

Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Construction Phase and
Operation Phase Monthly
Environmental Monitoring and
Audit Report (July 2025)

Drainage Services Department

Revision: 1

2025-08-19



Drainage Services Department
42/F, Revenue Tower
5 Gloucester Road
Wan Chai
Hong Kong

Your reference:

Our reference: HKDSD206/50/110712

Date: 20 August 2025

Attention: Mr Lam Yat Hang, Chris

BY EMAIL & POST
(email: yhlam04@dsd.gov.hk)

Dear Sirs

Agreement No.: CM 14/2018
Independent Environmental Checker Services for
Expansion of Sha Tau Kok Sewage Treatment Works
Environmental Monitoring and Audit Monthly Report (July 2025)

We refer to the email of 19 August 2025 from Aurecon Hong Kong Limited, attaching the Monthly Environmental Monitoring and Audit Report (July 2025).

We have no comment and hereby verify the captioned Report in accordance with Clause 3.4 of the Environmental Permit No. EP-517/2017/A.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Alex Chan at 2618 2831.

Yours faithfully
ANewR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/CYCA/thy

cc Binnies – Mr Alaster Chan (email: are_em2@dc1803.com.hk)
Aurecon – Mr Kevin Li (email: kevin.li@aurecongroup.com)

Document control record

Document prepared by:

Aurecon Hong Kong Limited

Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223 – 231 Wai Yip Street, Kwun Tong, Kowloon
Hong Kong S. A. R.

T +852 3664 6888
F +852 3664 6999
E hongkong@aurecongroup.com
W aurecongroup.com

- A person using Aurecon documents or data accepts the risk of:
- a) Using the documents or data in electronic form without requesting and checking them for accuracy against the original hard copy version.
 - b) Using the documents or data for any purpose not agreed to in writing by Aurecon.

Document control					aurecon	
Report title		Construction Phase and Operation Phase Monthly Environmental Monitoring and Audit Report (July 2025)				
Document code		MEM&AR-17	Project number		P526333	
File path						
Client		Drainage Services Department				
Client contact			Client reference			
Rev	Date	Revision details/status	Author	Reviewer	Verifier (if required)	Approver
0	2025-8-14	1 st Submission	Toby Wan	Kevin Li		Kevin Li
1	2025-8-19	2 nd Submission	Toby Wan	Kevin Li		Kevin Li
Current revision		1				

Approval			
Author signature		Certified by	
Name	Toby Wan	Name	Kevin Li
Title	Environmental Team Consultant	Title	Environmental Team Leader

Content

Executive Summary	1
1 Introduction.....	4
1.1 Background	4
1.2 Scope of this Report	5
1.3 Project Organization	5
1.4 Construction Programme and Activities	5
1.5 Status of Environmental Licences, Notification and Permits	7
2 Odour.....	8
2.1 Monitoring Requirement	8
2.2 Monitoring Parameters and Frequency	9
2.3 Monitoring Locations	9
2.4 Results and Observations	9
3 Noise Monitoring	10
3.1 Monitoring Requirement	10
3.2 Monitoring Equipment.....	10
3.3 Parameters and Frequency	10
3.4 Monitoring Methodology	10
3.5 Maintenance and Calibration.....	11
3.6 Monitoring Locations	11
3.7 Monitoring Result and Observations	11
4 Water Quality	13
4.1 Monitoring Requirement	13
4.2 Monitoring Requirements	13
4.3 Monitoring Equipment.....	13
4.4 Equipment Calibration	14
4.5 Parameters and Frequency	14
4.6 Monitoring Procedure	15
4.7 Laboratory Measurement / Analysis.....	15
4.8 Monitoring Locations	16
4.9 Monitoring Results and Observation	16
5 Landscape and Visual.....	18
5.1 Site Inspection	18
6 Site Inspection and Audit	19
6.1 Site Inspection	19
7 Waste Management Status.....	20
7.1 Advice on the Solid and Liquid Waste Management Status	20
8 Environmental Complaint and Non-Compliance.....	21
8.1 Complaints, Notification of Summons and Prosecution	21
9 Implementation Status of Environmental Mitigation Measure	22
9.1 Implementation Status.....	22
10 On-site Time for ET and IEC.....	23
11 Future Key Issues.....	24
11.1 Construction Programme for the Next Month	24

11.2	No work in Choi Yuen Kok Sewerage Construction of sewerage Key Issues for the Coming Month	24
11.3	Monitoring Schedules for the Next Month	24
12	Conclusion	25

Appendix

Appendix 1	Project Organization Chart
Appendix 2	Construction Programme
Appendix 3	Calibration Certificate of Monitoring Equipment
Appendix 4	Environmental Monitoring Schedule
Appendix 5	Monitoring Results and Graphical Presentations
Appendix 6	Event and Action Plan
Appendix 7	Waste Flow Table
Appendix 8	Implementation Status of Environment Mitigation Measures
Appendix 9	Weather and Meteorological Conditions
Appendix 10	Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions
Appendix 11	Summary of Site Audit
Appendix 12	Outstanding Issues and Deficiencies
Appendix 13	The on-site time & duties of ET and IEC
Appendix 14	Investigation Report (Exceedance of Marine Water Quality Monitoring)

Executive Summary

This is the 74th EM&A report prepared by Aurecon Hong Kong Limited (Aurecon) for the Expansion of Sha Tau Kok Sewage Treatment Works. This report summarized the monitoring results and audits findings if the EM&A programme under the issued EP (Register No. EP-517/2017/A) and in accordance with the EM&A Manual during the reporting period from 1 July 2025 to 31 July 2025.

Key Construction Works in the Reporting Period

A summary of construction activities undertaken during the reporting period is presented below:

Sha Tau Kok Sewage Treatment Plant

- ABWF works – modification of handrail, plastering works, tiling works, painting works, screeding works
- Operating of STW
- Demolition of TSTP
- Construction of planter
- Dismantle of bamboo scaffolding

Access road

- No work activities in reporting month

Shun Hing Street

- No work activities in reporting month

Tong To Village

- Additional pipe laying works in Tong To Village entrance

Choi Yuen Kok

- No work activities in reporting month

Implementation of the key mitigation measures during the reporting period as follows:

Implementation of key mitigation measures	Implemented locations
All construction plants / machineries should be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission	Sha Tau Kok Sewage Treatment Plant
All C&D materials generated should be transported and stored at temporary storage area	Sha Tau Kok Sewage Treatment Plant
Cover should be provided during transportation of dusty materials. Suitable materials should be sorted for reuse on-site. Only non-inert C&D material should be disposed off-site to NENT Landfill	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit
All dump trucks should be equipped with mechanical covers to prevent the dust emission during transportation when necessary	Sha Tau Kok Sewage Treatment Plant
Dust control measures, such as water spraying should be provided when necessary	Sha Tau Kok Sewage Treatment Plant
Maintaining of wet surface on access road and keep slow speed within the site	Sha Tau Kok Sewage Treatment Plant
Wastewater to be treated by wastewater treatment facilities before discharge	Sha Tau Kok Sewage Treatment Plant
Fuelling of equipment should be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage	Sha Tau Kok Sewage Treatment Plant
Provision of drip trays for equipment/ containers likely cause spillage of chemical / fuel, and provide routine maintenance	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit

Application of silent plant. NRMM and noise labels should be displayed on the PME	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit
Provision of chemical/waste management on site	Sha Tau Kok Sewage Treatment Plant
No discharge of wastewater/ drill fluid should be allowed	Sha Tau Kok Sewage Treatment Plant
Provide sufficient mitigation measures/ precautionary measures as recommended in the method statement of submarine outfall construction and approved EM&A Manual requirements	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit

Breaches of Action/Limit Levels

Construction noise monitoring was carried out in the reporting month, no Action /Limit Level exceedance was recorded during the period.

Operation phase marine water quality monitoring and continuous effluent quality monitoring was carried out during the reporting month.

Total 2 Action Level and 11 Limit Level exceedances of marine water quality monitoring were recorded during the reporting period. After investigation, all exceedances were considered non-project related.

No Action Level and Limit Level exceedance for continuous effluent quality monitoring was recorded during the reporting month.

Complaint Log

No complaint was received in the reporting period.

Reporting Change

No reporting change was received in the reporting period.

Future Key Issues

The main works will be anticipated in the next reporting period are as follows:

Sha Tau Kok Sewage Treatment Plant

- Defect rectification
- ABWF work – internal wall, floor finish and painting work
- Landscaping
- Installation of artificial wood finishing
- Construction maintenance foot path at roof top

Access road

- No work activities

Shun Hing Street

- Preparation work for demolition of STKPS

Tong To Village

- No work activities

Choi Yuen Kok

- No work activities

EP Submission

The following EP submission (EP No.: EP-517/2017/A) was submitted during the report period:

- Condition 3.4:
The 73rd Monthly EM&A Report (June 2025) was submitted to EPD on 18 July 2025.

Summary Table for Status of Compliance / Required Submission

EP Conditions	Submission(s)	Submission Date
2.8	Project Organization Chart with CVs for the proposed Environmental Team Leader and relevant specialists	01-Mar-2022
2.9	Demolition Noise Mitigation Measures Plan for the Existing Sewage Treatment Plant (Rev.5)	31-May-2022
	Demolition Noise Mitigation Measures Plan (DNMMP) - Sha Tau Kok Sewage Pumping Station (STKSPS)	28-Apr-2025
2.11	Method Statement for Construction of Submarine Outfall and Diffuser Cofferdam (Rev.5)	13-Sep-2021
2.12	Pre-construction Survey of the Night Roosting Site for Great Egrets and other Ardeid Species for the Expansion of Sha Tau Kok Sewage Treatment Works	25-Nov-2019
	Survey Report of the Night Roosting Site for Great Egrets and other Ardeid Species for the Expansion of Sha Tau Kok Sewage Treatment Works (Rev.02)	19-May-2023
	Survey Report of the Night Roosting Site for Great Egrets and other Ardeid Species	17-Mar-2025
2.15	Odour Commissioning Test Report for TSTP (Version: 2)	27-Aug-2022
	Odour Commissioning Test Report for STKSTW	27-Mar-2025
2.17	Emergency Response Plan for Temporary Sewage Treatment Plant	06-Aug-2020
3.1	Proposal for Reducing Odour Monitoring Frequency (Rev.3)	13-Feb-2023
3.3	Baseline Environmental Monitoring Report (Water)	27-Dec-2019
3.4	73 rd Monthly EM&A Report (June 2025)	18-July-2025
	Quarterly EM&A Summary Report for March 2024 to May 2024	16-Dec-2024
	4 th Annual EM&A Review Report for June 2022 to May 2023 (2022-2023)	12-Sep-2023

1 Introduction

1.1 Background

- 1.1.1 The Project is to expand the treatment capacity of the existing Sha Tau Kok Sewage Treatment Works (STKSTW) from 1,660 m³/day to 10,000 m³/day in 2 phases. The works for this Project in Sha Tau Kok mainly comprises of the following items:
- Increase the treatment capacity of Sha Tau Kok Sewage Treatment Works (STKSTW) to 5,000 m³/day at Average Dry Weather Flow (ADWF) by in Phase 1, with suitable allowance to cater for a further increase of treatment capacity to 10,000 m³/day at ADWF after 2030 in Phase 2;
 - Construct a temporary sewage treatment plant (TSTP);
 - Demolish the existing Sha Tau Kok Sewage Pumping Station (STKSPS) and decommission the rising main between STKSPS and STKSTW;
 - Construct a new gravity sewer; and
 - Decommission the existing submarine outfall and construct a new one.
- 1.1.2 The project site will be located within the existing STKSTW, while the construction of the gravity sewers and the demolition of STKSPS will take place in Sha Tau Kok Town. The proposed submarine outfall is to be constructed using the Horizontal Directional Drilling (HDD) method beneath the seabed of Starling Inlet.
- 1.1.3 The Environmental Impact Assessment (EIA) Report for the Expansion of Sha Tau Kok Sewage Treatment Works (Register No: AEIAR-207/2017) was approved on 14 February 2017. A variation of an Environmental Permit (EP) (Permit No.EP-517/2017/A) was issued on 18 October 2019, which is the current permit for the project.
- 1.1.4 From 27 May 2019 to 26 February 2020, Fugro Technical Services Limited (FTS) was appointed to provide additional services for the ET during the early stage of the construction phase, implementing the EM&A programme for the project.
- 1.1.5 From 27 February 2020 to 28 February 2022, AECOM Asia Co. Ltd (AECOM) was appointed as the ET to undertake the ET services for the project and implement the EM&A works during the construction phase.
- 1.1.6 From 1 March 2022 to 29 February 2024, FTS was appointed as the ET to undertake the ET services for the project and implement the EM&A works under Contract No.CM/2021/11, 'Expansion of Sha Tau Kok Sewage Treatment Works'.
- 1.1.7 Starting from 1 March 2024, Aurecon Hong Kong Limited (AHK) has been appointed as the ET to undertake the ET services for Contract No. CM02/2024, 'Expansion of Sha Tau Kok Sewage Treatment Works', and to implement the EM&A works during the construction phase.
- 1.1.8 The EM&A programme of this Project shall be implemented in accordance with the requirements and procedures set out in the EM&A Manual and the EP No. EP-517/2017/A.
- 1.1.9 A baseline noise monitoring work was conducted between 25 February 2019 and 11 March 2019 and an Environmental Monitoring Report (Noise) Report was approved by EPD on 21 June 2019.
- 1.1.10 A baseline water quality monitoring was conducted between 26 February 2019 and 23 Mar 2019 and an Environmental Monitoring Report (Water) Report was approved by EPD on 2 March 2020.
- 1.1.11 A pre-construction survey on night roosting site for great egret was conducted in October 2019 and Pre-construction Survey Report was found in order by Agriculture, Fisheries and Conservation Department on 30 December 2019. An updated pre-construction survey was conducted in December 2021 to reconfirm the usage of the Night Roosting Site by Great

Egrets or other ardeids species before the commencement of any construction/ demolition works within 100m of the Night Roosting Site.

- 1.1.12 A pre-construction survey on night roosting site for great egret was conducted in January 2025 before the commencement of the demolition of the TSTP and the existing STKSPS. The survey report was submitted to the EPD on 17 March 2025.
- 1.1.13 The submission of a proposal for changes to the environmental monitoring methodology and requirements (Operation Phase of TSTP Odour Monitoring) to the EPD was on 29 April 2020, and comments from the EPD were received on 26 May 2020. A revised proposal was submitted on 28 May 2020 and was approved by the EPD on 4 June 2020.
- 1.1.14 The method statement for the construction of the submarine outfall and diffuser cofferdam was submitted to the EPD on 1 April 2020. Subsequent comments from the EPD were received, and the revised method statement was submitted to the EPD on 13 September 2021. The revised method statement was approved by the EPD on 11 January 2022.
- 1.1.15 The construction phase and EM&A programme for the Project commenced on 27 May 2019. The operation of TSTP was commenced on 22 July 2020 and the operation of STKSTW was commenced on 28 April 2025.

1.2 Scope of this Report

- 1.2.1 This is the 74th EM&A Report prepared by Aurecon for the Expansion of Sha Tau Kok Sewage Treatment Works. This report summarizes the monitoring results and audit findings of the EM&A programme in accordance with Condition 3.4 of the Environmental Permit (EP No.: EP-517/2017/A) and the EM&A Manual, covering the reporting period from 1 July 2025 to 31 July 2025.

1.3 Project Organization

- 1.3.1 The Project Organization structure is shown in **Appendix 1**. The key personnel contact names and numbers are summarized in **Table 1-1**.

Table 1-1 Contact Information of Key Personnel

Party	Position	Name	Telephone
DSD (Drainage Services Department)	Engineer	Mr. Alex Lam	2594 7262
ER (Binnies Hong Kong Limited)	Resident Engineer	Ms. Janny Tse	2946 8707
Contractor (Build King – Kum Shing J. V.)	Environmental Officer	Ms. Yoyo Leung	2946 8766
IEC (ANewR Consulting Limited)	Independent Environmental Checker	Mr. James Choi	2618 2836
ET (Aurecon Hong Kong Limited)	Environmental Team Leader	Mr. Kevin Li	3664 6888

1.4 Construction Programme and Activities

- 1.4.1 The main works undertaken during the reporting period as follows:

Sha Tau Kok Sewage Treatment Plant

- ABWF works – modification of handrail, plastering works, tiling works, painting works, screeding works
- Operating of STW
- Demolition of TSTP
- Construction of planter

- Dismantle of bamboo scaffolding

Access road

- No work activities in reporting month

Shun Hing Street

- No work activities in reporting month

Tong To Village

- Additional pipe laying works in Tong To Village entrance

Choi Yuen Kok

- No work activities in reporting month

1.4.2 Implementation of the key mitigation measures during the reporting period as follows:

Table 1-2 Implementation of mitigation measures

Implementation of key mitigation measures	Implemented locations
All construction plants / machineries should be checked / serviced on a regular basis during the courses of construction to minimize the emission of noise generation and eliminate dark smoke emission	Sha Tau Kok Sewage Treatment Plant
All C&D materials generated should be transported and stored at temporary storage area	Sha Tau Kok Sewage Treatment Plant
Cover should be provided during transportation of dusty materials. Suitable materials should be sorted for reuse on-site. Only non-inert C&D material should be disposed off-site to NENT Landfill	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit
All dump trucks should be equipped with mechanical covers to prevent the dust emission during transportation when necessary	Sha Tau Kok Sewage Treatment Plant
Dust control measures, such as water spraying should be provided when necessary	Sha Tau Kok Sewage Treatment Plant
Maintaining of wet surface on access road and keep slow speed in the site	Sha Tau Kok Sewage Treatment Plant
Wastewater to be treated by wastewater treatment facilities before discharge	Sha Tau Kok Sewage Treatment Plant
Fuelling of equipment should be conducted carefully on-site by mobile tanker to avoid storage of fuel and oil spillage	Sha Tau Kok Sewage Treatment Plant
Provision of drip trays for equipment/ containers likely cause spillage of chemical / fuel, and provide routine maintenance	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit
Application of silent plant. NRMM and noise labels should be displayed on the PME	Sha Tau Kok Sewage Treatment Plant, Access Road Jacking Pit
Provision of chemical/waste management on site	Sha Tau Kok Sewage Treatment Plant
No discharge of wastewater/ drill fluid should be allowed	Sha Tau Kok Sewage Treatment Plant

1.4.3 The Construction Programme is shown in **Appendix 2**.

1.4.4 The general layout plan of the Project site is shown in **Figure 1**.

1.5 Status of Environmental Licences, Notification and Permits

- 1.5.1 The environmental licenses and permits for the Project and valid in the reporting period are summarized in **Table 1-3**.

Table 1-3 Summary Status of Environmental Licenses, Notification and Permits

Permit/ Notification/ License	Reference No	Valid From	Valid Till
Environmental Permit	EP-517/2017/A	18-Oct-19	-
Wastewater Discharge License	WT00037838-2021	21-Apr-21	30-Apr-26
	WT00041241-2022	31-May-22	31-May-27
	WT00044810-2024	05-Jul-24	31-May-29
Chemical Waste Producer Registration	5213-652-B2548-01	14-Dec-18	Not Applicable
Billing Account	WFG19965	2-Jan-19	Not Applicable
Construction Noise Permit	GW-RN-0271-25	30-Mar-25	29-Aug-25

2 Odour

2.1 Monitoring Requirement

Temporary Sewage Treatment Plant (TSTP)

- 2.1.1 In accordance with the EM&A Manual, a commissioning test for the deodorization facilities of the TSTP was performed on 12 June 2020, exhaust air flow rate, temperature of exhaust and H₂S concentration were recorded during the measurement. The measurement details were presented in the odour commissioning test report. The odour commission test report was submitted to EPD on 16 June and re-submitted on 30 September 2020. Further comments from EPD were received on 9 December 2020 and 25 June 2021 and the revised reports were submitted on 12 May 2021 and 27 August 2021 respectively.
- 2.1.2 In accordance with the EM&A Manual, as there is no non-compliance was recorded during the weekly odour monitoring in the first two months (i.e. August and September 2020), monitoring frequency is recommended to reduce from weekly to monthly in the subsequent four months (i.e. October 2020 to January 2021) and further reduce to quarterly in the remaining six months (i.e. February to July 2021) of the first year of the TSTP operation if no non-compliance is found. As there is no non-compliance was recorded during the quarterly odour monitoring in the first two years (i.e. October 2020 to July 2022), monitoring frequency is further reduce to six months basis in the subsequence years. The 1st year operation odour monitoring was completed in July 2021. The 2nd year operation odour monitoring was completed in July 2022.
- 2.1.3 Every six-month basis monitoring of odour emission at the exhausts of deodorization facilities (TSTP No.1 and TSTP No.2) is recommended to continue in the subsequent years of the operation (i.e.in between January 2023 to March 2024). Odour monitoring will be performed at the exhaust of operating deodorization facility at TSTP.

Sha Tau Kok Sewage Treatment Works (STKSTW)

- 2.1.4 In accordance with the EM&A Manual, a commissioning test for the deodorization facilities of the STKSTW was conducted on 24 February 2025, exhaust air flow rate, temperature of exhaust, odour was recorded during the measurement. The measurement details were presented in the odour commissioning test report. The odour commission test report was submitted to EPD on 27 March 2025.
- 2.1.5 In accordance with the EM&A Manual, as there is no non-compliance was recorded during the weekly odour monitoring in the first two months (i.e. May and June 2025), monitoring frequency is recommended to reduce from weekly to monthly in the subsequent four months (i.e. July to October 2025) and further reduce to quarterly in the remaining six months (i.e. November 2025 to April 2026) of the first year of the STKSTW operation if no non-compliance is found. Details of the Odour Monitoring Methodology is summarized in **Table 2-1**.

Table 2-1 Odour Monitoring Methodology

Measurement	Parameter	Method
• STKSTW No.1 • STKSTW No.2	• Exhaust air flow rate • Temperature of exhaust • Odour	<u>Air sampling:</u> Grap sampling using Teflon bag <u>Physical parameter:</u> Flow Meter <u>Laboratory analysis:</u> Forced-choice Dynamic Olfactometer according to European Standard Method (EN 13725)

2.2 Monitoring Parameters and Frequency

2.2.1 The monitoring parameters, frequency and duration of odour monitoring are summarized in **Table 2-3**.

Table 2-2 Odour Monitoring Parameters and Frequency

Measurement Parameters	Frequency
- Exhaust air flow rate - Temperature of exhaust - Odour	1 st year of STKSTW operation - At least once per week in the first two months. (i.e. May and June 2025) - Monthly in the subsequent four months. (i.e. July to October 2025) - Quarterly in the remaining six months. (i.e. November 2025 to April 2026)

2.3 Monitoring Locations

2.3.1 Odour monitoring will be undertaken at the exhaust of operating facility. The odour monitoring locations is summarized in **Table 2-4** and shown in **Figure 2**.

Table 2-3 Odour Monitoring Equipment

Monitoring Station	Location
STKSTW No.1	At the exhaust of STKSTW
STKSTW No.2	

2.4 Results and Observations

2.4.1 The 1st year operation for STKSTW odour monitoring was conducted in the reporting month.

2.4.2 The schedule for environmental monitoring in the reporting period is provided in **Appendix D**.

2.4.3 The odour monitoring results are summarized in **Table 2-5**.

Table 2-5 Odour Monitoring Results

Location	Date & Weather	Time	Ambient		Exhaust				
			Temp (°C)	Wind Speed (m/s)	Gas Temp (°C)	Air Velocity (m/s)	Average Air Flow Rate (m³/s)	Odour Unit (OU/m³)	Odour Unit Expressed in H ₂ S Conc. (ppm)
STKSTW No.1 and No.2	24/07/25	9:05	33.1	1.2	32.7	5.8	10.81	<11	<0.005
		9:15				5.8		<11	<0.005

3 Noise Monitoring

3.1 Monitoring Requirement

- 3.1.1 In accordance with the EM&A Manuals, Leq (30min) monitoring is conducted at least once a week during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

- 3.2.1 As referred to the technical memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used for carrying out the construction noise monitoring.
- 3.2.2 Sound level calibrator shall be used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class 1 and ANSI S1.40 – 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0 dB(A).
- 3.2.3 Measurements shall be recorded to the nearest 0.1dB (A). Sound level meters are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 on normal weekdays at least once a week when construction activities are underway.
- 3.2.4 **Table 3-1** summarizes the noise monitoring equipment used during the construction noise monitoring. Calibration certificates for the impact noise monitoring equipment are attached in **Appendix 3**.

Table 3-1 Construction Noise Monitoring Equipment

Equipment	Model (Serial Number)	Calibration Due Date
Sound Calibrator	RION NC-75 Acoustic Calibrator (35124529)	23-Oct-2025
Sound Level Meter	NTi Audio XL2 Digital Sound Level Meter (A2A-13661-E0)	12-Aug-2025

3.3 Parameters and Frequency

- 3.3.1 **Table 3-2** summarizes the monitoring parameters, duration, and frequency of construction noise monitoring.

Table 3-2 Noise Monitoring Parameter, Frequency and Duration

Parameters	Time	Frequency	Duration
Leq(30-min)	0700 and 1900 hours on normal weekdays	Once every week	Throughout the construction phase

3.4 Monitoring Methodology

- 3.4.1 The monitoring procedures are as follows:
- Free-field and façade measurements were made at the monitoring locations.
 - For free field, the Sound Level Meter was set at a height of 1.2 m above the ground. The battery condition was checked to ensure proper functioning of the meter.
 - Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - Frequency weighting: A

- Time weighting: Fast
- Measurement time: 5 minutes ($L_{eq(30mins)}$ would be determined for daytime noise by calculating the logarithmic average of six $L_{eq(5mins)}$ data.)
- Prior to and after each noise measurement, the meter was calibrated using an acoustic calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the L_{eq} , L_{10} and L_{90} shall be recorded. In addition, site conditions and noise sources should be recorded on a standard record sheet.
- Noise monitoring should be conducted with the wind speed not exceeding 5 m/s and no gusts exceeding 10 m/s.

3.5 Maintenance and Calibration

3.5.1 Maintenance and calibration procedures are as follows:

- The microphone head of the sound level meter and calibrator were regularly cleaned with a soft cloth; and
- The sound level meter and acoustic calibrator were calibrated annually by a HOKLAS accredited laboratory or the manufacturer.
- The calibration certificates for noise monitoring equipment are provided in **Appendix 3**.

3.6 Monitoring Locations

3.6.1 According to the approved EM&A Manual, there are 2 monitoring locations for Construction Noise Monitoring. The noise monitoring locations are summarized in **Table 3.3**, and the locations of the noise monitoring stations are shown in **Figure 3**.

Table 3-3 Noise Monitoring Locations

ID No.	Noise Sensitive Receivers	Description	Type of Measurement
NM1 [‡]	NSR6	Block 45, Sha Tau Kok Chuen	Free-field
NM2 [‡]	NSR8	Building along Shun Lung Street	Free-field

Notes: [‡] For Free Field measurement, +3 dB(A) was added to the measured results.

3.7 Monitoring Result and Observations

- 3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix 4**.
- 3.7.2 The noise monitoring results are summarized in **Table 3-4**. The detail monitoring data together with graphical presentations are presented in **Appendices E**.

Table 3-4 Summary of Noise Monitoring Results at 0700 – 1900 hrs on Normal weekdays

Noise Monitoring Station	$L_{eq(30mins)}$, dB(A) (Range)	Baseline Level, dB(A)	Limit Level, dB(A)
NM1 [‡]	56.6 – 58.6	65	75
NM2 [‡]	56.7 – 60.5	65	75

Notes: [‡] For Free Field measurement, +3 dB(A) was added to the measured results.

- 3.7.3 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather conditions during the monitoring month are provided in **Appendix 9**.

- 3.7.4 No Action / Limit Level exceedance of location NM1 and NM2 was recorded for construction noise in the reporting month.
- 3.7.5 During the reporting month, at NM1 and NM2, road traffic noise along Shun Lung Street and human activities were observed. The above factors may affect the monitoring results.
- 3.7.6 The Event and Action Plan for noise is given in **Appendix 6**.

4 Water Quality

4.1 Monitoring Requirement

- 4.1.1 In accordance with the EM&A Manual, water quality monitoring is required during the installation, maintenance, and removal of sheet piles, as well as during sediment removal works for the construction of the diffuser.
- 4.1.2 Water quality monitoring programme for marine construction works of HDD was commenced on 9 November 2020. As informed by DSD, no marine construction work was conducted and the marine water quality monitoring for marine construction works was suspended since 21 December 2020. The marine water quality monitoring was resumed on 20 January 2021.
- 4.1.3 Water quality monitoring programme for marine construction works of submarine outfall was commenced on 20 January 2021. As informed by DSD, no marine construction work was conducted and the marine water quality monitoring for marine construction works was suspended since 31 December 2022.
- 4.1.4 As informed by DSD, the operation of STKSTW was commenced on 28 April 2025. The marine water quality monitoring was resumed on 28 April 2025.

4.2 Monitoring Requirements

- 4.2.1 In accordance with the EM&A Manual, marine water quality and continuous effluent quality monitoring for first year operation of TSTP were performed and completed in July 2021.
- 4.2.2 Water quality monitoring programme for operation phase of TSTP was commenced on 22 July 2020 and was completed on 21 July 2021.
- 4.2.3 In accordance with the EM&A Manual, marine water quality and continuous effluent quality monitoring for first year operation of STKSTW were commenced on 28 April 2025.

4.3 Monitoring Equipment

- 4.3.1 Water quality monitoring equipment used for in-situ measurement and water sampling during the impact water quality monitoring is summarised in **Table 4-1**.

Table 4-1 In-situ Water Quality Monitoring Equipment for Impact Water Quality Monitoring

Equipment	Model	Serial No.	Parameter	Range	Accuracy
Water Sampler	Wildco 2L Water Sampler with messenger or plastic bucket (used in shallow water depth)	N/A	N/A	N/A	N/A
Multi-functional Water Quality Meter	YSI ProDSS (multi-parameters)	N/A	Dissolved Oxygen (DO)	0 to 500%	0 to 200%: $\pm 1\%$ of reading 200 to 500%: $\pm 8\%$ of reading
				0 to 50 mg/L	0 to 20 mg/L: ± 0.1 mg/L or 1% of reading, whichever is greater 20 to 50 mg/L: $\pm 8\%$ of reading
			Temperature	-5 to 50 °C	± 0.2 °C
			pH	0 to 14 pH units	± 0.2 pH units

Equipment	Model	Serial No.	Parameter	Range	Accuracy
			Turbidity	0 to 4000 NTU	0 to 999 NTU: 0.3 NTU or $\pm 2\%$ of reading, whichever is greater 1000 to 4000 NTU: $\pm 5\%$ of reading
Water Depth Ruler	Garmin ECHO 101	NA*	Water depth	0 – 7 m (Used for water depth less than 1 m)	± 0.01 m
Positioning Equipment	Garmin (GPSmap 78s)	N/A	Positioning	N/A	GPS: ± 1 m

4.4 Equipment Calibration

- 4.4.1 Multi-functional water quality meters were checked and calibrated before use and would be subsequently re-calibrated at monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter should be carried out before measurement at each monitoring location. For the on-site calibration of field equipment, the BS 127:1993, Guide to Field and On-Site Test Methods for the Analysis of Water should be observed.
- 4.4.2 Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring is uninterrupted even when some equipment is under maintenance or calibration etc.

4.5 Parameters and Frequency

- 4.5.1 Detail of water quality monitoring and sampling equipment is summarised in **Table 4-2**.

Table 4-2 Summary of Water Quality Parameter and Frequency

	Parameters	Frequency
For Marine Water Quality	In-situ Measurement	1-year Operation phase for STKSTW *Once per day for 3 days per week for 1-year (Marine Water Quality Monitoring commenced on 28 April 2025)
	Temperature, °C	
	pH	
	Salinity, ppt	
	Dissolved Oxygen, mg/L	
	Turbidity, NTU	
	Laboratory Analysis	
	Suspended Solid, mg/L	
	Biochemical Oxygen Demand, mg/L	
	Total Phosphorus, mg/L	
	Total Nitrogen, mg/L	
	Ammonia Nitrogen, mg/L	
	Total Inorganic Nitrogen, mg/L	
	<i>E.coli</i> , cfu/100mL	
For Continuous Effluent Quality	Laboratory Analysis	Daily for 1-year (Continuous Effluent Quality Monitoring commenced on 28 April 2025)
	Suspended Solid, mg/L	
	Biochemical Oxygen Demand, mg/L	
	Total Phosphorus, mg/L	
	Total Nitrogen, mg/L	
	Ammonia Nitrogen, mg/L	
	Total Inorganic Nitrogen, mg/L	
	<i>E.coli</i> , cfu/100mL	

4.6 Monitoring Procedure

- 4.6.1 Two consecutive measurements of in-situ water quality monitoring, including pH, salinity, dissolved oxygen (DO), and turbidity, will be recorded at each monitoring location. Separate deployments of the monitoring instruments and water samplers will be conducted for these consecutive measurements or samplings. The monitoring location, time, water depth, sampling depth, tidal stages, weather conditions, sea condition, and any special phenomena or ongoing nearby work shall also be recorded. If the difference in value between the first and second measurements of DO or turbidity parameters exceeds 25% of the first reading's value, the reading shall be discarded, and additional readings should be taken.
- 4.6.2 A hand-held digital Global Positioning System (GPS) or another equivalent instrument with similar accuracy shall be provided and used during water quality monitoring to ensure the accuracy of water sampling locations.
- 4.6.3 When the location and water depth are confirmed, water samples shall be collected at three depths (1 meter below the surface, mid-depth, and 1 meter above the seabed) of the water column at each location. However, if the water depth is less than 6 meters, the mid-depth sample will be omitted, and if the water depth is less than 3 meters, only the mid-depth will be monitored. Duplicate marine samples will be collected during each sampling event. All sampling bottles should be labelled with the sample ID (including the indication of the sampling station), laboratory number, and sampling date. Water samples should be dispatched to the testing laboratory for analysis as soon as possible after sampling. All samples should be stored in a cool box and kept at temperatures below 4°C but not frozen. All water samples must be handled under chain of custody protocols and relinquished to laboratory representatives at locations specified by the laboratory. Laboratory analysis should commence within 24 hours after the collection of water samples.

4.7 Laboratory Measurement / Analysis

- 4.7.1 The laboratory measurement was carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. (HOKLAS Registration No. 066).

QA/QC Requirements

Decontamination Procedures

- 4.7.2 Water sampling equipment used during the course of the monitoring process was decontaminated by manual washing and rinsed with distilled water after each sampling event. All of the disposable components/ accessories were discarded after sampling.

Sampling Management and Supervision

- 4.7.3 All sampling bottles were labelled with the sample ID numbers (including the sampling station), and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible. All the collected samples were stored in a cool box to keep the temperature less than 4 as possible after the sampling. All samples were stored in a cool box and kept at less than 4 °C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.

Quality Control Measures for Sample Testing

- 4.7.4 Quality control of laboratory analysis of water samples was performed by Acumen Laboratory and Testing Limited for every batch of 20 samples:
- One method blank; and
 - One set of QC sample

4.8 Monitoring Locations

4.8.1 In accordance with the EM&A Manual, marine water quality monitoring stations are summarized in **Table 4-3** and shown in **Figure 4**.

Table 4-3 Water Quality Monitoring Stations

Station	Description	Easting	Northing	1-Year STKSTW Operation
FCZ1A ⁽¹⁾	Sha Tau Kok Fish Culture Zone – East	840892	844241	✓
FCZ1B ⁽¹⁾	Sha Tau Kok Fish Culture Zone - West	841565	844299	-
FCZ2	Ap Chau Fish Culture Zone	845701	845691	✓
FCZ7 ⁽¹⁾	Temporary Relocation Site for Fish Rafts of the Sha Tau Kok Fish Culture Zone	842282	844451	✓
FCZ8 ⁽¹⁾	Temporary Relocation Site for Fish Rafts of the Sha Tau Kok Fish Culture Zone	841511	843959	✓
SGA	Seagrass Colony	841064	844580	✓
M1A	Mangrove Stand	840744	844853	-
M6A	Mangrove Stand	843196	845173	✓
H1A	Horseshoe Crab	840645	844398	-
H4A	Horseshoe Crab	840304	843546	✓
N1 ⁽²⁾	Impact Station of the Expanded STKSTW (Ebb Tide)	842863	845378	✓
N2 ⁽²⁾	Impact Station of the Expanded STKSTW (Flood Tide)	842109	844631	✓
C	Control Station	844690	845886	✓
Effluent	Treated Effluent On-line Monitoring Station (TEOMS)	-	-	✓

Remarks:

- (1) FCZ7 and FCZ8 are the potential relocation zones for FCZ1A and FCZ1B (Sha Tau Kok Fish Culture Zone) when there is sediment dredging at Sha Tau Kok Fish Culture Zone, Approach Channel, Boat Shelter, etc. Monitoring at FCZ7 and / or FCZ8 would only be required when there are mariculture activities within the relocation zones.
- (2) The monitoring will take place during the ebb tide for N1 and the flood tide for N2.

4.9 Monitoring Results and Observation

- 4.9.1 The schedule for water quality monitoring in the reporting period is provided in **Appendix 4**.
- 4.9.2 Operation phase marine water quality monitoring and continuous effluent quality monitoring was commenced on 28 April 2025. No emergency discharge happened during the reporting period.
- 4.9.3 The weather and meteorological conditions during the monitoring are provided in **Appendix 9**.
- 4.9.4 All monitoring data presentation of the monitoring results are provided in **Appendix 5**.
- 4.9.5 Exceedances of marine water quality and effluent quality were recorded in the reporting period. Number of exceedances recorded at each monitoring stations are summarized in **Table 4-4**.

Table 4-4 Summary of Water Quality Exceedances

Station	Exceedance Level	In-situ Measurement				Laboratory Analysis							
		DO (S&M)	DO (B)	Salinity	Turbidity	SS	NH3-N	TN	TIN	TP	BOD ₅	E.Coli	Total
FCZ1A	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	0	0
FCZ2	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	0	0
SGA	Action Level	0	0	0	0	0	0	0	0	0	0	1	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	3	0
M6A	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	4	0
H4A	Action Level	0	0	0	0	0	0	0	0	0	1	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	4	0
N1	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	0	0
N2	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	0	0
Effluent	Action Level	0	0	0	0	0	0	0	0	0	0	0	0
	Limit Level	0	0	0	0	0	0	0	0	0	0	0	0
Total	Action Level	0	0	0	0	0	0	0	0	0	1	1	2
	Limit Level	0	0	0	0	0	0	0	0	0	0	11	11

4.9.6 1 Action Level and 11 Limit Level exceedances for *E. coli* were recorded and 1 Action Level exceedances for BOD₅ was recorded during the reporting period.

4.9.7 There are total 2 Action Level and 11 Limit Level exceedances were recorded during the reporting period. After investigation, all exceedances were considered non-project related. Details of the investigation is given in **Appendix 14**.

4.9.8 The Event and Action Plan for water quality is given in **Appendix 6**.

5 Landscape and Visual

5.1 Site Inspection

- 5.1.1 The EIA Report has recommended landscape and visual mitigation measures to be conducted for the proposed project of Expansion of Sha Tau Kok Sewage Treatment Works under this Project. The mitigation measure recommended in the EIA Report and EM&A manual as the audit requirements for landscape and visual, including preservation of existing vegetation, preservation of existing vegetation, control of site construction activities and suitable design of the proposed TSTP and the expanded STKSTW.
- 5.1.2 Bi-weekly landscape and visual site audits were carried out on 11 and 25 July 2025. A summary of the mitigation measures implementation schedule is provided in **Appendix 8**.
- 5.1.3 No outstanding issues were recorded in this reporting period. The Event and Action Plan for landscape and visual is given in **Appendix 6**.

6 Site Inspection and Audit

6.1 Site Inspection

- 6.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 6.1.2 In the reporting month, 5 site inspections were carried out on 4, 11, 18, 25 and 30 July 2025. The site inspection held on 30 July 2025 was joint inspection with the IEC, ER, the Contractor and the ET during the reporting period.
- 6.1.3 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix 11**.
- 6.1.4 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.
- 6.1.5 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality Impact

- No specific observation was identified in the reporting month.

Noise Impact

- No specific observation was identified in the reporting month.

Water Quality Impact

- No specific observation was identified in the reporting month.

Chemical and Waste Management

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- No specific observation was identified in the reporting month.

Permit/ Licenses

- No specific observation was identified in the reporting month.

7 Waste Management Status

7.1 Advice on the Solid and Liquid Waste Management Status

- 7.1.1 Auditing of waste management practices during regular site inspections will confirm that the waste generated during construction are properly, stored, handled and disposed of. The construction Contractor(s) will be responsible for the implementation of any mitigation measures to reduce waste or redress issues arising from the waste materials.
- 7.1.2 The C&D waste under this contract should be disposal of at North East New Territories (NENT) Landfill, Tseung Kwan O Area 137 Fill Bank (TKO137FB) and Tuen Mun Area 38 Fill Bank (TM38FB).
- 7.1.3 Monthly summary of waste flow table is detailed in **Appendix 7**.

8 Environmental Complaint and Non-Compliance

8.1 Complaints, Notification of Summons and Prosecution

- 8.1.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting month.
- 8.1.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix 10**.
- 8.1.3 No public engagement activities were conducted in the reporting period.

9 Implementation Status of Environmental Mitigation Measure

9.1 Implementation Status

- 9.1.1 The Contractor had implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and EM&A Manuals. The implementation status of the environmental mitigation measures during the reporting period is summarized in **Appendix 8**.

10 On-site Time for ET and IEC

- 10.1.1 According to EP Conditions 2.1 and 2.4, the Environmental Team (ET) and the Independent Environmental Checker (IEC), along with their respective teams, proposed a minimum on-site presence of at least 8 hours per week during office hours to fulfil the duties stipulated in the EP and the EM&A requirements of the project. The on-site time and duties of the ET and IEC are summarized in **Appendix 13**.

11 Future Key Issues

11.1 Construction Programme for the Next Month

Sha Tau Kok Sewage Treatment Plant

- Defect rectification
- ABWF work – internal wall, floor finish and painting work
- Landscaping
- Installation of artificial wood finishing
- Construction maintenance foot path at roof top

Access road

- No work activities

Shun Hing Street

- Preparation work for demolition of STKPS

Tong To Village

- No work activities

Choi Yuen Kok

- No work activities

11.2 No work in Choi Yuen Kok Sewerage Construction of sewerage Key Issues for the Coming Month

- 11.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, waste management and landscape and visual impact issues.

11.3 Monitoring Schedules for the Next Month

- 11.3.1 The tentative schedule for environmental monitoring in the coming month is provided in **Appendix 4**.

12 Conclusion

- 12.1.1 Construction noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 12.1.2 Operation phase marine water quality monitoring and continuous effluent quality monitoring was carried out during the reporting month.
- 12.1.3 Total 2 Action Level and 11 Limit Level exceedances of marine water quality monitoring were recorded during the reporting period. After investigation, all exceedances were considered non-project related.
- 12.1.4 No Action Level and Limit Level exceedance for continuous effluent quality monitoring was recorded during the reporting month.
- 12.1.5 Five Environmental site inspections were carried out in the reporting month. Recommendations for air quality and chemical and waste management on mitigation measure was given to the Contractor for remediating the deficiencies identified during the site inspections.
- 12.1.6 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting month.

Figures

Figure 1 General Layout Plan



Figure 2 Odour Monitoring Locations



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. ALL LEVELS ARE IN METRES AND REFER TO PRINCIPAL DATUM.
 3. ARCHITECTURE LAYOUT OF THIS DRAWING IS BASED ON DRAWING NO. SK/0028 DATED 16/01/2020.
 4. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. EE/9209/STKSTW/GA/101 TO 707.
 5. FOR GENERAL ARRANGEMENT OF BUILDING SERVICES, PLEASE REFER TO THE DRAWINGS NO.:
ELECTRICAL SYSTEM
EE/9209/STKSTW/BS/201 TO 603C, 1101
EE/9209/STKSTW/ELV/401 TO 404
EE/9209/STKSTW/PV/201 TO 203
FIRE SYSTEM
EE/9209/STKSTW/FS/201 TO 401
HVAC SYSTEM
EE/9209/STKSTW/HVAC/201 TO 204
DRAINAGE SYSTEM
EE/9209/STKSTW/PL/501 TO 504
ELEVATOR
EE/9209/STKSTW/BS/208 TO 215
 6. FOR INDIVIDUAL SERVICE SYSTEM, PLEASE REFER TO THE DRAWING NO. EE/9209/STKSTW/PV/201 TO 504.

