2 (Serial No.: A2A-17638-E0)*
Microphone:	*ACO 7052 (Serial No.:68746)*
Preamplifier:	*NTi Audio M2211 MA220 (Serial No.:7014)*

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon*

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: 22 March 2021

Date of calibration: 24 March 2021

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 24 March 2021

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:	23.2 °C
Air Pressure:	1006 hPa
Relative Humidity:	57.6 %

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		
30-130	dBA SPL	Fast	94	1000	94.1	±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		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±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		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

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

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		
30-130	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.2	±1.5
				125	94.2	±1.5
				250	94.1	±1.4
				500	94.2	±1.4
				1000	94.1	Ref
				2000	94.3	±1.6
				4000	94.6	±1.6
				8000	92.8	+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		
30-130	dBA SPL	Fast	94	31.5	54.7	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.1	-16.1 ±1.5
				250	85.5	-8.6 ±1.4
				500	91.0	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.5	+1.2 ±1.6
				4000	95.6	+1.0 ±1.6
				8000	91.8	-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		
30-130	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	94.0	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.1	-0.2 ±1.6
				4000	93.8	-0.8 ±1.6
				8000	89.8	–3.0 +2.1: –3.1

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

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.

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

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 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.*

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: 28 June 2021

Date of calibration: 30 June 2021

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 30 June 2021

Certificate No.: APJ21-030-CC001

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:	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		
20-140	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		
20-140	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		
20-140	dBA SPL	Fast	94	1000	93.7	Ref
		Slow			93.7	±0.3

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

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		
20-140	dB SPL	Fast	94	31.5	94.0	±2.0
				63	93.9	±1.5
				125	94.0	±1.5
				250	94.0	±1.4
				500	93.9	±1.4
				1000	93.7	Ref
				2000	93.8	±1.6
				4000	95.6	±1.6
				8000	92.1	+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		
20-140	dBA SPL	Fast	94	31.5	54.7	-39.4 ±2.0
				63	67.8	-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	96.3	+1.0 ±1.6
				8000	91.2	-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		
20-140	dBC SPL	Fast	94	31.5	90.9	-3.0 ±2.0
				63	93.1	-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	94.5	-0.8 ±1.6
				8000	89.3	-3.0 +2.1; -3.1

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

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	± 0.05
	63 Hz	± 0.10
	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.

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

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***SVANTEK***
Type No.:	***971 (Serial No.: 96062)***
Microphone:	***ACO 7052 E (Serial No.:78090)***
Preamplifier:	***SVANTEK SV 18 (Serial No.:103808)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.*

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: 2 July 2021

Date of calibration: 5 July 2021

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 5 July 2021

Certificate No.: APJ21-029-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:	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		
20-140	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		
20-140	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		
20-140	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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

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		
20-140	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.0	Ref
				2000	93.8	±1.6
				4000	93.3	±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		
20-140	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	95.0	+1.2 ±1.6
				4000	94.3	+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		
20-140	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.3	-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	92.5	-0.8 ±1.6

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

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	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
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.

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

MAXLAB

CALIBRATION CERTIFICATE

Certificate Information

Date of Issue	20-Mar-2021	**Certificate Number**	MLCN210569S

Customer Information

Company Name	Acuity Sustainability Consulting Limited
Address	Unit C, 11/F., Ford Glory Plaza, Nos. 37-39 Wing Hing Street, Cheung Sha Wan, Kowloon, HK

Equipment-under-Test (EUT)

Description	Sound Calibrator
Manufacturer	Svantek
Model Number	SV 33B
Serial Number	83042
Equipment Number	--

Calibration Particular

Date of Calibration	20-Mar-2021		
Calibration Equipment	4231(MLTE008) / AV200063 / 23-Jun-23 1357(MLTE190) / MLEC20/05/02 / 26-May-21		
Calibration Procedure	MLCG00, MLCG15		
Calibration Conditions	Laboratory	Temperature	23 °C ± 5 °C
		Relative Humidity	55% ± 25%
	EUT	Stabilizing Time	Over 3 hours
		Warm-up Time	Not applicable
		Power Supply	Internal battery
Calibration Results	Calibration data were detailed in the continuation pages. All calibration results were within EUT specification.		

Approved By & Date

K.O. Lo 20-Mar-2021

Statements

* Calibration equipment used for this calibration are traceable to national / international standards.
* The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.
* MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.
* The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.

萬儀校正中心有限公司
MaxLab Calibration Centre Limited
香港新界葵涌華星街 16-18 號保盈工業大廈 9 樓 B 室
Unit B, 9/F., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk

MAXLAB

Certificate No. MLCN210569S

Calibration Data

EUT Setting	Standard Reading	EUT Error	Calibration Uncertainty	EUT Specification
114 dB	114.0 dB	0.0 dB	0.15 dB	± 0.3 dB

- END -

Calibrated By : Dan
Date : 20-Mar-21

Checked K.O. Lo
Date : 20-Mar-21

萬儀校正中心有限公司
MaxLab Calibration Centre Limited
香港新界葵涌華星街 16-18 號保盈工業大廈 9 樓 B 室
Unit B, 9/F., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk

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 5. required; 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 4. implemented; 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 2. EPD; Repeat measurements to confirm 3. findings; 4. Increase monitoring frequency; Identify source and investigate the 5. cause of exceedance; Carry out analysis of Contractor's 6. working procedures; Discuss with the IEC, Contractor 7. and SO on remedial measures required; Assess effectiveness of 8. Contractor's remedial actions and keep IEC, EPD and SO informed of the results; 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 4. implemented; Supervise the implementation of 5. remedial measures; 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 3. of notification; Implement the agreed 4. proposals; Submit further proposal if 5. problem still not under control; 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: 4, 7, 15, 21 February 2022 (Daytime)

4&5, 7&8, 15&16, 21&22 February 2022 (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
4 Feb 2022	13:02	-	13:32	Fine	55.9	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
4 Feb 2022	19:02	-	19:07	Fine	42.3	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:12	-	20:17		47.6		
	21:07	-	21:12		47.9		
5 Feb 2022	1:17	-	1:22	Fine	46.7	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:12	-	3:17		46.4		
	5:17	-	5:22		42.2		
7 Feb 2022	11:30	-	12:00	Cloudy	62.3	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
7 Feb 2022	19:05	-	19:10	Fine	50.1	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:20	-	20:25		44.4		
	21:10	-	21:15		45.9		
8 Feb 2022	1:15	-	1:20	Fine	44.7	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:10	-	3:15		44.4		
	5:10	-	5:15		43.9		
15 Feb 2022	11:00	-	11:30	Cloudy	60.2	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
15 Feb 2022	19:25	-	19:30	Fine	57.1	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:25	-	20:30		49.9		
	21:25	-	21:30		47.7		
16 Feb 2022	1:10	-	1:15	Fine	45.1	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:10	-	3:15		44.4		
	5:05	-	5:10		45.4		
21 Feb 2022	13:08	-	13:38	Cloudy	57.7	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
21 Feb 2022	19:03	-	19:08	Fine	48.5	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:08	-	20:13		49.3		
	21:03	-	21:08		50.6		
22 Feb 2022	1:23	-	1:28	Fine	49.0	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:18	-	3:23		44.7		
	5:18	-	5:23		49.8		

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

Monitoring date: 4, 7, 15, 21 February 2022 (Daytime)

4&5, 7&8, 15&16, 21&22 February 2022 (Evening & Night time)

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

Noise source other than construction activities from the Project: Road Maintenance Work on 15 Feb 2022 Morning

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
4 Feb 2022	13:16	-	13:46	Fine	54.4	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
4 Feb 2022	19:01	-	19:06	Fine	48.4	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:16	-	20:21		48.3		
	21:16	-	21:21		51.1		
5 Feb 2022	1:11	-	1:16	Fine	47.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:06	-	3:11		47.3		
	5:01	-	5:06		48.5		
7 Feb 2022	11:17	-	11:47	Cloudy	59.1	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
7 Feb 2022	19:02	-	19:07	Fine	48.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:12	-	20:17		48.8		
	21:12	-	21:17		47.8		
8 Feb 2022	1:12	-	1:17	Fine	45.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:07	-	3:12		45.7		
	5:12	-	5:17		45.5		
15 Feb 2022	10:46	-	11:16	Cloudy	66.5	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
15 Feb 2022	19:01	-	19:06	Fine	53.2	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:06	-	20:11		53.9		
	21:21	-	21:26		52.2		
16 Feb 2022	1:06	-	1:11	Fine	51.5	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:11	-	3:16		51.9		
	5:01	-	5:06		52.8		
21 Feb 2022	12:57	-	13:27	Cloudy	61.7	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
21 Feb 2022	19:02	-	19:07	Fine	47.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:02	-	20:07		52.5		
	22:47	-	22:52		50.5		
22 Feb 2022	1:37	-	1:42	Fine	50.1	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:27	-	3:32		48.9		
	5:12	-	5:17		51.5		

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

Monitoring date: 4, 7, 15, 21 February 2022 (Daytime)

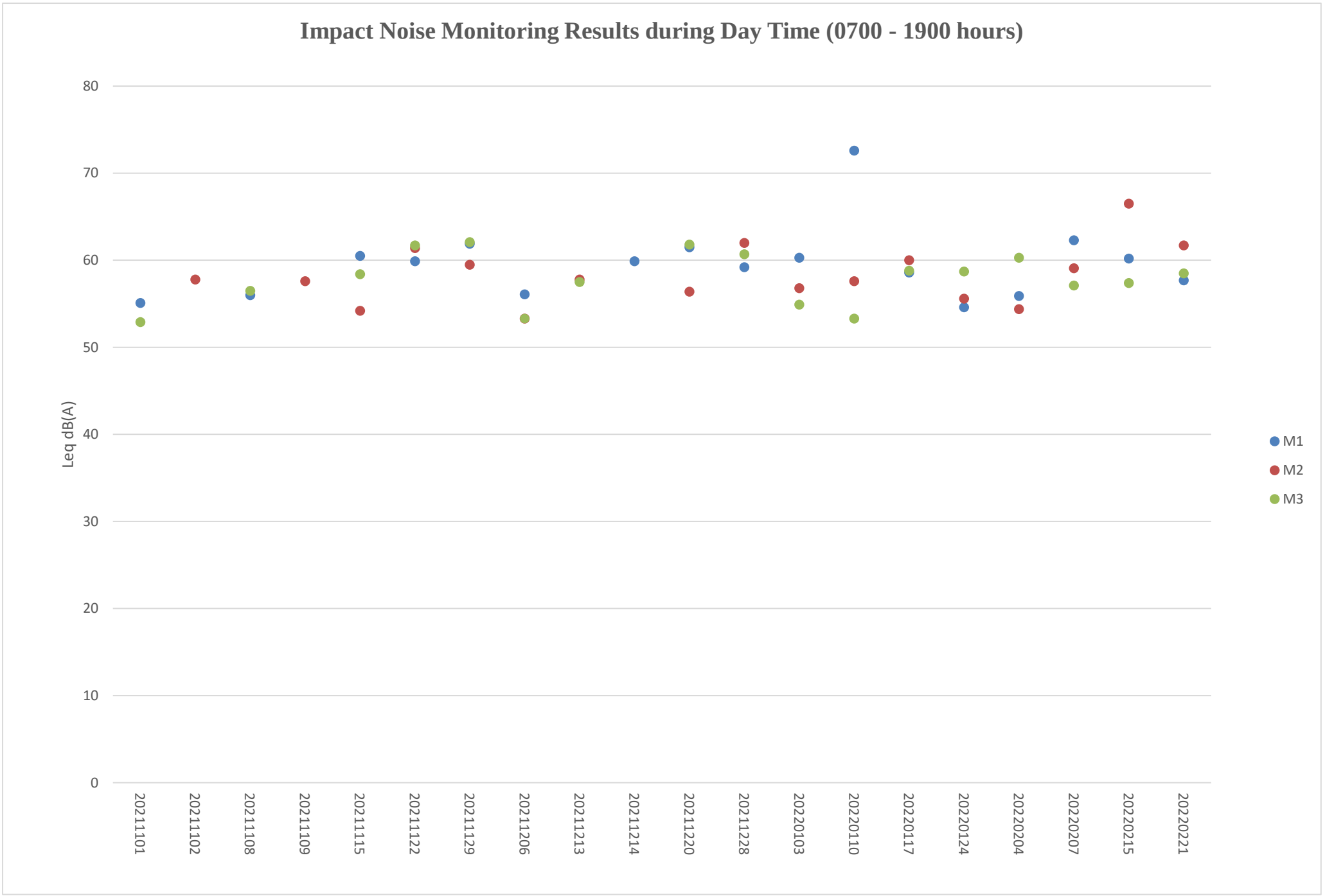
4&5, 7&8, 15&16, 21&22 February 2022 (Evening & Night time)

