ANEWR

Water Supplies Department
New Works Branch
Consultants Management Division
6/F Sha Tin Government Offices
1 Sheung Wo Che Road
Sha Tin
New Territories

Your reference:

Our reference: HKWSD202/50/107677

Date: 30 November 2021

Attention: Mr W K Lau

BY EMAIL & POST
(email: simon_wk_lau@wsd.gov.hk)

Dear Sirs

Agreement No. CE 5/2019 (EP)
Independent Environmental Checker for First Stage of
Tseung Kwan O Desalination Plant – Investigation
Verification of Monthly EM&A Report No.20 (October 2021)

We refer to emails of 22 and 27 November 2021 attaching Monthly EM&A Report No.20 (October 2021) for the captioned project prepared by the ET.

We have no further comments and hereby verify the captioned report in accordance with Clause 3.5 of the Environmental Permit no. EP-503/2015/A and Further Environmental Permit no. FEP-01/503/2015/A.

Should you have any queries regarding the above, please do not hesitate to contact the undersigned on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Louis Kwan
Independent Environmental Checker

KSYL/lsmt

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水務署
Water Supplies Department

Contract No. 13/WSD/17

Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Monthly EM&A Report No.20
(Period from 1 October to 31 October 2021)

Document No.

ASCL	/	200168078	/	MEMAR20	/	A
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	Prepared by:	Reviewed and Certified by:
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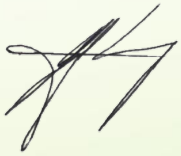
Signature		
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REVISION HISTORY

REV.	DESCRIPTION OF MODIFICATION	DATE
A	First Issue for Comments	14 November 2021

CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

A1. The Project, Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (TKODP), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (EP No. FEP – 01/503/2015/A) for the construction and operation of the Project.

A2. In accordance with the 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 20th 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 Tseung Kwan O Area 137 (TKO 137) during the reporting period from 1 October 2021 to 31 October 2021.

A4. The EM&A programme for this contract has covered environmental monitoring on construction noise level at selected NSRs and Contractor's environmental performance auditing in the aspects of construction dust, construction noise, water quality, waste management, Landscape and Visual and Ecology.

SUMMARY OF MAIN WORKS UNDERTAKEN & KEY MITIGATION MEASURES IMPLEMENTED

A5. Key activities carried out in this reporting period for the Project included the followings:

- Land Survey;
- Construction of ActiDAFF perimeter wall and water tank;
- Construction of Reverse Osmosis (RO) Building - column and wall from Basement to Roof, beams and slabs for Roof Floor; water tank; Electrical Building roof floor slab, columns and wall;
- Construction of Product Water Storage Tank (PWST) perimeter wall and Electrical Building's roof slab;
- Construction of manholes no. 8 and no. 9 adjacent to PWST;
- Construction of Post Treatment Building 1/F;
- Construction of ground floor slab and first floor columns and beams of Administration Building;
- Construction of reinforced concrete (R.C) footing of Inspection Corridor;
- Internal finishing work in Main Electrical and Central Chiller Plant Building;
- Outfall Shaft - rockfill removal & dewatering;
- Diver's work to touch up seabed bottom for concrete plug at Outfall Shaft;
- Rockfill removal from inside caisson at Outfall Shaft;
- Excavation & Lateral Support (ELS) erection at Intake Shaft;
- Sheet piling works at Intake Shaft;

- Pipe jacking at Combined Shaft for Intake & Outfall pipelines;
- Cable drawpit construction;
- Glass Reinforced Plastic (GRP) pipe lamination and laying;
- Construction of structural wall of Chemical Building;
- Wan Po Road Sewage Works – Temporary Traffic Arrangement (TTA), excavation and laying High-Density Polyethylene (HDPE) pipe;
- Construction of On-Site Chlorine Generation (OSCG) Building footing;
- Excavation and lateral support (ELS) at Pump house

A6. The major environmental impacts brought by the above construction works include:

- Construction dust and noise generation from marine construction works, excavation works, ELS installation works, breaking of concrete surface and construction works and pipe piling driving works
- Waste generation from the construction activities
- Impact on water quality from marine construction works and inland construction works

A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site and regular inspection to machinery and plants/vehicles on-site to ensure proper functioning
- Sorting and storage of general refuse and construction waste
- Deployment of temporary silt curtain in the area where marine construction works were conducted and deployment of water sedimentation tanks for treatment of wastewater at inland areas before discharge

SUMMARY OF EXCEEDANCE & INVESTIGATION & FOLLOW-UP

A8. No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations. No project-related exceedance of the Action Level was recorded during the reporting period.

A9. The EM&A works for water quality were conducted during the reporting period in accordance with the EM&A Manual.

A10. Fifty-Seven (57) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded the Action Level. Forty-seven (47) of the general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level.

A11. Details of the exceedance are presented in **Appendix O**.

A12. Investigation on the reason of exceedance has been carried out, where the exceedances of SS on 07/10, 14/10, 16/10, 18/10, 20/10, 23/10, 25/10, 27/10, and 29/10 were concluded to be unrelated to the project as detailed in the Incident Reports on Action Level or Limit Level Non-compliance along with supporting materials in **Appendix O.**

A13. It was concluded that all exceedances recorded in October were unrelated to the project.

A14. In this reporting period, 44 times of landfill gas monitoring was recorded. No exceedance of action and limit levels for methane, oxygen and carbon dioxide was observed. Monitoring was conducted when excavations at 1m depth or more within the consultation zone were conducted and workers entered the excavation on the day.

A15. Joint site inspections of the construction work by ET and IEC were carried out on 6, 15, 19, and 29 October 2021 to audit the mitigation measures implementation status. 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

A16. No project-related environmental complaint was received during the reporting period.

A17. Neither notifications of summons nor prosecution was received for the Project.

REPORTING CHANGE

A18. 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

A19. Key activities anticipated in the next reporting period for the Project will include the followings:

- Land Survey;
- Construction of ActiDAFF perimeter wall and water tank;
- Construction of Reverse Osmosis (RO) Building – Water tank, Electrical Building's Roof;
- Construction of Product Water Storage Tank (PWST) perimeter wall and Electrical Building's roof slab;
- Construction of manholes no. 8 and no. 9 adjacent to PWST;
- Construction of Post Treatment Building 1/F;
- Construction of first floor walls and columns of Administration Building;

- Construction of reinforced concrete (RC) footing of Inspection Corridor;
- Internal finishing work in Main Electrical and Central Chiller Plant Building;
- Rockfill removal and dewatering at Outfall Shaft;
- Rock cutting and excavations at Outfall Shaft;
- Excavation & Lateral Support (ELS) erection and commencement of marine dredging and disposal at Intake Shaft;
- Pipe jacking works at Combined Shaft for Intake & Outfall pipelines;
- Grouting works at outfall tunnel after tunnel boring machine (TBM) retrieval;
- Cable drawpit construction;
- Glass Reinforced Plastic (GRP) pipe lamination and laying;
- Construction of 1st floor structural wall of Chemical Building;
- Wan Po Road Sewage Works – Temporary Traffic Arrangement (TTA), excavation and laying of High-Density Polyethylene (HDPE pipes);
- Construction of On-Site Chlorine Generation (OSCG) Building footing;
- Excavation and lateral support (ELS) at Pump house;
- Dismantling of tower crane TC02

A20. The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation from construction and ELS works, pipe piling driven works and marine dredging and construction works
- Waste generation from construction activities
- Impact on water quality from marine construction works and inland construction works

A21. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste
- Deployment of temporary silt curtain in the area where marine construction works were conducted and deployment of water sedimentation tanks for treatment of wastewater at inland areas before discharge

1. BASIC PROJECT INFORMATION

1.1. BACKGROUND

The Acciona Agua, S.A. Trading, Jardine Engineering Corporation, Limited and China State Construction Engineering (Hong Kong) Limited As AJC Joint Venture (AJCJV) is contracted to carry out the Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant (DPTKO) under Contract No. 13/WSD/17 (the Project).

Acuity Sustainability Consulting Limited (ASCL) is commissioned by AJCJV to undertake the Environmental Team (ET) services as required and/or implied, both explicitly and implicitly, in the Environmental Permit (EP), Environmental Impact Assessment Report (EIA Report) (Register No. AEIAR-192/2015) and Environmental Monitoring and Audit Manual (EM&A Manual) for the Project; and to carry out the Environmental Monitoring and Audit (EM&A) programme in fulfillment of the EIA Report's EM&A requirements and Contract No. 13/WSD/17 Specification requirements.

Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Environmental Permit (No. EP-01/503/2015) and Variation of Environmental Permit (No. EP-01/503/2015/A) to Water Supplies Department (WSD); and granted the Further Environmental Permit (No. FEP-01/503/2015/A) to AJCJV for the Project.

1.2. THE REPORTING SCOPE

This is the 20th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 October to 31 October 2021.

1.3. PROJECT ORGANIZATION

The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

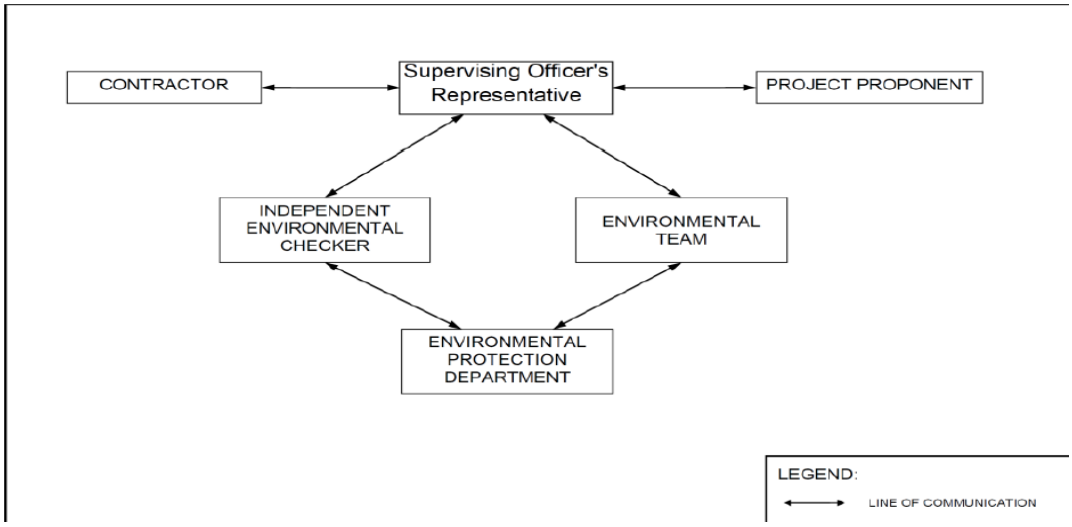


Figure 1.1 Project Organization Chart

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.
Project Proponent	SE/CM2	Benny Lam	2634-3573
Supervising Officer (Binnies Hong Kong Limited)	Project Manager	Christina Ko	2608-7302
	Chief Resident Engineer	Roger Wu	6343-1002
The Jardine Engineering Corporation, Limited, China State Construction Engineering (Hong Kong) Limited and Acciona Agua, S.A. Trading	Project Manager	Stephen Yeung	2807-4665
	Environmental Monitoring Manager	Brian Kam	9456-9541
Acuity Sustainability Consulting Limited	Environmental Team Leader	Jacky Leung	2698-6833
ANewR Consulting Limited	Independent Environmental Checker (IEC)	Louis Kwan	2618-2831

1.4. SUMMARY OF CONSTRUCTION WORKS

Details of the major construction activities undertaken in this reporting period are shown as below. The construction programme is presented in **Appendix A**.

Key activities carried out in this reporting period for the Project included the followings:

- Land survey
- Construction of ActiDAFF perimeter wall and water tank;
- Construction of Reverse Osmosis (RO) Building - column and wall from Basement to Roof, beams and slabs for Roof Floor; water tank; Electrical Building roof floor slab, columns and wall;
- Construction of Product Water Storage Tank (PWST) perimeter wall and Electrical Building's roof slab;
- Construction of manholes no. 8 and no. 9 adjacent to PWST;
- Construction of Post Treatment Building 1/F;
- Construction of ground floor slab and first floor columns and beams of Administration Building;
- Construction of reinforced concrete (R.C) footing of Inspection Corridor;
- Internal finishing work in Main Electrical and Central Chiller Plant Building;
- Outfall Shaft - rockfill removal & dewatering;
- Diver's work to touch up seabed bottom for concrete plug at Outfall Shaft;
- Rockfill removal from inside caisson at Outfall Shaft;
- Excavation & Lateral Support (ELS) erection at Intake Shaft;
- Sheet piling works at Intake Shaft;
- Pipe jacking at Combined Shaft for Intake & Outfall pipelines;
- Cable drawpit construction;
- Glass Reinforced Plastic (GRP) pipe lamination and laying;
- Construction of structural wall of Chemical Building;
- Wan Po Road Sewage Works – Temporary Traffic Arrangement (TTA), excavation and laying High-Density Polyethylene (HDPE) pipe;
- Construction of On-Site Chlorine Generation (OSCG) Building footing;
- Excavation and lateral support (ELS) at Pump house

1.5. SUMMARY OF ENVIRONMENTAL STATUS

A summary of the valid permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 1.2**.

Table 1.2 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Environmental Permit	FEP – 01/503/2015/A	Throughout the Contract	
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref. No.: 451539	-	
Wastewater Discharge Licence (Land and Marine works)	WT00035775-2020	24/07/2020 – 31/07/2025	
Chemical Waste Producer Registration	5213-839-A2987-01	Throughout the Contract	
Construction Noise Permit (24 hrs) – CNP for general works, TBM at Combined Shaft and marine works	GW-RE0419-21	01/05/2021 – 30/10/2021	
Billing Account for Disposal of Construction Waste	7036276	Throughout the Contract	
Dumping at Sea Ordinance (DASO) Permit to dump materials (Category M) at sea	470822	20/10/2021 – 19/11/2021	
Dumping at Sea Ordinance (DASO) Permit to dump materials (Category L) at sea	EP/MD/22-028	02/08/2021 – 01/02/2022	

The status for all environmental aspects is presented in **Table 1.3**.

Table 1.3 Summary of Status for Key Environmental Aspects under the EM&A Manual

Parameters	Status
Water Quality	
Baseline Monitoring under EM&A Manual	The baseline water quality monitoring was conducted between 12 May 2020 to 6 Jun 2020
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Landfill Gas	
Regular Monitoring when Construction Works are within the 250m Consultation Zone	On-going
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	On-going

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.

The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the 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 C**.

2. NOISE

2.1. MONITORING REQUIREMENTS

To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby noise sensitive receivers (NSRs), during construction phase. The NSRs selected as monitoring station are (i) NSR4 – Creative Secondary School, (ii) NSR24 – PLK Laws Foundation College, and (iii) NSR31 – School of Continuing and Professional Studies – CUHK respectively.

In accordance with the EM&A Manual, baseline noise level at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring will be 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 on normal weekdays.

Referring to EM&A manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

No impact monitoring for noise impact was conducted in the reporting month due to the overly distant monitoring station from the works location, where they were farther than 1 km from the closest monitoring station NSR4 to the works location.

Impact noise monitoring will be conducted weekly in the reporting period between 0700-1900 on normal weekdays. Construction works would follow stipulations of the valid Construction Noise Permits if works had to be conducted during restricted hours or public holidays.

Construction noise level were measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq $_{30min}$ was used as the monitoring parameter for the time period between 0700 and 1900 on normal weekdays. **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring.

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Duration	Interval	Parameters
Daytime: 0700-1900	Day time: 0700-1900 (during normal weekdays)	Continuously in $L_{eq\ 5min}$/$L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	$L_{eq\ 30min}$ $L_{10\ 30min}$ & $L_{90\ 30min}$

2.2. MONITORING LOCATIONS

The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements.

According to the environmental findings detailed in the EIA report and Baseline Monitoring Report, the designated locations for the construction noise monitoring are listed in **Table 2.2** below.

Table 2.2 Noise Sensitive Receivers

NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR 4	Creative Secondary School	Roof Floor	1 m from facade
NSR 24	PLK Laws Foundation College	Pedestrian Road on Ground Floor	Free-field
NSR 31	School of Continuing and Professional Studies - CUHK	Roof Floor	1 m from facade

Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.

Figure 2.1 NSR4 Creative Secondary School

Figure 2.2 NSR24 PLK Laws Foundation College

Figure 2.3 NSR31 School of Continuing and Professional Studies - CUHK

2.3. IMPACT MONITORING METHODOLOGY

Integrated sound level meter shall be used for the noise monitoring. The meter shall be in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications. 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 before and after the noise measurements agree to within 1.0 dB(A). Calibration certificates of the instruments used to be shown at **Appendix F** are intentionally left blank since no impact monitoring equipment was used in the reporting month.

Noise measurements shall not be made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Table 2.3 Impact Noise Monitoring Equipment

Equipment	Brand and Model	Detection Limit
Sound Level Meter	Nti XL2	30-130 dB(A)
Sound Level Meter Calibrator	Rion NC-74	Nil
Pocket Wind Meter Anemometer	Kestrel 1000 Wind Meter	Nil

2.4. ACTION AND LIMIT LEVELS

The Action/Limit Levels are 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 are presented in **Table 2.4**.

Table 2.4 Action and Limit Levels for Noise per EM&A Manual

Time Period	Action	Limit (dB(A))
0700-1900 on normal weekdays	When one documented complaint is received from any one of the noise sensitive receivers	• 70 dB(A) for school and • 65 dB(A) during examination period

Notes: Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.

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

2.5. MONITORING RESULTS AND OBSERVATIONS

Referring to EM&A manual Section 4.1.2, the impact noise monitoring should be carried out when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations. No monitoring station was located within a radius of 300m of the Project site as shown in **Figure 2.4**, no impact monitoring for noise impact was conducted in the reporting period.

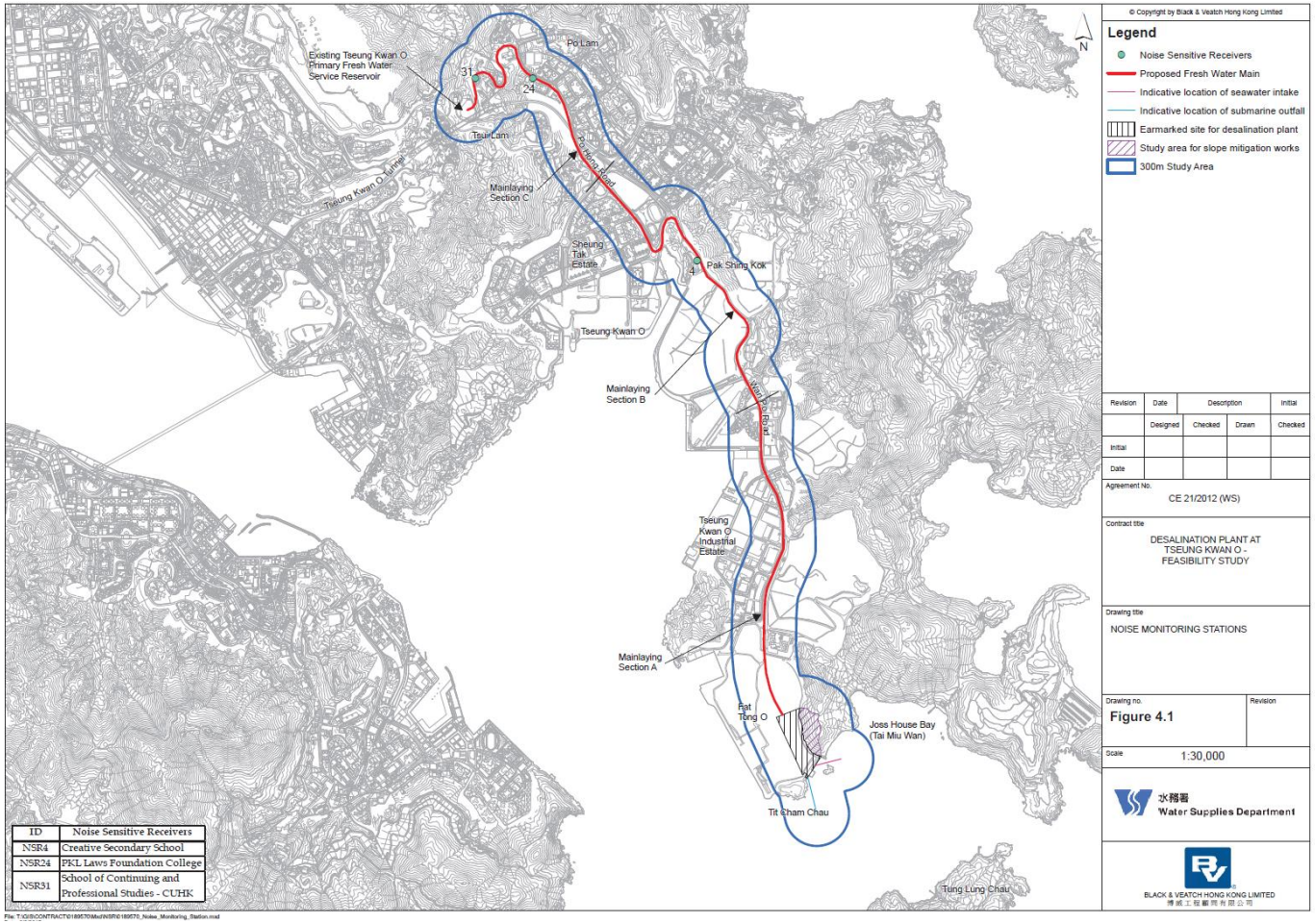


Figure 2.4 Site Layout Plan with Noise Sensitive Receivers and Desalination Plant

3. WATER QUALITY

In accordance with the recommendations of the EIA, water quality EM&A is required during dredging for the submarine pipelines and, during operation phase. In addition, baseline water quality monitoring will be required prior to the commencement of marine construction activities. The following Section provides details of the water quality monitoring to be undertaken by the Environmental Team (ET) to verify the distance of sediment and brine plume dispersion and to identify whether the potential exists for any indirect impacts to occur to ecological sensitive receivers. The water quality monitoring programme will be carried out to allow any deteriorating water quality to be readily detected and timely action taken to rectify the situation. The status and locations of water quality sensitive receivers and the marine works location may change after issuing this Document. If required, the ET in consultation with IEC will propose updated monitoring locations and seek approval from EPD.

Water quality monitoring for the Project can be divided into the following stages:

- Dredging activities during construction phase;
- Discharge of effluent from main disinfection during construction phase;
- Operation phase – first year upon commissioning; and,
- Continuous monitoring of effluent quality.

In addition, the marine works contractor is required to complete a silt curtain efficiency test for the combined use of floating silt curtain type and cage type silt curtain for dredging at seawater intake to confirm the silt curtain reduction efficiency assumptions of the assessment. The details of testing plan together with the silt curtain deployment plan shall be submitted by the ET to seek approval from the IEC and EPD.

With the onset of marine dredging activities in late April at Outfall Shaft Area, a silt curtain efficiency test has been conducted at the Outfall Shaft Area on 16th April 2021 at 6 monitoring intervals (08:00, 10:00, 12:00, 14:00, 16:00, 18:00). The baseline monitoring event has been conducted on 10th April 2021 at 5 monitoring locations. Testing protocols and methodologies had followed the guidelines as presented in the EM&A Manual *Annex C*. Detailed analysis of in-situ and laboratory data was presented in a separate report which has been submitted to EPD after approval by IEC on 31 May 2021. The overall Silt Removal Effectiveness at Outfall Shaft Area for the combined used of cage and floating type silt curtains was 95.28%.

3.1.1. WATER QUALITY PARAMETERS

The parameters that have been selected for measurement in situ and in the laboratory are those that were either determined in the EIA to be those with the most potential to be affected by the construction works or are a standard check on water quality conditions. Parameters to be measured in the baseline monitoring are listed in **Table 3.1**.

Table 3.1 Parameters measured in the baseline marine water quality monitoring

Parameters	Unit	Abbreviation
In-situ measurements		
Dissolved oxygen	mg/L	DO
Temperature	^{o}C	-
pH	-	-
Turbidity	NTU	-
Salinity	$^{0}/_{00}$	-
Total Residual Chlorine NOTE1	mg/L	TRC
Laboratory measurements		
Suspended Solids	mg/L	SS
Iron-Soluble NOTE2	mg/L	Fe
Anti-scalant as Reactive Phosphorus NOTE2	mg/L	PO_4 as P-

NOTE 1: Monitoring of TRC will be conducted when cleaning and sterilization of the new freshwater main is carried out.

NOTE 2: The testing methods shall be submitted to EPD for approval prior to the commencement of monitoring programme

In addition to the water quality parameters, other relevant data will also be measured and recorded in Water Quality Monitoring Logs, including the location of the sampling stations, water depth, time, weather conditions, sea conditions, tidal stage, current direction and velocity, special phenomena and work activities undertaken around the monitoring and works area that may influence the monitoring results.

3.1.2. MONITORING EQUIPMENT

For water quality monitoring, the following equipment will be used:

Dissolved Oxygen and Temperature Measuring Equipment - The instrument will be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and will be operable from a DC power source. It will be capable of measuring: dissolved oxygen levels in the range of 0 - 20 mg/L and 0 - 200% saturation; and a temperature of 0 - 45 degrees Celsius. It shall have a membrane electrode with automatic temperature compensation complete with a cable of not less than 35 m in length. Sufficient stocks of spare electrodes and cables

shall be available for replacement where necessary (e.g. YSI model 59 DO meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

Turbidity Measurement Equipment - The instrument will be a portable, weatherproof turbidity-measuring unit complete with cable, sensor and comprehensive operation manuals. The equipment will be operated from a DC power source, it will have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU and will be complete with a cable with at least 35 m in length (for example Hach 2100P or an approved similar instrument).

Salinity Measurement Instrument - A portable salinometer capable of measuring salinity in the range of 0 - 40 ppt will be provided for measuring salinity of the water at each monitoring location.

Water Depth Gauge – A portable, battery-operated echo sounder (for example Seafarer 700 or a similar approved instrument) will be used for the determination of water depth at each designated monitoring station. This unit will preferably be affixed to the bottom of the work boat if the same vessel is to be used throughout the monitoring programme. The echo sounder should be suitably calibrated. The ET shall seek approval for their proposed equipment with the client prior to deployment.

Current Velocity and Direction – No specific equipment is recommended for measuring the current velocity and direction. The environmental contractor shall seek approval of their proposed equipment with the client prior to deployment.

Positioning Device – A Global Positioning System (GPS) shall be used during monitoring to allow accurate recording of the position of the monitoring vessel before taking measurements. The Differential GPS, or equivalent instrument, should be suitably calibrated at appropriate checkpoint (e.g. Quarry Bay Survey Nail) to verify that the monitoring station is at the correct position before the water quality monitoring commence.

Water Sampling Equipment - A water sampler, consisting of a PVC or glass cylinder of not less than two litres, which can be effectively sealed with cups at both ends, will be used (e.g. Kahlsico Water Sampler 13SWB203 or an approved similar instrument). The water sampler will have 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.

Total Residual Chlorine for Discharge of Sterilization Water - Total residual chlorine (TRC) shall be measured in-situ using a handheld colorimeter with its testing toolkits.

3.1.3. SAMPLING / TESTING PROTOCOLS

All in situ monitoring instruments will be checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at monthly intervals throughout the stages of the water quality monitoring. Responses of sensors and electrodes will be checked with certified standard solutions before each use.

On-site calibration of field equipment shall follow the "Guide to On-Site Test Methods for the Analysis of Waters", BS 1427: 2009. Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when equipment is under maintenance, calibration etc.

3.1.4. LABORATORY MEASUREMENT AND ANALYSIS

All laboratory work shall be carried out in a HOKLAS accredited laboratory. Sufficient volume of each water sample shall be collected at the monitoring stations for carrying out the laboratory analyses. Using chain of custody forms, collected water samples will be transferred to an HOKLAS accredited laboratory for immediate processing. The determination work shall start within the next working day after collection of the water samples. The laboratory measurements shall be provided to the client within 5 working days of the sampling event. Analytical methodology and sample preservation of other parameters will be based on the latest edition of Standard Methods for the Examination of Waste and Wastewater published by APHA, AWWA and WPCF and methods by USEPA, or suitable method in accordance with requirements of HOKLAS or another internationally accredited scheme. The submitted information should include pre-treatment procedures, instrument use, Quality Assurance/Quality Control (QA/QC) details (such as blank, spike recovery, number of duplicate samples per-batch etc), detection limits and accuracy. The QA/QC details shall be in accordance with requirements of HOKLAS or another internationally accredited scheme.

Parameters for laboratory measurements, their standard methods and their detection limits are presented in **Table 3.2**.

Table 3.2 Laboratory measurements, standard methods and corresponding detection limits of marine water quality monitoring

Parameters	Standard Methods	Detection Limit	Reporting Limit	Precision
Dissolved oxygen (mg/L)	Instrumental, CTD	0.1	-	±25%
Temperature (^{o}C)	Instrumental, CTD	0.1	-	±25%
pH	Instrumental, CTD	0.1	-	±25%
Turbidity (NTU)	Instrumental, CTD	0.1	-	±25%
Salinity ($^{0}/_{00}$)	Instrumental, CTD	0.1	-	±25%
Suspended Solids (mg/L)	APHA 17th Ed 2540D	1.0	2.0	±17%
Total Residual Chlorine (mg/L)	APHA 21st Ed 4500 – Cl G NOTE1	0.1NOTE1	0.2NOTE1	±10% NOTE1

Parameters	Standard Methods	Detection Limit	Reporting Limit	Precision
Iron-soluble	USEPA 6010C NOTE 1	0.2NOTE1	0.2NOTE1	±25%NOTE1
Anti-scalant as Reactive phosphorus	APHA 4500P: B&F NOTE1	0.01NOTE1	0.01NOTE1	±25%NOTE1

NOTE1: The testing methods, Quality Assurance/Quality Control (QA/QC) details, detection limits and accuracy shall be submitted to EPD for approval prior to the commencement of monitoring programme.

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

3.1.5. MONITORING LOCATION

The water quality monitoring locations for baseline are in accordance with the EM&A Manual and detailed in **Table 3.3** below. A schedule for water quality monitoring shall be prepared by the ET and approved by IEC and EPD prior to the commencement of the monitoring.

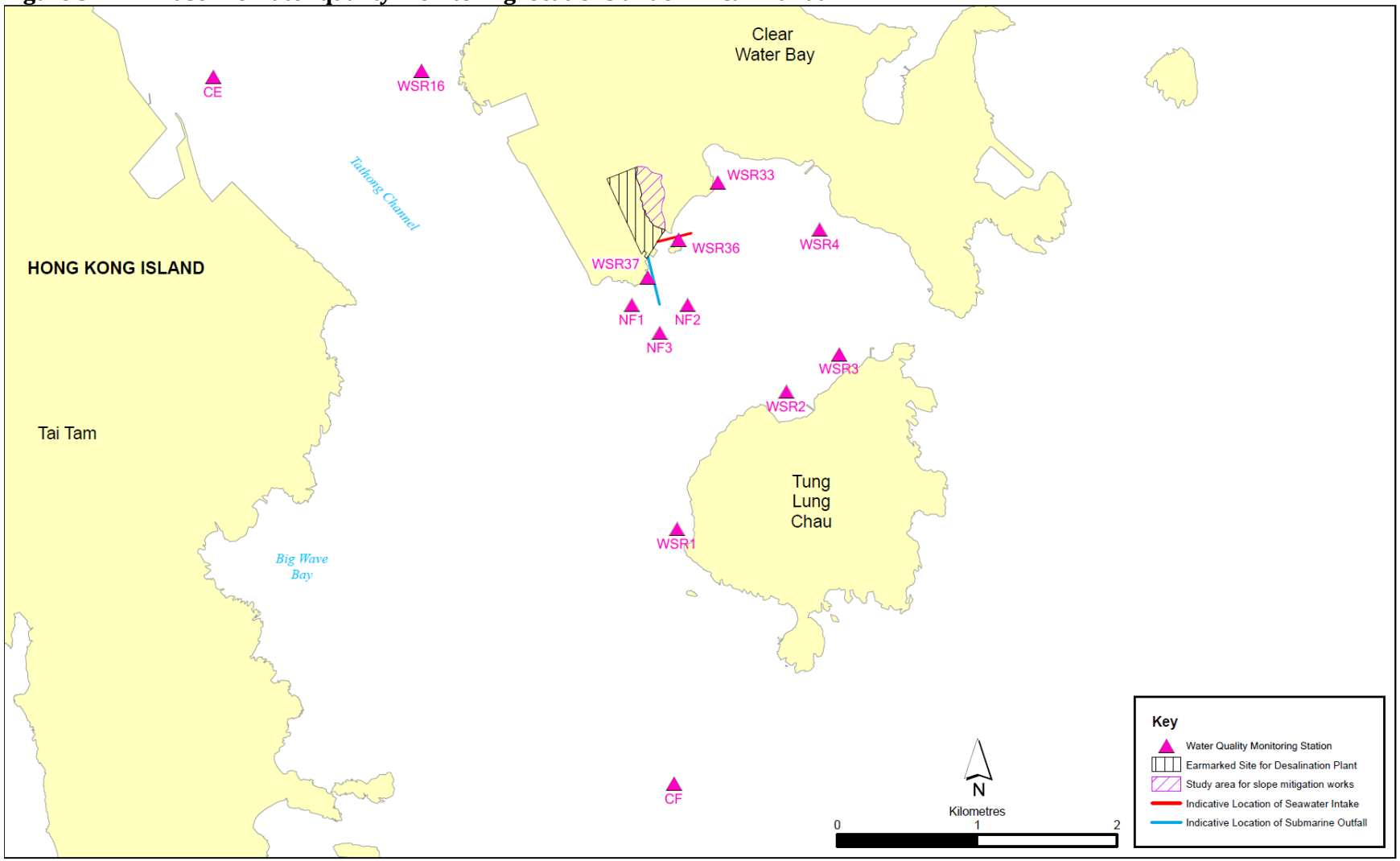
Table 3.3 Location of Baseline Water Quality Monitoring Station

Station	Easting	Northing	Description
CE	843550	815243	Upstream control station at ebb tide
CF	846843	810193	Upstream control station at flood tide
WSR1	846864	812014	Ecological sensitive receiver at Tung Lung Chau
WSR2	847645	812993	Fisheries sensitive receiver at Tung Lung Chau
WSR3	848023	813262	Ecological sensitive receiver at Tung Lung Chau
WSR4	847886	814154	Ecological sensitive receiver at Tai Miu Wan
WSR16	845039	815287	Ecological sensitive receiver at Fat Tong Chau
WSR33	847159	814488	Ecological sensitive receiver at Tai Miu Wan
WSR36	846878	814081	Ecological sensitive receiver at Kwun Tsai
WSR37	846655	813810	Ecological sensitive receiver at Tit Cham Chau
NF1	846542	813614	Edge of mixing zone, ~ 200m west of outfall diffuser
NF2	846942	813614	Edge of mixing zone, ~ 200m east of outfall diffuser

NF3	846742	813414	Edge of mixing zone, ~ 200m south of outfall diffuser

WSR1 to WSR37 were identified in accordance with Annex 14 of the EIAO-TM as well as Clause 3.4.4.2 of the Environmental Impact Assessment Study Brief for Desalination Plant at Tseung Kwan O (No. ESB-266/2013). WSR1 to WSR3 are sited near the Tung Lung Chau Fish Culture Zone; WSR16 and WSR36 are sited near the coral assemblages along the coastlines of Fat Tong Chau and Kwun Tsai respectively; WSR 4 and WSR33 are sited near the Coastal Protection Area and coral assemblages in waters of Tai Miu Wan; WSR37 is sited near the fisheries resource including spawning and nursery grounds at the coastal water of Tit Cham Chau.

Figure 3.1 Baseline water quality monitoring locations under EM&A Manual



3.1.6. SAMPLING FREQUENCY

During periods when there are dredging works, impact monitoring should be undertaken at the monitoring stations as shown in **Figure 3.1** and **Table 3.3** three days per week during the construction phase after the commencement of marine construction works and dredging activities. Monitoring at each station would be undertaken at both mid-ebb and mid-flood tides on the same day. The tidal range selected for the baseline monitoring will be at least 0.5 m for both flood and ebb tides as far as practicable. The interval between two sets of monitoring would not be less than 36 hours. The monitoring frequency would be increased in the case of exceedances of Action/Limit Levels if considered necessary by ET. Monitoring frequency would be maintained as far as practicable.

The monitoring location/position, time, water depth, water temperature, salinity, weather conditions, sea conditions, tidal stage, special phenomena and work underway at the marine works site will be recorded.

3.1.7. SAMPLING DEPTHS & REPLICATION

For baseline monitoring, each station will be sampled and measurements/ water samples will be taken at three depths, 1 m below the sea surface, mid-depth and 1 m above the seabed. For stations that are less than 3 m in depth, only the mid depth sample shall be taken. For stations that are less than 6 m in depth, only the surface and seabed sample shall be taken. For in situ measurements, duplicate readings shall be made at each water depth at each station. Duplicate water samples shall be collected at each water depth at each station. All observations and results were recorded in the data record sheets in **Appendix L**.

3.1.8. ACTION AND LIMIT LEVELS

The Action and Limit Levels have been set based on the derivation criteria specified in the EM&A Manual, as shown in **Table 3.4** below. Based on the baseline water quality monitoring data and the derivation criteria specified in **Table 3.4**, the Action/Limit Levels have been derived and are presented in **Table 3.5**.

3.2. MONITORING PROGRAMME

The ET of the Project had conducted the baseline water monitoring between 12 May 2020 to 6 Jun 2020 at the thirteen designated monitoring stations and the six designated monitoring at waters near TKO in accordance with the EM&A Manual and Contract Specification respectively. The monitoring results was presented in Baseline Water Quality Monitoring Report separately.

The commencement of marine construction and dredging activities for the Project have been conducted in March and April 2021 respectively.

Table 3.4 Criteria of Action and Limit Levels for Water Quality

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	Surface and Middle 5%-ile of baseline data for surface and middle layer Bottom 5%-ile of baseline data for bottom layers Tung Lung Chau Fish Culture Zone 5.1 mgL^{-1} or level at control station (whichever the lower)	Surface and Middle 4 $mg\ L^{-1}$ Bottom 2 $mg\ L^{-1}$ Tung Lung Chau Fish Culture Zone 5.0 mgL-1 or level at control station (whichever the lower)
SS in mg/L (Depth-averaged)	≥ 95 %-ile of baseline data or 20% exceedance of value at any impact station compared with corresponding data from control station	≥ 99 %-ile of baseline data or 30% exceedance of value at any impact station compared with corresponding data from control station
Turbidity in NTU (Depth-averaged)	≥ 95 %-ile of baseline data or 20% exceedance of value at any impact station compared with corresponding data from control station	≥ 99 %-ile of baseline data or 30% exceedance of value at any impact station compared with corresponding data from control station
First-year Operation Phase Monitoring		
DO in mg/L	Surface and Middle 5%-ile of baseline data for surface and middle layer Bottom 5%-ile of baseline data for bottom layers Tung Lung Chau Fish Culture Zone	Surface and Middle 4 $mg\ L^{-1}$ Bottom 2 $mg\ L^{-1}$ Tung Lung Chau Fish Culture Zone

	5.1 mgL^{-1} or level at control station (whichever the lower)	5.0 mgL^{-1} or level at control station (whichever the lower)
SS in mg/L (Depth-averaged)	≥ 95 %-ile of baseline data or 20% exceedance of value at any impact station compared with corresponding data from control station	≥ 99 %-ile of baseline data or 30% exceedance of value at any impact station compared with corresponding data from control station
Turbidity in NTU (Depth-averaged)	≥ 95 %-ile of baseline data or 20% exceedance of value at any impact station compared with corresponding data from control station	≥ 99 %-ile of baseline data or 30% exceedance of value at any impact station compared with corresponding data from control station
Salinity in PSU (Depth-averaged)	109% of baseline level or 9% exceedance of value at any impact station compared with corresponding data from control station	110% of baseline level or 10% exceedance of value at any impact station compared with corresponding data from control station
Iron in mg/L (Depth-averaged)	0.3 mgL^{-1}	0.3 mgL^{-1}

Table 3.5 Derived Action and Limit Levels for Water Quality

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	Surface and Middle 7.30 mg L^{-1} Bottom 7.31 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.1 mgL^{-1} or level at control station (whichever the lower)	Surface and Middle 4 mg L^{-1} Bottom 2 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.0 mgL^{-1} or level at control station (whichever the lower)
SS in mg/L (Depth-averaged)	5.00 mg L^{-1} or 20% exceedance of value at any impact station compared with corresponding data from control station	6.00 mg L^{-1} or 30% exceedance of value at any impact station compared with corresponding data from control station
Turbidity in NTU (Depth-averaged)	2.41 NTU or 20% exceedance of value at any impact station compared with corresponding data from control station	2.84 NTU or 30% exceedance of value at any impact station compared with corresponding data from control station
First-year Operation Phase Monitoring [iv]		
DO in mg/L	Surface and Middle 7.30 mg L^{-1} Bottom 7.31 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.1 mgL^{-1} or level at control station (whichever the lower)	Surface and Middle 4 mg L^{-1} Bottom 2 mg L^{-1} Tung Lung Chau Fish Culture Zone 5.0 mgL^{-1} or level at control station (whichever the lower)
SS in mg/L (Depth-averaged)	5.00 mg L^{-1} or 20% exceedance of valueat any impact station compared with corresponding data from control station	6.00 mg L^{-1} or 30% exceedance of value at any impact station compared with corresponding data from control station

Turbidity in NTU (Depth-averaged)	2.41 NTU or 20% exceedance of value at any impact station compared with corresponding data from control station	2.84 NTU or 30% exceedance of value at any impact station compared with corresponding data from control station
Salinity in PSU (Depth-averaged)	34.28 PSU or 9% exceedance of value at any impact station compared with corresponding data from control station	34.60 PSU or 10% exceedance of value at any impact station compared with corresponding data from control station
Iron in mg/L (Depth-averaged)	0.3 mgL^{-1}	0.3 mgL^{-1}

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, iron and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
iv. For the Action and Limit Levels adopted during First-year Operation Phase Monitoring, further review would be made according to the EM&A Manual during Operation Phase.

3.3. MONITORING RESULTS AND OBSERVATIONS

General water quality monitoring at the ten monitoring stations (CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36 and WSR37) were conducted on 2, 5, 7, 9*, 12*, 14, 16, 18, 20, 23, 25, 27 and 29 October 2021.

During the impact monitoring period for October 2021, fifty-seven (57) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded the Action Level. Forty-seven (47) of the general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level.

Details of the exceedance are presented in **Appendix O**.

Investigation on the reason of exceedance has been carried out, where the exceedances of SS on 07/10, 14/10, 16/10, 18/10, 20/10, 23/10, 25/10, 27/10, and 29/10 were concluded to be unrelated to the project as detailed in the Incident Reports on Action Level or Limit Level Non-compliance along with supporting materials in **Appendix O.**

Monitoring results of 6 key parameters: Salinity, DO, turbidity, SS, pH and temperature in this reporting, are summarized in **Table 3.6** and **Table 3.7**, and detailed results are presented in **Appendix L**.

* The impact monitoring on 9/10 and 12/10 were cancelled due to adverse weather (No.3 and No.8 Tropical Cyclone Warning Signals, Amber Rainstorm Warning Signal). Supporting Documents are provided in **Appendix L**.

Table 3.6 Summary of Impact Water Quality Monitoring Results (Mid-Flood)

Locations		Parameters						
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)	Temp.(°C)
			Surface & Middle	Bottom				
CE	Avg.	30.92	8.67	8.67	8.28	4.7	7.64	27.9
	Min.	29.79	7.88	8.09	7.92	3.2	2.00	26.3
	Max.	33.07	9.28	9.21	8.63	6.5	15.00	30.2
CF	Avg.	30.68	8.94	8.89	8.26	5.2	7.92	28.0
	Min.	28.99	7.79	7.96	8.00	3.3	2.00	26.2
	Max.	32.41	10.00	10.06	8.54	7.0	18.00	30.2
WSR1	Avg.	30.74	8.56	8.62	8.23	3.4	8.67	27.9
	Min.	29.23	7.74	7.91	7.97	1.7	2.00	26.4
	Max.	32.51	9.64	9.69	8.47	5.9	17.00	30.2
WSR2	Avg.	30.75	8.79	8.75	8.26	3.1	6.53	27.9
	Min.	29.49	7.95	7.75	7.80	1.7	2.00	26.0
	Max.	32.35	9.80	9.79	8.46	5.6	14.00	30.2
WSR3	Avg.	30.72	8.80	8.80	8.29	3.1	7.26	28.0
	Min.	29.37	8.11	7.95	7.99	1.6	2.00	26.5
	Max.	32.22	9.95	9.84	8.51	5.6	15.00	30.2
WSR4	Avg.	30.74	8.79	8.83	8.19	3.1	7.33	27.9
	Min.	29.54	7.84	7.94	7.85	1.7	2.00	26.4
	Max.	32.77	10.08	10.04	8.59	5.6	15.00	30.2
WSR16	Avg.	30.73	8.59	8.63	8.25	3.5	6.97	27.9
	Min.	28.99	8.11	7.81	7.99	1.8	2.00	26.4
	Max.	32.41	9.35	9.36	8.47	5.6	14.00	30.2
WSR33	Avg.	30.66	8.70	8.67	8.27	3.3	8.21	27.8
	Min.	29.06	7.81	7.68	8.08	2.0	2.00	26.2
	Max.	31.86	9.35	9.32	8.53	6.1	14.00	30.2
WSR36	Avg.	30.88	8.78	8.75	8.24	3.2	7.91	27.9
	Min.	29.51	7.79	7.98	7.92	1.5	2.00	26.7
	Max.	32.33	10.16	10.16	8.45	5.5	18.00	30.1
WSR37	Avg.	30.87	8.81	8.81	8.29	3.2	9.47	27.9
	Min.	29.14	7.78	7.72	8.08	1.6	2.00	26.4
	Max.	33.32	10.09	10.08	8.52	5.8	19.00	30.1

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. Measurement data of Suspending Solids would be rounding to 2.5mg/L if the value was less than 2.5mg/L to facilitate data analysing.

Table 3.7 Summary of Impact Water Quality Monitoring Results (Mid-Ebb)

Locations		Parameters						
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)	Temp.(°C)
			Surface & Middle	Bottom				
CE	Avg.	30.93	8.68	8.63	8.25	4.6	6.71	27.9
	Min.	28.92	7.71	7.96	7.93	2.9	2.00	26.5
	Max.	32.27	9.34	9.30	8.44	6.9	15.00	30.2
CF	Avg.	30.71	8.65	8.68	8.23	4.1	6.48	28.1
	Min.	29.35	8.02	8.10	7.96	2.4	2.00	26.6
	Max.	32.13	9.65	9.70	8.57	6.2	14.00	30.7
WSR1	Avg.	31.03	8.60	8.57	8.25	3.0	7.44	28.0
	Min.	29.30	7.98	7.95	7.97	1.6	2.00	26.7
	Max.	32.96	9.41	9.62	8.51	5.7	14.00	30.5
WSR2	Avg.	30.81	8.75	8.72	8.23	3.1	7.86	28.0
	Min.	29.44	8.32	8.12	8.02	2.0	2.00	26.7
	Max.	31.92	9.22	9.37	8.44	5.9	17.00	30.2
WSR3	Avg.	30.98	8.60	8.53	8.26	3.2	8.67	28.1
	Min.	29.50	7.60	7.42	7.88	1.7	2.00	26.5
	Max.	32.07	9.89	9.73	8.53	5.4	21.00	30.8
WSR4	Avg.	31.13	8.78	8.71	8.28	3.2	8.70	28.0
	Min.	29.60	8.02	7.93	8.10	1.6	2.00	26.4
	Max.	32.97	9.28	9.23	8.46	5.8	26.00	30.2
WSR16	Avg.	30.70	8.61	8.60	8.25	3.4	7.67	28.0
	Min.	29.70	7.85	7.98	8.05	1.8	2.00	26.3
	Max.	31.88	9.01	9.17	8.53	5.6	14.00	30.4
WSR33	Avg.	30.98	8.75	8.75	8.21	3.0	6.80	28.0
	Min.	29.42	7.70	7.69	7.93	1.7	2.00	26.4
	Max.	32.92	9.29	9.37	8.33	5.9	17.00	30.4
WSR36	Avg.	30.77	8.52	8.47	8.28	3.2	8.74	28.1
	Min.	29.45	7.69	7.47	8.04	1.7	2.00	26.8
	Max.	32.51	9.22	9.31	8.58	5.2	29.00	30.8
WSR37	Avg.	30.94	8.72	8.69	8.27	3.3	8.14	28.0
	Min.	29.28	7.99	7.87	8.00	1.4	3.00	26.5
	Max.	32.23	9.37	9.36	8.48	5.5	17.00	30.3

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. Measurement data of Suspending Solids would be rounding to 2.5mg/L if the value was less than 2.5mg/L to facilitate data analysing.

4. WASTE

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. 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 H.**

Table 4.1 Quantities of Waste Generated from the Project during October 2021

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	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note)	Chemical Waste	Others, e.g. general refuse
	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)
October 2021*	578.870	0.000	0.000	0.000	578.870	0.000	0.006	0.510	0.018	0.000	88.390

Notes: (1) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

* The data may be updated in the next reporting month after final confirmation by the end of the month.

5. LANDFILL GAS MONITORING

5.1. MONITORING REQUIREMENT

In accordance with Section 11 of the EM&A Manual, monitoring of landfill gas is required for construction works within the 250m Consultation Zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter fresh water mains along Wan Po Road falls within the SENT Landfill and SENT Landfill Extension Consultation Zones, TKO Stage II/III Restored Landfill and TKO Stage I Restored Landfill Consultation Zones.

5.2. MONITORING LOCATION

Monitoring of oxygen, methane, carbon dioxide and barometric pressure would be performed for excavations at 1m depth or more within the consultation Zone.

During construction of works within the consultation zones, excavations of 1m depth or more was monitored:

- At the ground surface before excavation commences;
- Immediately before any worker enters the excavation;
- At the beginning of each working day for the entire period the excavation remains open; and
- Periodically through the working day whilst workers are in the excavation.

For excavations between 300mm and 1m deep, measurements should be carried out:

- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.

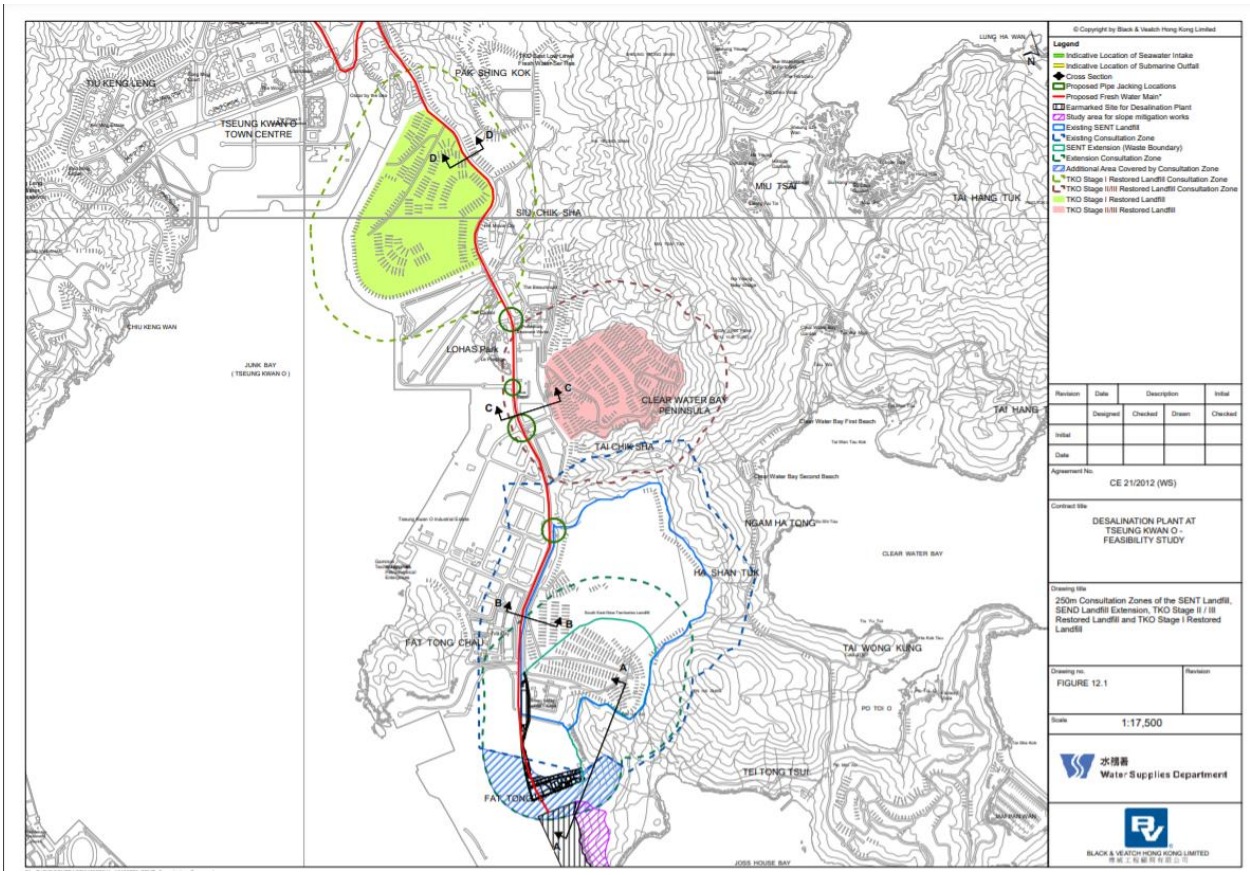
5.3. MONITORING PROGRAMME

Since part of the desalination plant (Wan Po Road and MIC compound/Basketball Court) and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone in this contract (**Figure 5.1**), landfill gas monitoring was conducted at Wan Po Road (**Figure 5.2)** in the reporting period. However, as the commencement of operation of the SENT Landfill Extension is scheduled to be 2021 Quarter 4 according to the latest construction programme shown in the monthly EM&A Report of SENT Landfill Extension whilst no excavation works were conducted at MIC compound/Basketball Court, no landfill gas monitoring would be scheduled for MIC compound/Basketball Court at the current stage. In this reporting period, 44 times of monitoring was recorded at Wan Po Road.

5.4. MONITORING LOCATION

The area required to be monitored for landfill gas in the reporting period is shown in **Figure 5.2**.

Figure 5.1 Overview of the SENT Extension Consultation Zone and the Project Site Area



5.5. MONITORING PARAMETERS

LFG monitoring was carried out to identify any migration between the landfill and the Project and to ensure the safety of the construction, operation and maintenance personnel working on-site, visitors and any other person within the Project area.

The following parameters were monitored:

- Methane.
- Oxygen.
- Carbon Dioxide.
- Barometric Pressure.

Action and Limit Level are provided in Table 5.1.

Table 5.1 Action and Limit Level for Landfill Gas Monitoring Equipment

Parameters	Action Level	Limit Level
Oxygen (O2)	<19% O2	<19% O2
Methane (CH4)	>10% LEL	>80% LEL
Carbon Dioxide (CO2)	>0.5% CO2	>1.5% CO2

5.6. MONITORING EQUIPMENT

Landfill Gas monitoring was carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment is:

- Complying with the Landfill Gas Hazard Assessment Guidance Note as intrinsically safe;
- Capable of continuous barometric pressure and gas pressure measurements;
- Normally operated in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;
- Having low battery, fault and over range indication incorporated;
- Capable of storing monitoring data, and shall be capable of being down-loaded directly;
- Measure in the following ranges:

methane	0-100% LOWER EXPLOSION LIMIT (LEL) AND 0-100% v/v;
oxygen	0-25% v/v;
carbon dioxide	0-5% v/v; and
barometric pressure	mBar (absolute)

- alarm (both audibly and visually) in the event that the concentrations of the following are exceeded:

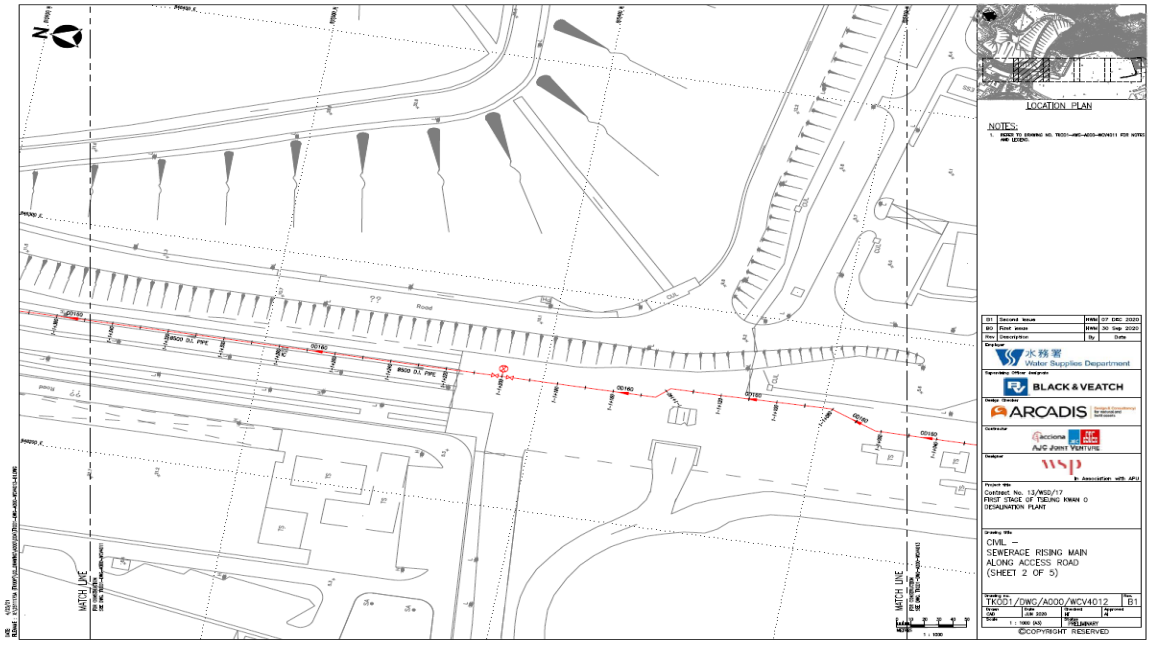
methane	>10% LEL;
oxygen	<19%
carbon dioxide	>0.5% by volume
barometric pressure	mBar (absolute)

Monitoring Equipment used in the reporting period are summarised in Table 5.2. The landfill gas monitoring equipment calibration certificate is presented in **Appendix N**. Landfill gas results are presented in **Appendix L.**

Table 5.2 Landfill Gas Monitoring Equipment

Equipment	Brand and Model	Calibration Expiry Date
Portable Gas Detector	QRAE III	01 July 2022
Portable Gas Detector	MultiRAE Lite PGM-6208	06 April 2022
Portable Gas Detector	GMI-PS500	29 September 2022

Figure 5.2 Location Map for Landfill Gas Monitoring at Wan Po Road



5.7. MONITORING RESULTS AND OBSERVATIONS

In this reporting period, 44 times of landfill gas monitoring was recorded. No exceedance of action and limit levels for methane, oxygen and carbon dioxide was observed. Monitoring was conducted when excavations at 1m depth or more within the consultation zone were conducted and workers entered the excavation on the day.