Rev.	Date	Description	Checked	Drawn
I	2021-11-11	GENERAL REVISION	MHCT	MCBN
H	2021-02-22	BASED ON BY COMMENTS DATED ON 2021-02-02	MHCT	MCBN
G	2021-01-25	BASED ON BY COMMENTS DATED ON 2021-01-19	MHCT	MCBN
F	2021-01-05	BASED ON BY COMMENTS DATED ON 2020-12-31	MHCT	MCBN

Employer's Consultant
binnies
Binnies Hong Kong Limited
賓尼士工程顧問有限公司

Main Contractor
Build King **KS** 金城
BUILD KING - KUM SHING JV

E&M Sub-Contractor
REC Engineering Company Limited
(A wholly-owned subsidiary of Yee Lee Holdings Limited)

E&M 2nd Tier Sub-Contractor
Kingsford Environmental (HK) Ltd

Sub-Contract No.
1828/6014 FOR DC/2018/03

Contract Title
EXPANSION OF SHA TAU KOK
SEWAGE TREATMENT WORKS
PHASE 1 AND
VILLAGE SEWERAGE IN TONG TO

Drawing Title
GENERAL ARRANGEMENT FOR
SHA TAU KOK
SEWAGE TREATMENT WORKS
- ROOF PLAN

Drawing no.
EE/9209/STKSTW/GA/201

Revision
1

Drawn WCMC	Designed HMCE	Checked MHCT	Approved ECHH
Scale 1:150 @A1	Date 2020-07-14	Status SUBMISSION	

©COPYRIGHT RESERVED
香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION

Exhaust of STKSTW No.1 and STKSTW No.2

DOU system
outlet sampling
point

ROOF PLAN

DRAINAGE SERVICES DEPARTMENT
THIS DRAWING / EQUIPMENT SUBMISSION IS
ACCEPTED.
SUBJECT TO:
ENDORSED BY: **NA**
Binnies, SRE ON BEHALF OF CRE
DATE: **15 NOV 2021**
CONTRACT NO. DC/2018/03

Review and Approval
by: **NA**
DATE: **12/11/21**

- LEGEND:
- FRP COVER
 - LOUVER
 - L04 WALL RECESSED LIGHTING
 - L05 BOLLARD LIGHT
 - LOCAL CONTROL PANEL (LCP)
 - DISTRIBUTION BOX (DB)
 - SU-A AIR CONDITIONER
 - CU-A OUTDOOR UNIT

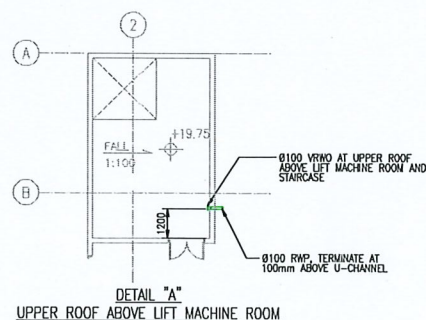
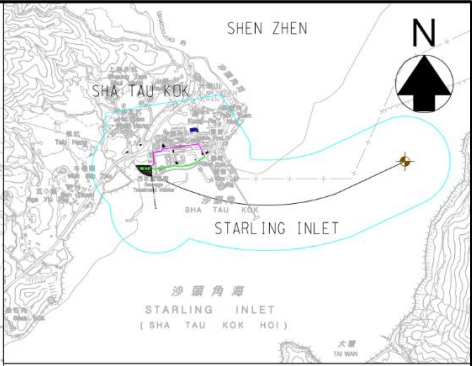
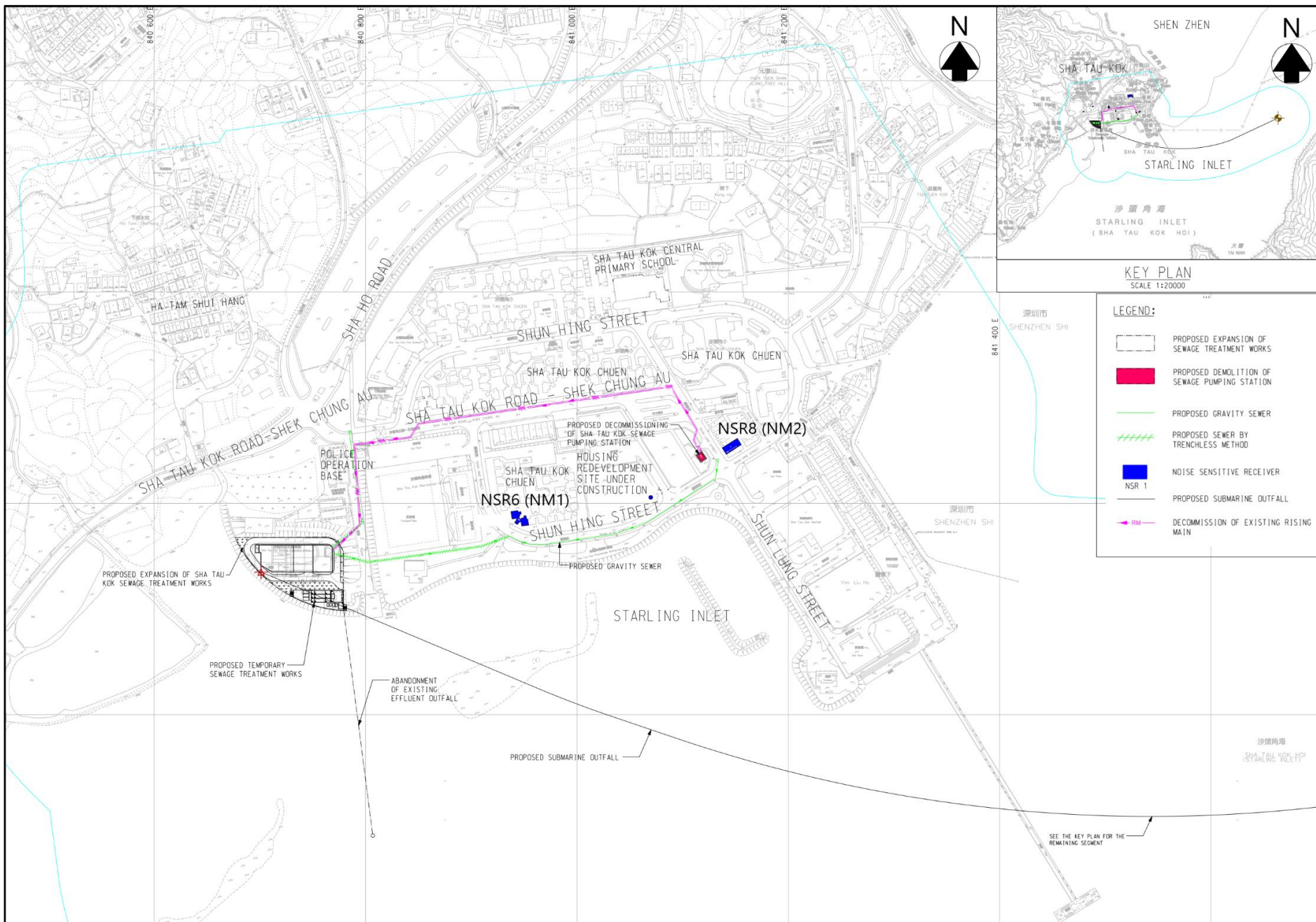


Figure 3 Noise Monitoring Locations

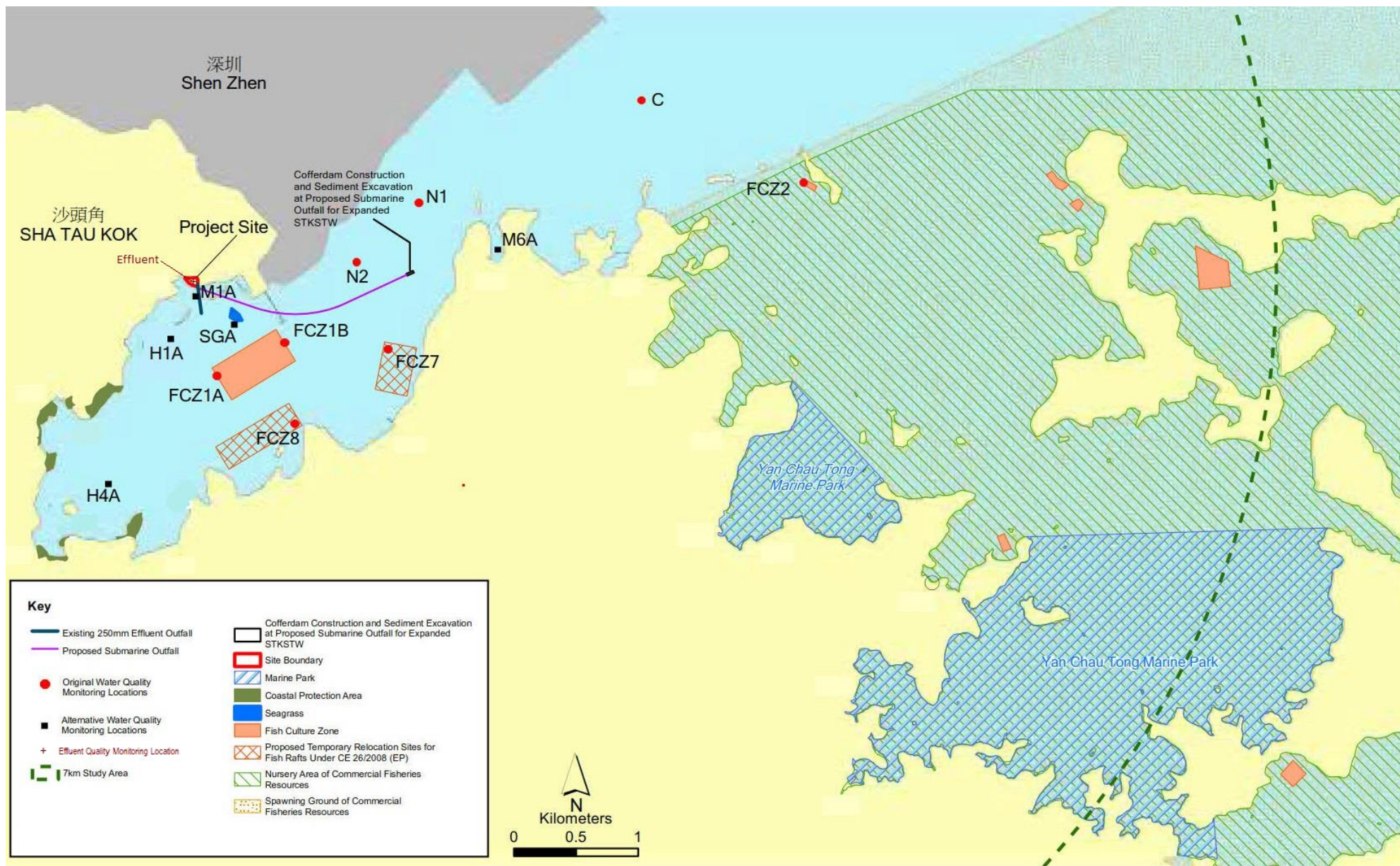


KEY PLAN
SCALE 1:20000

LEGEND:

- PROPOSED EXPANSION OF SEWAGE TREATMENT WORKS
- PROPOSED DEMOLITION OF SEWAGE PUMPING STATION
- PROPOSED GRAVITY SEWER
- PROPOSED SEWER BY TRENCHLESS METHOD
- NOISE SENSITIVE RECEIVER
NSR 1
- PROPOSED SUBMARINE OUTFALL
- DECOMMISSION OF EXISTING RISING MAIN

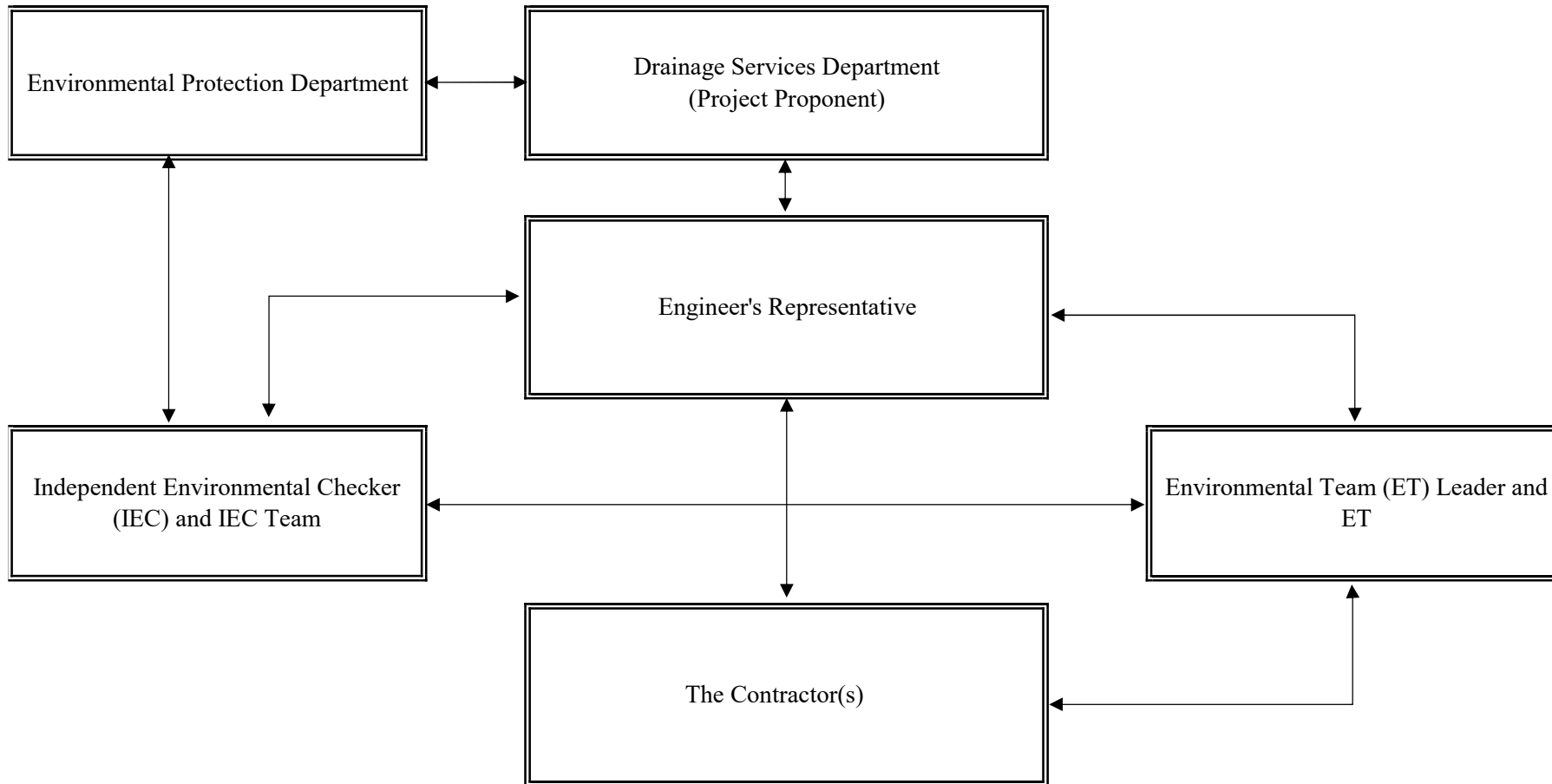
Figure 4 Water Monitoring Locations



Appendices

Appendix 1 Project Organization Chart

Project Organization Chart



↔ Link of Communication

Appendix 2 Construction Programme

Expansion of Sha Tau Kok Sewage Treatment Works - Construction Programme

[illegible]

Appendix 3 Calibration Certificate of Monitoring Equipment

Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: NTi Audio
Type No.: XL2 (Serial No.: A2A-13661-E0)
Microphone: ACO 7052 (Serial No.:84464)
Preamplifier: NTi Audio MA220 (M2211) (Serial No.:5287)

Submitted by:

Customer: Aurecon Hong Kong Limited
Address: Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223-231 Wai Yip Street, Kwun Tong,
Kowloon, Hong Kong

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

- ☒ Within (31.5Hz – 8kHz)
☐ Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 12 August 2024

Date of calibration: 13 August 2024

Date of NEXT calibration: 12 August 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 13 August 2024

Certificate No.: APJ24-049-CC001



Page 1 of 4

1. Calibration Precaution:

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

2. Calibration Conditions:

Air Temperature: 23.3 °C

Air Pressure: 1006 hPa

Relative Humidity: 62.3 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.1	±0.3

Certificate No.: APJ24-049-CC001

Page 2 of 4

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB	SPL	94	31.5	94.1	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.0	±1.4
				500	94.1	±1.4
				1000	94.1	Ref
				2000	94.4	±1.6
				4000	95.0	±1.6
				8000	94.5	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA	SPL	94	31.5	54.7	-39.4±2.0
				63	67.9	-26.2±1.5
				125	77.9	-16.1±1.5
				250	85.4	-8.6±1.4
				500	90.9	-3.2±1.4
				1000	94.1	Ref
				2000	95.6	+1.2±1.6
				4000	96.0	+1.0±1.6
				8000	93.4	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC	SPL	94	31.5	91.1	-3.0±2.0
				63	93.3	-0.8±1.5
				125	93.9	-0.2±1.5
				250	94.0	-0.0±1.4
				500	94.1	-0.0±1.4
				1000	94.1	Ref
				2000	94.2	-0.2±1.6
				4000	94.2	-0.8±1.6
				8000	91.5	-3.0 +2.1: -3.1

5. Calibration Results Applied

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

Uncertainties of Applied Value:

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

The uncertainties are evaluated for a 95% confidence level.

Note:

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

Certificate No.: APJ24-049-CC001



Page 4 of 4

Certificate of Calibration

for

Description: *Sound Level Calibrator*

Manufacturer: *RION*

Type No.: *NC-75*

Serial No.: *35124529*

Submitted by:

Customer: *Aurecon Hong Kong Limited*

Address: *Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223-231 Wai Yip Street, Kwun Tong,
Kowloon, Hong Kong*

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

☒ **Within**

☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:

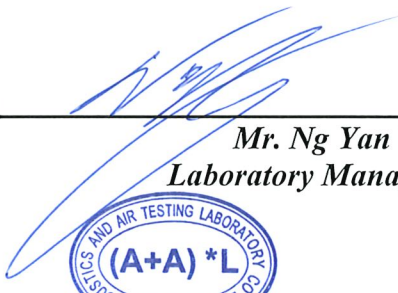
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 23 October 2024

Date of calibration: 24 October 2024

Date of NEXT calibration: 23 October 2025

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 24 October 2024



Certificate No.: APJ23-154-CC005

Page 1 of 2

1. Calibration Precautions:

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

2. Calibration Specifications:

Calibration check

3. Calibration Conditions:

Air Temperature: 23.9 °C
Air Pressure: 1008 hPa
Relative Humidity: 59.6 %

4. Calibration Equipment:

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV240109	HOKLAS

5. Calibration Results**5.1 Sound Pressure Level**

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.1

6. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 60942 Class 1.

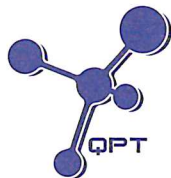
Note:

The values given in this certification only related to the values measured at the time of the calibration.



Certificate No.: APJ23-154-CC005

Page 2 of 2



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Email: info@qualityprotest.com; Website: www.qualityprotest.com

Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BE060050

Date of Issue : 13 June 2025

Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited

Unit 1608, 16/F, Tower B, Manulife Fin. Centre 223 - 231 Wai Yip Street, Kwun Tong,

Kowloon (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters

Manufacturer : YSI

Serial Number : 15M101091

Date of Received : 06 June 2025

Date of Calibration : 10 June 2025

Date of Next Calibration : 10 September 2025

Request No. : D-BE060050

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter

pH value

Temperature

Salinity

Dissolved oxygen

Turbidity

Conductivity

Reference Method

APHA 21e 4500-H⁺ B

Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure

APHA 21e 2520 B

APHA 23e 4500-O G (Membrane Electrode Method)

APHA 21e 2130 B (Nephelometric Method)

APHA 21e 2510 B

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance (pH unit)	Result
4.00	4.15	0.15	Satisfactory
7.42	7.41	-0.01	Satisfactory
10.01	9.96	-0.05	Satisfactory

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

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance (°C)	Result
35.5	35.4	-0.1	Satisfactory
25.8	25.6	-0.2	Satisfactory
14.2	14.4	0.2	Satisfactory

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

(3) Salinity

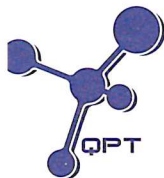
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.49	4.9	Satisfactory
20	20.93	4.65	Satisfactory
30	30.83	2.77	Satisfactory

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

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED
SIGNATORY:

FUNG Yuen-ching
Laboratory Manager



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Email: info@qualityprotest.com; Website: www.qualityprotest.com

Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BE060050

Date of Issue : 13 June 2025

Page No. : 2 of 2

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance (mg/L)	Result
7.73	8.02	0.29	Satisfactory
5.24	5.51	0.27	Satisfactory
3.04	3.18	0.14	Satisfactory
0.08	0.20	0.12	Satisfactory

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

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance ^(a) (%)	Result
0	0.04	-	Satisfactory
10	10.09	0.9	Satisfactory
20	18.81	-6.33	Satisfactory
100	94.55	-5.45	Satisfactory
800	811.97	1.50	Satisfactory

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

(6) Conductivity

Expected Reading ($\mu\text{S/cm}$ at 25°C)	Display Reading ($\mu\text{S/cm}$ at 25°C)	Tolerance (%)	Result
146.9	139.5	-5.04	Satisfactory
1412	1495	5.88	Satisfactory
12890	12839	-0.40	Satisfactory
58670	58697	0.05	Satisfactory
111900	112304	0.36	Satisfactory

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

^(a) For 0 NTU, Display Reading should be less than 1 NTU

Remark(s)

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

--- END OF REPORT ---



ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre,
1 - 3 Wing Yip Street,
Kwai Chung, N.T., Hong Kong

T: +852 2610 1044

F: +852 2610 2021

www.alsglobal.com

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: JOE HO
CLIENT: AURECON HONG KONG LIMITED
ADDRESS: UNIT 1608, 16/F, TOWER B,
MANULIFE FINANCIAL CENTRE,
223-231 WAI YIP STREET,
KWUN TONG, HONG KONG

WORK ORDER: HK2527407
AMENDMENT NO.: 1
SUB-BATCH: 0
LABORATORY: HONG KONG
DATE RECEIVED: 03-Jul-2025
DATE OF ISSUE: 14-Jul-2025

GENERAL COMMENTS

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

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

This is an amendment of the Certificate of Analysis.

The performance checking of Conductivity for equipment HK2527407-001 has been added.

This report superseded any previous report(s) with same work order number.

EQUIPMENT INFORMATION

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.

Equipment Type: Multifunctional Meter

Service Nature: Performance Check

Scope: Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.: [YSI]/ [ProDSS]

Serial No./ Equipment No.: [24G101659]/ [N/A]

Date of Calibration: 14-July-2025

Ms. Cheng Sin Ying, May
Senior Chemist - Inorganics

This report shall not be reproduced except in full without the written approval of the laboratory.

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2527407
AMENDMENT NO.: 1
SUB-BATCH: 0
DATE OF ISSUE: 14-Jul-2025
CLIENT: AURECON HONG KONG LIMITED

Equipment Type: Multifunctional Meter
Brand Name/Model No.: [YSI]/ [ProDSS]
Serial No.: [24G101659]/ [N/A]
Equipment No.:
Date of Calibration: 14-July-2025

Date of Next Calibration: 14-October-2025

PARAMETERS:

Conductivity

Method Ref: APHA (23rd edition), 2510B

Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)
146.9	155.6	+5.9
6667	7142	+7.1
12890	12861	-0.2
58670	57671	-1.7
	Tolerance Limit (%)	± 10.0

Dissolved Oxygen

Method Ref: APHA (23rd edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.48	2.57	+0.09
5.15	5.27	+0.12
7.37	7.27	-0.10
	Tolerance Limit (mg/L)	± 0.20

pH Value

Method Ref: APHA (23rd edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.83	-0.17
7.0	7.06	+0.06
10.0	9.92	-0.08
	Tolerance Limit (pH unit)	± 0.20

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

Ms. Cheng Sin Ying, May
Senior Chemist - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2527407
AMENDMENT NO.: 1
SUB-BATCH: 0
DATE OF ISSUE: 14-Jul-2025
CLIENT: AURECON HONG KONG LIMITED

Equipment Type: Multifunctional Meter
Brand Name/Model No.: [YSI]/ [ProDSS]
Serial No.: [24G101659]/ [N/A]
Equipment No.:
Date of Calibration: 14-July-2025

Date of Next Calibration: 14-October-2025

PARAMETERS:

Turbidity

Method Ref: APHA (23rd edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.10	--
4	4.37	+9.3
40	41.85	+4.6
80	84.06	+5.1
400	409.39	+2.3
800	793.95	-0.8
	Tolerance Limit (%)	±10.0

Salinity

Method Ref: APHA (23rd edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.87	-1.3
20	19.55	-2.3
30	29.48	-1.7
	Tolerance Limit (%)	±10.0

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

Ms. Cheng Sin Ying, May
Senior Chemist - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2527407
AMENDMENT NO.: 1
SUB-BATCH: 0
DATE OF ISSUE: 14-Jul-2025
CLIENT: AURECON HONG KONG LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No.: [24G101659]/ [N/A]
Equipment No.:
Date of Calibration: 14-July-2025

Date of Next Calibration: 14-October-2025

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.0	11.3	+1.3
19.5	19.4	-0.1
39.5	39.6	+0.1
	Tolerance Limit (°C)	±2.0

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

Ms. Cheng Sin Ying, May
Senior Chemist - Inorganics

Appendix 4 Environmental Monitoring Schedule

Appendix 5 Monitoring Results and Graphical Presentations

Noise Monitoring Result for Contract No. CM 02/2024
Expansion of Sha Tau Kok Sewage Treatment Works

NM 1 (Block 45, Sha Tau Loi Chuen)

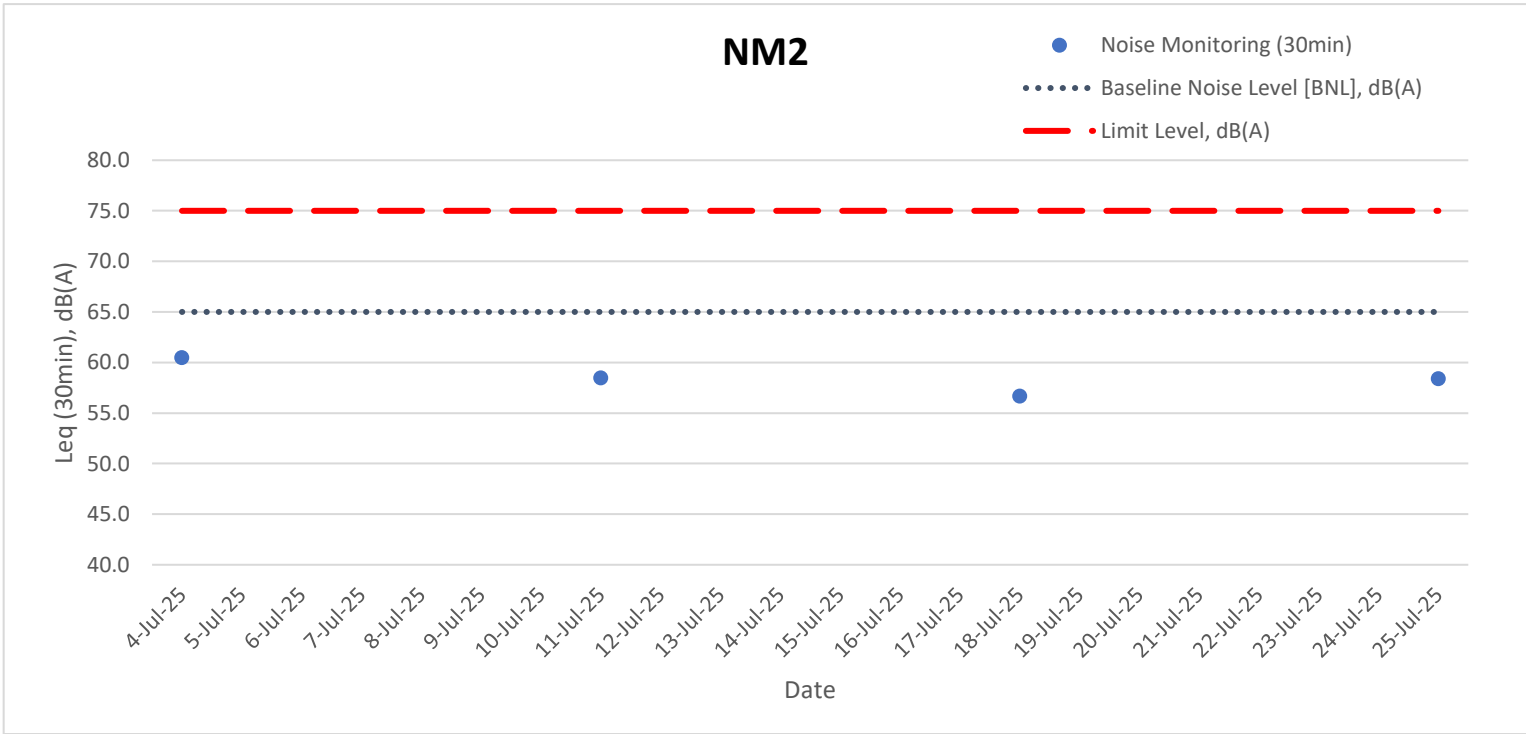
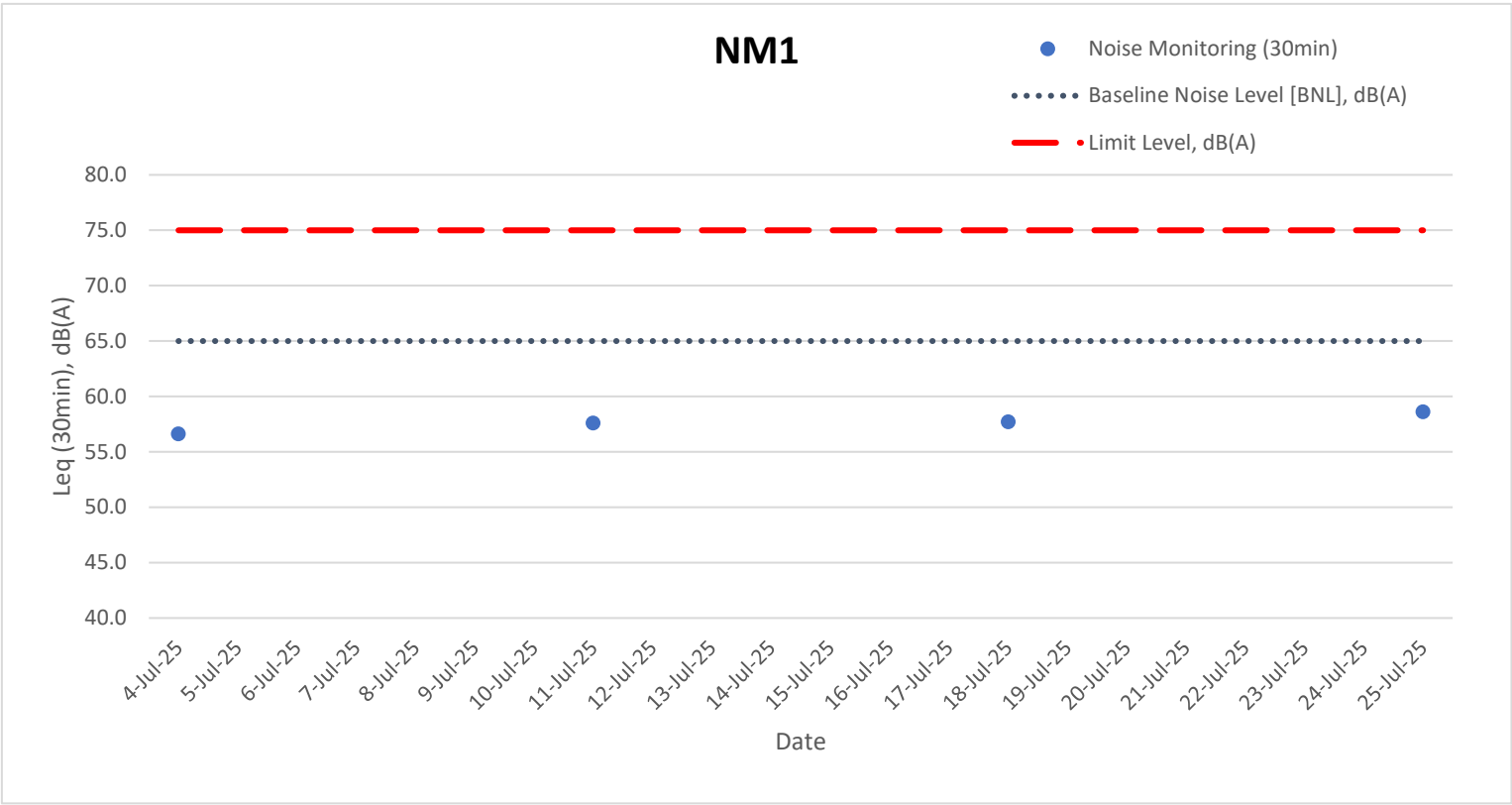
Date	Weather Condition	Wind speed (m/s)	Start time	Noise Monitoring (30min)			Baseline Noise Level [BNL], dB(A)	Construction Noise Level [CNL] [#] , dB(A)	Limit Level, dB(A)	Exceedance (Y/N)
				Leq dB(A)	L90 dB(A)	L10 dB(A)				
4-Jul-25	Fine	0.2	9:06	56.6	55.3	58.6	65	56.6 ≤ Limt Level	75	N
11-Jul-25	Fine	0.2	8:56	57.6	54.5	58.6	65	57.6 ≤ Limt Level	75	N
18-Jul-25	Fine	0.0	8:48	57.7	55.6	59.1	65	57.7 ≤ Limt Level	75	N
25-Jul-25	Fine	0.2	8:30	58.6	57.5	60.5	65	58.6 ≤ Limt Level	75	N

NM 2 (Building along Shun Lung Street)

Date	Weather Condition	Wind speed (m/s)	Start time	Noise Monitoring (30min)			Baseline Noise Level [BNL], dB(A)	Construction Noise Level [CNL] [#] , dB(A)	Limit Level, dB(A)	Exceedance (Y/N)
				Leq dB(A)	L90 dB(A)	L10 dB(A)				
4-Jul-25	Fine	0.1	9:48	60.5	58.5	61.3	65	60.5 ≤ Limt Level	75	N
11-Jul-25	Fine	0.1	9:54	58.5	56.3	59.7	65	58.5 ≤ Limt Level	75	N
18-Jul-25	Fine	0.2	9:53	56.7	54.6	58.2	65	56.7 ≤ Limt Level	75	N
25-Jul-25	Fine	0.0	9:18	58.4	57.3	60.5	65	58.4 ≤ Limt Level	75	N

*A correction of +3 dB(A) was made to the free field measurments.

[#]If measured noise level (Leq) > limit level, Corrected noise level (CNL) is calculated as: $10\log(10^{\frac{MNL}{10}} - 10^{\frac{BNL}{10}})$



Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																										
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)												
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.											
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate	16:53	4.1	S	1.00	1	8.17	8.2	31.26	31.32	27.7	27.6	100.3	100.5	7.11	7.13	1.49	1.43	2	2.3	3	3	0.01	0.01	0.40	0.40	0.01	0.01	0.04	0.04	38	32											
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate	16:53	4.1	S	1.00	2	8.16		31.31		27.5		100.8		7.15		1.46		2		3		0.01		0.40		0.01		0.03		41												
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate		4.1	M		1																																					
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate		4.1	M		2																																					
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate	16:54	4.1	B	3.10	1	8.15	8.2	31.36	31.42	27.6	27.6	100.5	100.5	7.13	7.13	1.39	0.62	3	2.3	3	3	0.01	0.01	0.40	0.40	0.01	0.01	0.03	0.04	24	28											
FCZ1A	1/07/2025	Ebb	Cloudy	Moderate	16:54	4.1	B	3.10	2	8.18		31.35		27.6		100.4		7.12		1.36		2		4		0.01		0.40		0.01		0.05		27												
FCZ2	1/07/2025	Ebb	Cloudy	Moderate	15:36	5.5	S	1.00	1	8.18		31.45		28.1		28.1		99.5		99.2		7.06		7.04		0.58		0.62		2		2.3		3		3	0.01	0.01	0.40	0.40	0.01	0.01	0.04	0.04	26	28
FCZ2	1/07/2025	Ebb	Cloudy	Moderate	15:36	5.5	S	1.00	2	8.19		31.45		28.1				98.8				7.01				0.59				2				3			0.01		0.40		0.01		0.04		31	
FCZ2	1/07/2025	Ebb	Cloudy	Moderate		5.5	M		1																																					
FCZ2	1/07/2025	Ebb	Cloudy	Moderate		5.5	M		2																																					
FCZ2	1/07/2025	Ebb	Cloudy	Moderate	15:37	5.5	B	4.50	1	8.10	8.1	31.36	31.42	28.1	28.0	97.0	97.1	6.88	6.89	0.61	0.62	2	2.3	2	3	0.01	0.01	0.40	0.40	0.01	0.01	0.04	0.04	27	28											
FCZ2	1/07/2025	Ebb	Cloudy	Moderate	15:37	5.5	B	4.50	2	8.09		31.42		27.9		97.3		6.9		0.68		3		2		0.01		0.30		0.01		0.04		29												
SGA	1/07/2025	Ebb	Cloudy	Moderate		2.3	S		1																																					
SGA	1/07/2025	Ebb	Cloudy	Moderate		2.3	S		2																																					
SGA	1/07/2025	Ebb	Cloudy	Moderate	17:05	2.3	M	1.15	1	8.07	8.1	31.61	31.62	28.2	28.3	97.0	97.1	6.88	6.89	0.86	0.88	2	2.0	3	3	0.01	0.01	0.40	0.40	0.01	0.01	0.03	0.04	17	18											
SGA	1/07/2025	Ebb	Cloudy	Moderate	17:05	2.3	M	1.15	2	8.08		31.62		28.3		97.1		6.89		0.89		2		3		0.01		0.40		0.01		0.04		19												
SGA	1/07/2025	Ebb	Cloudy	Moderate		2.3	B		1																																					
SGA	1/07/2025	Ebb	Cloudy	Moderate		2.3	B		2																																					
M6A	1/07/2025	Ebb	Cloudy	Moderate		2.4	S		1																																					
M6A	1/07/2025	Ebb	Cloudy	Moderate		2.4	S		2																																					
M6A	1/07/2025	Ebb	Cloudy	Moderate	16:05	2.4	M	1.20	1	8.01	8.0	31.51	31.51	28.1	28.0	96.4	96.7	6.84	6.86	2.38	2.32	2	2.0	3	3	0.01	0.01	0.40	0.40	0.01	0.01	0.04	0.04	19	21											
M6A	1/07/2025	Ebb	Cloudy	Moderate	16:05	2.4	M	1.20	2	8.02		31.51		27.8		96.9		6.87		2.26		2		3		0.01		0.40		0.01		0.03		23												
M6A	1/07/2025	Ebb	Cloudy	Moderate		2.4	B		1																																					
M6A	1/07/2025	Ebb	Cloudy	Moderate		2.4	B		2																																					
H4A	1/07/2025	Ebb	Cloudy	Moderate		2.7	S		1																																					
H4A	1/07/2025	Ebb	Cloudy	Moderate		2.7	S		2																																					
H4A	1/07/2025	Ebb	Cloudy	Moderate	16:41	2.7	M	1.35	1	8.15	8.2	31.64	31.63	27.7	27.6	96.2	96.2	6.82	6.82	1.05	1.07	2	2.0	3	3	0.01	0.01	0.40	0.40	0.01	0.01	0.03	0.03	21	22											
H4A	1/07/2025	Ebb	Cloudy	Moderate	16:41	2.7	M	1.35	2	8.17		31.61		27.5		96.2		6.82		1.08		2		3		0.01		0.40		0.01		0.03		24												
H4A	1/07/2025	Ebb	Cloudy	Moderate		2.7	B		1																																					
H4A	1/07/2025	Ebb	Cloudy	Moderate		2.7	B		2																																					
N1	1/07/2025	Ebb	Cloudy	Moderate	16:27	6.7	S	1.00	1	8.09	8.1	31.53	31.52	28.3	28.4	97.9	98.6	6.94	6.99	1.21	1.14	3	2.5	3	3	0.01	0.01	0.30	0.38	0.01	0.01	0.04	0.03	27	23											
N1	1/07/2025	Ebb	Cloudy	Moderate	16:27	6.7	S	1.00	2	8.09		31.50		28.5		98.6		6.99		1.33		2		3		0.01		0.40		0.01		0.04		31												
N1	1/07/2025	Ebb	Cloudy	Moderate	16:28	6.7	M	3.35	1	8.06		31.51		28.4		98.8		7.01		1.07		3		3		0.01		0.40		0.01		0.03		21												
N1	1/07/2025	Ebb	Cloudy	Moderate	16:28	6.7	M	3.35	2	8.06		31.55		28.4		99.0		7.02		1.08		2		3		0.01		0.40		0.01		0.03		19												
N1	1/07/2025	Ebb	Cloudy	Moderate	16:29	6.7	B	5.70	1	8.08	8.1	31.52	31.52	28.6	28.5	99.8	99.5	7.08	7.06	1.1	1.02	3	2.3	3	3	0.01	0.01	0.40	0.37	0.01	0.01	0.03	0.03	24	23											
N1	1/07/2025	Ebb	Cloudy	Moderate	16:29	6.7	B	5.70	2	8.06		31.51		28.3		99.3		7.04		1.07		2		3		0.01		0.40		0.01		0.03		21												
C	1/07/2025	Ebb	Cloudy	Moderate	15:08	8.5	S	1.00	1	8.11		8.1	31.05	31.08	27.6	27.5	99.0	98.4	7.02	6.98	0.96	1.02	2	2.3	2	3	0.01	0.01	0.40	0.37	0.01	0.01	0.03	0.03	17	23										
C	1/07/2025	Ebb	Cloudy	Moderate	15:08	8.5	S	1.00	2	8.12			31.13		27.4		99.7		7.07		0.88		3		2		0.01		0.40		0.01		0.03		19											
C	1/07/2025	Ebb	Cloudy	Moderate	15:09	8.5	M	4.25	1	8.09	31.08		27.4		97.4		6.91		1.01		2		3		0.01		0.30		0.01		0.03		21													
C	1/07/2025	Ebb	Cloudy	Moderate	15:09	8.5	M	4.25	2	8.12	31.06		27.6		97.6		6.92		1.02		3		3		0.01		0.40		0.01		0.03		24													
C	1/07/2025	Ebb	Cloudy	Moderate	15:10	8.5	B	7.50	1	8.12	8.1	31.07	31.06	27.6	27.7	98.0	98.2	6.95	6.97	1.11	1.16	2	2.3	3	3	0.01	0.01	0.30	0.40	0.01	0.01	0.04	0.04	27	23											
C	1/07/2025	Ebb	Cloudy	Moderate	15:10	8.5	B	7.50	2	8.09		31.06		27.7		98.4		6.98		1.16		2		3		0.01		0.40		0.01		0.04		32												

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																										
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)												
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.											
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:32	4.3	S	1.00	1	8.16	8.2	31.61	31.65	28.7	28.7	104.9	105.0	6.99	7.00	1.00	1.00	2	2.0	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	13	9											
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:32	4.3	S	1.00	2	8.18		31.66		28.7		105.0		7		1.01		2		3		0.01		0.50		0.01		0.09		9												
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate		4.3	M		1																																					
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate		4.3	M		2																																					
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:33	4.3	B	3.30	1	8.19	8.2	31.71	31.83	28.5	28.6	104.3	104.5	6.95	6.97	0.98	0.42	2	2.0	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	9	5											
FCZ1A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:33	4.3	B	3.30	2	8.16		31.61		28.6		104.7		6.98		0.99		2		3		0.01		0.50		0.01		0.09		6												
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate	08:27	5.3	S	1.00	1	8.29		31.65		28.1		28.1		111.9		111.3		7.46		7.42		0.44		0.42		2		2.0		3		3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	4	6
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate	08:27	5.3	S	1.00	2	8.29		31.72		28.0				110.7				7.38				0.47				2				3			0.01		0.50		0.01		0.09		6	
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate		5.3	M		1																																					
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate		5.3	M		2																																					
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate	08:28	5.3	B	4.30	1	8.21	8.2	31.96	32.05	28.4	28.4	106.2	105.7	7.08	7.05	0.40	0.42	2	2.0	4	3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	5	6											
FCZ2	3/07/2025	Mid-Ebb	Sunny	Moderate	08:28	5.3	B	4.30	2	8.20		32.00		28.4		105.2		7.01		0.38		2		3		0.01		0.50		0.01		0.09		5												
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate		2.5	S		1																																					
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate		2.5	S		2																																					
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate	09:40	2.5	M	1.25	1	8.25	8.3	32.05	32.05	28.3	28.3	107.3	107.3	7.15	7.15	0.73	0.74	2	2.5	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	6	6											
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate	09:40	2.5	M	1.25	2	8.26		32.04		28.2		107.3		7.15		0.74		3		3		0.01		0.50		0.01		0.09		7												
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate		2.5	B		1																																					
SGA	3/07/2025	Mid-Ebb	Sunny	Moderate		2.5	B		2																																					
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.9	S		1		NA		31.98				108.9		7.26		2.44		3.5				0.01		0.50		0.01		0.09		6											
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.9	S		2																																					
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate	08:52	2.9	M	1.45	1	8.18		32.04		28.5	28.5	108.6		7.24	7.26	2.49		3		3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.09	0.09	4	6											
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate	08:52	2.9	M	1.45	2	8.19		31.92		28.5		109.1		7.27		2.39		4		3		0.01		0.50		0.01		0.08		8												
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.9	B		1																																					
M6A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.9	B		2																																					
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		1		NA		31.71				105.3		7.02		0.81		3.5		3		0.01		0.50		0.01		0.08		8											
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		2																																					
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:22	2.6	M	1.30	1	8.26		31.69		28.0	28.0	104.7		102.9	6.98	6.86	0.81	1.07	3	2.8	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.10	0.10	8	8										
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate	09:22	2.6	M	1.30	2	8.26		31.73		27.9		105.9			7.06		0.81		4		3		0.01		0.50		0.01		0.10													
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		1																																					
H4A	3/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		2																																					
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:11	6.6	S	1.00	1	8.22	8.2	31.84	31.88	28.4	28.3	103.1	102.9	6.87	6.86	0.99	1.07	3	2.8	4	3	0.01	0.01	0.40	0.47	0.01	0.02	0.10	0.10	3	5											
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:11	6.6	S	1.00	2	8.20		31.88		28.2		102.5		6.83		0.82		4		4		0.01		0.50		0.01		0.09		5												
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:12	6.6	M	3.30	1	8.21		31.89		28.4		103.2		6.88		1.02		3		3	3	0.01	0.01	0.50		0.02	0.11	6														
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:12	6.6	M	3.30	2	8.23		31.81		28.3		102.6		6.84		1.05		3		3		0.01		0.50		0.01		0.07		8												
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:13	6.6	B	5.60	1	8.20	8.2	31.92	31.88	28.3	28.3	103.7	103.3	6.91	6.89	1.28		2		3	3	0.01	0.01	0.40	0.48	0.03	0.12	6	8													
N1	3/07/2025	Mid-Ebb	Sunny	Moderate	09:13	6.6	B	5.60	2	8.20		31.93		28.3		102.9		6.86		1.23		2		3		0.01		0.50		0.02		6														
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:00	9.3	S	1.00	1	8.27	8.3	32.11	32.10	28.3	28.3	110.4	110.5	7.36	7.37	1.18	1.06	3	2.5	3	3	0.01	0.01	0.50	0.48	0.01	0.01	0.09	0.22	7	8											
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:00	9.3	S	1.00	2	8.28	32.06	28.2	110.4	7.36	1.21	2	3	0.01	0.40	0.01		0.10		11																						
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:01	9.3	M	4.65	1	8.28	32.11	28.3	28.3	110.4	7.36	1.05	3	4	0.01	0.50		0.01		0.09		8																				
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:01	9.3	M	4.65	2	8.25	32.07	28.3		110.7	7.38	1.03	2	3	0.01	0.50		0.01		0.83		7																				
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:02	9.3	B	8.30	1	8.28	8.3	32.10	32.12	28.2	28.2	110.3	110.8	7.35	7.38	0.88		3		3		0.01		0.50		0.01		0.10		6												
C	3/07/2025	Mid-Ebb	Sunny	Moderate	08:02	9.3	B	8.30	2	8.26		32.12		28.1		111.2		7.41		0.99		2		3		0.01		0.50		0.01		0.08		9												