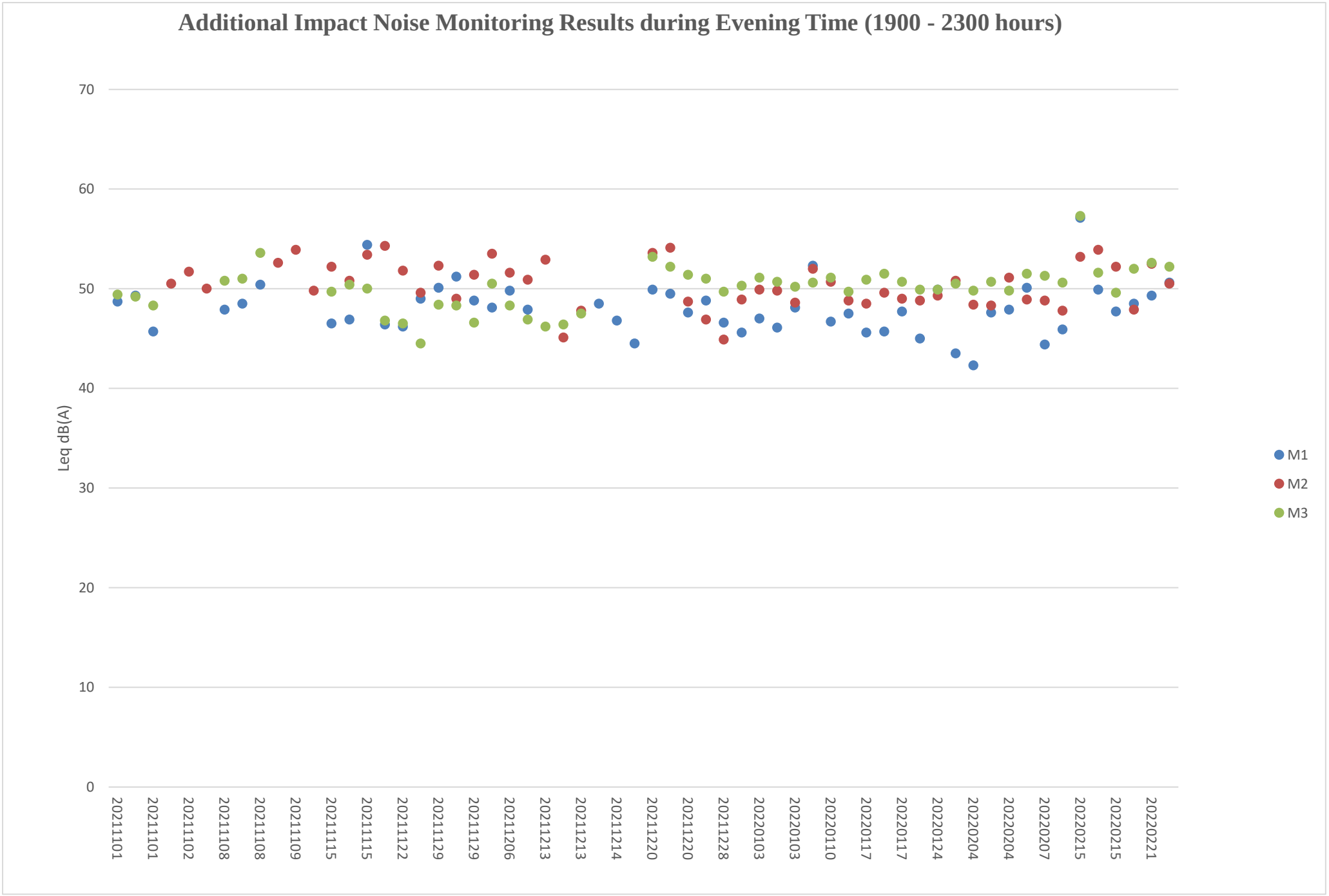
Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

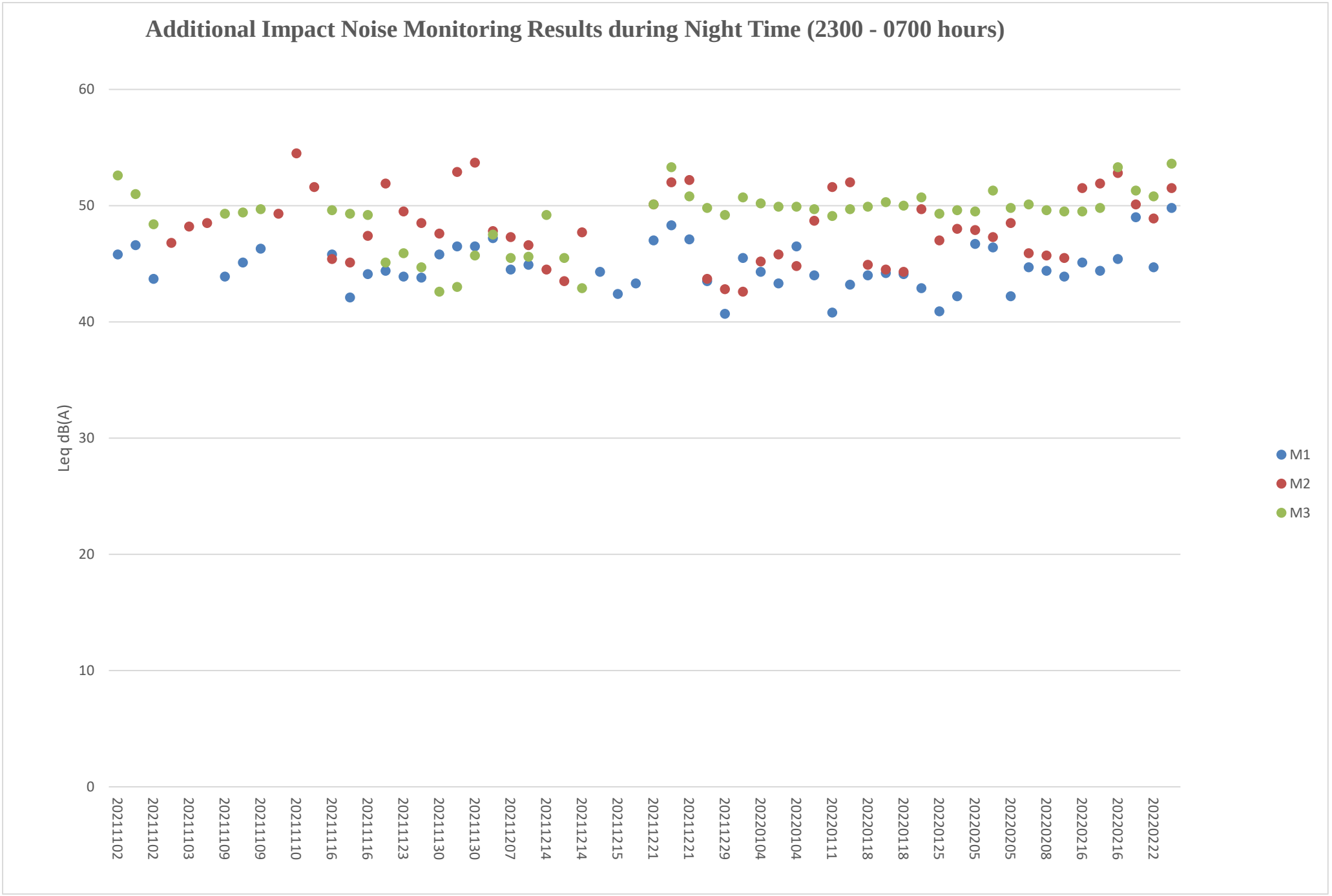
Noise source other than construction activities from the Project: Air-conditioner

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
4 Feb 2022	13:05	-	13:35	Fine	60.3	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
4 Feb 2022	19:05	-	19:10	Fine	49.8	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:25	-	20:30		50.7		
	21:10	-	21:15		49.8		
5 Feb 2022	1:20	-	1:25	Fine	49.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:10	-	3:15		51.3		
	5:20	-	5:25		49.8		
7 Feb 2022	11:30	-	12:00	Cloudy	57.1	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
7 Feb 2022	19:05	-	19:10	Fine	51.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:30	-	20:35		51.3		
	21:20	-	21:25		50.6		
8 Feb 2022	1:10	-	1:15	Fine	50.1	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:40	-	3:45		49.6		
	5:10	-	5:15		49.5		
15 Feb 2022	11:17	-	11:47	Cloudy	57.4	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
15 Feb 2022	19:02	-	19:07	Fine	57.3	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:27	-	20:32		51.6		
	21:22	-	21:27		49.6		
16 Feb 2022	1:02	-	1:07	Fine	49.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:12	-	3:17		49.8		
	5:02	-	5:07		53.3		
21 Feb 2022	13:01	-	13:31	Cloudy	58.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
21 Feb 2022	19:06	-	19:11	Fine	52.0	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:11	-	20:16		52.6		
	22:46	-	22:51		52.2		
22 Feb 2022	1:41	-	1:46	Fine	51.3	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:26	-	3:31		50.8		
	5:16	-	5:21		53.6		


Impact Noise Monitoring Results during Day Time (0700 - 1900 hours)
Leq dB(A)
80
70
60
50
40
30
20
10
0
20211101
20211102
20211108
20211109
20211115
20211122
20211129
20211206
20211213
20211214
20211220
20211228
20220103
20220110
20220117
20220124
20220204
20220207
20220215
20220221
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
20211101
20211101
20211102
20211108
20211108
20211109
20211115
20211115
20211122
20211129
20211129
20211206
20211213
20211213
20211214
20211220
20211220
20211228
20220103
20220103
20220110
20220117
20220117
20220124
20220204
20220204
20220207
20220215
20220215
20220221
M1
M2
M3


Additional Impact Noise Monitoring Results during Night Time (2300 - 0700 hours)
Leq dB(A)
60
50
40
30
20
10
0
20211102
20211102
20211103
20211109
20211109
20211110
20211116
20211116
20211123
20211130
20211130
20211207
20211214
20211214
20211215
20211221
20211221
20211229
20220104
20220104
20220111
20220118
20220118
20220125
20220205
20220205
20220208
20220216
20220216
20220222
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	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	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.

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	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	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.

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	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	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.

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	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	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.

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	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	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														
Apr														
May														
Jun														
Sub-total	0	0	0	0	0	0	8.1867	6.7360	0	0.1550	0	0.4000	0.2250	0.0715
Jul														
Aug														
Sep														
Oct														
Nov														
Dec														
Total	0	0	0	0	0	0	8.1867	6.7360	0	0.1550	0	0.4000	0.2250	0.0715

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.

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.