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

The Environmental Complaint Handling Procedure is shown in below **Figure 6.1:**

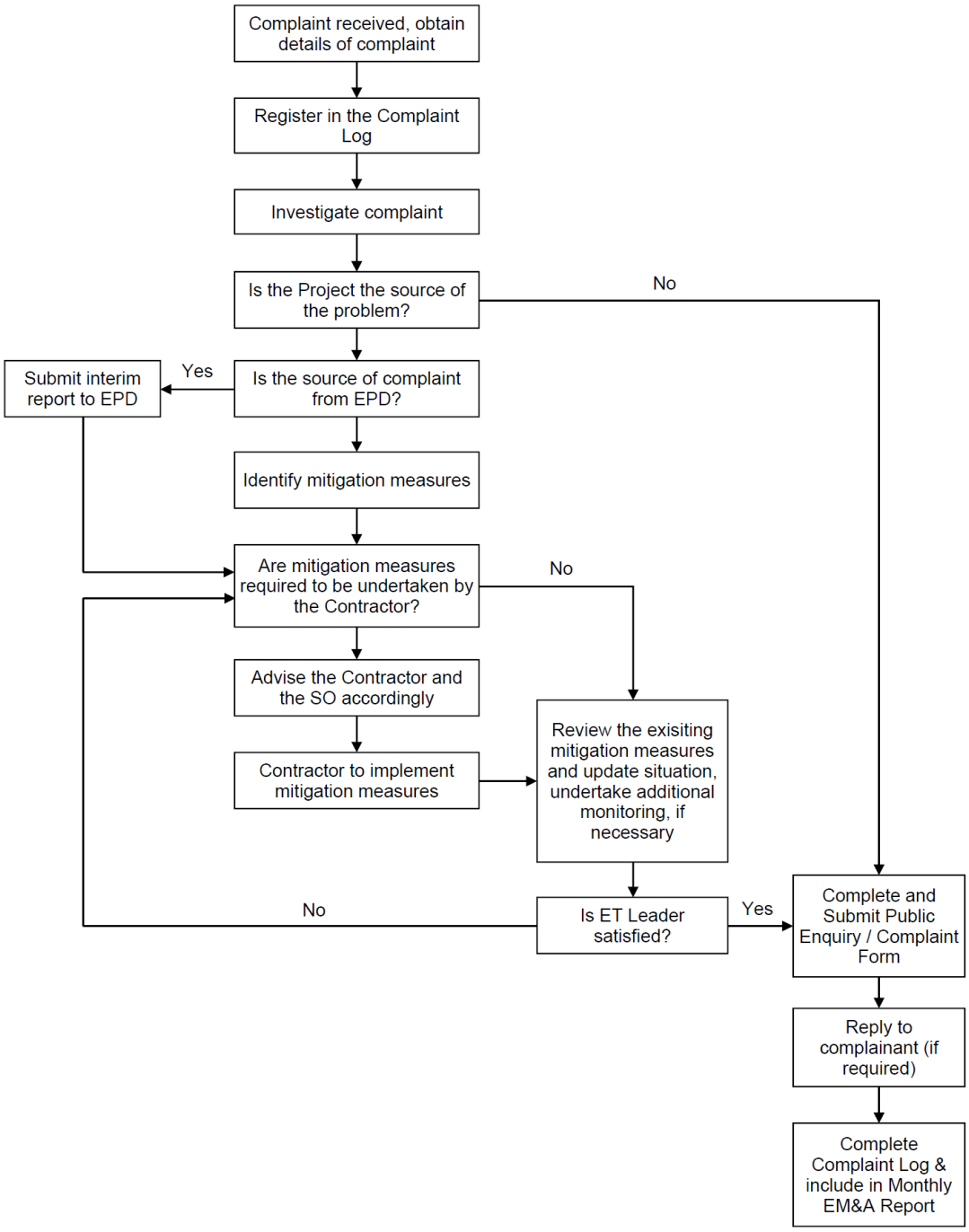


Figure 6.1 Environmental Complaint Handling Procedures

No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations.

General water quality monitoring at the ten monitoring stations (CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36 and WSR37) were conducted on 2, 5, 7, 9*, 12*, 14, 16, 18, 20, 23, 25, 27 and 29 October 2021.

During the impact monitoring period for October 2021, fifty-seven (57) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded the Action Level. Forty-seven (47) of the general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level.

Details of the exceedance are presented in **Appendix O**.

Investigation on the reason of exceedance has been carried out, where the exceedances of SS on 07/10, 14/10, 16/10, 18/10, 20/10, 23/10, 25/10, 27/10, and 29/10 were concluded to be unrelated to the project as detailed in the Incident Reports on Action Level or Limit Level Non-compliance along with supporting materials in **Appendix O.**

44 times of landfill gas monitoring was recorded. No exceedance of action and limit levels for methane, oxygen and carbon dioxide was observed.

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

Statistics on complaints and regulatory compliance are summarized in **Appendix J.**

* The impact monitoring on 9/10 and 12/10 were cancelled due to adverse weather (No.3 and No.8 Tropical Cyclone Warning Signals, Amber Rainstorm Warning Signal). Supporting Documents are provided in **Appendix L**.

7. EM&A SITE INSPECTION

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 6, 15, 19 and 29 October 2021 at the site portions listed in **Table 7.1** below.

Table 7.1 Summaries of Site Inspection Record

Date	Inspected Site Portion	Time
06 October 2021	TKO 137	14:30 – 17:05
15 October 2021	TKO 137 and Wan Po Road	14:30 – 17:00
19 October 2021	TKO 137	14:30 – 17:00
29 October 2021	TKO 137	09:00 – 11:00

Joint site inspection with IEC were carried out on 6, 15, 19 and 29 October 2021.

Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in **Table 7.2**.

Table 7.2 Site Observations

Date	Environmental Observations	Follow-up Status
06 October 2021	Observation(s) and Recommendation(s) 1. No major observations were reported on the respective day. 2. The Main Contractor was reminded to consider chemical waste storage at the construction site (2nd sedimentation tank, Reverse Osmosis Area) (reminder). 3. The Main Contractor was reminded to consider chemical storage in the construction site area (Product Water Storage Area) (reminder). 4. The Main Contractor was reminded to clean stagnant water at the construction site (Product Water Storage Area) (reminder).	Nil.
15 October 2021	Observation(s) and Recommendation(s) 1. The Main Contractor was reminded to add sandbags/earth bunds at the exit of Concrete Washing Area to ensure no effluent should be discharged from the construction site without treatment (Concrete Washing Area) (observation). 2. Chemical container was observed at general waste storage area (Combined Shaft Area) (observation).	1. Sandbags were added. 2. Chemical waste stored at suitable area for proper disposal.

Date	Environmental Observations	Follow-up Status
	3. The Main Contractor was reminded to consider machinery storage at Wan Po Road (reminder). 4. The Main Contractor was reminded that no dusty materials should be stockpiles near to water barriers when the exposed holes are not covered to prevent escape of these materials from site area (Wan Po Road) (reminder). 5. Trapped general wastes in the nullah should be cleaned (near to Combined Shaft Area) (reminder). 6. The Main Contractor was reminded to mark/label emptied chemical container on-site if the container would be reused in site area (Wan Po Road) (reminder). 7. The Main Contractor was reminded to ensure silt curtain connection was tight at seafront (reminder).	
19 October 2021	<u>Observation(s) and Recommendation(s)</u> 1. No major observations were reported on the respective day. 2. Immediate actions to rectify the disconnected silt curtain at the seafront should be conducted (seafront and barge) (reminder). 3. More earth bunds/sandbags should be added to the Concrete Washing Area to prevent effluent from discharging before treatment (reminder). 4. Chemical storage should be considered in the site area (Product Water Storage Area, 2nd Sedimentation Tank, Reverse Osmosis Area) (reminder).	Nil.
29 October 2021	<u>Observation(s) and Recommendation(s)</u> 1. Proper storage for chemicals and chemical waste shall be provided (i.e. drip tray) at Combined Shaft Area (observation). 2. Silt curtain shall be repaired before marine works (i.e. dredging) at Intake Shaft (reminder). 3. The Main Contractor was reminded to provide tarpaulin cover on the dusty materials (i.e. sand, soil) (reminder). 4. General housekeeping – remove the stones on the Intake Shaft walkway (reminder).	1. Drip tray was provided.

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

Site inspection proforma of the reporting period is provided in **Appendix I.**

8. FUTURE KEY ISSUES

Works to be undertaken in the next reporting month are:

- Land Survey;
- Construction of ActiDAFF perimeter wall and water tank;
- Construction of Reverse Osmosis (RO) Building – Water tank, Electrical Building's Roof;
- Construction of Product Water Storage Tank (PWST) perimeter wall and Electrical Building's roof slab;
- Construction of manholes no. 8 and no. 9 adjacent to PWST;
- Construction of Post Treatment Building 1/F;
- Construction of first floor walls and columns of Administration Building;
- Construction of reinforced concrete (RC) footing of Inspection Corridor;
- Internal finishing work in Main Electrical and Central Chiller Plant Building;
- Rockfill removal and dewatering at Outfall Shaft;
- Rock cutting and excavations at Outfall Shaft;
- Excavation & Lateral Support (ELS) erection and commencement of marine dredging and disposal at Intake Shaft;
- Pipe jacking works at Combined Shaft for Intake & Outfall pipelines;
- Grouting works at outfall tunnel after tunnel boring machine (TBM) retrieval;
- Cable drawpit construction;
- Glass Reinforced Plastic (GRP) pipe lamination and laying;
- Construction of 1st floor structural wall of Chemical Building;
- Wan Po Road Sewage Works – Temporary Traffic Arrangement (TTA), excavation and laying of High-Density Polyethylene (HDPE pipes);
- Construction of On-Site Chlorine Generation (OSCG) Building footing;
- Excavation and lateral support (ELS) at Pump house;
- Dismantling of tower crane TC02

The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation from construction and ELS works, pipe piling driving works, breaking of concrete, excavation works and marine construction works
- Waste generation from construction activities
- Impact on water quality from marine construction works and inland construction works

The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site by regular checking of on-site plant/vehicle to ensure proper functioning
- Sorting and storage of general refuse and construction waste

- Deployment of temporary silt curtain in the area where marine construction works were conducted and deployment of water sedimentation tanks for treatment of wastewater at inland areas before discharge

Referring to EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

The impact noise monitoring schedule for the next reporting month to be shown at **Appendix K** is not included since no impact noise monitoring will be conducted in the next reporting month.

9. CONCLUSIONS AND RECOMMENDATIONS

This is the 20th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 October to 31 October 2021, in accordance with the EM&A Manual and the requirement under FEP-01/503/2015/A.

No noise monitoring was conducted in the reporting period due to the over distant monitoring station from the works location, in which construction activities were not undertaken within a radius of 300m from the monitoring locations.

The EM&A works for water quality were conducted during the reporting period in accordance with the EM&A Manual.

During the impact monitoring period for October 2021, fifty-seven (57) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded the Action Level. Forty-seven (47) of the general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level.

Details of the exceedance are presented in **Appendix O**.

Investigation on the reason of exceedance has been carried out, where the exceedances of SS on 07/10, 14/10, 16/10, 18/10, 20/10, 23/10, 25/10, 27/10, and 29/10 were concluded to be unrelated to the project as detailed in the Incident Reports on Action Level or Limit Level Non-compliance along with supporting materials in **Appendix O.**

It was concluded that all exceedances recorded in October were unrelated to the project.

In this reporting period, 44 times of landfill gas monitoring was recorded. No exceedance of action and limit levels for methane, oxygen and carbon dioxide was observed. Monitoring was conducted when excavations at 1m depth or more within the consultation zone were conducted and workers entered the excavation on the day.

Weekly environmental site inspection was conducted during the reporting period. No major deficiency was observed during site inspection. The environmental performance of the project was therefore considered satisfactory.

According to the environmental site inspections performed in the reporting month, the Contractor is reminded to pay attention on maintaining proper materials storage, site hygiene and temporary wastewater storage capacity.

No environmental complaint was received in the reporting period.

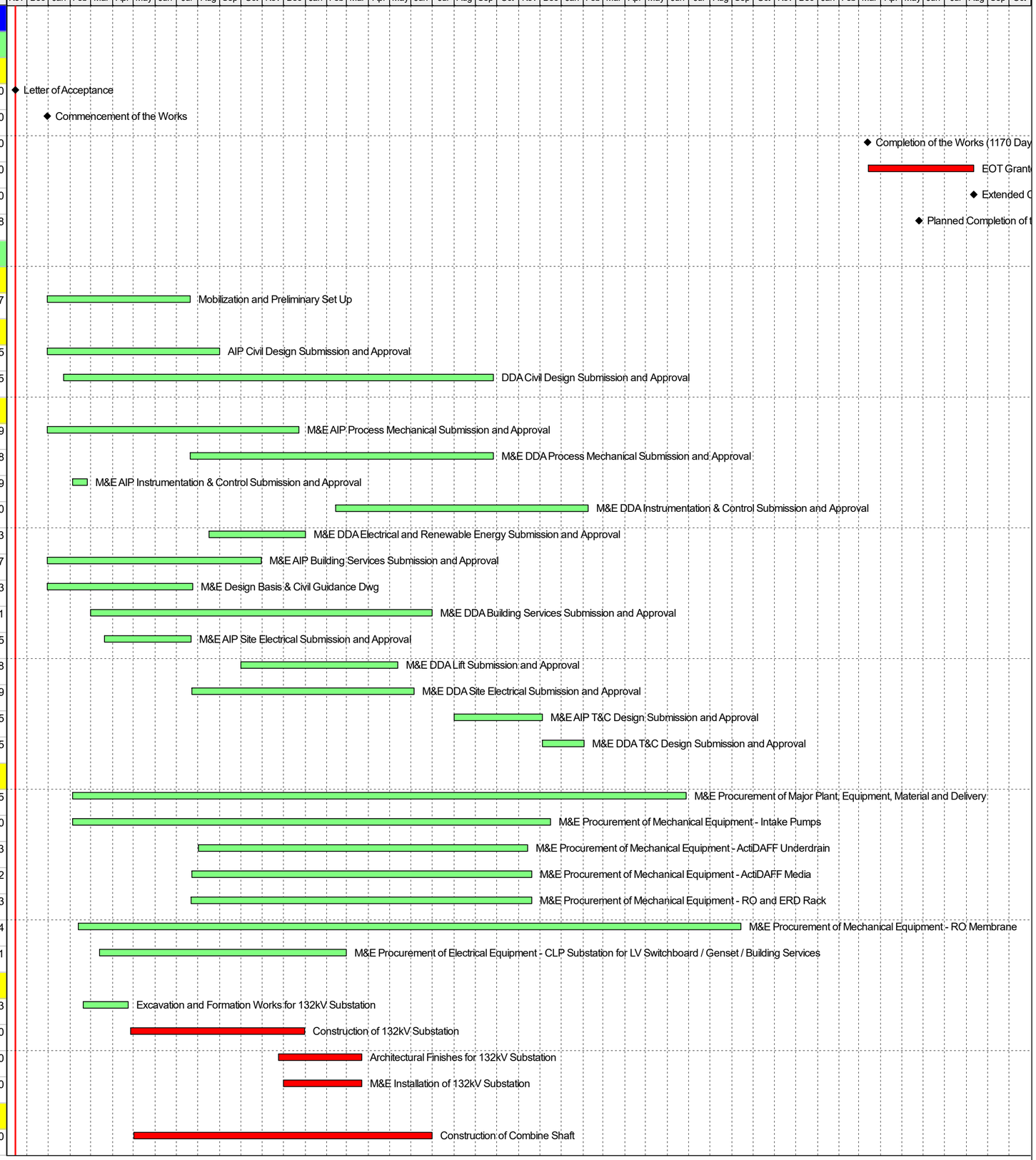
No notification of summons or prosecution was received since commencement of the Contract.

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

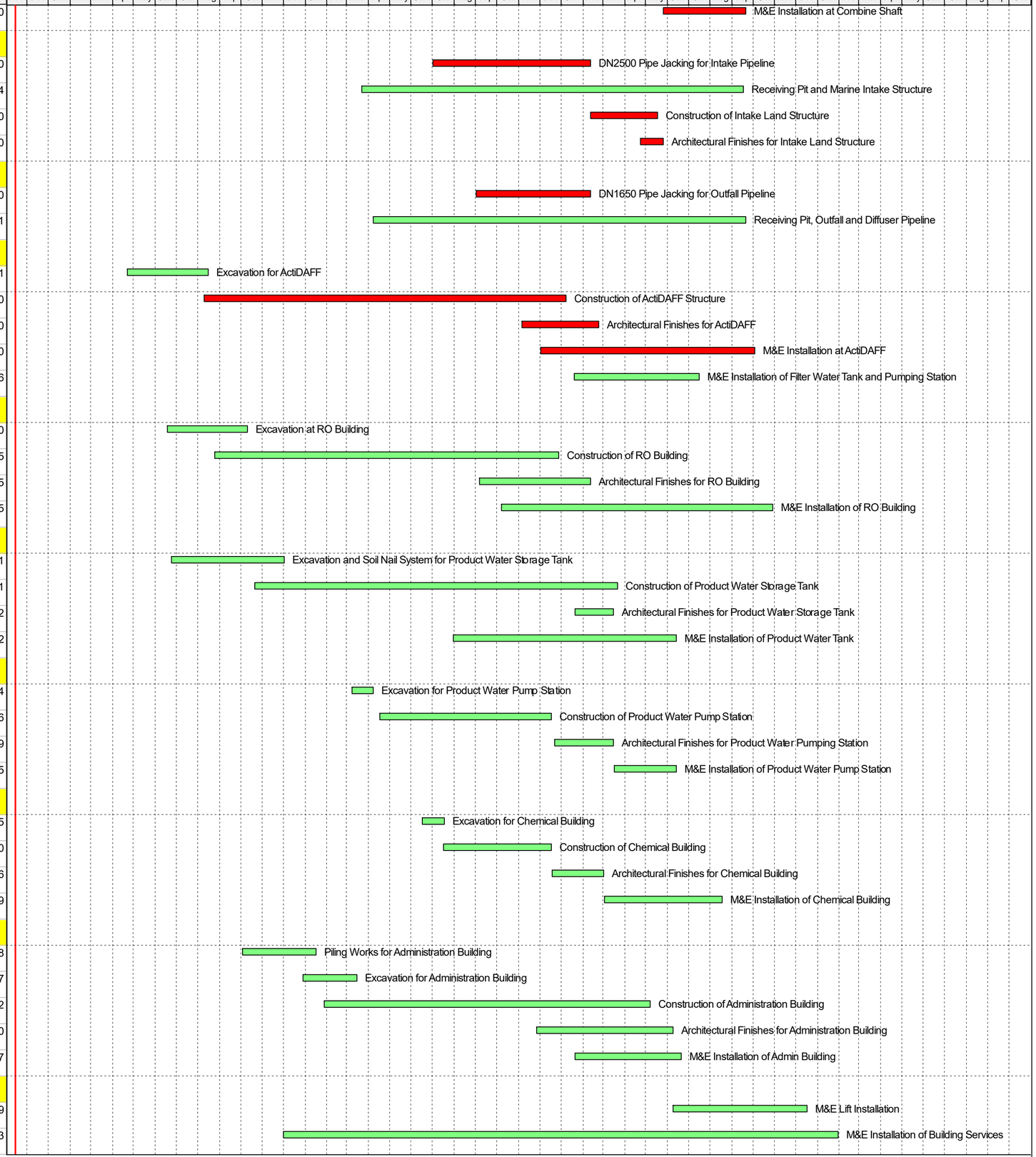
Appendix A

Master Programme

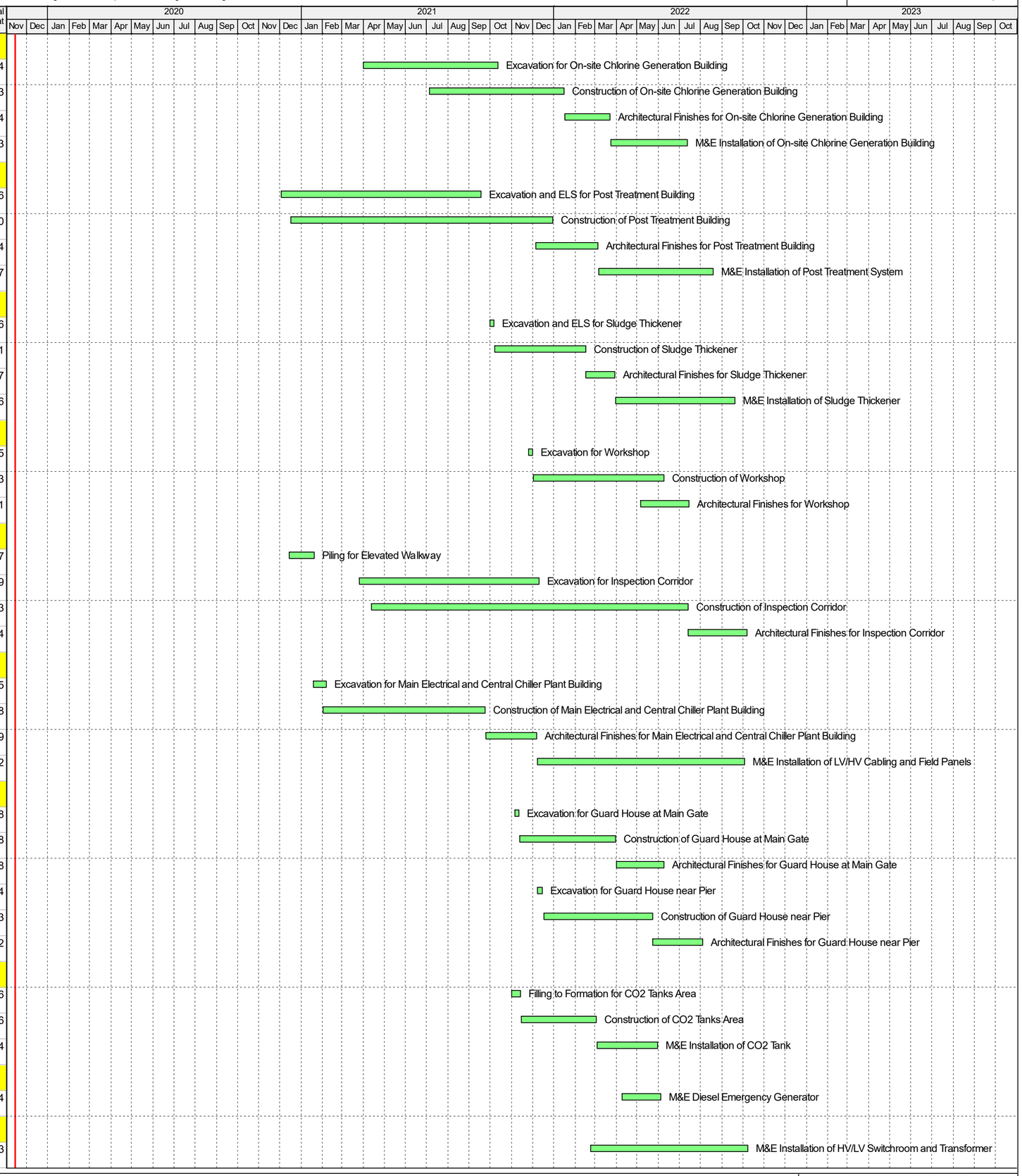
Activity ID	Activity Name	Calendar	Original Duration	Early Start	Early Finish	Total Float
Programme of the Works						
Key Dates						
Commencement and Completion Date						
KD0000100	Letter of Acceptance	IWP0 - 7	0	15-Nov-19		0
KD0000110	Commencement of the Works	IWP0 - 7	0	30-Dec-19		0
KD0000120	Completion of the Works (1170 Days)	IWP0 - 7	0		13-Mar-23	0
KD0000130	EOT Granted for Completion of the Works (150.5 Days)	IWP0 - 7	151	14-Mar-23	11-Aug-23	0
KD0000500	Extended Completion of the Works	IWP0 - 7	0		11-Aug-23	0
KD0000510	Planned Completion of the Works incl. DfMA	IWP0 - 7	0		25-May-23	78
Executive Summaries						
Preliminary Setup						
ES0001000	Mobilization and Preliminary Set Up	IWP0 - 7	204	30-Dec-19	20-Jul-20	117
Civil Design AIP and DDA						
ES0001010	AIP Civil Design Submission and Approval	IWP0 - 7	246	30-Dec-19	31-Aug-20	105
ES0001020	DDA Civil Design Submission and Approval	IWP0 - 7	613	22-Jan-20	25-Sep-21	85
M&E Design AIP and DDA						
ES0002000	M&E AIP Process Mechanical Submission and Approval	IWP0 - 7	359	30-Dec-19	22-Dec-20	109
ES0002010	M&E DDA Process Mechanical Submission and Approval	IWP0 - 7	432	21-Jul-20	25-Sep-21	108
ES0002020	M&E AIP Instrumentation & Control Submission and Approval	IWP0 - 7	22	04-Feb-20	25-Feb-20	779
ES0002030	M&E DDA Instrumentation & Control Submission and Approval	IWP0 - 7	360	13-Feb-21	07-Feb-22	150
ES0002050	M&E DDA Electrical and Renewable Energy Submission and Approval	IWP0 - 7	137	17-Aug-20	31-Dec-20	83
ES0002060	M&E AIP Building Services Submission and Approval	IWP0 - 7	306	30-Dec-19	30-Oct-20	117
ES0002065	M&E Design Basis & Civil Guidance Dwg	IWP0 - 7	208	30-Dec-19	24-Jul-20	263
ES0002070	M&E DDA Building Services Submission and Approval	IWP0 - 7	487	01-Mar-20	30-Jun-21	31
ES0002085	M&E AIP Site Electrical Submission and Approval	IWP0 - 7	124	21-Mar-20	22-Jul-20	215
ES0002090	M&E DDA Lift Submission and Approval	IWP0 - 7	224	01-Oct-20	12-May-21	68
ES0002095	M&E DDA Site Electrical Submission and Approval	IWP0 - 7	317	23-Jul-20	04-Jun-21	129
ES0002100	M&E AIP T&C Design Submission and Approval	IWP0 - 7	126	01-Aug-21	04-Dec-21	175
ES0002110	M&E DDA T&C Design Submission and Approval	IWP0 - 7	60	05-Dec-21	02-Feb-22	175
Procurement of Major Plant & Equipment Schedule						
ES0002320	M&E Procurement of Major Plant, Equipment, Material and Delivery	IWP0 - 7	875	04-Feb-20	27-Jun-22	85
ES2420	M&E Procurement of Mechanical Equipment - Intake Pumps	IWP0 - 7	682	04-Feb-20	16-Dec-21	160
ES2430	M&E Procurement of Mechanical Equipment - ActiDAFF Underdrain	IWP0 - 7	469	02-Aug-20	13-Nov-21	83
ES2440	M&E Procurement of Mechanical Equipment - ActiDAFF Media	IWP0 - 7	485	23-Jul-20	19-Nov-21	152
ES2450	M&E Procurement of Mechanical Equipment - RO and ERD Rack	IWP0 - 7	486	22-Jul-20	19-Nov-21	133
ES2460	M&E Procurement of Mechanical Equipment - RO Membrane	IWP0 - 7	945	12-Feb-20	13-Sep-22	124
ES2470	M&E Procurement of Electrical Equipment - CLP Substation for LV Switchboard / Genset / Building Services	IWP0 - 7	352	14-Mar-20	28-Feb-21	1
132kV Substation						
ES0001460	Excavation and Formation Works for 132kV Substation	IWP0 - 7	65	19-Feb-20	23-Apr-20	3
ES0001470	Construction of 132kV Substation	IWP0 - 7	248	27-Apr-20	30-Dec-20	0
ES0001480	Architectural Finishes for 132kV Substation	IWP0 - 7	120	23-Nov-20	22-Mar-21	0
ES0002240	M&E Installation of 132kV Substation	IWP0 - 7	112	01-Dec-20	22-Mar-21	0
Combine Shaft						
ES0001060	Construction of Combine Shaft	IWP0 - 7	425	02-May-20	30-Jun-21	0



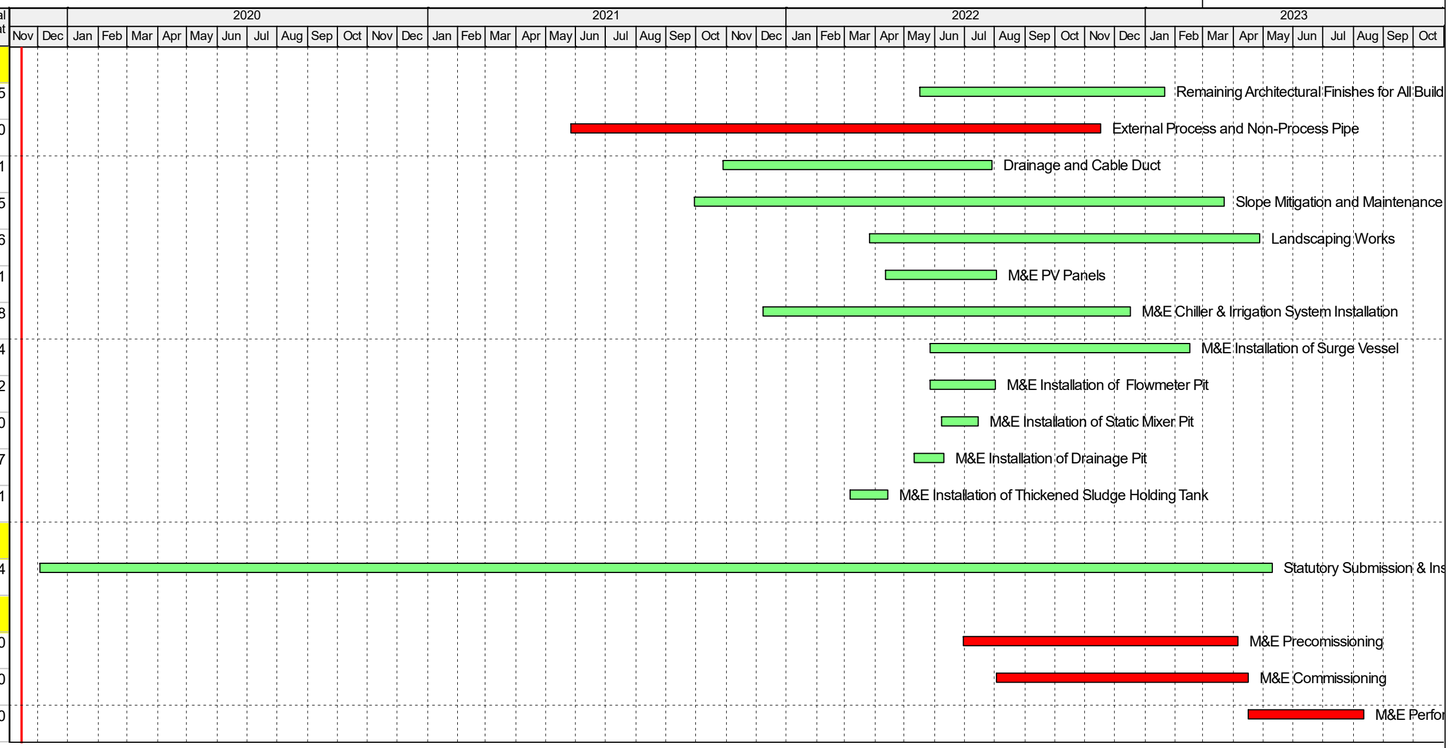
Activity ID	Activity Name	Calendar	Original Duration	Early Start	Early Finish	Total Float
ES0002120	M&E Installation at Combine Shaft	IWP0 - 7	118	26-May-22	20-Sep-22	0
Intake						
ES0001070	DN2500 Pipe Jacking for Intake Pipeline	IWP0 - 7	225	02-Jul-21	11-Feb-22	0
ES0001080	Receiving Pit and Marine Intake Structure	IWP0 - 7	545	22-Mar-21	17-Sep-22	4
ES0001110	Construction of Intake Land Structure	IWP0 - 7	96	11-Feb-22	17-May-22	0
ES0001120	Architectural Finishes for Intake Land Structure	IWP0 - 7	33	23-Apr-22	25-May-22	0
OutFall						
ES0001090	DN1650 Pipe Jacking for Outfall Pipeline	IWP0 - 7	164	01-Sep-21	11-Feb-22	0
ES0001100	Receiving Pit, Outfall and Diffuser Pipeline	IWP0 - 7	531	08-Apr-21	20-Sep-22	1
ActiDAFF						
ES0001140	Excavation for ActiDAFF	IWP0 - 7	116	22-Apr-20	15-Aug-20	11
ES0001150	Construction of ActiDAFF Structure	IWP0 - 7	516	10-Aug-20	07-Jan-22	0
ES0001160	Architectural Finishes for ActiDAFF	IWP0 - 7	110	06-Nov-21	23-Feb-22	0
ES0002130	M&E Installation at ActiDAFF	IWP0 - 7	306	02-Dec-21	03-Oct-22	0
ES0002140	M&E Installation of Filter Water Tank and Pumping Station	IWP0 - 7	179	19-Jan-22	16-Jul-22	46
Reverse Osmosis Building						
ES0001170	Excavation at RO Building	IWP0 - 7	115	18-Jun-20	10-Oct-20	30
ES0001180	Construction of RO Building	IWP0 - 7	491	25-Aug-20	28-Dec-21	25
ES0001190	Architectural Finishes for RO Building	IWP0 - 7	159	06-Sep-21	11-Feb-22	25
ES0002150	M&E Installation of RO Building	IWP0 - 7	387	07-Oct-21	28-Oct-22	25
Product Water Storage Tank						
ES0001240	Excavation and Soil Nail System for Product Water Storage Tank	IWP0 - 7	161	24-Jun-20	01-Dec-20	21
ES0001250	Construction of Product Water Storage Tank	IWP0 - 7	517	21-Oct-20	21-Mar-22	21
ES0001260	Architectural Finishes for Product Water Storage Tank	IWP0 - 7	55	20-Jan-22	15-Mar-22	22
ES0002210	M&E Installation of Product Water Tank	IWP0 - 7	318	31-Jul-21	13-Jun-22	122
Product Water Pumping Station						
ES0001270	Excavation for Product Water Pump Station	IWP0 - 7	31	08-Mar-21	07-Apr-21	54
ES0001280	Construction of Product Water Pump Station	IWP0 - 7	245	17-Apr-21	17-Dec-21	66
ES0001290	Architectural Finishes for Product Water Pumping Station	IWP0 - 7	85	22-Dec-21	16-Mar-22	59
ES0002215	M&E Installation of Product Water Pump Station	IWP0 - 7	89	17-Mar-22	13-Jun-22	35
Chemical Building						
ES0001300	Excavation for Chemical Building	IWP0 - 7	31	17-Jun-21	17-Jul-21	5
ES0001310	Construction of Chemical Building	IWP0 - 7	154	17-Jul-21	17-Dec-21	20
ES0001320	Architectural Finishes for Chemical Building	IWP0 - 7	75	18-Dec-21	02-Mar-22	16
ES0002220	M&E Installation of Chemical Building	IWP0 - 7	168	03-Mar-22	17-Aug-22	9
Administration Building						
ES0001330	Piling Works for Administration Building	IWP0 - 7	106	03-Oct-20	16-Jan-21	18
ES0001340	Excavation for Administration Building	IWP0 - 7	78	28-Dec-20	15-Mar-21	17
ES0001350	Construction of Administration Building	IWP0 - 7	465	28-Jan-21	07-May-22	12
ES0001360	Architectural Finishes for Administration Building	IWP0 - 7	195	26-Nov-21	08-Jun-22	10
ES0002230	M&E Installation of Admin Building	IWP0 - 7	152	20-Jan-22	20-Jun-22	67
Building Services & Lift Installation						
ES0002270	M&E Lift Installation	IWP0 - 7	191	09-Jun-22	16-Dec-22	129
ES0002280	M&E Installation of Building Services	IWP0 - 7	791	01-Dec-20	30-Jan-23	63



Activity ID	Activity Name	Calendar	Original Duration	Early Start	Early Finish	Total Float
OSCG Building						
ES0001400	Excavation for On-site Chlorine Generation Building	IWP0 - 7	195	01-Apr-21	12-Oct-21	14
ES0001410	Construction of On-site Chlorine Generation Building	IWP0 - 7	195	05-Jul-21	15-Jan-22	13
ES0001420	Architectural Finishes for On-site Chlorine Generation Building	IWP0 - 7	66	17-Jan-22	23-Mar-22	14
ES0002200	M&E Installation of On-site Chlorine Generation Building	IWP0 - 7	111	24-Mar-22	12-Jul-22	13
Post Treatment Building						
ES0001210	Excavation and ELS for Post Treatment Building	IWP0 - 7	289	03-Dec-20	17-Sep-21	36
ES0001220	Construction of Post Treatment Building	IWP0 - 7	379	17-Dec-20	30-Dec-21	40
ES0001230	Architectural Finishes for Post Treatment Building	IWP0 - 7	90	06-Dec-21	05-Mar-22	34
ES0002180	M&E Installation of Post Treatment System	IWP0 - 7	166	07-Mar-22	19-Aug-22	47
Sludge Thickener						
ES0001680	Excavation and ELS for Sludge Thickener	IWP0 - 7	7	30-Sep-21	06-Oct-21	16
ES0001690	Construction of Sludge Thickener	IWP0 - 7	132	07-Oct-21	15-Feb-22	51
ES0001700	Architectural Finishes for Sludge Thickener	IWP0 - 7	43	16-Feb-22	30-Mar-22	57
ES0002190	M&E Installation of Sludge Thickener	IWP0 - 7	173	31-Mar-22	19-Sep-22	16
Workshop						
ES0001560	Excavation for Workshop	IWP0 - 7	7	25-Nov-21	01-Dec-21	55
ES0001570	Construction of Workshop	IWP0 - 7	190	02-Dec-21	09-Jun-22	53
ES0001580	Architectural Finishes for Workshop	IWP0 - 7	70	06-May-22	14-Jul-22	51
Inspection Corridor						
ES0001590	Piling for Elevated Walkway	IWP0 - 7	36	15-Dec-20	19-Jan-21	177
ES0001600	Excavation for Inspection Corridor	IWP0 - 7	260	26-Mar-21	10-Dec-21	19
ES0001610	Construction of Inspection Corridor	IWP0 - 7	458	12-Apr-21	13-Jul-22	3
ES0001620	Architectural Finishes for Inspection Corridor	IWP0 - 7	85	14-Jul-22	06-Oct-22	4
Main Electrical and Central Chiller Plant Building						
ES0001430	Excavation for Main Electrical and Central Chiller Plant Building	IWP0 - 7	20	18-Jan-21	06-Feb-21	35
ES0001440	Construction of Main Electrical and Central Chiller Plant Building	IWP0 - 7	235	01-Feb-21	23-Sep-21	28
ES0001450	Architectural Finishes for Main Electrical and Central Chiller Plant Building	IWP0 - 7	75	24-Sep-21	07-Dec-21	29
ES0002260	M&E Installation of LV/HV Cabling and Field Panels	IWP0 - 7	300	08-Dec-21	03-Oct-22	2
Guard House						
ES0001490	Excavation for Guard House at Main Gate	IWP0 - 7	7	05-Nov-21	11-Nov-21	98
ES0001500	Construction of Guard House at Main Gate	IWP0 - 7	140	12-Nov-21	31-Mar-22	98
ES0001510	Architectural Finishes for Guard House at Main Gate	IWP0 - 7	69	01-Apr-22	08-Jun-22	98
ES0001520	Excavation for Guard House near Pier	IWP0 - 7	8	08-Dec-21	15-Dec-21	44
ES0001530	Construction of Guard House near Pier	IWP0 - 7	158	17-Dec-21	23-May-22	43
ES0001540	Architectural Finishes for Guard House near Pier	IWP0 - 7	72	24-May-22	03-Aug-22	42
CO2 Tank						
ES0001370	Filling to Formation for CO2 Tanks Area	IWP0 - 7	13	01-Nov-21	13-Nov-21	86
ES0001380	Construction of CO2 Tanks Area	IWP0 - 7	109	15-Nov-21	03-Mar-22	86
ES0002170	M&E Installation of CO2 Tank	IWP0 - 7	88	04-Mar-22	30-May-22	184
Diesel Emergency Generator						
ES0002250	M&E Diesel Emergency Generator	IWP0 - 7	57	09-Apr-22	04-Jun-22	64
Switch Room and Transformer Installation						
ES0002300	M&E Installation of HV/LV Switchroom and Transformer	IWP0 - 7	227	23-Feb-22	07-Oct-22	133



Activity ID	Activity Name	Calendar	Original Duration	Early Start	Early Finish	Total Float
Miscellaneous						
ES0001630	Remaining Architectural Finishes for All Buildings	IWP0 - 7	249	17-May-22	20-Jan-23	115
ES0001640	External Process and Non-Process Pipe	IWP0 - 7	539	27-May-21	16-Nov-22	0
ES0001650	Drainage and Cable Duct	IWP0 - 7	274	28-Oct-21	28-Jul-22	1
ES0001660	Slope Mitigation and Maintenance Access	IWP0 - 7	540	29-Sep-21	22-Mar-23	5
ES0001670	Landscaping Works	IWP0 - 7	398	26-Mar-22	27-Apr-23	16
ES0002290	M&E PV Panels	IWP0 - 7	113	12-Apr-22	02-Aug-22	51
ES0002310	M&E Chiller & Irrigation System Installation	IWP0 - 7	374	08-Dec-21	16-Dec-22	108
ES0002350	M&E Installation of Surge Vessel	IWP0 - 7	265	27-May-22	15-Feb-23	24
ES0002360	M&E Installation of Flowmeter Pit	IWP0 - 7	67	27-May-22	01-Aug-22	52
ES0002370	M&E Installation of Static Mixer Pit	IWP0 - 7	37	08-Jun-22	14-Jul-22	70
ES0002380	M&E Installation of Drainage Pit	IWP0 - 7	31	11-May-22	10-Jun-22	57
ES0002390	M&E Installation of Thickened Sludge Holding Tank	IWP0 - 7	39	07-Mar-22	14-Apr-22	161
Statutory Submission & Inspection						
ES0002330	Statutory Submission & Inspection	IWP0 - 7	1255	03-Dec-19	10-May-23	14
Testing and Commissioning						
ES0002400	M&E Precommissioning	IWP0 - 7	280	30-Jun-22	05-Apr-23	0
ES0002410	M&E Commissioning	IWP0 - 7	256	03-Aug-22	15-Apr-23	0
ES0002420	M&E Performance Test	IWP0 - 7	118	16-Apr-23	11-Aug-23	0



Appendix B

Overview of Desalination Plant in Tseung Kwan O

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814 500 N

814 000 N

TEMPORARY WORKS AREA 1

GLA-TSK 692 TGLA

GLA-TSK 692 TGLA

GLA/TRD-088

ROW FOR GLA/TRD-088

GLA-TSK 745 TGLA

GLA-TSK 567

PORTION A

PORTION B

PROPOSED WORKS LIMIT FOR SLOPE MITIGATION WORKS IN COUNTRY PARK

INDICATIVE LOCATION OF PROPOSED SEAWATER INTAKE

INDICATIVE LOCATION OF PROPOSED OUTFALL

A B C D E F G H I J K L M N O

LEGEND:

- BOUNDARY OF SENT LANDFILL EXTENSION
- BOUNDARY OF WORKS AREA FOR TKO DESALINATION PLANT
- SITE PHASING
- ALLOCATED LAND BOUNDARIES

GLA-TSK 692 TGLA

B

NOTE: TEMPORARY WORKS AREA 1 WILL BE HANDED OVER AT +6 MPD WITH A TOLERANCE OF ±500mm.

POINT	EASTING	NORTHING
A	846581.93	814505.03
B	846610.11	813979.23
C	846614.73	813975.12
D	846629.09	813997.84
E	846644.75	813986.74
F	846646.80	813985.28
G	846677.24	814034.67
H	846686.56	814028.89
I	846766.21	814158.11
J	846459.65	814448.83
K	846578.45	814048.11
L	846613.89	814105.63
M	846614.60	814117.96
N	846676.84	814207.77
O	846756.68	814164.57

PRELIMINARY – NOT FOR CONSTRUCTION

Revision	Date	Description	Initial
B	10/03	UPDATE NOTES	YLC
A	07/18	UPDATE COORDINATES	YLC

	Designed	Checked	Drawn	Checked
Initial	YLC	CKH	SZ	WLS
Date	02/18	02/18	02/18	02/18

Approved

Agreement No.
CE 8/2015 (WS)

Contract No.
13/WSD/17

Contract Title
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

Drawing Title
SITE HANDOVER WORKS AREAS

Drawing No.
190495/K/TEND/10/0003

Revision
B

Scale
A1 1 : 1500
A3 1 : 3000

水務署
Water Supplies Department

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

BUILDINGS IN FIRST STAGE

CODE	NAME OF BUILDING	TOTAL G.F.A. (m^2)	SITE COVERAGE (m^2)
B	COMBINE SHAFT	759,876	759,876
C	ACTIDAFF	10027,547	5455,346
G	REVERSE OSMOSIS BUILDING AND ELECTRICAL BUILDING	4511,455	5367,935
H	CO2 TANKS AREA	-	-
J	PRODUCT WATER STORAGE TANK, PUMP STATION AND ELECTRICAL BUILDING	1974,610	2833,980
K	SLUDGE TREATMENT BUILDING, TANK AND PUMP ROOM	2531,044	1228,361
M	ADMINISTRATION BUILDING & ELECTRICAL BUILDING C	2459,713	1114,062
N	MAIN ELECTRICAL AND CENTRAL CHILLER PLANT BUILDING	-	459,893
R1	ELECTROCHLORINATION BUILDING & ELECTRICAL BUILDING A	657,992	525,776
S	132 kV SUBSTATION	-	943,560
T	IRRIGATION WATER TANK AND PUMP ROOM	-	156,148
R2	CHEMICAL BUILDING	813,056	813,056
V	VISITOR GALLERY	1330,410	1330,410
X1	GUARD HOUSE AND FS CONTROL ROOM	39,585	39,585
X2	GUARD HOUSE	22,035	22,035
Y	R + D OUTDOOR	-	-
Z	WASTE WATER TREATMENT PLANT	48,000	48,000
	TOTAL =	25175,323	21498,023

LEGEND / ABBREVIATION

H/L WINDOW	HIGH LEVEL WINDOW
M.L.	METAL LOUVRES
C.L.	CAT LADDER
A.U.T.	ACCESSIBLE UNISEX TOILET
⌖	PROPOSED FINISH FLOOR LEVEL IN METER ABOVE P.D.
⌖	STRUCTURAL FLOOR LEVEL IN METER ABOVE P.D.
M/A/L	MECHANICAL VENTILATION & ARTIFICIAL LIGHTING
F.E.	4.5kg CO^2 FIRE EXTINGUISHER
H.R.	HOSE REEL
Ⓐ	FIREMAN'S LIFT
Ⓓ	LIFT FOR THE BARRIER FREE ACCESS
P.D.	PIPE DUCT

PLOT RATIO & SITE COVERAGE CALCULATION:

SITE AREA OF THE FIRST STAGE = 56108 m²

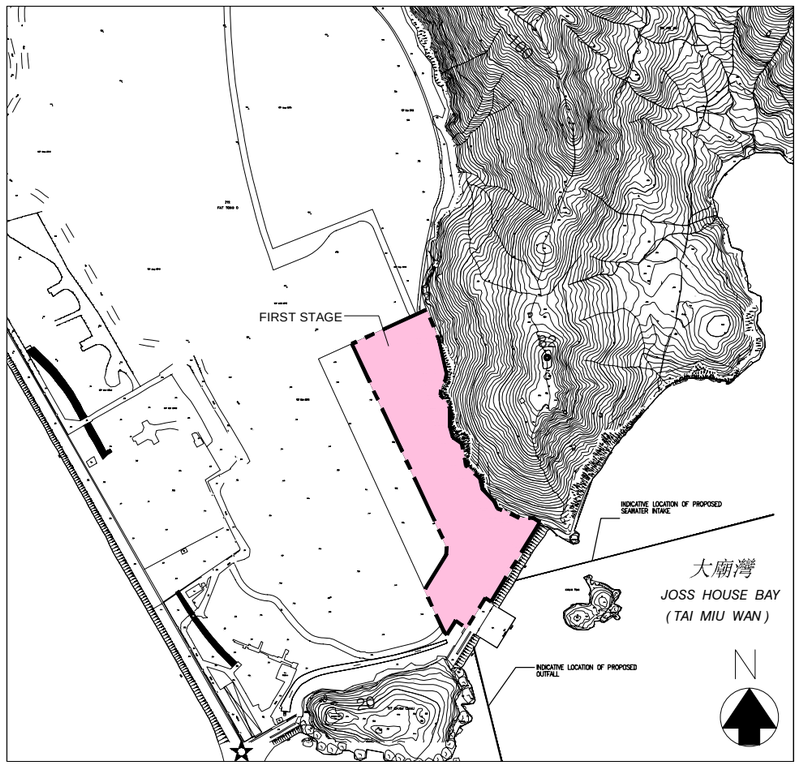
TOTAL G.F.A. = 25092.141 m²
TOTAL SITE COVERAGE = 21414.841 m²

PLOT RATIO = 25092.141 / 56108
= 0.447 < PERMITTED

SITE COVERAGE = 21414.841 / 56108 x 100
= 38.167%

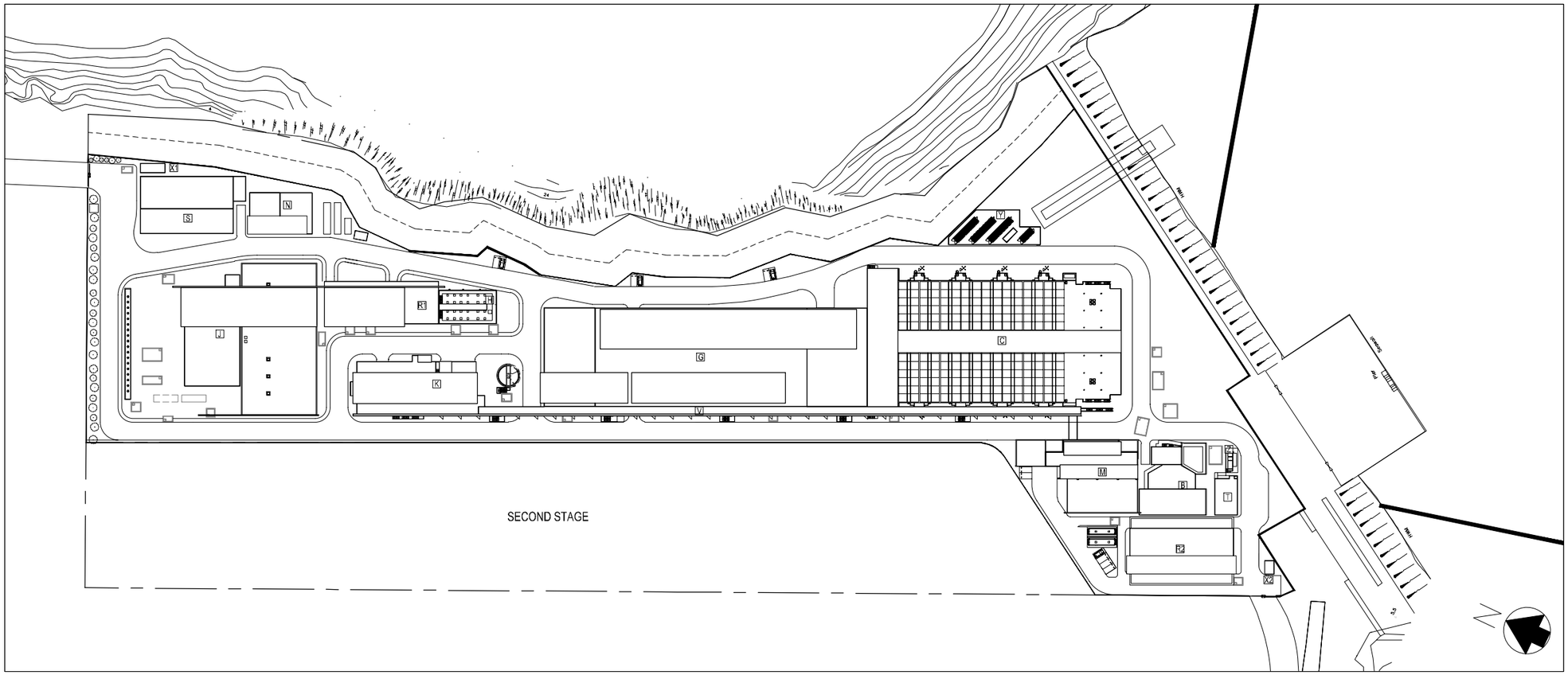
SITE LOCATION PLAN

1 : 5000



FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

1 : 1000



Rev	Description	By	Date
0	TENDER SUBMISSION	CAD	JAN 19

Employer
水務署
Water Supplies Department

Employer's Consultant
BLACK & VEATCH

Tenderer
acciona Agua JEC CCCC
AJC JOINT VENTURE

Designer
wsp

Project title
CONTRACT NO. 13/WSD/17

DESIGN, BUILD AND OPERATE
FIRST STAGE OF TSEUNG KWAN O
DESALINATION PLANT

Drawing title
ARCHITECTURAL –
PLOT RATIO AND SITE COVERAGE CALCULATION, LEGEND ABBREVIATION

Drawing no.	Rev.
TKO/AJC/W/A000/AR/001	0

Drawn	Date	Checked	Approved
CKAL	JAN 19	S.C.	T.C.