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:59	4.3	S	1.00	1	8.12	8.1	31.81	31.82	28.7	28.7	96.3	96.1	6.78	6.77	0.93	0.99	3	2	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.07	0.07	58	54										
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:59	4.3	S	1.00	2	8.11		31.80		28.7		95.9		6.75		0.98		2		2		0.01		0.50		0.01		0.06		62											
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate		4.3	M		1																																				
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate		4.3	M		2																																				
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate	10:00	4.3	B	3.30	1	8.11	8.1	31.81	31.82	28.5	28.6	95.3	95.5	6.71	6.72	1.02	0.99	2	2	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.06	0.07	51	47										
FCZ1A	5/07/2025	Mid-Ebb	Sunny	Moderate	10:00	4.3	B	3.30	2	8.11		31.84		28.6		95.6		6.73		1.01		3		2		0.01		0.50		0.01		0.07		47											
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate	08:46	5.3	S	1.00	1	8.12	8.1	32.30	32.12	28.9	28.9	94.9	95.5	6.68	6.72	0.55	0.54	3	2	2	3	0.01	0.01	0.50	0.50	0.02	0.02	0.07	0.07	50	58										
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate	08:46	5.3	S	1.00	2	8.13		32.24		28.8		96.0		6.76		0.62		2		4		0.01		0.60		0.01		0.10		54											
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate		5.3	M		1																																				
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate		5.3	M		2																																				
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate	08:47	5.3	B	4.30	1	8.12	8.1	31.98	32.12	28.6	28.6	95.3	95.2	6.71	6.70	0.48	0.54	3	2	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.07	0.07	66	62										
FCZ2	5/07/2025	Mid-Ebb	Sunny	Moderate	08:47	5.3	B	4.30	2	8.12		31.94		28.6		95.0		6.69		0.51		2		3		0.01		0.50		0.01		0.07		62											
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		1		NA		31.75		NA		91.2		6.43		0.84		3		2		0.01		0.50		0.03		0.08		41										
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		2																																				
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate	10:08	2.6	M	1.30	1	8.08		31.77		29.0		91.4		6.44		0.87		3		2		0.01		0.50		0.03		0.08		41											
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate	10:08	2.6	M	1.30	2	8.08		31.73		28.8		91.0		6.41		0.81		3		2		0.01		0.50		0.02		0.08		44											
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		1		NA		31.70		NA		N/A		6.56		1.34		2		3		0.01		0.50		0.02		0.08		61										
SGA	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		2																																				
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.5	S		1																																				
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.5	S		2																																				
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:13	2.5	M	1.25	1	8.13	8.1	31.70	31.70	28.3	28.3	93.6	93.2	6.59	6.56	1.3	1.34	2	2	3	3	0.01	0.01	0.50	0.50	0.02	0.02	0.08	0.08	61	59										
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:13	2.5	M	1.25	2	8.12		31.69		28.3		92.7		6.53		1.38		2		2		0.01		0.50		0.02		0.07		58											
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.5	B		1																																				
M6A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.5	B		2																																				
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		1		NA		31.89		NA		N/A		N/A		0.68		2		2		0.01		0.50		0.01		0.06		47										
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	S		2																																				
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:48	2.6	M	1.30	1	8.09		31.94		28.2		92.0		6.48		0.66		2		2		0.01		0.50		0.01		0.06		47											
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate	09:48	2.6	M	1.30	2	8.11		31.84		28.3		91.6		6.45		0.69		3		2		0.01		0.50		0.01		0.07		51											
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		1																																				
H4A	5/07/2025	Mid-Ebb	Sunny	Moderate		2.6	B		2																																				
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:35	6.6	S	1.00	1	8.13	8.1	31.67	31.67	29.0	28.9	90.3	89.7	6.36	6.31	0.84	0.75	2	2	2	3	0.01	0.01	0.50	0.50	0.02	0.02	0.07	0.07	74	55										
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:35	6.6	S	1.00	2	8.13		31.63		28.8		90.6		6.38		0.81		2		2		0.01		0.50		0.02		0.07		54											
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:36	6.6	M	3.30	1	8.11		31.71		29.0		88.9		6.26		0.79		3		2		0.01		0.50		0.02		0.08		51											
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:36	6.6	M	3.30	2	8.13		31.70		28.8		88.8		6.25		0.74		3		3		0.01		0.50		0.01		0.07		57											
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:37	6.6	B	5.60	1	8.12	8.1	31.66	31.67	29.0	29.0	88.9	88.4	6.26	6.22	0.69	0.75	2	2	4	3	0.01	0.01	0.50	0.50	0.02	0.02	0.07	0.07	47	49										
N1	5/07/2025	Mid-Ebb	Sunny	Moderate	09:37	6.6	B	5.60	2	8.11		31.67		29.0		87.8		6.18		0.64		3		3		0.01		0.50		0.01		0.07		49											
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:18	9.1	S	1.00	1	8.12	8.1	32.16	32.17	29.1	29.2	91.6	92.4	6.45	6.51	1.07	0.98	3	2	3	3	0.01	0.01	0.50	0.50	0.03	0.02	0.09	0.07	62	64										
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:18	9.1	S	1.00	2	8.11		32.18		29.2		91.9		6.47		1.05		2		2		0.01		0.50		0.01		0.08		57											
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:19	9.1	M	4.55	1	8.11		32.15		29.2		92.7		6.53		0.96		3		3		0.01		0.50		0.01		0.08		71											
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:19	9.1	M	4.55	2	8.11		32.22		29.1		93.3		6.57		0.98		3		2		0.01		0.50		0.02		0.07		68											
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:20	9.1	B	8.10	1	8.12	8.1	32.18	32.14	29.2	29.2	92.9	92.8	6.54	6.53	0.88	0.91	2	2	5	4	0.01	0.01	0.50	0.50	0.01	0.06	66	62												
C	5/07/2025	Mid-Ebb	Sunny	Moderate	08:20	9.1	B	8.10	2	8.12		32.14		29.2		92.6		6.52		0.91		2		4		0.01		0.50		0.01		0.06		62											

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	8/07/2025	Ebb	Sunny	Moderate	12:03	4.2	S	1.00	1	8.12	8.1	32.01	32.07	28.2	28.2	93.3	93.3	6.62	6.62	1.58	1.50	2	2.0	3	3	0.01	0.01	0.50	0.45	0.02	0.01	0.06	0.06	1	1										
FCZ1A	8/07/2025	Ebb	Sunny	Moderate	12:03	4.2	S	1.00	2	8.13		32.11		28.1		93.2		6.62		1.55		2		3		0.01		0.40		0.01		0.06		ND											
FCZ1A	8/07/2025	Ebb	Sunny	Moderate		4.2	M		1																																				
FCZ1A	8/07/2025	Ebb	Sunny	Moderate		4.2	M		2																																				
FCZ1A	8/07/2025	Ebb	Sunny	Moderate	12:04	4.2	B	3.20	1	8.12	8.1	32.06	32.07	28.0	28.0	94.0	94.0	6.67	6.67	1.46	1.46	2	2.0	3	3	0.01	0.01	0.50	0.40	0.01	0.01	0.07	0.06	ND	ND										
FCZ1A	8/07/2025	Ebb	Sunny	Moderate	12:04	4.2	B	3.20	2	8.12		32.10		28.0		94.0		6.67		1.41		2		3		0.01		0.40		0.01		0.06		ND											
FCZ2	8/07/2025	Ebb	Sunny	Moderate	10:56	5.3	S	1.00	1	8.03	8.0	31.28	31.50	28.1	28.2	96.9	97.2	6.87	6.89	1.07	0.99	2	2.0	2	2	0.01	0.01	0.50	0.45	0.01	0.01	0.07	0.06	ND	ND										
FCZ2	8/07/2025	Ebb	Sunny	Moderate	10:56	5.3	S	1.00	2	8.01		31.32		28.2		97.4		6.91		1.12		2		2		0.01		0.40		0.01		0.05		ND											
FCZ2	8/07/2025	Ebb	Sunny	Moderate		5.3	M		1																																				
FCZ2	8/07/2025	Ebb	Sunny	Moderate		5.3	M		2																																				
FCZ2	8/07/2025	Ebb	Sunny	Moderate	10:57	5.3	B	4.30	1	8.10	8.1	31.70	31.50	28.1	28.1	94.0	94.2	6.67	6.68	0.89	1.46	2	2.0	2	2	0.01	0.01	0.40	0.45	0.01	0.01	0.05	0.06	ND	ND										
FCZ2	8/07/2025	Ebb	Sunny	Moderate	10:57	5.3	B	4.30	2	8.10		31.71		28.1		94.3		6.69		0.87		2		3		0.01		0.50		0.01		0.06		ND											
SGA	8/07/2025	Ebb	Sunny	Moderate		2.5	S		1					31.59																															
SGA	8/07/2025	Ebb	Sunny	Moderate		2.5	S		2																																				
SGA	8/07/2025	Ebb	Sunny	Moderate	12:12	2.5	M	1.25	1	8.07	8.1	31.58	28.0		28.0	100.1	100.1	7.1	7.10	1.47	2	2.0	2	2	0.01	0.01	0.50	0.50	0.01	0.01	0.05	0.06	ND	ND											
SGA	8/07/2025	Ebb	Sunny	Moderate	12:12	2.5	M	1.25	2	8.05		31.6	27.9			100.0		7.09		1.45	2		2		0.01		0.50		0.01		0.07		ND												
SGA	8/07/2025	Ebb	Sunny	Moderate		2.5	B		1									N/A	N/A																										
SGA	8/07/2025	Ebb	Sunny	Moderate		2.5	B		2									N/A																											
M6A	8/07/2025	Ebb	Sunny	Moderate		2.7	S		1		8.1		31.92		NA		93.0		6.60		3.01		2.0		3		0.01		0.50		0.02		0.07		ND										
M6A	8/07/2025	Ebb	Sunny	Moderate		2.7	S		2																																				
M6A	8/07/2025	Ebb	Sunny	Moderate	11:24	2.7	M	1.35	1	8.14		31.87		28.0		92.9		6.59		2.95		2		3		0.01		0.40		0.02		0.06		ND											
M6A	8/07/2025	Ebb	Sunny	Moderate	11:24	2.7	M	1.35	2	8.14		31.96		28.2		93.1		6.6		3.06		2		3		0.01		0.40		0.02		0.06		ND											
M6A	8/07/2025	Ebb	Sunny	Moderate		2.7	B		1									N/A																											
H4A	8/07/2025	Ebb	Sunny	Moderate		2.7	S		1		8.0		32.06		NA		99.0		7.02		1.06		2.0		3		0.01		0.50		0.01		0.05		1										
H4A	8/07/2025	Ebb	Sunny	Moderate		2.7	S		2																																				
H4A	8/07/2025	Ebb	Sunny	Moderate	11:54	2.7	M	1.35	1	8.02		32.03		28.2		28.1		99.3		7.04		1.02		2		2		3		0.01		0.01		0.50		0.50	0.01	0.01	0.05	0.05	ND	ND			
H4A	8/07/2025	Ebb	Sunny	Moderate	11:54	2.7	M	1.35	2	8.02		32.08		28.0				98.7		7		1.1		2		3				0.01				0.50			0.01		0.05		ND				
H4A	8/07/2025	Ebb	Sunny	Moderate		2.7	B		1											N/A																									
H4A	8/07/2025	Ebb	Sunny	Moderate		2.7	B		2					N/A																															
N1	8/07/2025	Ebb	Sunny	Moderate	11:43	6.7	S	1.00	1	8.05	8.1	31.78	31.76	27.9	28.0	93.3	93.3	6.62	6.62	1.28	1.27	2	2.0	2	3	0.01	0.01	0.50	0.47	0.01	0.01	0.05	0.06	3	3										
N1	8/07/2025	Ebb	Sunny	Moderate	11:43	6.7	S	1.00	2	8.06		31.74		28.0		93.3		6.62		1.26		2		2		0.01		0.50		0.01		0.06		ND											
N1	8/07/2025	Ebb	Sunny	Moderate	11:44	6.7	M	3.35	1	8.06		31.83		27.8		93.1		6.6		1.31		2		4		0.01		0.50		0.01		0.05		ND											
N1	8/07/2025	Ebb	Sunny	Moderate	11:44	6.7	M	3.35	2	8.06		31.70		27.9		93.3		6.62		1.26		2		2		0.01		0.40		0.02		0.06		ND											
N1	8/07/2025	Ebb	Sunny	Moderate	11:45	6.7	B	5.70	1	8.05	8.1	31.70	31.76	28.0	27.9	93.5	93.1	6.63	6.60	1.22		2		5	3	0.01	0.01	0.50	0.48	0.01	0.01	0.05	0.12	ND	1										
N1	8/07/2025	Ebb	Sunny	Moderate	11:45	6.7	B	5.70	2	8.07		31.78		27.8		92.6		6.57		1.28		2		3		0.01		0.40		0.01		0.07		ND											
C	8/07/2025	Ebb	Sunny	Moderate	10:29	8.7	S	1.00	1	8.17		31.38	31.42	28.4	28.5	96.7	96.7	6.86	6.86	1.53	1.17	2	2.0	2	2	0.01	0.01	0.50	0.48	0.01	0.01	0.06	0.12	1											
C	8/07/2025	Ebb	Sunny	Moderate	10:29	8.7	S	1.00	2	8.19		31.42		28.5		96.6		6.85		1.42		2		2		0.01		0.50		0.01		0.06		ND											
C	8/07/2025	Ebb	Sunny	Moderate	10:30	8.7	M	4.35	1	8.18	8.2	31.38	31.42	28.4	28.4	96.6	96.9	6.85	6.87	1.11	1.17	2	2.0	2	2	0.01	0.01	0.50	0.48	0.01	0.01	0.06	0.12	ND											
C	8/07/2025	Ebb	Sunny	Moderate	10:30	8.7	M	4.35	2	8.18		31.40		28.4		96.9		6.87		1.08		2		2		0.01		0.50		0.01		0.06		ND											
C	8/07/2025	Ebb	Sunny	Moderate	10:31	8.7	B	7.70	1	8.17		31.43		28.5		97.4		6.91		0.97		2		2		0.01		0.50		0.01		0.05		ND											
C	8/07/2025	Ebb	Sunny	Moderate	10:31	8.7	B	7.70	2	8.17		31.48		28.3		97.4		6.91		0.93		2		2		0.01		0.40		0.01		0.04		ND											

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate	10:09	4.2	S	1.00	1	8.10	8.1	31.82	31.8	27.9	28.0	97.3	97.5	6.85	6.86	1.11	1.08	2	2.0	2	2	0.01	0.01	0.50	0.50	0.04	0.05	0.13	0.14	84	76										
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate	10:09	4.2	S	1.00	2	8.09		31.77		28.1		97.6		6.87		1.04		2		2		0.01		0.50		0.05		0.14		87											
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate		4.2	M		1																																				
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate		4.2	M		2																																				
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate	10:10	4.2	B	3.20	1	8.11	8.1	31.73	31.8	27.9	27.9	97.6	97.7	6.87	6.88	1.1	1.06	2	2	2	2	0.01	0.01	0.50	0.50	0.05	0.05	0.14	0.13	65	71										
FCZ1A	10/07/2025	Mid-Flood	Cloudy	Moderate	10:10	4.2	B	3.20	2	8.11		31.82		27.9		97.8		6.89		1.06		2		2		0.01		0.50		0.05		0.13		71											
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate	08:29	5.2	S	1.00	1	7.97	8.0	32.34	32.2	28.5	28.6	94.0	93.8	6.62	6.61	0.82	0.77	2	2.0	2	2	0.01	0.01	0.50	0.50	0.05	0.05	0.14	0.13	74	73										
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate	08:29	5.2	S	1.00	2	7.98		32.30		28.6		93.6		6.59		0.77		2		2		0.01		0.50		0.04		0.13		77											
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		1																																				
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		2																																				
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate	08:30	5.2	B	4.20	1	8.05	8.1	32.00	32.00	28.0	28.0	94.6	94.3	6.66	6.64	0.72	1.06	2	2.0	2	2	0.01	0.01	0.60	0.60	0.05	0.05	0.13	0.13	69	73										
FCZ2	10/07/2025	Mid-Flood	Cloudy	Moderate	08:30	5.2	B	4.20	2	8.05		32.00		27.9		93.9		6.61		0.67		2		2		0.01		0.60		0.05		0.13		73											
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		1		N/A		32.2		N/A		96.4		6.79		1.04		2.0		2		0.01		0.60		0.05		0.13		76										
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		2																																				
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate	10:21	2.3	M	1.15	1	8.13		32.26		28.1		96.4		6.79		1.06		2		2		0.01		0.60		0.05		0.13		76											
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate	10:21	2.3	M	1.15	2	8.13		32.19		28.2		96.4		6.79		1.02		2		2		0.01		0.50		0.04		0.13		73											
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		1		N/A		32.2		N/A		N/A		N/A		1.04		2.0		2		0.01		0.50		0.05		0.13		74										
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		2																																				
SGA	10/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		2																																				
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	S		1																																				
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	S		2		N/A		32.2		N/A		93.7		6.60		2.28		2.0		2		0.01		0.60		0.05		0.13		82										
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate	08:54	2.4	M	1.20	1	8.05		32.20		28.5		93.4		6.58		2.22		2		2		0.01		0.60		0.05		0.13		86											
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate	08:54	2.4	M	1.20	2	8.06		32.18		28.6		94.0		6.62		2.34		2		2		0.01		0.60		0.04		0.13		86											
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		1																																				
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		2		N/A		32.2		N/A		N/A		N/A		2.28		2.0		2		0.01		0.60		0.05		0.13		84										
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		2																																				
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		2																																				
M6A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		2																																				
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		1		N/A		32.0		N/A		93.3		6.57		0.72		2.0		2		0.01		0.50		0.05		0.14		75										
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		2																																				
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate	09:58	2.9	M	1.45	1	7.96		31.99		28.2		93.6		6.59		0.68		2		2		0.01		0.50		0.05		0.14		75											
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate	09:58	2.9	M	1.45	2	7.97		32.00		28.1		92.9		6.54		0.75		2		2		0.01		0.50		0.05		0.14		79											
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		1		N/A		32.0		N/A		N/A		N/A		0.72		2.0		2		0.01		0.50		0.05		0.14		77										
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																				
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																				
H4A	10/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																				
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:16	6.5	S	1.00	1	8.05	8.1	32.21	32.2	28.1	28.2	97.7	98.3	6.88	6.92	0.91	0.87	2	2.0	2	2	0.01	0.01	0.50	0.55	0.05	0.05	0.14	0.14	64	71										
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:16	6.5	S	1.00	2	8.05		32.29		28.2		98.4		6.93		0.97		2		2		0.01		0.60		0.04		0.13		67											
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:17	6.5	M	3.25	1	8.05	32.22	28.4		98.1		6.91		0.83		2		3		0.01		0.60		0.07		0.16		65													
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:17	6.5	M	3.25	2	8.03	32.20	28.4		98.8		6.96		0.85		2		2		0.01		0.50		0.06		0.15		71													
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:18	6.5	B	5.50	1	8.04	8.0	32.21	32.2	28.2	28.2	98.8	98.3	6.96	6.92	0.84	0.82	2	2	2	2	0.01	0.01	0.60	0.60	0.06	0.06	0.14	0.13	84	76										
N2	10/07/2025	Mid-Flood	Cloudy	Moderate	09:18	6.5	B	5.50	2	8.05		32.20		28.2		97.7		6.88		0.82		2		2		0.01		0.50		0.04		0.13		76											
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:00	8.6	S	1.00	1	8.04	32.22	28.4		97.1		6.84		1.14		2		2		0.01		0.50		0.05		0.14		67													
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:00	8.6	S	1.00	2	8.05	32.17	28.6		97.7		6.88		1.02		2		2		0.01		0.50		0.05		0.13		63													
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:01	8.6	M	4.30	1	8.04	8.0	32.22	32.2	28.6	28.6	96.7	97.2	6.81	6.85	0.98	1.01	2	2.0	2	2	0.01	0.01	0.50	0.52	0.04	0.05	0.13	0.14	69	75										
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:01	8.6	M	4.30	2	8.05		32.14		28.5		97.4		6.86		0.98		2		2		0.01		0.50		0.05		0.13		74											
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:02	8.6	B	7.60	1	8.06	32.21	28.6		96.8		6.82		0.97		2		2		0.01		0.60		0.05		0.14		87													
C	10/07/2025	Mid-Flood	Cloudy	Moderate	08:02	8.6	B	7.60	2	8.05	32.15	28.3		96.7		6.81		0.95		2		2		0.01		0.50		0.05		0.14		92													

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring												Laboratory Analysis																																	
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		<i>E.coli</i> (CFU/100mL)																					
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.																				
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate	10:09	4.2	S	1.00	1	8.12	8.1	31.06	31.1	28.8	28.9	97.6	97.3	6.42	6.40	1.27	1.31	2	2.0	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.22	0.22	17	28																				
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate	10:09	4.2	S	1.00	2	8.12		31.06		28.9		97.0		6.38		1.31		2		2		0.01		0.60		0.01		0.22		21																					
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate		4.2	M		1																																														
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate		4.2	M		2																																														
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate	10:10	4.2	B	3.20	1	8.12	8.1	31.12	30.7	28.8	28.8	98.3	98.0	6.47	6.45	1.36	1.31	2	2	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.21	0.22	42	32																				
FCZ1A	12/07/2025	Mid-Flood	Cloudy	Moderate	10:10	4.2	B	3.20	2	8.12		31.05		28.8		97.6		6.42		1.31		2		2		0.01		0.60		0.01		0.22		39																					
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate	08:28	5.2	S	1.00	1	8.14		30.71		29.5		29.5		98.3		98.3		6.55		6.55		1.00		1.05		2		2		2		2	0.01	0.01	0.60	0.60	0.01	0.01	0.23	0.22	33										
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate	08:28	5.2	S	1.00	2	8.15		30.75		29.4				98.2				6.54				1.05				2				2			0.01		0.60		0.01		0.21		36										
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		1																																														
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		2																																														
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate	08:29	5.2	B	4.20	1	8.13	8.1	30.70	30.7	29.0	28.9	97.0	97.0	6.39	6.39	0.93	0.92	2	2.0	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.21	0.22	31	40																				
FCZ2	12/07/2025	Mid-Flood	Cloudy	Moderate	08:29	5.2	B	4.20	2	8.13		30.74		28.8		97.0		6.39		0.92		2		2		0.01		0.60		0.01		0.22		27																					
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		1																																														
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		2																																														
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate	10:26	2.3	M	1.15	1	8.14	8.1	30.93	30.9	28.6	28.7	94.7	95.2	6.23	6.26	0.94	0.93	2	2.0	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.21	0.22	42	25																				
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate	10:26	2.3	M	1.15	2	8.13		30.95		28.8		95.6		6.29		0.91		2		2		0.01		0.60		0.01		0.22		38																					
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		1																																														
SGA	12/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		2																																														
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.4	S		1		N/A		30.4		N/A		N/A		N/A		1.91		2.0		2		0.01	0.01		0.60	0.60		0.22	0.22		29																			
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.4	S		2																																														
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate	08:52	2.4	M	1.20	1	8.05		30.35		29.1	29.3	97.1	96.9	6.39	6.38	1.89		1.93		2		2.0			2			2			0.01		0.01	0.60	0.60	0.01	0.01	0.22	0.22	27	24										
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate	08:52	2.4	M	1.20	2	8.06		30.44		29.4		96.7		6.36		1.93				2					2						0.01			0.60		0.01		0.22		24											
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		1																																														
M6A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.4	B		2																																														
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		1		N/A		30.8		N/A		N/A		N/A		0.75		2.0		2		0.01	0.01		0.60	0.60		0.22	0.22		31																			
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		2																																														
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate	09:57	2.9	M	1.45	1	8.13		30.78		29.1	29.3	97.7	97.1	6.43	6.39	0.77		0.73		2		2.0			2			2			0.01		0.01	0.60	0.60	0.01	0.01	0.22	0.22	28	24										
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate	09:57	2.9	M	1.45	2	8.12		30.77		29.4		96.5		6.35		0.73				2					2						0.01			0.60		0.01		0.21		28											
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		1																																														
H4A	12/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																														
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:14	6.5	S	1.00	1	8.04	8.0	30.42	30.4	28.7	28.6	93.9	94.2	6.18	6.20	0.87	0.97	2	2.0	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.21	0.22	16	24																				
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:14	6.5	S	1.00	2	8.04		30.40		28.5		93.5		6.15		0.93		2		2		0.01		0.60		0.01		0.22		19																					
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:15	6.5	M	3.25	1	8.03		30.42		28.5		94.4		6.21		0.95		2		3		0.01		0.60		0.01		0.22		27																					
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:15	6.5	M	3.25	2	8.02		30.37		28.5		95.0		6.25		0.99		2		2		0.01		0.60		0.01		0.22		24																					
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:16	6.5	B	5.50	1	8.03	8.0	30.42	30.4	28.4	28.5	94.8	94.6	6.24	6.23	1.01	2	2	2	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.20	0.22	29	22																				
N2	12/07/2025	Mid-Flood	Cloudy	Moderate	09:16	6.5	B	5.50	2	8.03		30.41		28.6		94.4		6.21		1.08		2		2		0.01		0.60		0.01		0.22		34																					
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:00	8.6	S	1.00	1	8.02		30.77	30.7	28.6	28.7	97.1	97.6	6.39	6.42	1.12	1.06	2	2.0	2	2	0.01	0.01	0.60	0.60	0.01	0.01	0.22	0.22	14	22																				
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:00	8.6	S	1.00	2	8.03	30.69	28.7	97.7	6.43		1.15		2		2		0.01		0.60		0.01		0.22		17																									
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:01	8.6	M	4.30	1	8.02	30.73	28.6	97.6	6.42		1.04		2		2		0.01		0.60		0.01		0.21		24																									
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:01	8.6	M	4.30	2	8.02	30.73	28.6	98.0	6.45		1.06		2		2		0.01		0.60		0.01		0.21		21																									
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:02	8.6	B	7.60	1	8.03	8.0	30.70	30.7	28.9	28.9	97.6	97.2	6.42	6.40	1.01	0.98	2	2	2	2	0.01	0.01	0.60	0.60	0.01	0.22	26	32																						
C	12/07/2025	Mid-Flood	Cloudy	Moderate	08:02	8.6	B	7.60	2	8.02		30.76		28.9		96.8		6.37		0.98		2		2		0.01		0.60		0.01		0.21		26																					

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring												Laboratory Analysis																							
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:27	4.0	S	1.00	1	8.06	8.1	30.21	30.24	29.2	29.2	95.6	94.8	6.50	6.45	0.87	0.76	4	4	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.05	0.06	64	51										
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:27	4.0	S	1.00	2	8.06		30.24		29.2		93.9		6.39		0.82		4		2		0.02		0.50		0.01		0.06		66											
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate		4.0	M		1			NA						NA																											
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate		4.0	M		2					NA																															
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:28	4.0	B	3.00	1	8.06	8.1	30.27	30.24	28.9	29.0	94.7	94.5	6.44	6.43	0.65	0.71	5	4	3	4	0.01	0.01	0.50	0.50	0.01	0.01	0.06	0.06	42	37										
FCZ1A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:28	4.0	B	3.00	2	8.04		30.24		29.0		94.2		6.41		0.71		4		4		0.01		0.50		0.01		0.06		37											
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate	08:45	5.3	S	1.00	1	8.07		30.66		29.4		94.5		6.43		0.57		5		4		0.01		0.50		0.01		0.05		54											
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate	08:45	5.3	S	1.00	2	8.05	8.1	30.57	30.56	29.2	29.3	94.8	94.7	6.45	6.44	0.52	0.49	5	5	2	4	0.02	0.01	0.50	0.50	0.01	0.01	0.06	0.06	51	50										
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate		5.3	M		1			NA						NA																											
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate		5.3	M		2									NA																											
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate	08:46	5.3	B	4.30	1	8.06	8.1	30.54	30.48	29.0	29.1	91.4	91.6	6.22	6.23	0.44	0.42	5	4	4	4	0.02	0.01	0.50	0.50	0.01	0.01	0.07	0.07	47	50										
FCZ2	15/07/2025	Mid-Flood	Cloudy	Moderate	08:46	5.3	B	4.30	2	8.05		30.48		29.1		91.7		6.24		0.42		4		4		0.03		0.50		0.01		0.06		50											
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		1			NA						NA																											
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		2					NA																															
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate	10:42	2.3	M	1.15	1	8.08	8.1	30.52	30.59	29.5	29.4	94.4	94.0	6.42	6.39	1.05	1.08	4	6	3	3	0.01	0.01	0.50	0.50	0.01	0.01	0.06	0.06	41	39										
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate	10:42	2.3	M	1.15	2	8.08		30.66		29.3		93.5		6.36		1.11		6		3		0.02		0.60		0.01		0.07		38											
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		1			NA						NA																											
SGA	15/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		2					NA																															
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.8	S		1		NA		30.78		NA		94.1		6.40		1.71		3.0		4		0.02		0.50		0.01		0.06		37	38									
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.8	S		2									NA																											
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate	09:07	2.8	M	1.40	1	8.08		30.77		29.4	93.3	6.35		1.69		4		4		0.02		0.50		0.01		0.06		37													
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate	09:07	2.8	M	1.40	2	8.06	8.1	30.79		29.3	94.8	6.45		1.73		2		3		0.02		0.60		0.01		0.06		40													
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.8	B		1							NA																													
M6A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.8	B		2					NA																															
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.7	S		1		NA		30.83		NA		89.3		6.07		0.71		3.5		4		0.01		0.50		0.01		0.06		36	38									
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.7	S		2									NA																											
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:13	2.7	M	1.35	1	8.16		30.81		29.7	29.6	88.5		6.02		0.73		3		3		0.01		0.50		0.01		0.06		36											
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate	10:13	2.7	M	1.35	2	8.16	8.2	30.84		29.5		90.0		6.12		0.69		4		4		0.02		0.50		0.01		0.06		41											
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.7	B		1									NA																											
H4A	15/07/2025	Mid-Flood	Cloudy	Moderate		2.7	B		2					NA																															
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:30	6.8	S	1.00	1	8.11	8.1	30.71	30.77	28.8	28.9	93.5	93.9	6.36	6.39	0.55	0.50	5	4	4	3	0.03	0.02	0.50	0.50	0.01	0.01	0.05	0.06	46	40										
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:30	6.8	S	1.00	2	8.11		30.74		28.9		93.8		6.38		0.52		4		4		0.02		0.50		0.01		0.06		44											
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:31	6.8	M	3.40	1	8.09		30.79		29.0		94.1		6.4		0.47		4		3		0.03		0.50		0.01		0.06		38											
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:31	6.8	M	3.40	2	8.09	8.1	30.84	30.78	28.7	28.8	94.1	93.5	6.4	6.39	0.5	0.48	4	4	3	3	0.02	0.02	0.50	0.50	0.01	0.01	0.06	0.06	43	34										
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:32	6.8	B	5.80	1	8.11		30.78		28.7		93.9		6.39		0.48		4		3		0.02		0.50		0.01		0.06		34											
N2	15/07/2025	Mid-Flood	Cloudy	Moderate	09:32	6.8	B	5.80	2	8.11		30.77		28.9		93.1		6.33		0.49		4		3		0.01		0.50		0.01		0.06		37											
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:18	9.1	S	1.00	1	8.07	8.1	30.43	30.44	29.2	29.1	89.1	89.1	6.06	6.06	1.11	1.02	4	5	3	4	0.01	0.01	0.50	0.50	0.03	0.02	0.06	0.06	37	41										
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:18	9.1	S	1.00	2	8.08		30.42		29.0		89.8		6.11		1.07		4		3		0.01		0.50		0.01		0.06		35											
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:19	9.1	M	4.55	1	8.06		30.41		29.0		88.6		6.03		0.94		5		4		0.01		0.50		0.01		0.05		37											
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:19	9.1	M	4.55	2	8.07	8.1	30.42	30.52	29.0	29.0	88.8	88.8	6.04	6.11	0.98	1.03	4	4	4	4	0.01	0.01	0.50	0.50	0.02	0.02	0.05	0.06	41	47										
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:20	9.1	B	8.10	1	8.06		30.52		29.2		89.5		6.09		1.03		4		4		0.01		0.50		0.01		0.06		51											
C	15/07/2025	Mid-Flood	Cloudy	Moderate	08:20	9.1	B	8.10	2	8.06		30.41		29.1		90.0		6.12		0.99		5		4		0.01		0.50		0.02		0.06		47											

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	S	1.00	1	8.07	8.1	31.34	31.8	28.8	28.8	103.7	103.8	6.72	6.73	1.53	1.99	4	4.0	2	2	0.01	0.01	0.40	0.40	0.01	0.01	0.06	0.06	2	3										
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	S	1.00	2	8.07		31.34		28.8		103.8		6.74		1.54		4		2		0.01		0.40		0.01		0.05		2											
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	M		1																																				
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	M		2																																				
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	B	3.20	1	8.00	8.0	32.28	32.7	27.1	27.1	95.5	95.6	6.34	6.35	2.44	1.92	4	2.5	2	3	0.01	0.01	0.40	0.40	0.01	0.01	0.07	0.08	3	4										
FCZ1A	17/07/2025	Mid-Flood	Sunny	Moderate	10:55	4.2	B	3.20	2	8.00		32.28		27.1		95.6		6.36		2.46		4		2		0.01		0.40		0.01		0.06		4											
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	S	1.00	1	8.18		31.07		28.7		112.8		7.34		0.95		2		3		0.01		0.50		0.01		0.08		ND											
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	S	1.00	2	8.17		31.08		28.7		112.7		7.33		0.97		3		3		0.01		0.50		0.01		0.09		ND											
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	M		1	7.75	7.8	33.42	32.7	24.7	24.7	102.7	107.9	6.68	7.02	2.47	1.92	3	2.5	3	3	0.01	0.01	0.50	0.53	0.01	0.01	0.08	0.08	ND	ND										
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	M		2	7.75		33.39		24.7		103.3		6.72		2.46																									
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	B	4.40	1	7.74		33.51		24.6		92.8		6.04		2.33		2		3		0.01		0.50		0.01		0.08		ND											
FCZ2	17/07/2025	Mid-Flood	Sunny	Moderate	10:13	5.4	B	4.40	2	7.74		33.51		24.6		93.0		6.05		2.33		3		3		0.01		0.60		0.01		0.08		ND											
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	S		1		8.0		31.7				96.4		6.29		1.56		2.5		2		0.01		0.40		0.01		0.05		1										
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	S		2																																				
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	M	1.25	1	8.02		31.67		28.30		96.4		6.30		1.57		3		2		0.01		0.40		0.01		0.04		2											
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	M	1.25	2	8.02		31.67		28.30		96.3		6.28		1.54		2		2		0.01		0.40		0.01		0.05		1											
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	B		1		7.8		32.1				N/A		N/A		2.58		2.5		2		0.01		0.40		0.01		0.06		4										
SGA	17/07/2025	Mid-Flood	Sunny	Moderate	11:08	2.5	B		2																																				
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	S		1																																				
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	S		2																																				
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	M	1.50	1	7.80	7.8	32.11	32.1	27.0	27.0	94.6	94.6	6.15	6.15	2.58	2.58	2	2.5	2	2	0.01	0.01	0.40	0.40	0.01	0.01	0.06	0.06	4	4										
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	M	1.50	2	7.80		32.12		27.0		94.6		6.15		2.57		3		2		0.01		0.40		0.01		0.05		5											
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	B		1																																				
M6A	17/07/2025	Mid-Flood	Sunny	Moderate	11:00	3.0	B		2																																				
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	S		1		8.1		31.3				103.8		6.73		1.54		3.0		2		0.01		0.40		0.01		0.06		1										
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	S		2																																				
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	M	1.50	1	8.07		31.34		28.8		103.7		6.72		1.53		3		2		0.01		0.40		0.01		0.07		1											
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	M	1.50	2	8.07		31.34		28.8		103.8		6.73		1.54		3		2		0.01		0.40		0.01		0.05		ND											
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	B		1		7.8		33.0				N/A		N/A		1.65		2.7		2		0.01		0.60		0.01		0.05		3										
H4A	17/07/2025	Mid-Flood	Sunny	Moderate	10:40	3.0	B		2																																				
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	S	1.00	1	8.04		8.0	31.85	33.0	27.5	27.5	98.0	93.1	6.48	6.25		1.6	1.65	4	2.7	2	2	0.01	0.01	0.40	0.55	0.02	0.02	0.06	0.05	1	1								
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	S	1.00	2	8.04			31.81		27.5		99.0		6.54			1.6		4		2		0.01		0.50		0.02		0.06		ND									
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	M	3.50	1	7.78	33.48		25.0		87.6		5.98		1.67		2	2		0.01		0.70		0.01		0.05		1													
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	M	3.50	2	7.78	33.51		25.0		87.8		5.99		1.67		2	2		0.01		0.60		0.01		0.05		3													
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	B	6.00	1	7.69	7.7	33.60	32.3	24.9	24.9	81.2	81.5	5.83	5.85	1.69	1.19	2	3.3	2	4	0.01	0.02	0.50	0.55	0.01	0.02	0.04	0.05	ND	1										
N2	17/07/2025	Mid-Flood	Sunny	Moderate	10:28	7.0	B	6.00	2	7.69		33.62		24.9		81.7		5.86		1.69		2		2		0.01		0.60		0.01		0.05		ND											
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	S	1.00	1	8.13		8.1		30.92	32.3	28.9	28.7	127.0	103.2	8.3	6.87	1	1.19	2	3.3	4	4	0.02	0.02	0.50	0.55	0.01	0.01	0.06	0.05	ND	1								
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	S	1.00	2	8.13	30.92		28.4	127.0		8.31		1		3		0.01		0.50		0.01		0.04		ND															
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	M	4.75	1	8.13	33.03		25.2	79.4		5.42		1.25		4		4		0.02		0.60		0.01		0.05		ND													
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	M	4.75	2	8.13	33.03		25.2	79.5		5.44		1.25		4		5		0.02		0.60		0.01		0.04		1													
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	B	8.50	1	8.13	8.2	33.01	32.3	25.2	25.2	70.8	70.8	4.83	4.82	1.31	1.19	3	4	3	4	0.01	0.01	0.50	0.55	0.01	0.01	0.04	0.05	2	ND										
C	17/07/2025	Mid-Flood	Sunny	Moderate	10:00	9.5	B	8.50	2	8.18		33.01		25.2		70.8		4.80		1.31		4		4		0.01		0.60		0.01		0.04		ND											

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																															
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)																	
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.																
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:34	4.3	S	1.00	1	8.02	8.0	31.21	31.18	27.4	27.5	90.8	90.8	6.22	6.22	0.75	0.77	6	6	2	2	0.03	0.03	0.50	0.45	0.08	0.06	0.17	0.13	20	13																
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:34	4.3	S	1.00	2	8.02		31.21		27.5		90.7		6.21		0.79		6		2		0.03		0.40		0.05		0.12		17																	
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate		4.3	M		1			NA						NA																																	
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate		4.3	M		2									NA																																	
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:35	4.3	B	3.30	1	8.03	8.0	31.17	31.18	27.3	27.3	91.1	90.6	6.14	6.16	0.75	0.77	6	6	3	2	-	-	0.50	0.06	0.06	0.04	0.12	0.10	10	8																
FCZ1A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:35	4.3	B	3.30	2	8.02		31.14		27.3		90.1		6.17		0.79		6		2		0.01		0.40		0.04		0.10		8																	
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:29	5.3	S	1.00	1	8.00		31.48		27.1		27.2		86.0		6.39		0.54		5		2		0.01		0.70		0.11		0.22		5															
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:29	5.3	S	1.00	2	8.02		31.42		27.3		85.7		6.27		0.50		4		2		0.01		0.06		0.11		0.22		4																	
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate		5.3	M		1		NA		31.35		NA		85.9		6.33	0.50	0.58		4.0	2		0.01	0.39	0.07	0.16	4	3																				
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate		5.3	M	2																																											
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:30	5.3	B	4.30	1	8.02		31.22		27.0		27.0		88.0		6.03		6.06			0.61							4	2	0.01	0.40	0.02	0.09	1													
FCZ2	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:30	5.3	B	4.30	2	8.01		31.29		27.0		88.9		6.09		6.06		0.65			3							2	0.01	0.40	0.02	0.09	ND														
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.5	S		1		NA		30.85		NA		93.1		6.08		1.61	5.5	2	2	0.01	0.01	0.40	0.40	0.03	0.03	0.09	0.09	8	6																	
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.5	S	2																																											
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:45	2.5	M	1.25	1	8.04		30.89		27.6		27.5		92.9		6.06															6.09	1.55	6	2	0.01	0.40	0.03	0.09	8								
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:45	2.5	M	1.25	2	8.04		30.81		27.4		93.3		6.09		6.09															1.66	5	2	0.01	0.40	0.03	0.09	5									
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.5	B		1		NA		31.00		NA		N/A		N/A		4.06	4.0	3	3	0.01	0.01	0.40	0.30	0.05	0.04	0.12	0.10	3	3																	
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.5	B	2																																											
SGA	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.5	B	2																																											
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S		1			NA																																							
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S		2		NA		31.00		NA		86.2		6.20		4.06	4.0	3	3	0.01	0.01	0.40	0.30	0.05	0.04	0.12	0.10	3	3																	
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:56	2.7	M	1.35	1	7.99		30.91		27.7		27.7		86.3		6.21															6.19	3.96	4	3	0.01	0.40	0.05	0.05	3								
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:56	2.7	M	1.35	2	8.00		31.09		27.6		86.1		6.19		6.19															4.15	4	3	0.01	0.30	0.04	0.10	3									
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B		1			NA																																							
M6A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B		2		NA		31.54		NA		N/A		N/A		1.38	5.5	2	2	0.01	0.01	0.30	0.30	0.02	0.02	0.10	0.08	9	11																	
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S		1																																										
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S	2																																											
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:24	2.7	M	1.35	1	7.94		31.55		27.6		27.6		90.5		6.02															6.04	1.31	5	2	0.01	0.30	0.02	0.10	9								
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:24	2.7	M	1.35	2	7.95	31.52	27.6	90.4	6.05	6.05	1.44	6	2	0.01	0.30	0.02	0.08	14																												
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B		1		NA		31.46		NA		93.4		6.09		1.67	4.2	2	2	0.02	0.01	0.40	0.40	0.03	0.04	0.16	0.17	53	47																	
H4A	19/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B	2																																											
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:15	6.7	S	1.00	2	7.95		31.44		27.1		27.1		92.9		6.06															6.11	1.74	4	2	0.01	0.40	0.02	0.06	2								
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:15	6.7	S	1.00	2	7.95		31.44		27.1		93.6		6.09		6.09															1.68	3	2	0.01	0.40	0.03	0.08	4									
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:16	6.7	M	3.35	1	7.95	31.44	27.0	27.0	93.4	6.09	6.09	1.63	4	2	0.02	0.40	0.03	0.16	53																											
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:16	6.7	M	3.35	2	7.94	31.49	27.0	27.0	93.7	6.11	6.11	1.62	4	2	0.01	0.40	0.04	0.17	47																											
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:17	6.7	B	5.70	1	7.94	31.45	27.2	27.1	92.7	6.05	6.08	1.69	5	2	0.01	0.50	0.06	0.25	25																											
N2	19/07/2025	Mid-Ebb	Cloudy	Moderate	09:17	6.7	B	5.70	2	7.96	31.47	27.0	27.0	93.7	6.11	6.11	1.63	5	2	0.01	0.40	0.06	0.24	30																											
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:01	8.5	S	1.00	1	8.05	8.1	31.26	31.19	26.9	26.9	88.2	88.6	5.75	5.78	1.88	1.97	3	4.3	2	2	0.01	0.47	0.40	0.05	0.11	0.09	5	6																		
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:01	8.5	S	1.00	2	8.06		31.10		26.9		89.2		5.82		1.79		5		2		0.01		0.40		0.04		0.09		2																	
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:02	8.5	M	4.25	1	8.04		31.11		27.0		27.0		88.2		5.75		5.78		1.91		3		2		0.01		0.50		0.09	0.18	15															
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:02	8.5	M	4.25	2	8.05		31.27		27.0		27.0		88.8		5.79		5.77		1.97		4		2		0.01		0.50		0.09	0.19	11															
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:03	8.5	B	7.50	1	8.05	31.18	27.0	27.0	88.5	5.77	5.77	2.08	5	2	0.01	0.50	0.05	0.24	4																											
C	19/07/2025	Mid-Ebb	Cloudy	Moderate	08:03	8.5	B	7.50	2	8.04	31.24	26.9	27.0	88.3	5.76	5.76	2.19	6	2	0.02	0.50	0.07	0.23	8																											