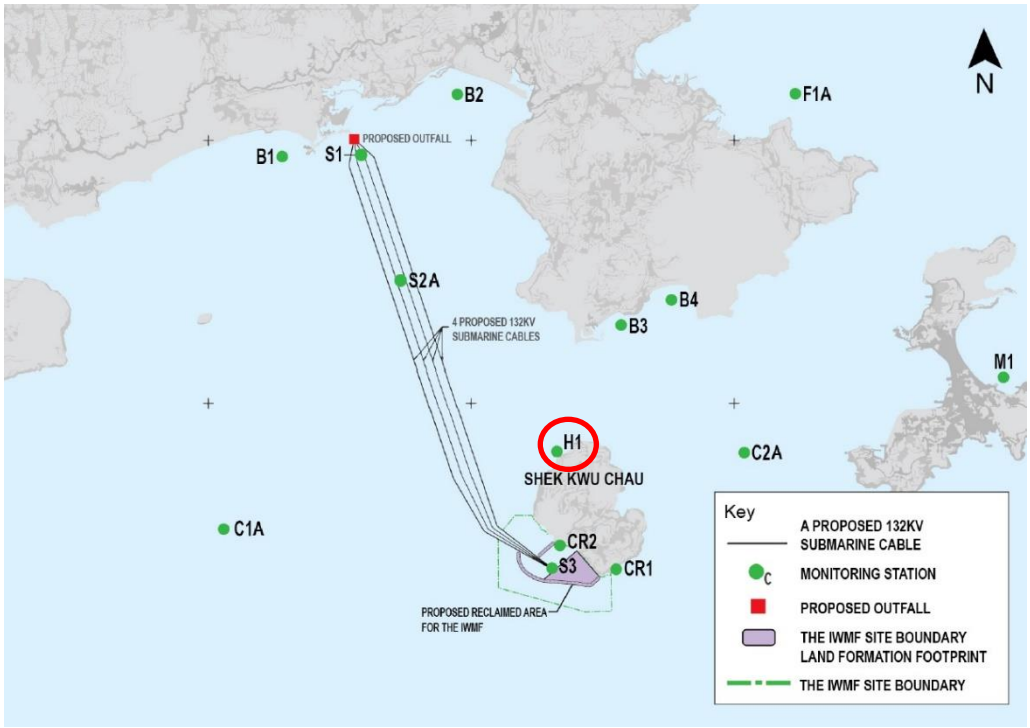
Appendix N Exceedance Report

Statistical Summary of Exceedances in the Reporting Period

Water Quality (Regular Monitoring)			
Location	**Action Level**	**Limit Level**	**Total**
B1	3	1	4
B2	0	2	2
B3	2	2	4
B4	3	2	5
CR1	3	1	4
CR2	1	2	3
F1A	2	1	3
H1	1	3	4
S1	0	0	0
S2A	0	0	0
S3	0	0	0
M1	1	4	5

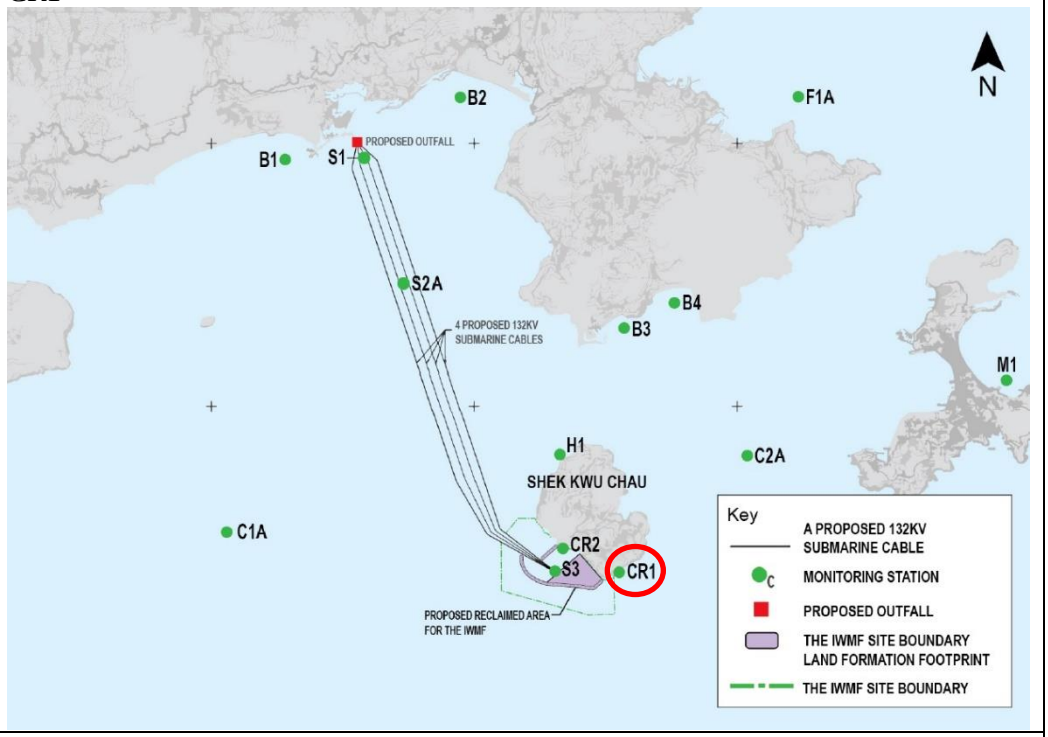
Noise (Day Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Evening Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Night Time)			
Location	**Action Level**	**Limit Level**	**Total**
M1	0	0	0
M2	0	0	0
M3	0	0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

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	03 Feb 2022 (Lab result received on 10 Feb 2022)		
Time	12:25 – 15:55 (Mid-Ebb) 08:00 – 10:15 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	H1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 17.8 mg/L (C1A of 120%)	≥ 19.3 mg/L (C1A of 130%)	
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) without Exceedance
	18.0 mg/L (H1)	14.8 mg/L (C1A) 16.0 mg/L (C2A)	14.5 mg/L (B1) 10.0 mg/L (B2) 13.3 mg/L (B3) 12.3 mg/L (B4) 12.3 mg/L (M1) 14.8 mg/L (F1A) 9.3 mg/L (CR1) 12.3 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	No site activity was recorded on 03 February 2022 due to public holiday (Chinese New Year Holiday). Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. An exceedance of action level was found at H1. H1 is located at unrelated stream direction (neither upstream nor downstream) to the works location. The exceedance 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 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 inspection on 31 Jan 2022. After the investigation, the exceedance on 03 Feb 2022 at H1 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	H1: 

<table>
<tr><td colspan="4">Mid-Flood</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">CR1
 
</td></tr>
<tr><td>Parameter</td><td colspan="3">Suspended Solid (SS)</td></tr>
<tr><td rowspan="2">Action & Limit Levels</td><td>Action Level</td><td colspan="2">Limit Level</td></tr>
<tr><td>≥ 16.4 mg/L (120% of C2A)</td><td colspan="2">≥ 17.8 mg/L (130% of C2A)</td></tr>
<tr><td rowspan="2">Measurement Level</td><td>Impact Station(s) of Exceedance</td><td>Control Stations</td><td>Impact Station(s) without Exceedance</td></tr>
<tr><td>17.5 mg/L (CR1)</td><td>10.7 mg/L (C1A)
13.7 mg/L (C2A)</td><td>6.5 mg/L (B1)
9.3 mg/L (B2)
8.8 mg/L (B3)
11.8 mg/L (B4)
7.7 mg/L (F1A)
12.8 mg/L (H1)
12.8 mg/L (M1)
13.0 mg/L (CR2)</td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">No site activity was recorded 03 February 2022 due to public holiday (Chinese New Year Holiday).

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 CR1.

CR1 is located close to the works location within the Project site while no marine work was conducted on 03 Feb 2022.

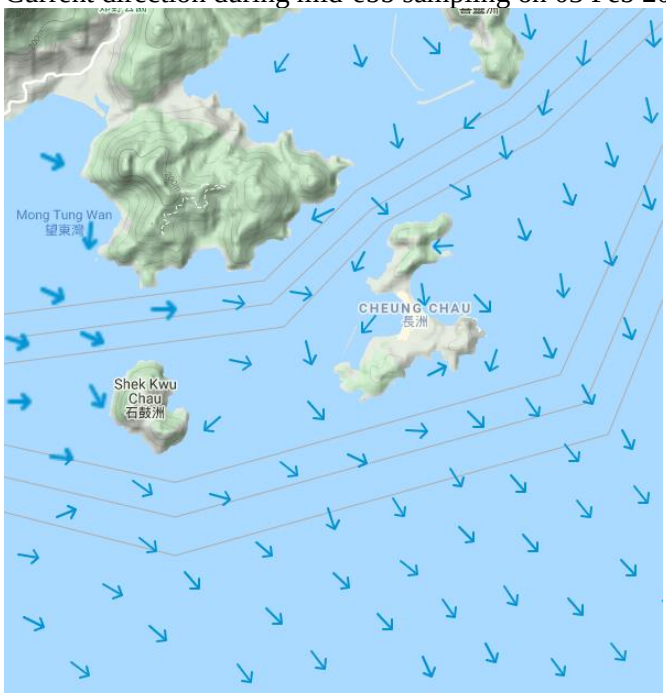
The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.

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.</td></tr>
</table>

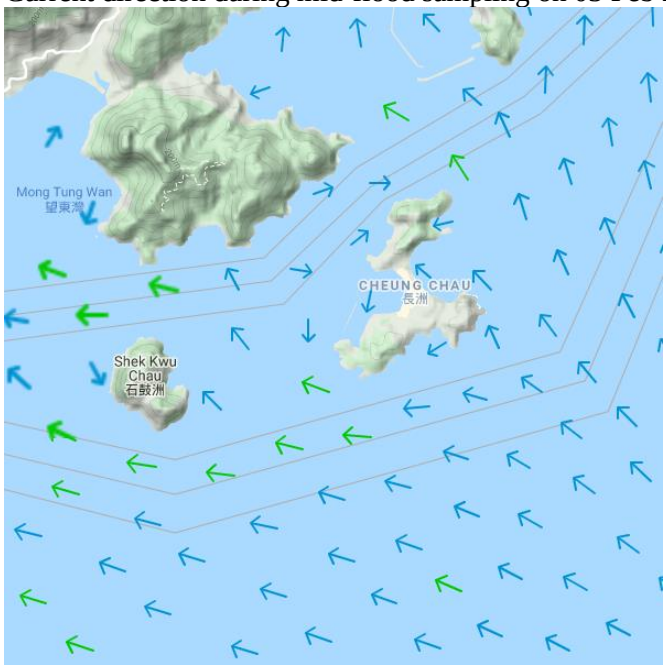
	No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly inspection on 31 Jan 2022. After the investigation, the exceedance on 03 Feb 2022 at CR1 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	CR1:  

Remarks	Current direction during mid-ebb sampling on 03 Feb 2022:



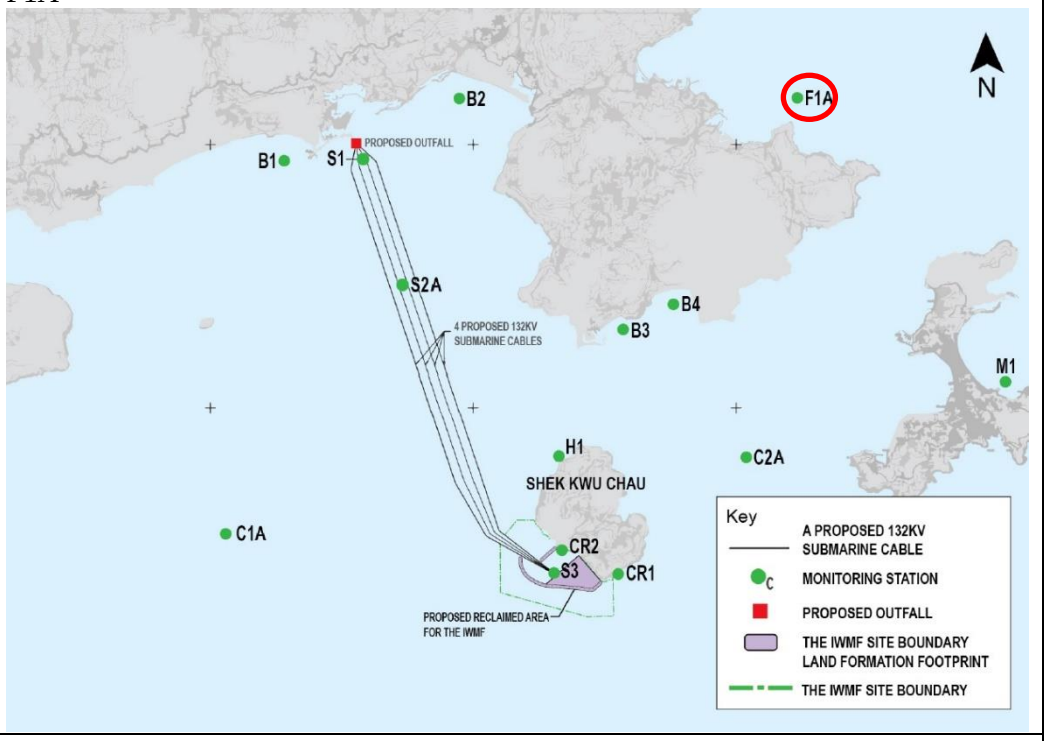
Current direction during mid-flood sampling on 03 Feb 2022:



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

Prepared by	Jack Chow
Date	16 Feb 2022

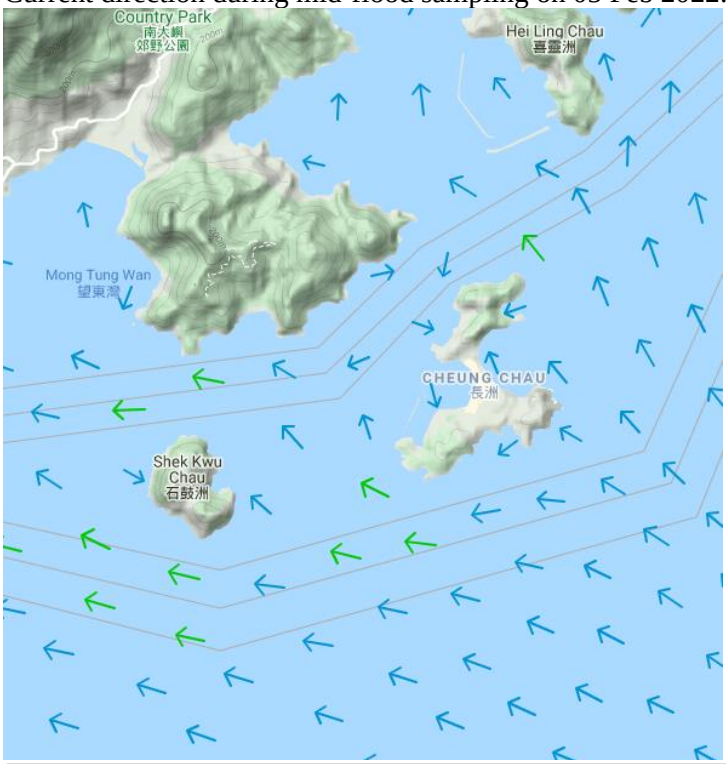
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	05 Feb 2022 (Lab result received on 17 Feb 2022)		
Time	08:09 – 11:39 (Mid-Flood)		
Mid-Flood			
Monitoring Location	F1A 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 10.0 mg/L (C2A of 120%)	≥ 10.8 mg/L (C2A of 130%)	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	10.2 mg/L (F1A)	9.2 mg/L (C1A) 8.3 mg/L (C2A)	8.3 mg/L (B1) 5.0 mg/L (B2) 4.3 mg/L (B3) 3.3 mg/L (B4) 6.8 mg/L (H1) 5.5 mg/L (M1) 6.0 mg/L (CR1) 4.5 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 05 Feb 2022 include infilling of caisson, laying armour rock at Breakwater B CH 220 – CH 230, leveling of underlayer rock at Caisson 52, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. 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 F1A.		

	F1A is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedance at this monitoring station 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 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 inspection on 31 Jan and 08 Feb 2022. After the investigation, the exceedance on 05 Feb 2022 at F1A is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	F1A:  

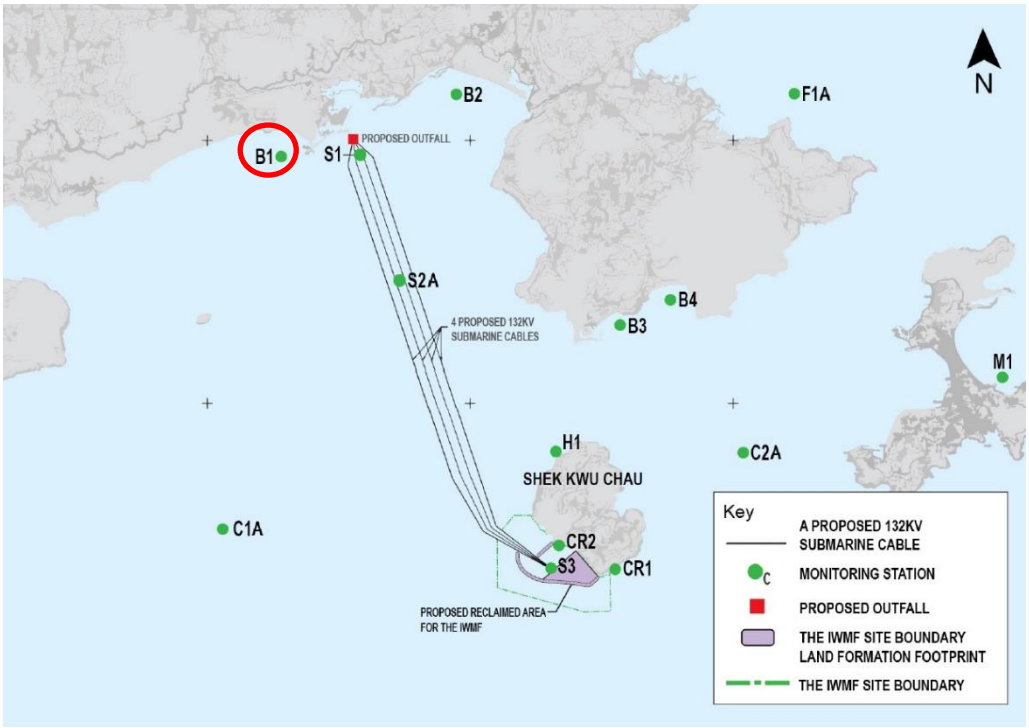
Remarks	Current direction during mid-flood sampling on 05 Feb 2022:



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

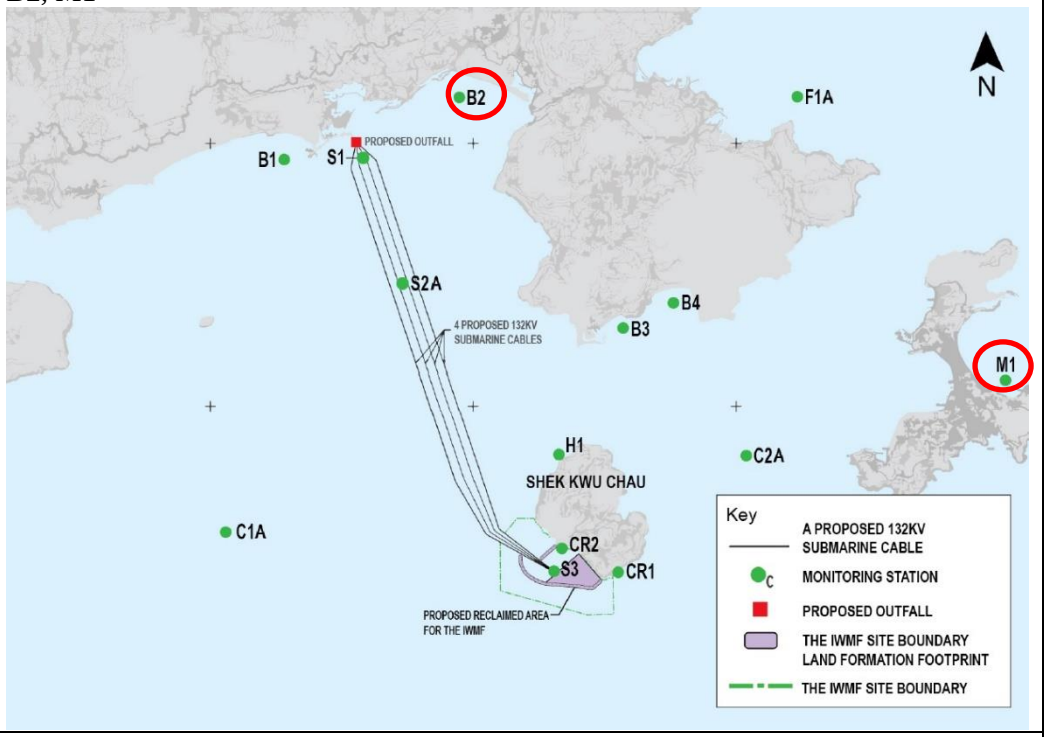
Prepared by	Jack Chow
Date	22 Feb 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	09 Feb 2022 (Lab result received on 16 Feb 2022)		
Time	16:25 – 19:00 (Mid-Ebb) 10:17 – 13:47 (Mid-Flood)		
Mid-Ebb			
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	Measurement Level	Impact Station(s) without Exceedance
	8.5 mg/L (B1)	5.3 mg/L (C1A) 6.5 mg/L (C2A)	5.0 mg/L (B2) 6.0 mg/L (B3) 5.3 mg/L (B4) 7.8 mg/L (M1) 6.2 mg/L (H1) 5.5 mg/L (F1A) 5.5 mg/L (CR1) 7.0 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 09 Feb 2022 include infilling of caisson, leveling of armour rock at Caisson A2 / A3, inspection works of underlayer rock at Caisson 52, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. An exceedance of action level was found at B1.		

	B1 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedances 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 inspection on 08 Feb and 17 Feb 2022. After the investigation, the exceedance on 09 Feb 2022 at B1 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B1:  

<table>
<tr><td colspan="4">Mid-Flood</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">B2, M1
 
</td></tr>
<tr><td>Parameter</td><td colspan="3">Suspended Solid (SS)</td></tr>
<tr><td rowspan="2">Action & Limit Levels</td><td>Action Level</td><td colspan="2">Limit Level</td></tr>
<tr><td>≥ 8.0 mg/L</td><td colspan="2">≥ 10.0 mg/L</td></tr>
<tr><td rowspan="2">Measurement Level</td><td>Impact Station(s) of Exceedance</td><td>Control Stations</td><td>Impact Station(s) without Exceedance</td></tr>
<tr><td>10.3 mg/L (B2)
9.0 mg/L (M1)</td><td>3.8 mg/L (C1A)
4.5 mg/L (C2A)</td><td>7.8 mg/L (B1)
6.3 mg/L (B3)
5.8 mg/L (B4)
4.3 mg/L (F1A)
5.0 mg/L (H1)
7.0 mg/L (CR1)
6.3 mg/L (CR2)</td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">Works scheduled on site on 09 Feb 2022 include infilling of caisson, leveling of armour rock at Caisson A2 / A3, inspection works of underlayer rock at Caisson 52, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension.

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 M1 and an exceedance of limit level was found at B2.

B2 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedances are deemed to be unrelated to the Project.

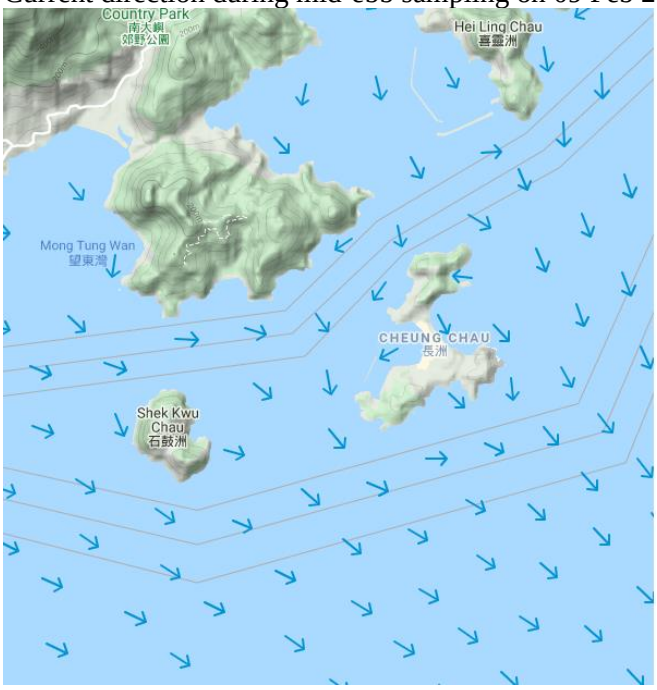
The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</td></tr>
</table>

	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 inspection on 08 Feb and 17 Feb 2022. After the investigation, the exceedances on 09 Feb 2022 at B2 and M1 are deemed to be unrelated to the Project.