Scale: N.T.S.
Status: –

Appendix C

Summary of Implementation Status of Environmental Mitigation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Air Quality								
S4.8.1	Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings.	Land site/ During Construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust)
S4.8.1	Impervious sheet will be provided for skip hoist for material transport.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		NA	
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		✓		Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Hoarding of not less than 2.4m high from ground level will be provided along the length of the Project Site boundary.	Land site/ During construction	Contractor(s)	✓	✓		N/A	
S4.8.1	Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Land site/ During construction	Contractor(s)		✓		Implemented, reminder issued.	
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		N/A	
S4.8.1	All exposed areas will be kept wet always to minimise dust emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		✓	✓	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		✓		Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented.	Land site/ During construction	Contractor(s)		✓		N/A	
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Noise								
S5.7	Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Plants known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Use of Quite Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Movable noise barriers of 3m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial surface density of at least 7 kg m^{-2} and have	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
	no openings or gaps.							
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Construction activities (e.g. excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)	✓	✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie the "influence area" within a radius of 40m) during school hours in order to reduce impact to the educational institutions.	Noise control / During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators. Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m^{-2} may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S5.9	In view the duration of noise exceedance at Creative Secondary School, PLK Laws Foundation College, TKO Kei Tak Primary School and School of Continuing and Professional Studies-CUHK is limited to 8 weeks, the construction work in the influence areas near the four schools shall be scheduled during long school holidays (eg summer holiday, Easter holiday or Christmas holiday, etc) as far as practicable. Scheduling the construction work for the four schools.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	
S5.10	A noise monitoring programme shall be implemented for the construction phase.	Designated monitoring stations as defined in EM&A Manual/During construction phase	Environmental Team (ET)		✓		N/A	
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Water Quality								
S6.9	Dredged marine sediment will be disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO).	Marine Dredging/ During construction	Contractor(s)		✓		N/A	Dumping at Sea Ordinance (DASO)
S6.9	Disposal vessels will be fitted with tight bottom seals in order to prevent leakage of material during transport.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	Barges will be filled to a level, which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	After dredging, any excess materials will be cleaned from decks and exposed fittings before the vessel is moved from the dredging area.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	All vessels must have a clean ballast system.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented	-
S6.9	No discharge of sewage/grey wastewater should be allowed. Waste water from potentially contaminated area on working vessels should be minimized and collected. These kinds of wastewater should be brought back to port and discharged at appropriate collection and treatment system.	Marine Dredging/ During construction	Contractor(s)		✓		Implemented.	-
S6.9	No soil waste is allowed to be disposed overboard.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented, reminder and observation issued. Rectified after observation.	ProPECC PN 1/94 TM Standard under the WPCO
S6.9	Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)	✓	✓		Implemented	ProPECC PN 1/94
S6.9	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9 and S6.12	The sterilization water should be dechlorinated with total residual chlorine (TRC) level below 1 mg/L before discharge to public sewer. In situ testing of TRC should also be conducted for the discharge of chlorinated water for pipeline disinfection to ensure sufficient dechlorination before discharge to public sewer.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	The cleaning and flushing water should also be treated and desilted to the relevant discharge requirement stipulated in TM-DSS before discharging.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Site drainage should be well maintained and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby water streams.	Land site & drainage/ During construction/ During operation	Contractor(s)		✓	✓	Implemented, reminder and observation issued. Rectified after observation.	-
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Waste Management								
S8.5	Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Training of site personnel in proper waste management and chemical handling procedures. Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Provision of sufficient waste disposal points and regular collection for disposal.	All area/ During construction/ During operation	Contractor(s)		✓	✓	Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	All area/ During construction	Contractor(s)		✓		Implemented, reminder issued.	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A waste management plan (WMP) as stated in the "*ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites*" for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	Contractor(s)		✓		Reminder and observation issued. Chemical waste was temporary stored at designated chemical waste storage area.	Chapters 2 & 3 Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented, Reminder and	Waste Disposal Ordinance (Cap 354)

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
							observation Issued. Rectified after observation.	
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		✓		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		✓		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		✓		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		✓		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		✓		Implemented Observation and reminder issued. Rectified after observation.	-
S8.5	Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.	All areas/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		✓		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from *ETWB TC(W) No. 34/2002* will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper	All area/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	disposal.							
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Implemented, reminder issued.	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Chemical waste container shall have a capacity of less than 450 L unless the specifications have been approved by the EPD.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.							Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, waste paper,	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.							
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/ IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	Ecology							
S9.7	For slope mitigation works within the Clear Water Bay Country Park, to avoid tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels can be adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical. A detailed specification describing the exact locations of the flexible barrier foundation plates, soil nails and rock dowels will be prepared to illustrate how the setback distance from existing trees would be implemented for tree avoidance.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Pruning of tree canopies along the alignment of the flexible barriers shall be limited to a minimum.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	
S9.7	The alignment of flexible barriers shall be optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable. All individuals of *Marsdenia lachnostoma* within the slope mitigation areas shall be retained *in-situ*, by positioning the alignment of flexible barrier at a minimum 1.5m in a radius away from these individuals.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7 and 9.10	At the detailed design stage prior to the commencement of the slope mitigation works, a vegetation survey shall be carried out at the slope mitigation areas within the Clear Water Bay Country Park to assess the condition and identify the location of each individual of *Marsdenia lachnostoma* and other flora species of conservation interest that may be directly affected by the construction works.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Temporary fencing will be installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	-

	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S9.7 and S9.10	A specification for fencing and demarcating individuals of *Marsdenai lachnostoma* (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ Environmental Team (ET)		✓		Implemented	-
S9.7	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Affected habitats within the Clear Water Bay Country Bay shall be reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works.	All area/ During construction	Contractor(s)		✓		N/A	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	Landscape & Visual							
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (ie without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, - to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	ETWB TCW No. 3/2006 - Tree Preservation.
S11.10 & 11.11	No tree within the Country Park will be felled. Trees within the Site unavoidably affected by the works will be transplanted where necessary and practical. For trees that need to be felled, compensatory planting will be provided to the satisfaction of relevant Government departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	DEVB TC(W) No. 10/2013
S11.10 &	Any slope mitigation works necessary to address natural terrain	All area/ Detailed	WSD/	✓	✓	✓	N/A	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
11.11	hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	design/ During construction/ During operation	Contractor(s)					
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8) units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	Landfill Gas Hazard							
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 metre.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Safety officers, specifically trained with regard to landfill gas and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on the site throughout the works, in particular, when works are undertaken below grade.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	physical contact with it.							
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane. carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Prior to the commencement of the site works, the drilling contractor should devise a 'method-of- working' statement covering all normal and emergency procedures (including but not limited to number of operatives, experience and special skills of operatives, normal method of operations, emergency procedures, supervisors responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site supervisor and all operatives must be familiar with this statement.	All area/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the pathway for landfill gas and hence grilled metal covers should be used.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	being minimized on-site.							

Note: D – Design stage C – Construction O – Operation

Appendix D

Impact Monitoring Schedule of the Reporting Month

Contract No. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
EM&A Water Quality Monitoring Schedule

Oct

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
						Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 04:55 - 13:19 Flood Tide: 13:19 - 20:55 Monitoring Time: Mid-ebb: 08:00 - 10:52* Mid-flood: 15:22 - 18:52
3	4	5	6	7	8	9
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 08:06 - 14:43 Flood Tide: 14:43 - 21:00 Monitoring Time: Mid-ebb: 09:39 - 13:09 Mid-flood: 16:06 - 19:00$&#		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 10:00 - 15:40 Flood Tide: 15:40 - 22:07 Monitoring Time: Mid-ebb: 11:05 - 14:35 Mid-flood: 15:59 - 19:00$&#		* Cancelled Due to Adverse Weather* (No.8 Tropical Cyclone Warning Signal, Amber Rainstorm Signal)
10	11	12	13	14	15	16
		* Cancelled Due to Adverse Weather*(No. 3 & No.8 Tropical Cyclone Warning Signal and Stong Monsoon Signal)		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 03:00 - 11:25 Flood Tide: 11:25 - 18:00 Monitoring Time: Mid-ebb: 08:00 - 10:59*$# Mid-flood: 12:57 - 16:27		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 05:35 - 12:56 Flood Tide: 12:56 - 20:16 Monitoring Time: Mid-ebb: 08:00 - 11:00*$# Mid-flood: 14:51 - 18:21
17	18	19	20	21	22	23
	Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 07:37 - 13:59 Flood Tide: 13:59 -20:57 Monitoring Time: Mid-ebb: 09:03 - 12:33 Mid-flood:15:43 - 19:00$&#		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 09:15 -14:55 Flood Tide: 14:55 - 21:35 Monitoring Time: Mid-ebb: 10:20 - 13:50 Mid-flood: 15:15 - 18:45			Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 11:18 - 16:00 Flood Tide:04:34 - 11:18 Monitoring Time: Mid-ebb: 11:54 - 15:24 Mid-flood: 08:00 - 10:57 *$#
24	25	26	27	28	29	30
	Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 12:45 - 16:00 Flood Tide: 05:57 - 12:45 Monitoring Time: Mid-ebb: 12:37 - 16:07 Mid-flood: 07:36 - 11:06		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 14:00 - 17:00 Flood Tide: 08:00 - 14:00 Monitoring Time: Mid-ebb: 14:00 - 17:15 $# Mid-flood: 09:15 - 12:45		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 03:00 - 11:00 Flood Tide: 11:00 - 23:59 Monitoring Time: Mid-ebb: 08:00 -10:36*$# Mid-flood: 15:44 - 19:00	
31						

Remarks:
Monitoring Parameters: Dissolved oxygen, Temperature, pH, Turbidity, Salinity, Suspended Solids

Note:
* - Due to safety concern of vessel transportation earlier than 0700, Water Quality Monitoring would start at 0800.
$ - Since predicted tide is shorter than 3.5 hours, method of 90% tidal period as monitoring time is adopted.
& - Due to safety concern for sampling event in night-time, method of 90% tidal period as monitoring time is approached and end at 1900.
# - Prioritized routing: Mid-Ebb: CE→WSR16→WSR37→WSR36→WSR33→Remaining stations and Mid-Flood: CF→WSR1→WSR2→WSR3→WSR4→Remaining stations

Appendix E

Event/Action Plan for Noise Exceedance

Event and Action Plan for Construction Noise Monitoring

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level	1. Carry out investigation to identify the source and cause of the complaint/ exceedance(s) 2. Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC 3. Discuss with the Contractor and IEC for remedial measures required 4. If the complaint is related to the Project, conduct additional monitoring for checking mitigation effectiveness and report the findings and results to the IEC, ER and the Contractor	1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of Notification of Exceedance in writing 2. Require Contractor to propose remedial measures for the analysed noise problem 3. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals, if required, to the IEC and ER 2. Implement noise mitigation proposals.
Limit Level	1. Notify IEC, ER, EPD and Contractor 2. Identify the source(s) of impact by reviewing all the relevant monitoring data and the corresponding construction activities. Exceedances should also be confirmed by immediate verification in the field as far as practical. 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. inform IEC, ER and EPD the cause & actions taken for the exceedances 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions 2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &ET accordingly 3.Supervise the implementation of the remedial measures	1. Confirm receipt of notification of exceedance in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented 5. If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted	1. Take immediate action to avoid further exceedance 2. Identify practicable measures to minimize the noise impact. Submit proposals for remedial actions to ER within three working days of notification 3. Implement the agreed proposals 4. Resubmit proposal if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix F

Noise Monitoring Equipment Calibration Certificate (BLANK)

(BLANK)

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

Waste Flow Table

Appendix H – MA11 Construction Waste Reduction

Monthly Summary Waste Flow Table

Month	Total Quantity Generated (a1)	Total Quantity Generated (Excluded Excavated Material) (a2)	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
			Excavated Material	Non-excavated Material									
			Total Quantity Generated (b)	Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Disposed in sorting facility (f)	Broken Concrete of construction waste collected by recycling company (g)	Metals (h)	Paper/ cardboard packaging (i)	Plastics (j)	Chemical Waste (k)	Others, e.g. general refuse (l)
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan-2020	-	-	-	-	-	-	-	-	-	-	-	-	-
Feb-2020	-	-	-	-	-	-	-	-	-	-	-	-	-
Mar-2020	0.420	0.420	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.420
Apr-2020	2.400	2.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.400
May-2020	18.470	18.470	0.000	0.000	0.000	0.000	0.000	0.000	5.900	0.000	0.000	0.000	12.570
Jun-2020	1116.110	1116.110	0.000	0.000	0.000	0.000	1081.950	0.000	0.000	0.000	0.000	0.000	34.160
Jul-2020	758.120	758.120	0.000	0.000	0.000	0.000	724.360	0.000	0.000	0.000	0.000	0.000	33.760
Aug-2020	203.150	203.150	0.000	0.000	0.000	0.000	161.080	0.000	0.000	0.000	0.000	0.000	42.070
Sep-2020	105.926	105.926	0.000	0.000	0.000	0.000	0.000	0.000	22.766	0.000	0.010	0.000	83.150
Oct-2020	46.320	46.320	0.000	0.000	0.000	0.000	0.000	0.000	7.050	0.040	0.020	0.000	39.210
Nov-2020	71.815	71.815	0.000	0.000	0.000	0.000	0.000	0.000	5.351	0.030	0.014	0.000	66.420
Dec-2020	12934.194	12934.194	0.000	0.000	12860.314	0.000	0.000	0.000	9.912	0.030	0.018	0.000	63.920
Total	15256.925	15256.925	0.000	0.000	12860.314	0.000	1967.390	0.000	50.979	0.100	0.062	0.000	378.080

Total C&D waste generated	15256.925	Tonnes	(ie: a1 = b+c+d+e+f+g+h+i+j+k+l)
Total C&D waste generated (excluded excavated materials)	15256.925	Tonne	(ie: a2 = c+d+e+f+g+h+i+j+k+l)
Total Recycled C&D Waste	12911.455	Tonne	(ie: a3 = c+d+g+h+i+j)
% of recycled C&D Waste for BEAM Plus MA 11	84.63%		(ie: a3/a2 x 100%)

Notes:

(1) metal, paper & plastic were collected by recycler
(2) The performance target of waste recycling are specified in the Contract.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates
(6) Excavated materials/waste will NOT be considered as part of construction waste. It should be excluded in the calculation
(7) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.

Contract No. 13/WSD/17
Environmental Management Plan for Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Appendix H – MA11 Construction Waste Reduction

Name of Department: WSD Contract No.: 13/WSD/17

Monthly Summary Waste Flow Table for 2021 (year)

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	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
Jan	11823.060	0.000	0.000	11816.130	6.930	0.000	0.000	0.000	0.000	0.000	73.960
Feb	434.090	0.000	0.000	434.090	0.000	0.000	14.767	0.123	0.008	0.000	45.080
Mar	91.710	0.000	0.000	0.000	91.710	0.000	0.002	0.155	0.010	0.000	122.940
Apr	0.000	0.000	0.000	0.000	0.000	0.000	28.931	0.057	0.002	0.000	89.450
May	1557.500	0.000	0.000	0.000	1557.500	0.000	0.005	0.108	0.009	0.000	70.750
Jun	4278.380	0.000	0.000	0.000	4278.380	0.000	0.001	0.088	0.005	0.000	91.540
Sub-total	18184.740	0.000	0.000	12250.220	5934.520	0.000	43.706	0.530	0.034	0.000	493.720
Jul	365.150	0.000	0.000	0.000	365.150	0.000	0.003	0.120	0.005	0.000	65.770
Aug	42.340	0.000	0.000	0.000	42.340	0.000	0.000	0.001	0.006	0.000	74.070
Sep	66.690	0.000	0.000	0.000	66.690	0.000	0.004	0.002	0.003	0.000	75.880
Oct *	578.870	0.000	0.000	0.000	578.870	0.000	0.006	0.510	0.018	0.000	88.390
Nov											
Dec											
Total	19237.790	0.000	0.000	12250.220	6987.570	0.000	43.718	1.163	0.066	0.000	797.830

Notes:
(1) The performance targets are given in Section 1.69 of Specification B
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging material

* The data will be reviewed in the next reporting month.

Appendix I

Site Inspection Proforma

Acuity Sustainability Consulting Limited
Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon
T: 2333-6823 | F: 2333-1316 | E: genera@acuityhk.com | www.acuityhk.com

Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 6/10/2021 **Inspected by:** ET: Charlene Lai / Jacky Leung SO: Derek Lai / Raymond Kot WSD: N/A
Contractor: Brian Kam / Tiffany Tang IEC: Louis Kwan
Inspection Time: 14:30 - 17:05

Weather							
Condition	☐ Sunny	☐ Fine	☑ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	30 °C		**Humidity**	☑ High	☐ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ Strong			

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
0.00		**General**				
0.01		Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02		Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00		**Construction Dust**				
1.01	S4.8.1	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☑	☐	☐	Regular water spraying / compact ground / dusty construction materials covered with tarpaulin sheet.
1.02	S4.8.1	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	Regular water spraying.
1.03	S4.8.1	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☐	☑	☐	
1.04	S4.8.1	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	S4.8.1	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	S4.8.1	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	S4.8.1	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	S4.8.1	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	Regular water spraying
1.09	S4.8.1	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump trucks observed
1.10	S4.8.1	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	S4.8.1	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	S4.8.1	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	NKMM [illegible]

C/D

Acuity Sustainability Consulting Limited
Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon
T: 2333-6823 | F: 2333-1316 | E: genera@acityhk.com | www.acityhk.com

Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
1.13	S4.8.1	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☐	☑	☐	
1.14	S4.8.1	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☐	☑	☐	
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☐	☑	☐	
1.17	S4.8.1	Is open burning prohibited?	☐	☑	☐	
2.00		**Construction Noise (Airborne)**				
2.01	S5.7	Are quiet plants adopted on site?	☐	☑	☐	/ Noise rated
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?	☐	☑	☐	/ Regular inspection.
2.03	S5.7	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	} No nearby NSR.
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	S5.7	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☐	☑	☐	
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?	☑	☐	☐	
2.13	S5.7	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00		**Water Quality**				
3.01	S6.9	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	S6.9	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	reminder (3)
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	reminder (3)

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	S6.9	Is the drainage system properly maintained?	☐	☑	☐	
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	S6.9	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	S6.9	Are exposed slope surface properly protected?	☐	☑	☐	Hydroseeding.
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☑	☐	☐	
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☑	☐	
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	☐	☑	☐	
3.15	S6.9	Is oil leakage or spillage prevented?	☐	☑	☐	reminder 03
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☑	☐	reminder 03
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	☐	☑	☐	
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?	☐	☑	☐	
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of suspended solids to nearby sensitive receivers?	☑	☐	☐	No dredging was conducted.
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	☑	☐	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.26	S6.9	Is closed grab dredger of 3 to 6 m^3 used for dredging at seawater intake?	✓			
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m^3 closed grab, 10-11 grab per hour for 6m^3 closed grab?	✓			
3.28	S6.9	Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab?	✓			
3.29	S6.9	Is the maximum allowed dredging rate at the seawater intake limited to 750 m^3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m^3/day?	✓			
3.30	S6.9	Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)?	✓			
3.31	S6.9	Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport?	✓			
3.32	S6.9	Are barges filled to a level which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action?	✓			
3.33	S6.9	Are excess materials cleaned from decks and exposed fittings before the vessel is moved from the dredging area after dredging?	✓			
3.34	S6.9	Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site?		✓		
3.35	S6.9	When the dredged material has been unloaded at the disposal areas, is any material accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper?	✓			
3.36	S6.9	Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash?		✓		
3.37	S6.9	Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly?		✓		
3.38	S6.9	Are all vessels have a clean ballast system?		✓		
3.39	S6.9	Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment?		✓		
3.40	S6.9	Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected?	✓			
3.41	S6.9	Is any soil waste disposed overboard?	✓			

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.00		**Waste Management**				
4.01	S8.5	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	☐	☑	☐	
4.02	S8.5	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	☐	☑	☐	
4.03	S8.5	IS the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	S8.5	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☐	☑	☐	reminder (1)
4.05	S8.5	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	S8.5	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	S8.5	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	S8.5	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	S8.5	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	S8.5	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
4.11	S8.5	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	☐	☑	☐	
4.12	S8.5	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	
4.13	S8.5	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	S8.5	Is general refuse disposed of properly and regularly?	☐	☑	☐	
4.15	S8.5	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	S8.5	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	S8.5	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	S8.5	Are C&D waste disposed of properly?	☐	☑	☐	reminder (1)
4.19	S8.5	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	S8.5	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.21	S8.5	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☑	☐	reminded by (3)
4.22	S8.5	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	
5.00		**Landscape and Visual**				
5.01	S11.10 & 11.11	Are Is site hoarding provided?	☑	☐	☐	
5.02	S11.10 & 11.11	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	S11.10 & 11.11	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	S11.10 & 11.11	Is grass hydroseeding provided to slopes as soon as the completion of works?	☐	☑	☐	
5.05	S11.10 & 11.11	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	S11.10 & 11.11	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	S11.10 & 11.11	Are the retained and transplanted tree(s) properly protected and in good conditions?	☑	☐	☐	
5.08	S11.10 & 11.11	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00		**Ecology**				
6.01	S9.7	Is site runoff properly treated to prevent any silly runoff?	☐	☑	☐	
6.02	S9.7	Are silt trap installed and well-maintained?	☐	☑	☐	
6.03	S9.7	Are stockpiles properly covered to avoid generating silty runoff?	☑	☐	☐	
6.04	S9.7	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
6.05	S9.7	For slope mitigation works within the Clear Water Bay Country Park, are tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical?	☐	☑	☐	
6.06	S9.7	Are pruning of tree canopies along the alignment of the flexible barriers limited to a minimum?	☑	☐	☐	
6.07	S9.7	Are the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at mininmum 1.5 m in a radius away from these individuals?	☑	☐	☐	
6.08	S9.7	At the detailed design stage prior to the commencement of the slope mitigation works, is vegetation survey carried out at the slope mitigation areas within the Clear Water Bay	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
		Country Park to assess the condition and identify the location of each individual of Marsdenia lachnostoma and other flora species of conservation interest that may be directly affected by the construction works?				
6.09	S9.7	Is temporary fencing installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction? Is a sign identifying the site attached to the fence and flagging tape shall be attached to the individuals to visualize their locations?	☐	☑	☐	
6.10	S9.7	Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species?	☐	☑	☐	
6.11	S9.7	Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance?	☐	☑	☐	
6.12	S9.7	Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity?	☐	☑	☐	
6.13	S9.7	Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas?	☐	☑	☐	
6.14	S9.7	Is regular check of the work site boundaries performed to ensure that they are not breached and that damage does not occur to surrounding areas?	☐	☑	☐	
6.15	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal?	☐	☑	☐	
6.16	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	☐	☑	☐	
6.15	S9.7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works?	☐	☑	☐	
7.00		**Landfill Gas Hazard**				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions, asphyxiation of works and toxicity effects during all works?	☐	☑	☐	
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and excavation as well as creation of confined spaces?	☐	☑	☐	
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined spaces provided from the Contractor to the workers?	☐	☑	☐	
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and presented on the site throughout the works undertaken below grade?	☐	☑	☐	
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of ignition of gas, the possible presence of contaminated water and the need to avoid physical contact?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
7.06	S12.7	Is the monitoring of landfill gas being undertaken in all excavations, manholes, chambers and any confined spaces?	☐	☑	☐	
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or appropriately qualified person? Are the all measurements being recorded and documented?	☐	☑	☐	
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential hazards?	☐	☑	☐	
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by the drilling contractor prior to the commencement of the site works?	☐	☑	☐	
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the grilled metal covers being used for below grade cable trenches?	☑	☐	☐	
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and base) for minimum of 10 minutes? Is the steady reading and peak reading recorded at each manhole or utility pit?	☐	☑	☐	
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site posted in prominent places?	☐	☑	☐	
8.00 8.01		**Overall** Is the EM&A properly implemented in general?	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)

No major observations were reported on the reporting day.

Reminder(s)

(1) ~~the~~ The Main Contractor was reminded to consider chemical waste storage at the construction site (2nd sedimentation tank, ~~Product water storage Area~~ RO Area.

(2) The Main Contractor was reminded to consider chemical storage in the construction site area (Product Water Storage Area)

(3) The Main Contractor was reminded to clean stagnant water at the construction site (product water storage Area).

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Jacky Lau / Charlene Lai)	(Name: Brian Kan)	(Name: Raymond Hon)	(Name: Louis Kwan)	(Name: N/A)

6.10.21

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Acuity Sustainability Consulting Limited
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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 15/10/2024 **Inspected by:** ET: Charlene Lai / Jacky Leung SO: Raymond Kok WSD: N/A
Contractor: Brian Kam / Tiffany Tsang IEC: Willis Kwan
Inspection Time: 14:30 - 17:00

Weather							
Condition	☐ Sunny	☐ Fine	☐ Overcast	☑ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	27 °C		**Humidity**	☑ High	☐ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ Strong			

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
0.00		**General**				
0.01		Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02		Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00		**Construction Dust**				
1.01	S4.8.1	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	Regular water spraying was conducted.
1.02	S4.8.1	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	Regular ~~washing~~ water spraying was conducted
1.03	S4.8.1	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	No fume/smoke emitted plant/ construction activity.
1.04	S4.8.1	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	S4.8.1	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	S4.8.1	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	S4.8.1	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	S4.8.1	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	Regular water spraying was conducted.
1.09	S4.8.1	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump trucks observed.
1.10	S4.8.1	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	S4.8.1	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	S4.8.1	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	NRMM Label

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
1.13	S4.8.1	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☐	☑	☐	
1.14	S4.8.1	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☐	☑	☐	
1.17	S4.8.1	Is open burning prohibited?	☐	☑	☐	
2.00		**Construction Noise (Airborne)**				
2.01	S5.7	Are quiet plants adopted on site?	☐	☑	☐	Low noise label
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?	☐	☑	☐	regular inspection
2.03	S5.7	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	Yes no nearby NSR
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	S5.7	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☐	☑	☐	
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?	☑	☐	☐	
2.13	S5.7	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00		**Water Quality**				
3.01	S6.9	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	S6.9	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	S6.9	Is the drainage system properly maintained?	☐	☑	☐	reminder (3)
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	S6.9	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	S6.9	Are exposed slope surface properly protected?	☐	☑	☐	✓hydroseeding
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☑	☐	
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	☐	☑	☐	
3.15	S6.9	Is oil leakage or spillage prevented?	☐	☑	☐	✓drip tray
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☑	☐	
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	reminder (3)
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	☐	☑	☐	
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	reminder (7)
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?	☐	☐	☐	obs (1)
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of suspended solids to nearby sensitive receivers?	☑	☑	☐	no dredging was observed
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	☑	☐	☐	↳

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.26	S6.9	Is closed grab dredger of 3 to 6 m^3 used for dredging at seawater intake?	☑	☐	☐	✓
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m^3 closed grab, 10-11 grab per hour for 6m^3 closed grab?	☑	☐	☐	✓
3.28	S6.9	Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab?	☑	☐	☐	✓
3.29	S6.9	Is the maximum allowed dredging rate at the seawater intake limited to 750 m^3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m^3/day?	☑	☐	☐	✓
3.30	S6.9	Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)?	☑	☐	☐	✓
3.31	S6.9	Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport?	☑	☐	☐	✓
3.32	S6.9	Are barges filled to a level which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action?	☑	☐	☐	✓
3.33	S6.9	Are excess materials cleaned from decks and exposed fittings before the vessel is moved from the dredging area after dredging?	☑	☐	☐	✓
3.34	S6.9	Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site?	☐	☑	☐	✓
3.35	S6.9	When the dredged material has been unloaded at the disposal areas, is any material accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper?	☑	☐	☐	✓
3.36	S6.9	Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash?	☐	☑	☐	
3.37	S6.9	Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly?	☐	☑	☐	remarker (5)
3.38	S6.9	Are all vessels have a clean ballast system?	☐	☑	☐	
3.39	S6.9	Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment?	☐	☑	☐	
3.40	S6.9	Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected?	☑	☐	☐	
3.41	S6.9	Is any soil waste disposed overboard?	☑	☐	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.00		**Waste Management**				
4.01	S8.5	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	☐	☑	☐	
4.02	S8.5	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	☐	☑	☐	
4.03	S8.5	IS the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	S8.5	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☐	☐	☐	26052)
4.05	S8.5	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	S8.5	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	S8.5	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	S8.5	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	S8.5	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	S8.5	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
4.11	S8.5	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	☐	☑	☐	
4.12	S8.5	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	reminder (3)
4.13	S8.5	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	S8.5	Is general refuse disposed of properly and regularly?	☐	☑	☐	reminder (3)
4.15	S8.5	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	S8.5	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	S8.5	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	S8.5	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	S8.5	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	S8.5	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	

15/05

Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.21	S8.5	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☑	☐	
4.22	S8.5	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	
5.00		**Landscape and Visual**				
5.01	S11.10 & 11.11	Are Is site hoarding provided?	☑	☐	☐	
5.02	S11.10 & 11.11	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	S11.10 & 11.11	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	S11.10 & 11.11	Is grass hydroseeding provided to slopes as soon as the completion of works?	☐	☑	☐	
5.05	S11.10 & 11.11	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	S11.10 & 11.11	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	S11.10 & 11.11	Are the retained and transplanted tree(s) properly protected and in good conditions?	☐	☑	☐	
5.08	S11.10 & 11.11	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00		**Ecology**				
6.01	S9.7	Is site runoff properly treated to prevent any silly runoff?	☐	☑	☐	
6.02	S9.7	Are silt trap installed and well-maintained?	☐	☑	☐	
6.03	S9.7	Are stockpiles properly covered to avoid generating silty runoff?	☐	☑	☐	
6.04	S9.7	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
6.05	S9.7	For slope mitigation works within the Clear Water Bay Country Park, are tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical?	☐	☑	☐	
6.06	S9.7	Are pruning of tree canopies along the alignment of the flexible barriers limited to a minimum?	☑	☐	☐	
6.07	S9.7	Are the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at mininmum 1.5 m in a radius away from these individuals?	☐	☑	☐	
6.08	S9.7	At the detailed design stage prior to the commencement of the slope mitigation works, is vegetation survey carried out at the slope mitigation areas within the Clear Water Bay	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
		Country Park to assess the condition and identify the location of each individual of Marsdenia lachnostoma and other flora species of conservation interest that may be directly affected by the construction works?				
6.09	S9.7	Is temporary fencing installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction? Is a sign identifying the site attached to the fence and flagging tape shall be attached to the individuals to visualize their locations?	☐	☑	☐	
6.10	S9.7	Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species?	☐	☑	☐	
6.11	S9.7	Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance?	☐	☑	☐	
6.12	S9.7	Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity?	☐	☑	☐	
6.13	S9.7	Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas?	☐	☑	☐	
6.14	S9.7	Is regular check of the work site boundaries performed to ensure that they are not breached and that damage does not occur to surrounding areas?	☐	☑	☐	
6.15	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal?	☐	☑	☐	
6.16	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	☑	☐	☐	
6.15	S9.7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works?	☑	☐	☐	
7.00		**Landfill Gas Hazard**				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions, asphyxiation of works and toxicity effects during all works?	☐	☑	☐	
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and excavation as well as creation of confined spaces?	☐	☑	☐	
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined spaces provided from the Contractor to the workers?	☐	☑	☐	
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and presented on the site throughout the works undertaken below grade?	☐	☑	☐	
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of ignition of gas, the possible presence of contaminated water and the need to avoid physical contact?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
7.06	S12.7	Is the monitoring of landfill gas being undertaken in all excavations, manholes, chambers and any confined spaces?	☐	☑	☐	
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or appropriately qualified person? Are the all measurements being recorded and documented?	☐	☑	☐	
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential hazards?	☐	☑	☐	
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by the drilling contractor prior to the commencement of the site works?	☐	☑	☐	
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the grilled metal covers being used for below grade cable trenches?	☑	☐	☐	
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and base) for minimum of 10 minutes? Is the steady reading and peak reading recorded at each manhole or utility pit?	☐	☑	☐	
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site posted in prominent places?	☐	☑	☐	
8.00 8.01		**Overall** Is the EM&A properly implemented in general?	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

observation(s)

(1) The Main Contractor was reminded to add sandbags / earthbunds at the exit of concrete washing area to ensure no effluent ~~was~~ should be discharged from the construction site without ~~treat~~ treatment. (Concrete washing Area)

(2) Chemical container was observed at general waste ~~container~~ storage area. (Combined shaft Area).

Reminder(s)

(1) The Main contractor was reminded to consider machinery storage at WPR.

(2) The Main contractor was reminded that no dusty materials should be stockpiled near to water barriers when the exposed holes are not covered. to prevent escape of these materials from site area. (WPR)

(3) General wastes in the ~~nullah~~ nullah should be cleaned. (near to combined trapped shaft Area).

(4) The Main Contractor was reminded to mark / label emptied chemical container on-site if the container would be reused in site. area (WPR)

(5) The Main Contractor was reminded to ensure silt curtain connection was tight at ~~to~~ seafront.

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Leung Tak Ky / Cheuk Lai)	(Name: Tiffany Tsang)	(Name:)	(Name: Louis Kwan)	(Name: NA)

15 Oct 2021

15/10

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 19/10/2021 **Inspected by:** ET: Charlene Lai / Jacky Leung SO: Raymond Kok WSD: N/A
Contractor: Brian Kam IEC: Louis Kwan
Inspection Time: 14:30 - 17:00

Weather							
Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	28 °C	**Humidity**	☐ High	☑ Moderate	☐ Low		
Wind	☑ Calm	☐ Light	☐ Breeze	☐ Strong			

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
0.00		**General**				
0.01		Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02		Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00		**Construction Dust**				
1.01	S4.8.1	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☑	☐	(water spraying / compression / covered dusty materials)
1.02	S4.8.1	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☑	☐	water spraying
1.03	S4.8.1	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	No fume / smoke emitting plant / Construction activities
1.04	S4.8.1	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☐	☑	☐	
1.05	S4.8.1	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	S4.8.1	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	S4.8.1	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved + Sprayed.
1.08	S4.8.1	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☑	☐	
1.09	S4.8.1	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump truck observed.
1.10	S4.8.1	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	S4.8.1	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	S4.8.1	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	✓RKMM (19/10)

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
1.13	S4.8.1	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☐	☑	☐	
1.14	S4.8.1	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☐	☑	☐	
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	No debagging ✓
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☐	☑	☐	
1.17	S4.8.1	Is open burning prohibited?	☐	☑	☐	
2.00		**Construction Noise (Airborne)**				
2.01	S5.7	Are quiet plants adopted on site?	☐	☑	☐	
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?	☐	☑	☐	regular inspection.
2.03	S5.7	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	No NSR nearby
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	S5.7	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☐	☑	☐	
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?	☑	☐	☐	
2.13	S5.7	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00		**Water Quality**				
3.01	S6.9	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	S6.9	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	S6.9	Is the drainage system properly maintained?	☐	☑	☐	
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	S6.9	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	S6.9	Are exposed slope surface properly protected?	☐	☑	☐	Hydroseeding
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☑	☐	
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	☐	☑	☐	
3.15	S6.9	Is oil leakage or spillage prevented?	☐	☑	☐	reminder (3)
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☑	☐	reminder (3)
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	☐	☑	☐	
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?	☐	☑	☐	reminder (2)
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of suspended solids to nearby sensitive receivers?	☑	☐	☐	No dredging was recorded on reporting day
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	☑	☐	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.26	S6.9	Is closed grab dredger of 3 to 6 m^3 used for dredging at seawater intake?	☑	☐	☐	//
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m^3 closed grab, 10-11 grab per hour for 6m^3 closed grab?	☑	☐	☐	√
3.28	S6.9	Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab?	☑	☐	☐	√
3.29	S6.9	Is the maximum allowed dredging rate at the seawater intake limited to 750 m^3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m^3/day?	☑	☐	☐	√
3.30	S6.9	Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)?	☑	☐	☐	√
3.31	S6.9	Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport?	☑	☐	☐	√
3.32	S6.9	Are barges filled to a level which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action?	☑	☐	☐	√
3.33	S6.9	Are excess materials cleaned from decks and exposed fittings before the vessel is moved from the dredging area after dredging?	☑	☐	☐	√
3.34	S6.9	Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site?	☐	☑	☐	
3.35	S6.9	When the dredged material has been unloaded at the disposal areas, is any material accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper?	☑	☐	☐	√
3.36	S6.9	Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash?	☐	☑	☐	
3.37	S6.9	Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly?	☐	☑	☐	Remind(11)
3.38	S6.9	Are all vessels have a clean ballast system?	☐	☑	☐	
3.39	S6.9	Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment?	☐	☑	☐	
3.40	S6.9	Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected?	☑	☐	☐	
3.41	S6.9	Is any soil waste disposed overboard?	☑	☐	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.00		**Waste Management**				
4.01	S8.5	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	☐	☑	☐	
4.02	S8.5	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	☐	☑	☐	
4.03	S8.5	IS the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	S8.5	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	S8.5	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	S8.5	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	S8.5	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	S8.5	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	S8.5	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	S8.5	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
4.11	S8.5	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	☐	☑	☐	
4.12	S8.5	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	
4.13	S8.5	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	S8.5	Is general refuse disposed of properly and regularly?	☐	☑	☐	
4.15	S8.5	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	S8.5	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	S8.5	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	S8.5	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	S8.5	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	S8.5	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	

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4.21	S8.5	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☑	☐	reminder is
4.22	S8.5	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	
5.00		**Landscape and Visual**				
5.01	S11.10 & 11.11	Are Is site hoarding provided?	☑	☐	☐	
5.02	S11.10 & 11.11	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	S11.10 & 11.11	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	S11.10 & 11.11	Is grass hydroseeding provided to slopes as soon as the completion of works?	☐	☑	☐	
5.05	S11.10 & 11.11	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	S11.10 & 11.11	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	S11.10 & 11.11	Are the retained and transplanted tree(s) properly protected and in good conditions?	☑	☐	☐	
5.08	S11.10 & 11.11	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00		**Ecology**				
6.01	S9.7	Is site runoff properly treated to prevent any silly runoff?	☐	☑	☐	
6.02	S9.7	Are silt trap installed and well-maintained?	☐	☑	☐	reminder is
6.03	S9.7	Are stockpiles properly covered to avoid generating silty runoff?	☐	☑	☐	
6.04	S9.7	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
6.05	S9.7	For slope mitigation works within the Clear Water Bay Country Park, are tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical?	☐	☑	☐	
6.06	S9.7	Are pruning of tree canopies along the alignment of the flexible barriers limited to a minimum?	☑	☐	☐	
6.07	S9.7	Are the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at mininmum 1.5 m in a radius away from these individuals?	☐	☑	☐	
6.08	S9.7	At the detailed design stage prior to the commencement of the slope mitigation works, is vegetation survey carried out at the slope mitigation areas within the Clear Water Bay	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

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6.10	S9.7	Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species?	☐	☑	☐	
6.11	S9.7	Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance?	☐	☑	☐	
6.12	S9.7	Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity?	☐	☑	☐	
6.13	S9.7	Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas?	☐	☑	☐	
6.14	S9.7	Is regular check of the work site boundaries performed to ensure that they are not breached and that damage does not occur to surrounding areas?	☐	☑	☐	
6.15	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal?	☐	☑	☐	
6.16	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	☑	☐	☐	
6.15	S9.7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works?	☑	☐	☐	
7.00		**Landfill Gas Hazard**				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions, asphyxiation of works and toxicity effects during all works?	☐	☑	☐	
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and excavation as well as creation of confined spaces?	☐	☑	☐	
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined spaces provided from the Contractor to the workers?	☐	☑	☐	
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and presented on the site throughout the works undertaken below grade?	☐	☑	☐	
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of ignition of gas, the possible presence of contaminated water and the need to avoid physical contact?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
7.06	S12.7	Is the monitoring of landfill gas being undertaken in all excavations, manholes, chambers and any confined spaces?	☐	☑	☐	
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or appropriately qualified person? Are the all measurements being recorded and documented?	☐	☑	☐	
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential hazards?	☐	☑	☐	
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by the drilling contractor prior to the commencement of the site works?	☐	☑	☐	
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the grilled metal covers being used for below grade cable trenches?	☑	☐	☐	
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and base) for minimum of 10 minutes? Is the steady reading and peak reading recorded at each manhole or utility pit?	☐	☑	☐	
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site posted in prominent places?	☐	☑	☐	
8.00 8.01		**Overall** Is the EM&A properly implemented in general?	☐	☑	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)

(1) No major observations were recorded on the respective day.

Reminder(s)

(1) Immediate actions to rectify the disconnected 沉沙井 at the seafront should be conducted. (Seafront & 當地 barge)

(2) More ~~stringent~~ earthbunds / sandbags should be added to the concrete washing Area to prevent effluent from discharging before treatment.

(3) Chemical storage should be considered in the site area. (Product waterstorage Area and sedimentation tank, Reverse Osmosis)

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
(Name: Leung Tsack & Lai Charlene)	(Name: Brian Kam)	(Name: Raymond Lok)	(Name: Louis Kwan)	(Name: N/A)

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WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 29/10/2021 **Inspected by:** ET: Jacky Leung SO: Raymond Kok WSD: W.K. Lau
Inspection Time: 9:00 - 11:00 Contractor: Brian Lam IEC: Louis Kwan

Weather							
Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	27 °C	**Humidity**	☐ High	☑ Moderate	☐ Low		
Wind	☑ Calm	☐ Light	☐ Breeze	☐ Strong			

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
0.00		**General**				
0.01		Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	☐	☑	☐	
0.02		Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
1.00		**Construction Dust**				
1.01	S4.8.1	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	☐	☐	☐	reminder (2)
1.02	S4.8.1	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☑	☐	☐	No observation of dusty construction works on reporting day
1.03	S4.8.1	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	No fume/smoke emitting plant / construction activity conducted.
1.04	S4.8.1	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☑	☑	☐	
1.05	S4.8.1	Is wheel-washing provided to all vehicles leaving the site?	☐	☑	☐	
1.06	S4.8.1	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	S4.8.1	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	S4.8.1	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☑	☐	☐	No observation of transfer or loading of dusty materials.
1.09	S4.8.1	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump trucks observed.
1.10	S4.8.1	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	☑	☐	☐	
1.11	S4.8.1	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	S4.8.1	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	(illegible)

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
1.13	S4.8.1	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☐	☑	☐	
1.14	S4.8.1	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	S4.8.1	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	S4.8.1	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☐	☑	☐	
1.17	S4.8.1	Is open burning prohibited?	☐	☑	☐	
2.00		**Construction Noise (Airborne)**				
2.01	S5.7	Are quiet plants adopted on site?	☐	☑	☐	noise label
2.02	S5.7	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?	☐	☑	☐	- regular inspection.
2.03	S5.7	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	S5.7	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	↳ no nearby NSR.
2.05	S5.7	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	S5.7	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	S5.7	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	S5.7	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☐	☑	☐	
2.09	S5.7	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	S5.7	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	S5.7	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	S5.7	Are all construction noise permit(s) applied for percussive piling work?	☑	☐	☐	
2.13	S5.7	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	S5.7	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00		**Water Quality**				
3.01	S6.9	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	S6.9	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	S6.9	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.04	S6.9	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	S6.9	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	S6.9	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	S6.9	Is the drainage system properly maintained?	☐	☑	☐	
3.08	S6.9	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	S6.9	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	S6.9	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	S6.9	Are exposed slope surface properly protected?	☐	☑	☐	manual seeding
3.12	S6.9	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	S6.9	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☐	☐	Reminder (2)
3.14	S6.9	Is runoff from wheel-washing facilities avoided?	☐	☑	☐	
3.15	S6.9	Is oil leakage or spillage prevented?	☐	☐	☐	obs(1)
3.16	S6.9	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☐	☐	obs(1)
3.17	S6.9	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	S6.9	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	
3.19	S6.9	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	☐	☑	☐	
3.20	S6.9	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	S6.9	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	S6.9	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	S6.9	Is concrete washing water properly collected and treated prior to discharge?	☐	☑	☐	
3.24	S6.9	Is suitable type of silt curtains deployed during dredging to reduce the elevation of suspended solids to nearby sensitive receivers?	☑	☐	☐	No dredging was conducted on reporting day
3.25	S6.9	Is closed grab dredger used to reduce the potential leakage of sediments?	☑	☐	☐	

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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
3.26	S6.9	Is closed grab dredger of 3 to 6 m^3 used for dredging at seawater intake?	☒	☐	☐	✓
3.27	S6.9	Is specific work staff assigned the responsibility for monitoring the number of grab dredged per hour? Is number of cycle limited to 20-21 grab per hour for 3m^3 closed grab, 10-11 grab per hour for 6m^3 closed grab?	☒	☐	☐	✓
3.28	S6.9	Is the grab operated in slow and controlled manner such that the impact to seabed by the grab when being lowered could be minimized? Is the operator ensured the grab be properly closed before lifting the grab?	☒	☐	☐	✓
3.29	S6.9	Is the maximum allowed dredging rate at the seawater intake limited to 750 m^3/day while the maximum allowed dredging rate at the submarine outfall is 3,500 m^3/day?	☒	☐	☐	✓
3.30	S6.9	Is dredged marine sediment disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO)?	☒	☐	☐	No marine dumping was conducted.
3.31	S6.9	Are disposal vessels fitted with tight bottom seals in order to prevent leakage of material during transport?	☒	☐	☐	✓
3.32	S6.9	Are barges filled to a level which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action?	☒	☐	☐	✓
3.33	S6.9	Are excess materials cleaned from decks and exposed fittings before the vessel is moved from the dredging area after dredging?	☒	☐	☐	✓
3.34	S6.9	Are the contractor(s) confirmed that the works cause no visible foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the dredging site?	☐	☒	☐	
3.35	S6.9	When the dredged material has been unloaded at the disposal areas, is any material accumulated on the deck or other exposed parts of the vessel removed and placed in the hold or a hopper?	☒	☒	☐	✓
3.36	S6.9	Is dredger maintained adequate clearance between vessels and the seabed at all states of the tide and reduce operations speed to ensure that excessive turbidity is not generated by turbulence from vessel movement or propeller wash?	☐	☒	☐	
3.37	S6.9	Is the contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic? Is regular inspection on the integrity of the silt curtain carried out by the contractor and any damage to the silt curtain shall be repaired by the contractor promptly?	☐	☒	☐	reminder (1)
3.38	S6.9	Are all vessels have a clean ballast system?	☐	☒	☐	
3.39	S6.9	Are all vessels well maintained and inspected before use to limit any potential discharges to the marine environment?	☐	☒	☐	
3.40	S6.9	Is any discharge of sewage/grey wastewater? Is wastewater from potentially contaminated area on working vessels should be minimized and collected?	☒	☐	☐	
3.41	S6.9	Is any soil waste disposed overboard?	☒	☐	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.00		**Waste Management**				
4.01	S8.5	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	☐	☑	☐	
4.02	S8.5	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	☐	☑	☐	
4.03	S8.5	IS the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	S8.5	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	S8.5	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	S8.5	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	S8.5	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	S8.5	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	S8.5	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	S8.5	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
4.11	S8.5	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	☐	☑	☐	
4.12	S8.5	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	
4.13	S8.5	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	S8.5	Is general refuse disposed of properly and regularly?	☐	☑	☐	
4.15	S8.5	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	S8.5	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	S8.5	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	S8.5	Are C&D waste disposed of properly?	☑	☑	☐	
4.19	S8.5	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	S8.5	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
4.21	S8.5	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☐	☐	obs'd
4.22	S8.5	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	
5.00		**Landscape and Visual**				
5.01	S11.10 & 11.11	Are Is site hoarding provided?	☑	☐	☐	
5.02	S11.10 & 11.11	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	S11.10 & 11.11	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	S11.10 & 11.11	Is grass hydroseeding provided to slopes as soon as the completion of works?	☐	☑	☐	mamo! seeding was considered
5.05	S11.10 & 11.11	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	S11.10 & 11.11	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	S11.10 & 11.11	Are the retained and transplanted tree(s) properly protected and in good conditions?	☑	☐	☐	
5.08	S11.10 & 11.11	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00		**Ecology**				
6.01	S9.7	Is site runoff properly treated to prevent any silly runoff?	☐	☑	☐	
6.02	S9.7	Are silt trap installed and well-maintained?	☐	☑	☐	
6.03	S9.7	Are stockpiles properly covered to avoid generating silty runoff?	☐	☐	☐	reminder 02
6.04	S9.7	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
6.05	S9.7	For slope mitigation works within the Clear Water Bay Country Park, are tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical?	☐	☑	☐	
6.06	S9.7	Are pruning of tree canopies along the alignment of the flexible barriers limited to a minimum?	☑	☐	☐	
6.07	S9.7	Are the alignment of flexible barriers optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable? Are the alignment of flexible barriers positioned at mininmum 1.5 m in a radius away from these individuals?	☐	☑	☐	
6.08	S9.7	At the detailed design stage prior to the commencement of the slope mitigation works, is vegetation survey carried out at the slope mitigation areas within the Clear Water Bay	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
		Country Park to assess the condition and identify the location of each individual of Marsdenia lachnostoma and other flora species of conservation interest that may be directly affected by the construction works?				
6.09	S9.7	Is temporary fencing installed to fence off the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction? Is a sign identifying the site attached to the fence and flagging tape shall be attached to the individuals to visualize their locations?	☐	☑	☐	
6.10	S9.7	Is a specification for fencing and demarcating individuals of Marsdenai lachnostoma (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers prepared to protect the species?	☐	☑	☐	
6.11	S9.7	Is any induction training provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance?	☐	☑	☐	
6.12	S9.7	Is the resident site supervisory staff closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity?	☐	☑	☐	
6.13	S9.7	Are fences erected along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas?	☐	☑	☐	
6.14	S9.7	Is regular check of the work site boundaries performed to ensure that they are not breached and that damage does not occur to surrounding areas?	☐	☑	☐	
6.15	S9.7	Is any damage and disturbance avoided, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal?	☐	☑	☐	
6.16	S9.7	Are temporarily affected areas reinstated, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting?	☑	☐	☐	
6.15	S9.7	Are affected habitats within the Clear Water Bay Country Bay reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works?	☑	☐	☐	
7.00		**Landfill Gas Hazard**				
7.01	S12.7	Are the safety procedures implemented to minimise the risks of fires and explosions, asphyxiation of works and toxicity effects during all works?	☐	☑	☐	
7.02	S12.7	Are the gas detection equipment and precautions being used during trenching and excavation as well as creation of confined spaces?	☐	☑	☐	
7.03	S12.7	Are the training with regard to the awareness of potential hazards of working in confined spaces provided from the Contractor to the workers?	☐	☑	☐	
7.04	S12.7	Are the safety officers trained with regard to landfill gas and leachate related hazards and presented on the site throughout the works undertaken below grade?	☐	☑	☐	
7.05	S12.7	Are the all personnel working on site and all visitor made aware of the possibility of ignition of gas, the possible presence of contaminated water and the need to avoid physical contact?	☐	☑	☐	

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Item No.	EIA ref.		N/A	Yes	No	Photo/Remarks
7.06	S12.7	Is the monitoring of landfill gas being undertaken in all excavations, manholes, chambers and any confined spaces?	☐	☑	☐	
7.07	S12.7	Are the monitoring frequency and areas being specified by the safety officers or appropriately qualified person? Are the all measurements being recorded and documented?	☐	☑	☐	
7.08	S12.7	Is the drilling proceeded with adequate care and precautions against the potential hazards?	☐	☑	☐	
7.09	S12.7	Is the method statement covering all normal and emergency procedures provided by the drilling contractor prior to the commencement of the site works?	☐	☑	☐	
7.10	S12.7	Are the below ground services entries being sealed to prevent gas entry? Are the grilled metal covers being used for below grade cable trenches?	☑	☐	☐	
7.11	S12.7	Is each manhole or utility pit monitored with two measurements (at mid-depth and base) for minimum of 10 minutes? Is the steady reading and peak reading recorded at each manhole or utility pit?	☐	☑	☐	
7.12	S12.7	Are the warning signs of the hazards of landfill gas and its possible presence on site posted in prominent places?	☐	☑	☐	
8.00 8.01		**Overall** Is the EM&A properly implemented in general?	☐	☑	☐	

29/10

Acuity Sustainability Consulting Limited
Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon
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Contract no. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observations

1.) Proper storage for chemicals and chemical waste shall be provided (ie dip tray) at combined staff area.

Reminders

1.) Silk curtain shall be repaired before ~~marine~~ marine works (ie dredging) at intake shaft.

2.) the main contractor was reminded to provide tarpulin cover on the dusty materials (ie sand, soil)

3.) General Housekeeping - remove the stones on the intake shaft walkway.