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:23	4.2	S	1.00	1	7.96	8.0	31.88	31.92	28.8	28.9	90.8	91.1	6.28	6.25	1.94	1.82	3	3.5	2	2	0.02	0.02	0.50	0.50	0.02	0.01	0.18	0.17	170	192										
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:23	4.2	S	1.00	2	7.96		31.98		28.9		91.3		6.22		1.87		3		2		0.02		0.50		0.01		0.17		190											
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate		4.2	M		1			NA						NA																											
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate		4.2	M		2									NA																											
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:24	4.2	B	3.20	1	7.96	8.0	31.90		28.7	28.8	91.1	91.3	6.2	6.21	1.72		4	2	2	0.02		0.50	0.01		0.15		210													
FCZ1A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:24	4.2	B	3.20	2	7.96		31.90		28.9		91.4		6.22	1.76		4	2	2	0.02		0.50	0.01		0.14		200														
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:16	5.4	S	1.00	1	7.97	8.0	32.24		28.3	28.3	86.6		6.39	1.16		4	2	2	0.03		0.60	0.02		0.21		220														
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:16	5.4	S	1.00	2	7.96		32.25		28.2		86.1		6.36	1.12		4	2	2	0.02		0.50	0.01		0.16		210														
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate		5.4	M		1		NA				NA																														
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate		5.4	M		2						NA																														
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:17	5.4	B	4.40	1	7.96	8.0	31.88		28.3	28.4	86.4	86.8	6.18	6.16	1.05		3	2	2	0.02		0.50	0.01		0.13		210													
FCZ2	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:17	5.4	B	4.40	2	7.97		31.90		28.4		87.2		6.13	1.01		2	2	2	0.02		0.40	0.01		0.13		220														
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.2	S		1		NA				NA																														
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.2	S		2						NA																														
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:33	2.2	M	1.10	1	7.94	7.9	31.92		28.8	28.9	86.9	86.8	6.11	6.15	1.64		3	2	2	0.02		0.50	0.01		0.14		220													
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:33	2.2	M	1.10	2	7.94		31.98		28.9		86.6		6.19	1.66		5	2	2	0.03		0.50	0.01		0.15		210														
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.2	B		1		NA				NA																														
SGA	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.2	B		2						NA																														
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S		1		NA				NA																														
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	S		2						NA																														
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:43	2.7	M	1.35	1	7.94	8.0	32.29		28.7	28.7	85.4	85.6	6.31	6.27	2.96		5	2	2	0.03		0.60	0.02		0.23		180													
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate	10:43	2.7	M	1.35	2	7.96		32.31		28.7		85.7		6.23	3.05		4	2	2	0.03		0.70	0.04		0.29		200														
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B		1		NA				NA																														
M6A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.7	B		2						NA																														
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.9	S		1		NA				NA																														
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.9	S		2						NA																														
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:14	2.9	M	1.45	1	7.95	8.0	31.99		28.5	28.5	86.1	86.4	6.18	6.22	1.59		4	2	2	0.03		0.60	0.04		0.33		160													
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:14	2.9	M	1.45	2	7.95		32.02		28.5		86.7		6.25	1.64		4	2	2	0.03		0.60	0.04		0.32		170														
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.9	B		1		NA				NA																														
H4A	22/07/2025	Mid-Ebb	Cloudy	Moderate		2.9	B		2						NA																														
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:02	6.7	S	1.00	1	7.92	7.9	31.60		28.3	28.4	86.1	85.9	6.18	6.16	1.83		6	5.0	2	0.03		0.70	0.04		0.34		200													
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:02	6.7	S	1.00	2	7.93		31.71		28.4		85.6		6.14	1.77		6	2	2	0.03		0.70	0.04		0.33		180														
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:03	6.7	M	3.35	1	7.92	7.9	31.61		28.2	28.3	86.1		6.18	1.74		5	2	2	0.03		0.70	0.04		0.33		220														
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:03	6.7	M	3.35	2	7.91		31.67		28.3		85.6		6.14	1.68		5	2	2	0.04		0.70	0.04		0.34		190														
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:04	6.7	B	5.70	1	7.91	7.9	31.71		28.4	28.4	86.3	86.0	6.19	6.17	1.67		4	2	2	0.03		0.70	0.04		0.32		180													
N2	22/07/2025	Mid-Ebb	Cloudy	Moderate	11:04	6.7	B	5.70	2	7.94		31.70		28.3		85.7		6.15	1.59		4	2	2	0.03		0.70	0.03		0.29		190														
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:48	8.6	S	1.00	1	7.99	8.0	31.93		28.4	28.3	85.4	85.7	6.13	6.15	1.41		5	2	2	0.03		0.70	0.04		0.31		210													
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:48	8.6	S	1.00	2	8.00		32.00		28.2		85.7		6.15	1.32		5	2	2	0.03		0.60	0.04		0.31		240														
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:49	8.6	M	4.30	1	8.01	8.0	32.00		28.3	28.3	85.4	85.7	6.13	6.15	1.38		5	2	2	0.03		0.70	0.04		0.33		240													
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:49	8.6	M	4.30	2	8.01		31.96		28.2		86.4		6.2	1.36		5	2	2	0.03		0.60	0.04		0.32		210														
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:50	8.6	B	7.60	1	8.01	8.0	31.98		28.2	28.3	85.4	85.9	6.13	6.17	1.38		6	2	2	0.03		0.70	0.04		0.33		230													
C	22/07/2025	Mid-Ebb	Cloudy	Moderate	09:50	8.6	B	7.60	2	8.00		31.92		28.4		86.4		6.2	1.37		5	2	2	0.03		0.60	0.03		0.28		200														

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																												
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		<i>E.coli</i> (CFU/100mL)														
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.													
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate	09:57	3.9	S	1.00	1	7.97	8.0	31.49	31.50	28.8	28.8	89.3	89.2	6.38	6.36	2.28	2.11	5	4.8	4	3	0.03	0.03	0.70	0.70	0.02	0.02	0.09	0.08	130	149													
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate	09:57	3.9	S	1.00	2	7.99		31.47		28.8		89.1		6.33		2.25		5		4		0.03		0.70		0.02		0.08		160														
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate		3.9	M		1																																							
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate		3.9	M		2																																							
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate	09:58	3.9	B	2.90	1	7.97	8.0	31.53	31.51	28.9	28.9	89.4	89.1	6	5.98	1.99	2.11	4	5	2	3	0.03	0.03	0.70	0.70	0.02	0.01	0.09	0.06	140	170													
FCZ1A	24/07/2025	Mid-Flood	Sunny	Moderate	09:58	3.9	B	2.90	2	7.98		31.51		28.8		88.7		5.95		1.92		5		3		0.03		0.70		0.01		0.06		170														
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate	08:25	5.6	S	1.00	1	8.07		31.95		29.5		93.9		6.3		1.06		6		3		0.03		0.70		0.02		0.09		200														
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate	08:25	5.6	S	1.00	2	8.09		31.88		29.4		94.0		6.3		1.10		5		2		0.03		0.70		0.03		0.09		190														
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate		5.6	M		1		NA		31.83		NA		94.0		6.30	1.17	5.3		3		0.01		0.73		0.02		0.08		200															
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate		5.6	M	2																																								
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate	08:26	5.6	B	4.60	1	8.08		31.73		29.0		89.7		6.02		1.29		6		4		0.03		0.80		0.03		0.09		220														
FCZ2	24/07/2025	Mid-Flood	Sunny	Moderate	08:26	5.6	B	4.60	2	8.08		31.77		29.0		90.1		6.05		1.21		4		4		0.02		0.70		0.01		0.05		190														
SGA	24/07/2025	Mid-Flood	Sunny	Moderate		2.5	S		1		NA		32.14		29.1	29.1	93.7	93.3		6.18		5.5		4		0.01		0.65		0.02		0.07	0.06	120	130													
SGA	24/07/2025	Mid-Flood	Sunny	Moderate		2.5	S	2																																								
SGA	24/07/2025	Mid-Flood	Sunny	Moderate	10:09	2.5	M	1.25	1	8.05		32.14		29.1					92.8		6.17		1.73		6		4		0.03		0.60					0.03	0.06	140										
SGA	24/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		1																																							
SGA	24/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		2		NA		31.72		NA		91.1		6.26		3.32		4		4		0.03		0.60		0.02		0.07	0.07	130	140												
M6A	24/07/2025	Mid-Flood	Sunny	Moderate		2.6	S		1																																							
M6A	24/07/2025	Mid-Flood	Sunny	Moderate	08:47	2.6	M	1.30	1	8.03		31.74		28.9		90.6		6.24		3.28		4		4		0.03		0.60		0.02		0.07					130											
M6A	24/07/2025	Mid-Flood	Sunny	Moderate	08:47	2.6	M	1.30	2	8.01		31.69		29.1		91.5		6.28		3.35		5		3		0.03		0.60		0.02		0.07					150											
M6A	24/07/2025	Mid-Flood	Sunny	Moderate		2.6	B		2		NA		31.98		NA		91.8		6.16		1.40		5		5		0.03		0.70		0.01		0.06	0.07	160	174												
H4A	24/07/2025	Mid-Flood	Sunny	Moderate		2.7	S		1																																							
H4A	24/07/2025	Mid-Flood	Sunny	Moderate	09:47	2.7	M	1.35	1	8.08		31.94		28.9		91.3		6.13		1.43		6		5		0.03		0.70		0.01		0.06					160											
H4A	24/07/2025	Mid-Flood	Sunny	Moderate	09:47	2.7	M	1.35	2	8.07		32.01		29.0		92.2		6.19		1.36		5		4		0.03		0.70		0.01		0.07					190											
H4A	24/07/2025	Mid-Flood	Sunny	Moderate		2.7	B		1		NA		31.75		28.7	90.4		6.05		1.75		5.0		4		0.03		0.80		0.03		0.09	0.04	210	182													
H4A	24/07/2025	Mid-Flood	Sunny	Moderate		2.7	B	2																																								
N1	24/07/2025	Mid-Flood	Sunny	Moderate	09:07	6.5	S	1.00	1	8.03		31.71		28.6			90.7		6.09		1.81		5		4		0.03		0.70		0.04					0.09	240											
N1	24/07/2025	Mid-Flood	Sunny	Moderate	09:08	6.5	M	3.25	2	8.03		31.75		28.7			90.1		6.05		1.75		6		5		0.02		0.80		0.03					0.09	240											
N1	24/07/2025	Mid-Flood	Sunny	Moderate	09:09	6.5	B	5.50	1	8.02	8.0	31.74	31.87	28.8	28.8	90.3	90.3	5.96	5.97	1.73	1.46	5	4	5	4	0.03	0.70	0.01	0.04	170	181																	
N1	24/07/2025	Mid-Flood	Sunny	Moderate	09:09	6.5	B	5.50	2	8.02	31.80	28.7	90.3	5.98	1.66	5	3	0.02	0.70	0.01	0.06	190																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:00	8.8	S	1.00	1	8.06	31.81	29.2	93.9	6.3	1.52	5	4	0.04	0.70	0.01	0.04	160																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:00	8.8	S	1.00	2	8.08	31.92	29.3	93.3	6.26	1.53	4	4	0.03	0.70	0.01	0.05	190																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:01	8.8	M	4.40	1	8.08	31.81	29.3	93.9	6.3	1.46	4	4	0.03	0.70	0.01	0.06	160																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:01	8.8	M	4.40	2	8.07	31.88	29.3	93.6	6.28	1.43	5	4	0.03	0.70	0.01	0.05	180																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:02	8.8	B	7.80	1	8.08	31.92	29.2	93.6	6.28	1.42	6	4	0.02	0.70	0.01	0.06	190																										
C	24/07/2025	Mid-Flood	Sunny	Moderate	08:02	8.8	B	7.80	2	8.06	31.89	29.1	93.1	6.25	1.37	5	4	0.03	0.60	0.01	0.05	210																										

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																										
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)												
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.											
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate	10:06	4.1	S	1.00	1	8.03	8.0	31.85	31.8	29.5	29.6	93.7	93.7	6.33	6.33	2.30	2.07	3	3.3	2	3	0.02	0.02	0.40	0.45	0.01	0.01	0.04	0.04	170	144											
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate	10:06	4.1	S	1.00	2	8.03		31.82		29.7		93.7		6.33		2.15		3		3		0.02		0.50		0.01		0.03		150												
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate		4.1	M		1																																					
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate		4.1	M		2																																					
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate	10:07	4.1	B	3.10	1	8.03	8.0	31.81	31.88	29.4	29.5	93.8	93.4	6.34	6.31	1.96	2.07	4	3.3	3	3	0.02	0.02	0.50	0.45	0.01	0.01	0.04	0.04	120	140											
FCZ1A	26/07/2025	Mid-Flood	Sunny	Moderate	10:07	4.1	B	3.10	2	8.03		31.88		29.6		92.9		6.28		1.85		3		2		0.02		0.40		0.01		0.05		140												
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate	08:29	5.4	S	1.00	1	8.04		32.09		29.9		29.8		94.4		94.7		6.38		6.40		0.58		0.57		3		3.3		2		3	0.02	0.02	0.50	0.45	0.01	0.01	0.04	0.04	180	190
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate	08:29	5.4	S	1.00	2	8.04		32.09		29.7				95.0				6.42				0.63				3				3			0.02		0.50		0.01		0.04		240	
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate		5.4	M		1																																					
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate		5.4	M		2																																					
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate	08:30	5.4	B	4.40	1	8.04	8.0	32.07	32.1	29.7	29.6	88.7	88.9	5.99	6.01	0.57	0.57	4	3.3	3	3	0.02	0.02	0.40	0.45	0.01	0.01	0.04	0.04	200	190											
FCZ2	26/07/2025	Mid-Flood	Sunny	Moderate	08:30	5.4	B	4.40	2	8.04		32.03		29.5		89.1		6.02		0.49		3		3		0.02		0.40		0.01		0.05		150												
SGA	26/07/2025	Mid-Flood	Sunny	Moderate		2.3	S		1																																					
SGA	26/07/2025	Mid-Flood	Sunny	Moderate		2.3	S		2																																					
SGA	26/07/2025	Mid-Flood	Sunny	Moderate	10:18	2.3	M	1.15	1	8	8.0	31.85	31.86	30.1	30.1	92.2	92.2	6.23	6.23	1.12	1.09	4	3.5	3	3	0.02	0.02	0.40	0.40	0.01	0.01	0.04	0.04	190	218											
SGA	26/07/2025	Mid-Flood	Sunny	Moderate	10:18	2.3	M	1.15	2	8		31.86		30.1		92.2		6.23		1.06		3		2		0.02		0.40		0.01		0.04		250												
SGA	26/07/2025	Mid-Flood	Sunny	Moderate		2.3	B		1																																					
SGA	26/07/2025	Mid-Flood	Sunny	Moderate		2.3	B		2																																					
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	S		1		8.0		31.7		29.7		93.0		6.29		3.52		3.0		3	0.02	0.02		0.40		0.01		0.04		269											
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	S		2																																					
M6A	26/07/2025	Mid-Flood	Sunny	Moderate	08:50	2.5	M	1.25	1	8.01		31.72		29.6		93.1		6.29		3.55		3		2		0.02		0.40		0.01		0.04		250												
M6A	26/07/2025	Mid-Flood	Sunny	Moderate	08:50	2.5	M	1.25	2	8.01		31.75		29.8		92.9		6.28		3.48		3		3		0.02		0.40		0.01		0.04		290												
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		1		8.0		31.7		29.7		N/A		N/A		3.52		3.0		3	0.02	0.02		0.40		0.01		0.04		290											
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		2																																					
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		1																																					
M6A	26/07/2025	Mid-Flood	Sunny	Moderate		2.5	B		2																																					
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	S		1		8.0		31.7		29.7		91.6		6.19		1.01		3.5		2	0.02	0.02		0.40		0.01		0.04		280											
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	S		2																																					
H4A	26/07/2025	Mid-Flood	Sunny	Moderate	09:53	2.9	M	1.45	1	8.04		31.68		29.7		91.8		6.2		1.02		3		2		0.02		0.40		0.01		0.04		280												
H4A	26/07/2025	Mid-Flood	Sunny	Moderate	09:53	2.9	M	1.45	2	8.04		31.70		29.6		91.3		6.17		0.99		4		2		0.02		0.40		0.01		0.04		210												
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	B		1		8.0		31.7		29.7		N/A		N/A		1.01		3.5		2	0.02	0.02		0.40		0.01		0.04		210											
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	B		2																																					
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	B		1																																					
H4A	26/07/2025	Mid-Flood	Sunny	Moderate		2.9	B		2																																					
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:13	6.6	S	1.00	1	8.01	8.0	31.95	32.0	30.1	30.0	93.5	94.1	6.32	6.36	1.35	1.32	4	3.2	2	2	0.02	0.02	0.40	0.40	0.01	0.01	0.04	0.04	190	225											
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:13	6.6	S	1.00	2	8.01		31.93		29.9		94.3		6.37		1.45		3		2		0.02		0.40		0.01		0.04		160												
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:14	6.6	M	3.30	1	8.01		32.02		30.0		94.3		6.37		1.31		2		2		0.02		0.40		0.01		0.03		260												
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:14	6.6	M	3.30	2	8.01		31.93		29.8		94.1		6.36		1.28		4		2		0.02		0.40		0.01		0.04		210												
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:15	6.6	B	5.60	1	8.01	8.0	31.99	32.00	29.9	30.0	93.8	93.9	6.34	6.35	1.25	1.47	3	3.2	2	3	0.02	0.02	0.40	0.47	0.01	0.01	0.03	0.04	310	306											
N2	26/07/2025	Mid-Flood	Sunny	Moderate	09:15	6.6	B	5.60	2	8.01		32.00		30.0	94.0	6.35	1.26	3	2	0.02	0.40	0.01	0.04	250																						
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:03	9.0	S	1.00	1	8.07	8.1	31.62	31.64	29.7	29.7	91.5	91.1	6.18	6.16	1.48	1.47	2	3.2	2	3	0.02	0.02	0.40	0.47	0.01	0.01	0.03	0.04	360	306											
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:03	9.0	S	1.00	2	8.07		31.64		29.7		91.9		6.21		1.51		3		2		0.02		0.40		0.01		0.03		370												
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:04	9.0	M	4.50	1	8.07		31.64		29.7		90.4		6.11		1.35		3		3		0.02		0.50		0.01		0.04		380												
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:04	9.0	M	4.50	2	8.07		31.65		29.9		90.6		6.12		1.43		3		2		0.02		0.50		0.01		0.04		300												
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:05	9.0	B	8.00	1	8.07	8.1	31.63	31.72	30.0	29.9	89.5	89.4	6.05	6.04	1.49	1.55	4	3.2	3	3	0.02	0.02	0.50	0.47	0.01	0.01	0.04	0.04	270	200											
C	26/07/2025	Mid-Flood	Sunny	Moderate	08:05	9.0	B	8.00	2	8.07		31.72		29.7		89.2		6.03		1.55		4		3		0.02		0.50		0.01		0.03		200												

Marine Water Quality Monitoring Results

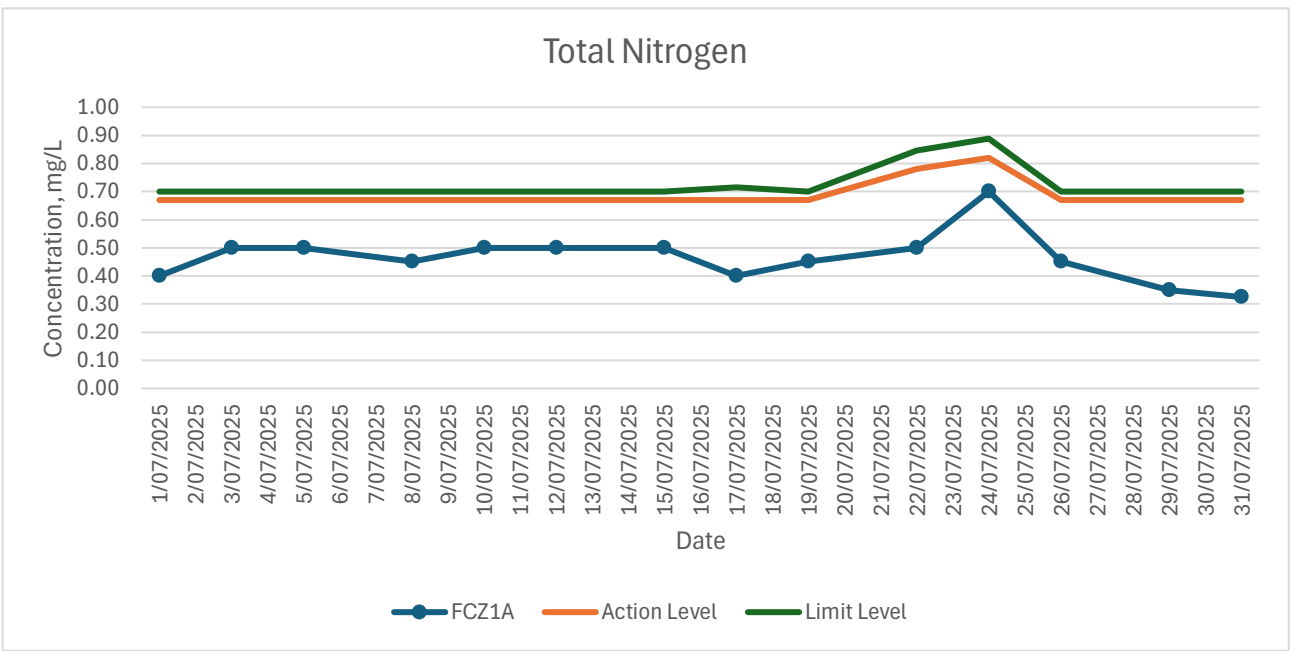
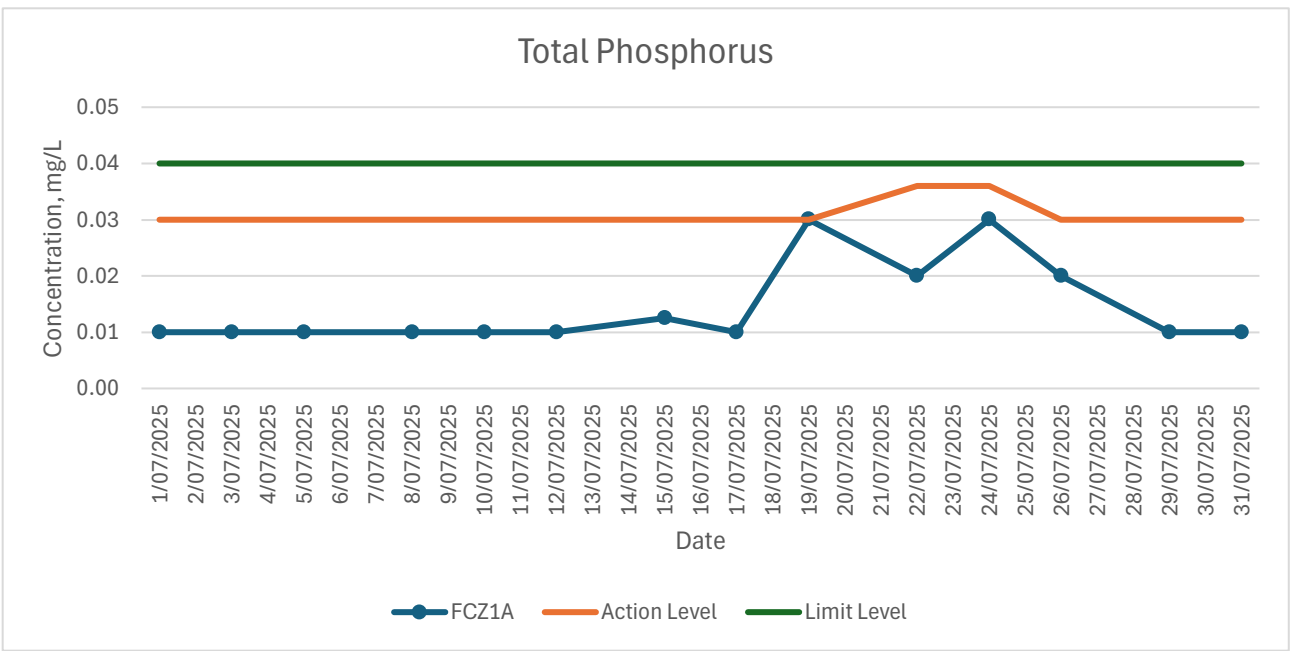
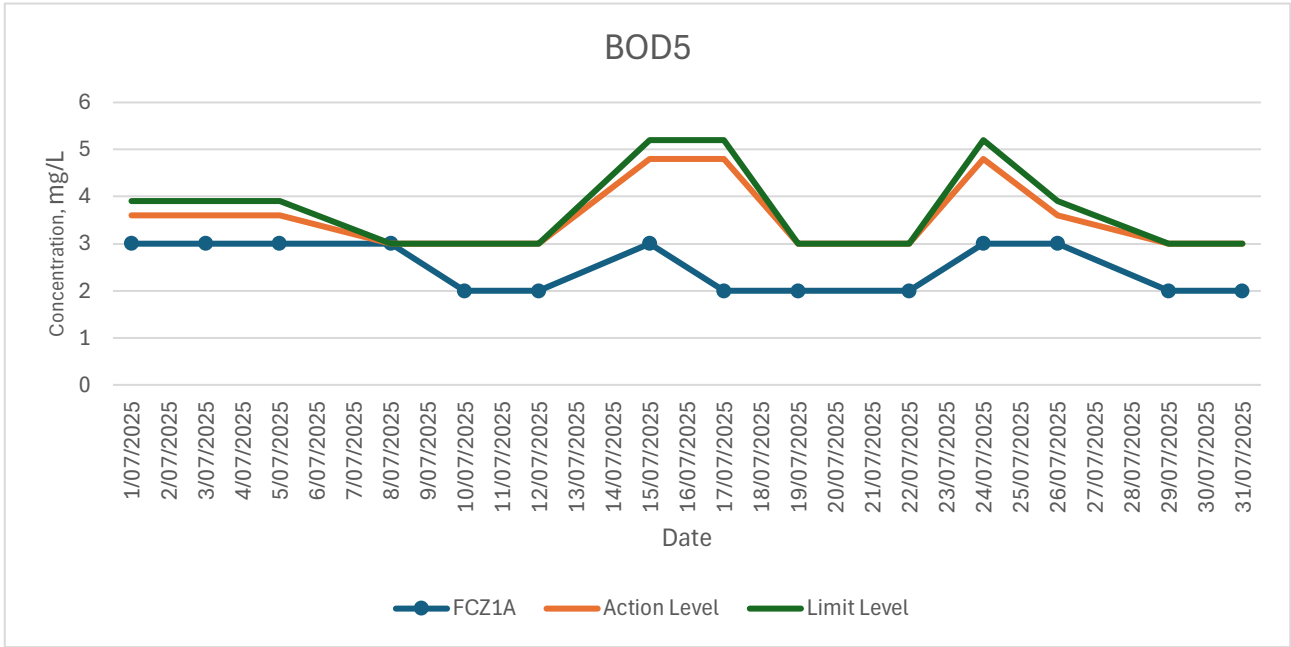
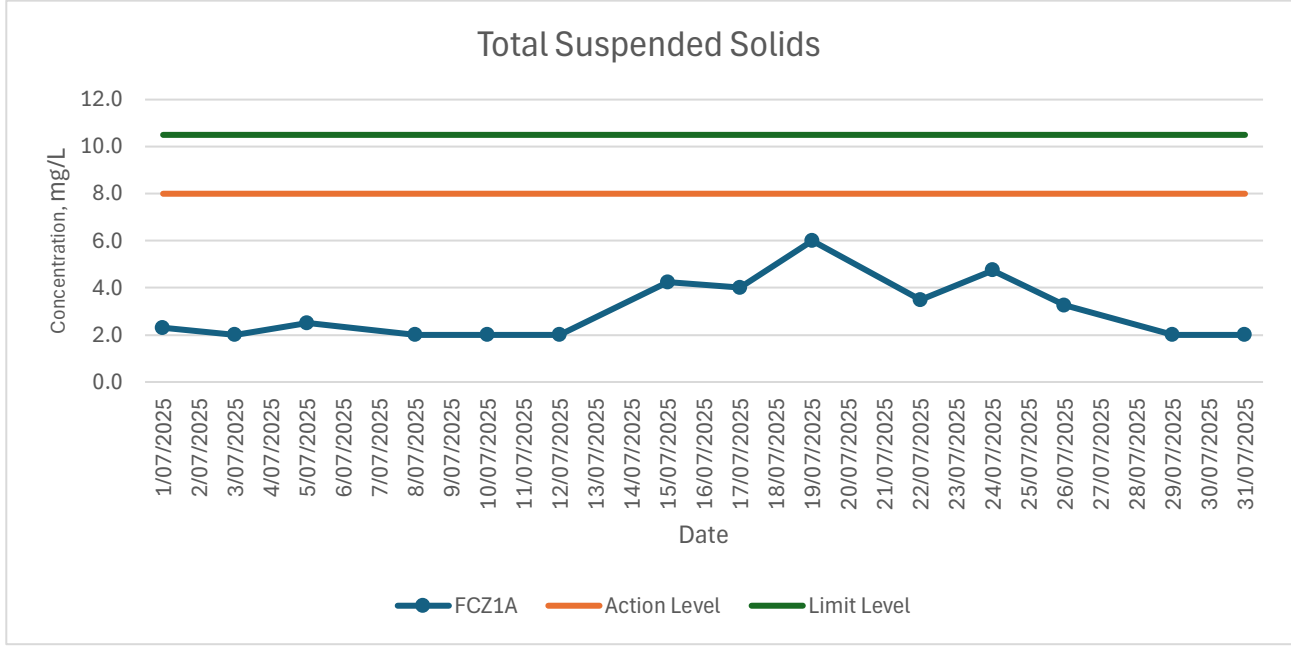
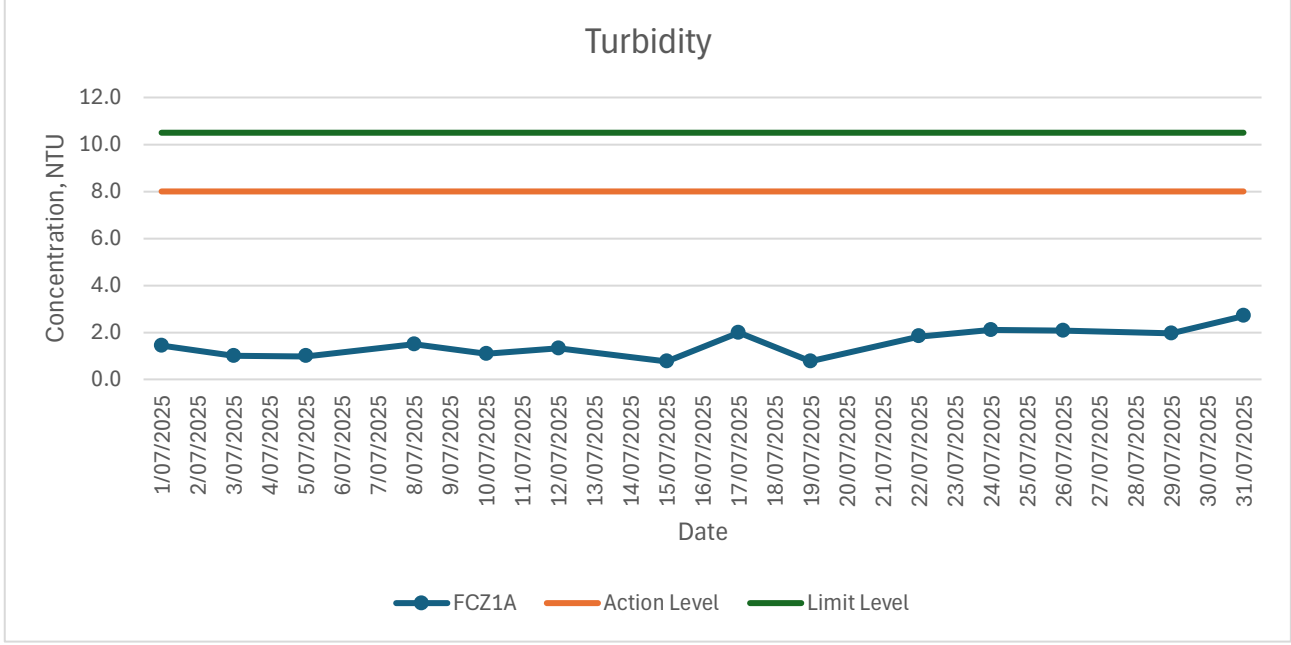
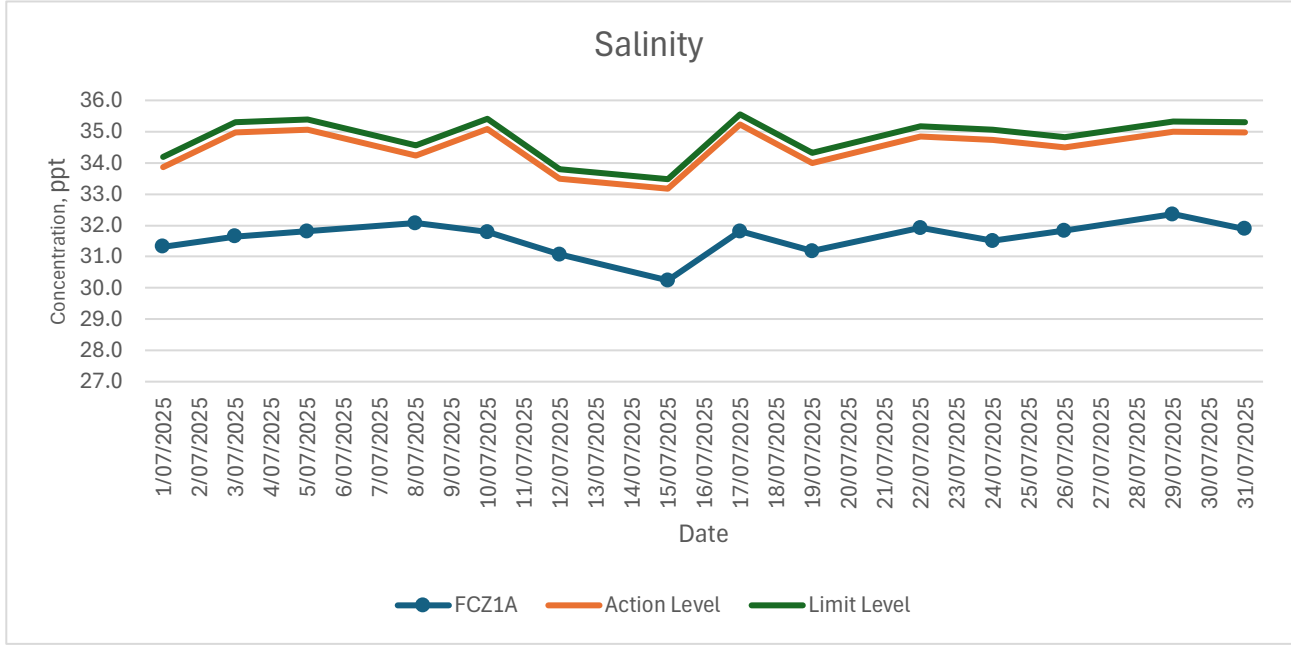
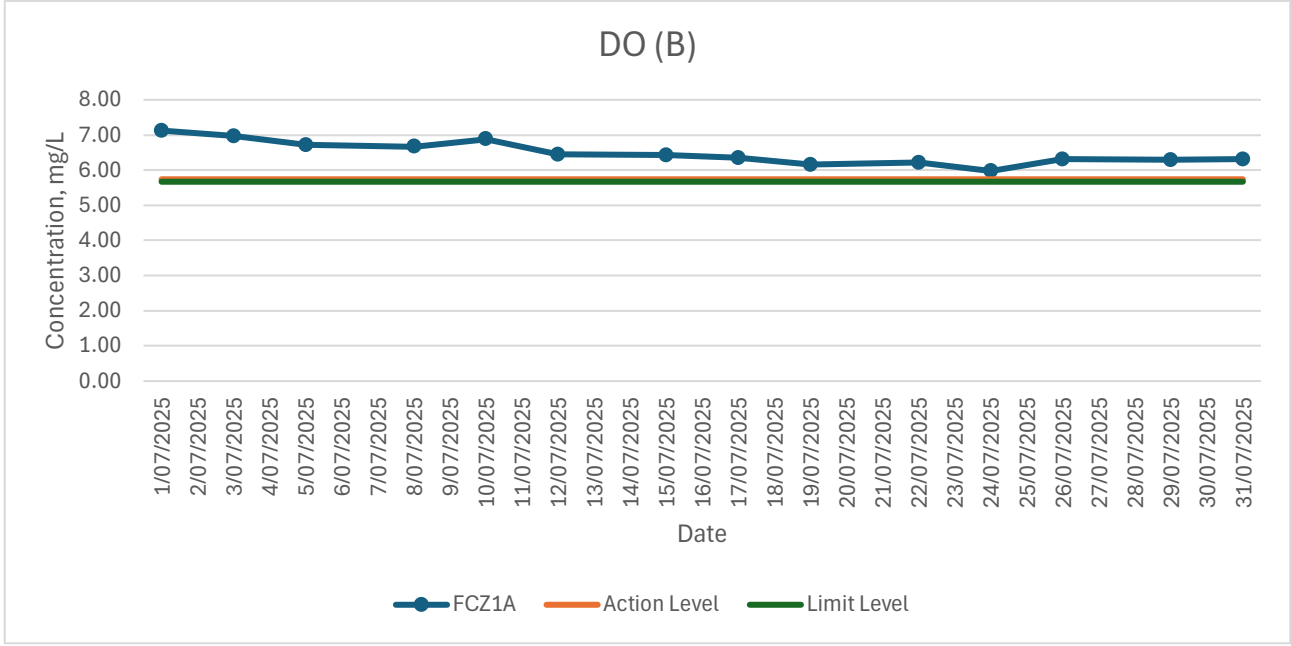
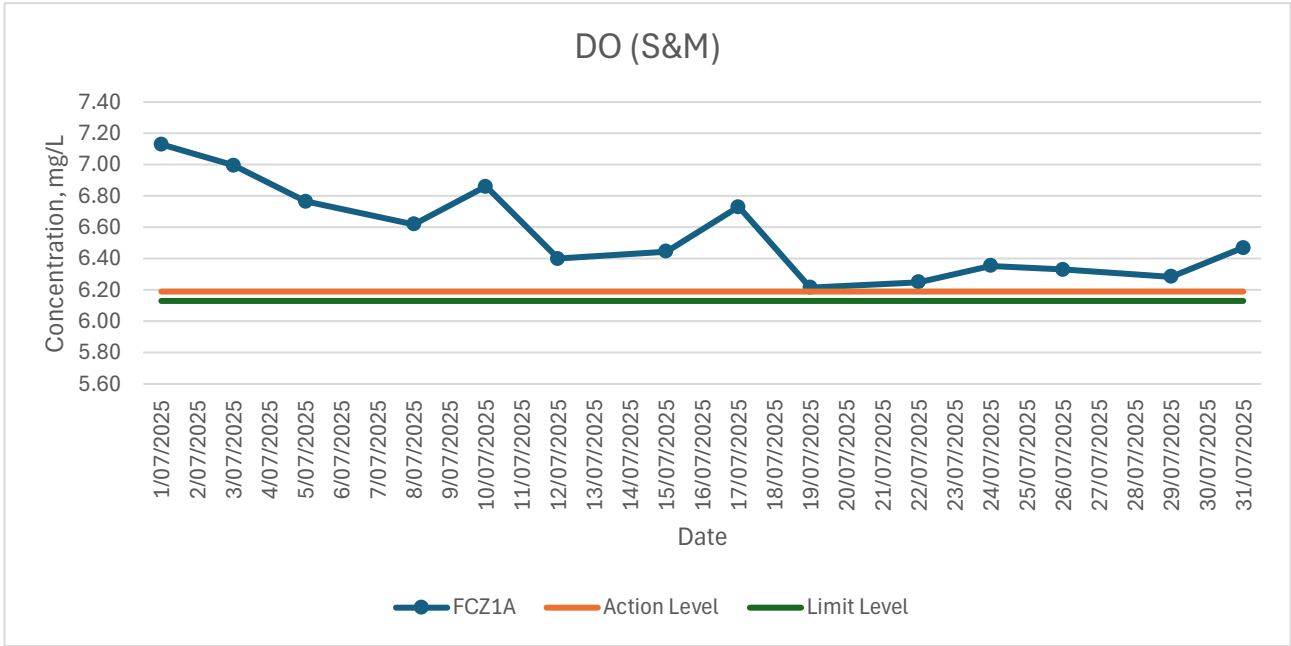
Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																								
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)										
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.									
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:21	3.9	S	1.00	1	8.06	8.1	32.37	32.4	28.3	28.2	91.2	91.2	6.29	6.29	2.06	1.96	2	2.0	2	2	0.01	0.01	0.40	0.35	0.01	0.01	0.02	0.02	1	1									
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:21	3.9	S	1.00	2	8.08		32.37		28.1		91.1		6.28		2.01		2		2		0.01		0.40		0.01		0.02		ND										
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate		3.9	M		1																																			
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate		3.9	M		2																																			
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:22	3.9	B	2.90	1	8.07	8.1	32.33	32.4	28.2	28.2	91.5	91.3	6.31	6.30	1.87	0.60	2	2.0	2	3	0.01	0.01	0.30	0.33	0.01	0.01	0.02	0.02	ND	2									
FCZ1A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:22	3.9	B	2.90	2	8.07		32.38		28.2		91.1		6.28		1.89		2		2		0.01		0.30		0.01		0.02		1										
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate	09:37	5.2	S	1.00	1	8.01		32.44		28.0		28.0		92.5		92.4		6.38		6.37		0.65		2		3		3		0.01	0.01	0.30	0.33	0.01	0.01	0.02	0.02	2	2	
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate	09:37	5.2	S	1.00	2	8.03		32.42		27.9				92.2				6.36				0.69		2		3				0.02		0.40		0.01		0.02		2		
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		1																																			
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate		5.2	M		2																																			
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate	09:38	5.2	B	4.20	1	8.02	8.0	32.31	32.4	28.1	28.1	90.6	90.1	6.25	6.21	0.53	0.60	2	2.0	2	3	0.01	0.01	0.30	0.33	0.01	0.01	0.02	0.02	ND	2									
FCZ2	29/07/2025	Mid-Flood	Cloudy	Moderate	09:38	5.2	B	4.20	2	8.01		32.37		28.1		89.5		6.17		0.51		2		2		0.01		0.30		0.01		0.02		ND										
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate		2.6	S		1																																			
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate		2.6	S		2																																			
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate	11:35	2.6	M	1.30	1	8.11	8.1	32.45	32.4	28.1	28.1	93.4	93.6	6.44	6.45	0.77	0.73	2	2.0	3	3	0.02	0.01	0.40	0.35	0.01	0.01	0.02	0.02	ND	ND									
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate	11:35	2.6	M	1.30	2	8.1		32.33		28		93.7		6.46		0.69		2		3		0.01		0.30		0.01		0.02		ND										
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate		2.6	B		1																																			
SGA	29/07/2025	Mid-Flood	Cloudy	Moderate		2.6	B		2																																			
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		1		8.0		32.6		28.7		90.6		6.25		2.59		2.0		3		0.01		0.30		0.33		0.01											
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		2																																			
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate	10:03	2.9	M	1.45	1	8.04		32.58		28.8		90.9		6.27		2.48		2		3		0.01		0.30		0.01		0.02		1										
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate	10:03	2.9	M	1.45	2	8.04		32.62		28.6		90.3		6.23		2.69		2		3		0.01		0.30		0.01		0.02		ND										
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		1																																			
M6A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																			
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.7	S		1																																			
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.7	S		2																																			
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:11	2.7	M	1.35	1	8.09	8.1	31.90	31.9	28.5	28.5	90.8	90.2	6.26	6.22	0.62	0.68	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.02	2	1									
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate	11:11	2.7	M	1.35	2	8.09		31.95		28.4		89.6		6.18		0.73		2		2		0.01		0.30		0.01		0.02		1										
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.7	B		1																																			
H4A	29/07/2025	Mid-Flood	Cloudy	Moderate		2.7	B		2																																			
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:28	6.7	S	1.00	1	8.09	8.1	32.19	32.1	28.4	28.3	90.0	88.9	6.21	6.13	1.36	1.24	2	2.0	3	3	0.01	0.01	0.40	0.33	0.01	0.01	0.02	0.02	3	2									
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:28	6.7	S	1.00	2	8.10		32.14		28.2		89.9		6.2		1.32		2		4		0.01		0.40		0.01		0.02		ND										
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:29	6.7	M	3.35	1	8.09		32.11		28.3		88.2		6.08		1.25		2		3		0.02		0.30		0.01		0.02		1										
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:29	6.7	M	3.35	2	8.10		32.11		28.3		87.6		6.04		1.2		2		2		0.01		0.30		0.01		0.02		ND										
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:30	6.7	B	5.70	1	8.11	8.1	32.16	32.1	28.1	28.2	86.6	86.3	5.97	5.95	1.16	1.61	2	2.0	3	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.02	ND	2									
N2	29/07/2025	Mid-Flood	Cloudy	Moderate	10:30	6.7	B	5.70	2	8.10		32.17		28.2		86.0		5.93		1.12		2		2		0.01		0.30		0.01		0.02		ND										
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:09	8.6	S	1.00	1	8.05		32.11		28.6	28.6	90.2	89.0	6.22	6.14	1.68		2		2	2	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.02	3	2					
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:09	8.6	S	1.00	2	8.04	32.04	28.6	89.6	6.18		1.65		2		2	0.01	0.30	0.01	0.02		1																		
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:10	8.6	M	4.30	1	8.06	32.06	28.9	88.3	6.09		1.6		2		2	0.02	0.30	0.01	0.02		2																		
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:10	8.6	M	4.30	2	8.05	32.12	28.9	88.0	6.07		1.59		2		2	0.02	0.30	0.01	0.02		1																		
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:11	8.6	B	7.60	1	8.04	8.0	32.16	32.1	28.8	28.8	86.6	86.4	5.97	5.96	1.55	1.57	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.02	1	2									
C	29/07/2025	Mid-Flood	Cloudy	Moderate	09:11	8.6	B	7.60	2	8.05		32.14		28.7		86.1		5.94		1.57		2		2		0.01		0.30		0.01		0.02		2										