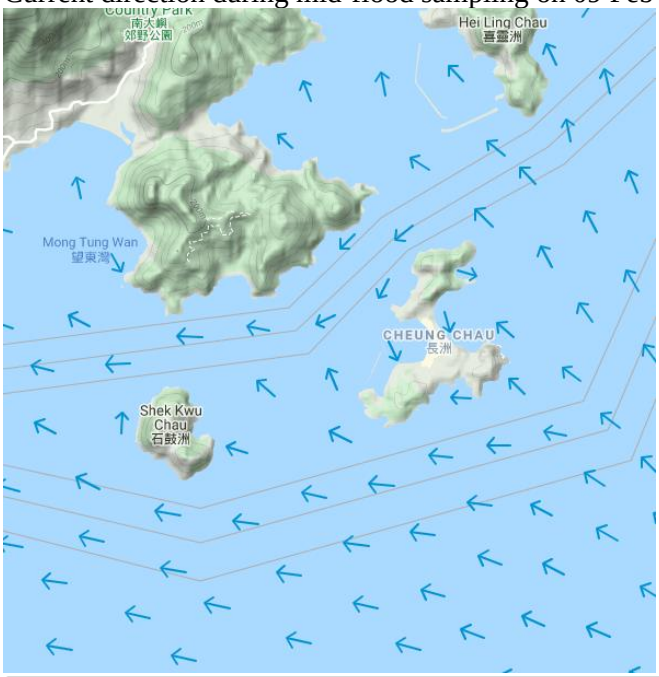
Monitoring photos of stations with exceedance	B2: 

M1:

Remarks	Current direction during mid-ebb sampling on 09 Feb 2022:



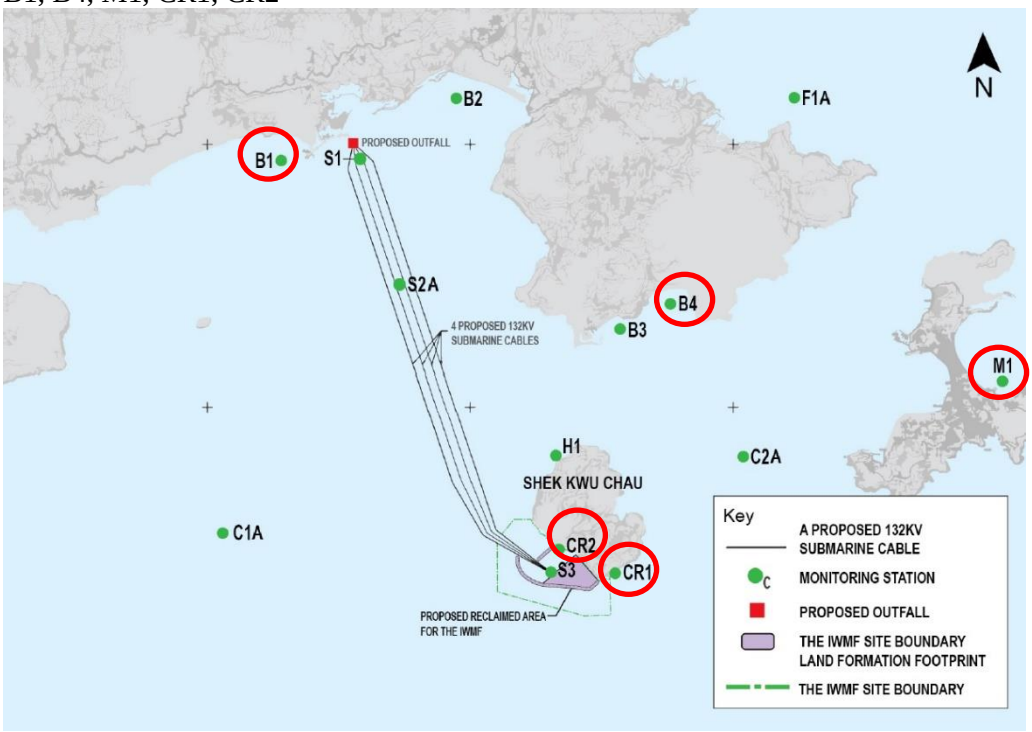
Current direction during mid-flood sampling on 09 Feb 2022:



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

Prepared by	Jack Chow
Date	22 Feb 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	11 Feb 2022 (Lab result received on 18 Feb 2022)		
Time	18:03 – 19:00 (Mid-Ebb) 08:00 – 11:13 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	B1, B4, M1, CR1, CR2 		
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	Measurement Level	Impact Station(s) without Exceedance
	9.5 mg/L (B1) 8.5 mg/L (B4) 10.0 mg/L (M1) 8.2 mg/L (CR1) 10.7 mg/L (CR2)	5.7 mg/L (C1A) 5.2 mg/L (C2A)	5.8 mg/L (B2) 6.5 mg/L (B3) 6.0 mg/L (H1) 6.0 mg/L (F1A)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 11 Feb 2022 include infilling of caisson, caisson installation, leveling of underlayer rock at Breakwater A CH1000 – CH1050, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. 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 B1, B4 and CR1; exceedances of limit level were found at M1 and CR2. B1, B4 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances are deemed to be unrelated to the Project.		

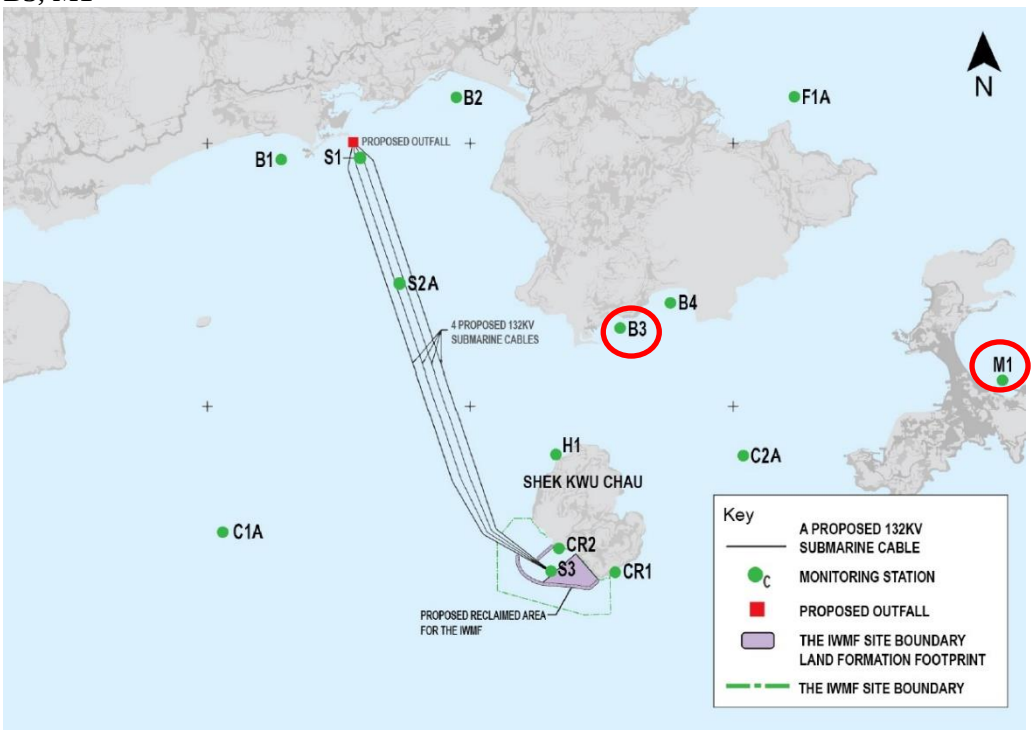
	CR1 and CR2 are located close to the works location within the Project site while no marine work was conducted on 11 Feb 2022. The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed. According to the field observation by sampling team during sampling event, 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 inspection on 08 Feb and 17 Feb 2022. After the investigation, the exceedances on 11 Feb 2022 at B1, B4, M1, CR1 and CR2 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B1:  

B4:
No clear photos were picked on site as the monitoring was carried out after sunset.

M1:

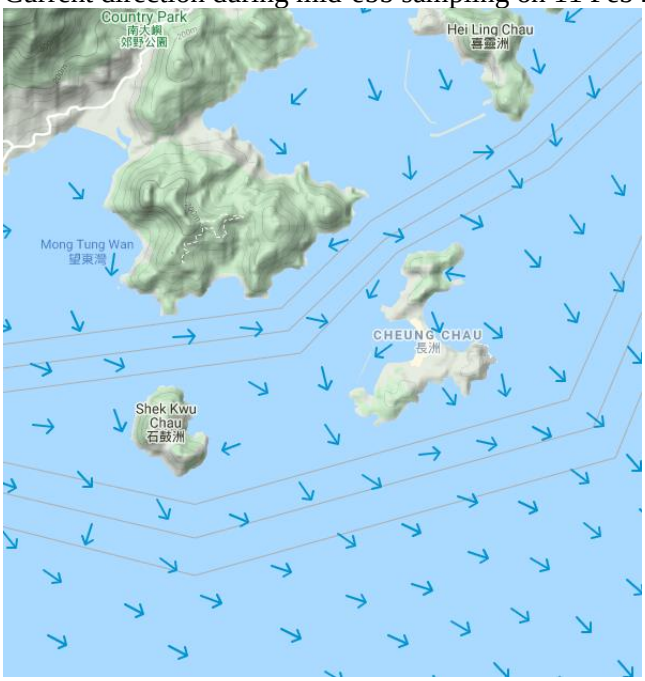
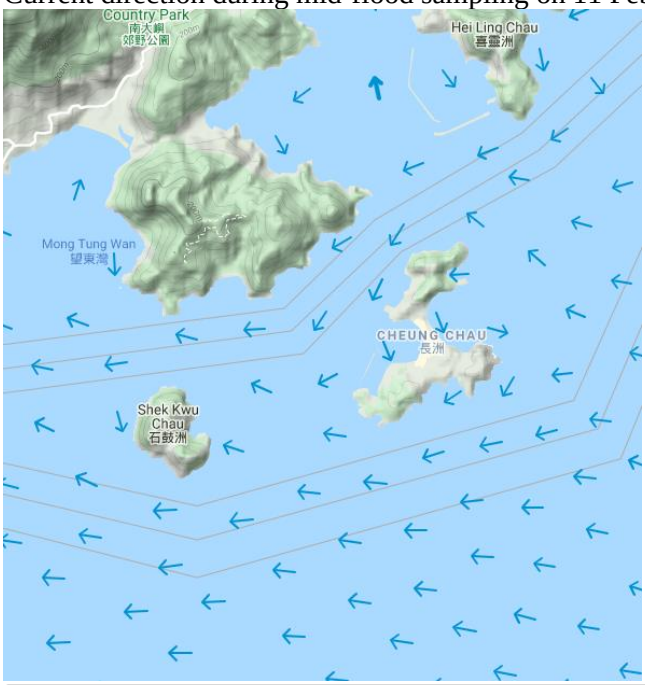
	CR1: No clear photos were picked on site as the monitoring was carried out after sunset. CR2: No clear photos were picked on site as the monitoring was carried out after sunset.

Mid-Flood			
Monitoring Location	B3, M1  		
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 (B3) 12.5 mg/L (M1)	6.7 mg/L (C1A) 5.0 mg/L (C2A)	5.3 mg/L (B1) 5.0 mg/L (B2) 7.3 mg/L (B4) 6.7 mg/L (F1A) 7.2 mg/L (H1) 6.0 mg/L (CR1) 7.0 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 11 Feb 2022 include infilling of caisson, caisson installation, leveling of underlayer rock at Breakwater A CH1000 – CH1050, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.		