Signatures:

ET Representative	Contractor's Representative	Supervising Officer's Representative	IEC's Representative	WSD's Representative
JACKY LEUNG				
(Name:)	(Name: Brian Kan)	(Name: Raymond)	(Name: Louis Kwan)	(Name: W K LAU)

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Appendix J

Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
01 Oct 2021 - 31 Oct 2021	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
01 Oct 2021 - 31 Oct 2021	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
01 Oct 2021 - 31 Oct 2021	0	0	N/A

Appendix K

Impact Monitoring Schedule of Next Reporting Month

Contract No. 13/WSD/17 Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
EM&A Water Quality Monitoring Schedule

Nov

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 06:52 - 13:21 Flood Tide: 13:21 - 20:01 Monitoring Time: Mid-ebb: 08:21 - 11:51 Mid-flood: 14:56 - 18:26		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 09:02 - 14:23 Flood Tide: 14:23- 21:00 Monitoring Time: Mid-ebb: 09:57 - 13:27 Mid-flood: 15:56 - 19:00&		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 11:00 - 15:25 Flood Tide: 04:00 - 11:00 Monitoring Time: Mid-ebb: 11:27 - 14:57 Mid-flood: 08:00 - 10:39 *$#
7	8	9	10	11	12	13
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 14:00 - 17:00 Flood Tide: 07:00 - 14:00 Monitoring Time: Mid-ebb: 13:45 - 17:15 Mid-flood: 08:45 - 12:15		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 02:00 - 09:10 Flood Tide: 09:10 - 16:00 Monitoring Time: Mid-ebb: 08:00 - 08:48*#$ Mid-flood: 10:50 - 14:20		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 04:00 - 11:21 Flood Tide: 11:21- 19:06 Monitoring Time: Mid-ebb: 08:00 - 10:58*# Mid-flood: 13:28 - 16:58
14	15	16	17	18	19	20
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 07:25 - 13:11 Flood Tide: 13:11 - 20:10 Monitoring Time: Mid-ebb: 08:33 - 12:03 Mid-flood: 14:55 - 18:25		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 09:00 - 14:03 Flood Tide: 14:03 - 21:00 Monitoring Time: Mid-ebb: 09:46 - 13:16 Mid-flood: 15:46 - 19:00&		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 10:36 - 15:00 Flood Tide: 04:00 - 10:36 Monitoring Time: Mid-ebb: 11:03 - 14:33 Mid-flood: 08:00 - 10:16*#
21	22	23	24	25	26	27
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 12:47 - 16:00 Flood Tide: 05:49 - 12:47 Monitoring Time: Mid-ebb: 12:38 - 16:08 Mid-flood:08:00 - 11:03*		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 14:00 - 17:00 Flood Tide: 08:00 - 14:00 Monitoring Time: Mid-ebb: 13:45 - 17:15 Mid-flood: 09:15 - 12:45		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 16:00 -20:00 Flood Tide: 09:23 - 16:00 Monitoring Time: Mid-ebb: 16:12 - 19:00& Mid-flood: 10:56 - 14:26
28	29	30				
		Impact Water Quality monitoring for CE, CF, WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37 Tidal Period: Ebb Tide: 05:21 - 11:43 Flood Tide: 11:43 - 19:00 Monitoring Time: Mid-ebb: 08:00 - 11:23* Mid-flood: 13:36 - 17:06				

Remarks:
Monitoring Parameters: Dissolved oxygen, Temperature, pH, Turbidity, Salinity, Suspended Solids

Note:
* - Due to safety concern of vessel transportation earlier than 0700, Water Quality Monitoring would start at 0800.
$ - Since predicted tide is shorter than 3.5 hours, method of 90% tidal period as monitoring time is adopted.
& - Due to safety concern for sampling event in night-time, method of 90% tidal period as monitoring time is approached and end at 1900.
# - Prioritized routing: Mid-Ebb: CE→WSR16→WSR37→WSR36→WSR33→Remaining stations and Mid-Flood: CF→WSR1→WSR2→WSR3→WSR4→Remaining stations

Appendix L

Water Quality and Landfill Gas Monitoring Data

Supporting Documents for Cancellation of General Water Quality Monitoring on 09 and 12 October 2021

Weather Warning and Signals Record (9/Oct/2021)

Tropical Cyclone Warning Signals

	Warning and Signals	Start Time		End Time	
		hh:mm	dd/mon/yyyy	hh:mm	dd/mon/yyyy
3	Strong Wind Signal No. 3	04:40	08/Oct/2021	06:40	09/Oct/2021
8 SE 東南	No. 8 SouthEast Gale Or Storm Signal	06:40	09/Oct/2021	04:40	10/Oct/2021

Rainstorm Warnings

	Warning and Signals	Start Time		End Time	
		hh:mm	dd/mon/yyyy	hh:mm	dd/mon/yyyy
Amber 黃	Amber Rainstorm Warning Signal	13:00	09/Oct/2021	21:05	09/Oct/2021

Weather Warning and Signals Record (12/Oct/2021)

Tropical Cyclone Warning Signals

	Warning and Signals	Start Time		End Time	
		hh:mm	dd/mon/yyyy	hh:mm	dd/mon/yyyy
3	Strong Wind Signal No. 3	00:40	12/Oct/2021	17:20	12/Oct/2021
8 NE 東北	No. 8 NorthEast Gale Or Storm Signal	17:20	12/Oct/2021	16:40	13/Oct/2021

Sourced from: https://www.hko.gov.hk/en/wxinfo/climat/warndb/warndba.shtml

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:54:00 PM	8.11	8.34	31.21	30.16	3.55	15.00
CE	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:54:00 PM	7.88	8.41	31.24	30.14	3.69	15.00
CE	20211002	Sunny	Moderate	Mid-Flood	Middle	11.20	5:53:00 PM	8.29	8.40	31.41	30.04	4.51	13.00
CE	20211002	Sunny	Moderate	Mid-Flood	Middle	11.20	5:53:00 PM	7.99	8.45	31.50	29.99	4.00	13.00
CE	20211002	Sunny	Moderate	Mid-Flood	Bottom	21.40	5:52:00 PM	8.11	8.46	31.48	30.19	3.65	13.00
CE	20211002	Sunny	Moderate	Mid-Flood	Bottom	21.40	5:52:00 PM	8.10	8.33	31.21	30.00	3.23	12.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:35:00 PM	8.20	8.30	30.80	29.90	4.40	10.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:35:00 PM	8.50	8.20	30.80	29.90	4.60	10.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Middle	10.10	6:34:00 PM	8.70	8.30	30.70	29.80	5.20	12.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Middle	10.10	6:34:00 PM	8.20	8.20	30.70	29.90	5.00	10.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Bottom	19.10	6:33:00 PM	8.20	8.30	30.80	30.00	5.10	14.00
CE	20211005	Cloudy	Moderate	Mid-Flood	Bottom	19.10	6:33:00 PM	8.20	8.20	30.70	29.90	5.10	14.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:26:00 PM	9.11	8.25	31.61	28.76	6.31	15.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:26:00 PM	9.18	8.34	31.68	28.87	6.47	14.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Middle	11.40	6:25:00 PM	9.04	8.40	31.62	28.95	6.16	13.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Middle	11.40	6:25:00 PM	9.08	8.36	31.62	28.86	5.97	11.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Bottom	21.80	6:24:00 PM	9.16	8.26	31.77	28.87	6.02	12.00
CE	20211007	Cloudy	Moderate	Mid-Flood	Bottom	21.80	6:24:00 PM	9.13	8.27	31.57	28.77	5.90	13.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:31:00 PM	8.65	8.35	30.42	28.12	4.73	5.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:31:00 PM	8.53	8.26	30.32	28.23	4.70	6.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Middle	11.55	3:30:00 PM	8.74	8.32	30.38	28.07	4.99	11.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Middle	11.55	3:30:00 PM	8.77	8.29	30.42	28.05	4.81	11.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Bottom	22.10	3:29:00 PM	8.69	8.35	30.46	28.12	4.75	7.00
CE	20211014	Cloudy	Moderate	Mid-Flood	Bottom	22.10	3:29:00 PM	8.60	8.34	30.35	28.22	4.98	5.00
CE	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	5:26:00 PM	8.83	8.16	30.09	27.59	3.87	10.00
CE	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	5:26:00 PM	8.72	8.09	29.79	27.61	3.82	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211016	Sunny	Moderate	Mid-Flood	Middle	10.00	5:25:00 PM	8.53	8.14	30.05	27.62	3.46	4.00
CE	20211016	Sunny	Moderate	Mid-Flood	Middle	10.00	5:25:00 PM	8.82	8.00	29.93	27.60	3.31	4.00
CE	20211016	Sunny	Moderate	Mid-Flood	Bottom	19.00	5:24:00 PM	8.72	8.06	30.02	27.71	3.56	3.00
CE	20211016	Sunny	Moderate	Mid-Flood	Bottom	19.00	5:24:00 PM	9.08	8.10	30.02	27.66	3.31	4.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:06:00 PM	9.22	8.04	31.63	26.31	3.33	5.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:06:00 PM	9.28	8.10	31.18	26.40	3.65	8.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Middle	10.10	6:05:00 PM	9.18	8.06	31.45	26.46	4.06	11.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Middle	10.10	6:05:00 PM	8.98	8.13	31.45	26.30	3.73	8.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Bottom	19.20	6:04:00 PM	9.21	8.18	31.16	26.31	4.22	10.00
CE	20211018	Cloudy	Moderate	Mid-Flood	Bottom	19.20	6:04:00 PM	8.99	8.13	31.12	26.34	3.83	11.00
CE	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:58:00 PM	8.70	8.09	30.37	28.01	6.35	6.00
CE	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:58:00 PM	8.50	7.94	30.39	28.16	6.44	6.00
CE	20211020	Sunny	Moderate	Mid-Flood	Middle	10.20	5:57:00 PM	8.61	7.92	30.26	28.00	5.84	3.00
CE	20211020	Sunny	Moderate	Mid-Flood	Middle	10.20	5:57:00 PM	8.29	8.12	30.26	28.10	6.13	4.00
CE	20211020	Sunny	Moderate	Mid-Flood	Bottom	19.40	5:56:00 PM	8.89	7.97	30.12	28.11	5.85	3.00
CE	20211020	Sunny	Moderate	Mid-Flood	Bottom	19.40	5:56:00 PM	8.34	8.09	30.36	27.97	5.56	3.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	10:34:00 AM	8.14	8.42	30.72	26.75	3.86	10.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	10:34:00 AM	8.19	8.39	30.65	26.70	4.01	10.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Middle	11.95	10:33:00 AM	8.32	8.35	30.67	26.82	4.04	5.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Middle	11.95	10:33:00 AM	8.21	8.38	30.38	26.79	3.96	4.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Bottom	22.90	10:32:00 AM	8.11	8.36	30.35	26.67	4.02	8.00
CE	20211023	Cloudy	Modrate	Mid-Flood	Bottom	22.90	10:32:00 AM	8.09	8.34	30.35	26.67	4.16	8.00
CE	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	10:30:00 AM	8.71	8.45	30.62	26.54	5.13	4.00
CE	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	10:30:00 AM	8.75	8.41	30.62	26.54	4.65	4.00
CE	20211025	Sunny	Moderate	Mid-Flood	Middle	11.15	10:29:00 AM	8.69	8.44	30.54	26.61	5.48	3.00
CE	20211025	Sunny	Moderate	Mid-Flood	Middle	11.15	10:29:00 AM	8.83	8.45	30.47	26.56	5.44	4.00
CE	20211025	Sunny	Moderate	Mid-Flood	Bottom	21.30	10:28:00 AM	8.78	8.40	30.52	26.73	5.35	5.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211025	Sunny	Moderate	Mid-Flood	Bottom	21.30	10:28:00 AM	8.89	8.41	30.35	26.71	5.24	5.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	11:42:00 AM	9.27	8.13	30.25	27.24	6.06	3.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	11:42:00 AM	8.97	8.18	30.29	27.27	5.66	2.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Middle	10.15	11:41:00 AM	8.91	8.22	30.19	27.35	5.46	3.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Middle	10.15	11:41:00 AM	8.82	8.13	30.53	27.20	6.03	4.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Bottom	19.30	11:40:00 AM	9.15	8.10	30.63	27.25	5.39	7.00
CE	20211027	Cloudy	Moderate	Mid-Flood	Bottom	19.30	11:40:00 AM	9.12	8.08	30.45	27.32	6.10	7.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:24:00 PM	8.63	8.57	33.07	27.63	4.04	2.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:24:00 PM	8.58	8.63	33.00	27.73	3.78	4.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Middle	10.85	6:23:00 PM	8.52	8.61	32.87	27.70	3.85	4.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Middle	10.85	6:23:00 PM	8.55	8.60	33.06	27.75	3.45	2.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Bottom	20.70	6:22:00 PM	8.66	8.57	33.03	27.77	3.48	6.00
CE	20211029	Cloudy	Moderate	Mid-Flood	Bottom	20.70	6:22:00 PM	8.57	8.63	32.98	27.63	3.90	3.00
CF	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	3:24:00 PM	8.91	8.54	30.46	30.04	4.42	12.00
CF	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	3:24:00 PM	8.46	8.47	30.65	30.10	4.44	11.00
CF	20211002	Sunny	Moderate	Mid-Flood	Middle	9.55	3:23:00 PM	8.89	8.36	30.52	30.17	4.81	14.00
CF	20211002	Sunny	Moderate	Mid-Flood	Middle	9.55	3:23:00 PM	8.82	8.49	30.53	30.06	4.67	13.00
CF	20211002	Sunny	Moderate	Mid-Flood	Bottom	18.10	3:22:00 PM	8.46	8.39	30.74	30.18	4.95	12.00
CF	20211002	Sunny	Moderate	Mid-Flood	Bottom	18.10	3:22:00 PM	8.43	8.42	30.52	30.07	4.84	12.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:08:00 PM	8.80	8.30	31.30	29.90	6.50	11.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:08:00 PM	8.50	8.30	31.10	30.10	6.30	11.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Middle	10.00	4:07:00 PM	8.50	8.40	31.20	29.90	5.30	18.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Middle	10.00	4:07:00 PM	8.80	8.40	31.20	30.10	6.10	18.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Bottom	18.90	4:06:00 PM	8.80	8.30	31.30	30.20	5.20	13.00
CF	20211005	Cloudy	Moderate	Mid-Flood	Bottom	18.90	4:06:00 PM	8.70	8.30	31.10	30.00	5.00	12.00
CF	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:01:00 PM	9.99	8.52	32.27	28.85	7.00	2.00
CF	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:01:00 PM	10.00	8.54	32.31	28.82	6.96	2.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CF	20211007	Cloudy	Moderate	Mid-Flood	Middle	10.40	4:00:00 PM	9.87	8.43	32.12	28.86	6.88	13.00
CF	20211007	Cloudy	Moderate	Mid-Flood	Middle	10.40	4:00:00 PM	9.90	8.49	32.15	28.94	6.34	13.00
CF	20211007	Cloudy	Moderate	Mid-Flood	Bottom	19.80	3:59:00 PM	9.95	8.48	32.37	28.95	6.95	12.00
CF	20211007	Cloudy	Moderate	Mid-Flood	Bottom	19.80	3:59:00 PM	10.06	8.46	32.41	29.04	6.88	13.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	12:59:00 PM	8.70	8.33	30.48	27.79	5.56	10.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	12:59:00 PM	8.55	8.29	30.34	27.78	5.10	10.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Middle	9.50	12:58:00 PM	8.71	8.35	30.38	27.79	4.98	8.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Middle	9.50	12:58:00 PM	8.65	8.30	30.39	27.81	5.13	8.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Bottom	18.00	12:57:00 PM	8.52	8.27	30.30	27.86	4.64	4.00
CF	20211014	Cloudy	Moderate	Mid-Flood	Bottom	18.00	12:57:00 PM	8.50	8.29	30.46	27.89	4.56	4.00
CF	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	2:53:00 PM	8.96	8.11	29.94	28.00	6.60	2.00
CF	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	2:53:00 PM	9.01	8.03	29.88	28.04	5.93	2.00
CF	20211016	Sunny	Moderate	Mid-Flood	Middle	10.30	2:52:00 PM	8.86	8.00	29.89	28.02	5.20	13.00
CF	20211016	Sunny	Moderate	Mid-Flood	Middle	10.30	2:52:00 PM	8.75	8.06	29.94	28.06	5.35	13.00
CF	20211016	Sunny	Moderate	Mid-Flood	Bottom	19.60	2:51:00 PM	8.66	8.02	30.14	27.98	4.58	13.00
CF	20211016	Sunny	Moderate	Mid-Flood	Bottom	19.60	2:51:00 PM	8.87	8.04	30.17	27.96	4.26	12.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:45:00 PM	8.73	8.04	30.75	26.87	5.83	11.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:45:00 PM	8.80	8.07	30.75	26.93	5.38	10.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Middle	9.90	3:44:00 PM	8.90	8.02	30.90	26.83	5.19	9.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Middle	9.90	3:44:00 PM	8.85	8.01	30.78	27.10	4.91	10.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Bottom	18.80	3:43:00 PM	8.69	8.08	30.66	26.86	6.08	10.00
CF	20211018	Cloudy	Moderate	Mid-Flood	Bottom	18.80	3:43:00 PM	8.75	8.09	30.92	26.82	5.61	10.00
CF	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	3:17:00 PM	7.89	8.19	28.99	28.09	6.28	3.00
CF	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	3:17:00 PM	7.79	8.11	29.20	28.07	5.76	2.00
CF	20211020	Sunny	Moderate	Mid-Flood	Middle	10.90	3:16:00 PM	8.36	8.18	29.24	27.93	5.61	3.00
CF	20211020	Sunny	Moderate	Mid-Flood	Middle	10.90	3:16:00 PM	8.31	8.05	29.24	28.08	5.30	3.00
CF	20211020	Sunny	Moderate	Mid-Flood	Bottom	20.80	3:15:00 PM	8.27	8.08	29.49	27.96	5.60	2.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CF	20211020	Sunny	Moderate	Mid-Flood	Bottom	20.80	3:15:00 PM	7.96	8.03	29.04	27.95	5.60	2.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:02:00 AM	8.57	8.35	30.82	26.35	3.77	5.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:02:00 AM	8.51	8.40	31.10	26.30	3.32	5.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Middle	10.30	8:01:00 AM	8.58	8.38	30.76	26.31	4.62	9.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Middle	10.30	8:01:00 AM	8.63	8.35	30.94	26.21	4.37	9.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Bottom	19.60	8:00:00 AM	8.41	8.34	30.91	26.37	4.73	7.00
CF	20211023	Cloudy	Modrate	Mid-Flood	Bottom	19.60	8:00:00 AM	8.44	8.37	31.08	26.28	5.10	5.00
CF	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:02:00 AM	9.42	8.35	31.12	26.69	5.18	6.00
CF	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:02:00 AM	9.33	8.35	31.00	26.76	4.98	6.00
CF	20211025	Sunny	Moderate	Mid-Flood	Middle	10.50	8:01:00 AM	9.17	8.30	31.11	26.64	5.10	5.00
CF	20211025	Sunny	Moderate	Mid-Flood	Middle	10.50	8:01:00 AM	9.24	8.39	30.90	26.78	5.13	6.00
CF	20211025	Sunny	Moderate	Mid-Flood	Bottom	20.00	8:00:00 AM	9.46	8.37	31.00	26.72	4.26	4.00
CF	20211025	Sunny	Moderate	Mid-Flood	Bottom	20.00	8:00:00 AM	9.18	8.31	30.88	26.84	4.97	7.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:20:00 AM	9.50	8.21	29.35	27.24	4.51	9.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:20:00 AM	9.06	8.23	29.47	27.19	4.57	9.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Middle	10.70	9:19:00 AM	9.40	8.18	29.15	27.24	4.45	6.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Middle	10.70	9:19:00 AM	9.05	8.14	29.09	27.25	4.39	6.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Bottom	20.40	9:18:00 AM	9.32	8.17	29.36	27.33	5.11	2.00
CF	20211027	Cloudy	Moderate	Mid-Flood	Bottom	20.40	9:18:00 AM	9.15	8.22	29.18	27.33	4.65	3.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:46:00 PM	9.66	8.20	32.00	28.12	3.88	6.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:46:00 PM	9.55	8.23	31.86	28.14	4.19	6.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Middle	10.60	3:45:00 PM	9.59	8.26	31.79	28.06	4.67	4.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Middle	10.60	3:45:00 PM	9.49	8.25	31.82	28.13	4.00	6.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Bottom	20.20	3:44:00 PM	9.52	8.21	31.95	28.03	4.43	3.00
CF	20211029	Cloudy	Moderate	Mid-Flood	Bottom	20.20	3:44:00 PM	9.49	8.23	31.80	28.09	4.14	3.00
WSR01	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	3:46:00 PM	8.26	8.47	30.72	29.96	2.91	13.00
WSR01	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	3:46:00 PM	7.99	8.46	30.67	30.10	2.66	13.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211002	Sunny	Moderate	Mid-Flood	Middle	4.45	3:45:00 PM	8.26	8.35	30.53	30.08	2.73	13.00
WSR01	20211002	Sunny	Moderate	Mid-Flood	Middle	4.45	3:45:00 PM	8.20	8.30	30.54	30.11	2.36	12.00
WSR01	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.90	3:44:00 PM	8.34	8.30	30.77	30.00	2.38	12.00
WSR01	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.90	3:44:00 PM	8.34	8.39	30.44	30.09	2.52	13.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:30:00 PM	8.40	8.20	31.40	30.20	3.70	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:30:00 PM	8.30	8.30	31.20	30.10	3.70	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.20	4:29:00 PM	8.70	8.20	31.40	29.90	3.70	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.20	4:29:00 PM	8.30	8.30	31.20	30.00	3.50	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.40	4:28:00 PM	8.60	8.20	31.40	29.90	3.40	7.00
WSR01	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.40	4:28:00 PM	8.70	8.30	31.30	30.10	3.40	10.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:22:00 PM	9.15	8.33	31.53	29.00	5.86	13.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:22:00 PM	9.26	8.24	31.67	29.06	5.49	14.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Middle	4.50	4:21:00 PM	9.40	8.33	31.32	28.94	4.94	8.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Middle	4.50	4:21:00 PM	9.26	8.26	31.66	29.16	5.65	8.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Bottom	8.00	4:20:00 PM	9.27	8.20	31.47	28.98	4.91	13.00
WSR01	20211007	Cloudy	Moderate	Mid-Flood	Bottom	8.00	4:20:00 PM	9.35	8.16	31.42	29.08	5.48	12.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:22:00 PM	8.67	8.34	30.46	27.73	3.64	11.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:22:00 PM	8.67	8.33	30.52	27.70	3.25	9.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.15	1:21:00 PM	8.55	8.34	30.38	27.78	3.44	15.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.15	1:21:00 PM	8.78	8.35	30.45	27.72	2.91	15.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Bottom	7.30	1:20:00 PM	8.51	8.34	30.48	27.80	2.61	6.00
WSR01	20211014	Cloudy	Moderate	Mid-Flood	Bottom	7.30	1:20:00 PM	8.55	8.35	30.50	27.74	2.53	6.00
WSR01	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:17:00 PM	8.46	8.21	29.30	27.30	3.38	7.00
WSR01	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:17:00 PM	8.03	8.23	29.45	27.47	3.12	7.00
WSR01	20211016	Sunny	Moderate	Mid-Flood	Middle	4.45	3:16:00 PM	8.50	8.18	29.34	27.30	3.31	7.00
WSR01	20211016	Sunny	Moderate	Mid-Flood	Middle	4.45	3:16:00 PM	7.82	8.13	29.23	27.34	3.22	7.00
WSR01	20211016	Sunny	Moderate	Mid-Flood	Bottom	7.90	3:15:00 PM	8.39	8.23	29.41	27.38	2.74	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211016	Sunny	Moderate	Mid-Flood	Bottom	7.90	3:15:00 PM	8.13	8.09	29.53	27.30	2.95	7.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:06:00 PM	7.91	8.11	30.73	26.73	3.23	6.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:06:00 PM	7.99	8.08	30.86	26.83	3.49	6.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.70	4:05:00 PM	7.89	8.07	31.22	26.69	2.83	12.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.70	4:05:00 PM	8.21	8.15	31.31	26.84	2.67	11.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Bottom	8.40	4:04:00 PM	8.11	8.14	30.86	26.67	2.19	17.00
WSR01	20211018	Cloudy	Moderate	Mid-Flood	Bottom	8.40	4:04:00 PM	7.91	8.09	30.74	26.78	2.45	17.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	3:41:00 PM	7.74	8.02	29.91	27.56	3.92	2.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	3:41:00 PM	7.94	8.07	29.80	27.63	4.24	2.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Middle	4.55	3:40:00 PM	7.86	7.97	30.37	27.63	3.72	3.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Middle	4.55	3:40:00 PM	8.16	8.02	30.19	27.56	4.06	2.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Bottom	8.10	3:39:00 PM	8.18	8.08	30.20	27.73	3.92	2.00
WSR01	20211020	Sunny	Moderate	Mid-Flood	Bottom	8.10	3:39:00 PM	8.03	8.02	30.30	27.63	3.45	3.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:24:00 AM	8.11	8.39	30.81	26.45	1.96	15.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:24:00 AM	8.12	8.35	30.75	26.53	2.17	15.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.50	8:23:00 AM	8.35	8.38	30.86	26.57	2.37	4.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.50	8:23:00 AM	8.33	8.35	30.59	26.39	2.09	5.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Bottom	8.00	8:22:00 AM	8.09	8.36	30.65	26.45	2.17	5.00
WSR01	20211023	Cloudy	Modrate	Mid-Flood	Bottom	8.00	8:22:00 AM	8.34	8.38	30.74	26.37	2.05	5.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:24:00 AM	9.48	8.12	31.00	26.95	2.37	7.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:24:00 AM	9.64	8.18	31.00	26.89	2.42	6.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Middle	4.15	8:23:00 AM	9.77	8.13	30.96	27.02	2.24	7.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Middle	4.15	8:23:00 AM	9.58	8.17	30.87	26.94	2.11	9.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Bottom	7.30	8:22:00 AM	9.66	8.22	31.00	26.88	1.70	13.00
WSR01	20211025	Sunny	Moderate	Mid-Flood	Bottom	7.30	8:22:00 AM	9.69	8.13	30.81	26.92	2.03	13.00
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:42:00 AM	9.33	8.29	29.92	27.10	5.75	7.00
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:42:00 AM	9.15	8.19	29.51	27.25	5.36	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.50	9:41:00 AM	9.14	8.19	29.98	27.18	5.67	6.00
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.50	9:41:00 AM	9.02	8.24	29.88	27.11	5.57	6.00
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Bottom	8.00	9:40:00 AM	8.95	8.16	29.55	27.11	5.48	6.00
WSR01	20211027	Cloudy	Moderate	Mid-Flood	Bottom	8.00	9:40:00 AM	9.08	8.23	29.54	27.21	5.00	3.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:09:00 PM	8.84	8.30	32.49	27.98	2.59	11.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:09:00 PM	8.84	8.28	32.39	27.83	2.64	11.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.35	4:08:00 PM	8.72	8.27	32.51	27.81	2.92	7.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.35	4:08:00 PM	8.73	8.30	32.45	27.90	3.17	7.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Bottom	7.70	4:07:00 PM	8.82	8.31	32.38	27.95	3.10	3.00
WSR01	20211029	Cloudy	Moderate	Mid-Flood	Bottom	7.70	4:07:00 PM	8.65	8.26	32.31	27.93	3.16	6.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:03:00 PM	8.75	8.35	31.21	30.02	2.41	13.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:03:00 PM	8.78	8.20	31.48	30.18	2.61	14.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Middle	4.85	4:02:00 PM	8.79	8.27	31.31	30.00	1.71	13.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Middle	4.85	4:02:00 PM	8.79	8.18	31.34	30.00	2.04	12.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Bottom	8.70	4:01:00 PM	8.77	8.22	31.35	30.15	2.41	11.00
WSR02	20211002	Sunny	Moderate	Mid-Flood	Bottom	8.70	4:01:00 PM	8.62	8.34	31.45	30.03	2.02	12.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:47:00 PM	8.30	8.40	30.30	29.90	3.20	10.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:47:00 PM	8.20	8.30	30.10	29.80	3.00	9.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.60	4:46:00 PM	8.20	8.30	30.30	29.70	3.20	9.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.60	4:46:00 PM	8.30	8.30	30.10	30.00	3.00	8.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Bottom	8.10	4:45:00 PM	8.20	8.40	30.20	30.00	3.30	9.00
WSR02	20211005	Cloudy	Moderate	Mid-Flood	Bottom	8.10	4:45:00 PM	8.60	8.20	30.10	29.90	2.90	6.00
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:39:00 PM	9.62	8.37	32.11	29.01	3.80	13.00
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:39:00 PM	9.63	8.46	32.11	28.95	3.42	13.00
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Middle	4.80	4:38:00 PM	9.44	8.37	32.34	29.08	3.53	12.00
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Middle	4.80	4:38:00 PM	9.47	8.39	32.09	29.13	3.59	12.00
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Bottom	8.60	4:37:00 PM	9.65	8.33	32.35	29.03	3.79	8.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR02	20211007	Cloudy	Moderate	Mid-Flood	Bottom	8.60	4:37:00 PM	9.44	8.43	32.28	28.98	3.69	8.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:41:00 PM	8.64	8.34	30.56	28.02	3.38	7.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:41:00 PM	8.53	8.32	30.45	27.98	3.84	9.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.70	1:40:00 PM	8.51	8.35	30.39	27.95	3.60	6.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.70	1:40:00 PM	8.77	8.35	30.33	28.06	3.17	6.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Bottom	8.40	1:39:00 PM	8.67	8.27	30.30	28.05	2.52	4.00
WSR02	20211014	Cloudy	Moderate	Mid-Flood	Bottom	8.40	1:39:00 PM	8.57	8.28	30.31	28.02	2.94	5.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:35:00 PM	8.39	8.36	30.22	27.57	2.64	6.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:35:00 PM	8.04	8.28	30.01	27.65	2.23	6.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Middle	4.85	3:34:00 PM	8.61	8.29	30.27	27.57	2.58	3.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Middle	4.85	3:34:00 PM	7.97	8.24	30.37	27.59	2.18	2.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Bottom	8.70	3:33:00 PM	8.07	8.30	30.12	27.67	2.42	3.00
WSR02	20211016	Sunny	Moderate	Mid-Flood	Bottom	8.70	3:33:00 PM	8.01	8.36	30.20	27.65	2.25	2.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:22:00 PM	8.43	8.25	30.64	26.66	2.71	10.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:22:00 PM	8.66	8.31	30.94	26.70	2.80	11.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.75	4:21:00 PM	8.59	8.34	30.44	26.52	2.65	3.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.75	4:21:00 PM	8.43	8.36	30.90	26.70	2.59	4.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Bottom	8.50	4:20:00 PM	8.39	8.24	30.50	26.73	2.37	5.00
WSR02	20211018	Cloudy	Moderate	Mid-Flood	Bottom	8.50	4:20:00 PM	8.63	8.30	30.84	26.63	2.54	6.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:02:00 PM	7.95	7.85	29.98	28.12	3.67	4.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:02:00 PM	8.15	7.88	29.54	28.11	3.35	2.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Middle	4.85	4:01:00 PM	7.96	7.90	29.59	28.06	3.04	2.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Middle	4.85	4:01:00 PM	8.24	7.98	30.06	28.08	3.61	3.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Bottom	8.70	4:00:00 PM	8.07	7.80	29.76	28.09	3.27	3.00
WSR02	20211020	Sunny	Moderate	Mid-Flood	Bottom	8.70	4:00:00 PM	7.75	7.96	29.88	27.98	2.77	3.00
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:43:00 AM	8.37	8.32	31.66	26.08	3.17	10.00
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:43:00 AM	8.25	8.25	31.40	26.10	2.77	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.80	8:42:00 AM	8.40	8.25	31.40	25.96	2.57	4.00
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.80	8:42:00 AM	8.40	8.28	31.50	25.99	2.81	4.00
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Bottom	8.60	8:41:00 AM	8.25	8.31	31.39	26.09	2.52	5.00
WSR02	20211023	Cloudy	Modrate	Mid-Flood	Bottom	8.60	8:41:00 AM	8.22	8.33	31.47	26.13	2.55	4.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:42:00 AM	9.25	8.29	30.45	26.44	3.07	5.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:42:00 AM	9.47	8.26	30.50	26.28	2.59	4.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Middle	4.70	8:41:00 AM	9.29	8.24	30.33	26.25	2.63	5.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Middle	4.70	8:41:00 AM	9.31	8.26	30.37	26.22	2.35	6.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Bottom	8.40	8:40:00 AM	9.34	8.24	30.53	26.27	2.26	4.00
WSR02	20211025	Sunny	Moderate	Mid-Flood	Bottom	8.40	8:40:00 AM	9.36	8.27	30.53	26.32	2.57	4.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:59:00 AM	9.12	8.16	29.72	26.62	5.58	4.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:59:00 AM	9.26	8.15	29.49	26.81	5.27	3.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.85	9:58:00 AM	9.06	8.01	29.95	26.68	5.17	3.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.85	9:58:00 AM	9.29	8.11	29.75	26.78	5.29	2.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Bottom	8.70	9:57:00 AM	9.08	8.07	29.99	26.61	4.95	7.00
WSR02	20211027	Cloudy	Moderate	Mid-Flood	Bottom	8.70	9:57:00 AM	9.18	8.09	29.55	26.66	4.99	7.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:27:00 PM	9.72	8.36	31.74	28.09	3.32	3.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:27:00 PM	9.80	8.39	31.72	28.15	3.06	3.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.75	4:26:00 PM	9.62	8.41	31.62	28.11	3.27	4.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.75	4:26:00 PM	9.68	8.42	31.62	28.23	3.66	4.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Bottom	8.50	4:25:00 PM	9.79	8.36	31.76	28.10	2.93	10.00
WSR02	20211029	Cloudy	Moderate	Mid-Flood	Bottom	8.50	4:25:00 PM	9.77	8.35	31.76	28.22	3.14	9.00
WSR03	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:15:00 PM	8.62	8.48	30.75	30.18	2.41	11.00
WSR03	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:15:00 PM	8.71	8.34	30.93	30.18	2.21	13.00
WSR03	20211002	Sunny	Moderate	Mid-Flood	Middle	4.25	4:14:00 PM	9.05	8.38	30.89	30.13	2.57	13.00
WSR03	20211002	Sunny	Moderate	Mid-Flood	Middle	4.25	4:14:00 PM	8.78	8.37	30.92	30.13	2.56	14.00
WSR03	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.50	4:13:00 PM	8.86	8.35	30.92	29.95	2.06	13.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.50	4:13:00 PM	8.77	8.44	30.86	29.97	1.99	15.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:00:00 PM	8.90	8.40	30.30	29.10	3.50	10.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:00:00 PM	9.00	8.50	30.40	29.40	3.50	11.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.10	4:59:00 PM	8.60	8.40	30.60	29.50	3.50	6.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.10	4:59:00 PM	8.80	8.40	30.30	29.40	3.00	9.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.20	4:58:00 PM	8.60	8.40	30.50	29.40	3.30	10.00
WSR03	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.20	4:58:00 PM	9.00	8.40	30.40	29.30	3.30	11.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:51:00 PM	9.95	8.30	31.43	29.11	3.92	13.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:51:00 PM	9.95	8.37	31.60	29.21	3.34	12.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.75	4:50:00 PM	9.94	8.29	31.27	29.21	3.87	8.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.75	4:50:00 PM	9.86	8.38	31.55	29.13	3.82	8.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.50	4:49:00 PM	9.72	8.29	31.38	29.07	3.81	13.00
WSR03	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.50	4:49:00 PM	9.84	8.38	31.27	29.08	4.02	12.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:54:00 PM	8.73	8.29	30.51	28.10	2.72	7.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	1:54:00 PM	8.51	8.30	30.50	28.01	2.47	5.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.10	1:53:00 PM	8.68	8.29	30.42	28.08	2.52	6.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Middle	4.10	1:53:00 PM	8.51	8.29	30.56	28.19	2.80	4.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Bottom	7.20	1:52:00 PM	8.54	8.27	30.45	28.11	2.30	4.00
WSR03	20211014	Cloudy	Moderate	Mid-Flood	Bottom	7.20	1:52:00 PM	8.66	8.30	30.57	28.03	2.43	6.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:48:00 PM	8.26	8.20	29.45	27.45	2.29	2.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	3:48:00 PM	8.61	8.26	29.47	27.47	2.62	4.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Middle	3.70	3:47:00 PM	8.54	8.17	29.42	27.54	2.44	3.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Middle	3.70	3:47:00 PM	8.47	8.30	29.37	27.53	2.06	2.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.40	3:46:00 PM	8.44	8.31	29.60	27.49	1.94	2.00
WSR03	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.40	3:46:00 PM	8.64	8.31	29.72	27.47	1.93	4.00
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:33:00 PM	8.11	8.28	31.18	26.99	2.88	4.00
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:33:00 PM	8.16	8.29	31.08	26.92	2.80	6.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.25	4:32:00 PM	8.09	8.31	31.09	27.07	2.64	4.00
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.25	4:32:00 PM	8.23	8.23	31.29	27.08	2.95	6.00
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Bottom	7.50	4:31:00 PM	7.95	8.28	31.10	26.90	2.46	5.00
WSR03	20211018	Cloudy	Moderate	Mid-Flood	Bottom	7.50	4:31:00 PM	8.08	8.30	31.26	27.07	2.71	6.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:14:00 PM	8.37	8.11	29.98	27.90	3.44	2.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:14:00 PM	8.39	8.12	30.14	27.83	3.59	2.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Middle	4.10	4:13:00 PM	8.07	8.13	29.95	27.86	3.45	3.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Middle	4.10	4:13:00 PM	8.35	8.14	30.31	27.89	3.02	2.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Bottom	7.20	4:12:00 PM	8.29	8.16	30.18	27.82	2.68	4.00
WSR03	20211020	Sunny	Moderate	Mid-Flood	Bottom	7.20	4:12:00 PM	8.32	7.99	30.38	27.70	3.03	4.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:57:00 AM	8.93	8.12	30.97	26.77	2.68	15.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	8:57:00 AM	8.80	8.13	31.05	26.80	2.57	14.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.95	8:56:00 AM	8.88	8.17	30.87	26.95	1.94	4.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.95	8:56:00 AM	8.80	8.18	30.86	26.93	2.27	2.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.90	8:55:00 AM	8.96	8.14	31.15	26.91	1.61	14.00
WSR03	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.90	8:55:00 AM	8.98	8.16	31.07	26.81	1.60	14.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:54:00 AM	9.47	8.31	30.94	26.63	3.31	4.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	8:54:00 AM	9.64	8.22	30.81	26.51	3.70	5.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Middle	3.80	8:53:00 AM	9.46	8.26	30.81	26.66	3.44	6.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Middle	3.80	8:53:00 AM	9.59	8.21	30.73	26.51	3.12	3.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.60	8:52:00 AM	9.42	8.22	30.78	26.51	2.76	4.00
WSR03	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.60	8:52:00 AM	9.57	8.22	30.80	26.61	2.73	4.00
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:11:00 AM	8.27	8.29	29.87	27.41	5.06	7.00
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:11:00 AM	8.16	8.16	29.72	27.19	5.32	7.00
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.70	10:10:00 AM	8.53	8.21	30.21	27.38	4.90	9.00
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.70	10:10:00 AM	8.49	8.25	30.22	27.37	5.58	9.00
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Bottom	6.40	10:09:00 AM	8.32	8.18	29.86	27.27	5.00	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211027	Cloudy	Moderate	Mid-Flood	Bottom	6.40	10:09:00 AM	8.49	8.26	29.87	27.39	5.11	3.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:40:00 PM	9.02	8.51	32.12	28.31	3.09	6.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:40:00 PM	9.02	8.44	32.17	28.33	2.89	6.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.90	4:39:00 PM	8.99	8.44	32.22	28.30	2.89	12.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.90	4:39:00 PM	8.94	8.43	32.07	28.24	2.77	10.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.80	4:38:00 PM	9.11	8.46	32.10	28.41	3.33	9.00
WSR03	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.80	4:38:00 PM	9.11	8.49	32.17	28.41	3.75	9.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:29:00 PM	9.24	8.13	30.36	29.95	1.99	12.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:29:00 PM	8.80	8.21	30.26	30.11	2.34	13.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:28:00 PM	8.85	8.11	30.39	29.98	2.40	15.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:28:00 PM	8.98	8.27	30.44	30.12	2.53	13.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:27:00 PM	9.30	8.26	30.40	30.16	2.20	14.00
WSR04	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:27:00 PM	9.10	8.23	30.26	30.04	2.33	12.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:13:00 PM	8.50	8.20	30.30	29.50	3.40	11.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:13:00 PM	8.90	8.20	30.40	29.60	3.60	10.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.80	5:12:00 PM	8.50	8.20	30.30	29.80	3.50	11.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.80	5:12:00 PM	8.60	8.20	30.50	29.50	3.10	11.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.50	5:11:00 PM	8.60	8.10	30.50	29.80	3.00	11.00
WSR04	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.50	5:11:00 PM	8.80	8.20	30.50	29.50	2.60	11.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:03:00 PM	10.03	8.54	31.58	28.94	4.73	14.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:03:00 PM	10.08	8.47	31.29	28.80	5.09	12.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.40	5:02:00 PM	10.01	8.59	31.45	28.92	4.55	13.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.40	5:02:00 PM	10.07	8.49	31.30	28.88	4.46	14.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Bottom	5.80	5:01:00 PM	10.03	8.50	31.57	28.81	4.49	9.00
WSR04	20211007	Cloudy	Moderate	Mid-Flood	Bottom	5.80	5:01:00 PM	10.04	8.52	31.37	28.92	4.38	9.00
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:07:00 PM	8.79	8.32	30.32	27.54	2.93	6.00
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:07:00 PM	8.74	8.30	30.58	27.37	3.13	5.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.40	2:06:00 PM	8.71	8.27	30.33	27.46	3.07	4.00
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.40	2:06:00 PM	8.81	8.34	30.41	27.53	2.58	7.00
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Bottom	5.80	2:05:00 PM	8.64	8.31	30.42	27.55	2.44	6.00
WSR04	20211014	Cloudy	Moderate	Mid-Flood	Bottom	5.80	2:05:00 PM	8.70	8.35	30.48	27.53	2.85	6.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:02:00 PM	8.07	8.13	29.83	27.44	2.82	5.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:02:00 PM	7.84	8.26	29.90	27.50	2.83	3.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Middle	3.65	4:01:00 PM	8.29	8.14	30.11	27.44	2.97	3.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Middle	3.65	4:01:00 PM	7.99	8.25	30.08	27.38	2.87	2.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.30	4:00:00 PM	7.95	8.27	30.21	27.42	2.87	3.00
WSR04	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.30	4:00:00 PM	7.94	8.29	29.89	27.54	2.78	3.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:45:00 PM	8.73	8.13	30.83	27.07	2.66	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:45:00 PM	8.62	8.16	30.64	27.01	3.04	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.55	4:44:00 PM	8.57	8.17	31.00	27.03	2.47	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.55	4:44:00 PM	8.54	8.15	30.79	27.00	2.38	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Bottom	6.10	4:43:00 PM	8.74	8.14	30.83	26.91	2.64	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Flood	Bottom	6.10	4:43:00 PM	8.78	8.10	30.43	26.81	2.74	5.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:30:00 PM	7.90	8.03	30.36	28.27	4.11	3.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:30:00 PM	8.53	7.86	30.21	28.16	3.80	3.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Middle	3.40	4:29:00 PM	8.31	7.85	29.90	28.29	3.21	2.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Middle	3.40	4:29:00 PM	8.18	7.96	30.42	28.25	3.26	3.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Bottom	5.80	4:28:00 PM	8.28	7.85	30.14	28.31	2.86	4.00
WSR04	20211020	Sunny	Moderate	Mid-Flood	Bottom	5.80	4:28:00 PM	8.09	7.88	29.91	28.12	2.86	2.00
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:09:00 AM	8.34	8.19	30.78	26.50	2.31	5.00
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:09:00 AM	8.33	8.17	30.77	26.41	2.77	7.00
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.85	9:08:00 AM	8.46	8.22	30.78	26.53	2.25	12.00
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.85	9:08:00 AM	8.30	8.19	30.66	26.40	2.30	12.00
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.70	9:07:00 AM	8.29	8.19	30.78	26.56	1.99	9.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR04	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.70	9:07:00 AM	8.51	8.15	30.88	26.41	2.31	9.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:06:00 AM	9.39	8.13	31.47	26.47	3.10	4.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:06:00 AM	9.36	8.12	31.44	26.60	3.38	3.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Middle	3.70	9:05:00 AM	9.62	8.17	31.52	26.61	3.17	7.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Middle	3.70	9:05:00 AM	9.43	8.20	31.44	26.46	2.99	7.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.40	9:04:00 AM	9.65	8.13	31.27	26.49	2.63	5.00
WSR04	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.40	9:04:00 AM	9.40	8.18	31.42	26.57	2.42	4.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:22:00 AM	8.46	8.13	29.93	27.04	5.32	4.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:22:00 AM	8.41	8.03	29.70	27.07	5.61	4.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.40	10:21:00 AM	8.65	8.08	29.54	27.00	4.82	6.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.40	10:21:00 AM	8.43	8.06	29.64	27.07	5.53	8.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Bottom	5.80	10:20:00 AM	8.45	8.01	29.62	27.11	4.83	9.00
WSR04	20211027	Cloudy	Moderate	Mid-Flood	Bottom	5.80	10:20:00 AM	8.60	8.13	29.93	27.09	4.79	9.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:52:00 PM	9.19	8.21	32.60	28.36	1.72	8.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:52:00 PM	9.11	8.22	32.66	28.23	1.88	8.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.90	4:51:00 PM	9.23	8.21	32.66	28.24	2.07	9.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.90	4:51:00 PM	9.21	8.24	32.77	28.34	1.75	9.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.80	4:50:00 PM	9.09	8.22	32.65	28.28	2.58	8.00
WSR04	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.80	4:50:00 PM	9.18	8.28	32.72	28.34	2.16	8.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:32:00 PM	8.88	8.27	31.27	30.16	3.37	10.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:32:00 PM	8.76	8.27	31.22	30.03	3.02	11.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Middle	7.80	5:31:00 PM	8.87	8.23	31.10	29.99	2.39	14.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Middle	7.80	5:31:00 PM	9.00	8.26	31.18	29.97	2.45	11.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Bottom	14.60	5:30:00 PM	8.69	8.18	31.38	29.93	2.15	14.00
WSR16	20211002	Sunny	Moderate	Mid-Flood	Bottom	14.60	5:30:00 PM	8.90	8.16	31.26	30.15	2.46	13.00
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:12:00 PM	8.20	8.40	31.10	29.50	3.10	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:12:00 PM	8.30	8.30	30.90	29.40	3.40	11.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Middle	7.90	6:11:00 PM	8.40	8.40	31.00	29.50	2.60	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Middle	7.90	6:11:00 PM	8.10	8.30	30.90	29.50	2.20	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Bottom	14.70	6:10:00 PM	8.20	8.30	31.00	29.60	2.80	14.00
WSR16	20211005	Cloudy	Moderate	Mid-Flood	Bottom	14.70	6:10:00 PM	8.20	8.40	31.10	29.60	2.40	10.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:03:00 PM	9.20	8.38	32.05	29.02	5.63	14.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:03:00 PM	9.35	8.36	32.17	29.00	5.47	12.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Middle	8.00	6:02:00 PM	9.39	8.41	31.88	28.83	4.91	9.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Middle	8.00	6:02:00 PM	9.29	8.27	31.91	28.91	4.97	9.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Bottom	15.00	6:01:00 PM	9.26	8.32	32.01	28.79	5.23	14.00
WSR16	20211007	Cloudy	Moderate	Mid-Flood	Bottom	15.00	6:01:00 PM	9.36	8.28	32.08	28.86	5.08	12.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:09:00 PM	8.63	8.32	30.58	27.62	4.66	6.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	3:09:00 PM	8.61	8.35	30.55	27.68	4.50	5.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Middle	8.30	3:08:00 PM	8.81	8.30	30.46	27.57	4.34	2.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Middle	8.30	3:08:00 PM	8.59	8.35	30.48	27.70	3.76	2.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Bottom	15.60	3:07:00 PM	8.77	8.28	30.51	27.56	3.75	5.00
WSR16	20211014	Cloudy	Moderate	Mid-Flood	Bottom	15.60	3:07:00 PM	8.72	8.27	30.51	27.64	3.66	6.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	5:04:00 PM	8.19	8.19	29.49	27.41	2.83	4.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	5:04:00 PM	8.15	8.20	29.35	27.37	2.59	4.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Middle	8.50	5:03:00 PM	8.09	8.15	29.37	27.46	2.95	3.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Middle	8.50	5:03:00 PM	7.90	8.05	29.30	27.48	3.12	2.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Bottom	16.00	5:02:00 PM	7.81	8.09	29.20	27.38	2.72	7.00
WSR16	20211016	Sunny	Moderate	Mid-Flood	Bottom	16.00	5:02:00 PM	8.05	8.22	29.41	27.38	2.50	7.00
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:44:00 PM	8.90	8.29	30.95	26.77	2.50	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:44:00 PM	8.90	8.29	30.87	26.63	2.69	4.00
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Middle	8.60	5:43:00 PM	9.14	8.32	30.85	26.52	2.27	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Middle	8.60	5:43:00 PM	9.16	8.34	30.72	26.51	2.23	4.00
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Bottom	16.20	5:42:00 PM	9.12	8.39	30.79	26.65	1.82	12.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211018	Cloudy	Moderate	Mid-Flood	Bottom	16.20	5:42:00 PM	9.19	8.40	31.01	26.67	1.89	12.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:37:00 PM	8.91	8.05	29.15	28.02	5.63	3.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:37:00 PM	8.94	8.09	29.34	27.98	5.48	2.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Middle	8.20	5:36:00 PM	8.47	8.00	29.42	28.06	5.31	2.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Middle	8.20	5:36:00 PM	8.66	8.01	29.29	28.00	5.39	3.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Bottom	15.40	5:35:00 PM	9.01	7.99	29.24	27.94	5.23	5.00
WSR16	20211020	Sunny	Moderate	Mid-Flood	Bottom	15.40	5:35:00 PM	8.67	8.01	29.21	28.01	5.17	4.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	10:12:00 AM	8.38	8.18	30.93	26.96	2.41	5.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	10:12:00 AM	8.27	8.11	30.95	26.93	2.71	6.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Middle	8.00	10:11:00 AM	8.32	8.11	30.91	27.05	2.36	4.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Middle	8.00	10:11:00 AM	8.37	8.14	30.75	27.02	2.34	6.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Bottom	15.00	10:10:00 AM	8.43	8.16	30.97	27.11	2.07	9.00
WSR16	20211023	Cloudy	Modrate	Mid-Flood	Bottom	15.00	10:10:00 AM	8.51	8.15	30.89	27.11	2.05	9.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	10:07:00 AM	8.81	8.27	31.24	26.65	3.21	5.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	10:07:00 AM	8.70	8.26	31.39	26.66	2.80	3.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Middle	7.75	10:06:00 AM	8.92	8.29	31.29	26.61	3.02	3.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Middle	7.75	10:06:00 AM	8.87	8.28	31.20	26.60	3.04	4.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Bottom	14.50	10:05:00 AM	8.96	8.29	31.17	26.50	2.47	9.00
WSR16	20211025	Sunny	Moderate	Mid-Flood	Bottom	14.50	10:05:00 AM	8.87	8.24	31.20	26.43	2.25	7.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	11:20:00 AM	8.11	8.07	29.42	26.92	5.07	7.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	11:20:00 AM	8.15	8.14	29.48	26.78	5.62	7.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Middle	7.65	11:19:00 AM	8.30	8.16	29.05	26.77	5.33	2.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Middle	7.65	11:19:00 AM	8.18	8.04	28.99	26.84	4.93	4.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Bottom	14.30	11:18:00 AM	8.19	8.14	29.43	26.90	4.94	6.00
WSR16	20211027	Cloudy	Moderate	Mid-Flood	Bottom	14.30	11:18:00 AM	8.09	8.15	29.26	26.92	5.28	6.00
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:00:00 PM	8.37	8.45	32.35	27.80	3.25	7.00
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	6:00:00 PM	8.25	8.44	32.21	27.82	3.21	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Middle	7.75	5:59:00 PM	8.32	8.45	32.33	27.89	2.95	9.00
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Middle	7.75	5:59:00 PM	8.40	8.41	32.41	27.77	3.21	9.00
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Bottom	14.50	5:58:00 PM	8.38	8.47	32.32	27.85	2.66	2.00
WSR16	20211029	Cloudy	Moderate	Mid-Flood	Bottom	14.50	5:58:00 PM	8.43	8.42	32.23	27.88	3.17	2.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	9.26	8.29	30.78	30.02	2.31	13.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	9.12	8.39	30.67	30.01	2.23	12.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:42:00 PM	8.96	8.29	30.76	30.01	2.42	12.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:42:00 PM	8.92	8.37	30.65	30.02	2.04	13.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:41:00 PM	9.03	8.30	30.58	30.19	2.66	12.00
WSR33	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:41:00 PM	8.77	8.37	30.64	29.93	2.31	12.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:25:00 PM	8.40	8.20	30.60	29.60	3.40	10.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:25:00 PM	8.70	8.30	30.70	29.60	3.40	10.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.60	5:24:00 PM	8.80	8.30	30.50	29.80	3.00	12.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.60	5:24:00 PM	8.50	8.20	30.50	29.80	3.20	10.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.10	5:23:00 PM	8.70	8.30	30.80	29.60	2.60	11.00
WSR33	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.10	5:23:00 PM	8.80	8.30	30.50	29.80	3.00	12.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:16:00 PM	9.31	8.49	31.32	28.78	6.08	14.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:16:00 PM	9.25	8.51	31.28	28.81	5.53	12.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.50	5:15:00 PM	9.19	8.53	31.11	28.58	5.94	13.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.50	5:15:00 PM	9.20	8.53	31.43	28.59	5.71	11.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.00	5:14:00 PM	9.19	8.38	31.29	28.76	5.21	12.00
WSR33	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.00	5:14:00 PM	9.32	8.51	31.44	28.66	5.26	13.00
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:21:00 PM	8.53	8.29	30.44	27.55	3.10	6.00
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:21:00 PM	8.67	8.31	30.48	27.61	3.41	5.00
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.55	2:20:00 PM	8.61	8.27	30.49	27.56	2.87	7.00
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.55	2:20:00 PM	8.78	8.32	30.55	27.56	3.42	9.00
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Bottom	6.10	2:19:00 PM	8.61	8.33	30.31	27.58	3.07	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR33	20211014	Cloudy	Moderate	Mid-Flood	Bottom	6.10	2:19:00 PM	8.55	8.26	30.42	27.66	2.67	7.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:16:00 PM	8.79	8.23	30.41	27.81	3.18	12.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:16:00 PM	9.17	8.14	30.24	27.83	2.81	9.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Middle	3.65	4:15:00 PM	9.16	8.11	30.33	27.93	2.85	3.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Middle	3.65	4:15:00 PM	8.60	8.16	30.29	27.91	2.55	3.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.30	4:14:00 PM	8.56	8.14	30.20	27.76	2.33	5.00
WSR33	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.30	4:14:00 PM	8.95	8.21	30.27	27.92	2.26	5.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:57:00 PM	8.07	8.36	31.55	26.40	3.07	14.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	4:57:00 PM	8.08	8.25	31.28	26.24	3.20	14.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.70	4:56:00 PM	8.22	8.26	31.08	26.41	2.92	12.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.70	4:56:00 PM	8.03	8.30	31.55	26.21	2.85	12.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Bottom	6.40	4:55:00 PM	8.18	8.42	31.45	26.31	2.36	11.00
WSR33	20211018	Cloudy	Moderate	Mid-Flood	Bottom	6.40	4:55:00 PM	7.99	8.36	31.27	26.33	2.74	11.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	7.81	8.18	29.26	28.22	3.31	4.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	8.05	8.14	29.28	28.24	3.06	3.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Middle	3.70	4:42:00 PM	7.63	8.20	29.06	28.26	2.88	8.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Middle	3.70	4:42:00 PM	7.88	8.26	29.16	28.33	2.80	8.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.40	4:41:00 PM	7.68	8.27	29.15	28.28	2.49	4.00
WSR33	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.40	4:41:00 PM	8.10	8.15	29.58	28.27	2.79	2.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:24:00 AM	9.35	8.24	31.03	26.38	2.74	4.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:24:00 AM	9.13	8.25	30.66	26.37	2.70	5.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.85	9:23:00 AM	9.28	8.22	31.02	26.41	2.80	9.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.85	9:23:00 AM	9.40	8.25	31.00	26.36	2.75	9.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.70	9:22:00 AM	9.31	8.24	30.73	26.26	2.05	9.00
WSR33	20211023	Cloudy	Modrate	Mid-Flood	Bottom	6.70	9:22:00 AM	9.16	8.19	30.71	26.27	2.38	9.00
WSR33	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:20:00 AM	8.87	8.27	30.60	26.35	2.61	8.00
WSR33	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:20:00 AM	8.74	8.36	30.79	26.38	3.02	9.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR33	20211025	Sunny	Moderate	Mid-Flood	Middle	3.60	9:19:00 AM	8.68	8.34	30.66	26.50	2.65	14.00
WSR33	20211025	Sunny	Moderate	Mid-Flood	Middle	3.60	9:19:00 AM	8.83	8.36	30.81	26.37	3.00	14.00
WSR33	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.20	9:18:00 AM	8.94	8.33	30.56	26.42	2.44	10.00
WSR33	20211025	Sunny	Moderate	Mid-Flood	Bottom	6.20	9:18:00 AM	8.76	8.36	30.76	26.49	2.45	8.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:34:00 AM	8.88	8.20	30.05	26.78	4.94	4.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:34:00 AM	9.19	8.32	29.92	26.87	5.06	3.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.70	10:33:00 AM	9.19	8.21	30.11	26.76	4.42	4.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.70	10:33:00 AM	8.85	8.19	29.92	26.80	5.22	4.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Bottom	6.40	10:32:00 AM	9.24	8.30	30.03	26.92	4.98	4.00
WSR33	20211027	Cloudy	Moderate	Mid-Flood	Bottom	6.40	10:32:00 AM	8.96	8.19	29.71	26.93	4.72	5.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:08:00 PM	8.01	8.15	31.74	27.79	3.42	3.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:08:00 PM	8.03	8.12	31.84	27.76	3.64	3.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.70	5:07:00 PM	8.06	8.15	31.86	27.82	3.76	2.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.70	5:07:00 PM	8.04	8.08	31.86	27.70	3.71	2.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.40	5:06:00 PM	7.95	8.10	31.75	27.78	3.56	3.00
WSR33	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.40	5:06:00 PM	8.04	8.16	31.70	27.73	3.02	2.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:57:00 PM	8.23	8.36	30.49	30.09	2.23	13.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	4:57:00 PM	8.12	8.40	30.55	30.08	2.49	14.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:57:00 PM	7.83	8.27	30.61	30.09	2.08	14.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Middle	3.50	4:57:00 PM	8.16	8.25	30.50	30.08	2.47	14.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:56:00 PM	8.20	8.34	30.35	30.07	1.86	11.00
WSR36	20211002	Sunny	Moderate	Mid-Flood	Bottom	6.00	4:56:00 PM	7.98	8.36	30.63	30.08	2.08	14.00
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:36:00 PM	8.60	8.30	30.70	29.40	3.30	10.00
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:36:00 PM	8.60	8.40	30.80	29.50	3.30	8.00
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.50	5:36:00 PM	8.60	8.40	30.60	29.40	2.70	9.00
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Middle	3.50	5:36:00 PM	8.60	8.30	30.60	29.30	2.80	10.00
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.00	5:35:00 PM	8.30	8.30	30.80	29.50	2.90	11.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR36	20211005	Cloudy	Moderate	Mid-Flood	Bottom	6.00	5:35:00 PM	8.20	8.40	30.60	29.50	3.30	11.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:28:00 PM	10.14	8.40	32.12	28.54	5.08	5.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:28:00 PM	10.16	8.37	32.09	28.47	5.53	5.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.20	5:28:00 PM	10.04	8.24	32.21	28.55	4.99	5.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.20	5:28:00 PM	10.15	8.42	32.12	28.58	5.42	5.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Bottom	5.40	5:27:00 PM	9.97	8.34	32.18	28.48	4.62	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Flood	Bottom	5.40	5:27:00 PM	10.16	8.36	32.13	28.53	4.81	10.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:34:00 PM	8.75	8.27	30.45	27.91	2.85	6.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:34:00 PM	8.78	8.28	30.43	27.95	3.34	8.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.25	2:34:00 PM	8.60	8.33	30.48	27.92	2.84	9.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.25	2:34:00 PM	8.72	8.34	30.36	27.90	2.66	11.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Bottom	5.50	2:33:00 PM	8.73	8.26	30.33	27.81	2.92	7.00
WSR36	20211014	Cloudy	Moderate	Mid-Flood	Bottom	5.50	2:33:00 PM	8.77	8.34	30.33	27.89	2.57	10.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:29:00 PM	8.28	8.07	29.94	27.30	2.58	7.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:29:00 PM	7.79	8.14	29.80	27.31	2.78	7.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Middle	3.85	4:29:00 PM	7.68	7.99	29.67	27.23	2.84	11.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Middle	3.85	4:29:00 PM	7.64	8.12	29.87	27.33	2.83	10.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.70	4:28:00 PM	8.28	8.03	29.97	27.37	2.73	2.00
WSR36	20211016	Sunny	Moderate	Mid-Flood	Bottom	6.70	4:28:00 PM	8.14	8.07	29.68	27.24	2.69	4.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:09:00 PM	8.04	8.21	31.33	26.96	2.79	10.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:09:00 PM	8.17	8.09	31.47	26.69	3.06	10.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.40	5:09:00 PM	8.32	8.08	31.90	26.79	2.37	16.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Middle	3.40	5:09:00 PM	8.25	8.23	31.93	26.90	2.07	18.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Bottom	5.80	5:08:00 PM	8.11	8.19	31.34	26.94	2.60	9.00
WSR36	20211018	Cloudy	Moderate	Mid-Flood	Bottom	5.80	5:08:00 PM	8.29	8.10	31.88	26.74	2.55	9.00
WSR36	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:59:00 PM	8.29	8.09	29.57	27.96	4.20	4.00
WSR36	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	4:59:00 PM	8.00	8.07	29.94	27.94	3.91	3.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR36	20211020	Sunny	Moderate	Mid-Flood	Middle	3.55	4:59:00 PM	8.16	7.96	29.94	27.83	3.89	2.00
WSR36	20211020	Sunny	Moderate	Mid-Flood	Middle	3.55	4:59:00 PM	8.35	8.09	29.83	27.79	3.99	2.00
WSR36	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.10	4:58:00 PM	8.23	8.09	29.51	27.82	3.35	7.00
WSR36	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.10	4:58:00 PM	8.03	7.97	29.82	27.81	3.37	7.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:36:00 AM	8.55	8.37	30.83	26.87	2.15	9.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:36:00 AM	8.65	8.43	30.86	26.77	2.19	9.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.15	9:36:00 AM	8.64	8.40	30.74	26.89	2.02	5.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Middle	3.15	9:36:00 AM	8.74	8.41	30.65	26.80	2.35	5.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Bottom	5.30	9:35:00 AM	8.56	8.45	30.83	26.86	1.46	6.00
WSR36	20211023	Cloudy	Modrate	Mid-Flood	Bottom	5.30	9:35:00 AM	8.61	8.37	30.88	26.79	1.52	6.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:32:00 AM	9.74	8.30	31.38	26.87	3.13	10.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:32:00 AM	9.78	8.36	31.20	26.97	2.66	11.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Middle	3.15	9:32:00 AM	9.56	8.37	31.23	26.93	3.02	10.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Middle	3.15	9:32:00 AM	9.64	8.32	31.31	26.91	2.79	11.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Bottom	5.30	9:31:00 AM	9.62	8.39	31.29	26.95	2.88	7.00
WSR36	20211025	Sunny	Moderate	Mid-Flood	Bottom	5.30	9:31:00 AM	9.74	8.40	31.21	26.85	2.62	10.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:45:00 AM	8.55	8.04	30.06	27.05	4.97	9.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:45:00 AM	8.85	7.92	30.42	26.98	5.17	9.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.30	10:45:00 AM	8.64	7.92	30.51	27.09	4.82	4.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Middle	3.30	10:45:00 AM	8.72	8.00	30.45	26.96	4.62	4.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Bottom	5.60	10:44:00 AM	8.75	7.97	30.38	26.96	4.23	6.00
WSR36	20211027	Cloudy	Moderate	Mid-Flood	Bottom	5.60	10:44:00 AM	8.88	7.95	30.24	27.01	4.55	6.00
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:22:00 PM	9.53	8.39	32.31	28.23	3.36	5.00
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:22:00 PM	9.48	8.37	32.19	28.18	3.45	3.00
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.65	5:22:00 PM	9.50	8.33	32.18	28.23	3.32	2.00
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Middle	3.65	5:22:00 PM	9.43	8.37	32.20	28.16	2.98	3.00
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.30	5:21:00 PM	9.57	8.35	32.33	28.22	3.63	2.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR36	20211029	Cloudy	Moderate	Mid-Flood	Bottom	6.30	5:21:00 PM	9.46	8.32	32.28	28.12	3.61	2.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:11:00 PM	8.03	8.37	31.37	30.07	2.34	15.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Surface	1.00	5:11:00 PM	7.93	8.37	31.19	29.93	2.58	12.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Middle	4.15	5:10:00 PM	7.89	8.26	31.45	30.05	2.07	11.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Middle	4.15	5:10:00 PM	7.98	8.31	31.29	30.14	2.33	12.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.30	5:09:00 PM	8.18	8.22	31.25	29.93	1.95	13.00
WSR37	20211002	Sunny	Moderate	Mid-Flood	Bottom	7.30	5:09:00 PM	8.31	8.33	31.36	30.08	2.31	12.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:50:00 PM	9.30	8.40	31.40	30.00	3.60	8.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:50:00 PM	9.20	8.40	31.20	29.80	3.80	10.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.30	5:49:00 PM	8.90	8.40	31.20	30.00	3.70	9.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Middle	4.30	5:49:00 PM	9.20	8.40	31.30	29.80	3.30	10.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.60	5:48:00 PM	8.90	8.40	31.10	29.80	3.10	10.00
WSR37	20211005	Cloudy	Moderate	Mid-Flood	Bottom	7.60	5:48:00 PM	9.20	8.30	31.10	30.00	2.70	12.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:42:00 PM	9.89	8.47	31.36	29.13	5.77	13.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:42:00 PM	10.09	8.52	31.63	29.13	5.83	17.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.85	5:41:00 PM	10.11	8.48	31.43	29.15	5.27	9.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Middle	3.85	5:41:00 PM	10.16	8.44	31.40	29.25	5.29	9.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.70	5:40:00 PM	10.02	8.44	31.63	29.07	5.56	14.00
WSR37	20211007	Cloudy	Moderate	Mid-Flood	Bottom	6.70	5:40:00 PM	10.08	8.42	31.46	29.08	4.88	15.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:48:00 PM	8.54	8.30	30.56	27.57	2.80	9.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Surface	1.00	2:48:00 PM	8.61	8.30	30.38	27.62	3.26	8.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.95	2:47:00 PM	8.52	8.34	30.35	27.63	2.77	10.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Middle	3.95	2:47:00 PM	8.52	8.31	30.39	27.55	2.59	10.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Bottom	6.90	2:46:00 PM	8.50	8.29	30.52	27.66	2.65	15.00
WSR37	20211014	Cloudy	Moderate	Mid-Flood	Bottom	6.90	2:46:00 PM	8.50	8.27	30.43	27.54	2.28	14.00
WSR37	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	7.80	8.24	29.77	27.27	2.99	8.00
WSR37	20211016	Sunny	Moderate	Mid-Flood	Surface	1.00	4:43:00 PM	8.14	8.30	29.85	27.32	2.74	8.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211016	Sunny	Moderate	Mid-Flood	Middle	4.40	4:42:00 PM	7.80	8.33	29.98	27.26	2.02	6.00
WSR37	20211016	Sunny	Moderate	Mid-Flood	Middle	4.40	4:42:00 PM	7.77	8.26	29.62	27.20	2.04	6.00
WSR37	20211016	Sunny	Moderate	Mid-Flood	Bottom	7.80	4:41:00 PM	7.89	8.22	29.97	27.25	2.08	7.00
WSR37	20211016	Sunny	Moderate	Mid-Flood	Bottom	7.80	4:41:00 PM	7.86	8.34	29.65	27.31	2.35	7.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:23:00 PM	8.92	8.33	31.41	26.65	2.92	17.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:23:00 PM	9.17	8.29	31.49	26.50	2.92	15.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.30	5:22:00 PM	9.04	8.38	31.23	26.44	2.84	19.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Middle	4.30	5:22:00 PM	9.11	8.32	31.23	26.35	2.45	19.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Bottom	7.60	5:21:00 PM	9.17	8.28	31.55	26.56	2.39	13.00
WSR37	20211018	Cloudy	Moderate	Mid-Flood	Bottom	7.60	5:21:00 PM	9.10	8.41	31.50	26.48	2.23	15.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:15:00 PM	7.98	8.08	29.14	28.25	3.94	2.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Surface	1.00	5:15:00 PM	7.78	8.11	29.17	28.31	3.46	2.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Middle	3.90	5:14:00 PM	7.96	8.15	29.47	28.25	3.23	7.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Middle	3.90	5:14:00 PM	8.12	8.25	29.30	28.23	3.53	7.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.80	5:13:00 PM	7.72	8.16	29.65	28.27	3.59	6.00
WSR37	20211020	Sunny	Moderate	Mid-Flood	Bottom	6.80	5:13:00 PM	7.94	8.14	29.63	28.20	3.35	6.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:50:00 AM	8.88	8.15	31.45	26.70	2.46	11.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Surface	1.00	9:50:00 AM	8.99	8.22	31.40	26.51	2.44	11.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.05	9:49:00 AM	8.89	8.18	31.27	26.57	2.13	10.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Middle	4.05	9:49:00 AM	9.01	8.18	31.37	26.51	2.42	10.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Bottom	7.10	9:48:00 AM	8.92	8.17	31.23	26.54	1.57	6.00
WSR37	20211023	Cloudy	Modrate	Mid-Flood	Bottom	7.10	9:48:00 AM	8.95	8.21	31.31	26.61	1.77	6.00
WSR37	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:46:00 AM	9.30	8.26	30.45	26.80	3.08	9.00
WSR37	20211025	Sunny	Moderate	Mid-Flood	Surface	1.00	9:46:00 AM	9.19	8.28	30.43	26.90	3.02	10.00
WSR37	20211025	Sunny	Moderate	Mid-Flood	Middle	4.45	9:45:00 AM	9.14	8.28	30.51	26.72	2.26	10.00
WSR37	20211025	Sunny	Moderate	Mid-Flood	Middle	4.45	9:45:00 AM	9.11	8.33	30.61	26.77	2.42	9.00
WSR37	20211025	Sunny	Moderate	Mid-Flood	Bottom	7.90	9:44:00 AM	9.20	8.31	30.49	26.79	2.33	11.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211025	Sunny	Moderate	Mid-Flood	Bottom	7.90	9:44:00 AM	9.33	8.30	30.61	26.84	2.36	10.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:59:00 AM	8.49	8.23	29.29	26.98	4.36	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:59:00 AM	8.94	8.24	29.29	26.96	4.37	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.05	10:58:00 AM	8.60	8.25	29.47	26.98	4.06	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Middle	4.05	10:58:00 AM	8.75	8.20	29.43	27.05	4.49	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Bottom	7.10	10:57:00 AM	8.71	8.29	29.32	27.01	4.15	3.00
WSR37	20211027	Cloudy	Moderate	Mid-Flood	Bottom	7.10	10:57:00 AM	8.65	8.19	29.44	26.90	3.67	3.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:37:00 PM	9.36	8.24	33.19	27.75	3.95	3.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Surface	1.00	5:37:00 PM	9.26	8.26	33.30	27.74	3.68	2.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.00	5:36:00 PM	9.42	8.27	33.32	27.72	4.09	5.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Middle	4.00	5:36:00 PM	9.32	8.30	33.14	27.70	3.44	5.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Bottom	7.00	5:35:00 PM	9.24	8.30	33.22	27.76	3.67	10.00
WSR37	20211029	Cloudy	Moderate	Mid-Flood	Bottom	7.00	5:35:00 PM	9.40	8.26	33.30	27.75	3.89	10.00