Marine Water Quality Monitoring Results

Monitoring Location	Date	Tide Mode	Weather	Sea Condition	Time	Water Depth (m)	Monitoring Level	Monitoring Level (m)	Replicate	In-Situ Monitoring										Laboratory Analysis																									
										pH		Salinity (ppt)		Temperature (degree C)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total Suspended Solids (mg/L)		BOD5 (mg/L)		Total Phosphorus (mg/L)		Total Nitrogen (mg/L)		Ammonia Nitrogen (mg/L)		Total Inorganic Nitrogen (mg/L)		E.coli (CFU/100mL)											
										Value	Ave.	Value	Depth Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.	Value	Depth Ave.										
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:42	4.0	S	1.00	1	8.15	8.1	31.91	31.9	29.2	29.2	94.8	95.1	6.45	6.47	2.81	2.69	2	2.0	2	2	0.01	0.01	0.30	0.33	0.01	0.01	0.02	0.03	120	112										
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:42	4.0	S	1.00	2	8.14		31.91		29.2		95.4		6.49		2.79		2		2		0.01		0.40		0.01		0.02		110											
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate		4.0	M		1																																				
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate		4.0	M		2																																				
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:43	4.0	B	3.00	1	8.14	8.1	31.87		29.3	29.3	93.2	92.7	6.34	6.31	2.62		2		2	2	0.01	0.01	0.30		0.01	0.01	0.03	0.03	100	120										
FCZ1A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:43	4.0	B	3.00	2	8.15		31.85		29.3		92.2		6.27		2.55		2		2		0.01		0.30		0.01		0.03		120											
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:02	5.5	S	1.00	1	8.05	8.1	32.33		29.0	29.0	97.9	97.6	6.66	6.64	1.34		2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.03	0.02	140	110										
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:02	5.5	S	1.00	2	8.06		32.42		29.0		97.3		6.62		1.42		2		2		0.01		0.30		0.01		0.02		110											
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate		5.5	M		1																																				
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate		5.5	M		2																																				
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:03	5.5	B	4.50	1	8.06	8.1	32.32		29.2	29.2	94.8	95.1	6.45	6.47	1.33		2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.03	130	124										
FCZ2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:03	5.5	B	4.50	2	8.05		32.19		29.1		95.3		6.48		1.35		2		2		0.01		0.30		0.01		0.03		120											
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		1		N/A																																		
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate		2.3	S		2																																				
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate	11:54	2.3	M	1.15	1	8.05		32.63	32.6	28.9	28.9	90.0	90.4	6.12	6.15	1.99	1.94	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.03	0.03	160	179										
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate	11:54	2.3	M	1.15	2	8.05		32.62		28.9		90.7		6.17		1.88		2		2		0.01		0.30		0.01		0.02		200											
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		1																																				
SGA	31/07/2025	Mid-Flood	Cloudy	Moderate		2.3	B		2																																				
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.6	S		1		N/A																																		
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.6	S		2																																				
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate	10:27	2.6	M	1.30	1	8.09		32.26	32.3	28.9	28.9	93.5	94.0	6.36	6.39	3.48	3.58	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.02	180	164										
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate	10:27	2.6	M	1.30	2	8.08		32.30		28.9		94.4		6.42		3.67		2		2		0.01		0.30		0.01		0.02		150											
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.6	B		1																																				
M6A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.6	B		2																																				
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		1		N/A																																		
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.9	S		2																																				
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:31	2.9	M	1.45	1	8.09		32.44	32.4	29.3	29.4	91.7	91.5	6.24	6.23	1.94	1.88	2	2.0	2	2	0.01	0.01	0.30	0.30	0.01	0.01	0.02	0.03	120	130										
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate	11:31	2.9	M	1.45	2	8.08		32.42		29.5		91.3		6.21		1.81		2		2		0.01		0.30		0.01		0.03		140											
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		1																																				
H4A	31/07/2025	Mid-Flood	Cloudy	Moderate		2.9	B		2																																				
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:49	6.8	S	1.00	1	8.12	8.1	32.27	32.3	28.8	28.9	91.6	91.6	6.23	6.23	1.61	1.57	2	2.0	2	2	0.01	0.01	0.30	0.35	0.01	0.01	0.02	0.03	110	173										
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:49	6.8	S	1.00	2	8.11		32.39		28.9		92.5		6.29		1.67		2		2		0.01		0.50		0.01		0.03		150											
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:50	6.8	M	3.40	1	8.11		32.24		28.7		91.6		6.23		1.53		2		2		0.01		0.30		0.01		0.02		210											
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:50	6.8	M	3.40	2	8.11		32.20		28.7		90.6		6.16		1.48		2		2		0.01		0.40		0.01		0.02		170											
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:51	6.8	B	5.80	1	8.12	8.1	32.31		28.9	28.9	90.0	90.1	6.12	6.13	1.54		2		2	2	0.01	0.01	0.30		0.01	0.01	0.03	0.03	230											
N2	31/07/2025	Mid-Flood	Cloudy	Moderate	10:51	6.8	B	5.80	2	8.12		32.26		28.8		90.1		6.13		1.59		2		2		0.01		0.30		0.01		0.03		200											
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:35	8.5	S	1.00	1	8.09	8.1	32.14		29.7	29.7	91.1	91.3	6.2	6.21	2.38		2	2.0	2	2	0.01	0.01	0.30	0.35	0.01	0.01	0.02	0.03	210	206										
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:35	8.5	S	1.00	2	8.09		32.01		29.6		92.0		6.26		2.27		2		2		0.01		0.30		0.01		0.02		240											
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:36	8.5	M	4.25	1	8.09		32.10		29.6		90.8		6.18		2.17		2		2		0.01		0.40		0.01		0.03		190											
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:36	8.5	M	4.25	2	8.09		32.15		29.7		91.3		6.21		2.09		2		2		0.01		0.30		0.01		0.02		180											
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:37	8.5	B	7.50	1	8.09	8.1	32.03		29.7	29.6	91.3	91.7	6.21	6.24	2.04		2		2	2	0.01	0.01	0.50		0.01	0.03	220													
C	31/07/2025	Mid-Flood	Cloudy	Moderate	09:37	8.5	B	7.50	2	8.09		32.09		29.5		92.0		6.26		1.96		2		2		0.01		0.30		0.01		0.03		200											

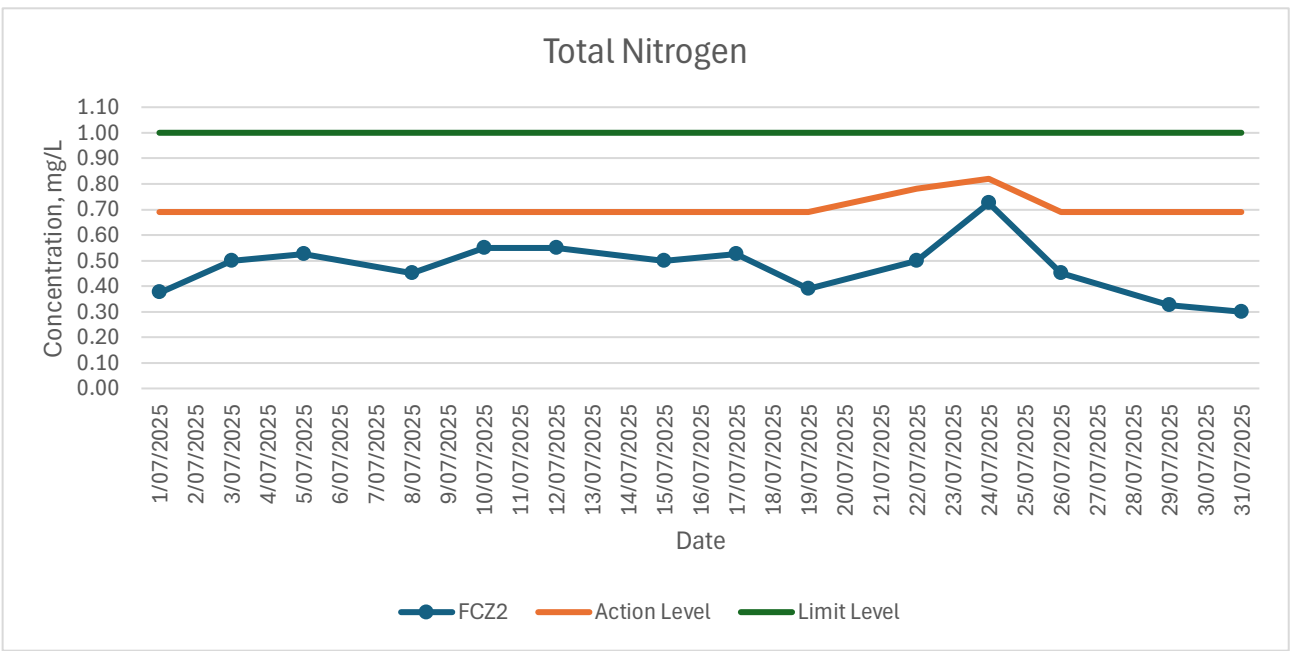
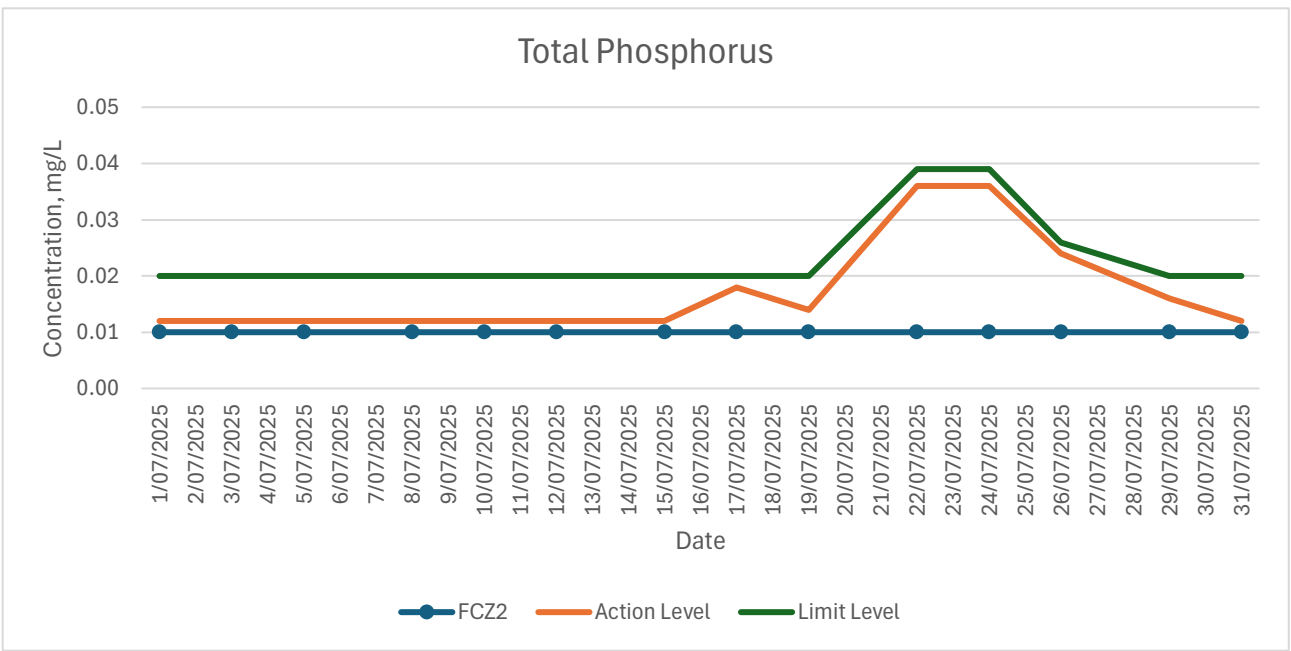
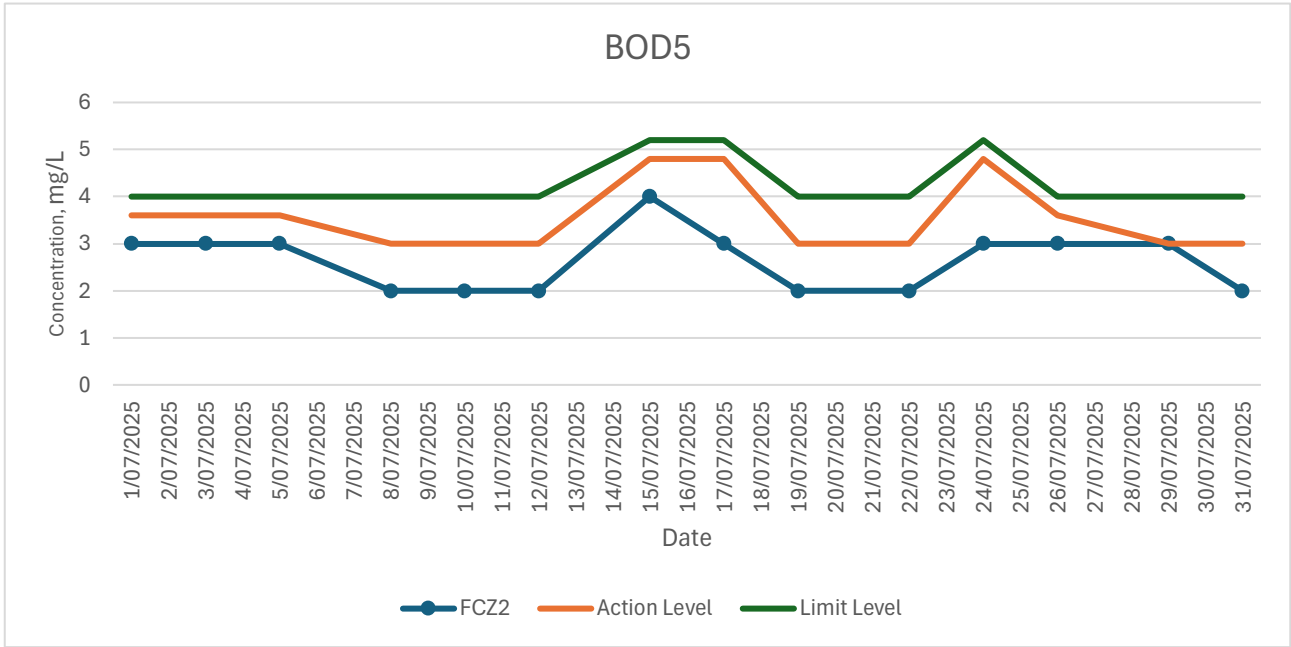
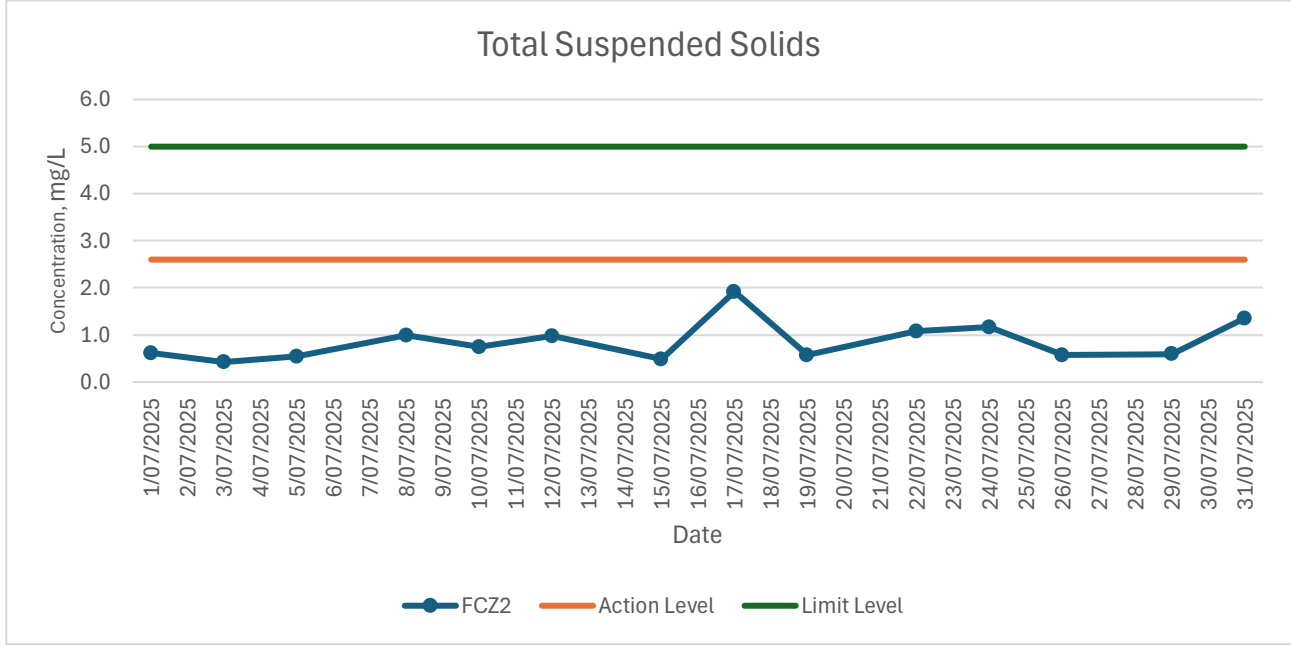
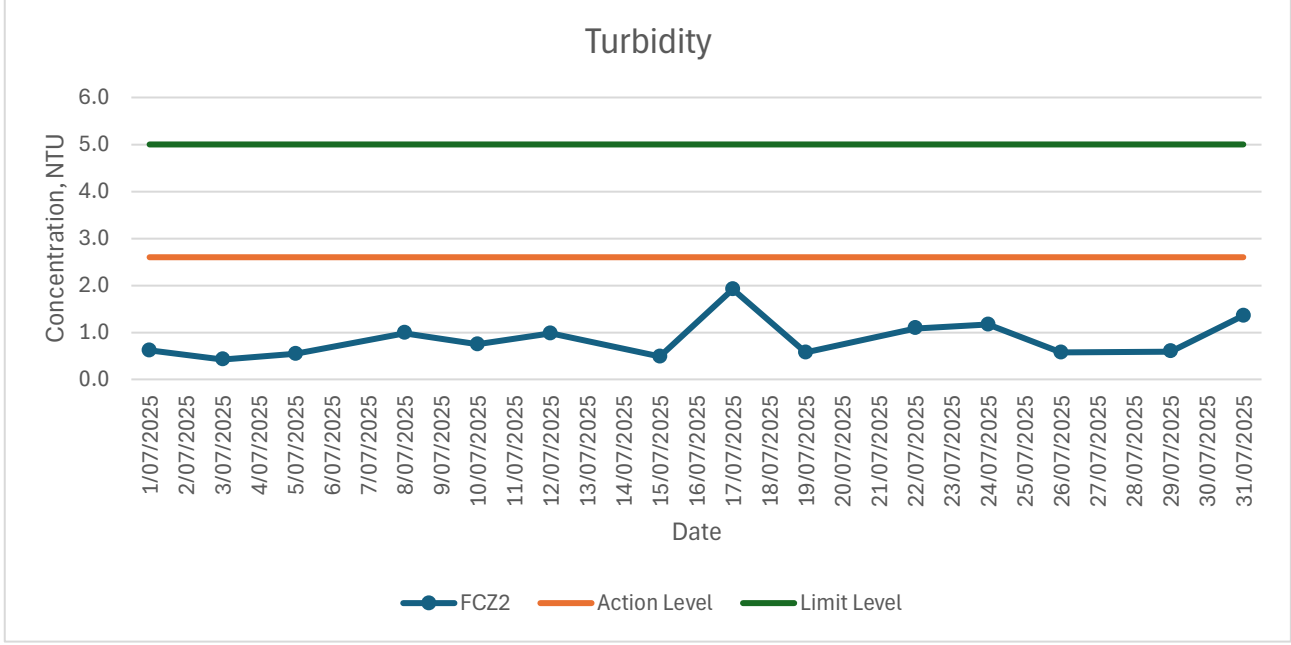
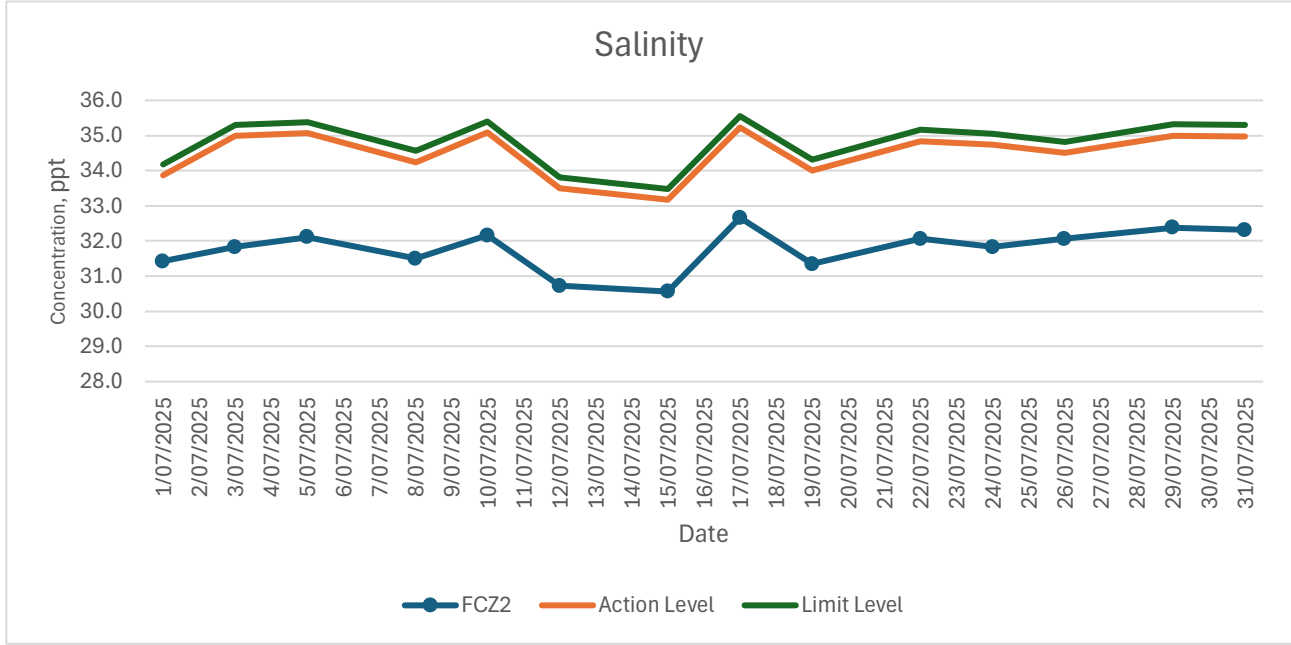
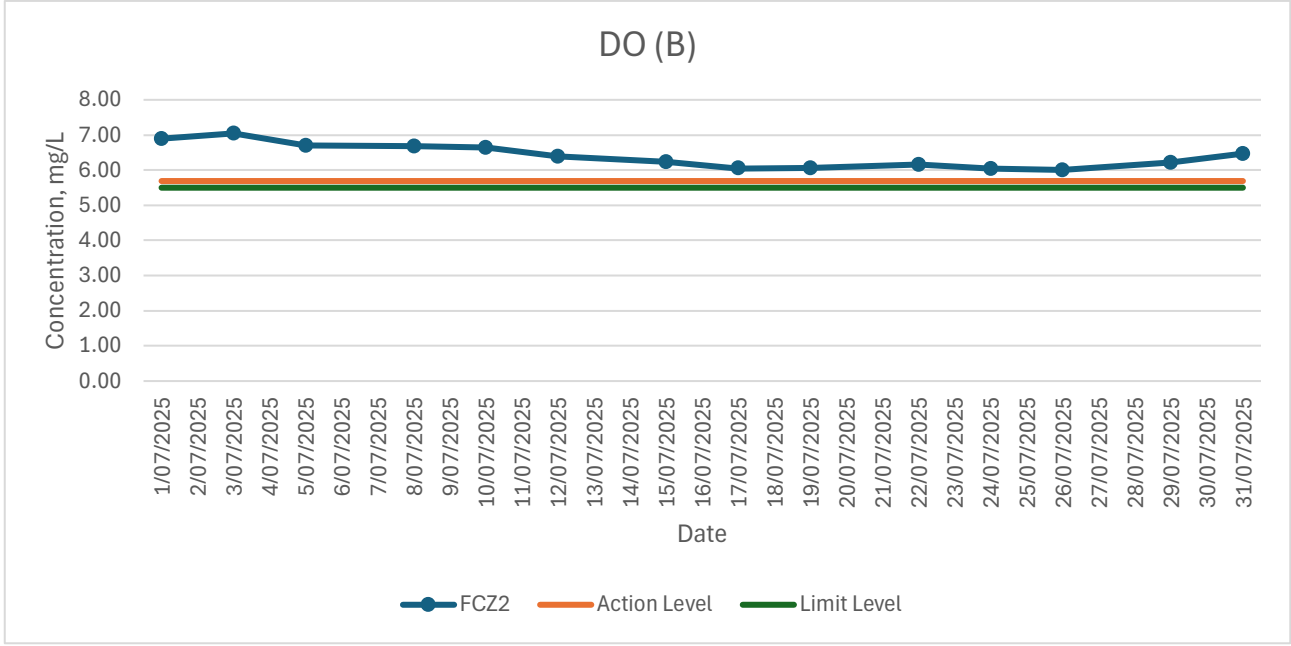
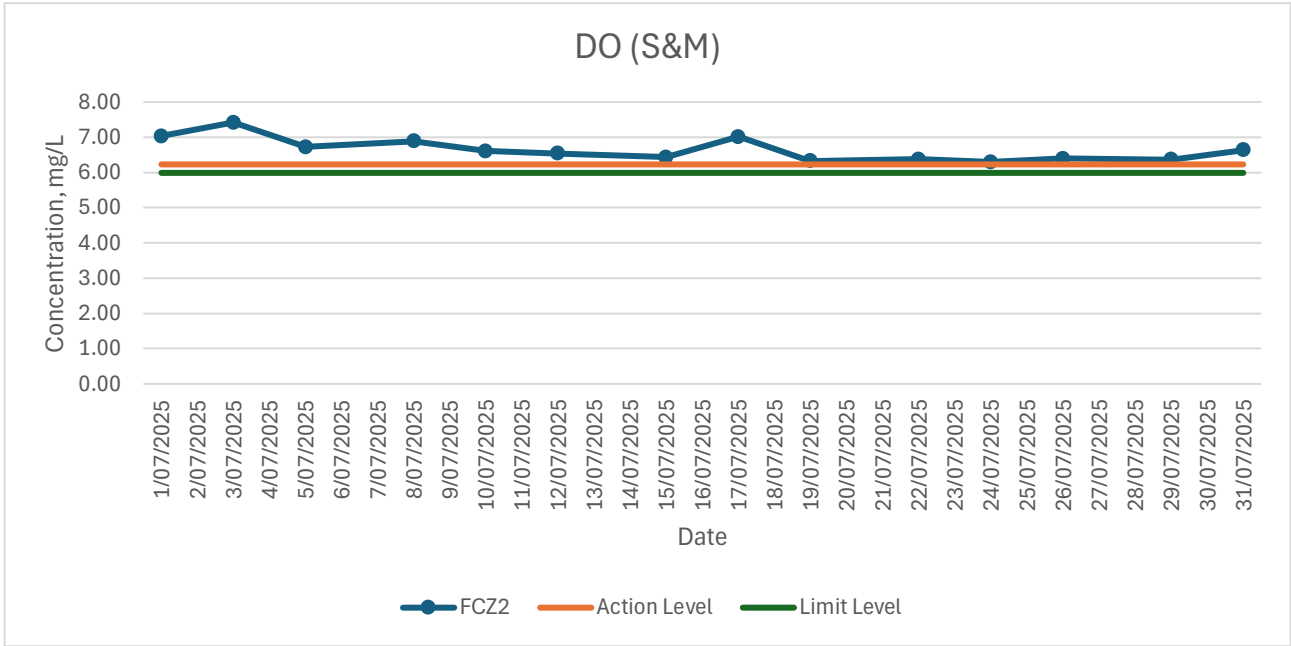
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



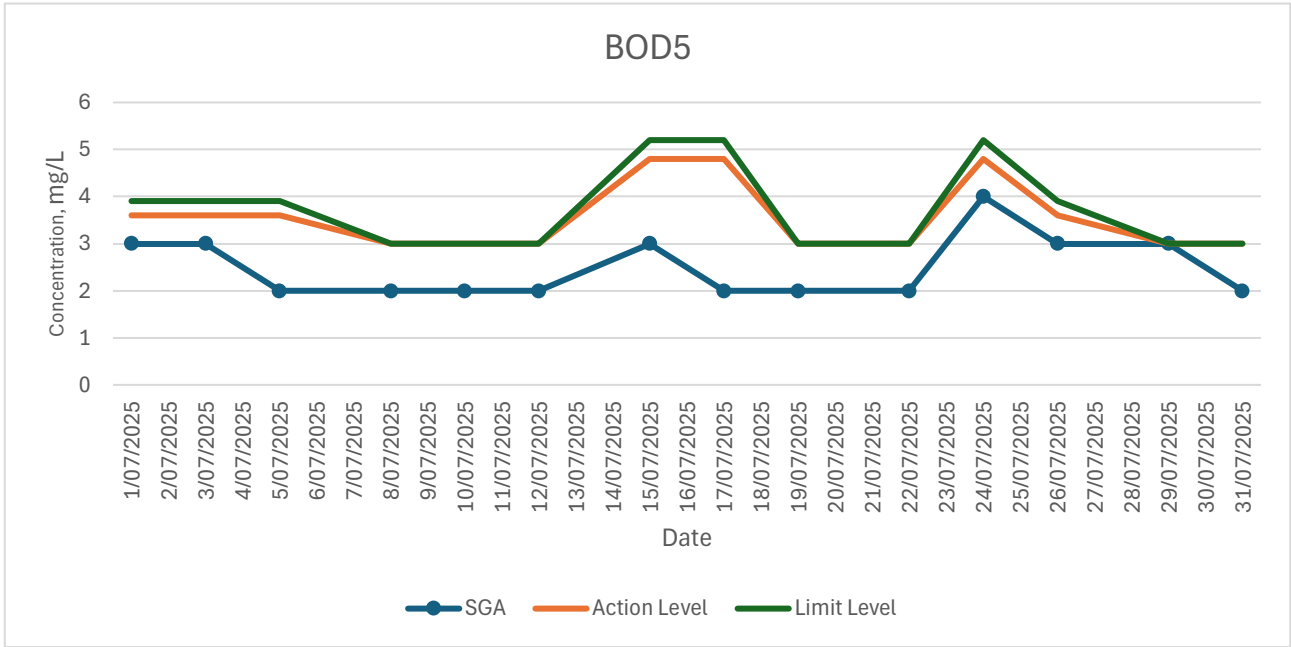
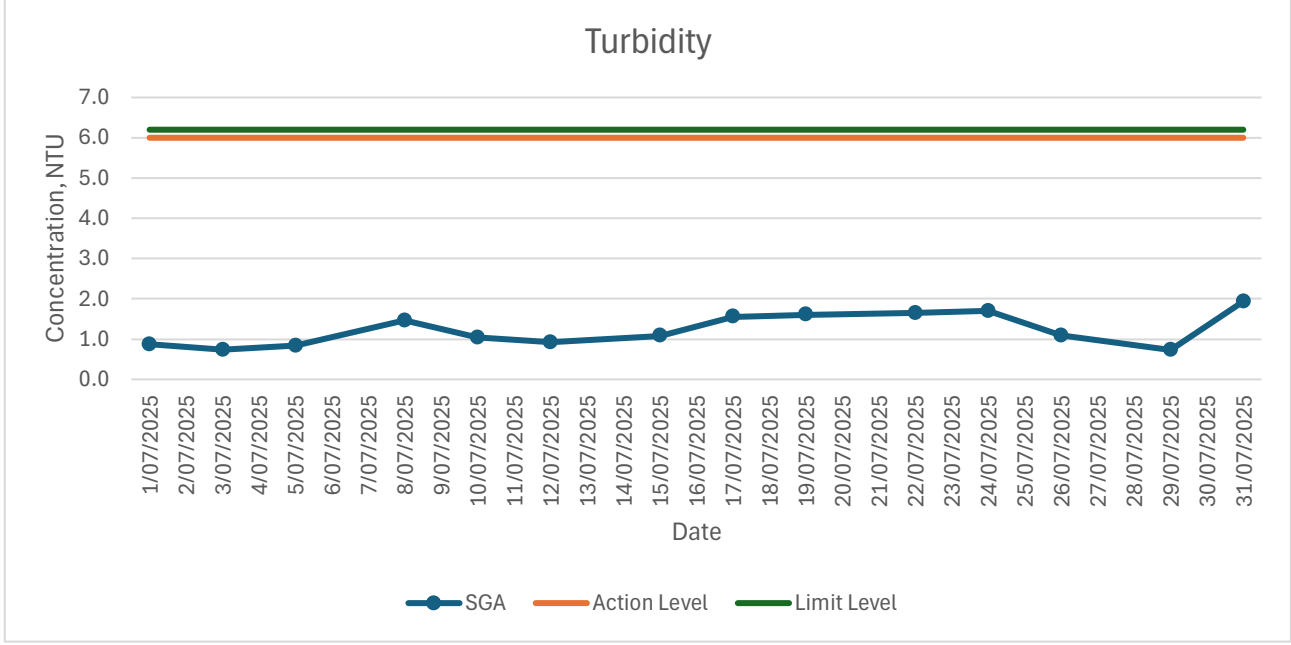
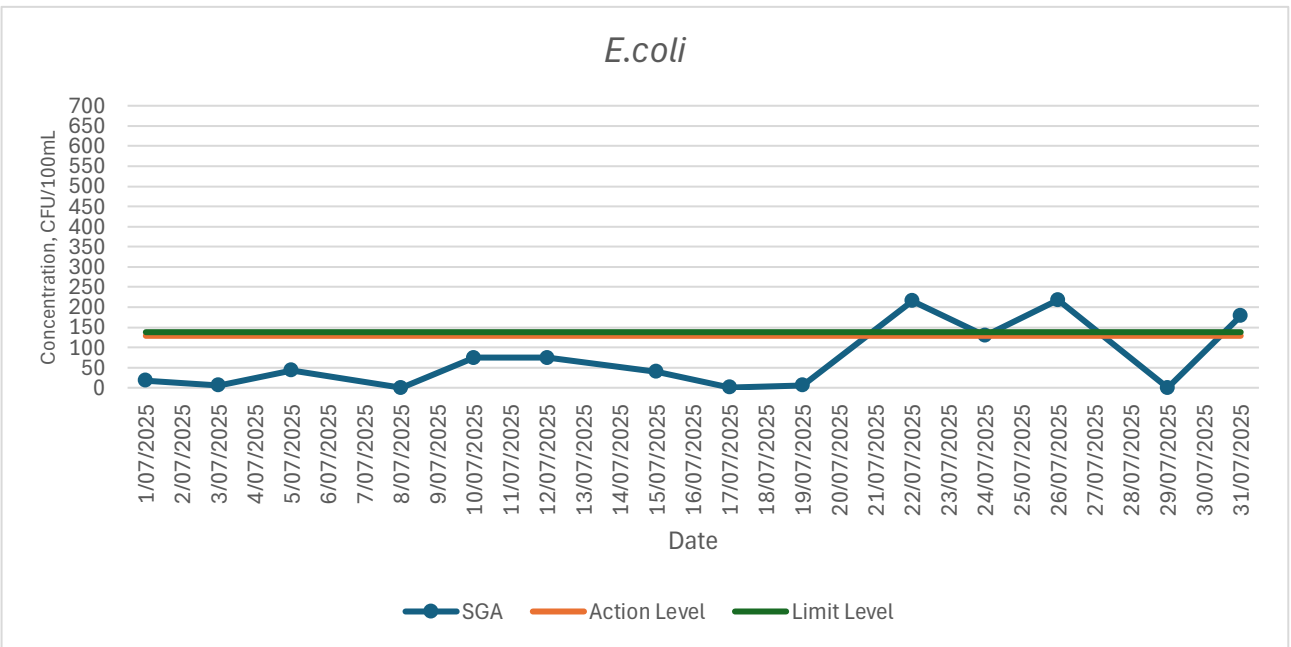
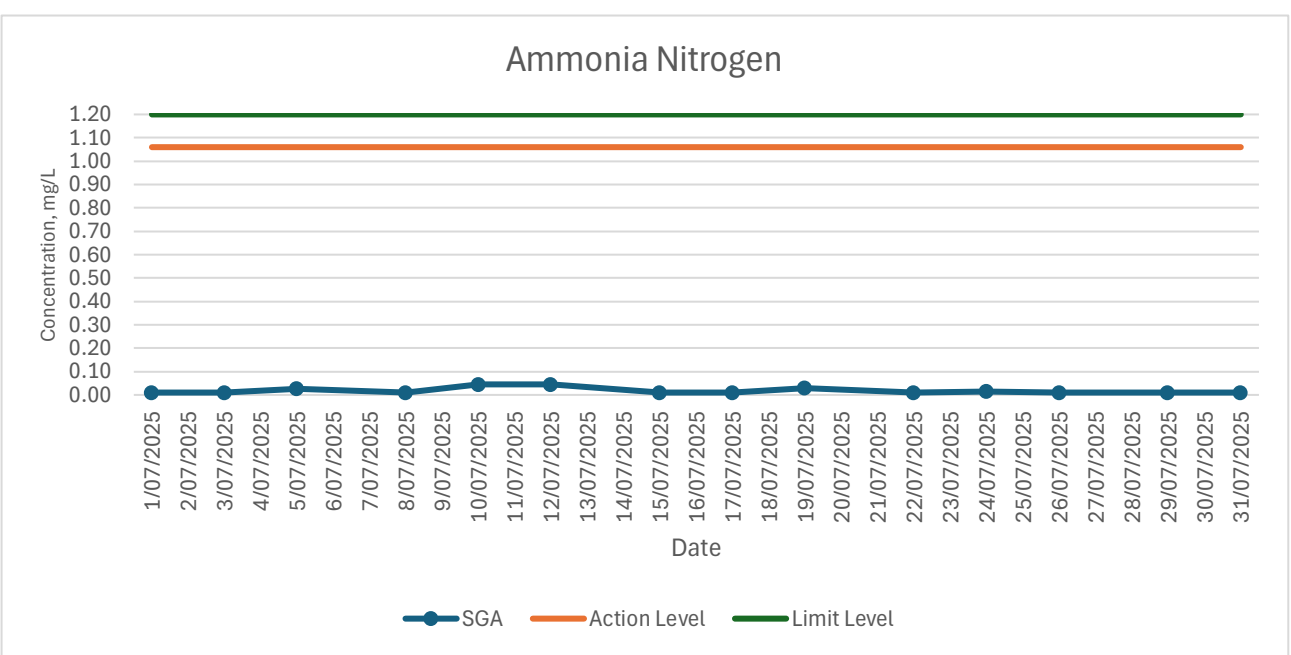
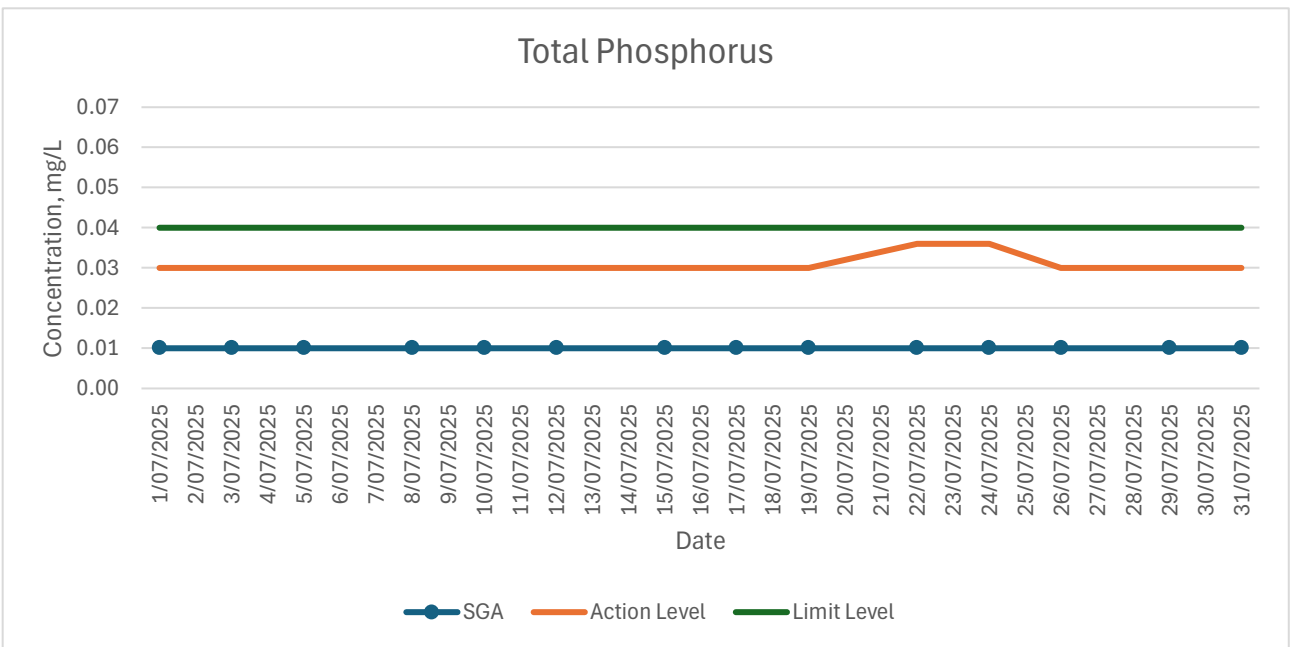
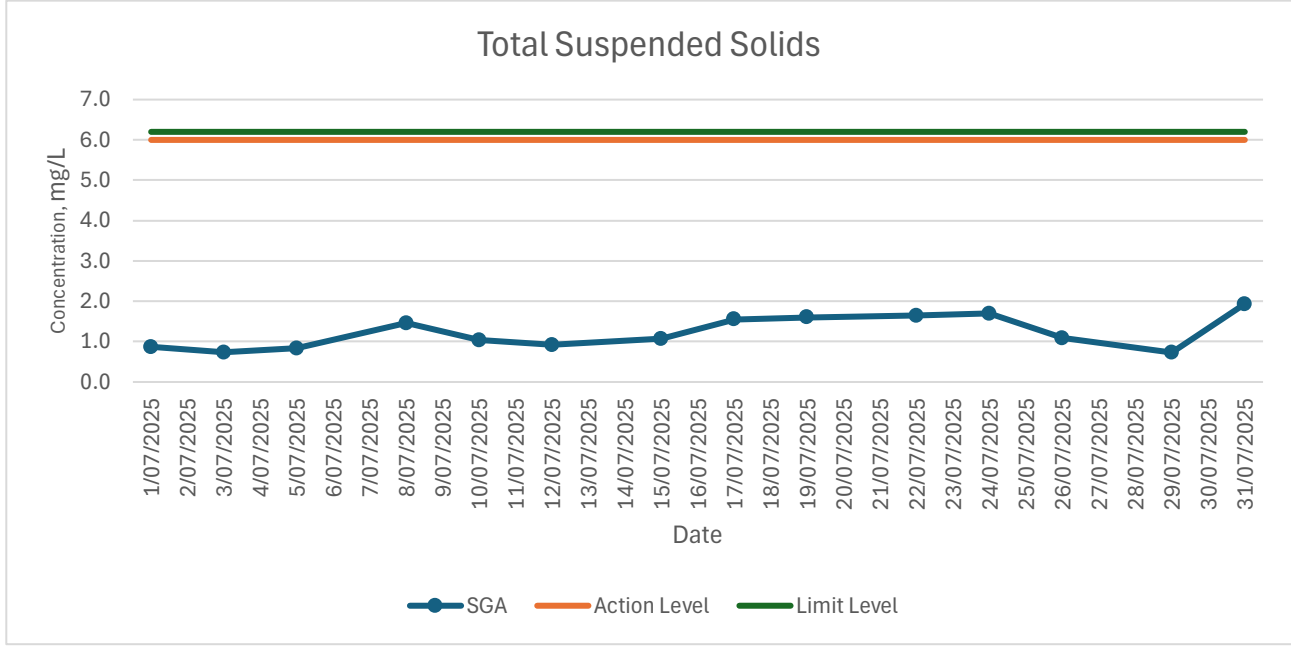
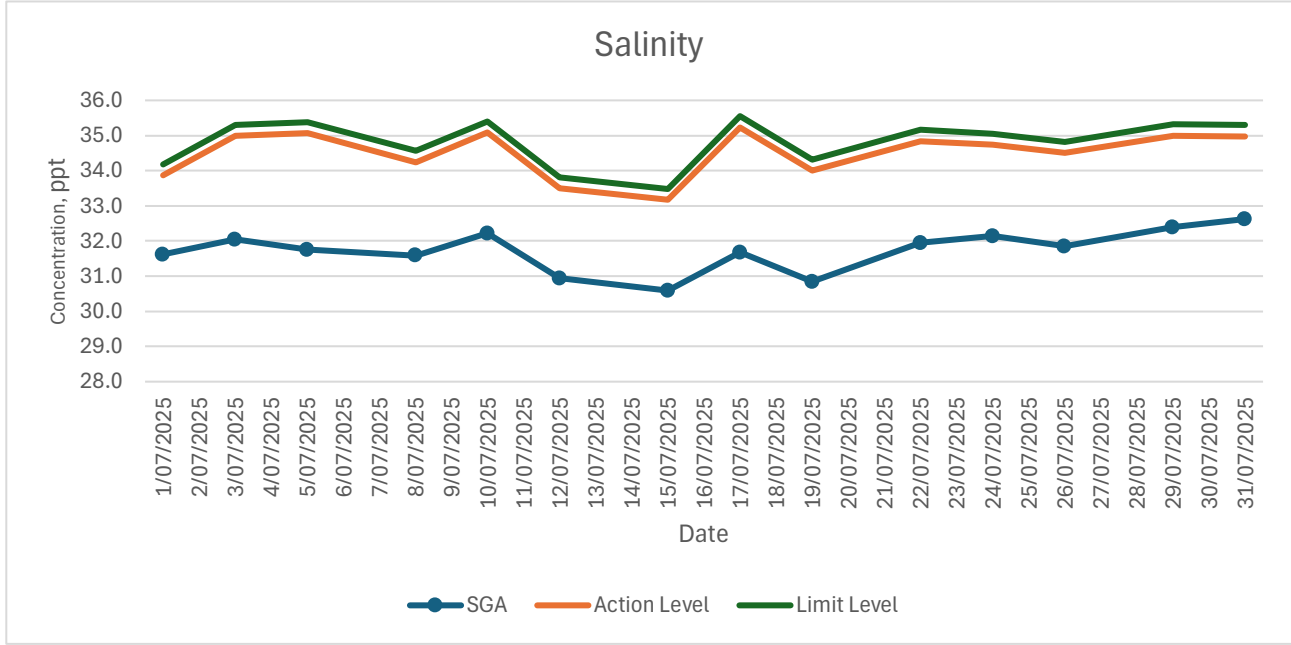
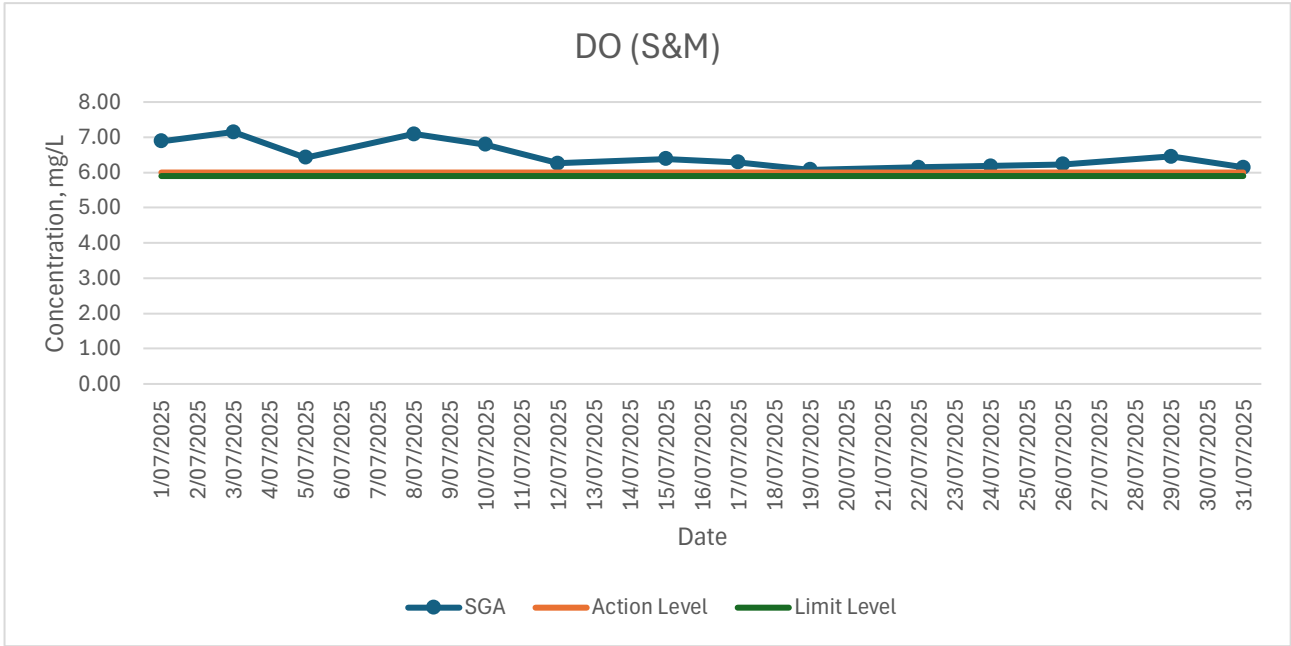
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