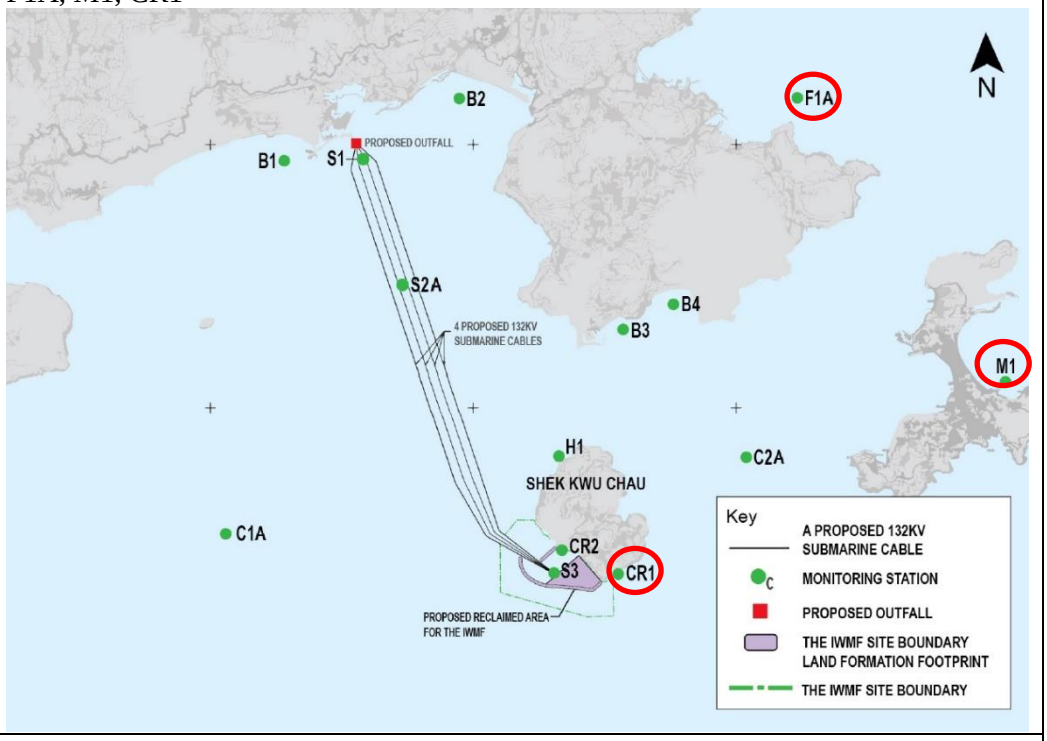
	An exceedance of action level was found at B3 and an exceedance of limit level was found at M1. B3 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedances are deemed to be unrelated to the Project. The installation of caisson 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 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 inspection on 08 Feb and 17 Feb 2022. After the investigation, the exceedances on 11 Feb 2022 at B3 and M1 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B3: 

M1:

Remarks	Current direction during mid-ebb sampling on 11 Feb 2022:  Current direction during mid-flood sampling on 11 Feb 2022:   (Sourced from http://current.hydro.gov.hk/en/map.html)
Prepared by	Jack Chow
Date	22 Feb 2022

Incident Report on Action Level or Limit Level Non-compliance

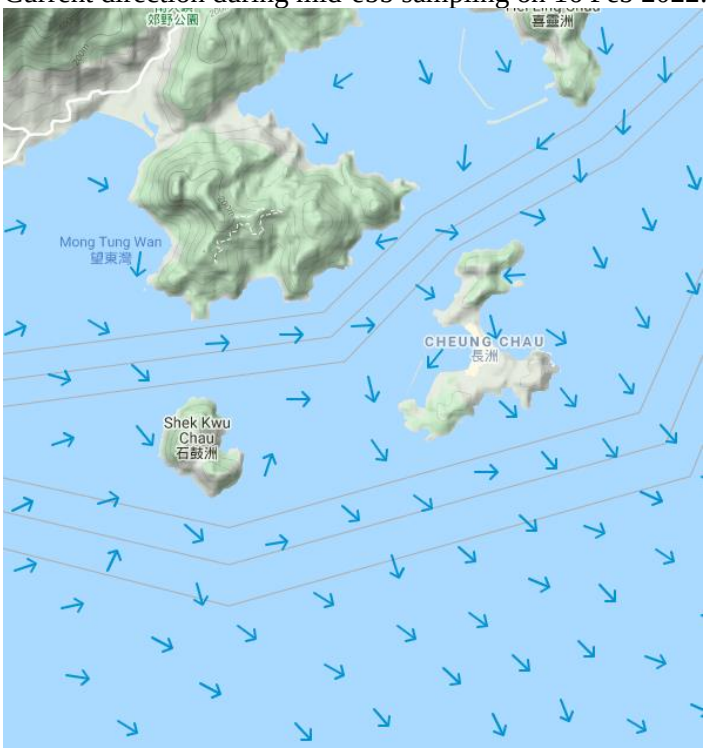
Project	Integrated Waste Management Facilities, Phase 1		
Date	16 Feb 2022 (Lab result received on 23 Feb 2022)		
Time	11:05 – 14:35 (Mid-Ebb)		
Mid-Ebb			
Monitoring Location	F1A, M1, CR1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 14.6 mg/L (120% of C1A)	≥ 15.8 mg/L (130% of C1A)	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	26.0 mg/L (F1A) 18.2 mg/L (M1) 19.2 mg/L (CR1)	12.2 mg/L (C1A) 20.8 mg/L (C2A)	12.3 mg/L (B1) 13.5 mg/L (B2) 12.5 mg/L (B3) 11.3 mg/L (B4) 14.5 mg/L (H1) 13.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 16 Feb 2022 include infilling of caisson, installation of concrete blocks at Seawall B Caissons 8 and 9, leveling of scour apron at Breakwater A CH780 - CH 810, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. Exceedances of limit level were found at F1A, M1 and CR1.		

	F1A and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project. CR1 is located close to the works location within the Project site while no marine work was conducted on 16 Feb 2022. 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 inspection on 17 Feb 2022. After the investigation, the exceedances on 16 Feb 2022 at F1A, M1 and CR1 are deemed to be unrelated to the Project.

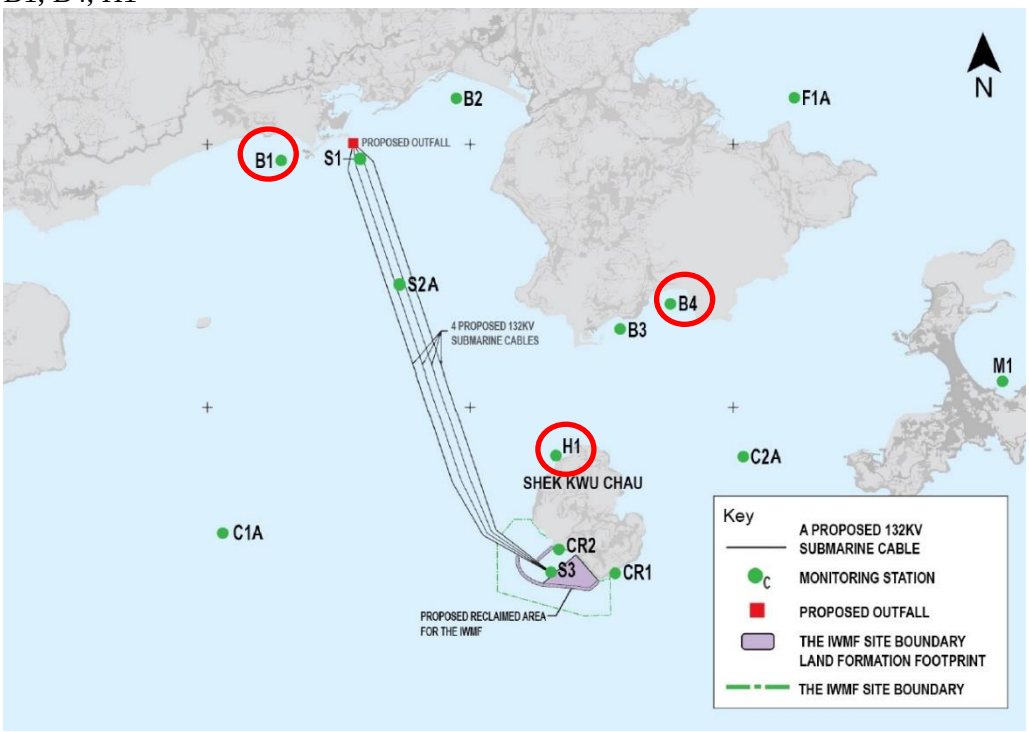
Monitoring photos of stations with exceedance	F1A:  

M1:

CR1:

Remarks	Current direction during mid-ebb sampling on 16 Feb 2022:   (Sourced from http://current.hydro.gov.hk/en/map.html)
Prepared by	Jack Chow
Date	28 Feb 2022

Incident Report on Action Level or Limit Level Non-compliance

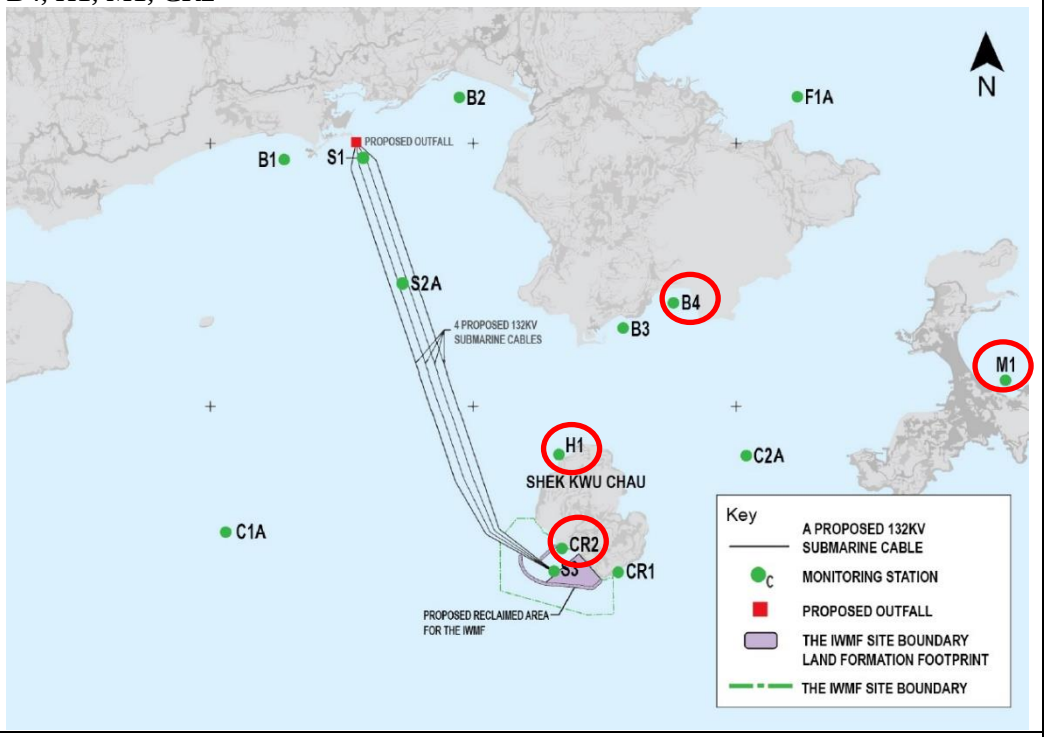
Project	Integrated Waste Management Facilities, Phase 1		
Date	18 Feb 2022 (Lab result received on 24 Feb 2022)		
Time	11:45 – 15:15 (Mid-Ebb) 08:00 – 10:42 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	B1, B4, H1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 8.0 mg/L	≥ 10.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) without Exceedance
	10.8 mg/L (B1) 15.0 mg/L (B4) 13.5 mg/L (H1)	6.5 mg/L (C1A) 6.7 mg/L (C2A)	6.5 mg/L (B2) 5.0 mg/L (B3) 5.3 mg/L (F1A) 6.2 mg/L (M1) 6.0 mg/L (CR1) 5.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 18 Feb 2022 include installation of concrete blocks at Seawall B Caisson 9, inspection works for underlayer rock at Caisson 53K, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. Exceedances of Limit level were found at B1, B4 and H1.		

	B1, B4 and H1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances 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 cloudy 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 inspection on 17 Feb and 23 Feb 2022. After the investigation, the exceedances on 18 Feb 2022 at B1, B4 and H1 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B1:  

B4:

H1:

<table>
<tr><td colspan="4">Mid-Flood</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">B4, H1, M1, CR2
 
</td></tr>
<tr><td>Parameter</td><td colspan="3">Suspended Solid (SS)</td></tr>
<tr><td rowspan="2">Action & Limit Levels</td><td colspan="2">Action Level</td><td>Limit Level</td></tr>
<tr><td colspan="2">≥ 8.0 mg/L</td><td>≥ 10.0 mg/L</td></tr>
<tr><td rowspan="2">Measurement Level</td><td>Impact Station(s) of Exceedance</td><td>Control Stations</td><td>Impact Station(s) without Exceedance</td></tr>
<tr><td>8.8 mg/L (B4)
15.3 mg/L (H1)
12.8 mg/L (M1)
11.8 mg/L (CR2)</td><td>17.2 mg/L (C1A)
6.5 mg/L (C2A)</td><td>5.3 mg/L (B1)
6.3 mg/L (B2)
5.5 mg/L (B3)
6.2 mg/L (F1A)
7.3 mg/L (CR1)</td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">Works scheduled on site on 18 Feb 2022 include installation of concrete blocks at Seawall B Caisson 9, inspection works for underlayer rock at Caisson 53K, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension.

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 B4 and exceedances of limit level were found at H1, M1 and CR2.

B4, H1 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedances are deemed to be unrelated to the Project.

CR2 is located close to the works location within the Project site while no marine work was conducted on 18 Feb 2022.