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

Note 2: Measurement data of Suspending Solids would be rounding to 2.5mg/L if the value was less than 2.5mg/L to facilitate data analysing

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.99	8.31	30.86	30.17	3.07	14.00
CE	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.71	8.37	30.93	30.03	2.86	14.00
CE	20211002	Sunny	Moderate	Mid-Ebb	Middle	11.25	8:01:00 AM	9.08	8.28	30.61	29.98	3.33	12.00
CE	20211002	Sunny	Moderate	Mid-Ebb	Middle	11.25	8:01:00 AM	8.90	8.38	30.60	30.01	3.14	13.00
CE	20211002	Sunny	Moderate	Mid-Ebb	Bottom	21.50	8:00:00 AM	8.58	8.28	30.64	30.08	3.78	13.00
CE	20211002	Sunny	Moderate	Mid-Ebb	Bottom	21.50	8:00:00 AM	8.90	8.24	30.57	30.05	3.40	15.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:41:00 AM	9.27	8.35	32.07	29.90	3.62	12.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:41:00 AM	9.34	8.38	31.89	29.71	3.36	12.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Middle	11.35	9:40:00 AM	9.57	8.37	31.89	29.92	4.55	8.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Middle	11.35	9:40:00 AM	9.45	8.33	32.05	29.75	5.07	7.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	21.70	9:39:00 AM	9.22	8.28	31.80	29.88	4.33	8.00
CE	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	21.70	9:39:00 AM	9.30	8.35	31.78	29.86	3.98	8.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:07:00 AM	8.94	8.31	32.08	28.89	5.47	11.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:07:00 AM	8.88	8.35	32.27	28.73	5.23	11.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Middle	10.60	11:06:00 AM	8.83	8.27	32.20	28.76	5.19	15.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Middle	10.60	11:06:00 AM	8.91	8.27	32.12	28.90	5.11	15.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	20.20	11:05:00 AM	9.05	8.32	32.27	28.81	5.16	9.00
CE	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	20.20	11:05:00 AM	8.88	8.34	32.21	28.72	5.23	9.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.35	8.36	31.08	26.91	5.67	6.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.24	8.39	31.35	27.22	5.55	3.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Middle	10.45	8:01:00 AM	8.46	8.41	31.11	26.94	5.09	6.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Middle	10.45	8:01:00 AM	8.37	8.38	31.17	26.92	4.73	6.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	19.90	8:00:00 AM	8.24	8.41	31.08	27.23	4.89	7.00
CE	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	19.90	8:00:00 AM	8.22	8.44	31.13	27.07	4.73	6.00
CE	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.99	8.18	29.85	27.61	5.75	8.00
CE	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	9.04	8.20	30.11	27.77	6.44	8.00
CE	20211016	Sunny	Moderate	Mid-Ebb	Middle	11.20	8:01:00 AM	8.89	8.20	30.08	27.84	5.61	5.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211016	Sunny	Moderate	Mid-Ebb	Middle	11.20	8:01:00 AM	9.05	8.19	29.92	27.64	5.44	2.00
CE	20211016	Sunny	Moderate	Mid-Ebb	Bottom	21.40	8:00:00 AM	8.60	8.20	30.05	27.69	5.46	5.00
CE	20211016	Sunny	Moderate	Mid-Ebb	Bottom	21.40	8:00:00 AM	8.59	8.16	30.13	27.68	5.47	3.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:05:00 AM	8.65	8.33	31.56	26.54	4.08	5.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:05:00 AM	8.78	8.34	31.49	26.59	4.01	7.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Middle	11.45	9:04:00 AM	8.70	8.34	31.36	26.61	4.41	7.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Middle	11.45	9:04:00 AM	8.65	8.32	31.39	26.62	4.69	7.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	21.90	9:03:00 AM	8.67	8.24	31.60	26.68	4.48	7.00
CE	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	21.90	9:03:00 AM	8.80	8.28	31.41	26.63	4.53	6.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:22:00 AM	7.71	8.10	29.27	28.49	5.08	3.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:22:00 AM	7.78	7.96	28.92	28.45	4.81	2.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Middle	10.25	10:21:00 AM	7.61	8.09	28.95	28.44	4.18	7.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Middle	10.25	10:21:00 AM	7.66	8.07	29.07	28.54	4.51	7.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Bottom	19.50	10:20:00 AM	8.09	7.93	29.14	28.41	3.96	6.00
CE	20211020	Sunny	Moderate	Mid-Ebb	Bottom	19.50	10:20:00 AM	7.96	8.02	28.92	28.46	4.60	6.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	11:47:00 AM	9.02	8.24	30.88	26.69	3.27	7.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	11:47:00 AM	8.99	8.24	30.74	26.85	3.65	4.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Middle	10.35	11:46:00 AM	8.97	8.24	30.75	26.76	4.18	5.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Middle	10.35	11:46:00 AM	8.70	8.25	30.84	26.77	3.60	5.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	19.70	11:45:00 AM	8.91	8.18	30.92	26.71	3.63	6.00
CE	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	19.70	11:45:00 AM	8.71	8.24	30.88	26.62	3.76	6.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:39:00 PM	8.47	8.29	31.13	26.93	4.50	3.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:39:00 PM	8.32	8.37	31.33	26.91	4.55	4.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Middle	12.00	12:38:00 PM	8.31	8.36	31.19	26.86	4.74	6.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Middle	12.00	12:38:00 PM	8.38	8.33	31.17	27.01	4.21	3.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Bottom	23.00	12:37:00 PM	8.34	8.34	31.13	26.90	4.89	3.00
CE	20211025	Sunny	Moderate	Mid-Ebb	Bottom	23.00	12:37:00 PM	8.40	8.35	31.10	26.91	4.80	6.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CE	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:47:00 PM	8.80	8.10	29.50	27.40	5.90	4.00
CE	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:47:00 PM	8.80	8.10	29.40	27.40	6.00	4.00
CE	20211027	Cloudy	Moderate	Mid-Ebb	Middle	11.10	1:46:00 PM	8.90	8.10	29.60	27.40	6.80	7.00
CE	20211027	Cloudy	Moderate	Mid-Ebb	Middle	11.10	1:46:00 PM	8.70	8.10	29.60	27.30	5.80	7.00
CE	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	21.10	1:45:00 PM	8.90	8.10	29.60	27.40	6.50	3.00
CE	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	21.10	1:45:00 PM	8.70	8.10	29.70	27.20	6.90	4.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.41	8.20	32.17	27.78	4.16	2.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:02:00 AM	8.48	8.19	32.05	27.81	4.30	2.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Middle	11.25	8:01:00 AM	8.31	8.22	32.16	27.82	3.38	2.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Middle	11.25	8:01:00 AM	8.49	8.20	32.15	27.77	3.71	3.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	21.50	8:00:00 AM	8.36	8.22	32.07	27.90	4.12	4.00
CE	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	21.50	8:00:00 AM	8.42	8.22	32.04	27.87	3.85	2.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:55:00 AM	8.10	8.09	29.96	30.60	3.39	14.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:55:00 AM	8.38	8.23	30.10	30.68	3.18	13.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Middle	9.80	10:54:00 AM	8.53	8.15	30.03	30.66	2.86	11.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Middle	9.80	10:54:00 AM	8.38	8.23	29.90	30.68	3.03	13.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Bottom	18.60	10:53:00 AM	8.10	8.18	30.14	30.57	3.14	14.00
CF	20211002	Sunny	Moderate	Mid-Ebb	Bottom	18.60	10:53:00 AM	8.11	8.13	29.90	30.70	2.90	14.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:05:00 PM	9.05	8.14	31.24	30.21	3.70	9.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:05:00 PM	8.98	8.22	31.06	30.23	3.53	8.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Middle	10.60	12:04:00 PM	9.43	8.28	31.07	30.11	2.69	9.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Middle	10.60	12:04:00 PM	9.42	8.18	31.00	30.05	2.75	9.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	20.20	12:03:00 PM	9.18	8.22	31.26	30.04	3.73	9.00
CF	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	20.20	12:03:00 PM	9.01	8.22	31.15	30.04	3.76	9.00
CF	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:32:00 PM	9.45	8.57	31.56	29.08	6.09	10.00
CF	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:32:00 PM	9.65	8.54	31.47	28.97	6.09	10.00
CF	20211007	Cloudy	Moderate	Mid-Ebb	Middle	9.90	1:31:00 PM	9.43	8.56	31.61	29.00	5.47	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CF	20211007	Cloudy	Moderate	Mid-Ebb	Middle	9.90	1:31:00 PM	9.67	8.57	31.61	29.10	6.15	5.00
CF	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	18.80	1:30:00 PM	9.48	8.45	31.58	29.00	5.35	14.00
CF	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	18.80	1:30:00 PM	9.70	8.45	31.56	29.01	5.43	14.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:37:00 AM	8.47	8.29	30.89	27.25	5.23	5.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:37:00 AM	8.47	8.27	30.95	27.54	5.45	4.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Middle	10.30	10:36:00 AM	8.49	8.27	30.98	27.50	5.56	6.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Middle	10.30	10:36:00 AM	8.66	8.26	30.87	27.32	5.63	4.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	19.60	10:35:00 AM	8.64	8.27	30.77	27.54	4.83	7.00
CF	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	19.60	10:35:00 AM	8.59	8.24	30.97	27.23	4.61	6.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:40:00 AM	8.83	8.34	30.15	27.45	5.73	3.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:40:00 AM	8.62	8.33	30.16	27.32	5.50	3.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Middle	9.95	10:39:00 AM	8.80	8.31	30.06	27.51	5.16	4.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Middle	9.95	10:39:00 AM	8.54	8.32	30.17	27.55	5.42	3.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Bottom	18.90	10:38:00 AM	8.82	8.34	29.88	27.52	5.39	4.00
CF	20211016	Sunny	Moderate	Mid-Ebb	Bottom	18.90	10:38:00 AM	8.73	8.27	30.11	27.35	4.59	4.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:37:00 AM	8.51	8.22	30.93	26.88	3.03	5.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:37:00 AM	8.27	8.26	30.78	26.90	3.16	6.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Middle	10.75	11:36:00 AM	8.30	8.23	30.93	27.04	2.37	5.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Middle	10.75	11:36:00 AM	8.34	8.21	30.80	26.91	2.64	7.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	20.50	11:35:00 AM	8.22	8.26	31.09	26.98	2.35	7.00
CF	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	20.50	11:35:00 AM	8.25	8.31	31.13	26.97	2.77	7.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:02:00 PM	8.02	8.09	29.61	28.29	4.77	4.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:02:00 PM	8.65	7.96	29.75	28.18	5.15	2.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Middle	10.20	1:01:00 PM	8.67	8.01	29.52	28.33	4.33	4.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Middle	10.20	1:01:00 PM	8.19	8.00	29.75	28.31	4.37	4.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Bottom	19.40	1:00:00 PM	8.51	8.12	29.35	28.21	4.61	4.00
CF	20211020	Sunny	Moderate	Mid-Ebb	Bottom	19.40	1:00:00 PM	8.69	8.06	29.60	28.22	4.40	3.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
CF	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	2:21:00 PM	8.73	8.24	31.01	26.93	2.97	5.00
CF	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	2:21:00 PM	8.86	8.32	31.15	27.12	2.90	7.00
CF	20211023	Cloudy	Modrate	Mid-Ebb	Middle	10.20	2:20:00 PM	8.87	8.28	31.11	26.91	3.13	6.00
CF	20211023	Cloudy	Modrate	Mid-Ebb	Middle	10.20	2:20:00 PM	8.73	8.32	31.07	27.09	3.11	6.00
CF	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	19.40	2:19:00 PM	8.89	8.29	30.97	27.04	2.63	9.00
CF	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	19.40	2:19:00 PM	8.57	8.24	30.98	27.13	3.03	9.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	3:07:00 PM	8.36	8.07	30.91	26.88	3.57	3.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	3:07:00 PM	8.41	8.14	30.80	26.99	3.91	4.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Middle	10.30	3:06:00 PM	8.54	8.16	30.86	26.97	4.11	4.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Middle	10.30	3:06:00 PM	8.49	8.07	30.74	26.95	4.01	5.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Bottom	19.60	3:05:00 PM	8.47	8.07	30.86	27.00	4.37	6.00
CF	20211025	Sunny	Moderate	Mid-Ebb	Bottom	19.60	3:05:00 PM	8.42	8.16	30.92	26.85	4.41	5.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	4:22:00 PM	9.00	8.20	29.70	26.70	4.30	4.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	4:22:00 PM	9.10	8.20	29.40	26.60	3.90	3.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Middle	10.60	4:21:00 PM	8.90	8.20	29.50	26.70	5.70	11.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Middle	10.60	4:21:00 PM	9.10	8.20	29.80	26.70	5.30	8.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	20.10	4:20:00 PM	9.10	8.10	29.70	26.60	4.60	11.00
CF	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	20.10	4:20:00 PM	9.00	8.20	29.40	26.80	4.30	9.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:25:00 AM	8.23	8.25	32.06	28.26	4.10	3.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:25:00 AM	8.07	8.22	32.13	28.32	3.84	2.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Middle	9.70	10:24:00 AM	8.20	8.26	32.01	28.18	3.91	2.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Middle	9.70	10:24:00 AM	8.16	8.22	32.07	28.18	3.51	2.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	18.40	10:23:00 AM	8.13	8.22	32.08	28.23	3.54	2.00
CF	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	18.40	10:23:00 AM	8.24	8.21	32.08	28.29	3.96	2.00
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:02:00 AM	8.50	8.24	30.95	30.44	2.43	14.00
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:02:00 AM	8.30	8.15	31.26	30.42	2.51	13.00
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.15	10:01:00 AM	8.13	8.17	31.21	30.40	2.39	13.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.15	10:01:00 AM	8.45	8.21	31.24	30.48	2.46	11.00
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Bottom	7.30	10:00:00 AM	8.07	8.21	31.27	30.32	2.51	13.00
WSR01	20211002	Sunny	Moderate	Mid-Ebb	Bottom	7.30	10:00:00 AM	8.22	8.20	31.22	30.38	2.50	14.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:43:00 AM	8.61	8.40	31.73	29.96	3.04	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:43:00 AM	8.28	8.45	31.51	29.88	3.30	11.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.15	11:42:00 AM	8.54	8.30	31.67	29.83	3.46	10.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.15	11:42:00 AM	8.55	8.36	31.50	29.85	2.99	9.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	7.30	11:41:00 AM	8.42	8.31	31.51	29.94	2.77	11.00
WSR01	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	7.30	11:41:00 AM	8.30	8.43	31.55	29.92	2.77	11.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:10:00 PM	9.41	8.51	32.13	29.43	5.17	4.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	1:10:00 PM	9.36	8.39	32.32	29.25	5.66	5.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.50	1:09:00 PM	9.61	8.41	32.31	29.27	4.62	10.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.50	1:09:00 PM	9.55	8.42	32.12	29.33	4.98	10.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	8.00	1:08:00 PM	9.62	8.43	32.32	29.31	4.58	9.00
WSR01	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	8.00	1:08:00 PM	9.42	8.51	32.36	29.35	4.52	9.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:14:00 AM	8.50	8.41	31.15	27.49	3.28	8.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:14:00 AM	8.59	8.44	31.30	27.37	2.96	6.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:13:00 AM	8.54	8.43	31.25	27.61	3.13	8.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:13:00 AM	8.50	8.42	31.26	27.27	2.70	6.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	10:12:00 AM	8.62	8.49	31.02	27.28	2.68	10.00
WSR01	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	10:12:00 AM	8.72	8.51	31.17	27.58	2.72	7.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:19:00 AM	7.98	8.18	30.15	27.59	2.58	5.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:19:00 AM	8.19	8.18	30.03	27.60	2.94	5.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.70	10:18:00 AM	8.26	8.22	29.96	27.44	2.85	5.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.70	10:18:00 AM	8.23	8.25	30.12	27.55	2.45	4.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Bottom	8.40	10:17:00 AM	8.22	8.23	30.18	27.48	2.24	6.00
WSR01	20211016	Sunny	Moderate	Mid-Ebb	Bottom	8.40	10:17:00 AM	8.04	8.21	30.00	27.41	2.19	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:15:00 AM	9.23	8.18	31.01	27.07	2.62	7.00
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:15:00 AM	9.28	8.19	31.45	27.13	2.96	7.00
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.75	11:14:00 AM	9.29	8.25	31.36	27.12	2.65	6.00
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.75	11:14:00 AM	9.06	8.27	31.07	27.05	2.42	7.00
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	11:13:00 AM	9.23	8.25	31.07	27.15	1.75	7.00
WSR01	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	11:13:00 AM	9.19	8.29	31.35	27.01	1.61	4.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:38:00 PM	8.22	8.14	29.50	27.93	3.40	13.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:38:00 PM	8.25	8.20	29.53	27.86	3.43	11.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.50	12:37:00 PM	7.90	8.10	29.52	27.89	2.93	12.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.50	12:37:00 PM	7.91	8.08	29.84	27.94	3.17	12.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Bottom	8.00	12:36:00 PM	7.95	8.05	29.69	28.01	2.59	10.00
WSR01	20211020	Sunny	Moderate	Mid-Ebb	Bottom	8.00	12:36:00 PM	8.10	7.97	29.88	27.88	2.89	11.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:57:00 PM	8.21	8.25	30.69	26.67	2.46	5.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:57:00 PM	8.45	8.26	30.89	26.78	2.51	5.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.15	1:56:00 PM	8.56	8.18	30.89	26.90	2.21	6.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.15	1:56:00 PM	8.45	8.23	30.91	26.72	2.00	5.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	7.30	1:55:00 PM	8.56	8.20	30.70	26.85	2.14	6.00
WSR01	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	7.30	1:55:00 PM	8.17	8.26	30.74	26.75	2.16	5.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:44:00 PM	8.85	8.23	31.02	26.89	2.91	4.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:44:00 PM	8.81	8.21	30.93	26.89	3.18	3.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.15	2:43:00 PM	8.81	8.30	30.99	26.95	2.26	4.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.15	2:43:00 PM	8.81	8.27	30.97	26.94	2.02	6.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.30	2:42:00 PM	8.84	8.24	31.07	27.04	1.94	5.00
WSR01	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.30	2:42:00 PM	8.76	8.22	30.92	26.99	2.07	4.00
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:59:00 PM	9.20	8.10	29.60	27.30	3.70	12.00
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:59:00 PM	9.00	8.10	29.30	27.30	4.30	11.00
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.70	3:58:00 PM	9.00	8.10	29.50	27.20	4.00	9.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.70	3:58:00 PM	9.20	8.10	29.60	27.20	3.60	9.00
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	8.40	3:57:00 PM	9.00	8.00	29.60	27.10	3.60	6.00
WSR01	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	8.40	3:57:00 PM	9.00	8.10	29.30	27.20	4.00	6.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:03:00 AM	8.06	8.12	32.84	27.80	3.43	2.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:03:00 AM	8.00	8.15	32.96	27.86	3.39	2.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:02:00 AM	8.10	8.12	32.85	27.77	3.13	2.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Middle	4.55	10:02:00 AM	8.12	8.15	32.82	27.86	3.39	2.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	10:01:00 AM	8.00	8.16	32.86	27.89	2.89	2.00
WSR01	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	10:01:00 AM	8.13	8.12	32.89	27.84	3.35	2.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:44:00 AM	8.97	8.37	30.36	30.01	2.80	10.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:44:00 AM	9.13	8.34	30.44	30.20	3.05	14.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.85	9:43:00 AM	9.24	8.36	30.45	30.15	2.66	13.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.85	9:43:00 AM	9.39	8.26	30.73	30.01	2.83	12.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Bottom	8.70	9:42:00 AM	9.35	8.26	30.55	30.09	2.30	10.00
WSR02	20211002	Sunny	Moderate	Mid-Ebb	Bottom	8.70	9:42:00 AM	9.37	8.30	30.35	30.14	2.04	8.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:27:00 AM	8.35	8.33	31.28	29.79	3.40	10.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:27:00 AM	8.32	8.22	31.29	29.77	3.32	10.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.70	11:26:00 AM	8.53	8.23	31.05	29.63	3.47	10.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.70	11:26:00 AM	8.64	8.18	31.25	29.83	3.14	10.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	8.40	11:25:00 AM	8.50	8.17	31.30	29.80	2.88	9.00
WSR02	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	8.40	11:25:00 AM	8.24	8.22	31.06	29.78	2.87	8.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:52:00 PM	9.02	8.44	31.16	28.66	5.39	13.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:52:00 PM	9.21	8.38	31.27	28.57	5.85	14.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.75	12:51:00 PM	9.19	8.42	31.21	28.77	4.83	10.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.75	12:51:00 PM	8.82	8.40	31.23	28.64	5.61	10.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	12:50:00 PM	9.04	8.34	31.25	28.75	5.06	8.00
WSR02	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	12:50:00 PM	8.84	8.44	31.25	28.60	4.84	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:56:00 AM	9.22	8.16	30.65	27.25	3.85	2.00
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:56:00 AM	9.16	8.22	30.58	27.45	3.80	2.00
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.75	9:55:00 AM	9.22	8.21	30.72	27.38	2.78	16.00
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.75	9:55:00 AM	9.11	8.23	30.73	27.30	2.86	13.00
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	9:54:00 AM	9.14	8.16	30.80	27.44	3.21	17.00
WSR02	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	9:54:00 AM	9.32	8.13	30.53	27.26	3.31	17.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:01:00 AM	8.63	8.06	29.51	27.48	2.97	5.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:01:00 AM	8.93	8.10	29.66	27.50	3.22	5.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.90	10:00:00 AM	8.74	8.13	29.44	27.51	2.52	3.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.90	10:00:00 AM	8.84	8.07	29.49	27.28	2.96	4.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Bottom	8.80	9:59:00 AM	8.68	8.12	29.46	27.37	2.42	12.00
WSR02	20211016	Sunny	Moderate	Mid-Ebb	Bottom	8.80	9:59:00 AM	8.84	8.06	29.73	27.44	2.62	12.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:57:00 AM	8.65	8.36	31.82	27.03	2.82	4.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:57:00 AM	8.61	8.41	31.66	27.13	2.51	5.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.50	10:56:00 AM	8.60	8.37	31.39	27.12	2.59	6.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.50	10:56:00 AM	8.44	8.33	31.40	27.18	2.25	4.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	8.00	10:55:00 AM	8.52	8.36	31.82	27.15	2.26	6.00
WSR02	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	8.00	10:55:00 AM	8.70	8.36	31.66	27.15	2.10	4.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:20:00 PM	8.59	8.07	29.82	28.70	3.09	3.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:20:00 PM	8.83	8.18	29.84	28.74	3.52	4.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.80	12:19:00 PM	8.78	8.17	30.05	28.67	3.45	14.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.80	12:19:00 PM	8.58	8.02	30.07	28.73	3.16	12.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Bottom	8.60	12:18:00 PM	8.69	8.15	29.85	28.61	2.66	8.00
WSR02	20211020	Sunny	Moderate	Mid-Ebb	Bottom	8.60	12:18:00 PM	8.28	8.19	29.88	28.63	2.90	8.00
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:38:00 PM	8.46	8.24	31.89	27.18	2.83	6.00
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:38:00 PM	8.43	8.25	31.92	27.22	2.53	6.00
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.85	1:37:00 PM	8.36	8.17	31.79	27.11	2.28	6.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.85	1:37:00 PM	8.14	8.19	31.86	27.23	2.69	5.00
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	8.70	1:36:00 PM	8.18	8.21	31.90	27.13	2.07	9.00
WSR02	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	8.70	1:36:00 PM	8.12	8.22	31.83	27.13	2.09	9.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:27:00 PM	8.70	8.25	30.62	26.85	2.61	3.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:27:00 PM	8.66	8.26	30.68	26.70	2.94	5.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.85	2:26:00 PM	8.49	8.20	30.67	26.81	2.77	4.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.85	2:26:00 PM	8.64	8.28	30.73	26.69	2.97	4.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Bottom	8.70	2:25:00 PM	8.66	8.20	30.73	26.79	2.67	3.00
WSR02	20211025	Sunny	Moderate	Mid-Ebb	Bottom	8.70	2:25:00 PM	8.68	8.19	30.74	26.77	2.29	3.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:42:00 PM	8.80	8.20	29.90	27.10	3.70	8.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:42:00 PM	8.90	8.20	29.70	27.00	3.70	8.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.80	3:41:00 PM	8.80	8.20	29.80	27.10	3.40	3.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.80	3:41:00 PM	8.70	8.20	29.90	27.10	3.80	3.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	3:40:00 PM	8.70	8.10	29.70	27.10	3.80	6.00
WSR02	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	8.50	3:40:00 PM	8.90	8.10	29.80	27.00	3.60	6.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:45:00 AM	8.43	8.18	31.84	27.64	3.00	2.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:45:00 AM	8.52	8.20	31.85	27.65	3.13	2.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Middle	4.90	9:44:00 AM	8.52	8.19	31.87	27.66	2.14	6.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Middle	4.90	9:44:00 AM	8.51	8.17	31.86	27.57	2.49	7.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	8.80	9:43:00 AM	8.50	8.16	31.73	27.61	3.16	15.00
WSR02	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	8.80	9:43:00 AM	8.58	8.14	31.87	27.72	2.94	15.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:31:00 AM	8.68	8.13	30.77	30.74	3.07	13.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:31:00 AM	8.47	8.19	30.81	30.80	3.01	13.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.70	9:30:00 AM	8.35	8.15	30.74	30.62	2.17	10.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.70	9:30:00 AM	8.83	8.15	30.99	30.78	2.12	8.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.40	9:29:00 AM	8.72	8.04	30.91	30.72	1.99	10.00
WSR03	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.40	9:29:00 AM	8.46	8.22	31.12	30.73	2.24	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:13:00 AM	9.34	8.23	32.07	30.14	3.50	9.00
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:13:00 AM	9.20	8.26	31.88	30.28	3.90	9.00
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.75	11:12:00 AM	9.50	8.30	31.89	30.26	3.18	9.00
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.75	11:12:00 AM	9.13	8.30	32.01	30.18	3.51	11.00
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.50	11:11:00 AM	9.26	8.31	32.01	30.06	2.96	9.00
WSR03	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.50	11:11:00 AM	9.37	8.30	31.86	30.17	3.01	8.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:37:00 PM	9.77	8.40	31.67	29.11	4.93	8.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:37:00 PM	9.89	8.40	31.84	29.26	4.86	9.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.15	12:36:00 PM	9.73	8.50	31.69	29.23	5.35	8.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Middle	4.15	12:36:00 PM	9.78	8.45	31.74	29.15	5.37	7.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	7.30	12:35:00 PM	9.64	8.40	31.67	29.25	4.35	11.00
WSR03	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	7.30	12:35:00 PM	9.73	8.53	31.65	29.19	5.04	11.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:41:00 AM	8.78	8.50	30.79	27.10	4.00	12.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:41:00 AM	9.00	8.42	30.98	27.05	3.92	12.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.00	9:40:00 AM	8.78	8.44	30.79	27.28	3.35	14.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.00	9:40:00 AM	8.95	8.45	30.77	27.31	3.75	14.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	7.00	9:39:00 AM	8.84	8.43	30.93	27.21	3.27	14.00
WSR03	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	7.00	9:39:00 AM	8.80	8.50	30.80	27.25	3.76	16.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:43:00 AM	7.89	8.32	30.41	27.97	3.37	7.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:43:00 AM	8.19	8.31	30.38	28.03	3.11	7.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.25	9:42:00 AM	8.18	8.31	30.44	28.00	3.05	5.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.25	9:42:00 AM	7.87	8.28	30.32	28.05	3.30	5.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Bottom	7.50	9:41:00 AM	7.77	8.31	30.24	27.96	2.45	13.00
WSR03	20211016	Sunny	Moderate	Mid-Ebb	Bottom	7.50	9:41:00 AM	7.99	8.29	30.28	27.96	2.40	12.00
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:41:00 AM	8.63	8.17	31.27	27.01	2.82	5.00
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:41:00 AM	8.58	8.12	31.52	26.95	2.57	5.00
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.25	10:40:00 AM	8.45	8.17	31.32	26.93	2.49	6.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.25	10:40:00 AM	8.43	8.17	31.50	27.04	2.79	3.00
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	10:39:00 AM	8.47	8.12	31.24	26.93	1.81	6.00
WSR03	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	10:39:00 AM	8.70	8.18	31.41	26.89	1.72	4.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:02:00 PM	8.03	8.01	30.28	27.94	3.60	6.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	12:02:00 PM	7.60	7.94	29.95	27.93	3.34	6.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.80	12:01:00 PM	7.63	8.00	30.22	27.92	3.14	12.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.80	12:01:00 PM	7.79	7.88	30.07	28.09	2.95	10.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.60	12:00:00 PM	7.94	7.99	30.23	28.11	2.78	11.00
WSR03	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.60	12:00:00 PM	7.42	8.10	30.31	27.91	2.92	11.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:24:00 PM	8.78	8.40	31.18	26.63	2.42	7.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:24:00 PM	8.94	8.35	31.19	26.54	2.22	7.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.95	1:23:00 PM	8.55	8.39	31.09	26.54	1.93	7.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.95	1:23:00 PM	8.93	8.40	31.05	26.63	2.07	7.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.90	1:22:00 PM	8.82	8.35	31.10	26.55	1.90	5.00
WSR03	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.90	1:22:00 PM	8.82	8.33	31.21	26.64	1.88	6.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:12:00 PM	8.29	8.24	30.92	27.09	2.76	4.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:12:00 PM	8.21	8.32	30.77	27.11	3.06	4.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.20	2:11:00 PM	8.13	8.24	30.96	27.10	2.65	2.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.20	2:11:00 PM	8.19	8.24	30.98	27.14	2.38	2.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.40	2:10:00 PM	8.14	8.33	30.78	27.11	2.30	3.00
WSR03	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.40	2:10:00 PM	8.13	8.26	30.86	27.21	2.44	2.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:27:00 PM	8.90	8.20	29.50	27.50	5.20	6.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:27:00 PM	8.70	8.20	29.60	27.40	5.40	6.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.10	3:26:00 PM	8.90	8.10	29.50	27.40	5.10	21.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.10	3:26:00 PM	8.70	8.20	29.70	27.30	4.90	21.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	7.10	3:25:00 PM	8.70	8.20	29.50	27.40	4.50	8.00
WSR03	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	7.10	3:25:00 PM	8.70	8.10	29.50	27.30	4.80	8.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:30:00 AM	7.80	8.29	31.89	28.29	2.96	10.00
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:30:00 AM	7.62	8.24	31.94	28.35	3.05	12.00
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.90	9:29:00 AM	7.58	8.30	31.89	28.27	3.12	9.00
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.90	9:29:00 AM	7.63	8.31	31.83	28.32	2.76	8.00
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	9:28:00 AM	7.68	8.27	31.86	28.27	3.23	10.00
WSR03	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	9:28:00 AM	7.51	8.25	31.87	28.23	3.21	8.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:20:00 AM	8.02	8.30	30.27	30.14	2.68	8.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:20:00 AM	8.32	8.19	30.38	30.14	2.94	8.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.85	9:19:00 AM	8.00	8.18	30.37	30.10	2.75	9.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.85	9:19:00 AM	8.53	8.27	30.58	30.13	2.30	9.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.70	9:18:00 AM	8.10	8.24	30.38	30.14	2.59	10.00
WSR04	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.70	9:18:00 AM	7.93	8.27	30.35	30.16	2.32	10.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:02:00 AM	9.00	8.24	31.24	29.74	3.60	8.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:02:00 AM	8.88	8.26	31.21	29.75	3.68	8.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.65	11:01:00 AM	8.77	8.30	31.19	29.69	2.89	9.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.65	11:01:00 AM	8.69	8.36	31.10	29.55	2.95	9.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.30	11:00:00 AM	8.91	8.36	31.26	29.74	2.69	12.00
WSR04	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.30	11:00:00 AM	8.65	8.27	31.28	29.73	2.59	9.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:26:00 PM	9.00	8.20	32.06	29.26	5.07	10.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:26:00 PM	8.93	8.22	32.00	29.19	5.33	7.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.55	12:25:00 PM	9.01	8.17	32.00	29.14	4.83	7.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.55	12:25:00 PM	9.34	8.30	31.77	29.16	5.15	7.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	12:24:00 PM	9.12	8.29	31.81	29.14	5.06	11.00
WSR04	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	12:24:00 PM	9.23	8.30	32.06	29.21	5.14	11.00
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:30:00 AM	9.18	8.43	30.83	27.56	2.91	11.00
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:30:00 AM	9.28	8.35	30.63	27.54	3.18	11.00
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.65	9:29:00 AM	9.34	8.35	30.72	27.46	3.34	16.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.65	9:29:00 AM	9.11	8.34	30.61	27.43	3.40	16.00
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.30	9:28:00 AM	9.16	8.46	30.87	27.32	2.10	10.00
WSR04	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.30	9:28:00 AM	9.23	8.46	30.65	27.47	2.41	10.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:28:00 AM	8.60	8.22	30.29	27.98	2.63	12.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:28:00 AM	8.96	8.21	30.16	28.01	3.13	13.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.40	9:27:00 AM	8.83	8.20	30.22	27.96	2.32	13.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.40	9:27:00 AM	8.54	8.21	30.37	27.97	2.37	10.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Bottom	5.80	9:26:00 AM	8.79	8.15	30.35	27.97	2.52	10.00
WSR04	20211016	Sunny	Moderate	Mid-Ebb	Bottom	5.80	9:26:00 AM	8.84	8.22	30.18	27.92	2.30	10.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:29:00 AM	8.70	8.39	31.99	26.50	2.19	5.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:29:00 AM	8.71	8.32	31.93	26.58	2.44	3.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.75	10:28:00 AM	8.46	8.29	31.98	26.54	2.44	5.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.75	10:28:00 AM	8.65	8.30	32.23	26.52	2.18	5.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	6.50	10:27:00 AM	8.58	8.33	31.86	26.56	1.83	4.00
WSR04	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	6.50	10:27:00 AM	8.46	8.40	32.00	26.48	1.87	5.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:48:00 AM	8.57	8.16	30.41	28.62	3.30	6.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:48:00 AM	8.51	8.21	30.42	28.68	3.45	6.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.75	11:47:00 AM	8.58	8.30	30.38	28.59	2.62	3.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.75	11:47:00 AM	7.96	8.31	30.24	28.61	3.02	4.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.50	11:46:00 AM	8.35	8.21	30.08	28.68	2.45	8.00
WSR04	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.50	11:46:00 AM	8.23	8.34	30.17	28.79	2.33	8.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:12:00 PM	8.83	8.32	31.52	26.80	2.16	9.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	1:12:00 PM	9.03	8.31	31.49	26.67	2.17	9.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.65	1:11:00 PM	8.74	8.28	31.46	26.60	1.78	26.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.65	1:11:00 PM	9.11	8.31	31.52	26.75	1.81	26.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.30	1:10:00 PM	8.89	8.35	31.40	26.59	1.67	12.00
WSR04	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.30	1:10:00 PM	8.73	8.33	31.60	26.58	1.56	12.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:00:00 PM	8.86	8.32	31.39	26.55	2.88	2.00
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	2:00:00 PM	8.84	8.36	31.41	26.52	2.59	3.00
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.50	1:59:00 PM	8.61	8.30	31.56	26.58	2.67	2.00
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.50	1:59:00 PM	8.82	8.34	31.44	26.42	2.70	2.00
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.00	1:58:00 PM	8.73	8.30	31.38	26.51	2.41	5.00
WSR04	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.00	1:58:00 PM	8.83	8.36	31.41	26.43	2.60	3.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:14:00 PM	9.10	8.10	29.80	27.50	5.60	6.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	3:14:00 PM	9.00	8.20	29.80	27.40	5.70	5.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.60	3:13:00 PM	9.00	8.20	29.80	27.30	5.00	6.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.60	3:13:00 PM	8.90	8.10	29.90	27.50	5.80	6.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	3:12:00 PM	8.90	8.20	29.60	27.50	5.60	6.00
WSR04	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	3:12:00 PM	9.10	8.20	29.70	27.30	5.30	6.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:18:00 AM	8.37	8.32	32.89	28.13	3.40	12.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:18:00 AM	8.40	8.28	32.91	28.08	3.62	11.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.55	9:17:00 AM	8.39	8.26	32.97	28.11	3.74	11.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.55	9:17:00 AM	8.43	8.33	32.83	28.10	3.69	10.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	9:16:00 AM	8.60	8.33	32.82	28.24	3.54	10.00
WSR04	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	9:16:00 AM	8.34	8.32	32.90	28.12	3.00	8.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:25:00 AM	8.97	8.19	30.25	30.35	3.20	13.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:25:00 AM	8.99	8.09	30.20	30.42	2.86	13.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Middle	8.45	8:24:00 AM	9.04	8.20	30.31	30.28	2.89	11.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Middle	8.45	8:24:00 AM	8.92	8.15	30.24	30.29	3.02	11.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Bottom	15.90	8:23:00 AM	9.04	8.25	30.00	30.32	2.07	10.00
WSR16	20211002	Sunny	Moderate	Mid-Ebb	Bottom	15.90	8:23:00 AM	9.17	8.22	30.25	30.28	2.03	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:03:00 AM	8.40	8.49	31.31	29.30	3.57	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:03:00 AM	8.84	8.53	31.42	29.39	3.95	9.00
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Middle	8.15	10:02:00 AM	8.45	8.48	31.37	29.32	3.19	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Middle	8.15	10:02:00 AM	8.83	8.45	31.48	29.44	3.07	10.00
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	15.30	10:01:00 AM	8.54	8.39	31.29	29.32	3.20	8.00
WSR16	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	15.30	10:01:00 AM	8.58	8.41	31.31	29.52	2.83	6.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:27:00 AM	8.84	8.28	31.66	29.22	5.14	10.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:27:00 AM	9.01	8.32	31.44	29.11	5.00	10.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Middle	7.75	11:26:00 AM	8.81	8.33	31.57	29.21	4.41	4.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Middle	7.75	11:26:00 AM	9.14	8.28	31.68	29.08	4.70	4.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	14.50	11:25:00 AM	9.04	8.34	31.67	29.01	4.09	14.00
WSR16	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	14.50	11:25:00 AM	9.06	8.26	31.60	29.14	4.38	14.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:25:00 AM	8.72	8.29	30.35	27.41	3.46	12.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:25:00 AM	9.00	8.39	30.59	27.58	3.84	14.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Middle	7.65	8:24:00 AM	8.86	8.40	30.38	27.47	3.20	12.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Middle	7.65	8:24:00 AM	8.71	8.34	30.41	27.37	3.51	13.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	14.30	8:23:00 AM	8.70	8.30	30.57	27.33	3.20	4.00
WSR16	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	14.30	8:23:00 AM	8.79	8.33	30.41	27.36	3.14	5.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:23:00 AM	8.44	8.07	29.76	27.78	3.24	7.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:23:00 AM	8.62	8.06	29.90	27.75	2.99	7.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Middle	8.45	8:22:00 AM	8.63	8.10	29.89	27.71	2.62	5.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Middle	8.45	8:22:00 AM	8.75	8.11	29.70	27.57	2.90	5.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Bottom	15.90	8:21:00 AM	8.53	8.05	29.81	27.63	3.22	6.00
WSR16	20211016	Sunny	Moderate	Mid-Ebb	Bottom	15.90	8:21:00 AM	8.49	8.05	29.75	27.57	3.24	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:27:00 AM	8.13	8.17	30.93	26.77	2.65	6.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:27:00 AM	8.21	8.22	30.76	26.93	3.09	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Middle	8.35	9:26:00 AM	8.30	8.18	31.01	26.92	2.37	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Middle	8.35	9:26:00 AM	8.26	8.21	30.76	26.93	2.63	5.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	15.70	9:25:00 AM	8.33	8.22	30.75	26.91	2.18	11.00
WSR16	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	15.70	9:25:00 AM	8.18	8.16	31.18	26.81	1.85	11.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:43:00 AM	7.99	8.25	29.94	28.28	3.06	14.00
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	10:43:00 AM	7.85	8.06	29.88	28.29	3.15	14.00
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Middle	8.25	10:42:00 AM	8.19	8.19	29.97	28.32	2.91	11.00
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Middle	8.25	10:42:00 AM	7.73	8.23	29.90	28.17	3.27	12.00
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Bottom	15.50	10:41:00 AM	7.98	8.09	30.00	28.33	2.94	4.00
WSR16	20211020	Sunny	Moderate	Mid-Ebb	Bottom	15.50	10:41:00 AM	8.22	8.20	30.02	28.29	2.64	3.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:09:00 PM	8.86	8.32	30.82	27.16	2.35	9.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:09:00 PM	8.55	8.30	30.59	27.28	2.71	9.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Middle	7.85	12:08:00 PM	8.60	8.26	30.62	27.12	2.47	8.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Middle	7.85	12:08:00 PM	8.82	8.30	30.70	27.21	2.35	6.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	14.70	12:07:00 PM	8.75	8.28	30.57	27.12	2.06	10.00
WSR16	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	14.70	12:07:00 PM	8.55	8.26	30.66	27.12	1.76	10.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:01:00 PM	8.46	8.30	30.70	26.44	3.44	2.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:01:00 PM	8.52	8.30	30.84	26.49	3.52	2.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Middle	7.95	1:00:00 PM	8.48	8.32	30.66	26.37	3.51	2.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Middle	7.95	1:00:00 PM	8.38	8.29	30.81	26.34	3.16	2.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Bottom	14.90	12:59:00 PM	8.35	8.37	30.68	26.49	3.08	3.00
WSR16	20211025	Sunny	Moderate	Mid-Ebb	Bottom	14.90	12:59:00 PM	8.37	8.34	30.75	26.39	3.08	4.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:09:00 PM	8.90	8.10	30.20	27.10	5.60	2.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:09:00 PM	8.90	8.20	30.20	27.10	5.20	2.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Middle	8.20	2:08:00 PM	8.70	8.10	30.30	27.10	5.50	6.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Middle	8.20	2:08:00 PM	8.70	8.10	30.00	27.00	5.40	6.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	15.40	2:07:00 PM	8.90	8.10	30.20	27.20	5.30	6.00
WSR16	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	15.40	2:07:00 PM	8.70	8.10	30.20	27.10	4.90	5.00
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:22:00 AM	8.57	8.30	31.82	27.82	3.20	6.00
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:22:00 AM	8.59	8.28	31.88	27.84	3.25	7.00
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Middle	7.60	8:21:00 AM	8.56	8.34	31.86	27.82	3.53	13.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Middle	7.60	8:21:00 AM	8.41	8.34	31.76	27.87	3.78	12.00
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	14.20	8:20:00 AM	8.40	8.34	31.81	27.83	3.71	2.00
WSR16	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	14.20	8:20:00 AM	8.56	8.29	31.82	27.81	3.77	2.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:06:00 AM	9.22	8.21	30.16	30.16	2.80	9.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:06:00 AM	8.92	8.19	30.33	29.97	2.35	8.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.55	9:05:00 AM	8.74	8.32	30.18	30.16	2.56	12.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.55	9:05:00 AM	8.65	8.20	30.14	30.12	2.47	11.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.10	9:04:00 AM	9.26	8.25	30.32	30.09	2.27	11.00
WSR33	20211002	Sunny	Moderate	Mid-Ebb	Bottom	6.10	9:04:00 AM	9.11	8.17	30.31	30.18	2.02	11.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:48:00 AM	9.15	8.31	31.92	30.22	3.33	9.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:48:00 AM	9.13	8.26	31.76	30.12	3.25	6.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.50	10:47:00 AM	9.30	8.19	31.95	30.09	3.28	8.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.50	10:47:00 AM	9.09	8.28	31.91	30.35	3.12	8.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	10:46:00 AM	8.97	8.29	31.99	30.16	3.13	6.00
WSR33	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	10:46:00 AM	9.19	8.28	31.73	30.32	2.80	8.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:13:00 PM	9.29	8.25	31.44	28.72	5.92	5.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:13:00 PM	9.01	8.18	31.38	28.70	5.50	5.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.50	12:12:00 PM	9.12	8.19	31.39	28.86	4.87	5.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.50	12:12:00 PM	9.28	8.27	31.21	28.80	4.90	9.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	12:11:00 PM	9.37	8.22	31.37	28.86	4.91	10.00
WSR33	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	12:11:00 PM	9.35	8.31	31.39	28.77	4.99	10.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:16:00 AM	9.07	8.31	30.62	27.30	3.64	9.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:16:00 AM	9.04	8.27	30.46	27.35	4.09	9.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.70	9:15:00 AM	9.11	8.33	30.34	27.04	2.97	5.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.70	9:15:00 AM	9.13	8.32	30.60	27.28	3.15	9.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	9:14:00 AM	9.14	8.30	30.55	27.10	2.93	7.00
WSR33	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	9:14:00 AM	9.11	8.25	30.40	27.04	2.96	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:11:00 AM	8.71	8.23	30.11	27.83	3.23	4.00
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	9:11:00 AM	8.72	8.18	30.11	27.76	3.15	2.00
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.80	9:10:00 AM	8.86	8.25	29.98	27.87	3.28	4.00
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.80	9:10:00 AM	8.95	8.24	29.88	27.74	3.31	2.00
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Bottom	6.60	9:09:00 AM	9.04	8.24	29.85	27.85	3.04	2.00
WSR33	20211016	Sunny	Moderate	Mid-Ebb	Bottom	6.60	9:09:00 AM	8.85	8.26	29.93	27.89	2.70	3.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:15:00 AM	8.45	8.10	32.25	27.25	2.17	17.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:15:00 AM	8.48	8.16	32.06	27.20	2.60	17.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.70	10:14:00 AM	8.61	8.18	32.26	27.24	1.86	13.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.70	10:14:00 AM	8.51	8.14	32.20	27.17	2.14	13.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	10:13:00 AM	8.36	8.10	32.28	27.33	2.23	16.00
WSR33	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	10:13:00 AM	8.35	8.21	32.12	27.29	2.32	16.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:33:00 AM	8.95	7.93	29.46	27.95	3.37	4.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:33:00 AM	8.72	8.06	29.63	27.90	3.57	4.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.75	11:32:00 AM	8.56	7.93	29.51	28.07	3.17	3.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.75	11:32:00 AM	8.27	8.03	29.42	27.89	3.72	4.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.50	11:31:00 AM	8.75	8.04	29.53	27.95	2.90	5.00
WSR33	20211020	Sunny	Moderate	Mid-Ebb	Bottom	6.50	11:31:00 AM	8.33	8.11	29.56	27.92	3.33	3.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:58:00 PM	8.67	8.17	30.87	26.78	2.41	5.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:58:00 PM	8.97	8.14	30.84	26.75	2.17	7.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.80	12:57:00 PM	8.98	8.17	30.82	26.82	2.37	10.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.80	12:57:00 PM	8.85	8.20	30.84	26.71	2.00	10.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.60	12:56:00 PM	8.78	8.17	30.96	26.67	1.65	2.00
WSR33	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	6.60	12:56:00 PM	9.03	8.12	30.94	26.63	1.75	4.00
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:46:00 PM	8.78	8.29	31.32	26.42	2.19	4.00
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:46:00 PM	8.83	8.29	31.07	26.56	2.06	4.00
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.65	1:45:00 PM	8.78	8.21	31.30	26.41	2.35	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.65	1:45:00 PM	8.66	8.22	31.15	26.47	2.37	4.00
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.30	1:44:00 PM	8.67	8.21	31.04	26.50	1.72	4.00
WSR33	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.30	1:44:00 PM	8.60	8.20	31.14	26.52	1.79	4.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:57:00 PM	8.50	8.30	30.30	27.50	3.90	6.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:57:00 PM	8.50	8.20	30.30	27.50	4.20	7.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.90	2:56:00 PM	8.30	8.30	30.10	27.20	3.40	9.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.90	2:56:00 PM	8.40	8.20	30.30	27.50	4.00	7.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.70	2:55:00 PM	8.40	8.30	30.30	27.30	3.40	5.00
WSR33	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.70	2:55:00 PM	8.50	8.30	30.30	27.40	3.40	5.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:05:00 AM	7.76	8.19	32.92	27.93	2.20	2.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:05:00 AM	7.70	8.14	32.82	28.04	2.36	3.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.50	9:04:00 AM	7.57	8.21	32.79	28.00	2.55	2.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.50	9:04:00 AM	7.57	8.14	32.87	27.99	2.23	2.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	9:03:00 AM	7.69	8.18	32.90	27.94	3.06	4.00
WSR33	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.00	9:03:00 AM	7.74	8.21	32.80	27.92	2.64	3.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:54:00 AM	8.54	8.19	29.82	30.78	2.63	12.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:54:00 AM	8.38	8.19	30.05	30.68	2.61	15.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.15	8:54:00 AM	8.50	8.04	29.98	30.71	1.71	12.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Middle	3.15	8:54:00 AM	8.35	8.17	29.94	30.74	1.72	15.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Bottom	5.30	8:53:00 AM	8.18	8.16	30.07	30.69	2.16	9.00
WSR36	20211002	Sunny	Moderate	Mid-Ebb	Bottom	5.30	8:53:00 AM	8.10	8.05	30.13	30.80	1.84	9.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:35:00 AM	8.17	8.40	30.79	30.27	3.99	7.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:35:00 AM	8.50	8.26	30.84	30.14	3.65	7.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.70	10:35:00 AM	8.48	8.40	30.85	30.36	3.58	8.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Middle	3.70	10:35:00 AM	8.64	8.41	30.97	30.11	3.29	6.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	10:34:00 AM	8.49	8.29	30.86	30.25	3.68	9.00
WSR36	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	6.40	10:34:00 AM	8.63	8.25	30.82	30.12	3.25	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:59:00 AM	9.15	8.50	31.52	28.86	5.04	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:59:00 AM	9.22	8.45	31.45	28.84	4.51	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.20	11:59:00 AM	9.31	8.45	31.50	28.93	4.92	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.20	11:59:00 AM	9.08	8.58	31.56	29.01	4.98	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	5.40	11:58:00 AM	9.28	8.45	31.54	29.04	4.69	10.00
WSR36	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	5.40	11:58:00 AM	8.95	8.57	31.70	28.99	4.21	10.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:01:00 AM	9.19	8.44	30.37	27.16	3.59	12.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:01:00 AM	8.89	8.45	30.20	27.22	3.98	10.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.55	9:01:00 AM	9.01	8.43	30.36	27.23	3.58	8.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Middle	3.55	9:01:00 AM	9.05	8.38	30.33	27.33	3.87	8.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	9:00:00 AM	9.15	8.34	30.40	27.30	2.88	8.00
WSR36	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	6.10	9:00:00 AM	9.05	8.34	30.21	27.09	3.33	8.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:56:00 AM	8.32	8.11	29.58	27.40	3.32	5.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:56:00 AM	8.30	8.07	29.64	27.53	3.05	4.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.85	8:56:00 AM	8.13	8.04	29.45	27.40	2.75	4.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Middle	3.85	8:56:00 AM	8.15	8.05	29.66	27.39	2.85	5.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Bottom	6.70	8:55:00 AM	8.01	8.11	29.65	27.35	2.57	6.00
WSR36	20211016	Sunny	Moderate	Mid-Ebb	Bottom	6.70	8:55:00 AM	8.05	8.06	29.45	27.37	2.34	6.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:01:00 AM	8.25	8.40	31.83	27.07	2.63	17.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:01:00 AM	8.33	8.39	31.51	27.11	2.47	16.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.45	10:01:00 AM	8.31	8.40	31.77	26.97	2.16	14.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Middle	3.45	10:01:00 AM	8.23	8.36	31.63	27.06	1.90	14.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	5.90	10:00:00 AM	8.37	8.34	31.62	27.09	2.18	14.00
WSR36	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	5.90	10:00:00 AM	8.24	8.43	31.74	26.99	1.98	14.00
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:19:00 AM	7.98	8.24	30.10	28.29	2.92	2.00
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:19:00 AM	7.83	8.30	30.15	28.18	3.48	2.00
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.45	11:19:00 AM	7.95	8.09	29.85	28.19	3.17	3.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Middle	3.45	11:19:00 AM	7.61	8.08	29.88	28.17	2.70	3.00
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Bottom	5.90	11:18:00 AM	7.47	8.13	29.84	28.15	2.58	8.00
WSR36	20211020	Sunny	Moderate	Mid-Ebb	Bottom	5.90	11:18:00 AM	7.99	8.17	29.98	28.17	3.03	8.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:44:00 PM	8.86	8.40	31.21	27.22	2.07	11.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:44:00 PM	8.90	8.38	31.27	27.02	1.88	13.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.05	12:44:00 PM	8.89	8.43	31.13	27.21	2.22	8.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Middle	3.05	12:44:00 PM	8.80	8.45	31.16	27.01	2.35	8.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	5.10	12:43:00 PM	8.84	8.41	31.16	27.12	1.83	29.00
WSR36	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	5.10	12:43:00 PM	8.84	8.43	31.34	27.20	2.04	29.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:33:00 PM	9.18	8.18	31.11	26.88	3.46	4.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:33:00 PM	9.20	8.20	31.24	26.80	3.60	3.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.60	1:33:00 PM	9.13	8.19	31.18	26.92	2.73	3.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Middle	3.60	1:33:00 PM	9.33	8.17	31.29	26.94	3.13	4.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.20	1:32:00 PM	9.31	8.18	31.19	26.95	2.74	4.00
WSR36	20211025	Sunny	Moderate	Mid-Ebb	Bottom	6.20	1:32:00 PM	9.20	8.24	31.10	26.88	2.53	4.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:43:00 PM	8.30	8.30	29.70	27.30	4.70	7.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:43:00 PM	8.50	8.30	29.80	27.40	4.90	9.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.90	2:43:00 PM	8.50	8.30	29.70	27.20	4.50	8.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Middle	3.90	2:43:00 PM	8.40	8.30	29.60	27.30	5.20	8.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.70	2:42:00 PM	8.40	8.20	29.80	27.40	4.60	11.00
WSR36	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.70	2:42:00 PM	8.40	8.30	29.70	27.30	4.70	11.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:52:00 AM	7.75	8.14	32.51	28.28	3.28	3.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:52:00 AM	7.69	8.20	32.50	28.30	3.54	2.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.40	8:52:00 AM	7.87	8.20	32.46	28.31	3.58	2.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.40	8:52:00 AM	7.77	8.19	32.51	28.22	3.46	4.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	8:51:00 AM	7.73	8.14	32.42	28.31	3.02	7.00
WSR36	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	8:51:00 AM	7.64	8.15	32.42	28.25	3.44	7.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:43:00 AM	8.96	8.14	30.04	30.28	2.51	10.00
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:43:00 AM	8.99	8.27	30.22	30.27	2.17	10.00
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.00	8:42:00 AM	8.98	8.29	30.04	30.30	2.07	11.00
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Middle	4.00	8:42:00 AM	9.29	8.23	30.02	30.34	2.35	9.00
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Bottom	7.00	8:41:00 AM	9.01	8.29	30.11	30.26	1.48	11.00
WSR37	20211002	Sunny	Moderate	Mid-Ebb	Bottom	7.00	8:41:00 AM	9.18	8.13	29.93	30.30	1.37	11.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:22:00 AM	8.60	8.17	31.97	29.94	3.33	5.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:22:00 AM	9.07	8.29	31.98	29.88	2.87	5.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.40	10:21:00 AM	8.62	8.16	31.77	29.91	3.38	5.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Middle	4.40	10:21:00 AM	9.03	8.28	32.01	29.95	3.26	4.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	7.80	10:20:00 AM	8.91	8.13	31.73	29.98	3.01	4.00
WSR37	20211005	Cloudy	Moderate	Mid-Ebb	Bottom	7.80	10:20:00 AM	8.72	8.22	31.74	29.90	2.58	5.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:46:00 AM	9.37	8.43	31.40	28.50	5.41	9.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:46:00 AM	9.17	8.37	31.47	28.60	4.82	9.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.90	11:45:00 AM	9.16	8.45	31.52	28.51	4.69	11.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Middle	3.90	11:45:00 AM	9.13	8.33	31.58	28.53	4.99	10.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	11:44:00 AM	9.25	8.37	31.58	28.49	4.57	9.00
WSR37	20211007	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	11:44:00 AM	9.36	8.42	31.46	28.51	4.52	11.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:47:00 AM	9.08	8.45	31.33	27.08	3.42	10.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:47:00 AM	8.99	8.46	31.28	27.34	3.86	10.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.30	8:46:00 AM	8.96	8.45	31.26	27.43	3.29	9.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Middle	4.30	8:46:00 AM	8.95	8.41	31.27	27.11	3.07	7.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	7.60	8:45:00 AM	8.83	8.46	31.39	27.29	3.36	8.00
WSR37	20211014	Cloudy	Moderate	Mid-Ebb	Bottom	7.60	8:45:00 AM	8.89	8.39	31.42	27.41	3.26	8.00
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:44:00 AM	8.14	8.14	30.04	27.14	3.24	3.00
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Surface	1.00	8:44:00 AM	7.99	8.07	29.99	27.24	3.06	3.00
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.35	8:43:00 AM	7.94	8.08	29.96	27.14	2.91	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Middle	4.35	8:43:00 AM	8.18	8.11	30.02	27.22	2.46	4.00
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Bottom	7.70	8:42:00 AM	8.21	8.09	29.95	27.07	2.49	3.00
WSR37	20211016	Sunny	Moderate	Mid-Ebb	Bottom	7.70	8:42:00 AM	7.87	8.15	29.98	27.07	2.16	4.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:48:00 AM	8.77	8.37	32.03	27.08	2.12	15.00
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Surface	1.00	9:48:00 AM	8.86	8.44	31.64	27.07	2.22	17.00
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.25	9:47:00 AM	8.70	8.48	31.76	27.03	2.18	15.00
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Middle	4.25	9:47:00 AM	8.75	8.41	31.67	27.09	1.97	14.00
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	9:46:00 AM	8.61	8.38	31.97	27.00	1.94	17.00
WSR37	20211018	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	9:46:00 AM	8.66	8.39	31.60	27.00	2.15	17.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:03:00 AM	8.12	8.13	29.28	28.42	3.32	6.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Surface	1.00	11:03:00 AM	8.15	8.06	29.67	28.27	3.88	8.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.40	11:02:00 AM	8.47	8.14	29.68	28.34	3.57	4.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Middle	4.40	11:02:00 AM	8.37	8.08	29.32	28.34	2.98	4.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Bottom	7.80	11:01:00 AM	8.05	8.15	29.49	28.35	3.43	5.00
WSR37	20211020	Sunny	Moderate	Mid-Ebb	Bottom	7.80	11:01:00 AM	8.38	8.00	29.32	28.37	2.98	4.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:30:00 PM	8.98	8.23	31.48	27.28	3.06	5.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Surface	1.00	12:30:00 PM	9.00	8.25	31.66	27.37	3.00	4.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.20	12:29:00 PM	8.81	8.27	31.43	27.36	2.47	12.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Middle	4.20	12:29:00 PM	8.79	8.22	31.45	27.36	2.78	12.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	7.40	12:28:00 PM	8.59	8.24	31.43	27.40	2.33	10.00
WSR37	20211023	Cloudy	Modrate	Mid-Ebb	Bottom	7.40	12:28:00 PM	8.66	8.22	31.59	27.33	2.35	10.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:21:00 PM	8.84	8.31	30.88	26.54	3.15	4.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Surface	1.00	1:21:00 PM	8.85	8.35	30.93	26.58	2.96	4.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.25	1:20:00 PM	8.67	8.35	31.06	26.50	2.50	5.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Middle	4.25	1:20:00 PM	8.73	8.39	31.09	26.56	2.90	4.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.50	1:19:00 PM	8.91	8.35	30.89	26.63	2.82	5.00
WSR37	20211025	Sunny	Moderate	Mid-Ebb	Bottom	7.50	1:19:00 PM	8.83	8.36	30.85	26.50	2.65	4.00
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:30:00 PM	8.50	8.20	29.50	27.30	5.50	8.00
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Surface	1.00	2:30:00 PM	8.40	8.20	29.40	27.50	5.20	10.00