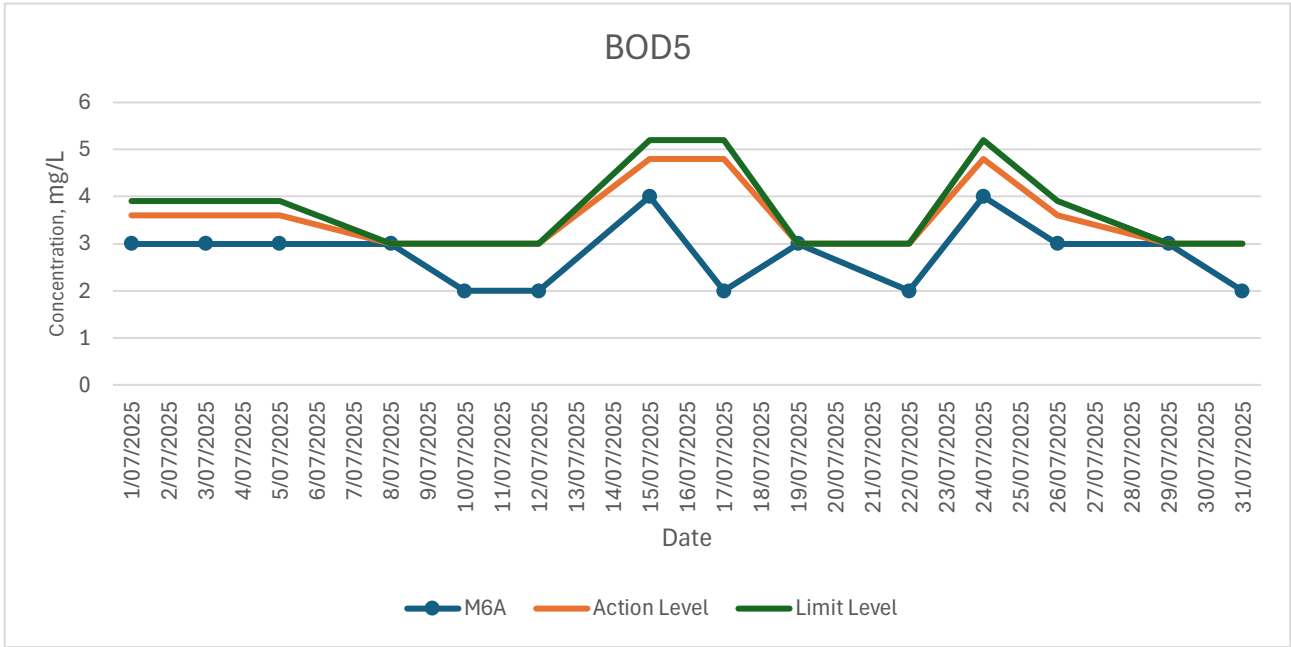
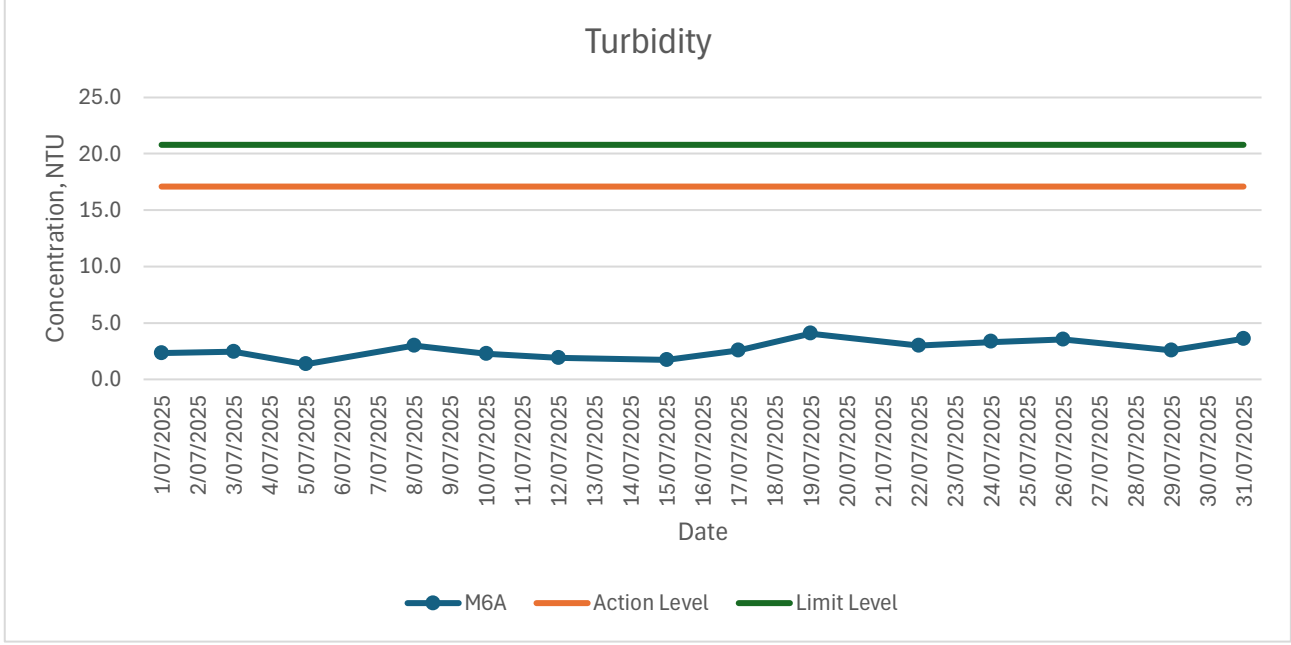
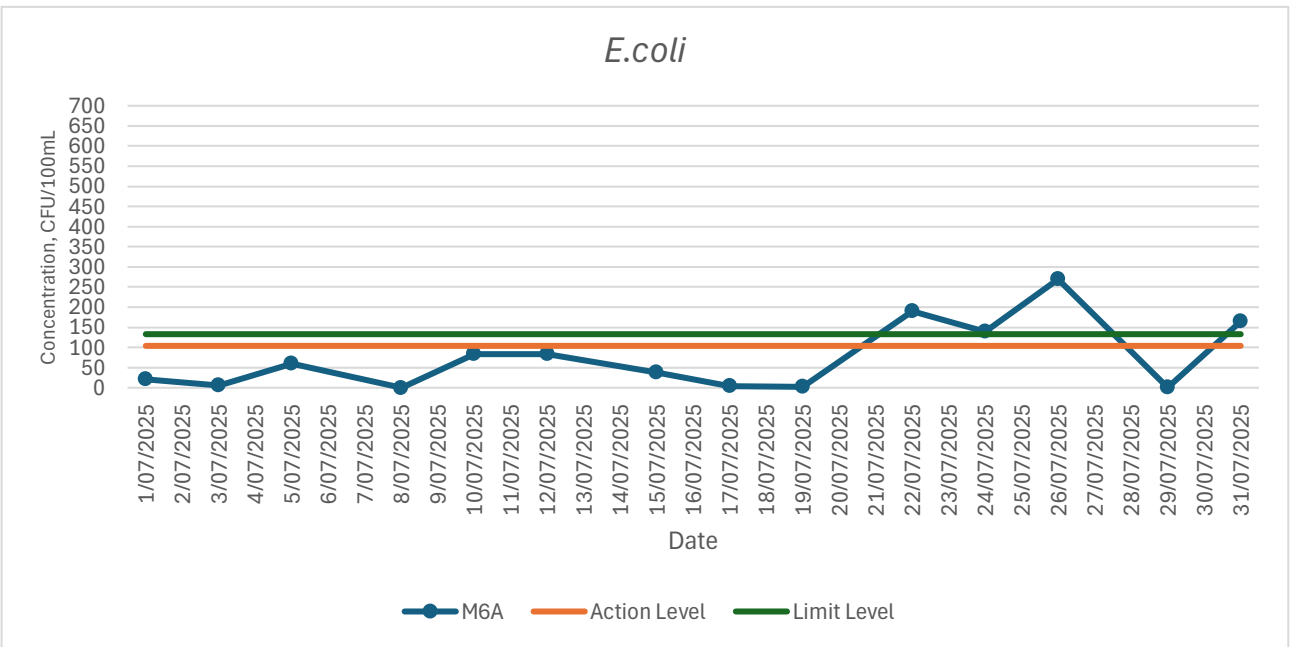
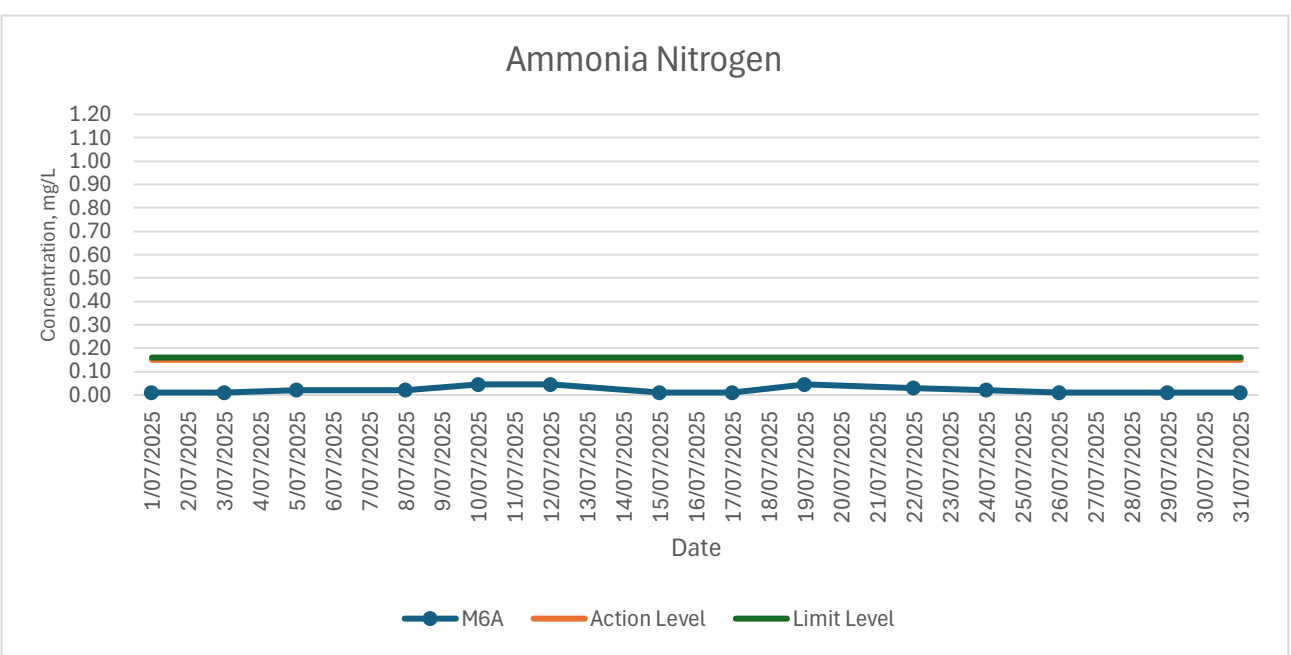
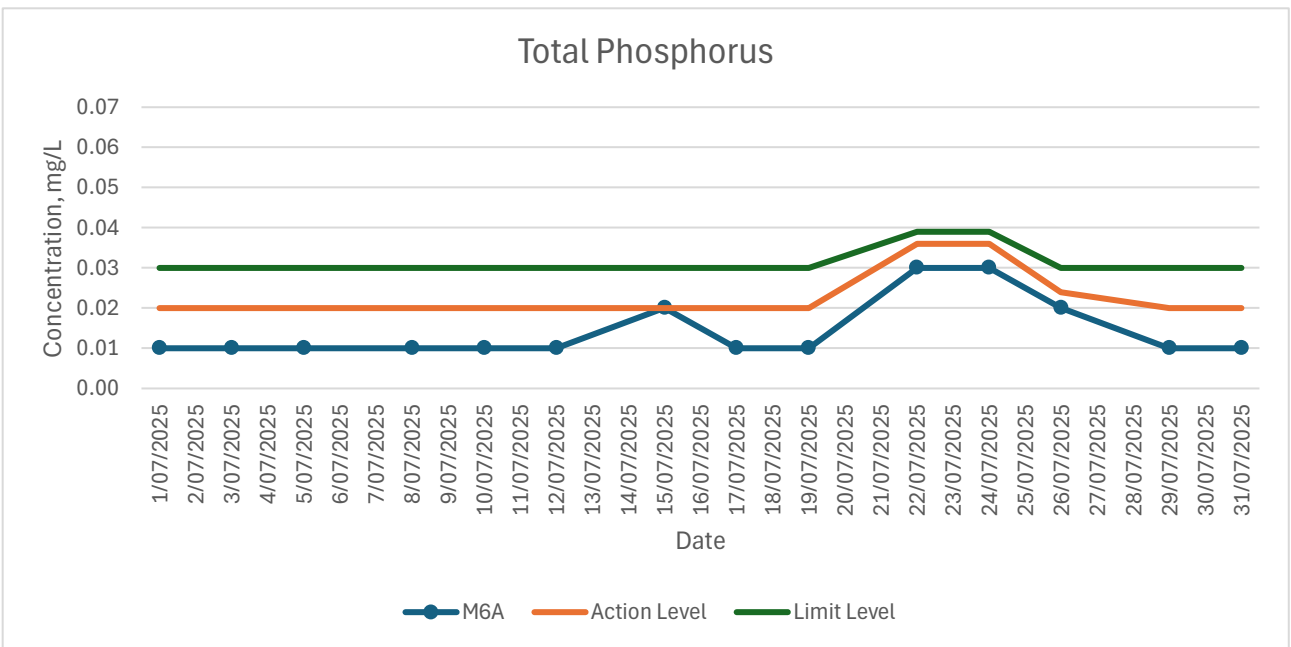
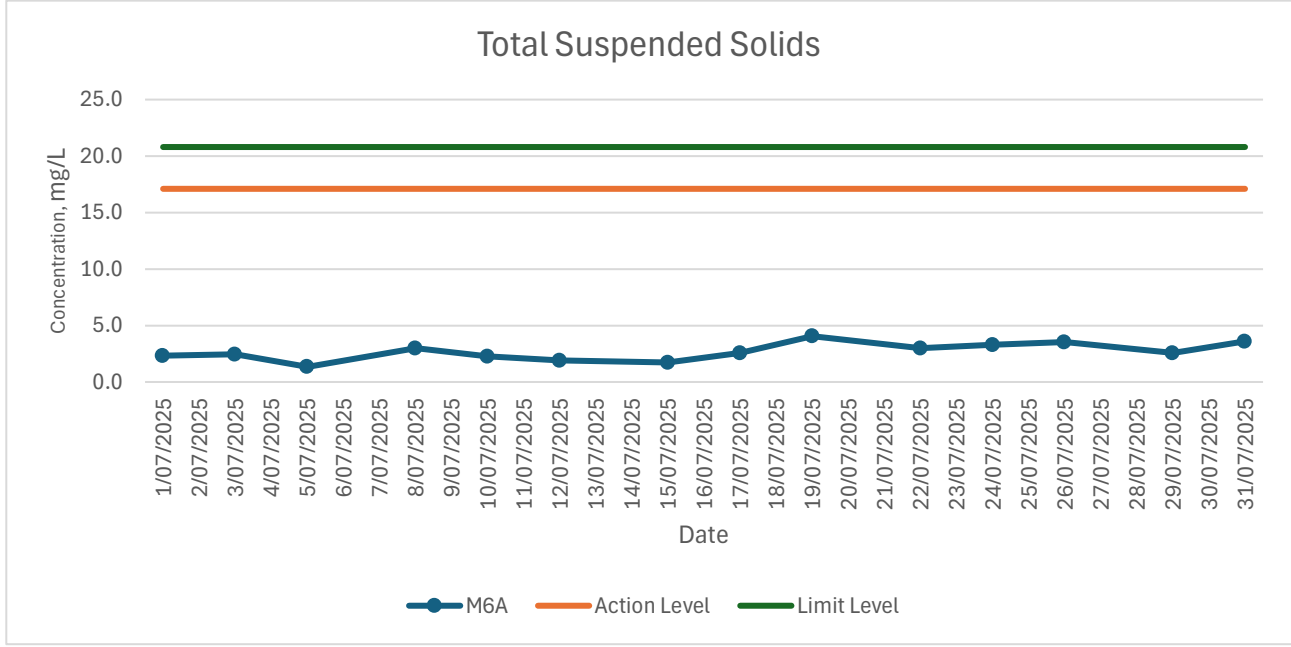
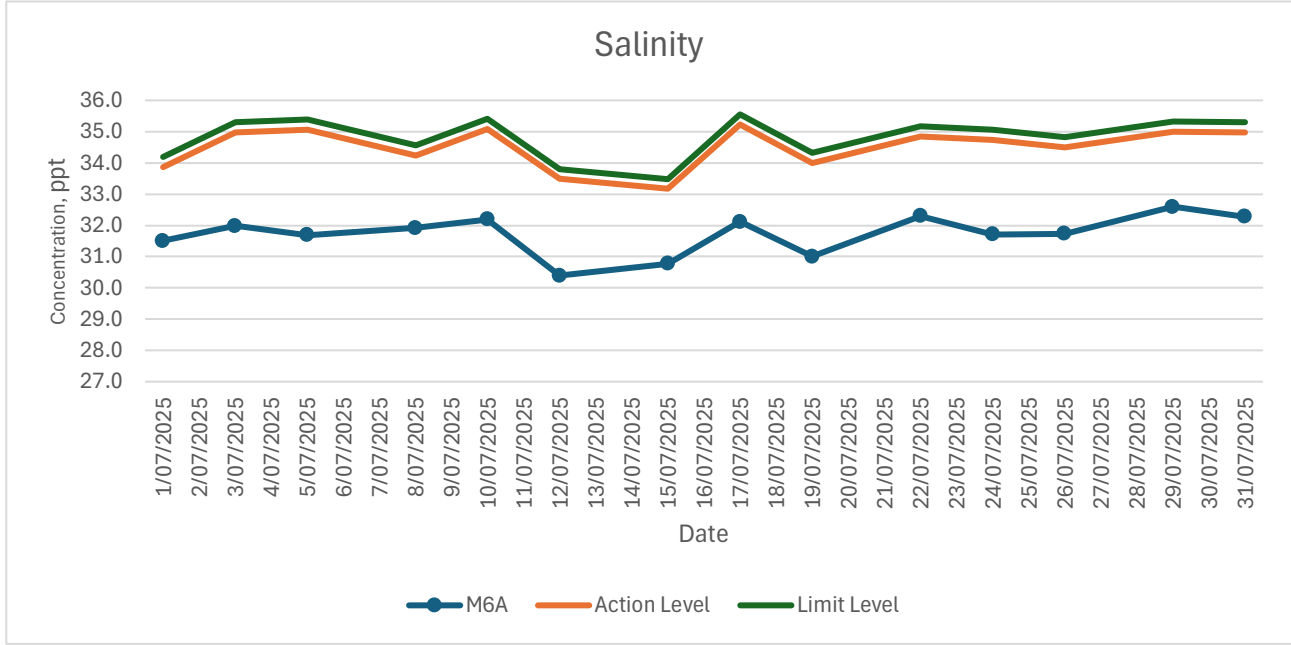
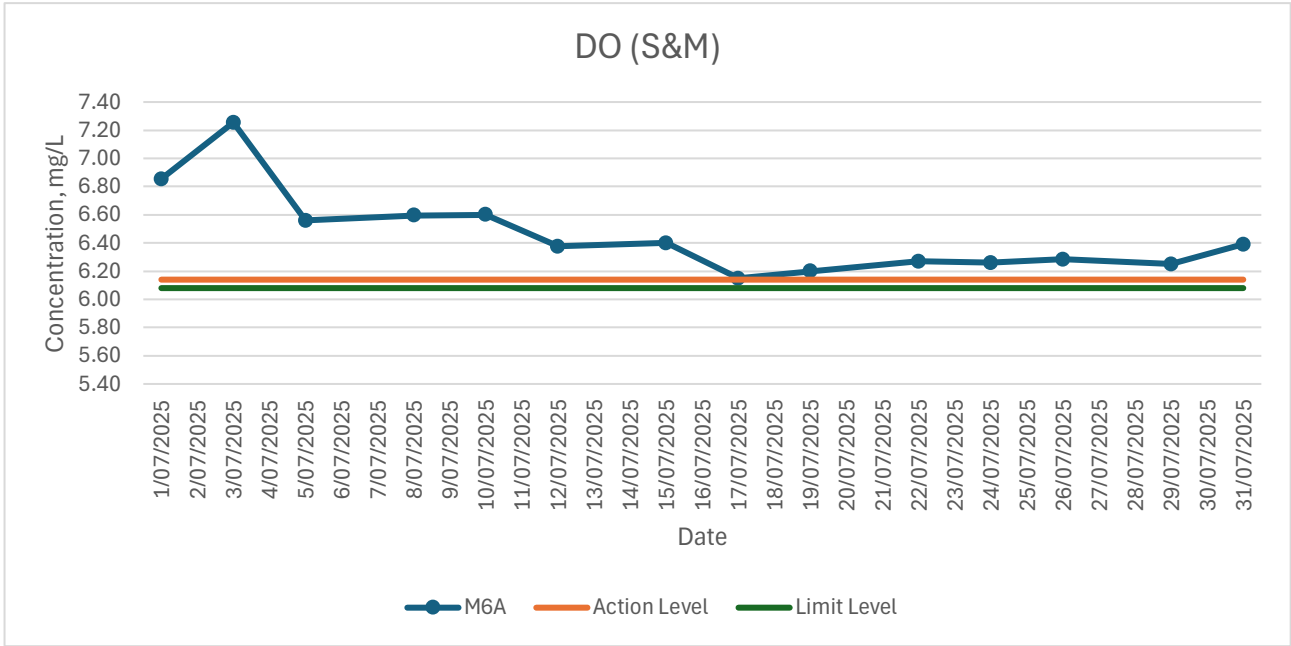
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



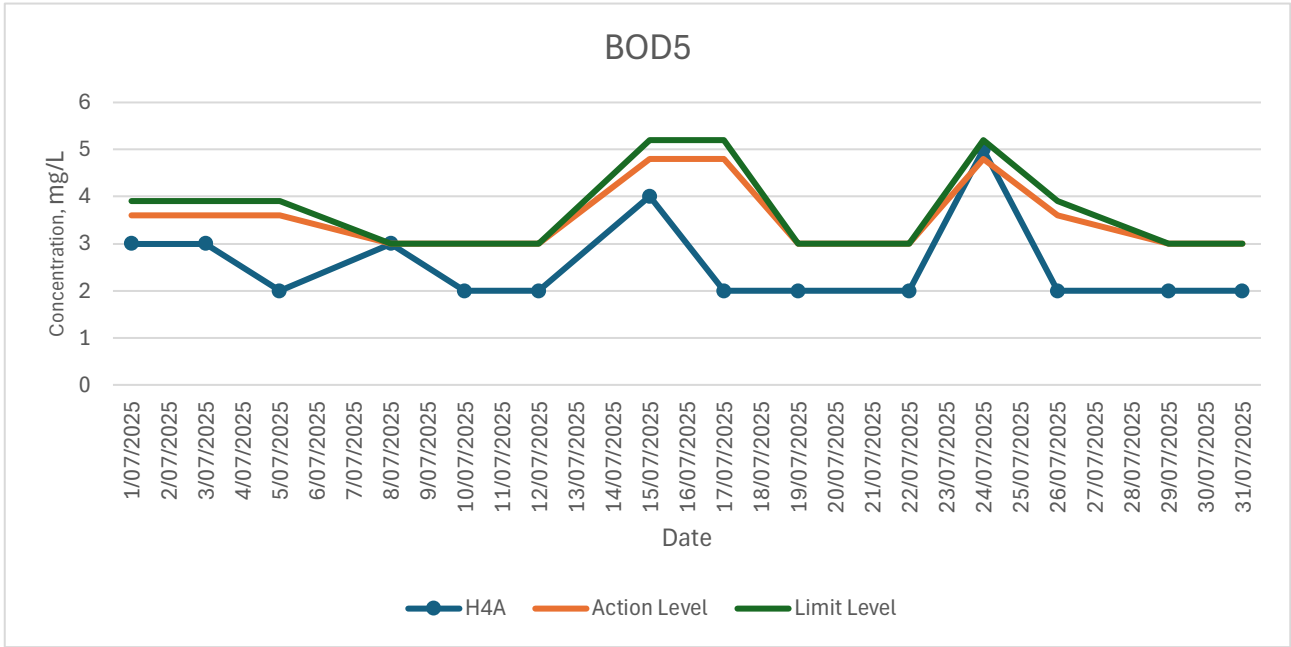
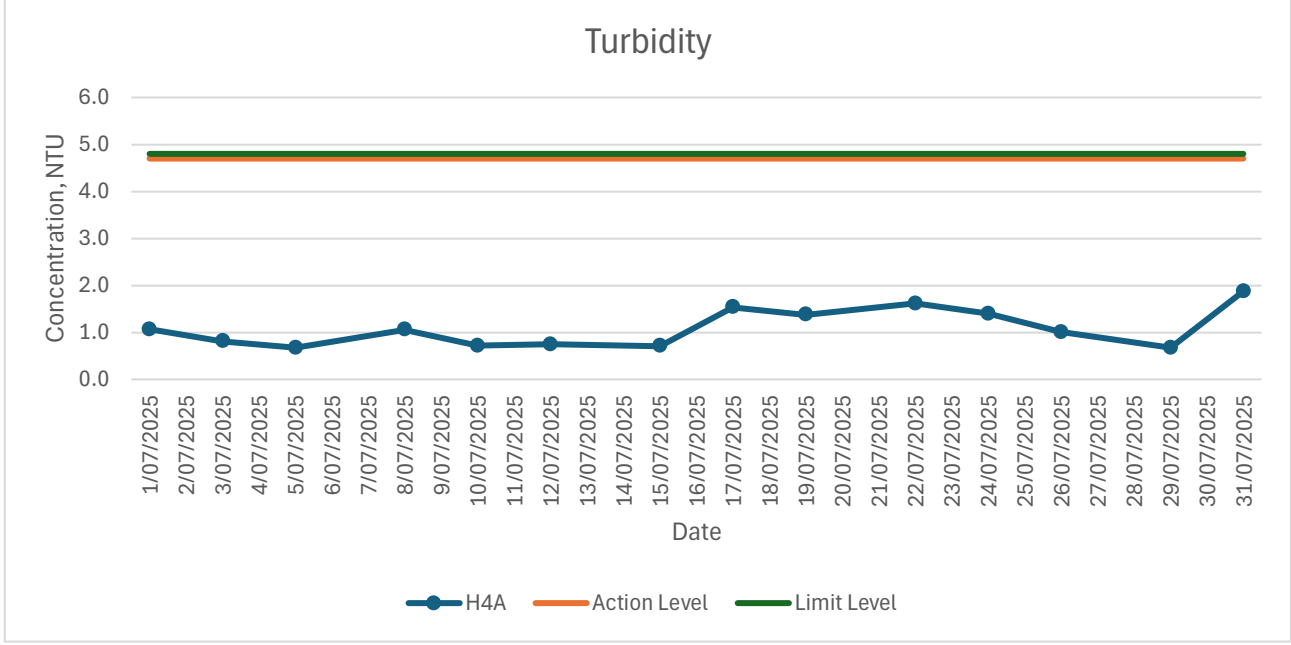
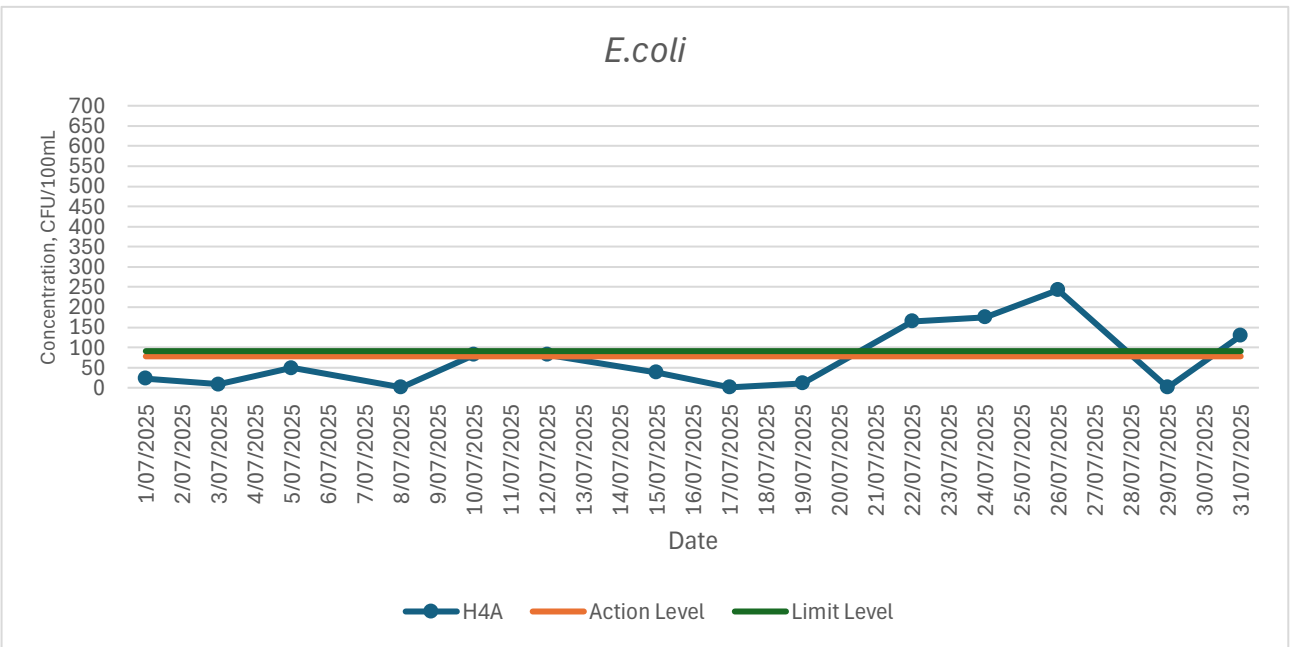
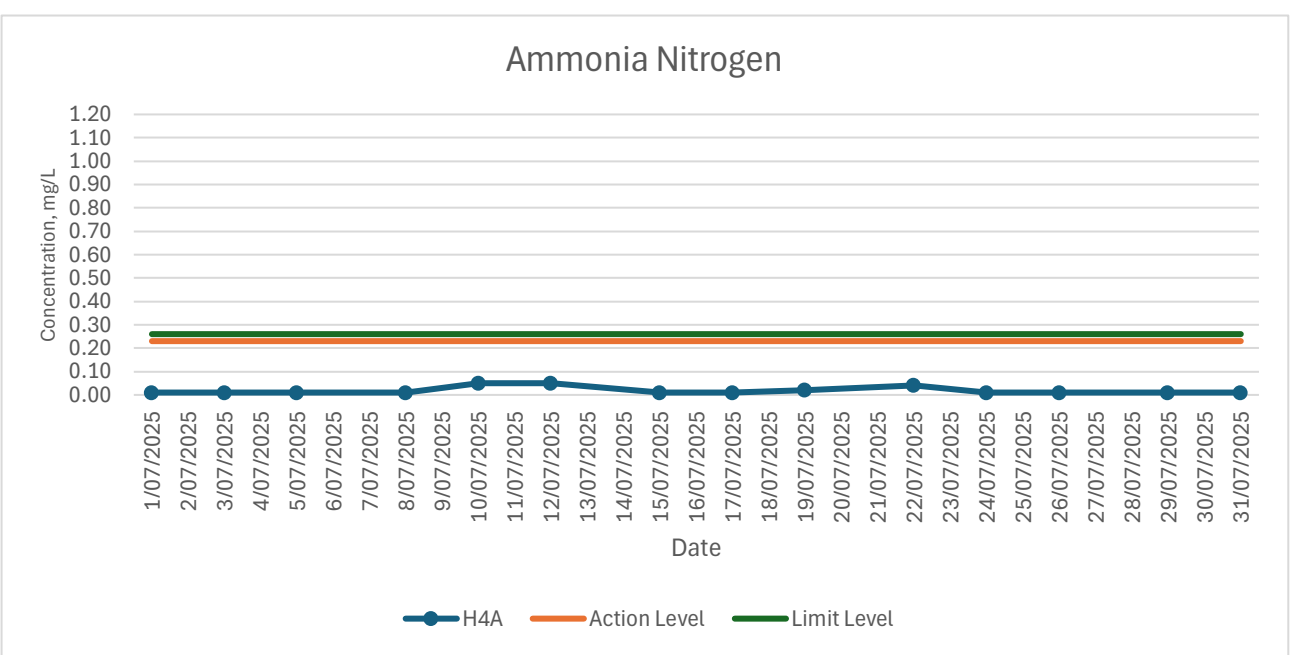
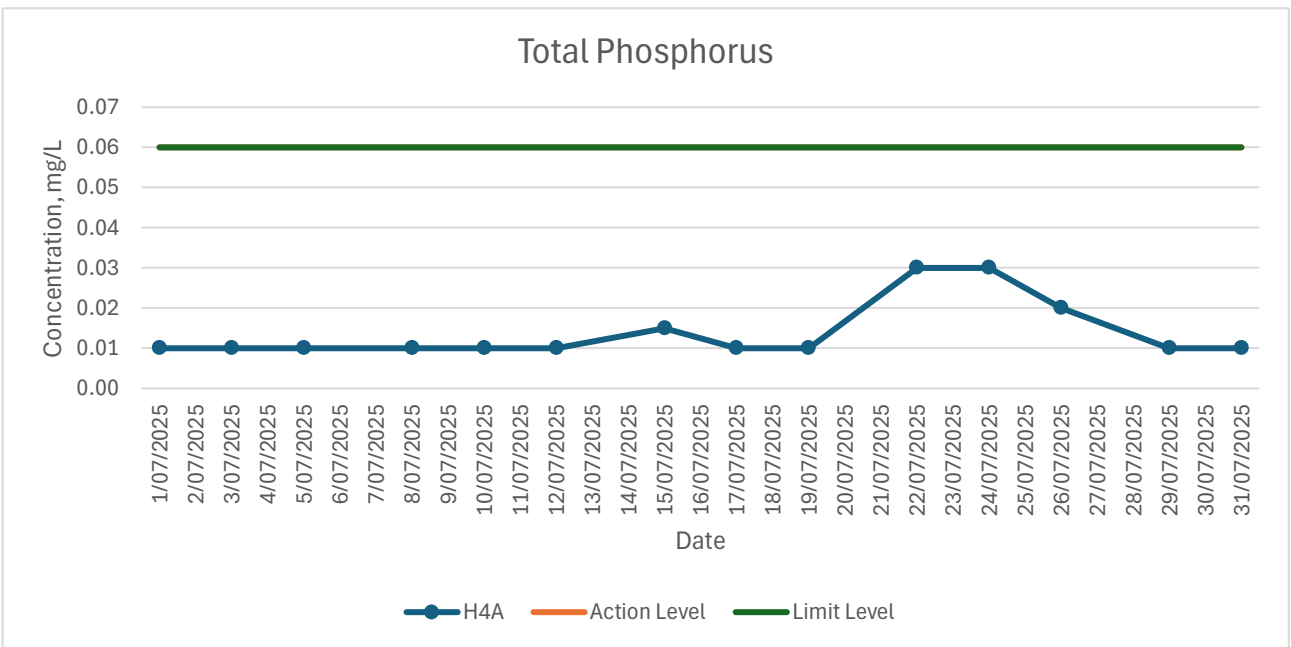
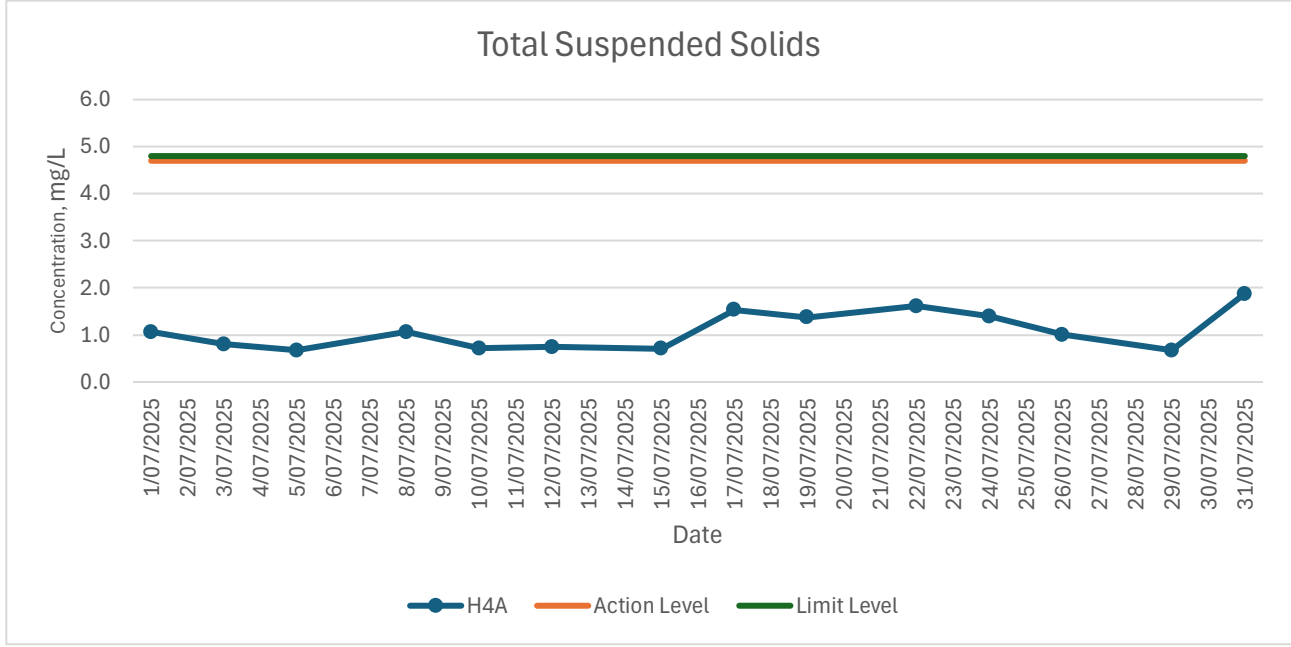
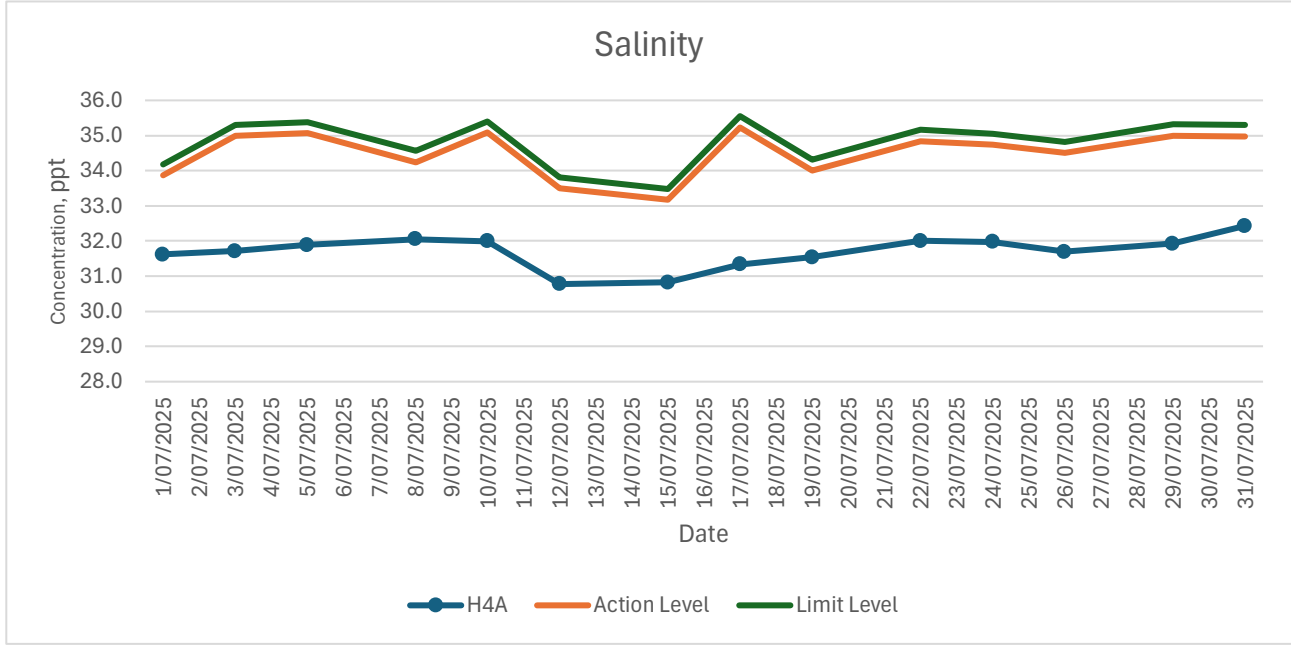
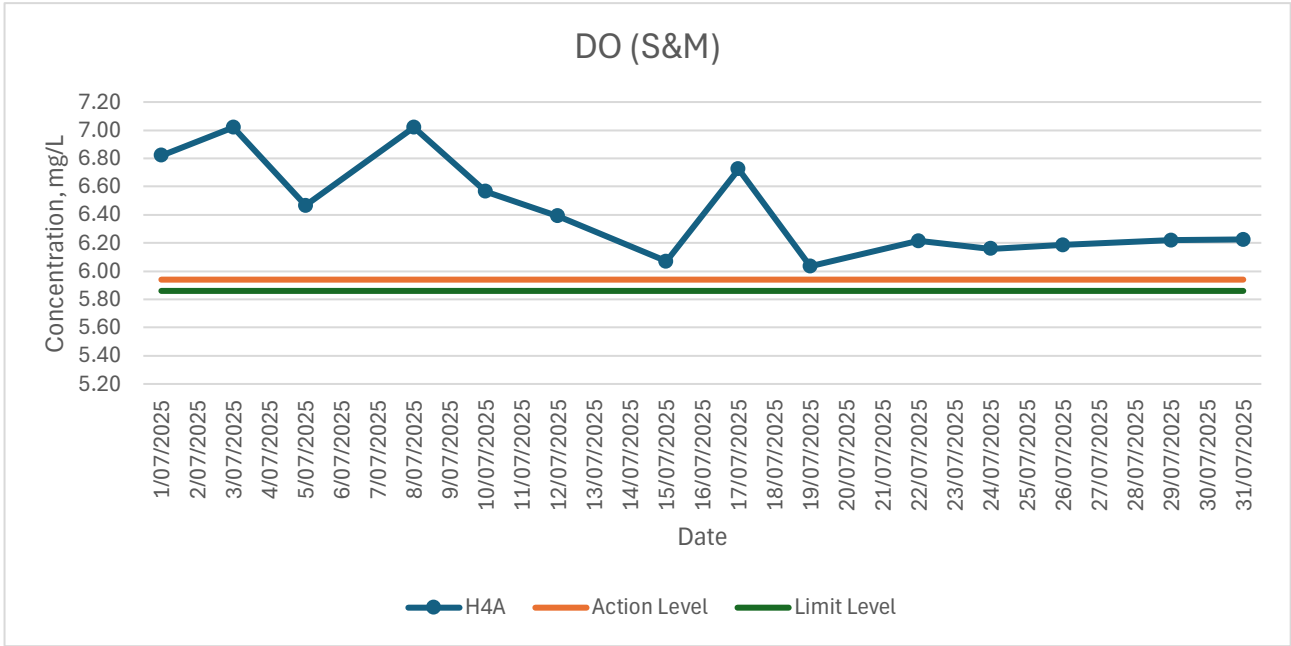
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