The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</td></tr>
</table>

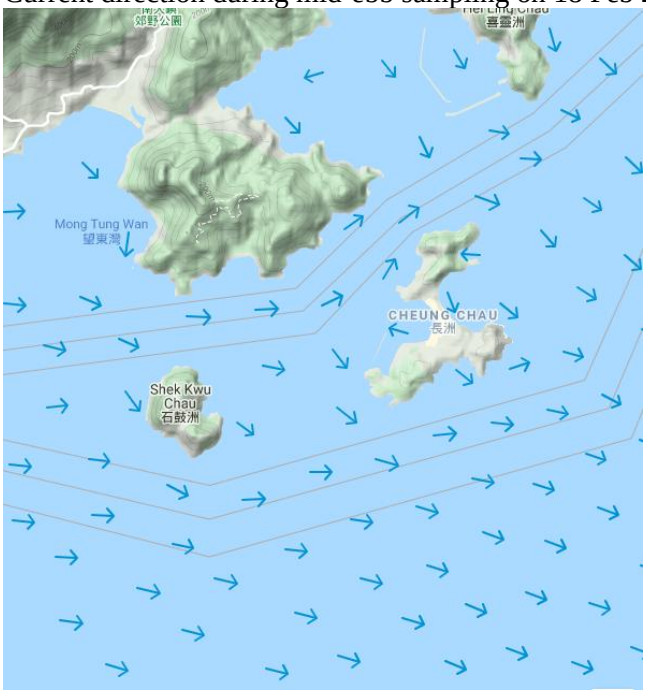
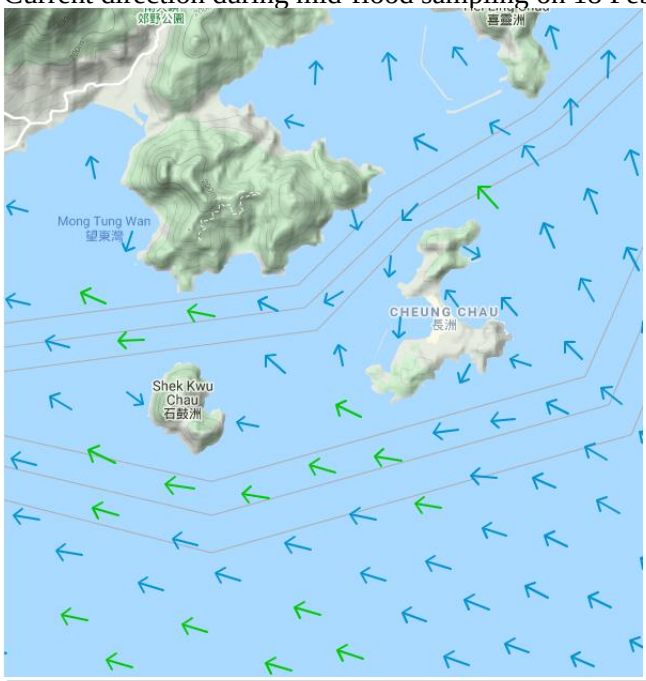
	According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event. No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly inspection on 17 Feb and 23 Feb 2022. After the investigation, the exceedances on 18 Feb 2022 at B4, H1, M1 and CR2 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B4:  

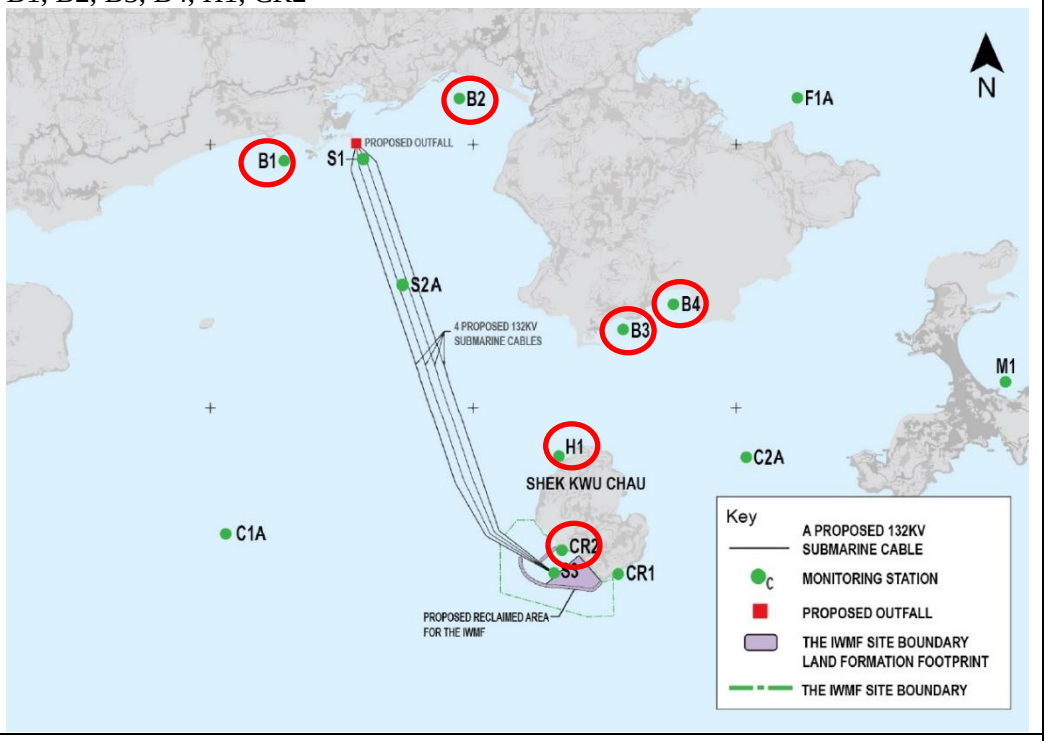
H1:

M1:

CR2:

Remarks	Current direction during mid-ebb sampling on 18 Feb 2022:  Current direction during mid-flood sampling on 18 Feb 2022:   (Sourced from http://current.hydro.gov.hk/en/map.html)
Prepared by	Jack Chow
Date	28 Feb 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	21 Feb 2022 (Lab result received on 26 Feb 2022)		
Time	08:00 – 11:10 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B1, B2, B3, B4, H1, CR2 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 19.6 mg/L (C2A of 120%)	≥ 21.2 mg/L (C2A of 130%)	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	20.3 mg/L (B1) 21.3 mg/L (B2) 23.0 mg/L (B3) 30.5 mg/L (B4) 22.3 mg/L (H1) 20.3 mg/L (CR2)	16.5 mg/L (C1A) 16.3 mg/L (C2A)	15.0 mg/L (F1A) 16.3 mg/L (M1) 16.0 mg/L (CR1)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 21 Feb 2022 include infilling of caisson, received armour and underlayer rockfill from barge 振東 988, installation of caissons, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. Exceedances of action level were found at B1 and CR2; exceedances of limit level were found at B2, B3, B4 and H1. B1, B2, B3, B4 and H1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances are deemed to be unrelated to the Project.		

	CR2 is located close to the works location within the Project site while no marine work was conducted on 21 Feb 2022. 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 rainy 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 inspection on 23 Feb 2022. After the investigation, the exceedances on 21 Feb 2022 at B1, B2, B3, B4, H1 and CR2 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B1: 

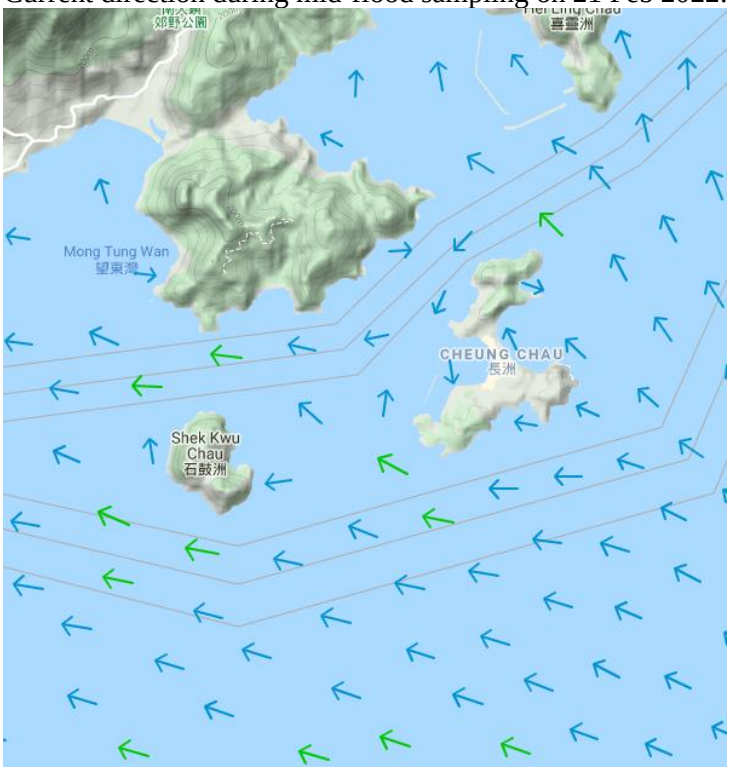
B2:

B3:

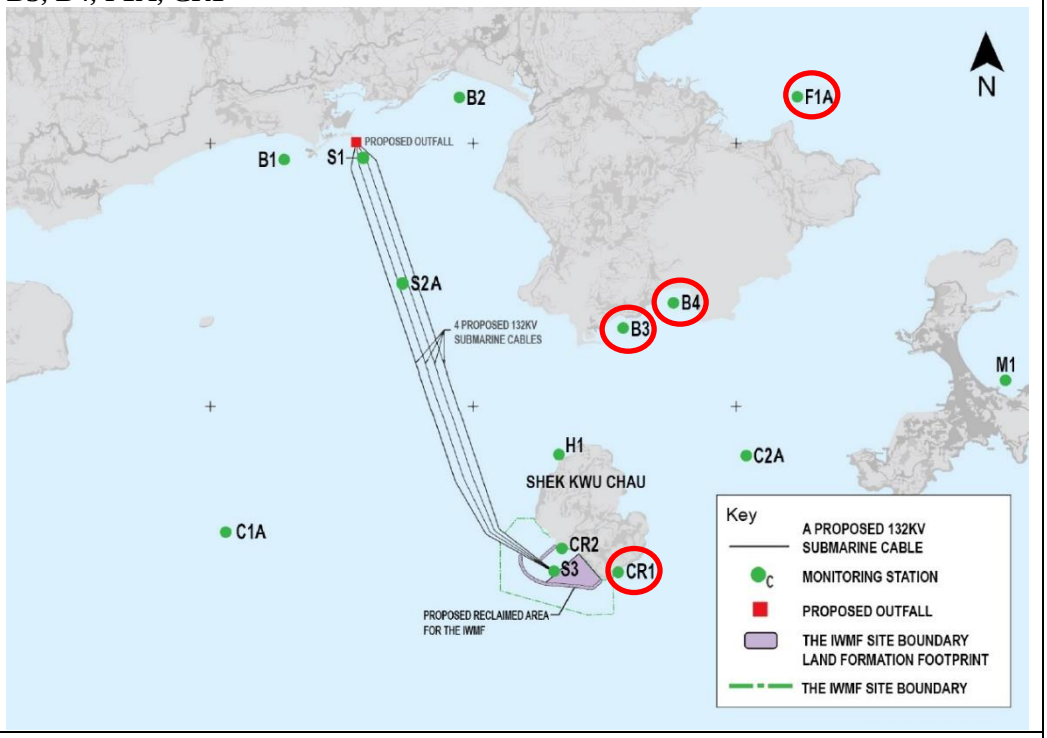
B4:

H1:

CR2:

Remarks	Current direction during mid-flood sampling on 21 Feb 2022:  **Legend** Speed (knot) → 0-0.5 → 0.5-1.0 → 1.0-1.5 Speed (knot) → 1.5-2.0 → 2.0-2.5 → 2.5 and above (Sourced from http://current.hydro.gov.hk/en/map.html)
Prepared by	Joe Ho
Date	07 March 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	23 Feb 2022 (Lab result received on 01 Mar 2022)		
Time	08:43 – 12:13 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B3, B4, F1A, CR1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	≥ 12.8 mg/L (C2A of 120%)	≥ 13.9 mg/L (C2A of 130%)	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	15.0 mg/L (B3) 13.8 mg/L (B4) 13.7 mg/L (F1A) 13.5 mg/L (CR1)	15.0 mg/L (C1A) 10.7 mg/L (C2A)	11.3 mg/L (B1) 8.8 mg/L (B2) 9.3 mg/L (M1) 10.2 mg/L (H1) 11.2 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 23 Feb 2022 include infilling of caisson, received armour and underlayer rockfill from Barge 振東 988, installation of caissons, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. Exceedances of action level were found at B4, F1A and CR1 and an exceedance of limit level was found at B3. B3, B4 and F1A are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances are deemed to be unrelated to the Project.		