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU) note 1	SS (mg/L) (Note 2)
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.00	2:29:00 PM	8.40	8.20	29.80	27.60	5.10	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Middle	4.00	2:29:00 PM	8.40	8.20	29.80	27.30	5.20	6.00
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.90	2:28:00 PM	8.50	8.30	29.80	27.50	4.90	9.00
WSR37	20211027	Cloudy	Moderate	Mid-Ebb	Bottom	6.90	2:28:00 PM	8.60	8.30	29.80	27.40	4.90	7.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:41:00 AM	8.38	8.26	32.12	27.73	4.11	11.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Surface	1.00	8:41:00 AM	8.60	8.31	32.22	27.77	3.85	11.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.90	8:40:00 AM	8.69	8.29	32.23	27.74	4.06	12.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Middle	3.90	8:40:00 AM	8.64	8.30	32.17	27.73	3.74	12.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	8:39:00 AM	8.64	8.26	32.17	27.66	3.72	9.00
WSR37	20211029	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	8:39:00 AM	8.59	8.32	32.13	27.75	3.93	9.00

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.

Note 2: Measurement data of Suspending Solids would be rounding to 2.5mg/L if the value was less than 2.5mg/L to facilitate data analysing

Landfill Gas Monitoring - Field Measurement Recording Sheet

Contract Title Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
Contract No. : 13/WSD/17

Serial No.	Monitoring Equipment	Last Calibration
M02A048102	QRAE 3 (PGM-2500)	2/7/2021
M01C031772	MultiRAE Lite (PGM-6208)	6/4/2021
254938	GMI-PS500	29/9/2021

Monitoring Location	Date (dd/mm/yyyy)	Time (hh:mm)	Weather Condition	Landfill Gas Parameters				Physical Parameters	Trench Depth (m)	Measured by	
			Sunny/ Fine/ Overcast/ Drizzle/ Rain/ Storm/ Hazy	Methane (%LEL)	Oxygen (%)	Carbon Dioxide (%)	Balance Gas (%) (e.g. H2S)	Temp (°C) / Pressure mBar		Name	Signature
Ch1+230 - Ch1+180	2/10/21	8:30	Sunny	0	20.9	0.04	0	28.2 / 1009	2	Peter Au	
Ch1+230 - Ch1+180	2/10/21	13:30	Sunny	0	20.9	0.04	0	30.1 / 1009	2	〃	
Ch1+230 - Ch1+180	4/10/21	8:30	Sunny	0	20.9	0.04	0	27.5 / 1011	2	〃	
Ch1+230 - Ch1+180	4/10/21	13:30	Sunny	0	20.9	0.04	0	28.2 / 1011	2	〃	
Ch1+230 - Ch1+180	5/10/21	8:30	Sunny	0	20.9	0.04	0	25.8 / 1012	2	〃	
Ch1+230 - Ch1+180	5/10/21	13:30	Sunny	0	20.9	0.04	0	31.2 / 1012	2	〃	
Ch1+230 - Ch1+180	6/10/21	8:30	Sunny	0	20.9	0.04	0	28.1 / 1012	2	〃	
Ch1+230 - Ch1+180	6/10/21	13:30	Sunny	0	20.9	0.04	0	30.5 / 1012	2	〃	
Ch1+230 - Ch1+180	7/10/21	8:30	Rainy	0	20.9	0.04	0	26 / 1011	2	〃	
Ch1+230 - Ch1+180	7/10/21	13:30	Rainy	0	20.9	0.04	0	29.2 / 1011	2	〃	
Ch1+230 - Ch1+180	8/10/21	8:30	Storm	0	20.9	0.04	6	26.1 / 1008	2	〃	
Ch1+230 - Ch1+180	8/10/21	13:30	Storm.	0	20.9	0.04	0	26.2 / 1008	2	〃	
Ch1+230 - Ch1+180	9/10/21		Typhoon Signal								
Ch1+230 - Ch1+180	9/10/21		No. 8								

Checked by : NG

Date 9-10-2021

Landfill Gas Monitoring - Field Measurement Recording Sheet

Contract Title Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
Contract No. : 13/WSD/17

Serial No.	Monitoring Equipment	Last Calibration
M02A048102	QRAE 3 (PGM-2500)	2/7/2021
M01C031772	MultiRAE Lite (PGM-6208)	6/4/2021
254938	GMI-PS500	29/9/2021

Monitoring Location	Date (dd/mm/yyyy)	Time (hh:mm)	Weather Condition	Landfill Gas Parameters				Physical Parameters	Trench Depth (m)	Measured by	
			Sunny/ Fine/ Overcast/ Drizzle/ Rain/ Storm/ Hazy	Methane (%LEL)	Oxygen (%)	Carbon Dioxide (%)	Balance Gas (%) (e.g. H2S)	Temp (°C) / Pressure mBar		Name	Signature
Ch1+230 - Ch1+180	11/10/21	8:30	Sunny	0	20.9	0.04	0	26.9 / 1005	2	Peter Au	
Ch1+230 - Ch1+180	11/10/21	13:30	Sunny	0	20.9	0.04	0	30.7 / 1005	2	〃	
Ch1+230 - Ch1+180	12/10/21	8:30	Overcast	0	20.9	0.04	0	24.5 / 1001	2	〃	
Ch1+230 - Ch1+180	12/10/21	13:30	Drizzle	0	20.9	0.04	0	25.1 / 1001	2	〃	
Ch1+230 - Ch1+180	13/10/21		Typhoon signal					/			
Ch1+230 - Ch1+180	13/10/21		No. 8					/			
Ch1+230 - Ch1+180	15/10/21	8:30	Rainy	0	20.9	0.04	0	26.7 / 1009	2	〃	
Ch1+230 - Ch1+180	15/10/21	13:30	Rainy	0	20.9	0.04	0	27.4 / 1009	2	〃	
Ch1+230 - Ch1+180	16/10/21	8:30	Sunny	0	20.9	0.04	0	27.9 / 1010	2	〃	
Ch1+230 - Ch1+180	16/10/21	13:30	Sunny	0	20.9	0.04	0	29.8 / 1010	2	〃	
Ch1+230 - Ch1+180								/			
Ch1+230 - Ch1+180								/			
Ch1+230 - Ch1+180								/			
Ch1+230 - Ch1+180								/			

Checked by : ~~16-10~~ NG

Date 16-10-21

Landfill Gas Monitoring - Field Measurement Recording Sheet

Contract Title Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
Contract No. : 13/WSD/17

Serial No.	Monitoring Equipment	Last Calibration
M02A048102	QRAE 3 (PGM-2500)	2/7/2021
M01C031772	MultiRAE Lite (PGM-6208)	6/4/2021
254938	GMI-PS500	29/9/2021

Monitoring Location	Date (dd/mm/yyyy)	Time (hh:mm)	Weather Condition	Landfill Gas Parameters				Physical Parameters	Trench Depth (m)	Measured by	
			Sunny/ Fine/ Overcast/ Drizzle/ Rain/ Storm/ Hazy	Methane (%LEL)	Oxygen (%)	Carbon Dioxide (%)	Balance Gas (%) (e.g. H2S)	Temp (°C) / Pressure mBar		Name	Signature
Ch1+230 - Ch1+180	18/10/21	8:30	Sunny	0	20.9	0.04	0	22.5 / 1018	2	Peter Au	
Ch1+230 - Ch1+180	18/10/21	13:30	Sunny	0	20.9	0.04	0	26.2 / 1018	2	"	
Ch1+230 - Ch1+180	19/10/21	8:30	Sunny	0	20.9	0.04	0	24.9 / 1017	2	"	
Ch1+230 - Ch1+180	19/10/21	13:30	Sunny	0	20.9	0.04	0	28.5 / 1017	2	"	
Ch1+230 - Ch1+180	20/10/21	8:30	Sunny	0	20.9	0.04	0	24.1 / 1015	2	"	
Ch1+230 - Ch1+180	20/10/21	13:30	Sunny	0	20.9	0.04	0	28.8 / 1015	2	"	
Ch1+230 - Ch1+180	21/10/21	8:30	Sunny	0	20.9	0.04	0	20.3 / 1014	2	"	
Ch1+230 - Ch1+180	21/10/21	13:30	Sunny	0	20.9	0.04	0	26.9 / 1014	2	"	
Ch1+230 - Ch1+180	22/10/21	8:30	Sunny	0	20.9	0.04	0	21.2 / 1019	2	"	
Ch1+230 - Ch1+180	22/10/21	13:30	Sunny	0	20.9	0.04	0	27.5 / 1019	2	"	
Ch1+230 - Ch1+180	23/10/21	8:30	Sunny	0	20.9	0.04	0	20.5 / 1020	2	"	
Ch1+230 - Ch1+180	23/10/21	13:30	Sunny	0	20.9	0.04	0	21.8 / 1020	2	"	
Ch1+230 - Ch1+180								/			
Ch1+230 - Ch1+180								/			

Checked by : ~~23-10~~ NG

Date 23-10-21

Landfill Gas Monitoring - Field Measurement Recording Sheet

Contract Title Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant
Contract No. : 13/WSD/17

Serial No.	Monitoring Equipment	Last Calibration
M02A048102	QRAE 3 (PGM-2500)	2/7/2021
M01C031772	MultiRAE Lite (PGM-6208)	6/4/2021
254938	GMI-PS500	29/9/2021

Monitoring Location	Date (dd/mm/yyyy)	Time (hh:mm)	Weather Condition	Landfill Gas Parameters				Physical Parameters	Trench Depth (m)	Measured by	
			Sunny/ Fine/ Overcast/ Drizzle/ Rain/ Storm/ Hazy	Methane (%LEL)	Oxygen (%)	Carbon Dioxide (%)	Balance Gas (%) (e.g. H2S)	Temp (°C) / Pressure mBar		Name	Signature
Ch1+230 - Ch1+180	25/10/21	8:30	Sunny	0	20.9	0.04	0	20.1 / 1016	2	Peter Au	
Ch1+230 - Ch1+180	25/10/21	13:30	Sunny	0	20.9	0.04	0	27.5 / 1016	2	〃	
Ch1+230 - Ch1+180	26/10/21	8:30	Sunny	0	20.9	0.04	0	23.1 / 1015	2	〃	
Ch1+230 - Ch1+180	26/10/21	13:30	Sunny	0	20.9	0.04	0	28.4 / 1015	2	〃	
Ch1+230 - Ch1+180	27/10/21	8:30	Sunny	0	20.9	0.04	0	25.2 / 1016	2	〃	
Ch1+230 - Ch1+180	27/10/21	13:30	Sunny	0	20.9	0.04	0	29.1 / 1016	2	〃	
Ch1+230 - Ch1+180	28/10/21	8:30	Sunny	0	20.9	0.04	0	25.3 / 1017	2	〃	
Ch1+230 - Ch1+180	28/10/21	13:30	Sunny	0	20.9	0.04	0	28.5 / 1017	2	〃	
Ch1+230 - Ch1+180	29/10/21	8:30	Sunny	0	20.9	0.04	0	24.1 / 1018	2	〃	
Ch1+230 - Ch1+180	29/10/21	13:30	Sunny	0	20.9	0.04	0	27.9 / 1018	2	〃	
Ch1+230 - Ch1+180	30/10/21	8:30	Drizzle	0	20.9	0.04	0	24.5 / 1018	2	〃	
Ch1+230 - Ch1+180	30/10/21	13:30	Drizzle	0	20.9	0.04	0	28.2 / 1018	2	〃	
Ch1+230 - Ch1+180								/			
Ch1+230 - Ch1+180								/			

Checked by : NG

Date 30-10-21

Appendix M

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

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-wan, 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 N

Water Quality and Landfill Gas Equipment Calibration Certificate

Equipment	Model	Serial Number	Calibration Date	Calibration Expiry Date*
Multi-Functional Meter	YSI ProDSS	15M101091	06/09/2021	06/10/2021
Multi-Functional Meter	Horiba U-53	UHB5F2BB	29/09/2021	29/10/2021
Multi-Functional Meter	Horiba U-53	S2A98W8H	26/10/2021	26/11/2021

Remarks*: All *in situ* monitoring instruments will be checked, calibrated and certified by laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at monthly intervals throughout the stages of water quality monitoring, as per requirements in the EM&A Manual Clause 5.1.3.

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

Report No. : BA090020
Date of Issue : 08 September 2021

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment	:	YSI ProDSS Multi Parameters
Manufacturer	:	YSI
Serial Number	:	15M101091
Date of Received	:	Sep 03, 2021
Date of Calibration	:	Sep 06, 2021
Date of Next Calibration[a]	:	Dec 06, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.12	0.12	Satisfactory
7.42	7.51	0.09	Satisfactory
10.01	10.06	0.05	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15	14.9	-0.1	Satisfactory
28	27.5	-0.5	Satisfactory
34.5	34.2	-0.3	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

[a] *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
[b] *The results relate only to the calibrated equipment as received*
[c] *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
[d] *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
[e] *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.*

LEE Chun-ning
Senior Chemist

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

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.14	0.23	0.09	Satisfactory
2.60	2.53	-0.07	Satisfactory
4.57	4.56	-0.01	Satisfactory
7.55	7.32	-0.23	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.96	-0.40	Satisfactory
20	20.37	1.85	Satisfactory
30	31.17	3.90	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	-0.34	--	Satisfactory
10	10.23	2.3	Satisfactory
20	19.25	-3.8	Satisfactory
100	106.49	6.5	Satisfactory
800	849.67	6.2	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) 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.

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

Report No. : BA100007
Date of Issue : 05 October 2021

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment	:	Multi Water Quality Checker U-53
Manufacturer	:	Horiba
Serial Number	:	UHB5F2BB
Date of Received	:	Sep 28, 2021
Date of Calibration	:	Sep 29, 2021
Date of Next Calibration[a]	:	Dec 28, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.
Oxidation-Reduction Potential	APHA 22e 2580 B

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	3.82	-0.18	Satisfactory
7.42	7.43	0.01	Satisfactory
10.01	10.03	0.02	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15	15.1	0.1	Satisfactory
25	25.1	0.1	Satisfactory
33.5	33.1	-0.4	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

(a) *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
(b) *The results relate only to the calibrated equipment as received*
(c) *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
(d) *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
(e) *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.*

LEE Chun-ning
Senior Chemist

專業化驗有限公司
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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

Report No. : BA100007
Date of Issue : 05 October 2021

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.65	0.56	-0.09	Satisfactory
1.91	1.79	-0.12	Satisfactory
3.30	3.34	0.04	Satisfactory
6.98	6.99	0.01	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.18	1.80	Satisfactory
20	20.70	3.50	Satisfactory
30	31.45	4.83	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.00	--	Satisfactory
10	10.5	5.0	Satisfactory
20	20.3	1.5	Satisfactory
100	106	6.0	Satisfactory
800	788	-1.5	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

(6) Oxidation-Reduction Potential

Expected Reading (mV)	Displayed Reading (mV)	Tolerance (mV)[g]	Results
229	231	2	Satisfactory

Tolerance limit of Oxidation-Reduction Potential should be less than ±10 (mV)

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) 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.

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

Report No. : BA100064
Date of Issue : 02 November 2021

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment	:	HORIBA U-53 Multi Parameters
Manufacturer	:	HORIBA
Serial Number	:	S2A98W8H
Date of Received	:	Oct 26, 2021
Date of Calibration	:	Oct 26, 2021
Date of Next Calibration[a]	:	Jan 25, 2022

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.03	0.03	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.19	0.18	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16	16.24	0.24	Satisfactory
25	25.10	0.10	Satisfactory
33	32.95	-0.05	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

[a] *The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.*
[b] *The results relate only to the calibrated equipment as received*
[c] *The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.*
[d] *"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.*
[e] *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.*

LEE Chun-ning
Senior Chemist

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

Report No. : BA100064
Date of Issue : 02 November 2021

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
2.96	3.30	0.34	Satisfactory
3.41	3.76	0.35	Satisfactory
4.87	5.12	0.25	Satisfactory
7.92	8.00	0.08	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.47	4.70	Satisfactory
20	21.32	6.60	Satisfactory
30	32.20	7.33	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading[f] (NTU)	Tolerance[g] (%)	Results
0	0.30	--	Satisfactory
10	10.8	8.0	Satisfactory
20	21.8	9.0	Satisfactory
100	109	9.0	Satisfactory
800	790	-1.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

(g) 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.

Calibration Certificate

Customer Name	PROMAT (HK) LTD
Customer Details	SAN PO KONG KOWLOON HONG KONG
Order Number	21000418
Acknowledgement Number	165921
Instrument	PS500
Serial number	254928
Test Date	29 September 2021

This instrument has been manufactured in accordance with our ISO9001 approved procedures and conforms to the quality and manufacturing standards laid down in our process. This instrument has been calibrated using gases that are traceable to national standards.

CALIBRATION RESULTS

Gas Applied	Conc.	Range	After Cal
CO2	3.00 % CO2	%	3.00 %
Methane	50 % LEL	LEL	50 %
O2	Air	% VOL	20.9 %
H2S	50 PPM H2S	PPM	50 PPM
CO	500 PPM CO	PPM	499 PPM

Calibrated on behalf of GMI Ltd by: _____

TELEDYNE GAS MEASUREMENT INSTRUMENTS
Everywhereyoulook™

PROMAT

PS500

Portable 5 Gas Monitor

Designed by our customers, this robust and accurate gas detector provides unrivalled protection in confined space applications.

Auto Bump & Calibration Station

- Simple user interface
- Bump test or calibration
- Bump/calibration results storage
- Standalone, PC or Ethernet options
- Robust construction

Features

- Over 15 “plug-and-play” smart sensors
- PID sensors for VOC detection
- Flexible configuration to suit your requirements
- Audible and visual alarms
- Datalogging for calibration certificates, data management, and event logging
- Robust construction
- Internal pump (optional)
- Easy maintenance
- Low cost of ownership

PS500

Portable 5 Gas Monitor

Description

The PS500 can be configured to detect up to five gases with its electrochemical and catalytic sensors, photo ionisation detectors (PID), and infrared capabilities.

"Plug and Play" maximizes flexibility by allowing other gases to be detected, by simply inserting a new smart sensor assembly.

The PS500 is effective in noisy environments, featuring a loud (95dB) penetrating and distinctive audible alarm together with a high visibility visual alarm.

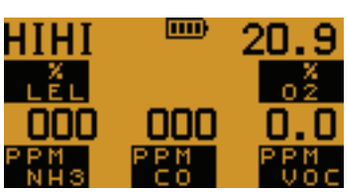
With a robust, rubberized casing guaranteeing hi-Impact resistance, the PS500 is ideal for the most demanding industrial environments.
An optional internal pump allows both pumped or diffusion measurements. If the pump is fitted, it can be easily turned on/off, depending on application. E.g. pump on to perform pre-entry measurements correctly, pump off for confined space working.

Technical Specification

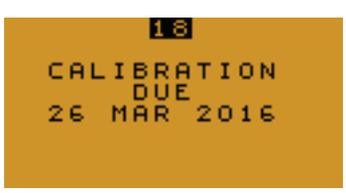
Size:	140 x 85 x 45 mm / 5.5" x 3.3" x 1.7"
Weight:	0.4 kg / 14 oz.
Humidity:	0-98% non condensing
Alarms:	Visual 360o full light bar, piercing 95db audible Low battery alarm User programmable alarms: Up to 4 alarms per toxic gas (incl. STEL / TWA) 3 alarms for O2 2 alarms for LEL
Display:	LCD backlight display
Datalogging:	Timed: 24 hours of timed logs at 1 log per minute Session: Minimum of 180 logs Calibration: 8 calibration logs
Sampling:	Maximum tubing length - 30 m / 98 ft. (Response times increase by approx. 1 second for every metre / 3 ft. of tubing used)
Battery:	NiMH rechargeable battery - 12 hr. minimum with pump Alkaline battery pack (3 AA) - 12 hr. minimum with pump
Enclosure:	High impact rubberised polycarbonate case
IP Rating:	IP65 (Dust tight and water resistant)
Approvals:	* UL 913 Class I, Div 1 Groups A,B,C,D MED (0038/YY) - Module B & E CE ATEX II 2 G EEx iad IIC T3 / T4
IECEx:	Ex iad IIC T4/T3
Warranty:	2 years

* Excludes NDIR sensor option.

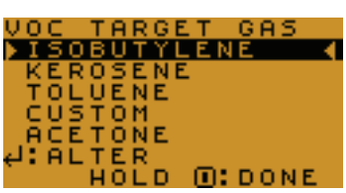
Features



Display in alarm conditions



Configurable calibration options



VOC target gas selection

PS500
Portable 5 Gas Monitor

Automatic Bump Testing and Calibration

To provide accurate performance and results, the PS500 has to be properly used and maintained. The Auto Bump & Calibration Station (ABC) provides bump testing, calibration and data management options and is compact, robust and intuitive to use. Two versions of the ABC are available allowing either a single gas cylinder or up to three cylinders to be connected. Additionally, a special three cylinder version is available for reactive gases. The ABC is fully configurable and can operate in three distinct modes of operation:

Standalone

- No PC or network connection required
- Simple setup and configuration
- Results stored on ABC
- USB access for results extraction
- Settings App for easy printing of calibration certificates

PC

- PC / laptop connected to ABC
- Setup and configuration using flexiCal Plus software
- Results stored in the PC / laptop
- Easy access to all results
- Powerful data management / calibration certificate generation

Ethernet

- Multiple ABC's can be connected to a network
- Setup and configuration using IMS Settings software
- All results stored in the IMS database
- Easy access to all results
- Powerful data management / calibration certificate generation

Auto Bump & Calibration Station Technical Station

Size:	200 x 140 x 135mm (7.9" x 5.5" x 5.3")
Weight:	Singe Gas - 1.2kg (43oz) Multi Gas - 1.35kg (48oz)
Interfaces:	Standalone /USB /Ethernet
LED Indicators:	Power (Green) /Testing (Orange) / Pass (Green) / Fail (Red)
Testing Time:	Bump Test 150 secs Calibration Test 150 secs
Data Storage:	Up to 6000 Bump & Calibration results
Power Supply:	12V dc, 2A
Operating Temperature:	-10°C to 40°C (14°F to 104°F)
Gas Ports:	Single Gas - 3 (Air, Gas & Exhaust) Multi Gas - 5 (Air, Gas x 3 & Exhaust)

PS500

Ordering information

Sensor Specification				
Gas	**Ranges**	**Resolution**	**Sensor Type**	**T90**
LEL	0 - 100% LEL	1% LEL	Cat-bead	15 sec
	0 - 100% LEL	1% LEL	NDIR	35 sec
CO_2	0 - 2.50%	0.01%	NDIR	25 sec
	2.50 - 5.00%	0.05%		
O_2	0 - 25%	0.1%	Electrochemical	10 sec
CO	0 - 1000PPM	1PPM	Electrochemical	35 sec
H_2S	0 - 100PPM	1PPM	Electrochemical	25 sec
DUAL TOX CO/H_2S	0-1000PPM(CO) 0-100PPM(H_2S)	1PPM	Electrochemical	35 sec & 25 sec
SO_2	0 - 30PPM	1PPM	Electrochemical	10 sec
	0 - 100PPM	1PPM	Electrochemical	10 sec
CL_2	0 - 10PPM	0.1PPM	Electrochemical	30 sec
NH_3	0 -100PPM	1PPM	Electrochemical	60 sec
NO	0 - 300PPM	1PPM	Electrochemical	20 sec
NO_2	0 - 20PPM	0.1PPM	Electrochemical	185 sec
PH_3	0 - 100PPM	1PPM	PID	5 sec
VOC	0 - 100PPM	0.1PPM	PID	5 sec
	0 - 1000PPM	1PPM	PID	5 sec
C_6H_6	0 - 20PPM	0.1PPM	PID	5 sec

Long duration battery pack and instrument with fast charge battery pack, charging in Fast Charger master / slave units.

Battery / Charger Accessories	
66701	Long duration rechargeable battery pack
66702	Alkaline battery pack (3 x AA batteries)
66703	Fast charge rechargeable battery pack
66140	Standard charger - c/w universal plug (for 66701)
66200	5-way charger - c/w universal plug (for 66701)
66207	10-way charger - c/w universal plug (for 66701)
66206	Car/vehicle charger 12/24V (for 66701)
66513	Fast charger - c/w universal plug
66516	10-way fast charger master unit - c/w universal plug
66514	10-way fast charger slave unit - c/w universal plug

Recommended Accessories / Spare Parts	
66485	Hydrophobic filter - external inline
66136	3m sample line (Tygon® tubing) with connector
66930	3m reactive gas tubing with connector
66028	Neck harness
66017	Probe assembly
61208	Datalogging package
61445	PS500 CAL - Calibration Package
66083	Sensor grill hydrophobic filter
66084	Sensor gas inlet filter
66108	Blank sensor plug
66190	Pump assembly kit - includes pump, tubing and fittings

Automatic Bump & Calibration	
61502	Auto Bump & Calibration Station - single gas connection (6mm fittings & incl. PSU & USB stick with Standalone software)
61504	Auto Bump & Calibration Station - multi gas connections (4mm / 6mm fittings & incl. PSU & USB stick with Standalone software)
61504R	Auto Bump & Calibration Station - multi gas connections (for reactive gases CL_2 / NH_3)
99553	flexiCal Plus software for PC
99118	Demand flow regulator
64265	Tubing with 6mm push fit connection (for 61502)
61540	600mm reactive gas tubing (for 61504R)
64443	6mm Push fit Barbed Adaptor
61536	4mm Push fit Barbed Adaptor (for 61504)

Gas Kits for Automatic Bump & Calibration Station	
99146	Combi Test Gas Cylinder (2.5% CH_4, 500ppm CO, 50ppm H_2S, 18% O_2, balance N_2)
64060	Test Gas Kit (Combi test gas 99146, demand flow regulator 99118 c/w 6mm tubing)

TELEDYNE
GAS AND FLAME DETECTION
Everywhereyoulook™

PROMAT (HK) Limited 寶時（香港）有限公司
: 2661 2392 : 5196 8860 : info@promat.hk : http://www.promat.hk

PROMAT
Your Solution To Testing Instrument

Honeywell Protection Through Detection

1349 Moffett Park Drive,
Sunnyvale, CA 94089 USA
Main: 408-952-8200

www.raesystems.com

Calibration and Test Certificate

Product Name: MultiRAE Lite
Model Number: PGM-6208
Serial Number: M01C031772
Calibration/Inspection Date: 6/4/2021

Calibration Gases:

#	Gas	Concentration	Balance	Lot#
1	Hydrogen Sulfide(H_2S)	10ppm	Nitrogen(N_2)	20210508
2	Carbon Monoxide(CO)	50ppm		
3	Oxygen(O_2)	18%		
4	Methane(CH_4)	50%LEL		
5	Sulfur Dioxide(SO_2)	5ppm	Nitrogen(N_2)	20210114
6	Carbon Dioxide(CO_2)	5000ppm	Nitrogen(N_2)	20201203

Test Results:

#	Sensor	Span	UOM
1	LEL	51	%LEL
2	SO_2	5.2	ppm
3	COSH (H2S / CO)	10.1 / 51	ppm
4	Pb O_2	17.8	%
5	CO_2	4900	ppm

This instrument has been calibrated using valid calibration gases and instrument manual operation procedures. Test and calibration data is on file with the manufacturer, RAE Systems.

Approved By: Tsun Hang

86-05-51832593

ISO 9001 CERTIFIED

亞太工業安全設備
Asia Pacific Industrial Safety Equipment

Your Safety Is Our Success

香港九龍觀塘興業街31號興業中心1樓B室
Unit B, 1/F., Hing Yip Centre,31 Hing Yip Street, Kwun Tong, Kowloon, Hong Kong.

Tel: (852) 2592 2100
Fax: (852) 3165 8960
Email: info@apisehk.com
http://www.apisehk.com

Calibration Certificate

Customer: China State Construction Engineering (Hong Kong) Ltd.

Address: 將軍澳海水化淡水廠第一階段
灣仔郵政信箱28918號

Attn: 卓先生

Calibration Date : 2/7/2021
Certificate Ref: GDR00139
Tel: 9138 2007
Fax: 0

Product Name with Model No.: QRAE 3 (PGM-2500)
FirmWare version: V2.18
Serial No.: M02A048102
Sensor Configurations: LEL / H2S / CO / O2

Type of Sensor	Serial No.:	State:
Combustible (LEL) Sensor	S01403A589A5	Enable
Hydrogen sulfide (H2S) Sensor	S032490521A5	Enable
Oxygen (O2) Sensor	S022035322A5	Enable
Carbon Monoxide (CO) Sensor	S032480207A5	Enable

Type of Sensor	Alarm Setting			
	Low	High	STEL	TWA
Combustible (LEL)	10	20	N/A	N/A
Hydrogen sulfide (H2S)	10	15	15	10
Oxygen (O2)	19.5	23.5	N/A	N/A
Carbon Monoxide (CO)	25	200	50	25

Inspection Items	Visual Inspection	Functional Test
Basic Unit - Case, Clip & Display etc.	Pass	Pass
Battery and Charge etc.	Pass	Pass
Motorized Pump	Pass	Pass
Audible Alarm and Visual Alarm	Pass	Pass

Type of calibration		LEL(% LEL)	H2S (PPM)	OXY(%)	CO(PPM)
Span Calibration		50	25	18	100
Reading	Before Cal.	37	17.9	18.6	76
	After Cal.	50	25	18	100
	Result	Pass	Pass	Pass	Pass

Gas Detector next annual check due date: 1/7/2022

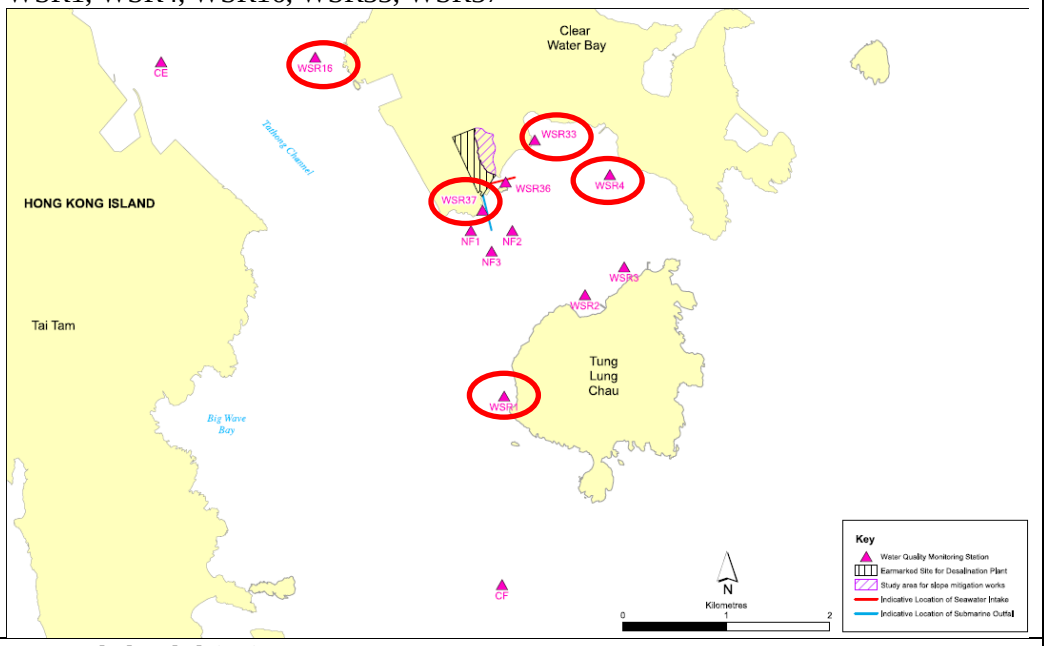
Asia Pacific Industrial Safety Equipment
Honeywell RAE Authorized Service Centre

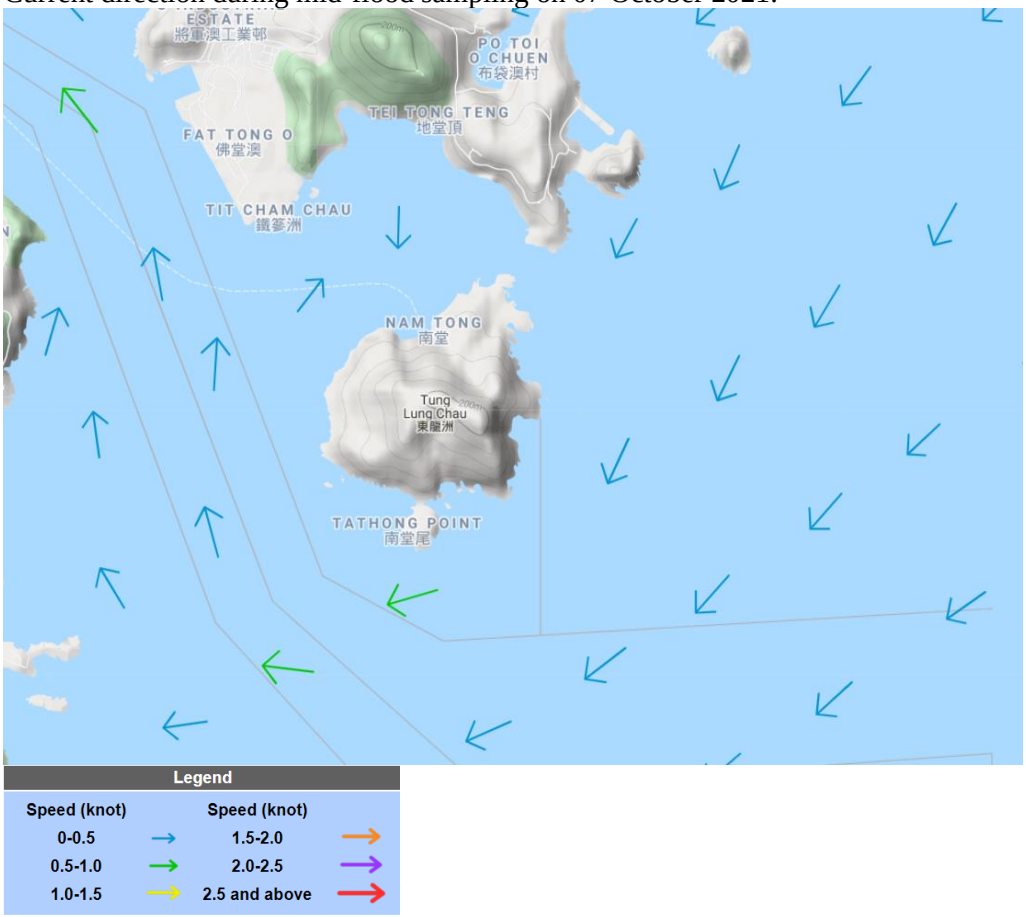
Jason K.F. Wong
Sales & Services Department

Appendix O

Exceedance Report(s)

Incident Report on Action Level or Limit Level Non-Compliance

Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	07 October 2021 (Lab result received on 11 October 2021)		
Time	15:59 - 19:00 (Mid-Flood) and 11:05 - 14:35 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR1, WSR4, WSR16, WSR33, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 11.2 mg/L	> 12.1 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	11.3 mg/L (WSR1) 11.8 mg/L (WSR4) 11.7 mg/L (WSR16) 12.5 mg/L (WSR33) 12.8 mg/L (WSR37)	9.3 mg/L (CF) 13.0 mg/L (CE)	11.0 mg/L (WSR2) 11.0 mg/L (WSR3) 6.7 mg/L (WSR36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) One derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 2100 hrs) Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge towed back to TKODP site, awaiting to position (1330 – 1500 hrs); 2) 1st derrick barge positioned and anchored (1500 – 1630 hrs); 3) 1st derrick barge supported sheet piling work (1630 – 1800 hrs); 4) 2nd derrick barge for material lifting and housekeeping work inside the hopper (0800 – 1700 hrs); 5) 2nd derrick barge towed to Yau Ma Tei typhoon shelter (1700 – 1800 hrs) Marine construction activities with contact with water: 1) One derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 2100 hrs); 2) 1st derrick barge supported sheet piling work (1630 – 1800 hrs) Marine vessels on 07 October 2021: • Derrick barge x 2, tug boat x 1 and anchor boat x 1 (Intake Shaft) • Derrick barge x 1 (Outfall Shaft)		

	Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau. WSR1, WSR4 and WSR16 were located distant from the construction site and the possibility of being affected by marine construction activities was low. However, SS exceedances were observed at WSR1 (11.3 mg/L), WSR4 (11.8 mg/L) and WSR16 (11.7 mg/L). As been advised by the Main Contractor, only preparation works for concreting at the concrete plugs were conducted at Outfall Shaft during mid-flood tide at WSR37. Manual seabed levelling was conducted with limited SS generation would be expected. The SS level at WSR37 (12.8 mg/L) was similar to WSR33 (12.5 mg/L), where observation of silt plume was reported by the water sampling team during water sampling. No SS exceedance was observed at WSR36 (6.7 mg/L), where marine construction activities with contact with water was conducted. The SS background level was relatively high during mid-flood tide on 07 October 2021, which ranged between 11.3 mg/L to 12.8 mg/L. One of the control stations, CE, was recorded with the highest SS level (13.0 mg/L) during mid-flood tide. Accumulated rainfall of 50mm was recorded on 07 October 2021. The heavy rainfall may lead to the release of SS content from the soil of the nearby lands (e.g. country park, fill bank). Hence rainfall may be the dominant factor causing observed SS exceedances at WSR33 and WSR4. According to the field observation by sampling team during sampling event, silt plume was observed in the Project site on 07 October 2021, near to WSR33 and WSR4. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 07 October 2021.
Remarks	Current direction during mid-flood sampling on 07 October 2021:  (Sourced from http://current.hydro.gov.hk/en/map.html)

Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR4)

Supporting Photo 3 (Sea Conditions at WSR16)

Supporting Photo 4 (Sea Conditions at WSR33)

Supporting Photo 5 (Sea Conditions at WSR37)

Supporting Photo 6 (Sea Conditions at CF)

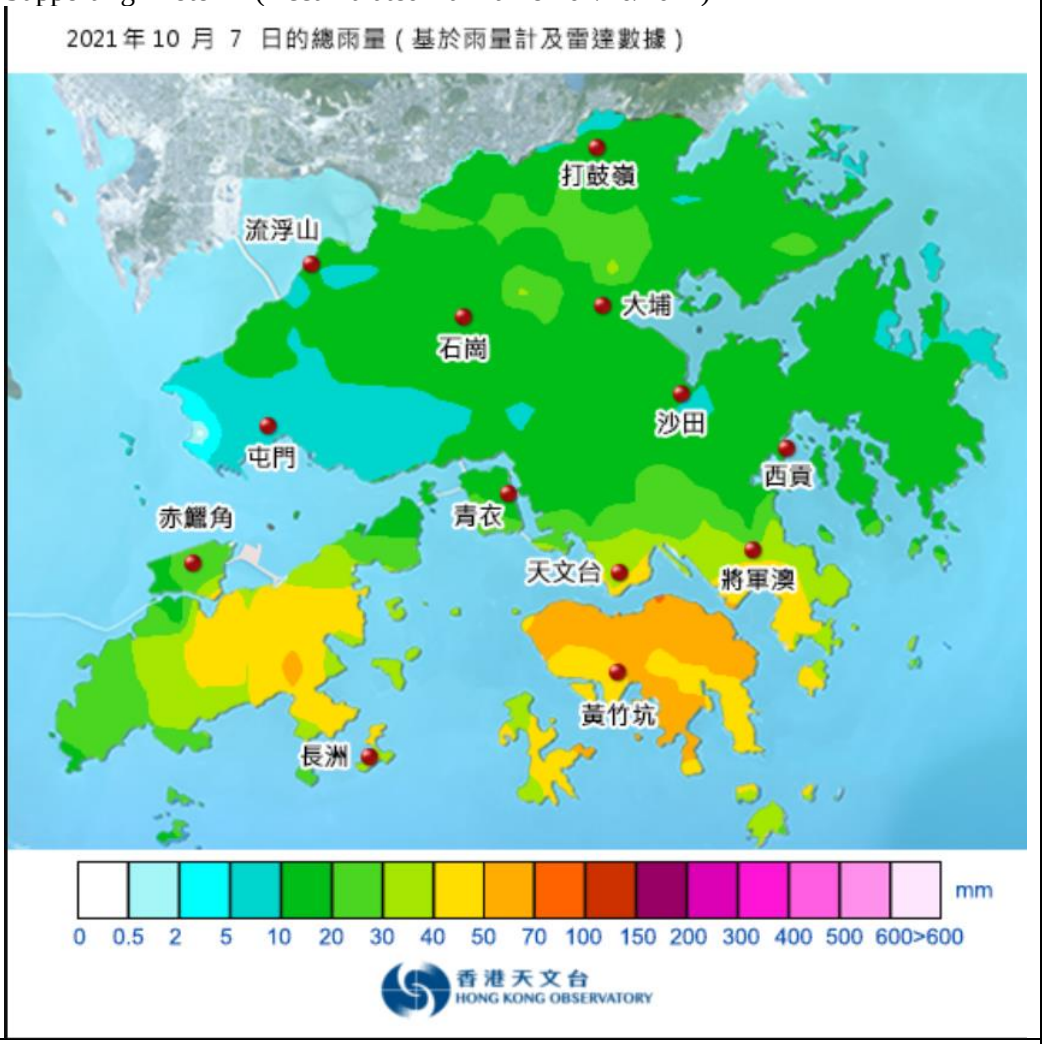
Supporting Photo 7 (Sea Conditions at CE)

Supporting Photo 8 (Sea Conditions at Intake Shaft Area)

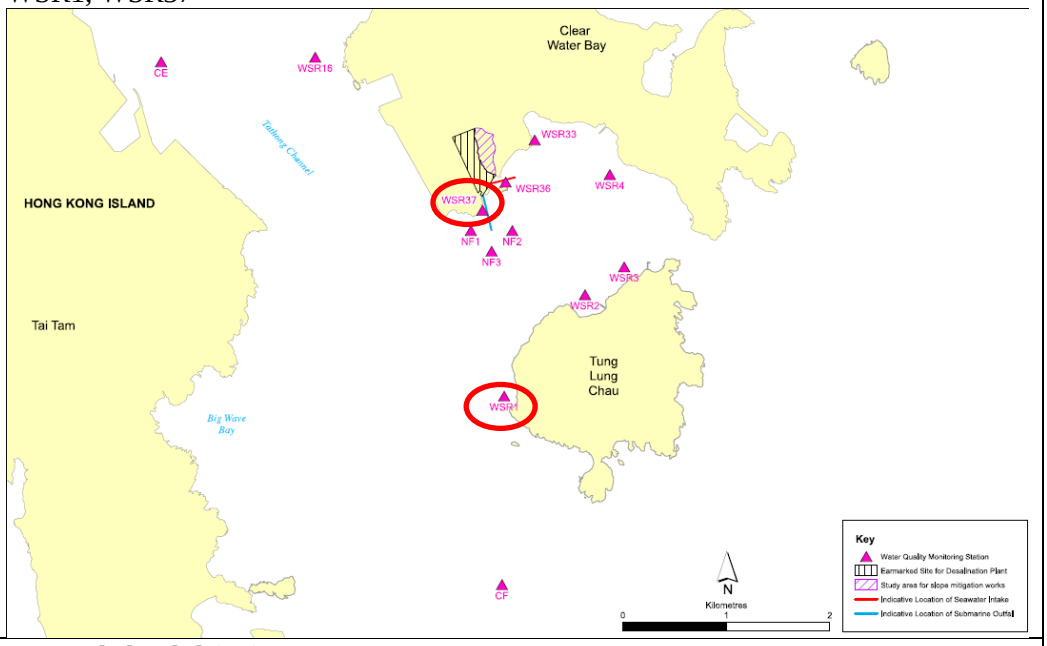
Supporting Photo 9 (Sea Conditions at Outfall Shaft Area)

Supporting Photo 10 (Silt Plume near to WSR33)

	Supporting Photo 11 (Accumulated Rainfall on 07/10/2021)
Prepared by	Charlene Lai
Date	03 November 2021

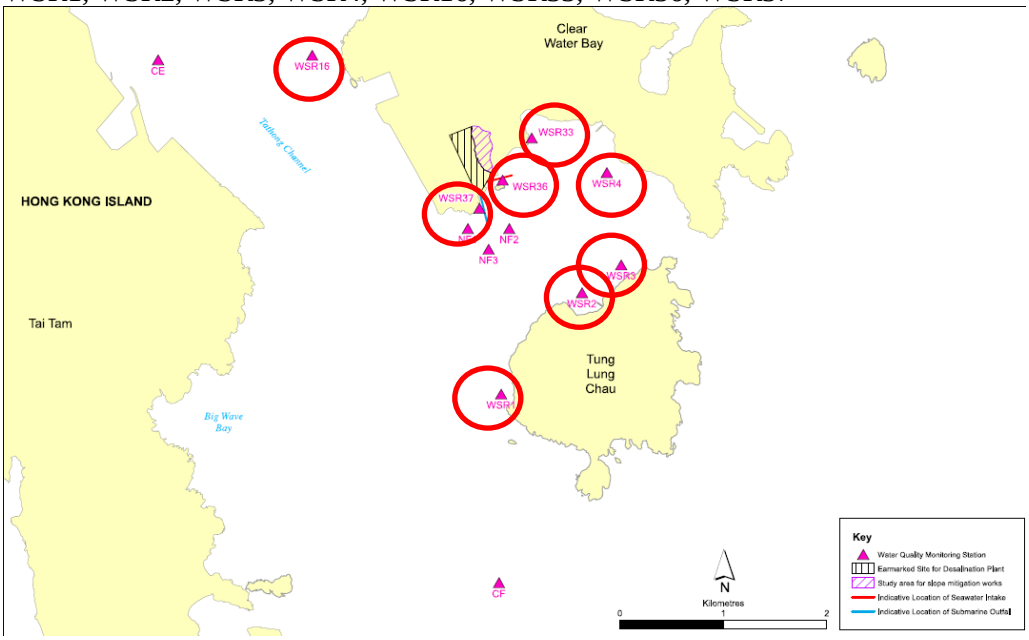


Incident Report on Action Level or Limit Level Non-Compliance

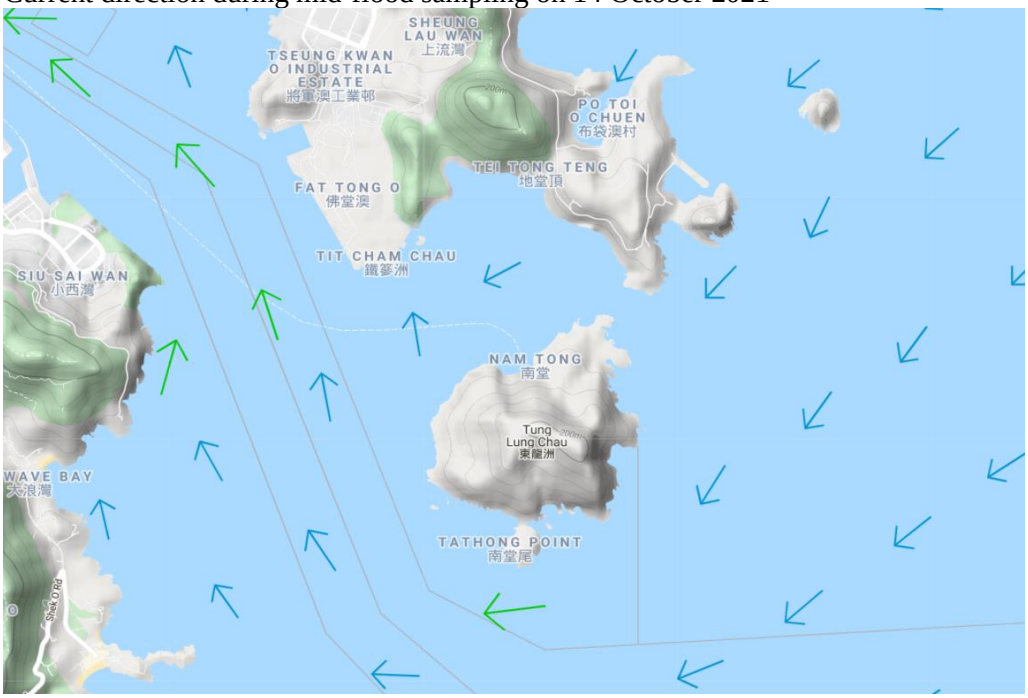
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	14 October 2021 (Lab result received on 18 October 2021)		
Time	12:57 - 16:27 (Mid-Flood) and 08:00 - 10:59 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR1, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 8.8 mg/L	> 9.5 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	10.3 mg/L (WSR 1) 11.0 mg/L (WSR 37)	7.3 mg/L (CF) 7.5 mg/L (CE)	6.2 mg/L (WSR 2) 5.3 mg/L (WSR 3) 5.7 mg/L (WSR 4) 4.5 mg/L (WSR 16) 6.8 mg/L (WSR33) 8.5 mg/L (WSR36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: 1) derrick barge towed back from typhoon shelter to TKODP site (0800 – 1430 hrs); 2) derrick barge awaiting to position (1430 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge towed back from typhoon shelter to TKODP site, awaiting to position (0800 – 1200hrs); 2) derrick barge repaired anchor chains & wires (1200 – 1600 hrs); 3) derrick barge got in position at Intake Shaft (1600 – 1800 hrs) Marine construction activities with contact with water: N/A Marine vessels on 14 October 2021: • Derrick barge x 1; tug boat x 1 and anchor boat x 1 (Intake Shaft) • Derrick barge x 1; tug boat x 1 and anchor boat x 1 (Outfall Shaft) Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau.		