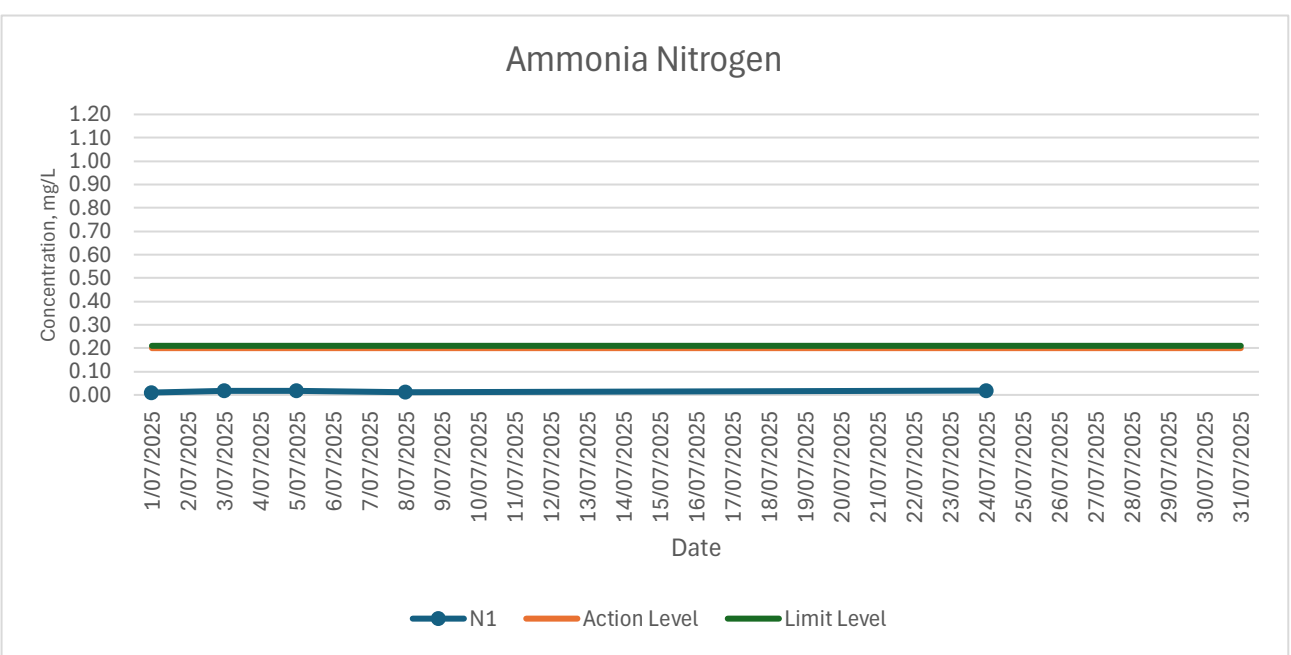
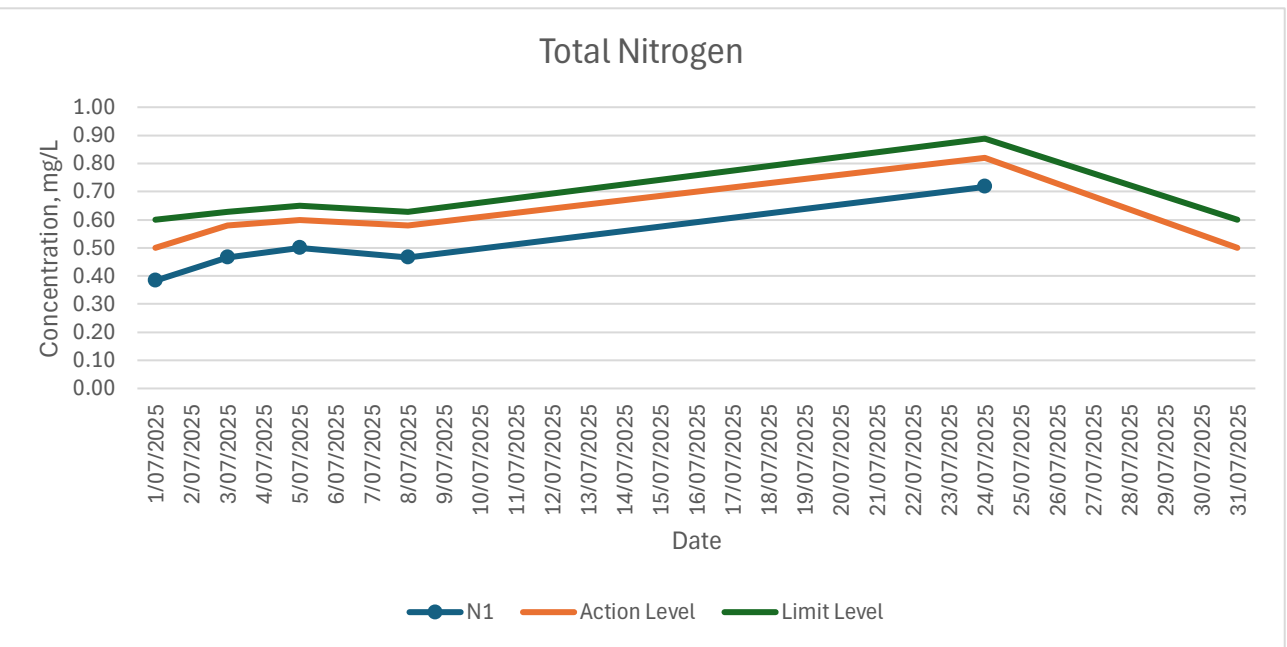
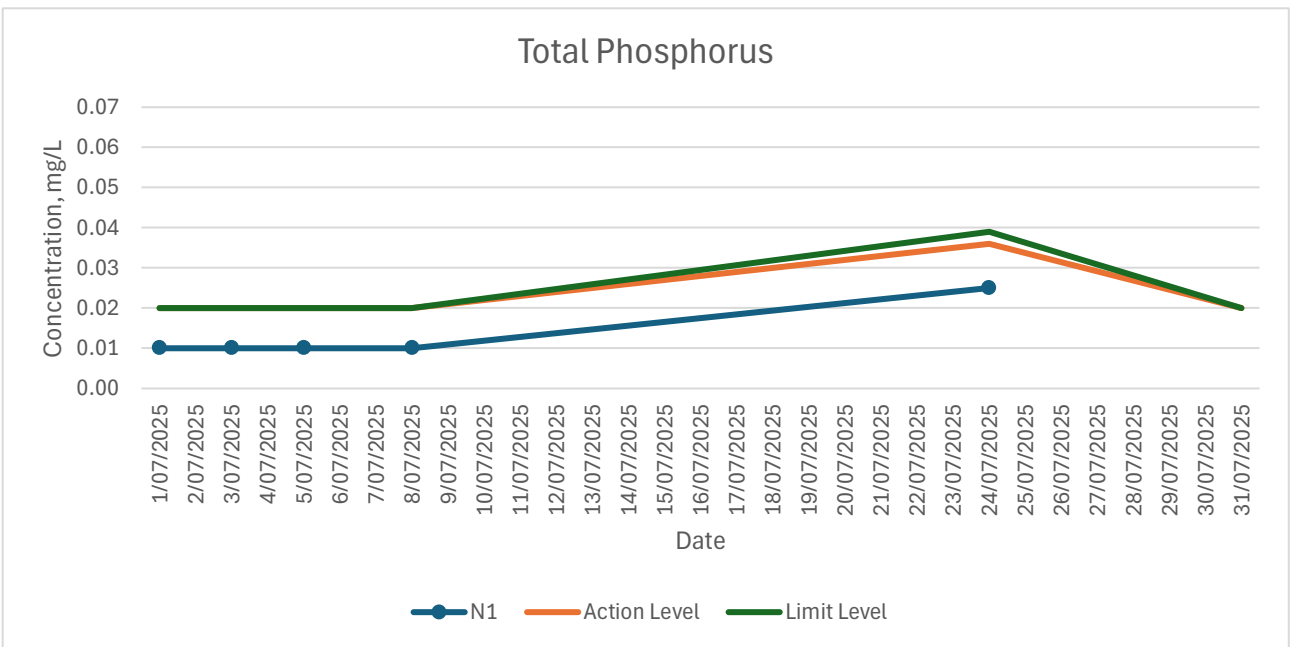
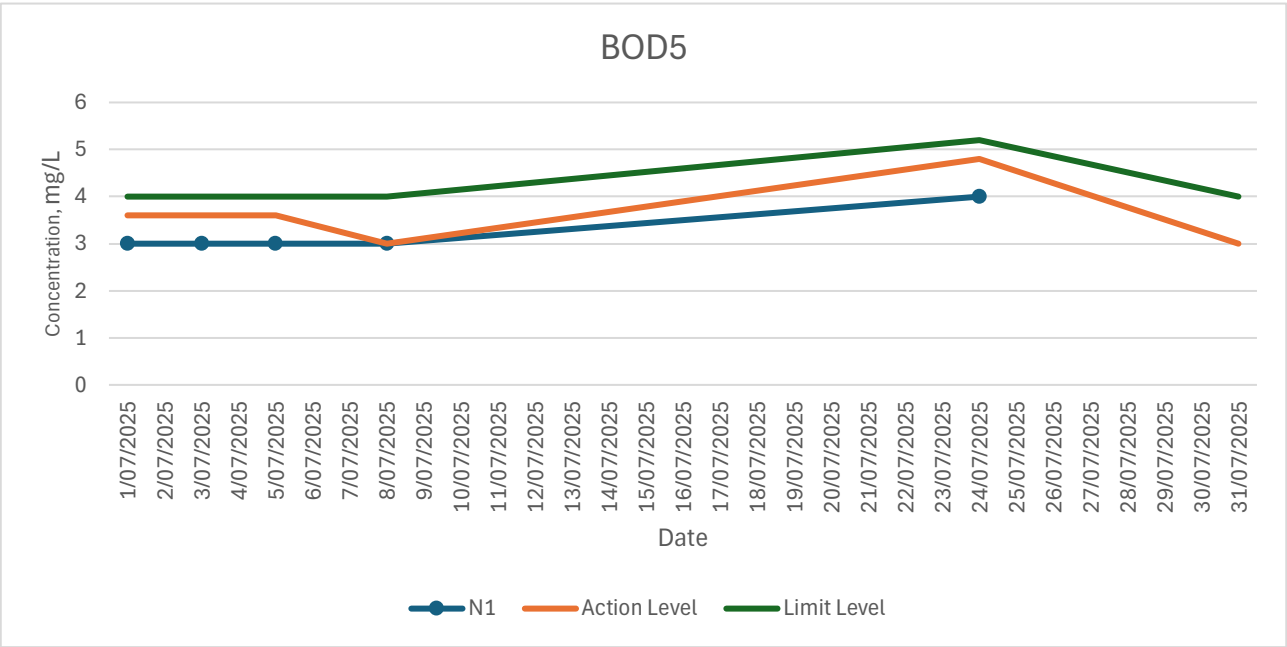
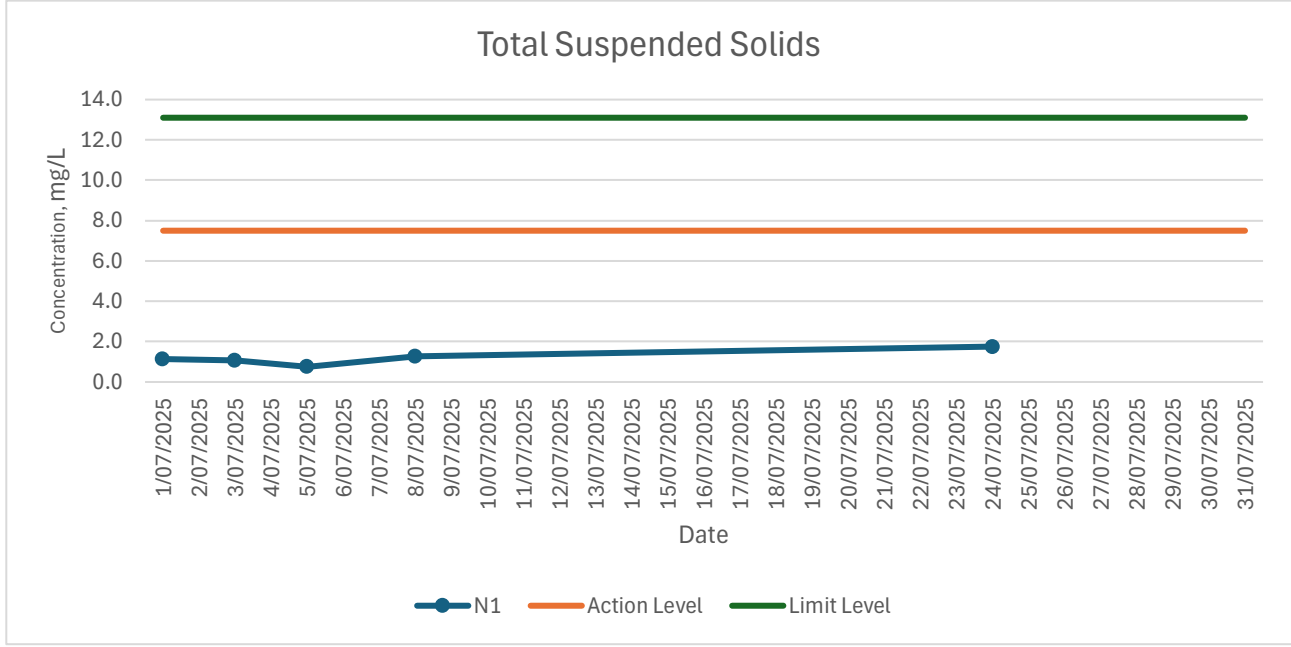
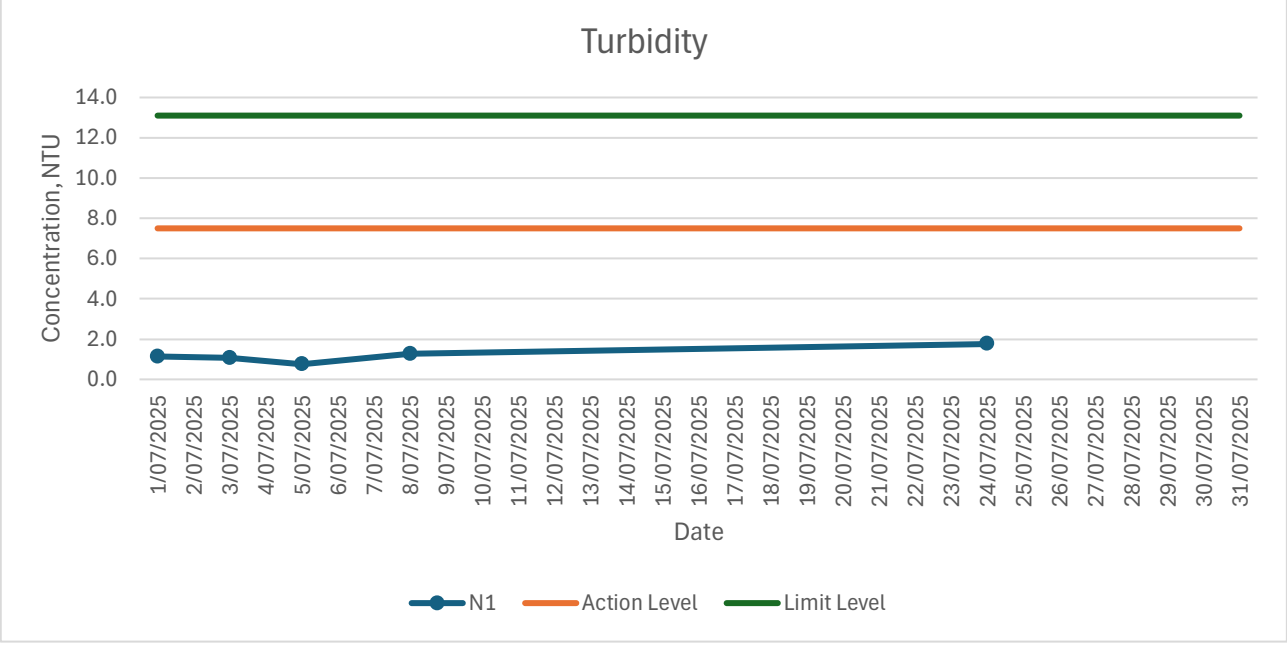
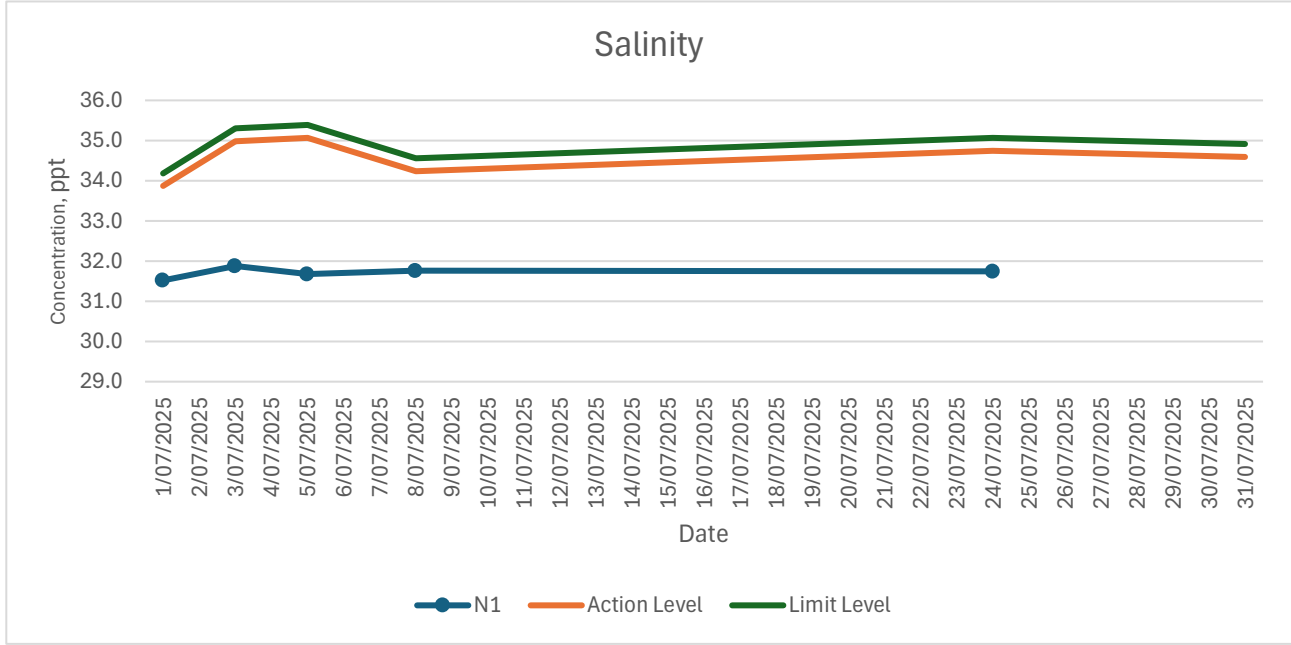
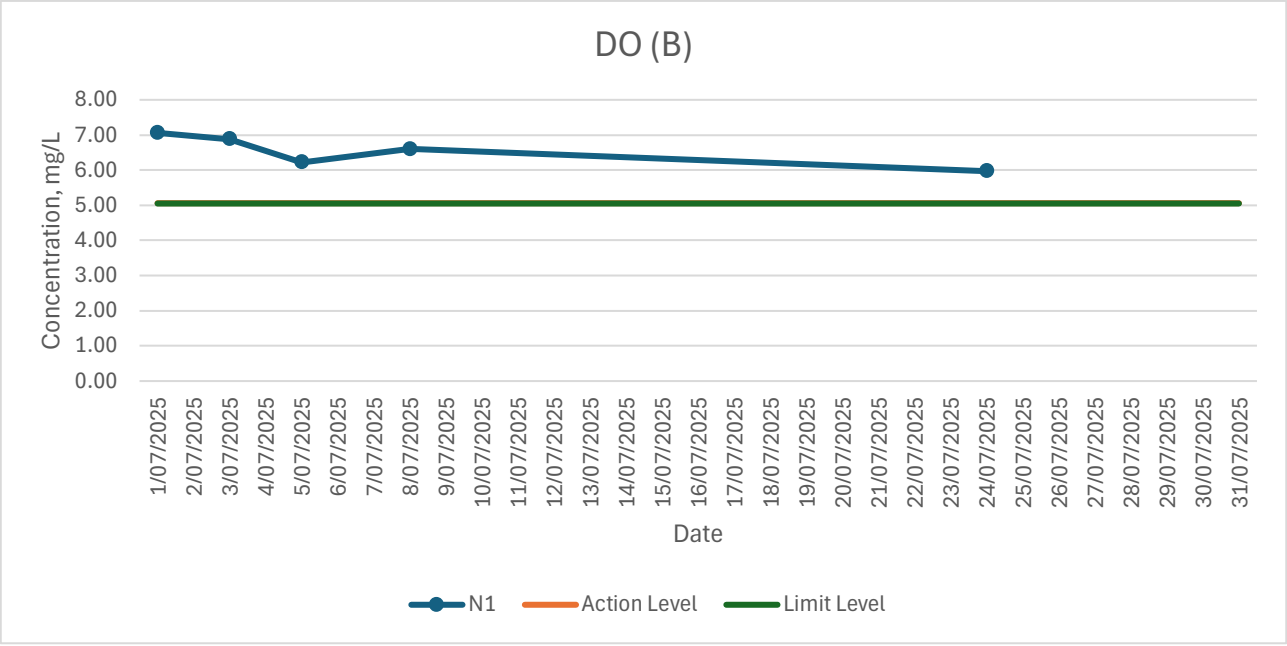
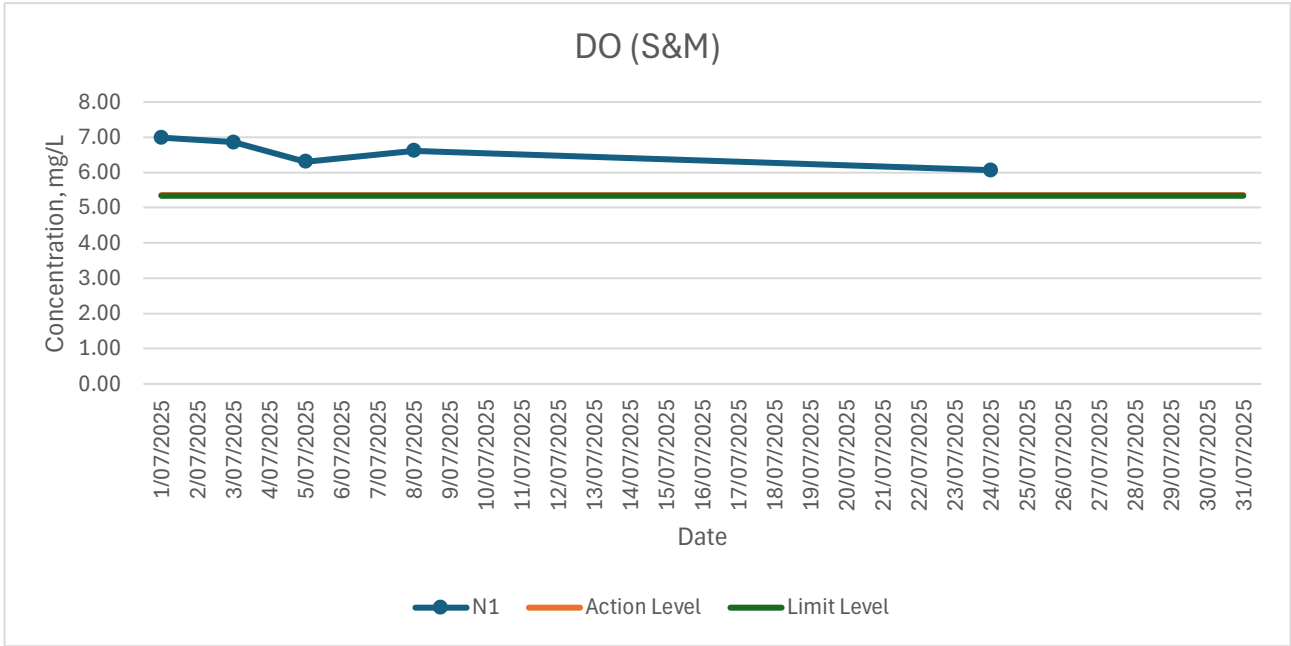
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



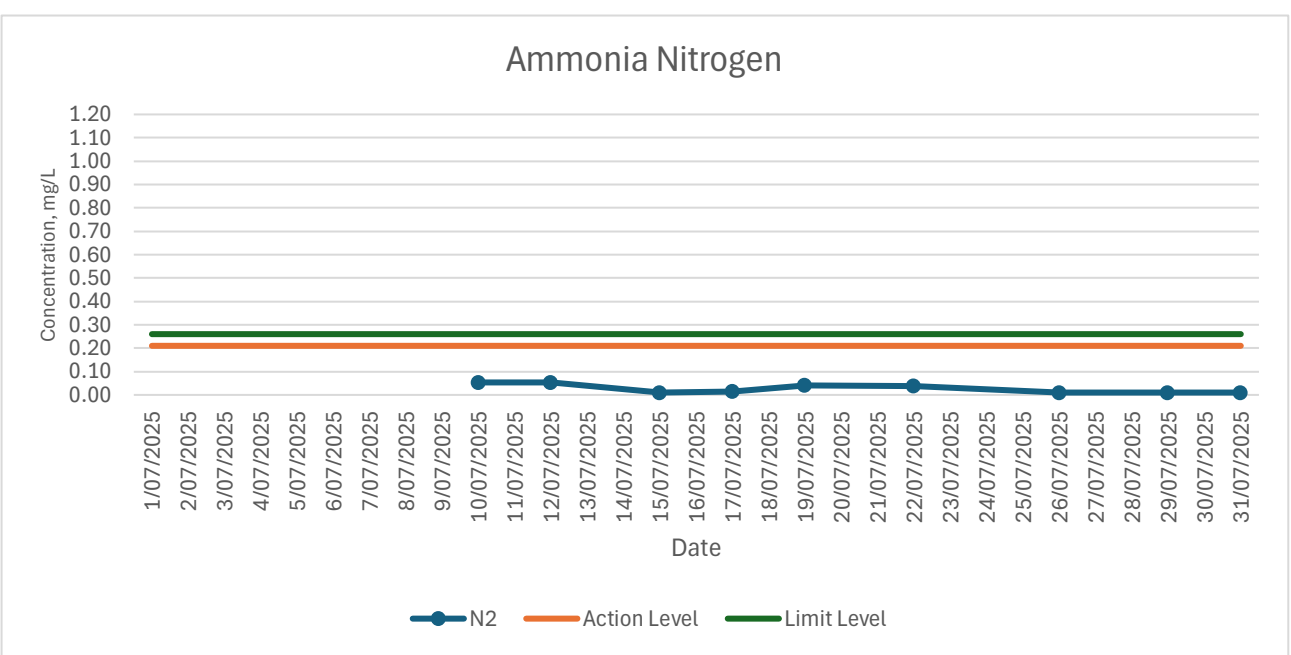
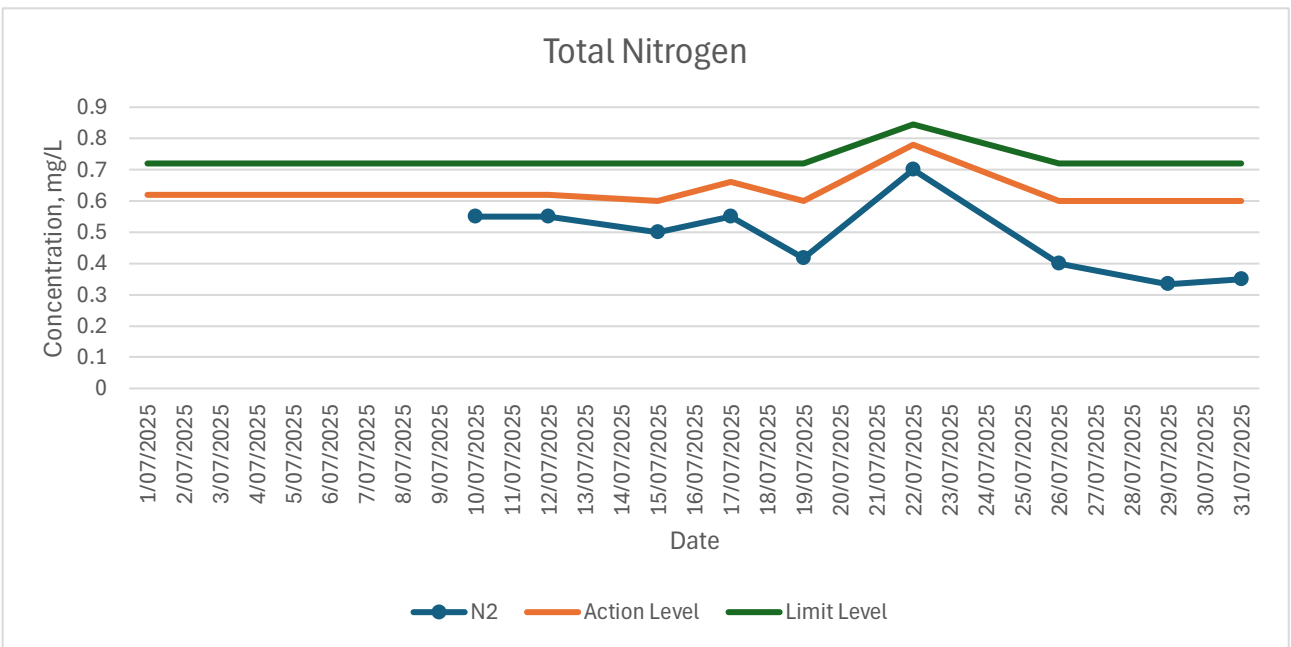
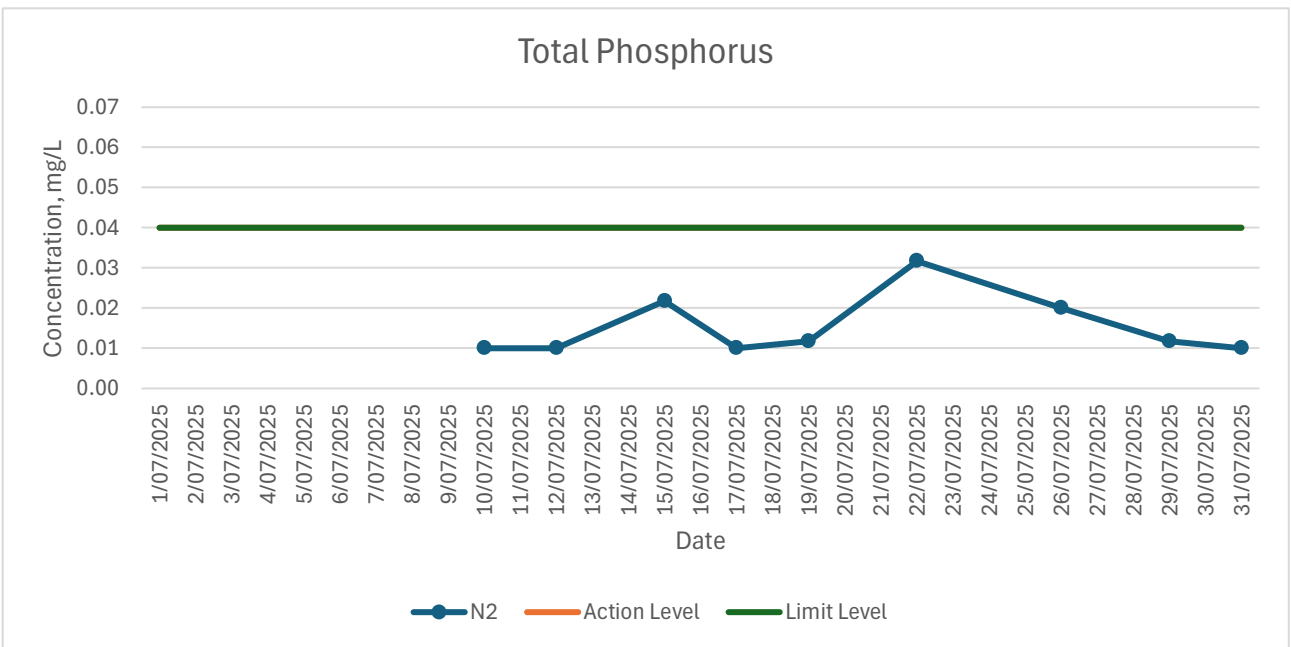
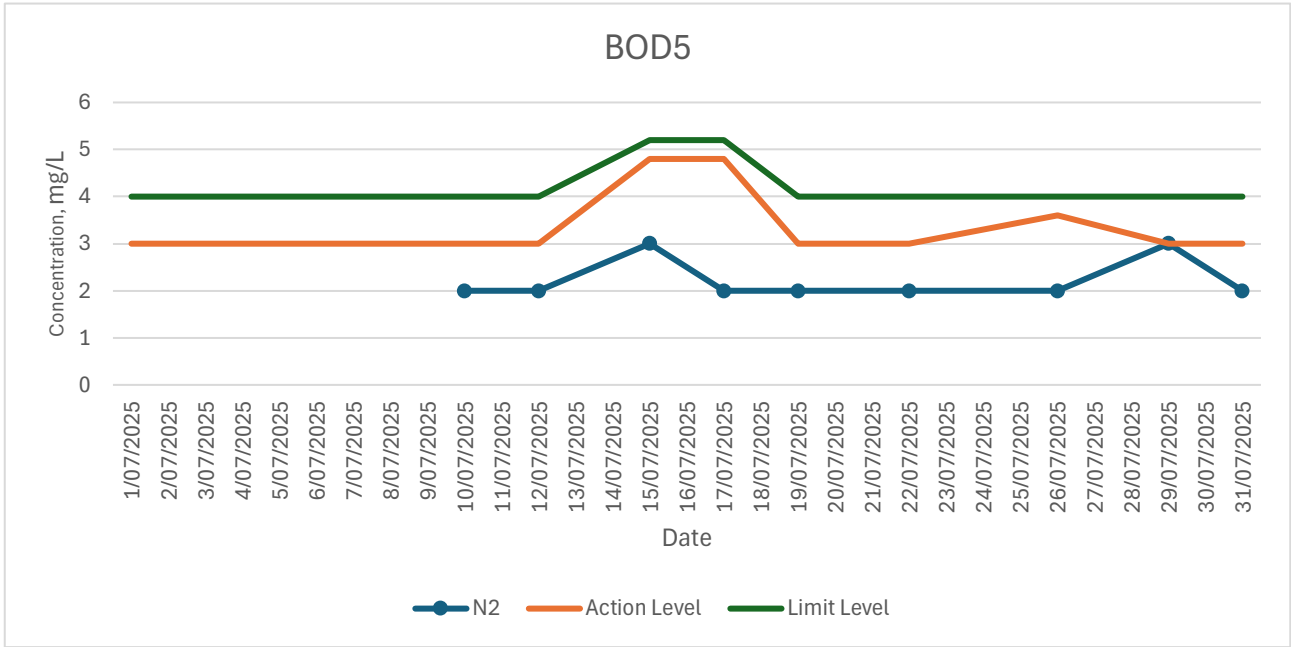
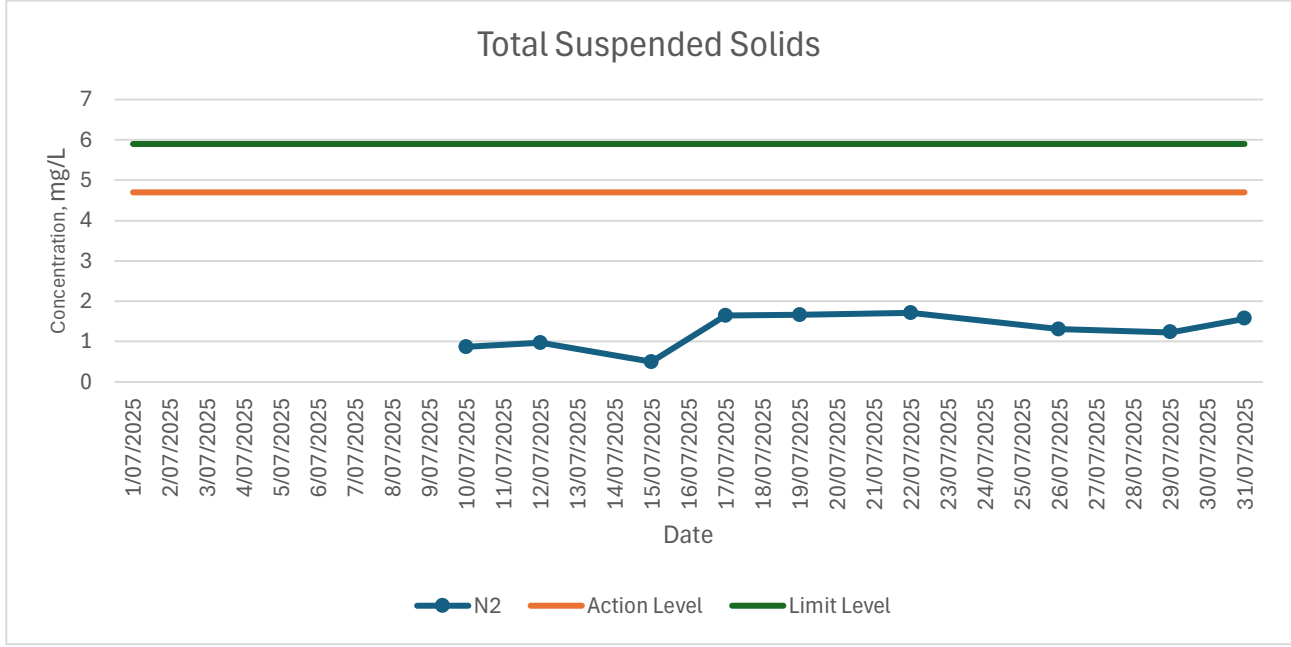
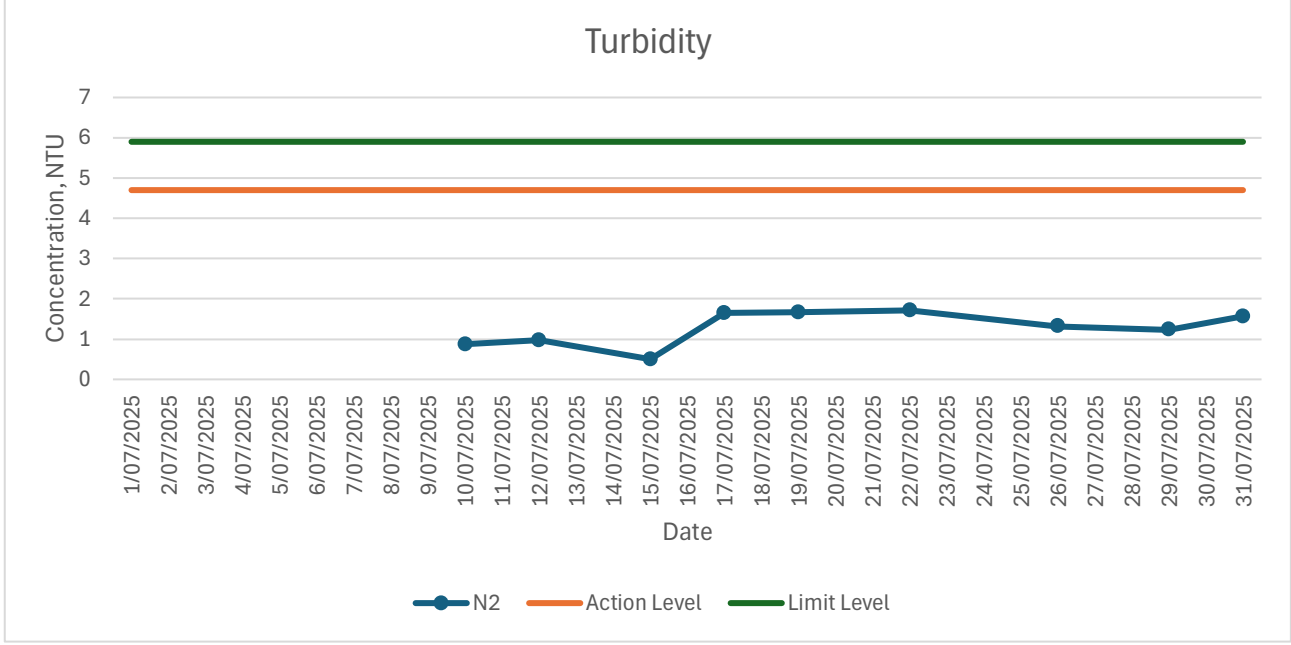
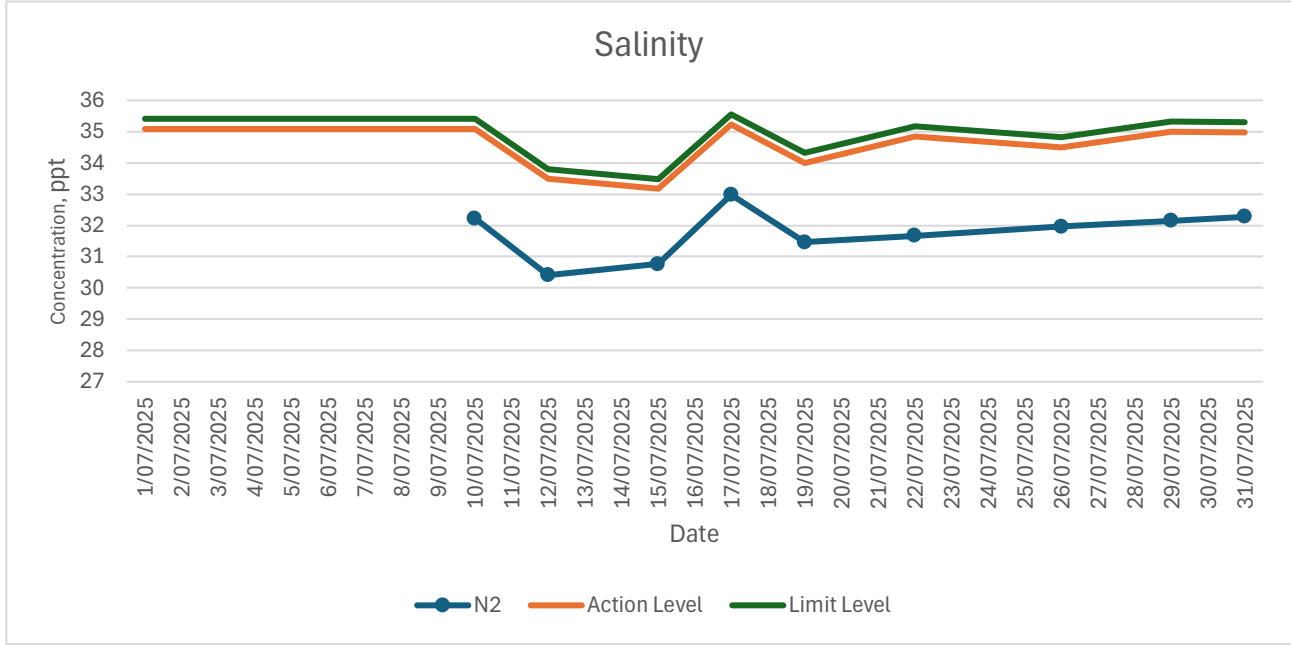
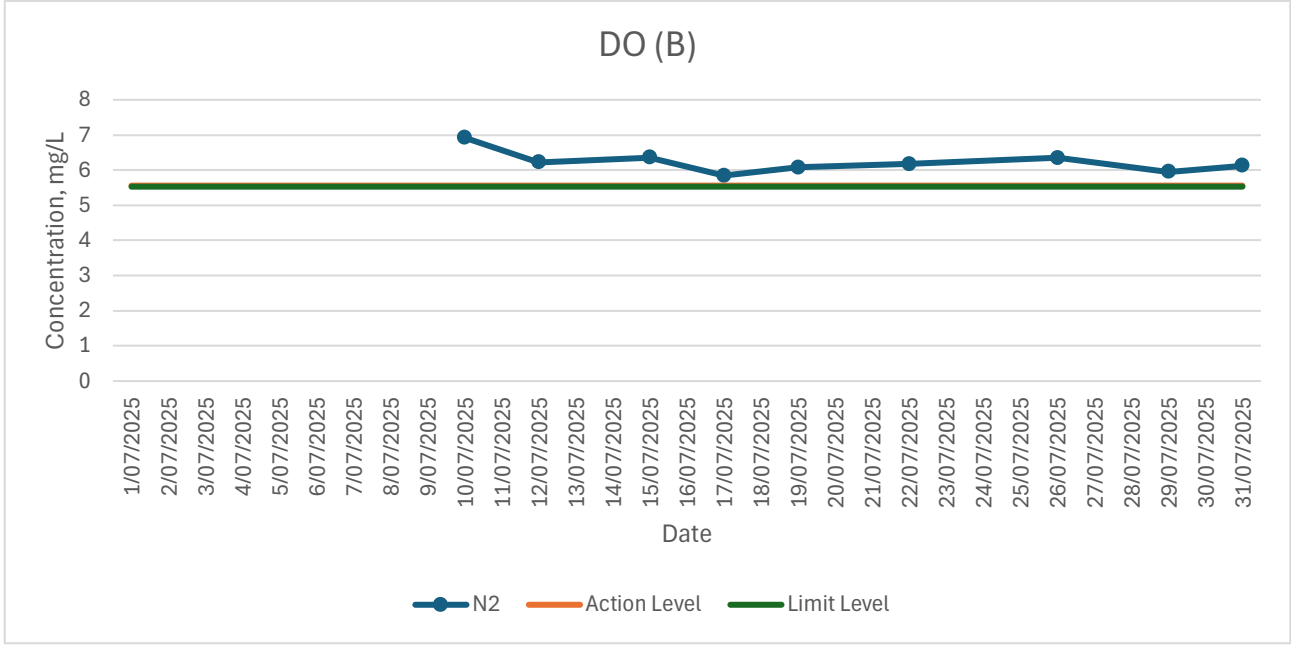
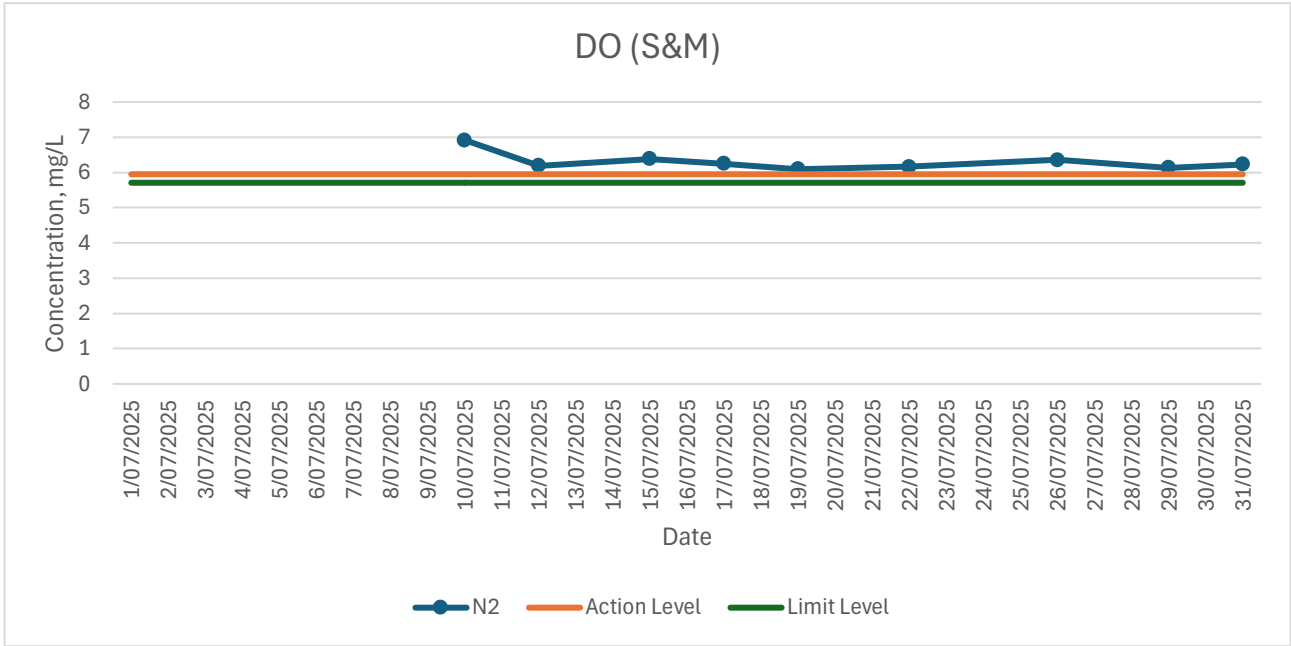
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