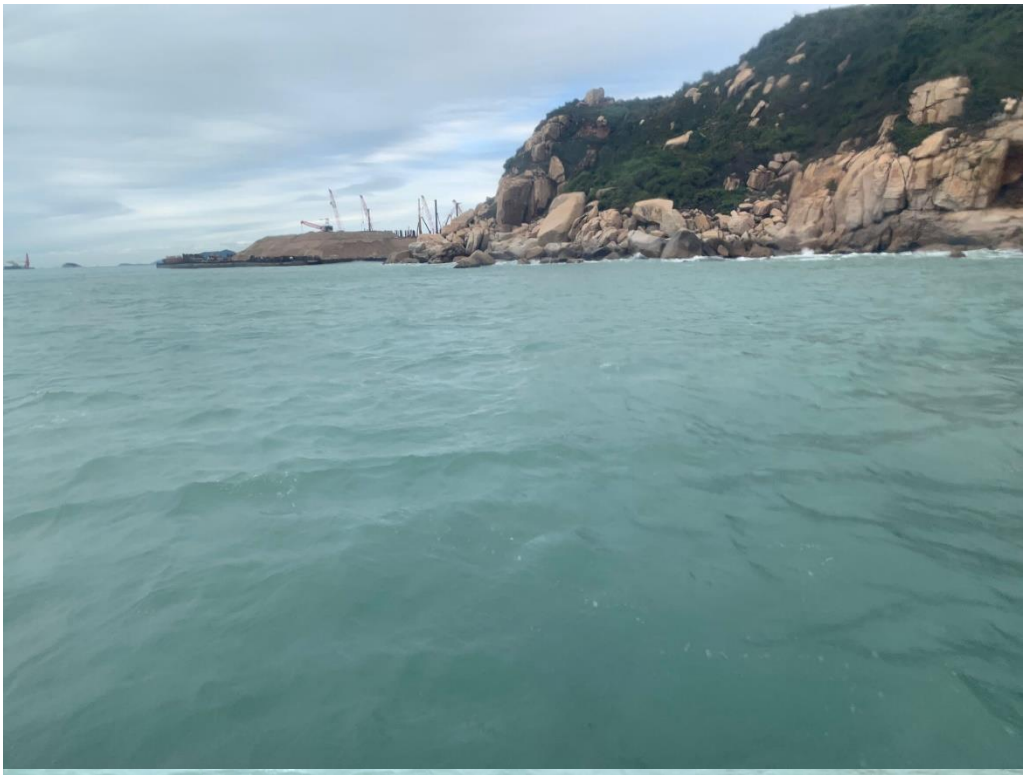
	CR1 is located close to the works location within the Project site while no marine work was conducted on 23 Feb 2022. The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed. According to the field observation by sampling team during sampling event, no silt plume 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 inspection on 23 Feb 2022. After the investigation, the exceedances on 23 Feb 2022 at B3, B4, F1A and CR1 are deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B3: 

B4:

F1A:

CR1:

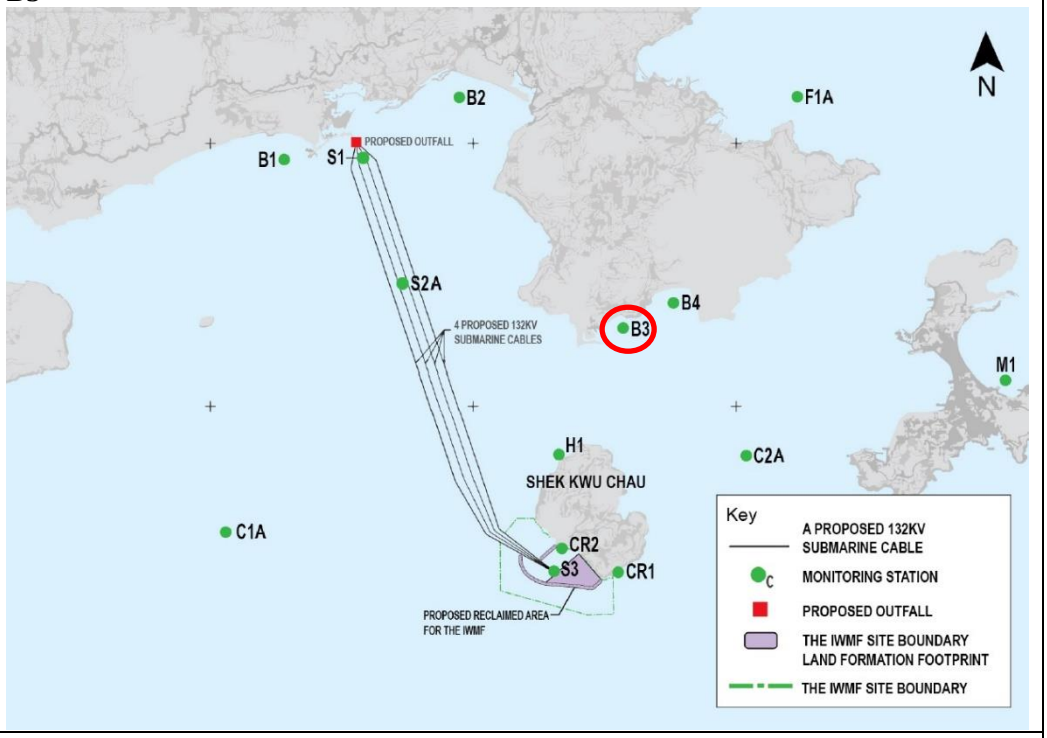


Remarks	Current direction during mid-flood sampling on 23 Feb 2022:

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

Prepared by	Joe Ho
Date	07 Mar 2022

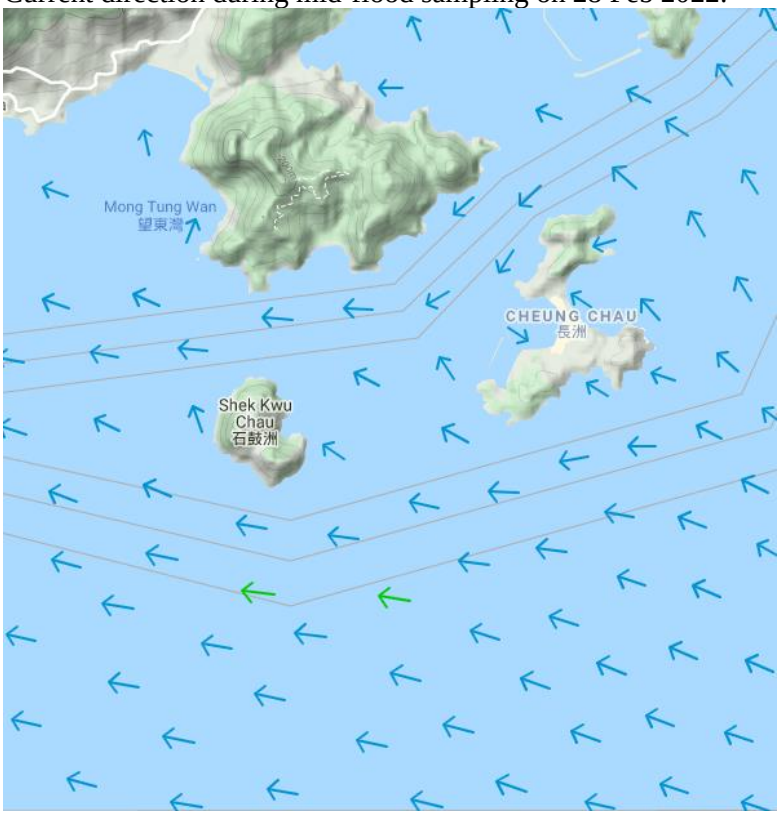
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	28 Feb 2022 (Lab result received on 04 Mar 2022)		
Time	14:15 – 17:45 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B3 		
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 (B3)	5.0 mg/L (C1A) 5.5 mg/L (C2A)	6.3 mg/L (B1) 6.3 mg/L (B2) 7.0 mg/L (B4) 7.3 mg/L (F1A) 5.5 mg/L (H1) 6.0 mg/L (M1) 7.5 mg/L (CR1) 5.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 28 Feb 2022 include infilling of caisson, lifting of working platforms at Caisson 52, installation of caissons, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, blockwork seawall and existing caisson extension. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. Exceedance of action level was found at B3. B3 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedance 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 inspection on 23 Feb 2022. After the investigation, the exceedance on 28 Feb 2022 at B3 is deemed to be unrelated to the Project.

Monitoring photos of stations with exceedance	B3:  

Remarks	Current direction during mid-flood sampling on 28 Feb 2022:



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

Prepared by	Joe Ho
Date	07 Mar 2022

Appendix O Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	**Cumulative**	**Complaint Nature**
1 Feb 2022- 28 Feb 2022	0	1	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	**Cumulative**	**Details**
1 Feb 2022- 28 Feb 2022	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	**Cumulative**	**Details**
1 Feb 2022- 28 Feb 2022	0	0	N/A

Appendix P Impact Monitoring Schedule of Next Reporting Month

Impact Monitoring Schedule for IWMF

Mar-22

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
		Impact Ecology monitoring for WBSE	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:35 - 14:45 Flood Tide: 14:45 - 21:00 Monitoring Time: Mid-ebb: 10:55 - 14:25 $Mid-flood: 16:07 - 19:00 Ecology monitoring for WBSE Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Ecology monitoring for WBSE Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:20 - 16:00 Flood Tide: 05:00 - 11:20 Monitoring Time: Mid-ebb: 11:55 - 15:25 *#$Mid-flood: 08:00 - 11:01	
6	7	8	9	10	11	12
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:16 - 18:26 Flood Tide: 06:00 - 12:16 Monitoring Time: Mid-ebb: 13:36 - 17:06 *Mid-flood: 08:00 - 10:53 Daytime & Evening Noise monitoring for M1, M2 & M3 Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 13:14 - 20:31 Flood Tide: 06:22 - 13:14 Monitoring Time: Mid-ebb: 15:07 - 18:37 Mid-flood: 08:03 - 11:33	Impact Ecology monitoring for WBSE	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 15:08 - 23:59 Flood Tide: 00:00 - 15:08 Monitoring Time: #$&Mid-ebb: 15:34 - 19:00 *Mid-flood: 08:00 - 11:30	
13	14	15	16	17	18	19
Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 17:00 - 23:59 Flood Tide: 02:00 - 17:00 Monitoring Time: #$&Mid-ebb: 17:20 - 19:00 *Mid-flood: 08:00 - 11:15	Impact Daytime & Evening Noise monitoring for M1, M2 & M3 Ecology monitoring for Marine Mammals by Vessel-based Line-Transect Survey	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:39 - 13:52 Flood Tide: 13:52 - 20:00 Monitoring Time: Mid-ebb: 10:00 - 13:30 Mid-flood: 15:11 - 18:41		Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 10:00 - 15:18 Flood Tide: 15:18 - 21:45 Monitoring Time: Mid-ebb: 10:54 - 14:24 #$&Mid-flood: 15:37 - 19:00	
20	21	22	23	24	25	26
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:15 - 17:27 Flood Tide: 05:00 - 11:15 Monitoring Time: Mid-ebb: 12:36 - 16:06 *#$Mid-flood: 08:00 - 10:56 Daytime & Evening Noise monitoring for M1, M2 & M3	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:00 - 19:15 Flood Tide: 06:00 - 12:00 Monitoring Time: Mid-ebb: 13:52 - 17:22 *Mid-flood: 08:00 - 10:45	Impact Ecology monitoring for WBSE 13th Quarterly Coral Monitoring at Indirect Impact Site and Control Site	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 13:44 - 22:00 Flood Tide: 07:00 - 13:44 Monitoring Time: $Mid-ebb: 14:08 - 17:38 Mid-flood: 08:37 - 12:07 Ecology monitoring for WBSE	
27	28	29	30	31		
	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 08:47 - 12:00 Flood Tide: 12:00 - 18:14 Monitoring Time: #$Mid-ebb: 08:38 - 11:50 Mid-flood: 13:22 - 16:52	Impact Night time Noise monitoring for M1, M2 & M3	Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:30 - 13:55 Flood Tide: 13:55 - 20:15 Monitoring Time: Mid-ebb: 09:57 - 13:27 Mid-flood: 15:20 - 18:50			

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

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.