<table>
<tr><td></td><td colspan="3">As referenced to the work schedule provided by the Main Contractor, no marine construction activities with contact with water was conducted on 14/10/2021 at WSR37, which was also a public holiday (Chung Yeung Festival). SS exceedances were however observed at WSR1 (10.3 mg/L) and WSR37 (11.0 mg/L). WSR1 was located distant from the construction site and the possibility of being affected by marine construction activities was considered limited. An accumulative 10mm rainfall was recorded on 14/10/2021. The rainfall may lead to the release of SS content from the soil of the nearby lands (e.g. country park, fill bank). Hence rainfall may be the dominant factor causing observed SS exceedances at WSR1 and WR37.

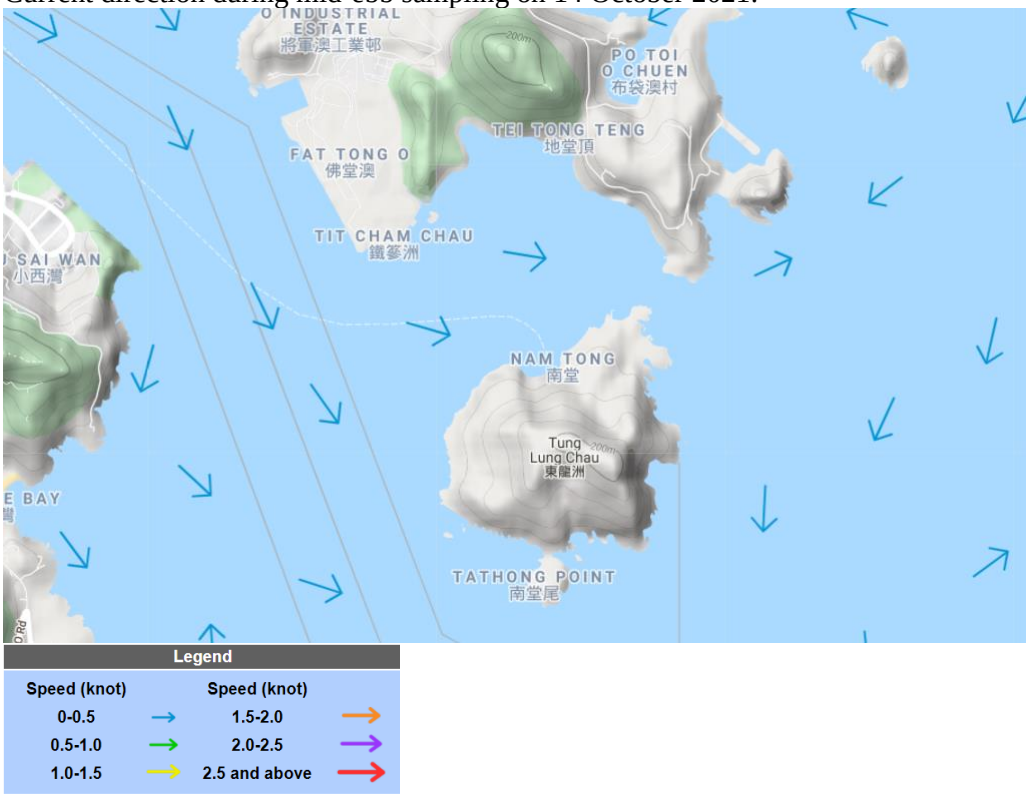
According to the field observation by sampling team during sampling event, silt plume was observed in the Project site near to WSR4 and WSR33 on 14 October 2021.

Conditions of the protective silt curtain at the inland water outfall was satisfactory on 14 October 2021.</td></tr>
<tr><td colspan="4">Mid-Ebb</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">WSR1, WSR2, WSR3, WSR4, WSR16, WSR33, WSR36, WSR37
 
</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>> 6.8 mg/L</td><td colspan="2">> 7.4 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>7.5 mg/L (WSR1)
11.3 mg/L (WSR2)
13.7 mg/L (WSR3)
12.3 mg/L (WSR4)
10.0 mg/L (WSR16)
8.2 mg/L (WSR33)
9.0 mg/L (WSR36)
8.7 mg/L (WSR37)</td><td>5.7 mg/L (CE)
5.3 mg/L (CF)</td><td></td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">Outfall Shaft Area: 1) derrick barge towed back from typhoon shelter to TKODP site (0800 – 1430 hrs); 2) derrick barge awaiting to position (1430 – 1800 hrs)

Intake Shaft Area: marine construction activities, namely 1) derrick barge towed back from typhoon shelter to TKODP site, awaiting to position (0800 – 1200hrs); 2) derrick</td></tr>
</table>

	barge repaired anchor chains & wires (1200 – 1600 hrs); 3) derrick barge got in position at Intake Shaft (1600 – 1800 hrs) Marine construction activities with contact with water: N/A Marine vessels on 14 October 2021: • Derrick barge x 1; tug boat x 1 and anchor boat x 1 (Intake Shaft) • Derrick barge x 1; tug boat x 1 and anchor boat x 1 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. WSR1, WSR2, WSR3, WSR4 and WSR16 were located distant from the construction site and the possibility of being affected by marine construction activities was considered limited. SS exceedances were however observed at WSR1 (7.5 mg/L); WSR2 (11.3 mg/L); WSR3 (13.7 mg/L); WSR4 (12.3 mg/L); WSR16 (10.0 mg/L). SS silt plume was observed at WSR4 and WSR33 by water sampling team on 14/10/2021. The SS level of a downstream station, WSR33 (8.2 mg/L) was lower than that of WSR36 (9.0 mg/L). As referenced to the work schedule provided by the Main Contractor, no marine construction activities with contact with water was conducted on 14/10/2021 at WSR36 and WSR37, which was also a public holiday (Chung Yeung Festival). SS exceedance was however observed at WSR36 and WSR37 (8.7 mg/L). An accumulative 10mm rainfall was recorded on 14/10/2021. The rainfall may lead to the release of SS content from the soil of the nearby lands (e.g. country park, fill bank). Hence rainfall may be the dominant factor causing observed SS exceedances. According to the field observation by sampling team during sampling event, silt plume was observed in the Project site near to WSR4 and WSR33 on 14 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 14 October 2021.
Remarks	Current direction during mid-flood sampling on 14 October 2021 

Current direction during mid-ebb sampling on 14 October 2021:



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

Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR2)

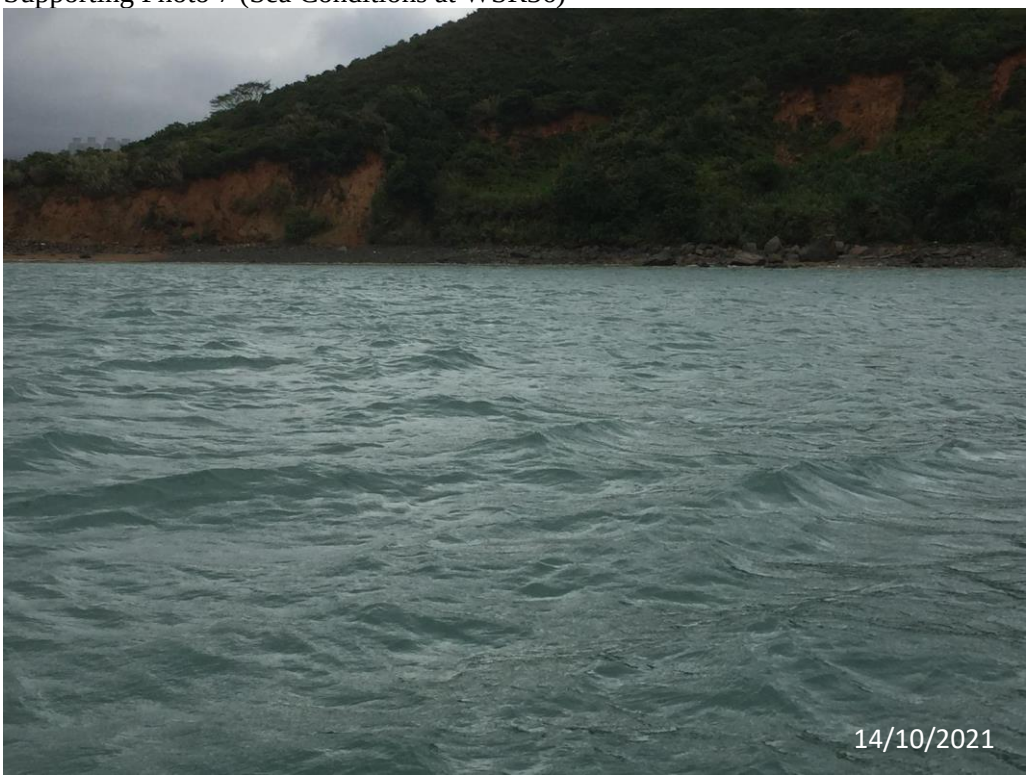
Supporting Photo 3 (Sea Conditions at WSR3)

Supporting Photo 4 (Sea Conditions at WSR4)

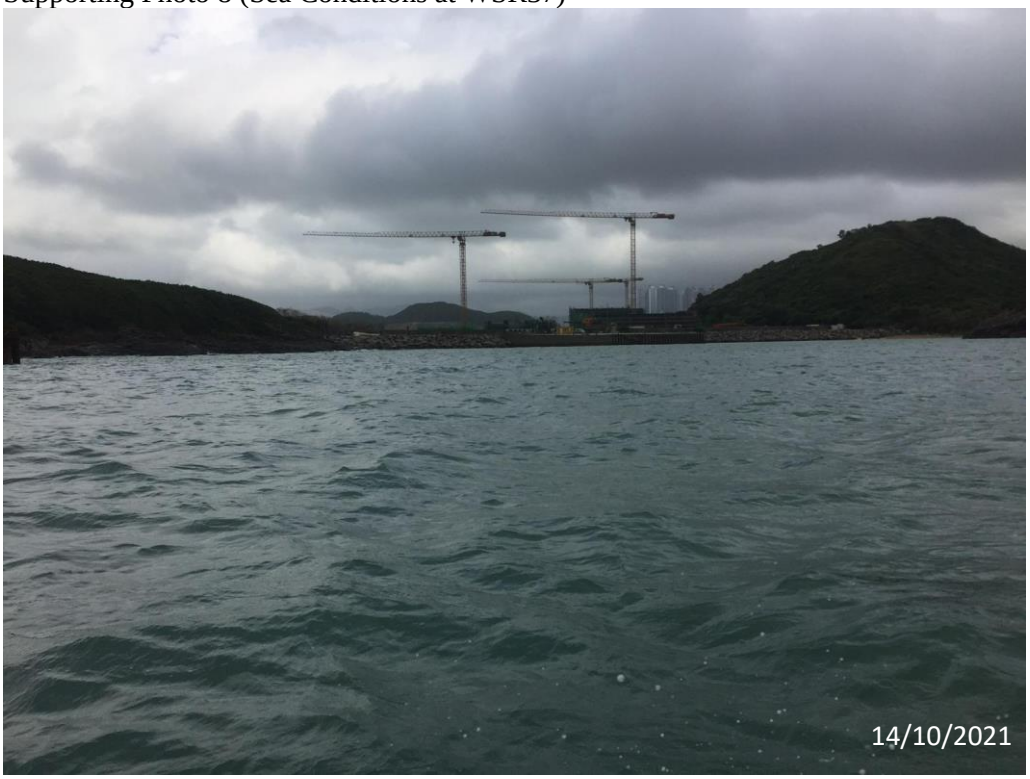
Supporting Photo 5 (Sea Conditions at WSR16)

Supporting Photo 6 (Sea Conditions at WSR33)

Supporting Photo 7 (Sea Conditions at WSR36)

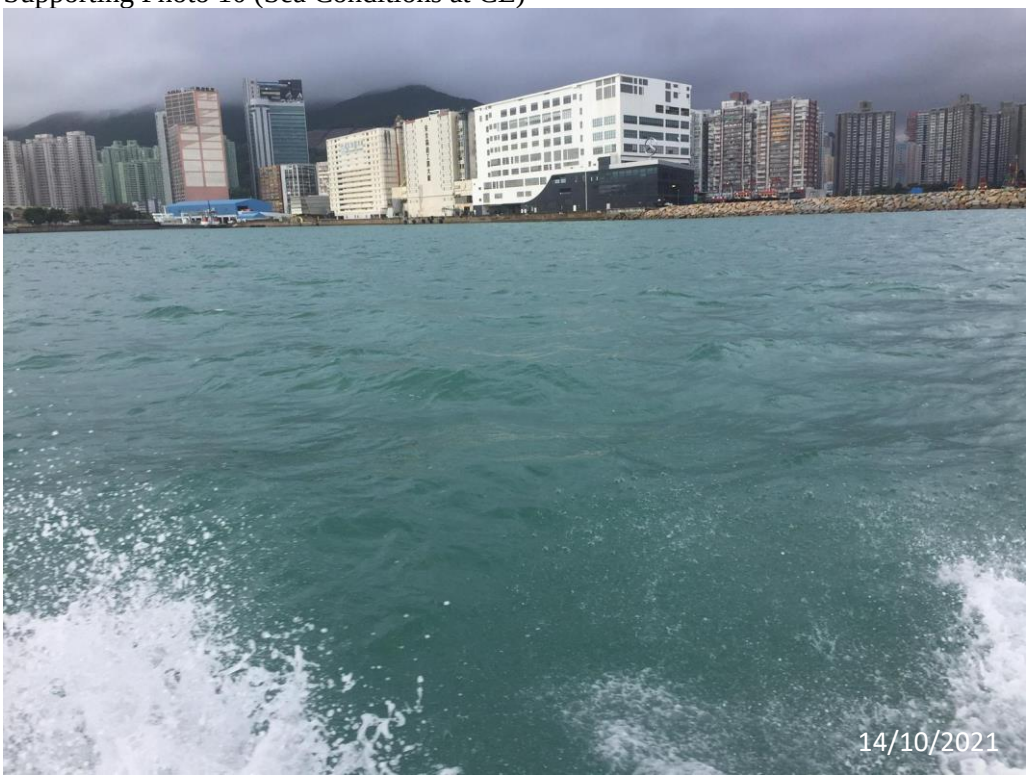


Supporting Photo 8 (Sea Conditions at WSR37)

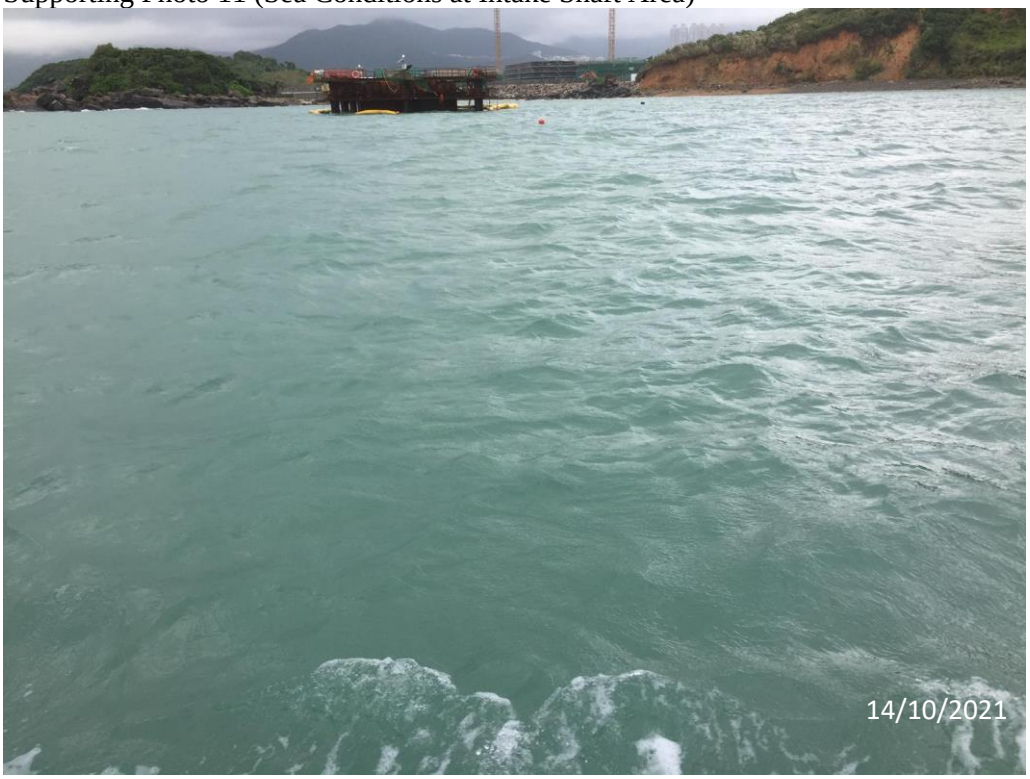


Supporting Photo 9 (Sea Conditions at CF)

Supporting Photo 10 (Sea Conditions at CE)

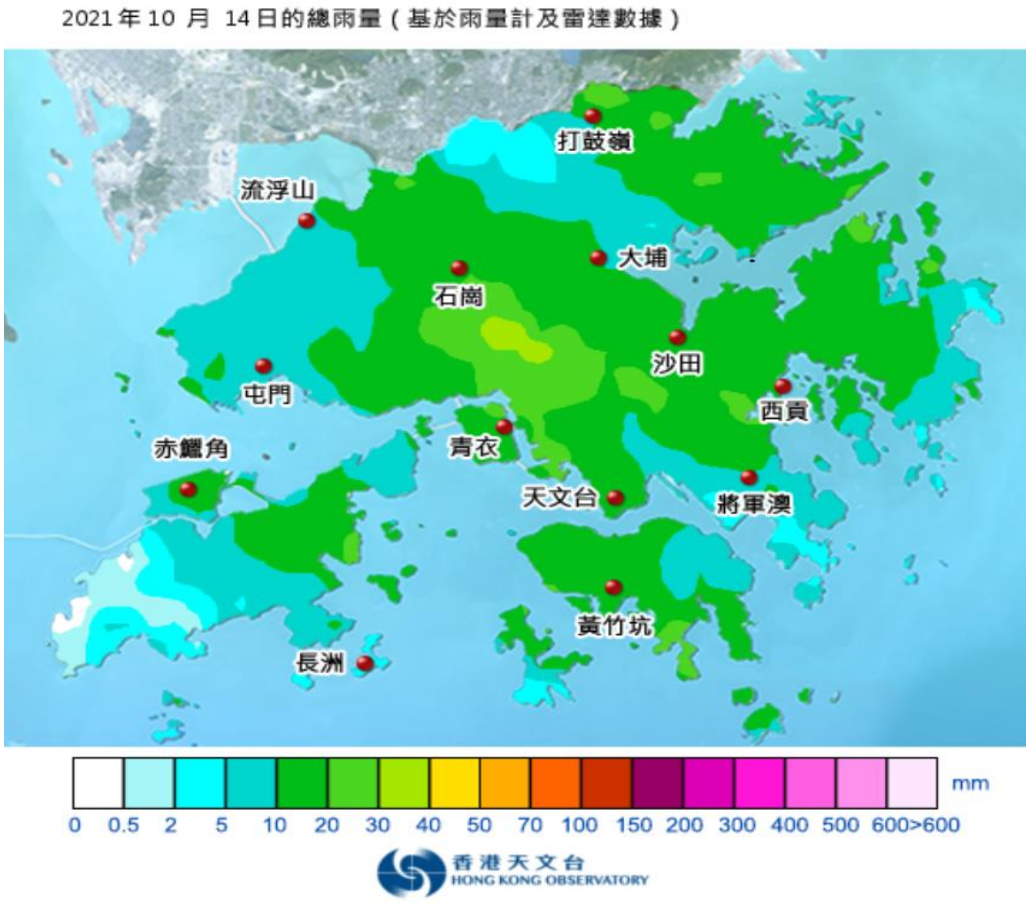


Supporting Photo 11 (Sea Conditions at Intake Shaft Area)

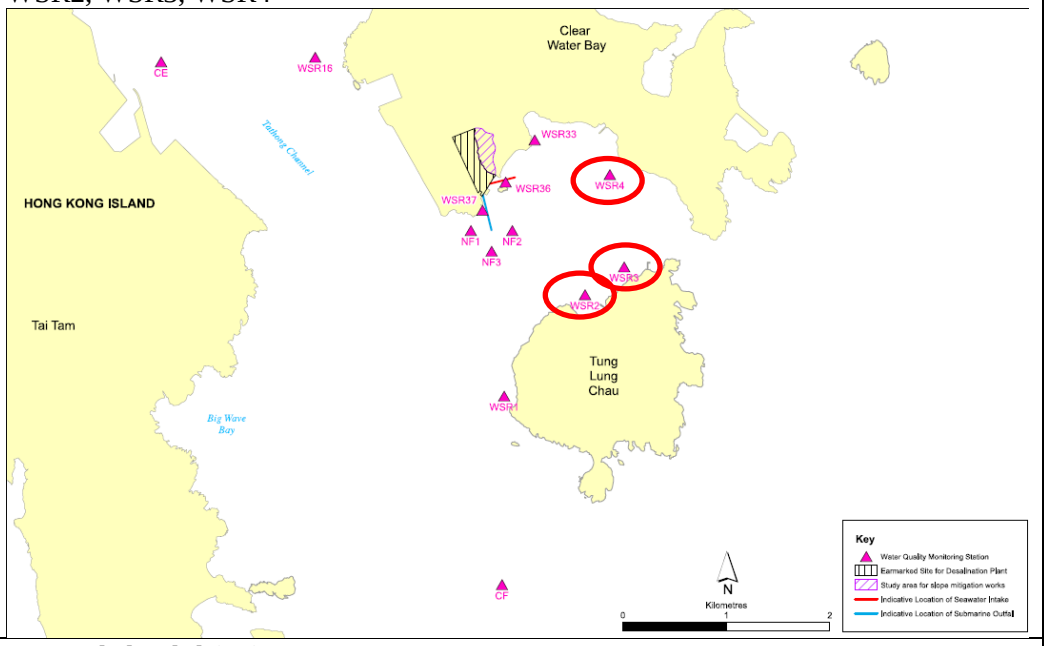


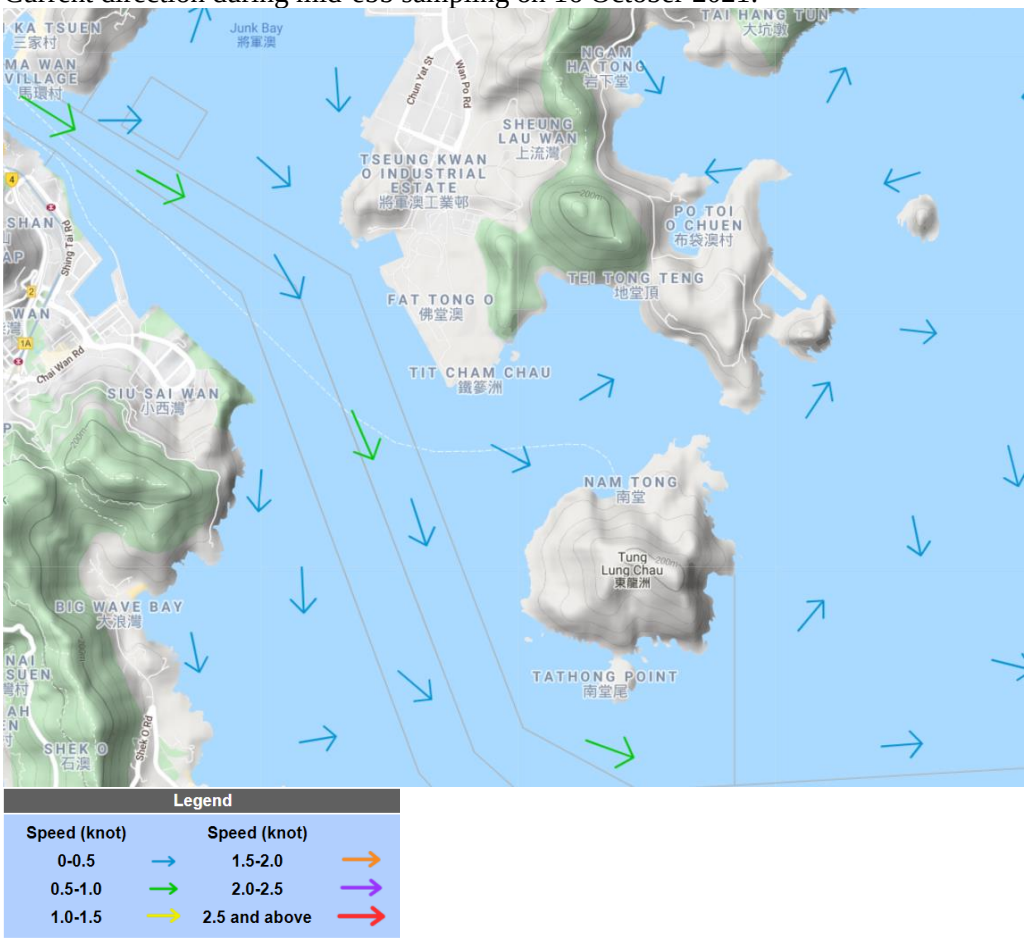
Supporting Photo 12 (Sea Conditions at Outfall Shaft Area)

Supporting Photo 13 (Silt Plume Observed around WSR4 and WSR33)

	Supporting Photo 14 (Accumulated Rainfall on 14/10/2021) 
Prepared by	Charlene Lai
Date	08 November 2021

Incident Report on Action Level or Limit Level Non-Compliance

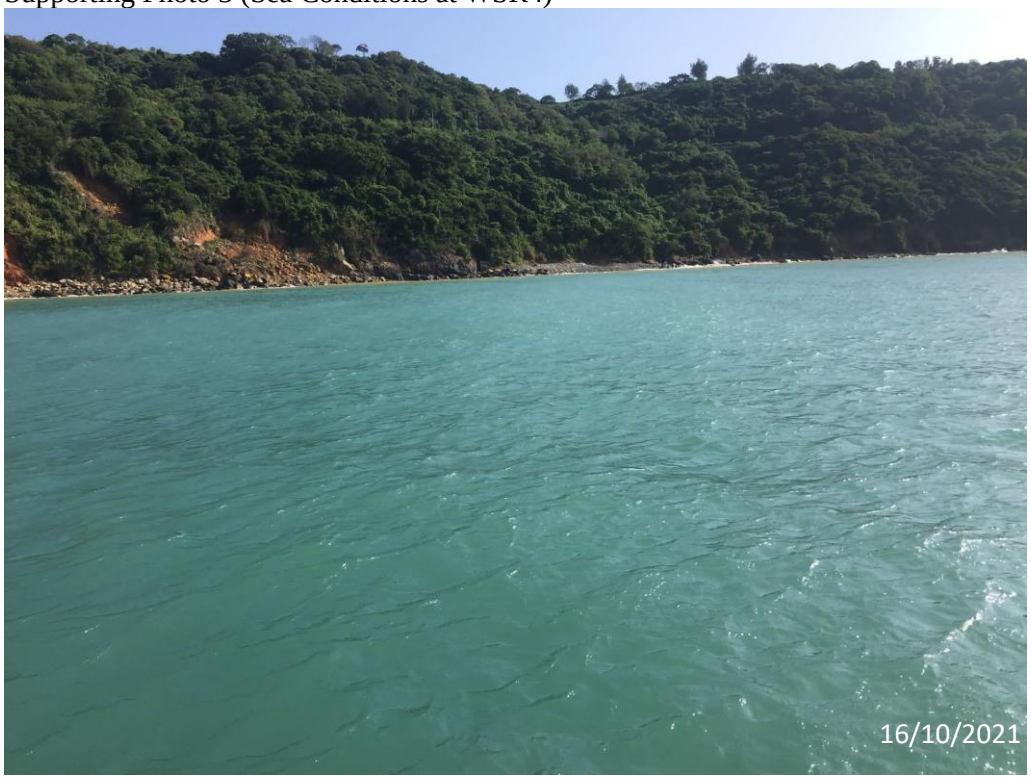
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	16 October 2021 (Lab result received on 21 October 2021)		
Time	14:51 - 18:21 (Mid-Flood) and 08:00 - 11:00 (Mid-Ebb)		
Mid-Ebb			
Monitoring Location	WSR2, WSR3, WSR4 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 6.3 mg/L	> 6.8 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	6.8 mg/L (WSR2) 8.2 mg/L (WSR3) 11.3 mg/L (WSR4)	3.5 mg/L (CF) 5.3 mg/L (CE)	4.8 mg/L (WSR1) 5.8 mg/L (WSR16) 3.1 mg/L (WSR33) 5.0 mg/L (WSR36) 3.5 mg/L (WSR37)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) One derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge supported sheet piling work (0800 – 1800 hrs); 2nd derrick barge for material lifting and housekeeping work inside the hopper (0800 – 1800 hrs) Marine construction activities with contact with water: 1) One derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 1800 hrs); 2) 1st derrick barge supported sheet piling work (0800 – 1800 hrs) Marine vessels on 16 October 2021: • Derrick barge x 2 (Intake Shaft) • Derrick barge x 1 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau.		

	WSR2, WSR3 and WSR4 were located distant from the construction site and the possibility of being affected by marine construction activities were limited. SS exceedances were however observed at WSR2 (6.8 mg/L); WSR3 (8.2 mg/L) and WSR4 (11.3 mg/L). No SS exceedances were observed at WSR36 (5.0 mg/L) and WSR37 (3.5 mg/L), where marine construction activities with contact with water were observed. Silt plume was observed near to WSR33. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, silt plume was observed in the Project site on 16 October 2021, near to WSR33. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 16 October 2021.
Remarks	Current direction during mid-ebb sampling on 16 October 2021:  (Sourced from http://current.hydro.gov.hk/en/map.html)

Supporting Photo 1 (Sea Conditions at WSR2)

Supporting Photo 2 (Sea Conditions at WSR3)

Supporting Photo 3 (Sea Conditions at WSR4)

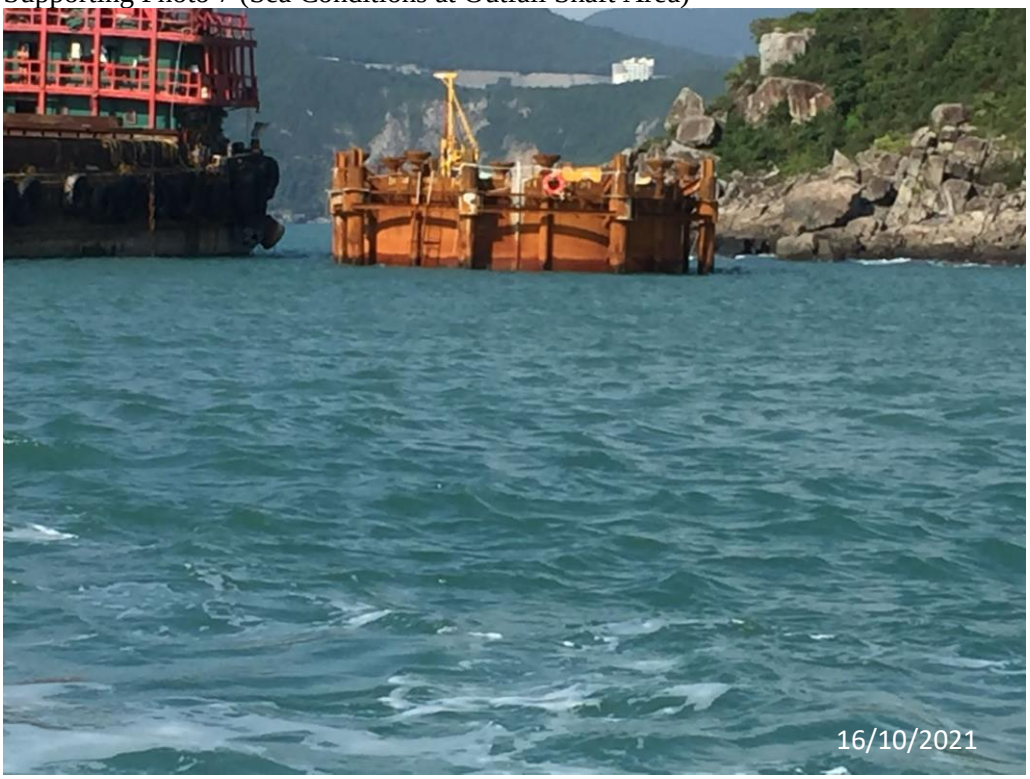


Supporting Photo 4 (Sea Conditions at CF)

Supporting Photo 5 (Sea Conditions at CE)

Supporting Photo 6 (Sea Conditions at Intake Shaft Area)

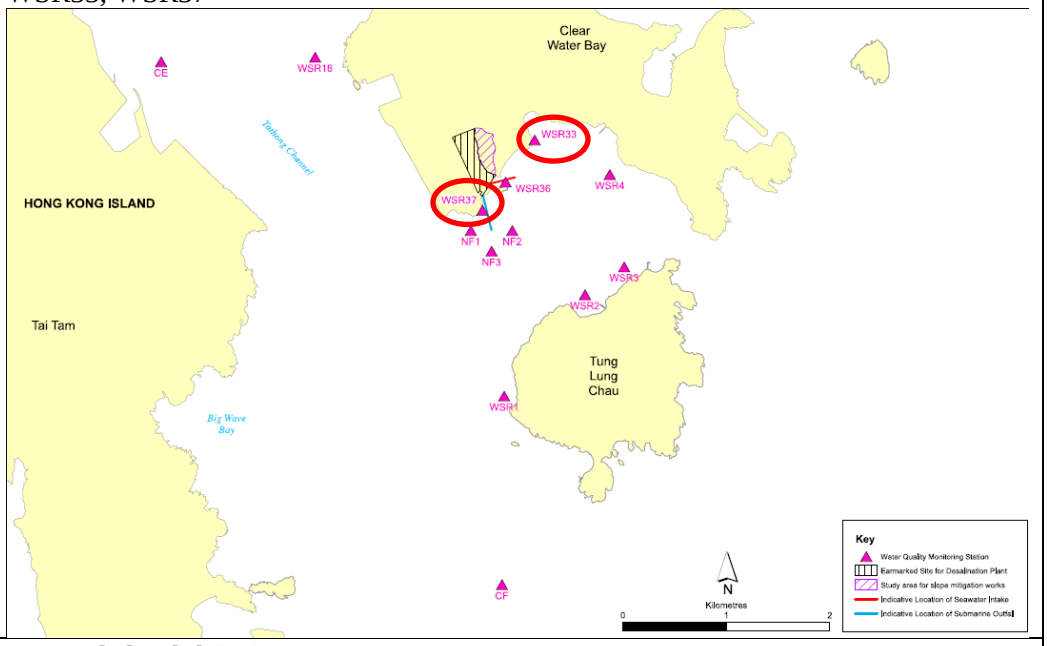
Supporting Photo 7 (Sea Conditions at Outfall Shaft Area)



Supporting Photo 8 (Silt Plume near to WSR33)

Prepared by	Charlene Lai
Date	03 November 2021

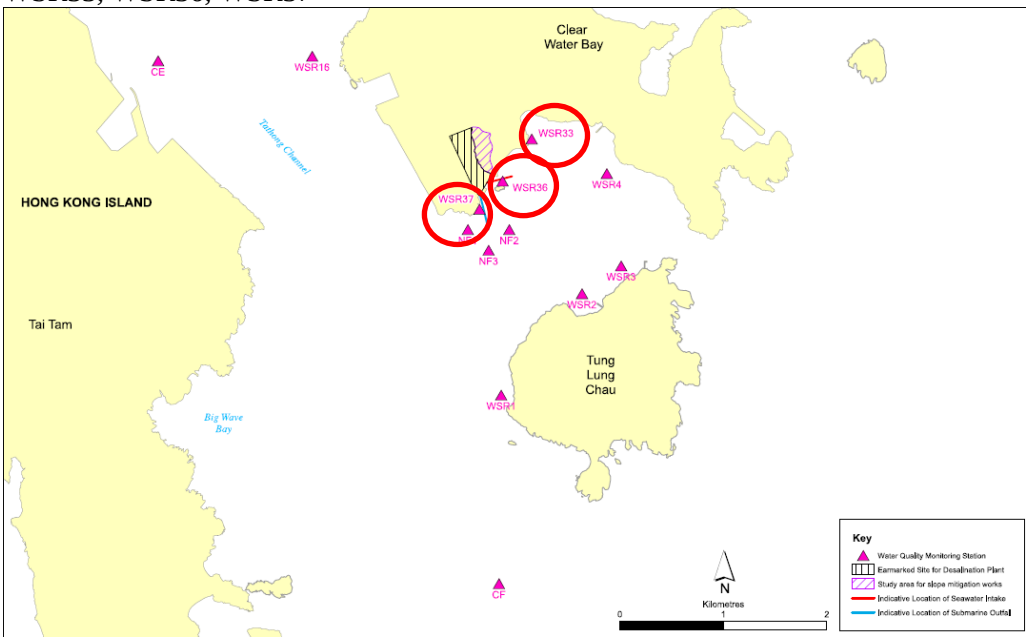
Incident Report on Action Level or Limit Level Non-Compliance

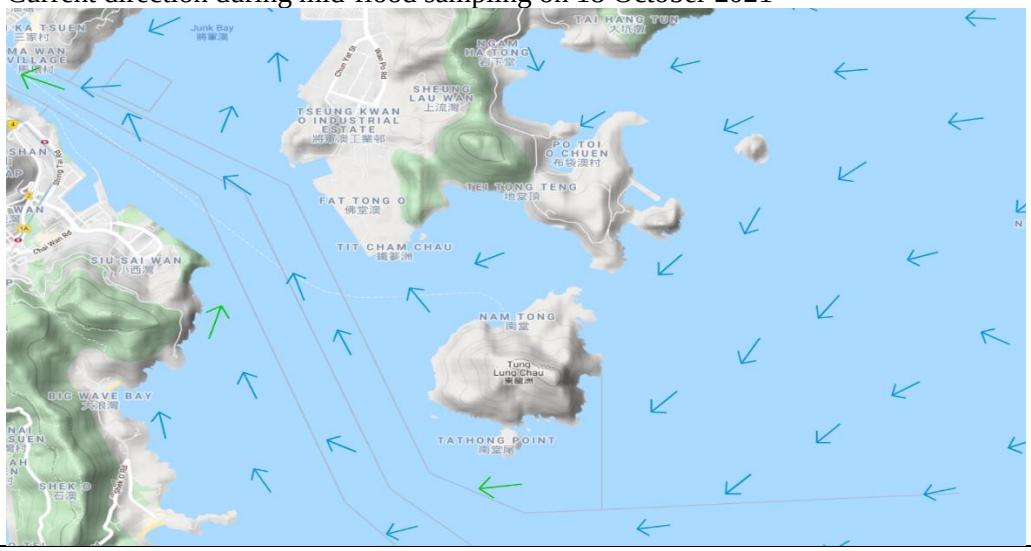
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	18 October 2021 (Lab result received on 25 October 2021)		
Time	15:43 - 19:00 (Mid-Flood) and 09:03 - 12:33 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR33, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 12.0 mg/L	> 13.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	12.3 mg/L (WSR 33) 16.3 mg/L (WSR 37)	10.0 mg/L (CF) 8.8 mg/L (CE)	11.5 mg/L (WSR1) 6.5 mg/L (WSR 2) 5.2 mg/L (WSR 3) 4.2 mg/L (WSR 4) 7.0 mg/L (WSR 16) 12.0 mg/L (WSR36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: 1) 1st derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 - 1400 hrs); 2) 1st derrick barge loading of GI rig onto the caisson platform (1400 – 1800 hrs); 3) 2nd derrick barge for housekeeping work inside the hopper (0800 – 1400 hrs); 4) 2nd derrick barge assisted mobilization of GI rig from CEDD pier to Outfall (1400 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge supported sheet piling work (0800 – 1800 hrs) Marine construction activities with contact with water: 1) 1st derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 - 1400 hrs); 2) derrick barge supported sheet piling work (0800 – 1800 hrs) Marine vessels on 18 October 2021: • Derrick barge x 1 (Intake Shaft) • Derrick barge x 2 (Outfall Shaft)		

<table>
<tr><td></td><td colspan="3">Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau.

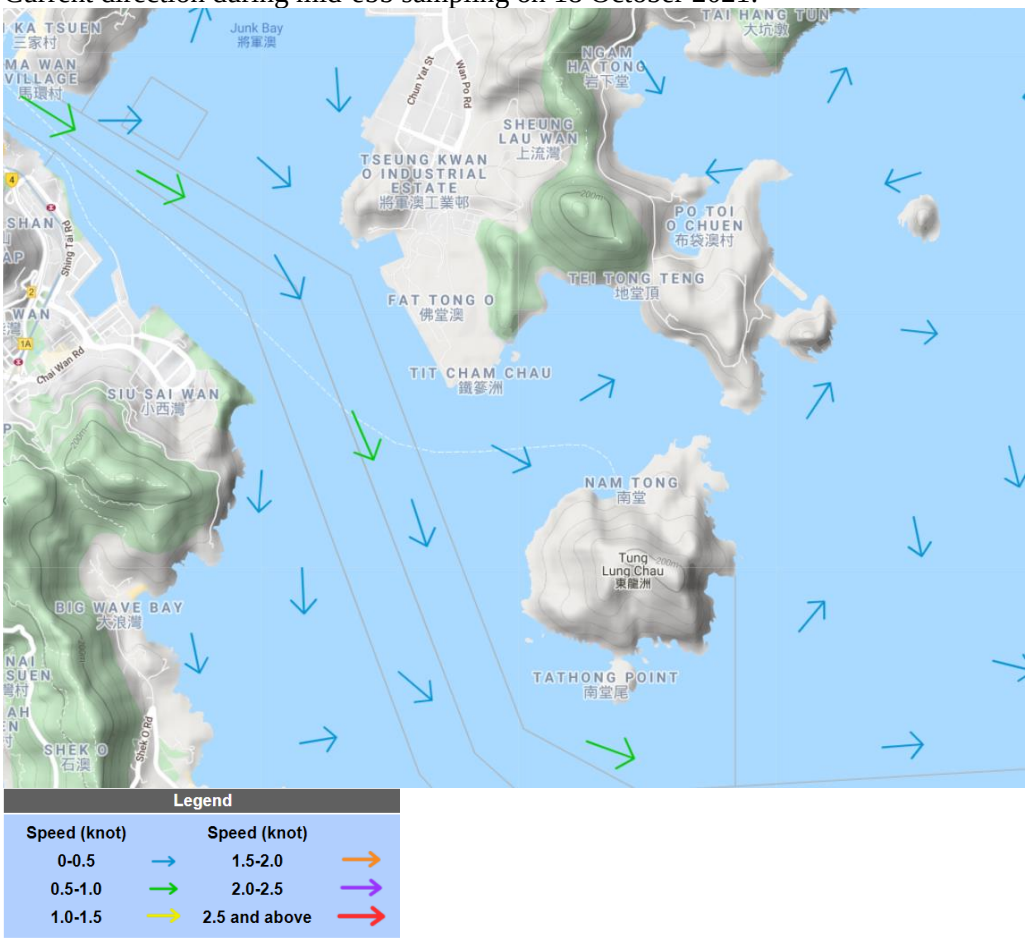
No SS exceedances was observed at WSR36 (12.0 mg/L), where marine construction activities with contact with water was conducted. The SS level of an upstream station, WSR33 (12.3 mg/L), was however similar with that of WSR36. With referenced to the work schedule provided by the Main Contractor, marine construction works with contact with water at Outfall Shaft was only conducted between 0800 – 1400 hrs. As reported by the water sampling team, water monitoring at WSR37 during mid-flood tide was conducted between 17:21 – 17:23. Hence the SS exceedance at WSR37 was concluded non-project relevant. The overall SS background was high during mid-flood tide on 18 October 2021, reaching 10.0 mg/L at CF and 8.8 mg/L at CE. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant.

According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 18 October 2021.

Conditions of the protective silt curtain at the inland water outfall was satisfactory on 18 October 2021.</td></tr>
<tr><td colspan="4">Mid-Ebb</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">WSR33, WSR36, WSR37
 
</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>> 7.8 mg/L</td><td colspan="2">> 8.5 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>15.3 mg/L (WSR33)
14.8 mg/L (WSR36)
15.8 mg/L (WSR37)</td><td>6.5 mg/L (CE)
6.2 mg/L (CF)</td><td>6.3 mg/L (WSR1)
4.8 mg/L (WSR2)
4.8 mg/L (WSR3)
4.5 mg/L (WSR4)
7.2 mg/L (WSR16)</td></tr>
</table>

Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: 1) 1st derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 - 1400 hrs); 2) 1st derrick barge loading of GI rig onto the caisson platform (1400 – 1800 hrs); 3) 2nd derrick barge for housekeeping work inside the hopper (0800 – 1400 hrs); 4) 2nd derrick barge assisted mobilization of GI rig from CEDD pier to Outfall (1400 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge supported sheet piling work (0800 – 1800 hrs) Marine construction activities with contact with water: 1) 1st derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 - 1400 hrs); 2) derrick barge supported sheet piling work (0800 – 1800 hrs) Marine vessels on 18 October 2021: • Derrick barge x 1 (Intake Shaft) • Derrick barge x 2 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. As been advised by the Main Contractor, only preparation works for concreting at the concrete plugs were conducted at Outfall Shaft during mid-ebb tide at WSR37 (15.8 mg/L). Manual seabed levelling was conducted with limited SS generation expected. The Main Contractor also confirmed that the sheetpiles were lowered to the seabed in a slow manner by the derrick lighter at WSR36 (Intake Shaft Area). Double silt curtains were added to enclose the Intake Shaft Area. The double silt curtains were in good condition. Hence limited SS generation would be expected during the operation. The SS level of WSR36 (14.8 mg/L) was lower than WSR33 (15.3 mg/L), which located downstream to where marine construction activities were conducted. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 18 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 18 October 2021.
Remarks	Current direction during mid-flood sampling on 18 October 2021 

Current direction during mid-ebb sampling on 18 October 2021:



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

Supporting Photo 1 (Sea Conditions at WSR33)

Supporting Photo 2 (Sea Conditions at WSR36)

Supporting Photo 3 (Sea Conditions at WSR37)

Supporting Photo 4 (Sea Conditions at CF)

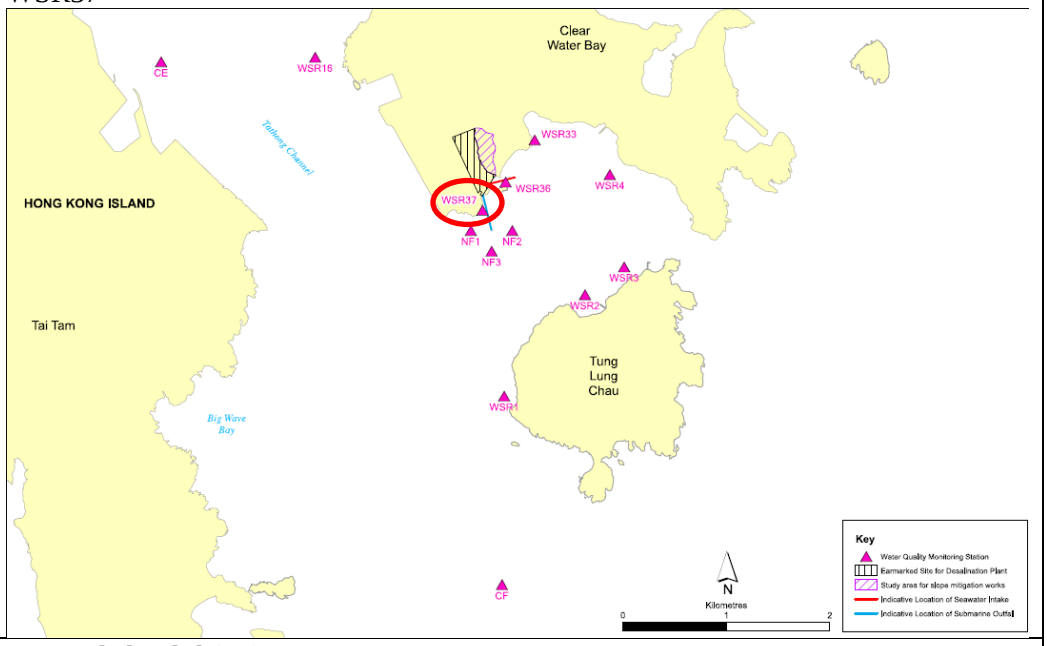
Supporting Photo 5 (Sea Conditions at CE)

Supporting Photo 6 (Sea Conditions at Intake Shaft Area)

Supporting Photo 7 (Sea Conditions at Outfall Shaft Area)

Prepared by	Charlene Lai
Date	08 November 2021

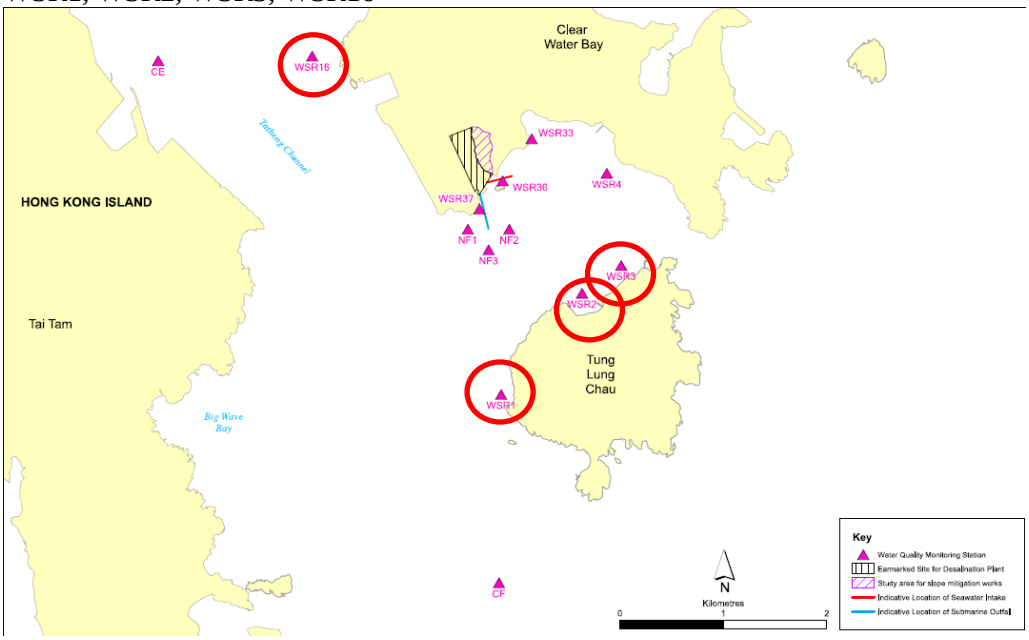
Incident Report on Action Level or Limit Level Non-Compliance

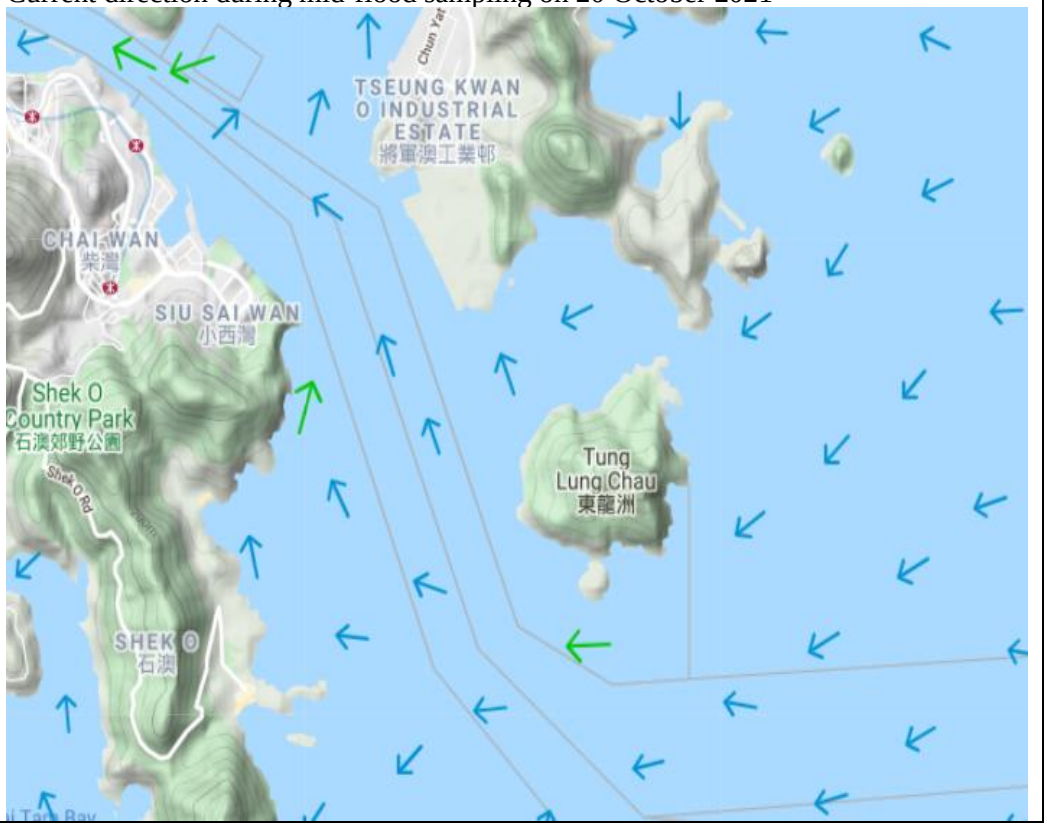
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	20 October 2021 (Lab result received on 26 October 2021)		
Time	15:15 - 18:45 (Mid-Flood) and 10:20 - 13:50 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 5.0 mg/L	> 6.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	5.2 mg/L (WSR 37)	2.8 mg/L (CF) 4.2 mg/L (CE)	2.7 mg/L (WSR1) 3.0 mg/L (WSR 2) 3.1 mg/L (WSR 3) 3.0 mg/L (WSR 4) 3.3 mg/L (WSR 16) 4.9 mg/L (WSR33) 4.3 mg/L (WSR 36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: 1) derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 1500 hrs); 2) derrick barge supported diver's work for final inspection of seabed bottom prior to concreting (1500 – 1700 hrs) Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge supported ELS welding work (0800 – 1800 hrs); 2) 2nd derrick barge for material lifting and housekeeping work inside the hopper (0800 – 1800 hrs) Marine construction activities with contact with water: 1) derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 1500 hrs); 2) derrick barge supported diver's work for final inspection of seabed bottom prior to concreting (1500 – 1700 hrs) Marine vessels on 20 October 2021: • Derrick barge x 2 (Intake Shaft) • Derrick barge x 1 (Outfall Shaft)		

<table>
<tr><td></td><td colspan="3">Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau.

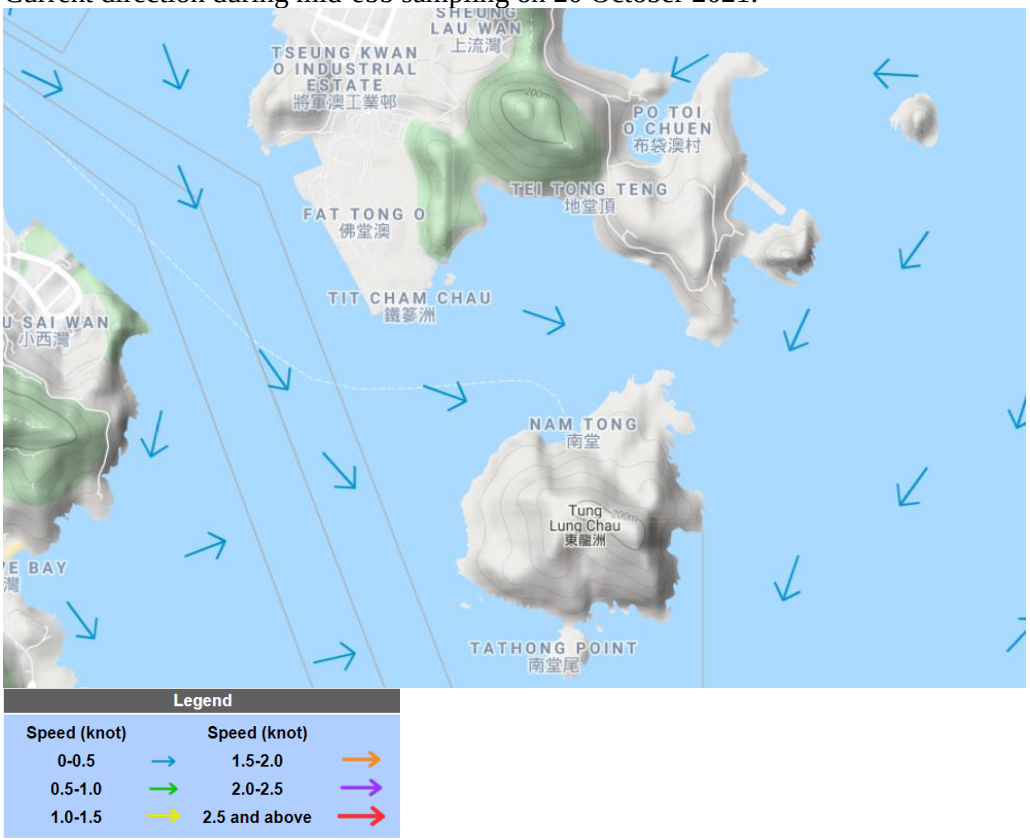
As been advised by the Main Contractor, only preparation works for concreting at the concrete plugs were conducted at Outfall Shaft during mid-flood tide at WSR37 (5.2 mg/L). Manual seabed levelling was conducted with limited SS generation would be expected. The Main Contractor also confirmed that only visual checking of the seabed bottom was conducted by the divers hence limited SS generation would be expected from this activity. WSR33 was located upstream during mid-flood tide but had comparable SS levels (4.9 mg/L) when compared with that of WSR37, suggesting other natural factors may have caused the SS exceedance at WSR37.

According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 20 October 2021.

Conditions of the protective silt curtain at the inland water outfall was satisfactory on 20 October 2021.</td></tr>
<tr><td colspan="4">Mid-Ebb</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">WSR1, WSR2, WSR3, WSR16
 
</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>> 6.3 mg/L</td><td colspan="2">> 6.8 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>11.5 mg/L (WSR1)
8.2 mg/L (WSR2)
9.3 mg/L (WSR3)
9.7 mg/L (WSR16)</td><td>5.3 mg/L (CE)
3.6 mg/L (CF)</td><td>5.8 mg/L (WSR4)
3.8 mg/L (WSR33)
4.5 mg/L (WSR36)
5.2 mg/L (WSR37)</td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">Outfall Shaft Area: 1) derrick barge supported diver’s work to touch up seabed bottom for concrete plug (0800 – 1500 hrs); 2) derrick barge supported diver’s work for final inspection of seabed bottom prior to concreting (1500 – 1700 hrs)</td></tr>
</table>

	Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge supported ELS welding work (0800 – 1800 hrs); 2) 2nd derrick barge for material lifting and housekeeping work inside the hopper (0800 – 1800 hrs) Marine construction activities with contact with water: 1) derrick barge supported diver's work to touch up seabed bottom for concrete plug (0800 – 1500 hrs); 2) derrick barge supported diver's work for final inspection of seabed bottom prior to concreting (1500 – 1700 hrs) Marine vessels on 20 October 2021: • Derrick barge x 2 (Intake Shaft) • Derrick barge x 1 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. Stations WSR1, WSR2, WSR3 and WSR16 were located distant from the construction site and the possibility of being affected by marine construction activities were considered limited. However, SS exceedances were observed at WSR1 (11.5 mg/L), WSR2 (8.2 mg/L), WSR3 (9.3 mg/L) and WSR16 (9.7 mg/L). No SS exceedances were observed at WSR36 (4.5 mg/L) and WSR37 (5.2 mg/L), where marine construction activities were conducted. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 20 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 20 October 2021.
Remarks	Current direction during mid-flood sampling on 20 October 2021 

Current direction during mid-ebb sampling on 20 October 2021:



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

Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR2)

Supporting Photo 3 (Sea Conditions at WSR3)

Supporting Photo 4 (Sea Conditions at WSR16)

Supporting Photo 5 (Sea Conditions at WSR37)

Supporting Photo 6 (Sea Conditions at CF)

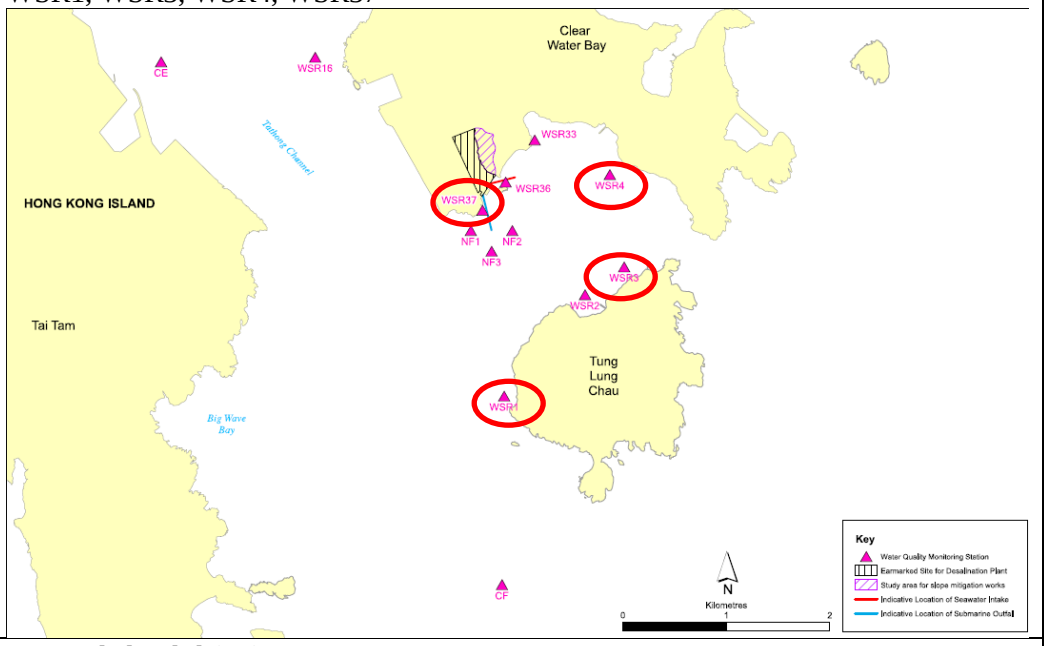
Supporting Photo 7 (Sea Conditions at CE)

Supporting Photo 8 (Sea Conditions at Intake Shaft Area)

Supporting Photo 9 (Sea Conditions at Outfall Shaft Area)

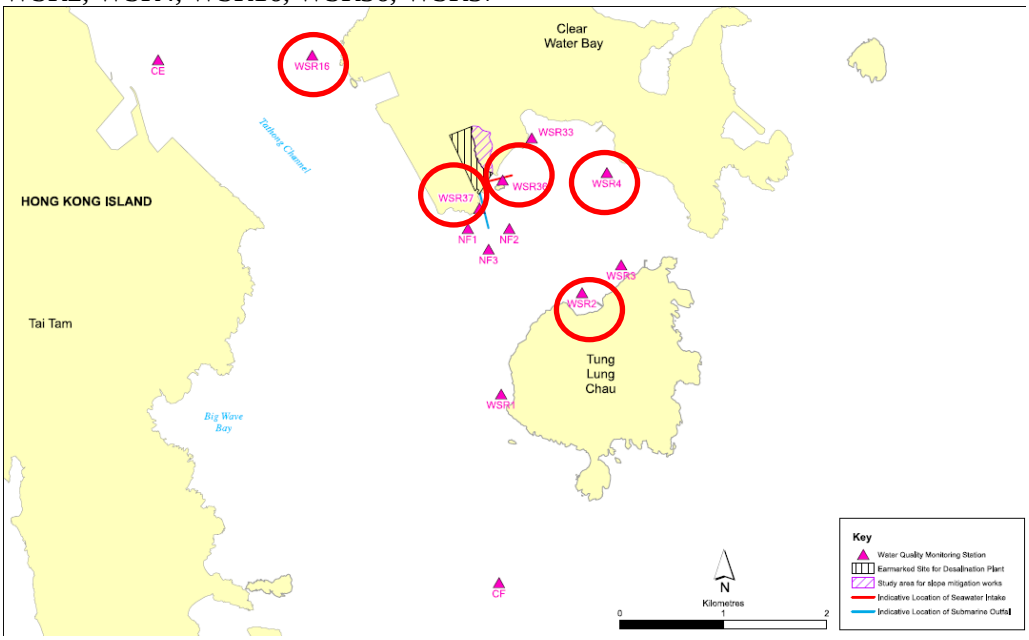
Prepared by	Charlene Lai
Date	08 November 2021

Incident Report on Action Level or Limit Level Non-Compliance

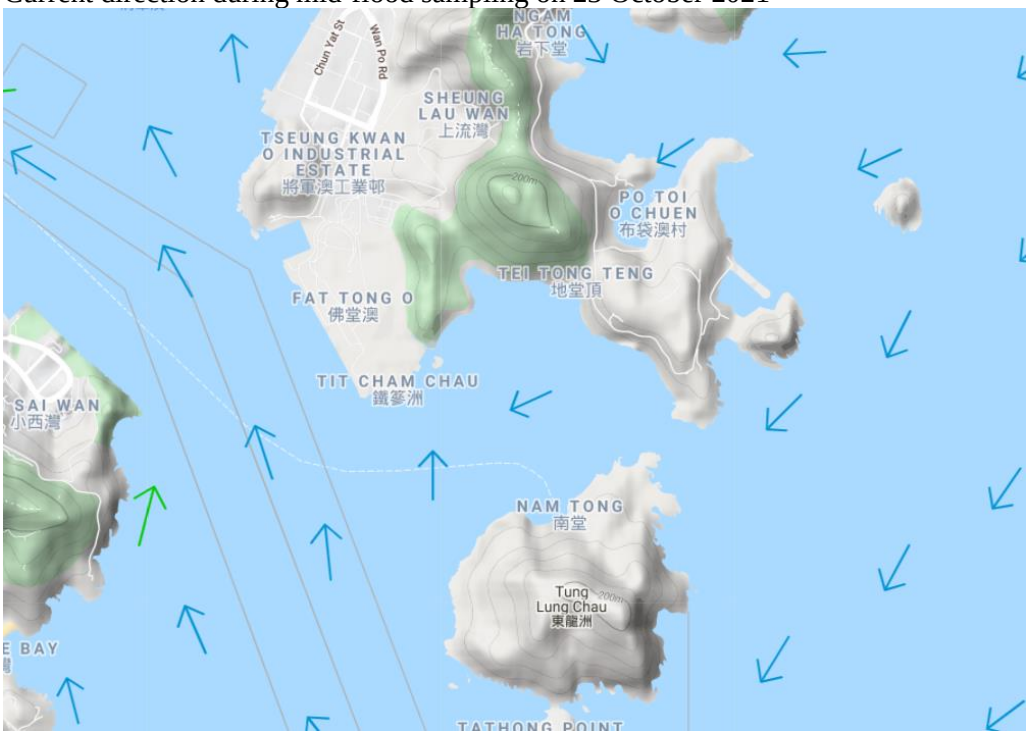
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	23 October 2021 (Lab result received on 28 October 2021)		
Time	08:00 - 10:57 (Mid-Flood) and 11:54 - 15:24 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR1, WSR3, WSR4, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 8.0 mg/L	> 8.7 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.2 mg/L (WSR1) 10.6 mg/L (WSR 3) 9.0 mg/L (WSR 4) 9.0 mg/L (WSR 37)	6.7 mg/L (CF) 7.5 mg/L (CE)	6.2 mg/L (WSR 2) 6.5 mg/L (WSR 16) 7.5 mg/L (WSR33) 6.7 mg/L (WSR 36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge supported diver's check on concrete plug finish (0800 – 1800 hrs); 2) 2nd derrick barge assisted demobilization of concreting apparatus & tools to CEDD pier (0800 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge supported ELS welding work (0800 – 1800 hrs) Marine construction activities with contact with water: 1) 1st derrick barge supported diver's check on concrete plug finish (0800 – 1800 hrs) Marine vessels on 23 October 2021: • Derrick barge x 1 (Intake Shaft) • Derrick barge x 2 (Outfall Shaft) Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau.		

<table>
<tr><td></td><td colspan="3">Stations WSR1, WSR3 and WSR4 were located distant from the construction site and the possibility of being affected by marine construction activities were considered limited. SS exceedances were however observed at WSR1 (8.2 mg/L), WSR3 (10.6 mg/L) and WSR4 (9.0 mg/L). As been advised by the Main Contractor, only visual checking of the concrete plug finish was conducted at Outfall Shaft during mid-flood tide and limited SS generation would be expected. The SS level at WSR 37 (9.0 mg/L) was at same level or lower than stations which located further away from the construction site (WSR3 and WSR4). In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant.

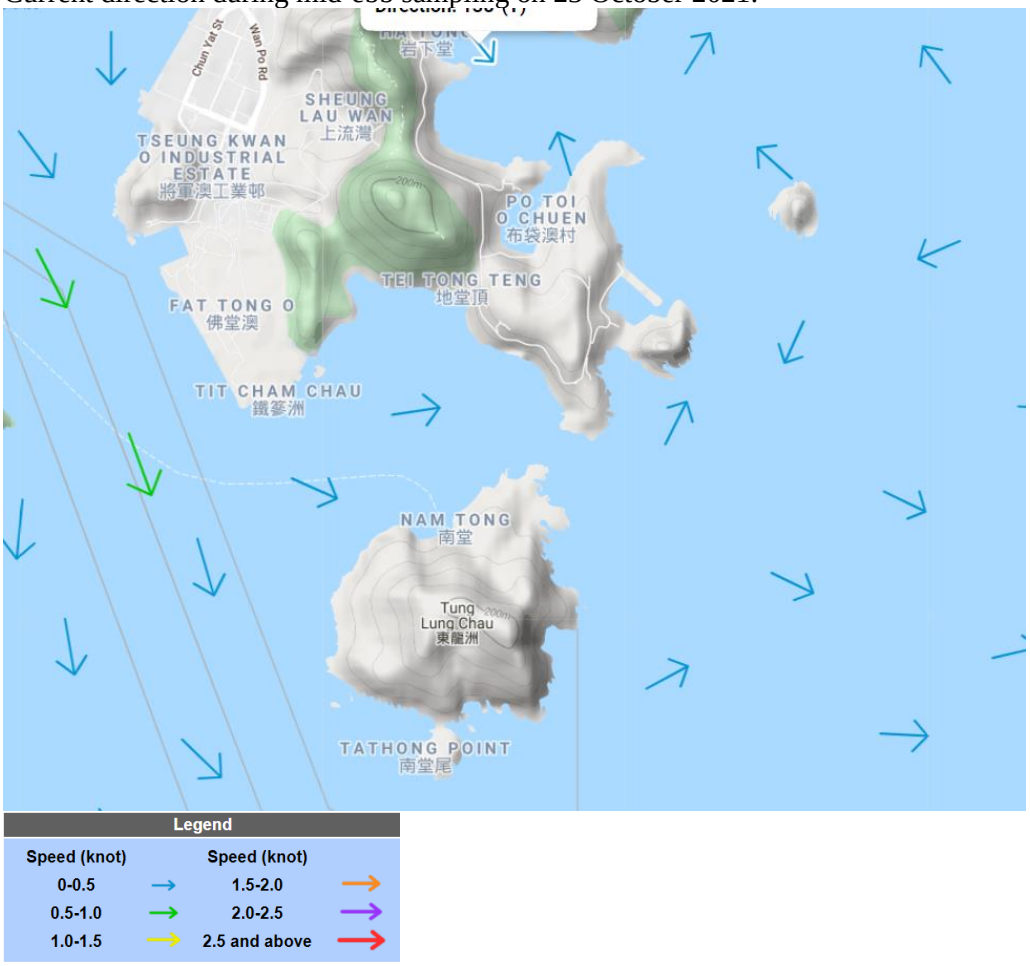
According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 23 October 2021.

Conditions of the protective silt curtain at the inland water outfall was satisfactory on 23 October 2021.</td></tr>
<tr><td colspan="4">Mid-Ebb</td></tr>
<tr><td>Monitoring Location</td><td colspan="3">WSR2, WSR4, WSR16, WSR36, WSR37
 
</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>> 6.6 mg/L</td><td colspan="2">> 7.2 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>6.8 mg/L (WSR2)
15.7 mg/L (WSR4)
8.7 mg/L (WSR16)
16.3 mg/L (WSR36)
8.8 mg/L (WSR37)</td><td>5.5 mg/L (CE)
7.0 mg/L (CF)</td><td>5.3 mg/L (WSR1)
6.5 mg/L (WSR3)
6.4 mg/L (WSR33)</td></tr>
<tr><td>Possible reason for Action or Limit Level Non-compliance</td><td colspan="3">Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge supported diver’s check on concrete plug finish (0800 – 1800 hrs); 2) 2nd derrick barge assisted demobilization of concreting apparatus & tools to CEDD pier (0800 – 1800 hrs)

Intake Shaft Area: marine construction activities, namely 1) derrick barge supported ELS welding work (0800 – 1800 hrs)</td></tr>
</table>

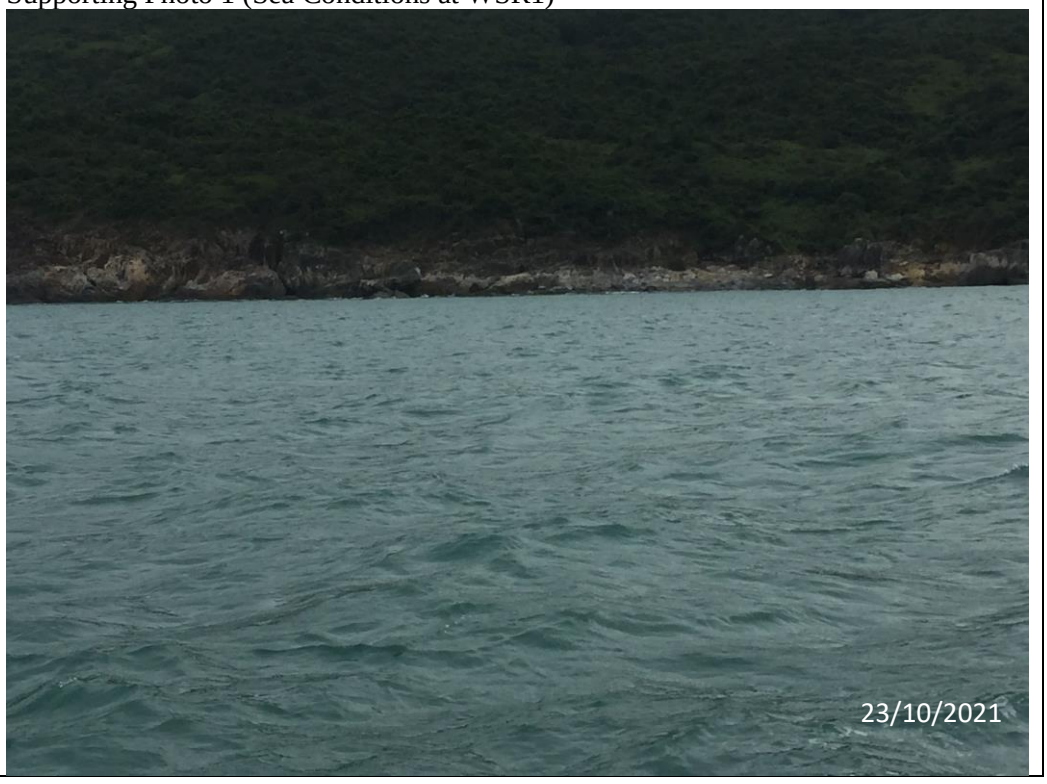
	Marine construction activities with contact with water: 1) 1st derrick barge supported diver's check on concrete plug finish (0800 – 1800 hrs) Marine vessels on 23 October 2021: • Derrick barge x 1 (Intake Shaft) • Derrick barge x 2 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. Stations WSR2, WSR4 and WSR16 were located further from the construction site and the possibility of being affected by marine construction activities were considered limited. SS exceedances were however observed at WSR2 (6.8 mg/L), WSR4 (15.7 mg/L) and WSR16 (8.7 mg/L). No marine construction activities with contact with water was conducted at WSR36. The SS level at WSR36 (16.3 mg/L) was however the highest when compared with other monitoring stations. The SS level of WSR37 (8.8 mg/L) was observed lower than a station further away from the construction site (WSR4, 15.7 mg/L). As been advised by the Main Contractor, only visual checking of the concrete plug finish was conducted at Outfall Shaft during mid-ebb tide and limited SS generation would be expected. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 23 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 23 October 2021.
Remarks	Current direction during mid-flood sampling on 23 October 2021 

Current direction during mid-ebb sampling on 23 October 2021:



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

Supporting Photo 1 (Sea Conditions at WSR1)



Supporting Photo 2 (Sea Conditions at WSR2)

Supporting Photo 3 (Sea Conditions at WSR3)

Supporting Photo 4 (Sea Conditions at WSR4)

Supporting Photo 5 (Sea Conditions at WSR16)

Supporting Photo 6 (Sea Conditions at WSR36)

Supporting Photo 7 (Sea Conditions at WSR37)

Supporting Photo 8 (Sea Conditions at CF)

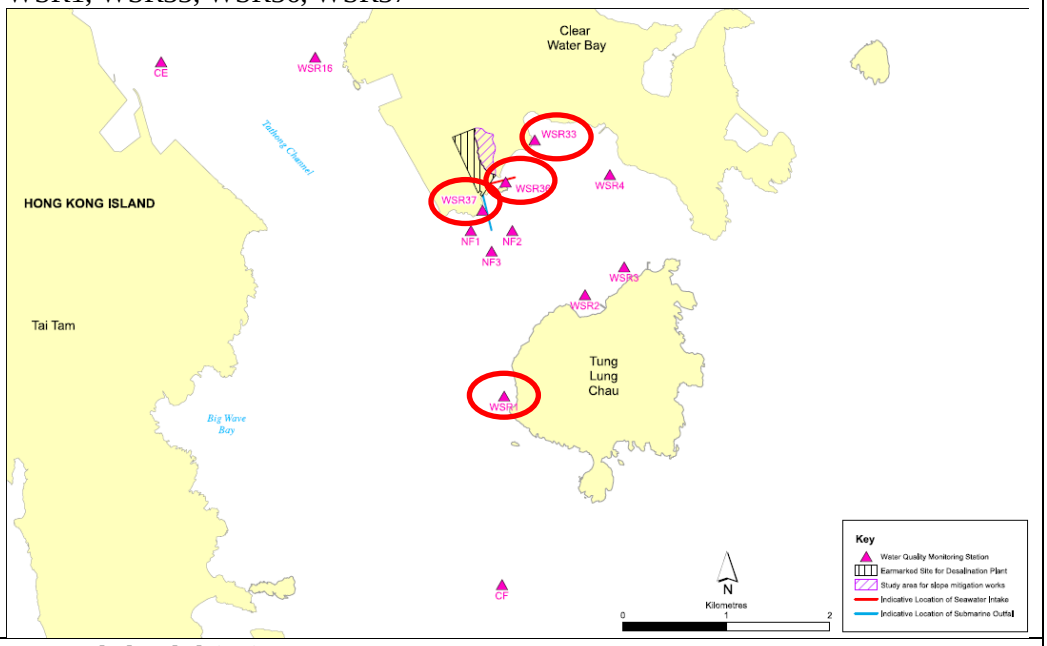
Supporting Photo 9 (Sea Conditions at CE)

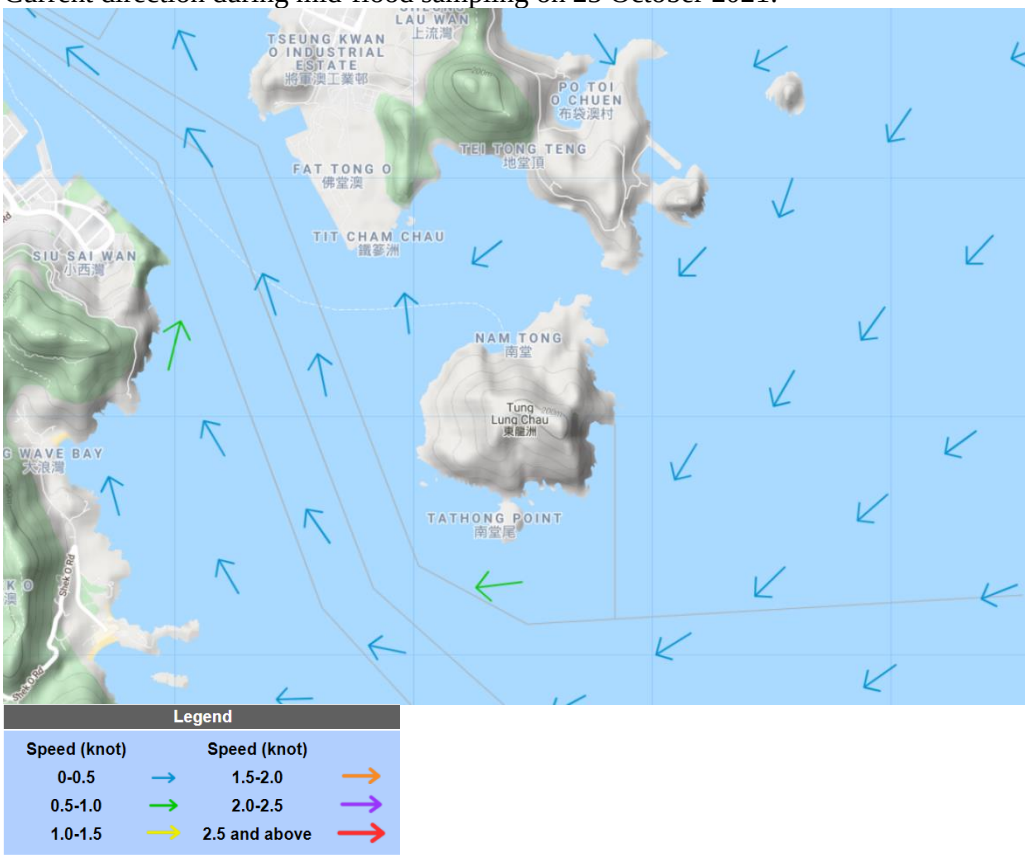
Supporting Photo 10 (Sea Conditions at Intake Shaft Area)

Supporting Photo 11 (Sea Conditions at Outfall Shaft Area)

Prepared by	Charlene Lai
Date	08 November 2021

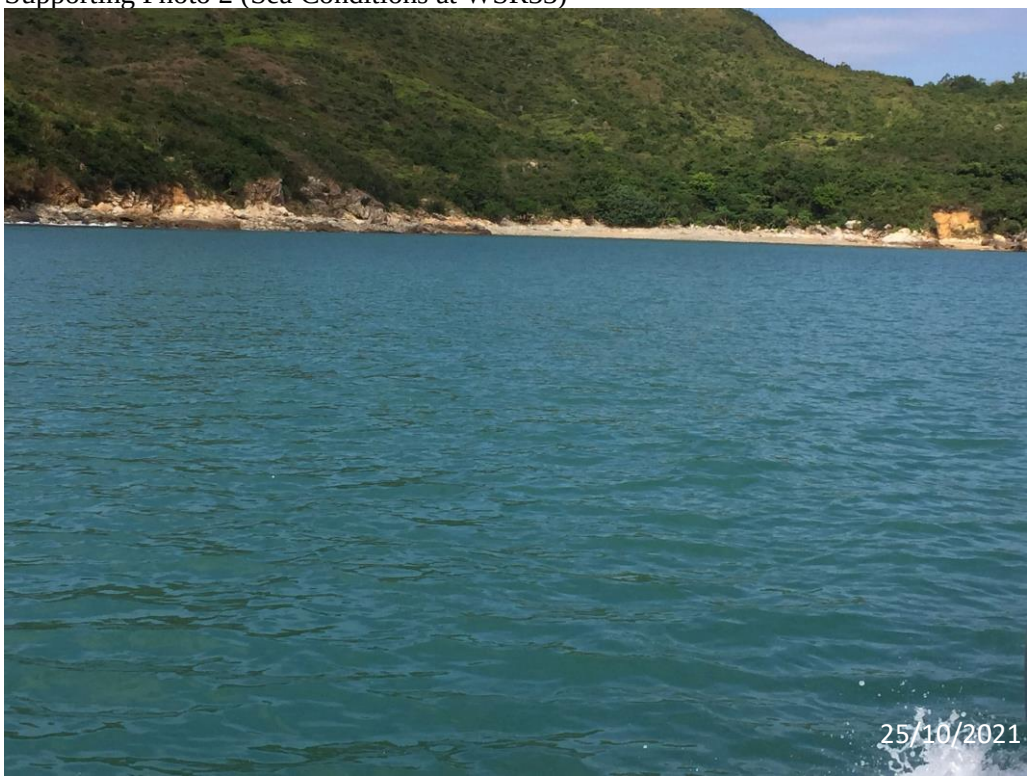
Incident Report on Action Level or Limit Level Non-Compliance

Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	25 October 2021 (Lab result received on 29 October 2021)		
Time	07:36 - 11:06 (Mid-Flood) and 12:37 - 16:07 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR1, WSR33, WSR36, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 6.8 mg/L	> 7.4 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	9.2 mg/L (WSR1) 10.5 mg/L (WSR33) 9.8 mg/L (WSR36) 9.8 mg/L (WSR37)	5.7 mg/L (CF) 4.2 mg/L (CE)	4.7 mg/L (WSR2) 4.3 mg/L (WSR3) 5.0 mg/L (WSR4) 5.2 mg/L (WSR16)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge worked to remove rockfill from inside caisson onto its hopper (0800 – 1430 hrs); 2) 1st derrick barge machinery broken down, rockfill removal work suspended (1430 – 1800 hrs); 3) 2nd derrick barge assisted equipment demobilization and transporting material to/ from CEDD pier (0800 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge supported ELS welding work (0800 – 1800 hrs) Marine construction activities with contact with water: N/A Marine vessels on 25 October 2021: • Derrick barge x 1 (Intake Shaft) • Derrick barge x 2, tug boat x 1 (Outfall Shaft)		

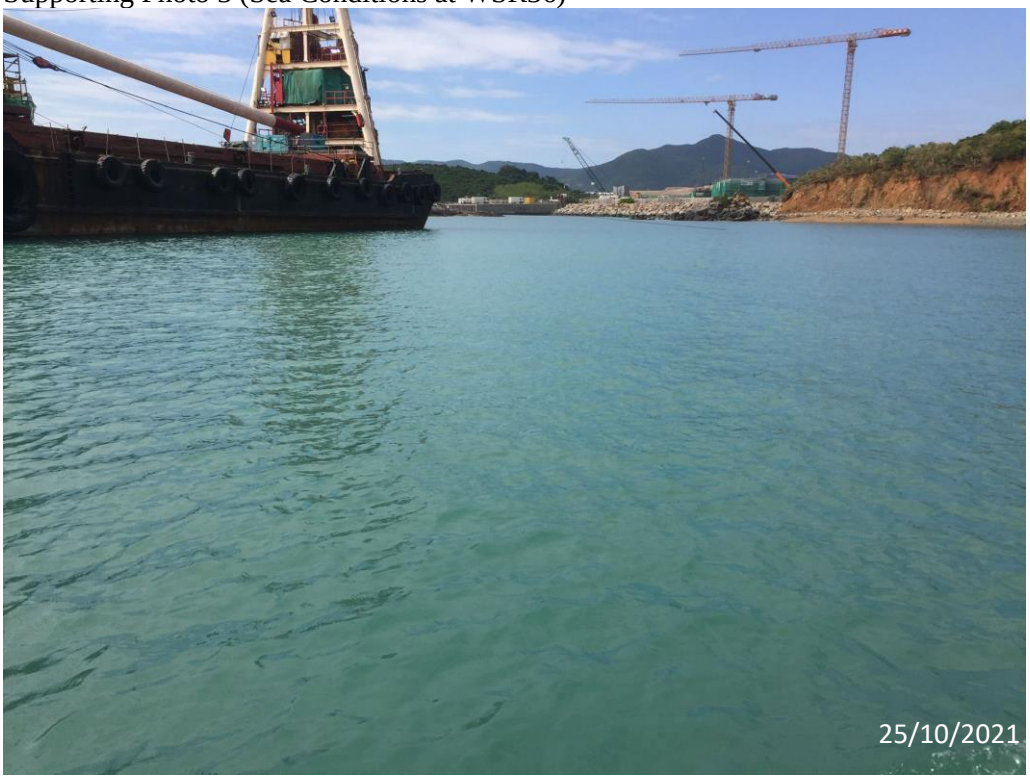
	Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau. WSR1 was located distant from the construction site and the possibility of being affected by marine construction activities were considered limited. SS exceedance was however observed at WSR1 (9.2 mg/L), which was similar to WSR36 (9.8 mg/L) and WSR37 (9.8 mg/L). With reference to the construction schedule provided by the Main Contractor, no marine construction activities with contact with water was conducted at WSR36 and WSR37. SS exceedances were however observed at WSR36 and WSR37, suggesting the exceedances may be resulted from natural factors. WSR33 was observed with higher SS level (10.5 mg/L) when compared to a downstream station, WSR36. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 25 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 25 October 2021.
Remarks	Current direction during mid-flood sampling on 25 October 2021:  (Sourced from http://current.hydro.gov.hk/en/map.html)

Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR33)



Supporting Photo 3 (Sea Conditions at WSR36)



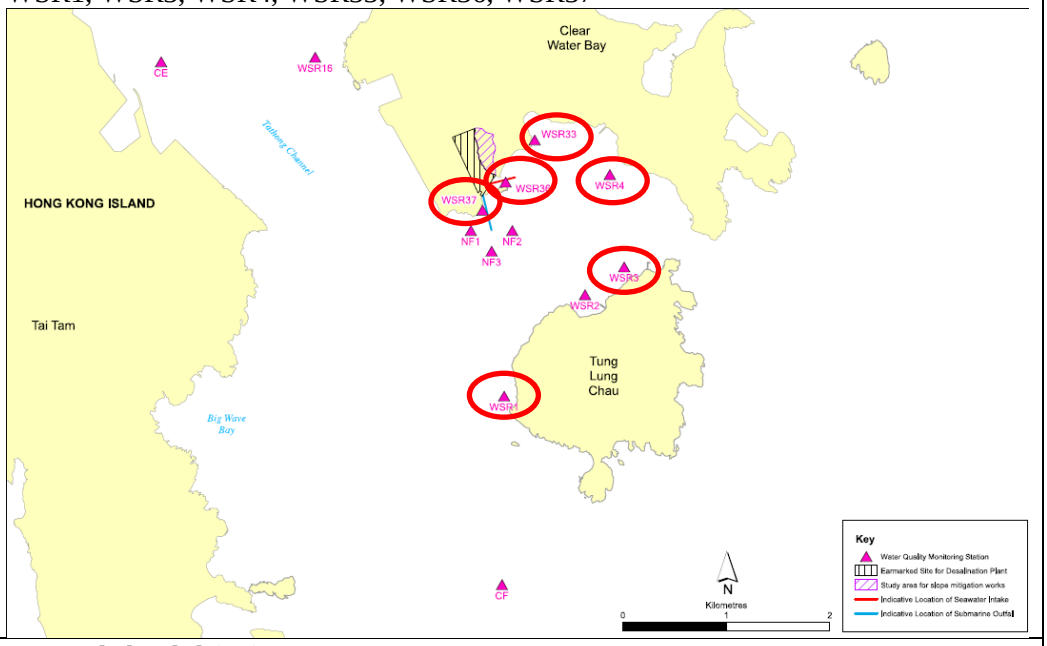
Supporting Photo 4 (Sea Conditions at WSR37)

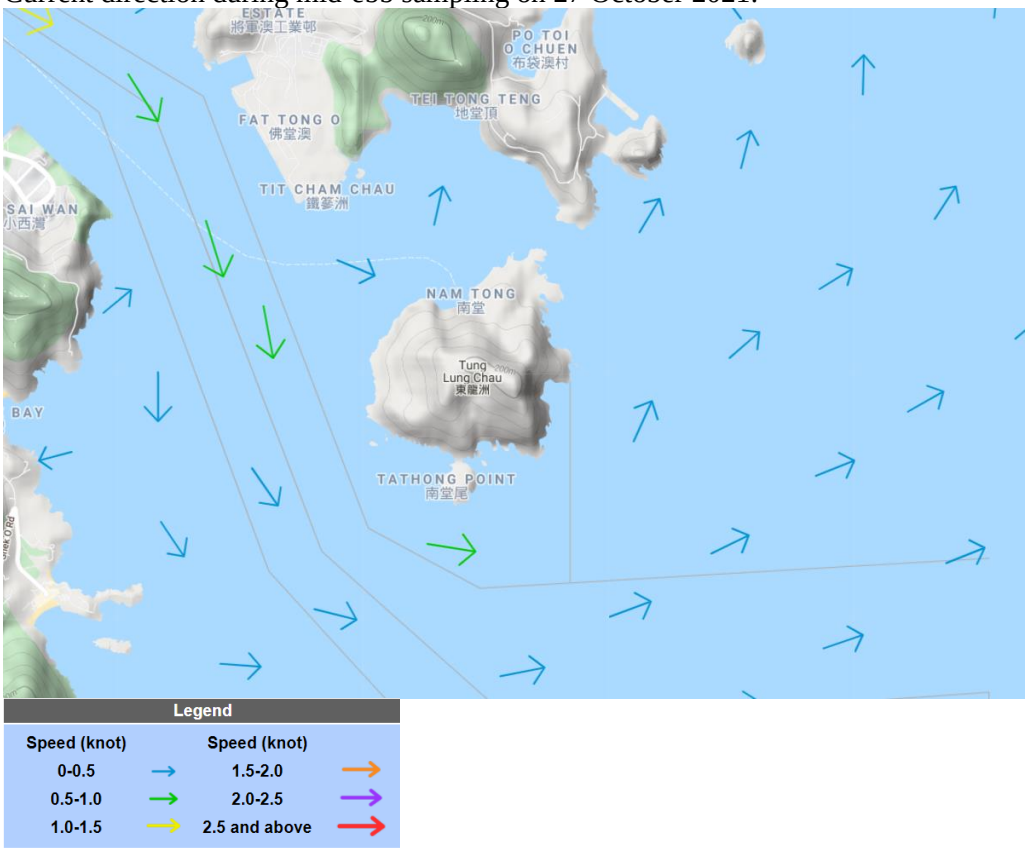
Supporting Photo 5 (Sea Conditions at CF)

Supporting Photo 6 (Sea Conditions at Intake Shaft Area)

	Supporting Photo 7 (Sea Conditions at Outfall Shaft Area) 
Prepared by	Charlene Lai
Date	12 November 2021

Incident Report on Action Level or Limit Level Non-Compliance

Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	27 October 2021 (Lab result received on 01 November 2021)		
Time	09:15 - 12:45 (Mid-Flood) and 14:00 - 17:15 (Mid-Ebb)		
Mid-Ebb			
Monitoring Location	WSR1, WSR3, WSR4, WSR33, WSR36, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 5.8 mg/L	> 6.3 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.8 mg/L (WSR1) 11.7 mg/L (WSR3) 5.8 mg/L (WSR4) 6.5 mg/L (WSR33) 9.0 mg/L (WSR36) 7.7 mg/L (WSR37)	7.7 mg/L (CF) 4.8 mg/L (CE)	5.7 mg/L (WSR2) 4.7 mg/L (WSR16)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge worked to remove rockfill from inside caisson onto its hopper (0800 – 1500 hrs); 2) 1st derrick barge being towed to the Intake Shaft where it was moored (1500 – 1800 hrs); 3) 2nd derrick barge material loading and housekeeping work inside its hopper (0800 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) derrick barge supported ELS welding work, material loading and setting up silt curtains (0800 – 1800 hrs) Marine construction activities with contact with water: derrick barge supported ELS welding work, material loading and setting up silt curtains (0800 – 1800 hrs) Marine vessels on 27 October 2021: • Derrick barge x 1, anchor boat x 1 (Intake Shaft) • Derrick barge x 2, tug boat x 1 (Outfall Shaft)		

	Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. Stations WSR1, WSR3 and WSR4 were located distant from the construction site and the possibility of being affected by marine construction activities were limited. SS exceedances were however observed at WSR1 (8.8 mg/L), WSR3 (11.7 mg/L) and WSR4 (5.8 mg/L). With reference to the work schedule provided by the Main Contractor, no marine construction activities with contact with water was conducted at WSR37. SS exceedance was however observed, suggesting the exceedance may be resulted from other natural factors. The SS level at WSR33 (6.5 mg/L) was observed lower than stations which were located further from the construction site (WSR1, WSR3). As been advised by the Main Contractor, the silt curtain has weights added at the bottom skirt of the silt curtain to stabilize the silt curtain when it was slowly lowered to the seabed. Limited SS generation would be expected from this operation. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 27 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 27 October 2021.
Remarks	Current direction during mid-ebb sampling on 27 October 2021:  (Sourced from http://current.hydro.gov.hk/en/map.html)

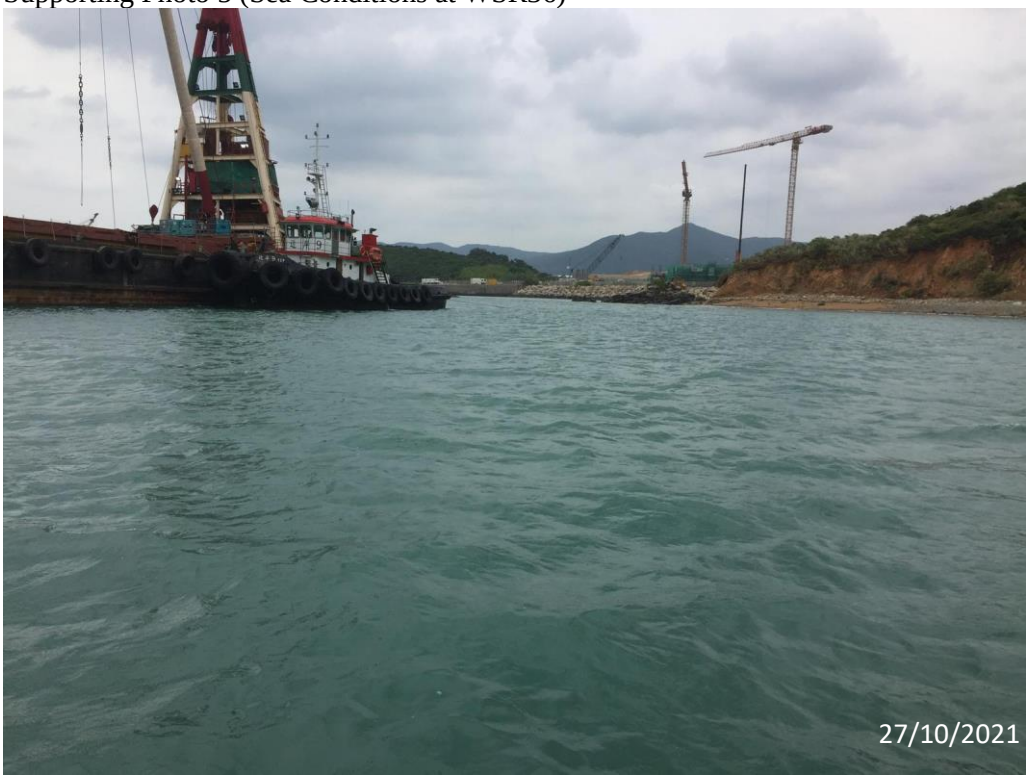
Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR3)

Supporting Photo 3 (Sea Conditions at WSR4)

Supporting Photo 4 (Sea Conditions at WSR33)

Supporting Photo 5 (Sea Conditions at WSR36)



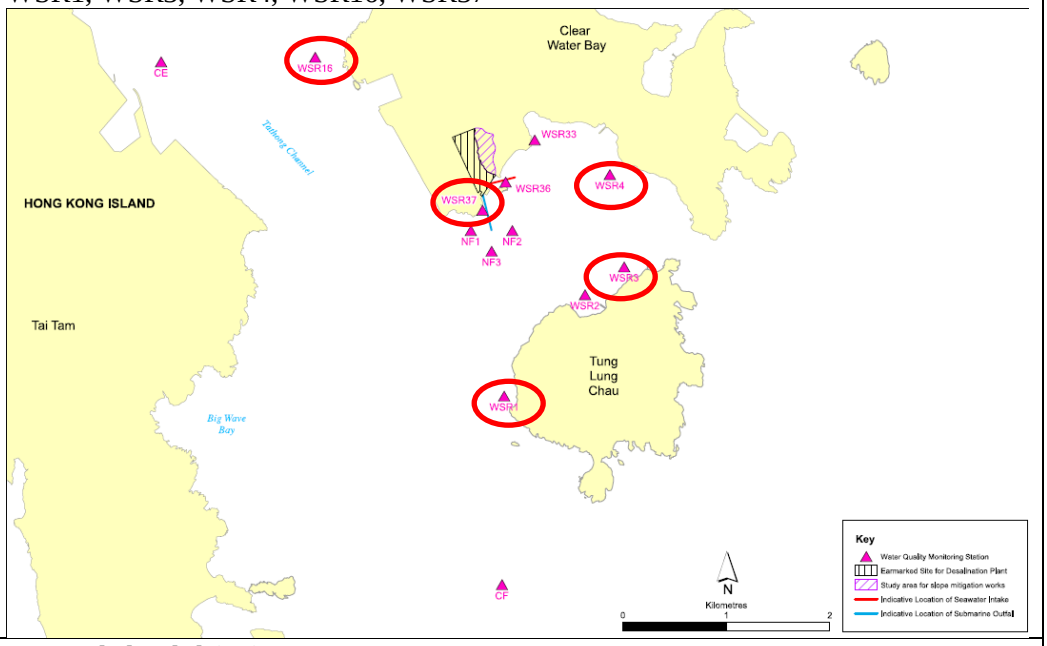
Supporting Photo 6 (Sea Conditions at WSR37)

Supporting Photo 7 (Sea Conditions at CE)

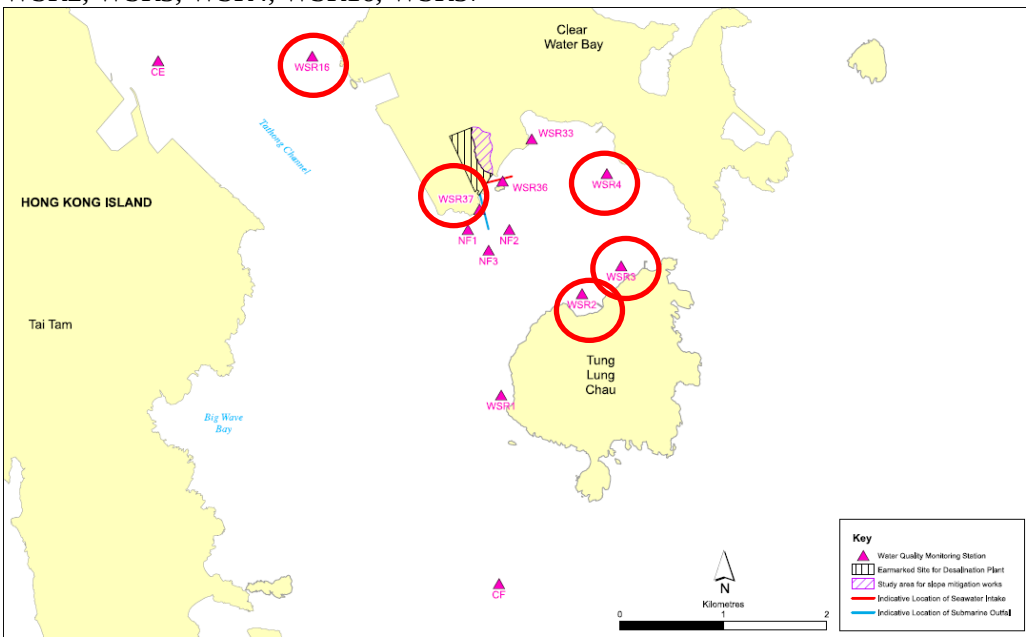
Supporting Photo 8 (Sea Conditions at Intake Shaft Area)

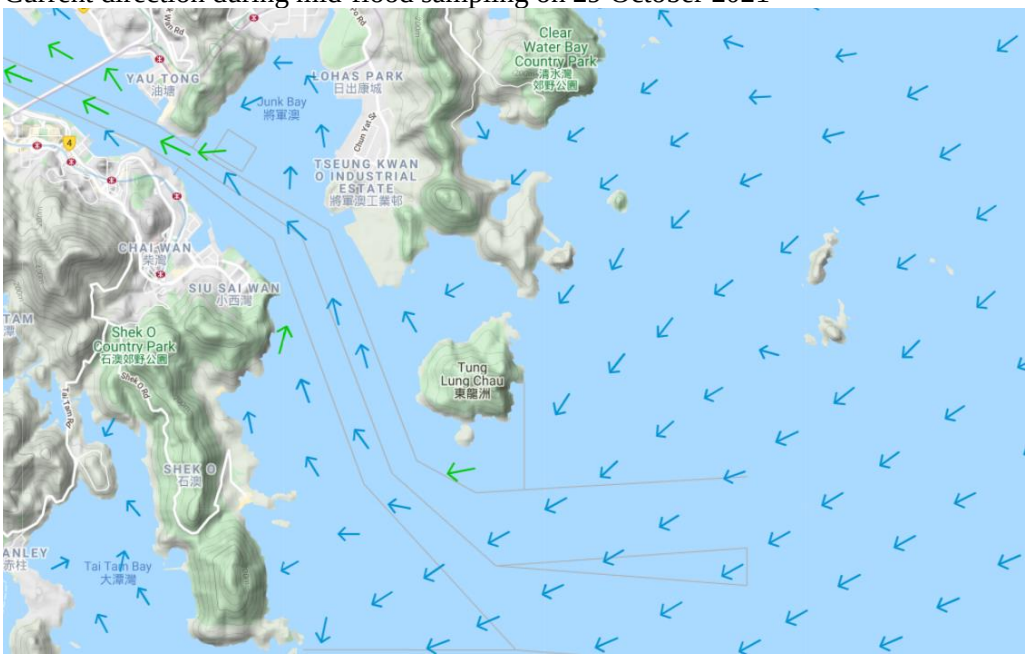
	Supporting Photo 9 (Sea Conditions at Outfall Shaft Area) 
Prepared by	Charlene Lai
Date	12 November 2021

Incident Report on Action Level or Limit Level Non-Compliance

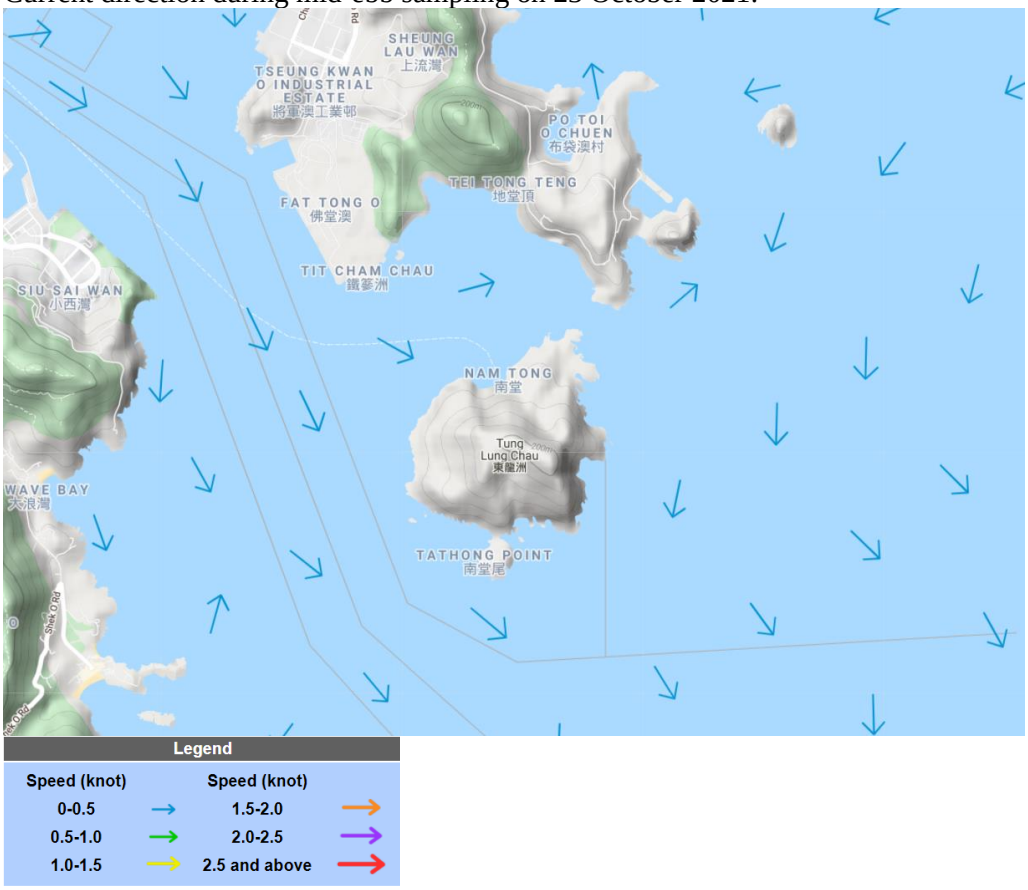
Project	Design, Build and Operate First Stage of Tseung Kwan O Desalination Plant		
Date	29 October 2021 (Lab result received on 03 November 2021)		
Time	15:44 - 19:00 (Mid-Flood) and 08:00 -10:36 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	WSR1, WSR3, WSR4, WSR16, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 5.6 mg/L	> 6.1 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	7.5 mg/L (WSR1) 8.7 mg/L (WSR 3) 8.3 mg/L (WSR 4) 6.2 mg/L (WSR 16) 5.9 mg/L (WSR 37)	4.7 mg/L (CF) 3.7 mg/L (CE)	5.5 mg/L (WSR 2) 2.8 mg/L (WSR33) 3.1 mg/L (WSR 36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge assisted material loading and housekeeping work inside its hopper (0800 – 1400 hrs); 2) 1st derrick barge worked to remove rockfill from caisson onto its hopper (1400 – 1800 hrs); 3) 2nd derrick barge towed from Intake Shaft to position, then worked to remove rockfill from caisson onto its hopper (1400 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge worked to backfill the rockfill into the cofferdam pipe piles (0800 – 1800 hrs); 2) 2nd derrick barge assisted to mobilize equipment (funnel) for the backfilling work and towed to Outfall area (0800 – 1400 hrs) Marine construction activities with contact with water: 1) N/A Marine vessels on 29 October 2021: • Derrick barge x 1 or 2 (Intake Shaft) • Derrick barge x 1 or 2, tug boat x 1, anchor boat x 1 (Outfall Shaft)		

	Dominating sea current direction was found to be from Southeast to Northwest at waters to the west side of Tit Cham Chau; and from Northeast to Southwest at waters to the east side of Tit Cham Chau. Stations WSR1, WSR3, WSR4 and WSR16 were located distant from the construction site and the possibility of being affected by marine construction activities were considered limited. SS exceedances were however observed at WSR1 (7.5 mg/L), WSR3 (8.7 mg/L), WSR4 (8.3 mg/L) and WSR16 (6.2mg/L). With reference to the work schedule provided by the Main Contractor, no construction works with water were conducted at WSR37 during mid-flood tide on 29 October 2021. SS exceedance was however observed at WSR37 (5.9 mg/L). In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 29 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 29 October 2021.

Mid-Ebb			
Monitoring Location	WSR2, WSR3, WSR4, WSR16, WSR37 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level	Limit Level	
	> 5.0 mg/L	> 6.0 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.0 mg/L (WSR2) 9.5 mg/L (WSR3) 10.3mg/L (WSR4) 7.2 mg/L (WSR16) 10.7 mg/L (WSR37)	2.8 mg/L (CE) 2.6 mg/L (CF)	2.5 mg/L (WSR1) 2.9 mg/L (WSR33) 4.3 mg/L (WSR36)
Possible reason for Action or Limit Level Non-compliance	Outfall Shaft Area: marine construction activities, namely 1) 1st derrick barge assisted material loading and housekeeping work inside its hopper (0800 – 1400 hrs); 2) 1st derrick barge worked to remove rockfill from caisson onto its hopper (1400 – 1800		

	hrs); 3) 2nd derrick barge towed from Intake Shaft to position, then worked to remove rockfill from caisson onto its hopper (1400 – 1800 hrs) Intake Shaft Area: marine construction activities, namely 1) 1st derrick barge worked to backfill the rockfill into the cofferdam pipe piles (0800 – 1800 hrs); 2) 2nd derrick barge assisted to mobilize equipment (funnel) for the backfilling work and towed to Outfall area (0800 – 1400 hrs) Marine construction activities with contact with water: 1) N/A Marine vessels on 29 October 2021: • Derrick barge x 1 or 2 (Intake Shaft) • Derrick barge x 1 or 2, tug boat x 1, anchor boat x 1 (Outfall Shaft) Dominating sea current direction was found to be from Northwest to Southeast at waters to the west side of Tit Cham Chau; and from West to East at waters to the east side of Tit Cham Chau. Stations WSR2, WSR3, WSR4 and WSR16 were located further from the construction site and the possibility of being affected by marine construction activities were considered limited. SS exceedances were however observed at WSR2 (8.0 mg/L), WSR3 (9.5 mg/L), WSR4 (10.3 mg/L) and WSR16 (7.2 mg/L). No marine construction activities with contact with water was conducted at WSR37 during mid-ebb tide on 29 October 2021. The SS level at WSR37 (10.7 mg/L) was however the highest when compared with other monitoring stations. In view of the inverse relation between distance to marine works and SS level, the SS exceedance is concluded not project relevant. According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site on 29 October 2021. Conditions of the protective silt curtain at the inland water outfall was satisfactory on 29 October 2021.
Remarks	Current direction during mid-flood sampling on 29 October 2021 

Current direction during mid-ebb sampling on 23 October 2021:



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

Supporting Photo 1 (Sea Conditions at WSR1)

Supporting Photo 2 (Sea Conditions at WSR2)

Supporting Photo 3 (Sea Conditions at WSR3)

Supporting Photo 4 (Sea Conditions at WSR4)

Supporting Photo 5 (Sea Conditions at WSR16)

Supporting Photo 6 (Sea Conditions at WSR37)

Supporting Photo 7 (Sea Conditions at CF)

Supporting Photo 8 (Sea Conditions at CE)

Supporting Photo 9 (Sea Conditions at Intake Shaft Area)

	Supporting Photo 10 (Sea Conditions at Outfall Shaft Area) 
Prepared by	Charlene Lai
Date	12 November 2021