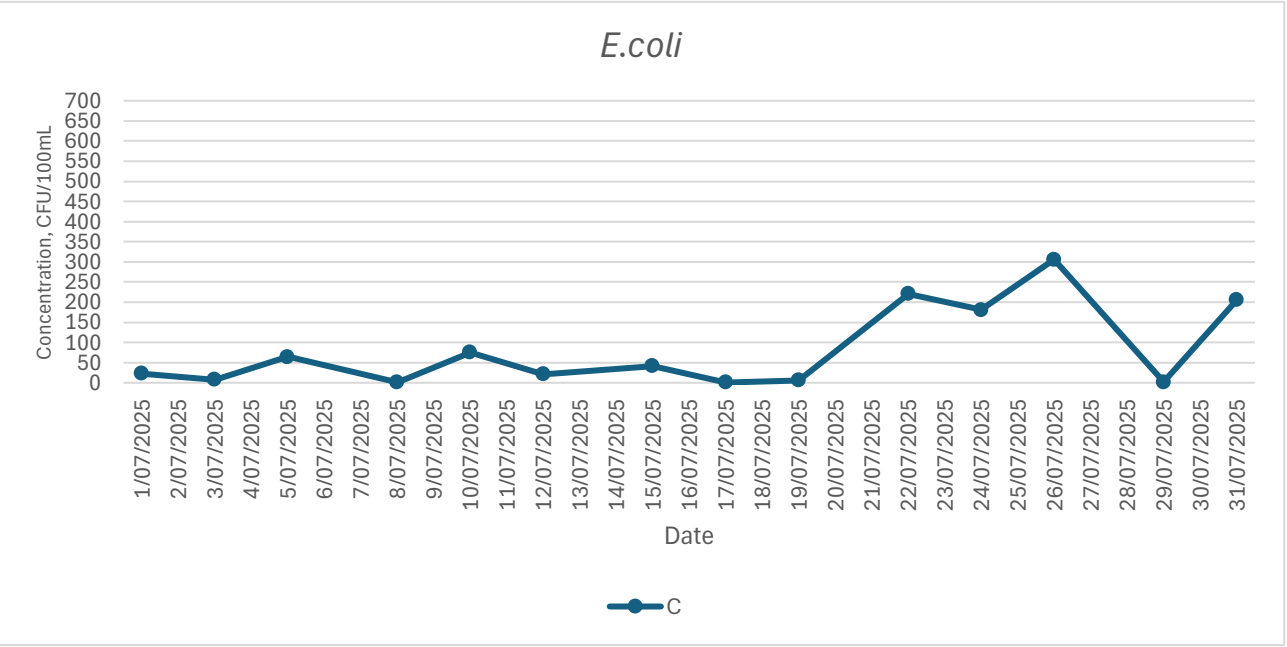
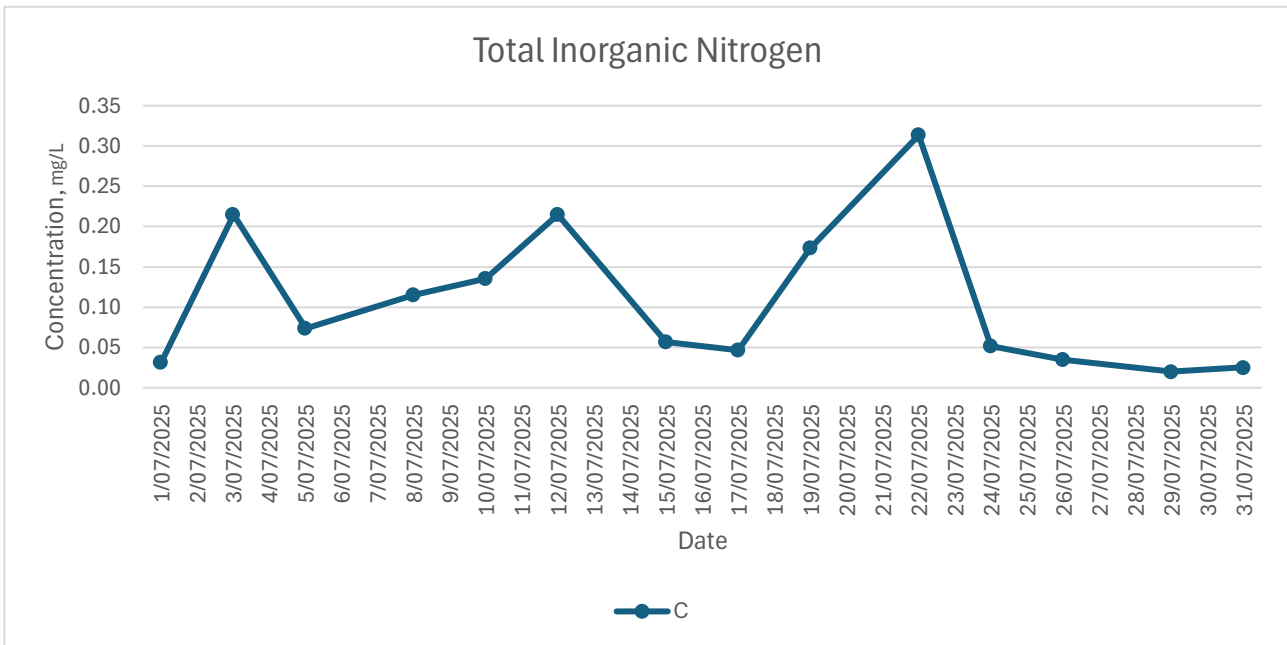
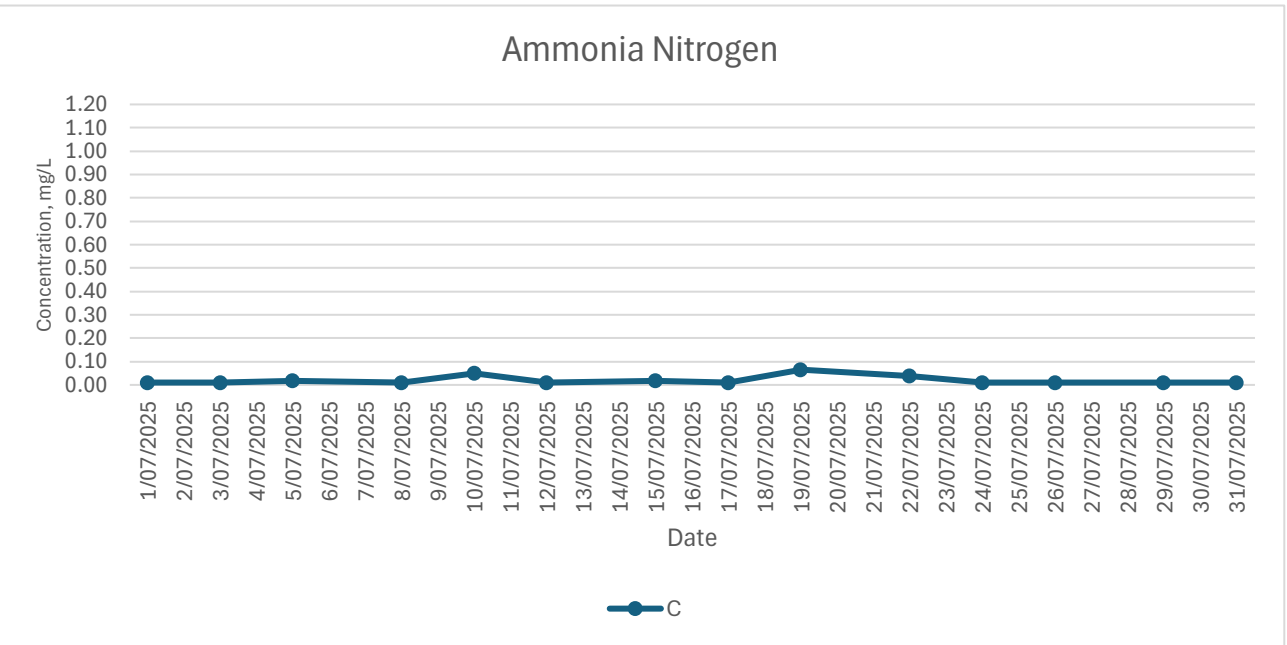
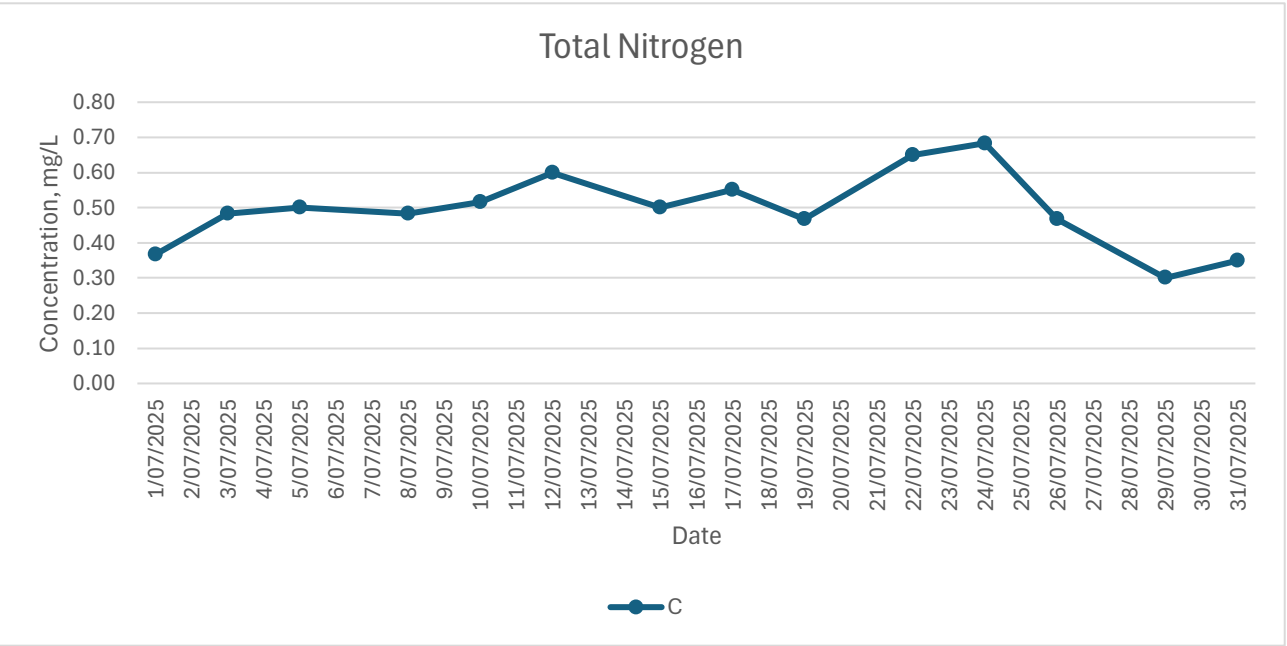
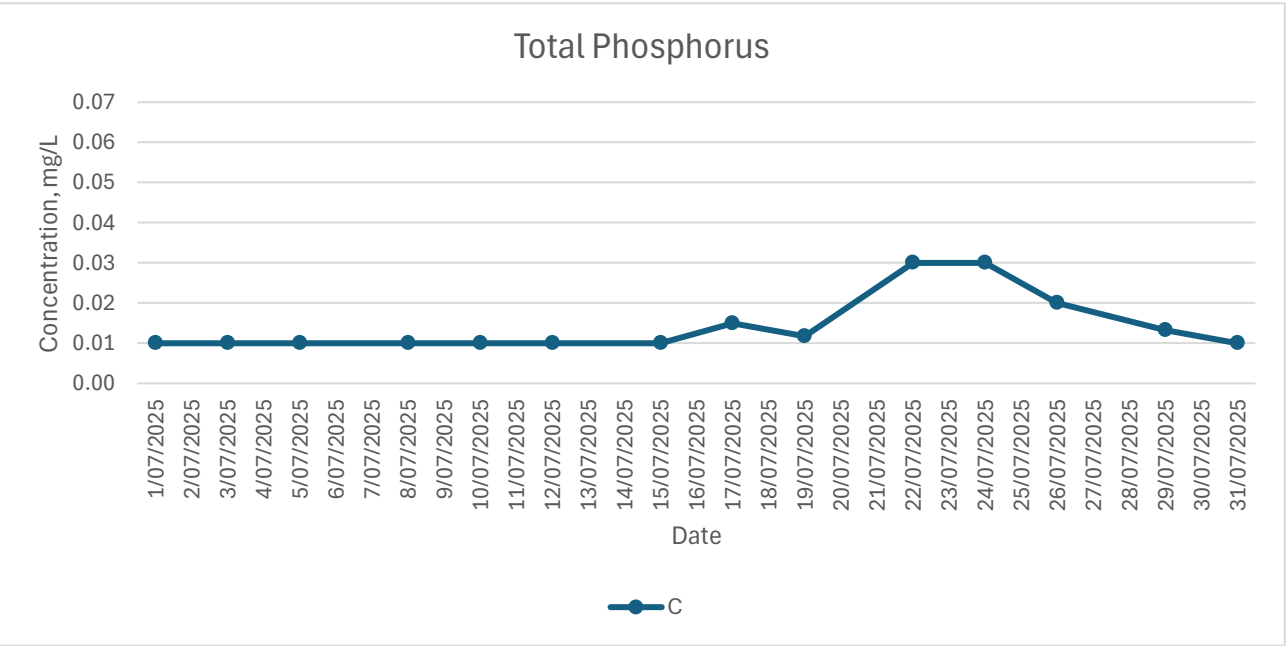
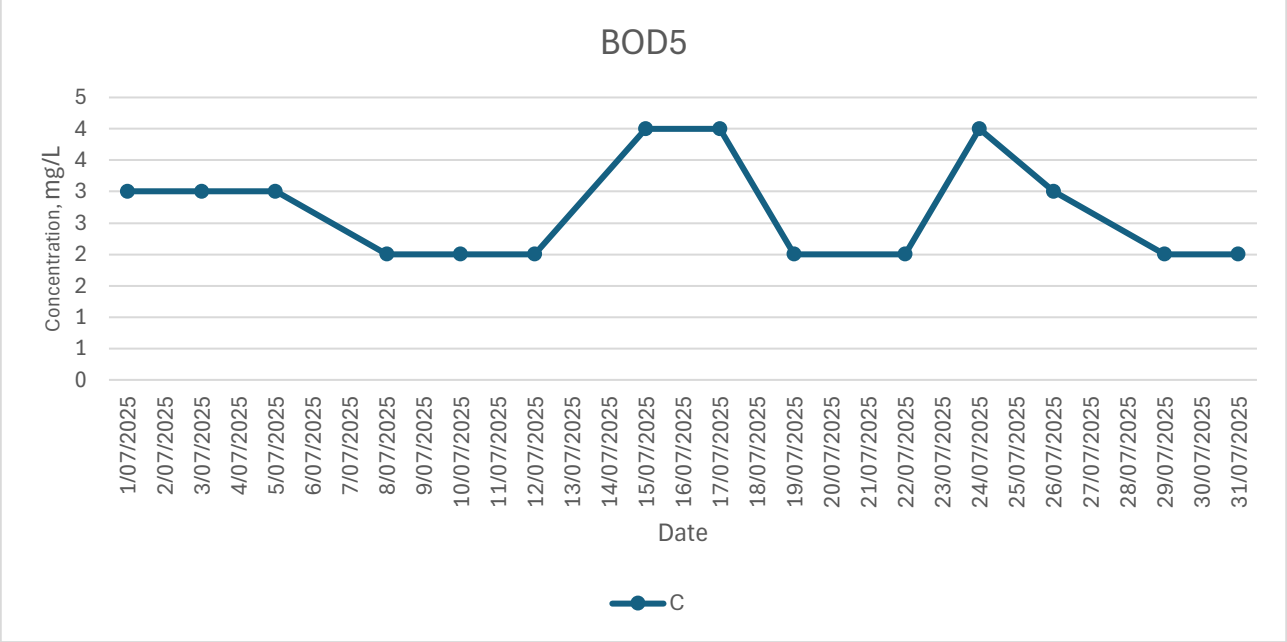
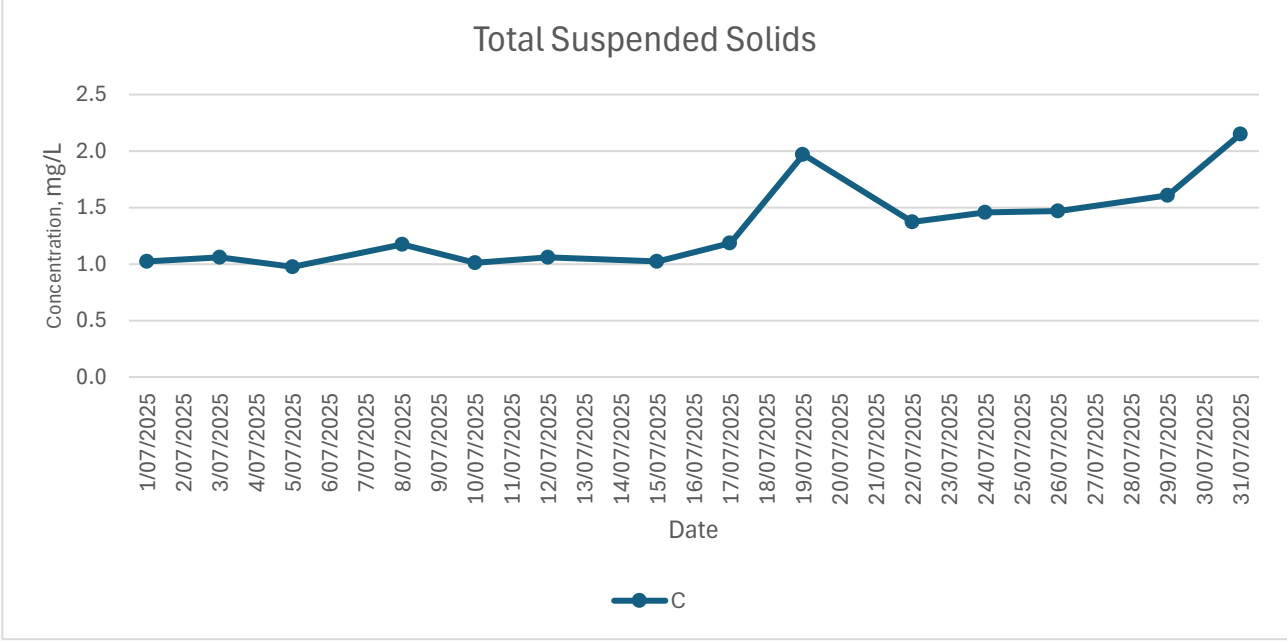
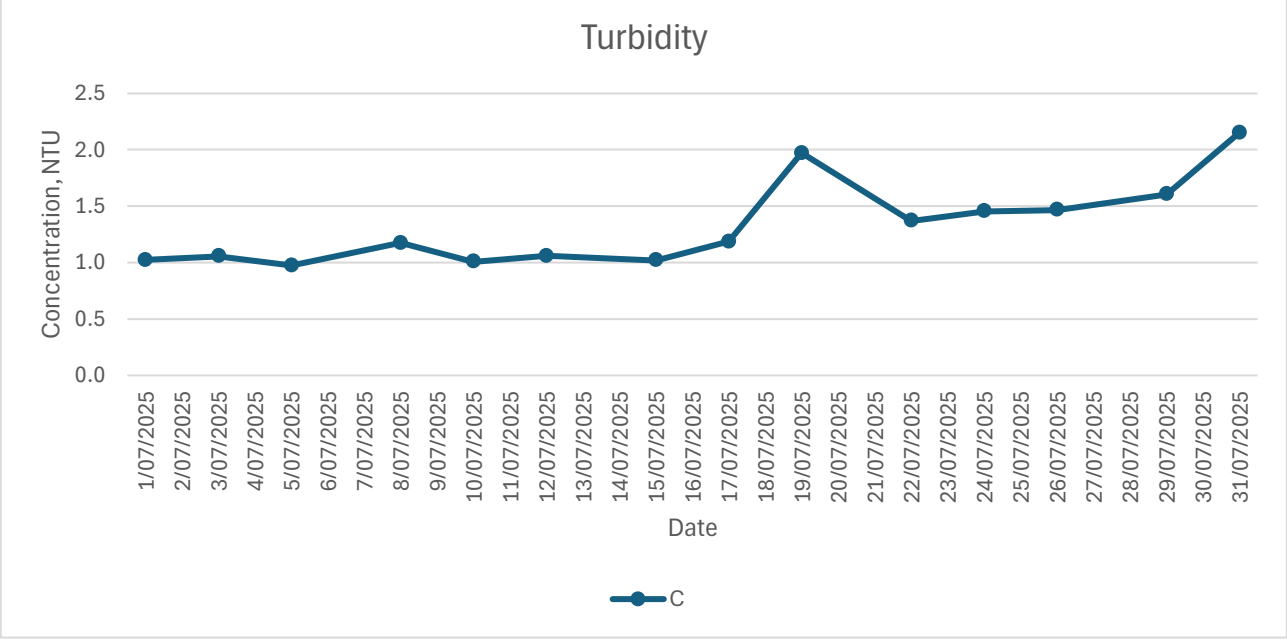
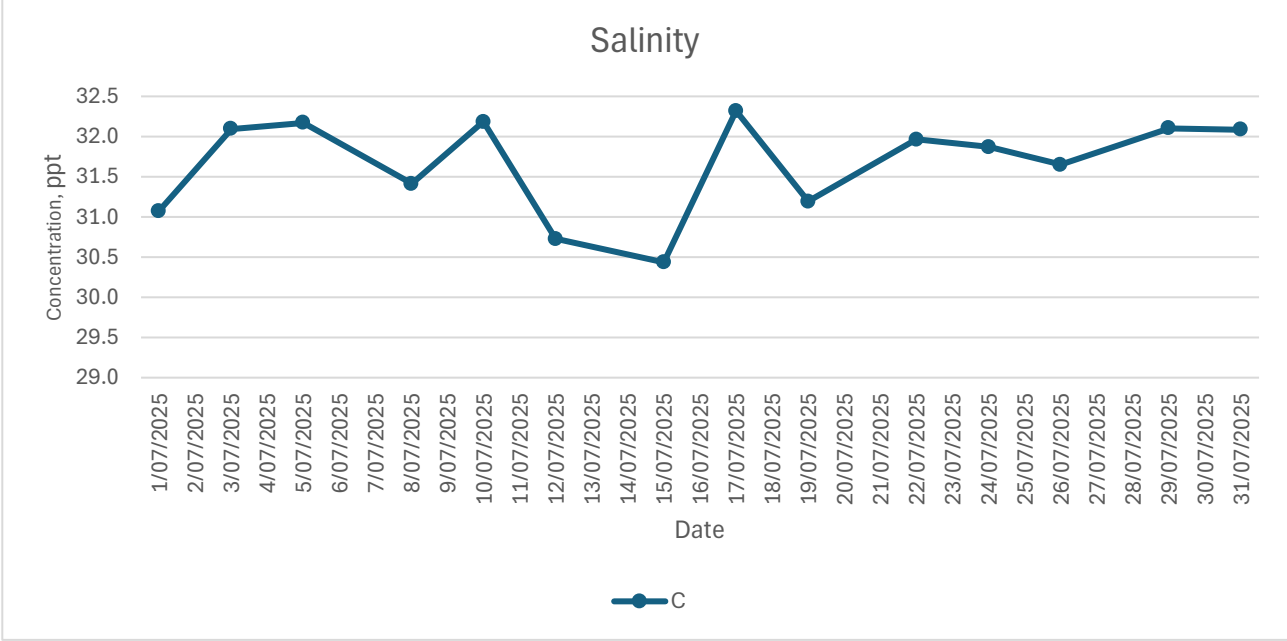
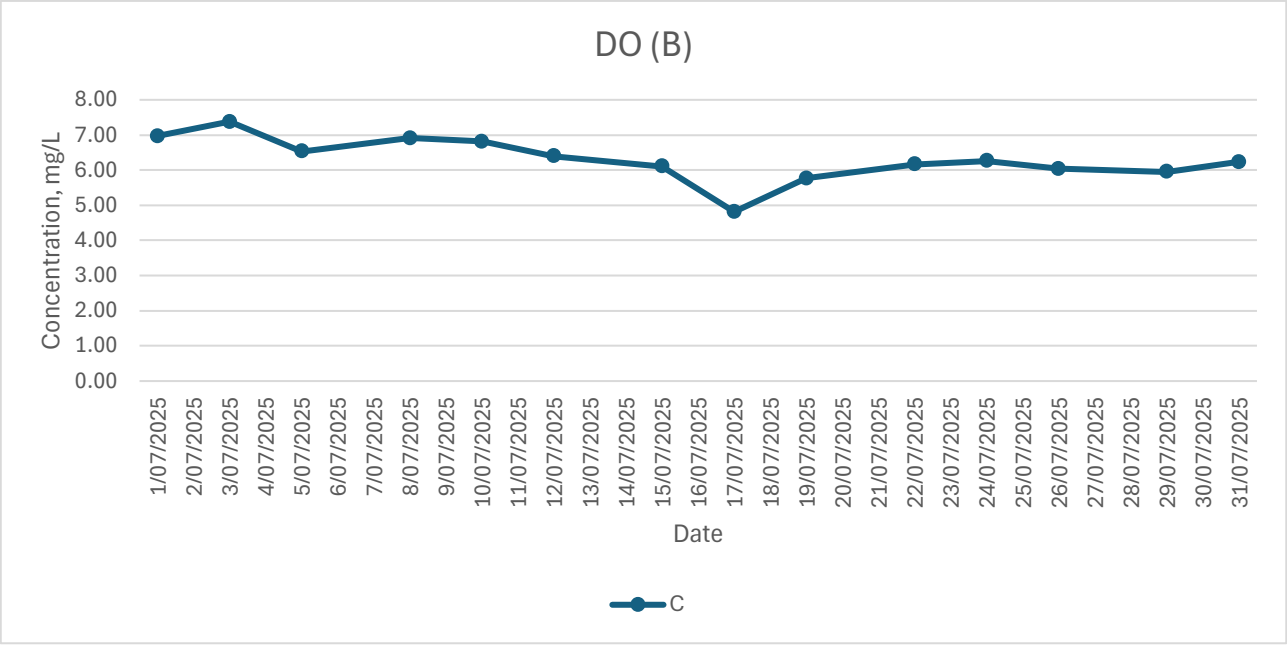
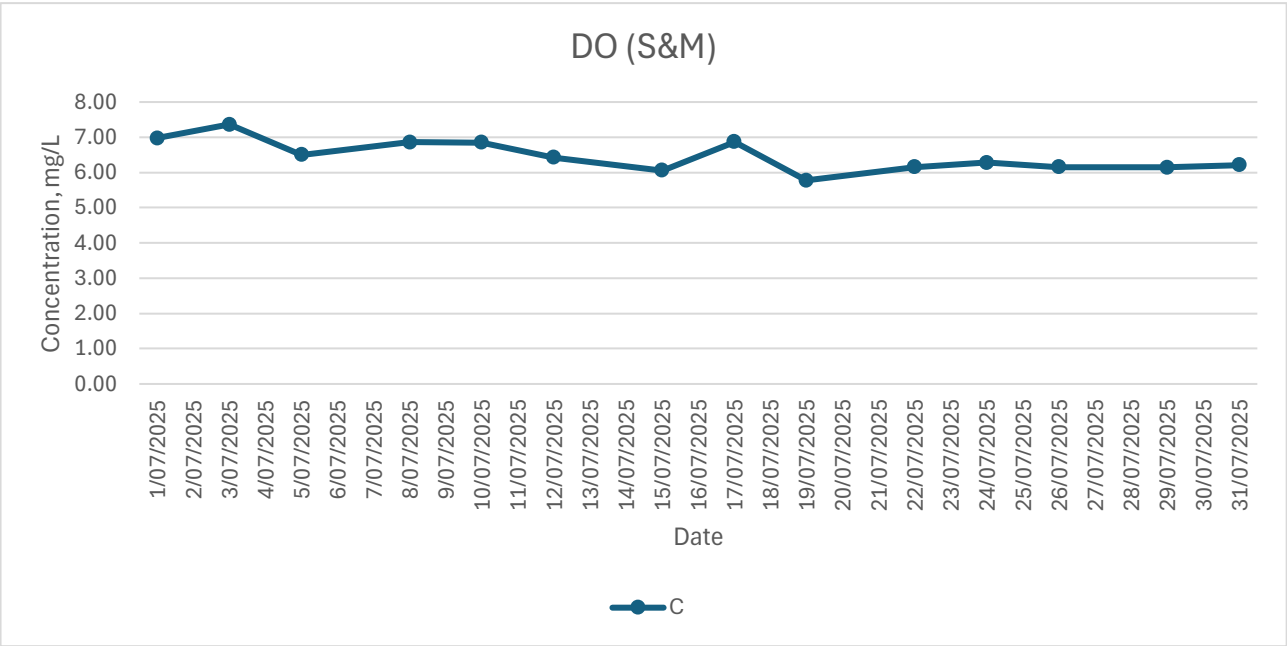
Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



Expansion of Sha Tau Kok Sewage Treatment Works (Contract No. CM 02/2024)

Marine Water Quality Monitoring Results



Continuous Effluent Quality Monitoring Results

Date	Replicate	In-Situ Monitoring						Laboratory Analysis						
		pH	Salinity (ppt)	Temperature (degree C)	DO Saturation (%)	DO (mg/L)	Turbidity (NTU)	Total Suspended Solids (mg/L)	Ammonia Nitrogen (mg/L)	Total Nitrogen (mg/L)	Total Inorganic Nitrogen (mg/L)	Total Phosphorus (mg/L)	BOD5 (mg/L)	E.coli (CFU/100mL)
1/07/2025	1	7.09	0.41	5.7	91.4	9.27	1.40	2	0.03	4.5	3.91	1.46	4	8
	2	7.10	0.41	5.8	92.0	9.38	1.43							
2/07/2025	1	7.15	0.24	5.6	91.7	9.31	3.35	2	0.03	5.9	4.72	1.65	2	2
	2	7.15	0.25	5.7	91.8	9.36	3.40							
3/07/2025	1	7.32	0.22	6.1	89.5	9.39	3.40	2	0.06	5.6	4.82	1.7	2	24
	2	7.31	0.22	6.2	89.3	9.37	3.42							
4/07/2025	1	7.38	0.29	5.5	88.8	9.04	2.70	2	0.06	6.4	5.62	1.8	4	ND
	2	7.38	0.3	5.5	88.8	9.05	2.68							
5/07/2025	1	7.23	0.3	5.7	105.5	10.46	0.09	2	0.11	2.3	1.44	3.92	5	5
	2	7.23	0.3	5.8	105.6	10.46	0.10							
6/07/2025	1	7.29	0.36	5.8	90.2	9.12	0.33	2	0.13	6.4	4.99	1.87	3	4
	2	7.28	0.36	5.9	90.2	9.10	0.30							
7/07/2025	1	7.29	0.41	5.7	84.5	8.56	0.30	2	0.25	5.1	4.73	1.93	2	6
	2	7.30	0.41	5.8	84.3	8.53	0.33							
8/07/2025	1	7.25	0.46	5.5	89.8	9.13	0.54	2	0.07	7.2	6.70	1.87	4	8
	2	7.23	0.46	5.6	89.8	9.11	0.54							
9/07/2025	1	7.32	0.42	5.7	96.6	9.18	0.57	2	0.14	5.2	4.66	1.32	6	6
	2	7.33	0.42	5.8	96.7	9.18	0.61							
10/07/2025	1	7.18	0.28	5.5	88.0	9.16	4.52	2	0.08	4.7	4.12	0.98	7	ND
	2	7.17	0.28	5.6	88.0	9.14	4.53							
11/07/2025	1	7.39	0.27	6.2	86.9	9.09	0.06	2	0.08	3.8	3.37	0.80	2	ND
	2	7.37	0.27	6.4	87.1	9.07	0.04							
12/07/2025	1	7.32	0.29	5.5	90.9	9.45	0.72	2	0.14	4.4	4.30	1.14	11	13
	2	7.30	0.29	5.7	91.0	9.43	0.73							
13/07/2025	1	7.08	0.34	6.0	87.0	9.14	0.42	3	0.14	6.0	5.65	1.37	12	3
	2	7.10	0.34	6.2	86.6	9.08	0.41							
14/07/2025	1	7.04	0.41	5.9	87.1	9.83	2.74	4	0.03	5.4	4.70	1.42	8	3
	2	7.03	0.41	5.9	87.1	9.82	2.70							
15/07/2025	1	7.26	0.42	5.8	92.0	9.09	0.86	4	0.02	5.9	4.91	1.74	16	4
	2	7.25	0.42	5.9	92.1	9.09	0.84							
16/07/2025	1	7.40	0.41	6.0	89.4	9.40	1.05	4	0.06	6.2	4.90	1.96	12	1
	2	7.38	0.41	6.1	89.8	9.42	1.05							
17/07/2025	1	7.22	0.37	6.1	92.6	8.56	2.33	5	0.08	5.8	4.16	2.15	17	5
	2	7.22	0.37	6.2	92.6	8.54	2.32							
18/07/2025	1	6.68	0.28	6.2	90.0	9.64	1.42	2	0.12	3.6	2.74	2.36	5	ND
	2	6.68	0.28	6.3	90.0	9.63	1.39							
19/07/2025	1	6.46	0.26	6.4	95.4	10.17	1.21	2	0.21	4.5	4.03	1.23	5	4
	2	6.46	0.26	6.4	95.4	10.16	1.18							
20/07/2025	1	6.59	0.29	5.3	89.6	9.81	0.98	2	0.14	4.1	3.80	1.24	6	ND
	2	6.60	0.29	5.3	89.5	9.79	0.92							
21/07/2025	1	7.24	0.19	5.8	89.4	9.68	0.19	3	0.08	4.0	3.38	0.67	7	3
	2	7.24	0.19	6.0	89.0	9.59	0.14							
22/07/2025	1	7.30	0.2	5.7	87.3	9.47	1.23	2	0.08	3.6	3.04	0.54	11	17
	2	7.29	0.2	5.7	87.6	9.49	1.13							
23/07/2025	1	7.51	0.25	5.7	87.5	9.06	0.70	4	0.06	3.7	2.89	0.82	3	ND
	2	7.40	0.25	5.7	87.5	9.06	0.70							
24/07/2025	1	7.24	0.37	5.4	86.3	8.80	0.72	2	0.08	2.5	2.62	1.22	12	16
	2	7.22	0.37	5.6	86.1	8.75	0.73							
25/07/2025	1	7.00	0.52	5.5	87.1	8.85	3.89	3	0.06	4.4	3.53	1.37	11	ND
	2	6.98	0.52	5.6	87.2	8.84	3.90							
26/07/2025	1	7.08	1.32	5.8	92.8	9.75	0.55	2	0.01	5.8	4.84	1.55	6	ND
	2	7.07	1.32	5.9	92.8	9.73	0.54							
27/07/2025	1	7.20	1.27	6.2	91.8	9.35	3.35	2	0.05	4.8	4.17	1.83	4	ND
	2	7.21	1.27	6.5	92.2	9.33	3.33							
28/07/2025	1	7.16	0.65	5.7	91.9	8.55	0.64	2	0.06	6.2	5.21	1.8	2	12
	2	7.16	0.65	5.7	91.9	8.55	0.61							
29/07/2025	1	7.60	0.56	5.7	87.1	9.01	0.14	2	0.01	6.2	5.70	1.96	5	2
	2	7.57	0.56	5.8	87.0	8.97	0.18							
30/07/2025	1	7.39	0.32	6.2	92.1	9.43	1.16	2	0.08	6.0	5.14	2.06	11	3
	2	7.37	0.32	6.3	92.3	9.44	1.13							
31/07/2025	1	7.30	0.22	6.1	92.2	9.27	0.85	2	0.05	3.9	3.16	1.81	5	5
	2	7.28	0.22	6.1	92.4	9.28	0.83							

Action and Limit Level									
SS		BOD5		Total Nitrogen		Total Phosphorus		E.coli	
AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
30	60	20	40	12	24	4	8	1000	1500

Appendix 6 Event and Action Plan

Event and Action Plan for Air Quality (Construction Noise)

Event	Action			
	ET Leader	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 analyzed 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. Carry out investigation to identify the source and cause of the exceedance; 2. Notify IEC, ER, Project Proponent, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Provide investigation report to IEC, ER, EPD and Contractor he causes of the exceedances; 5. If the exceedance is related to the Project, assess effectiveness by additional monitoring; 6. Report the remedial action implemented and the additional monitoring results to IEC, EPD, ER and Contractor; 7. If exceedance stops, cease additional monitoring.	1. Review the analyzed results submitted by the ET 2. Discuss the potential remedial measures with ER, ET Leader and Contractor 3. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 4. Supervise the implementation of remedial measures.	1. Confirm receipt of Notification of Exceedance in writing; 2. Require the Contractor to propose remedial measures for the analyzed noise problem; 3. Ensure remedial measures are properly implemented; 4. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor, in agreement with the Project Proponent, to stop that activity of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant activity of works as determined by the Project Proponent until the exceedance is abated.

Event and Action Plan for Air Quality (Landscape and Visual)

Event	Action			
	ET Leader	IEC	ER	Contractor
Non-conformity on one occasion	1. Inform the Contractor, IEC and ER; 2. Discuss remedial actions with IEC, ER and Contractor; 3. Monitor remedial actions until rectification has been completed.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures.	1. Confirm receipt of notification of non-conformity in writing; 2. Review and agree on the remedial measures proposed by the Contractor; 3. Supervise implementation of remedial measures.	1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	1. Identify source(s); 2. Inform the Contractor, IEC and ER; 3. Discuss inspection frequency; 4. Discuss remedial actions with IEC, ER and Contractor; 5. Monitor remedial actions until rectification has been completed; 6. If non-conformity stops, cease additional monitoring.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effectiveness of proposed remedial measures.	1. Notify the Contractor; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise implementation of remedial measures.	1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

Event and Action Plan for Air Quality (Water Quality)

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD.	1. Confirm receipt of notification of exceedance in writing.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice.
Action Level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented; 3. Ensure additional mitigation measures are properly implemented.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.
Limit Level being exceeded by one sampling day	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented; 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.
Limit Level being exceeded by two or more consecutive sampling days	1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented.	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures.	1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented; 4. Request Contractor(s) to critically review the working methods.	1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures.

Notes:

ET – Environmental Team, IEC – Independent Environmental Checker; ER = Engineering Representatives

Appendix 7 Waste Flow Table

Monthly Summary Waste Flow Table for 2025 (year)

Name of Person completing the record: Yoyo Leung (Environmental Officer)

Project : Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To

Contract No.: DC/2018/03

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-Inert 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 '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)
Jan	0.079	0.000	0.000	0.000	0.079	0.000	0.000	0.000	0.000	0.000	0.021
Feb	0.022	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.011
Mar	0.119	0.000	0.000	0.000	0.119	0.000	0.000	0.000	0.000	0.000	0.023
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.027
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
Sub-total	0.220	0.000	0.000	0.000	0.220	0.000	0.000	0.000	0.000	0.000	0.134
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.220	0.000	0.000	0.000	0.220	0.000	0.000	0.000	0.000	0.000	0.152
2019	1.787	0.005	0.000	0.000	1.787	0.000	0.000	0.000	0.000	0.000	0.137
2020	3.316	0.000	0.000	0.000	3.321	0.000	0.000	0.000	0.000	0.000	0.703
2021	18.846	0.000	0.000	0.000	18.846	0.000	0.000	0.000	0.000	0.000	0.206
2022	15.129	0.000	0.000	0.000	15.129	0.000	0.000	0.000	0.000	0.000	0.461
2023	1.587	0.000	0.000	0.000	2.324	0.000	0.000	0.000	0.000	0.000	0.635
2024	1.077	0.000	0.000	0.000	1.077	0.000	0.000	0.000	0.000	0.000	0.352
2025	0.220	0.000	0.000	0.000	0.220	0.000	0.000	0.000	0.000	0.000	0.152
Cumulative	41.962	0.005	0.000	0.000	42.704	0.000	0.000	0.000	0.000	0.000	2.646

Notes:

- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging materials.
- (3) Broken concrete for recycling into aggregates.

Appendix 8 Implementation Status of Environment Mitigation Measures

Environmental Mitigation Implementation Schedule

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Air Quality Impact			
S3.7.1	Dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be implemented during the construction of the Project to control potential fugitive dust emissions.	Construction Sites / Construction Phase	Implemented
	Regular water spraying on exposed area.		Implemented
	Vehicle wheel-washing and body washing facilities shall be provided at the site entrance.		Implemented
	Shielding or covering with impervious sheet of stockpiled materials or exposed area when it is not used to reduce dust nuisance		Implemented
	Site practices such as regular maintenance and checking of the diesel driven PMEs should be adopted to avoid any black smoke emissions and to reduce gaseous emissions		Implemented
	Open trench construction of the gravity sewers, each work front should be around 20m to 30m in length to control potential dust emission.		N/O
S3.6.1	The existing sewage pumping station and rising mains should be cleaned and flushed out properly to clear away any remaining potential sources of odour emission, such as sewage sludge from the facilities. The decommissioning including removal of the pumping station and rising mains should take place after the cleaning and flushing out.		N/O
S3.9.1	Regular site inspections on a weekly basis shall be carried out in order to confirm that the mitigation and control measures are properly implemented and are working effectively to ensure proper control of construction dust and gaseous emissions.		Implemented
S3.7.2	To minimize odour problem, the sludge tankers for disposal of sludge shall be fully enclosed	TSTP / Operation Phase	Implemented
	Sludge produced will be thickened and dewatered to 30% dry solids prior to disposal at the landfill.		N/A
	Deodourizing facility using activated carbon filters and/or bio-trickling filters were equipped for both TSTP.	TSTP / Design Phase / Operation Phase	Implemented
	The deodorization system would undergo maintenance annually or when the average odour removal efficiency of deodorization facility is smaller than the required odour removal efficiency.		N/A
	Ventilation system was provided inside the TSTP to ensure adequate air change within the plant.		Implemented
S3.9.2	A commissioning test is recommended to be performed for the operation phase to ascertain the effectiveness of the deodorization systems at the TSTP. Exhaust air flow rate, temperature of exhaust, odour concentrations at the outlet of the deodorization systems should be monitored during the commissioning test. (completed)	Operation Phase	N/A
	Weekly monitoring of odour emission at the exhausts at TSTP by taking odour samples is recommended to be conducted in the first two months of the first year of the operation. (i.e. August to September 2020 - completed)		N/A
	Provided that the monitoring results show no non-compliance on a weekly basis during the first two months, it is recommended to reduce the frequency to monthly in the subsequent four months (i.e. October 2020 to January 2021) and further reduce to quarterly in the remaining six months of the first year if no non-compliance is found. If there is any non-compliance, the operator should inspect the deodorization unit. Frequency of odour monitoring should not be reduced unless no non-compliance is found. Quarterly odour monitoring is also recommended to continue in the second year of the operation (i.e. August 2021 to July 2022). If compliance can be achieved consistently throughout the first two years of the operation, the Project Proponent may propose and seek approval with EPD to reduce monitoring frequency to every six month or yearly basis for subsequent years of operation.	TSTP / Operation Phase	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S3.9.2	Odour patrol is proposed during the period of maintenance or cleaning of the deodorization system for TSTP. It is generally defined as Level 0 to Level 4 in which Level 0 means no odour and Level 4 means unacceptable odour. If Level 3 – 4 is reported and the source of odour is confirmed to be originated from the exhaust of TSTP, the operator should be notified immediately and should investigate and rectify the problem of the cleaning or maintenance works within 24 hours in order to restore the level to below Level 2.	TSTP / Operation Phase	N/A
Noise Impact			
S4.8	Use of quiet PME / quiet construction method.	Construction Sites / Construction Phase	Implemented
	Movable noise barriers of 3 m 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 no openings or gaps. (no demolition works)		Implemented
	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction phase.		Implemented
	Silencers or mufflers on construction equipment should be utilised and properly maintained during the construction phase.		Implemented
	Mobile plant, if any, should be sited as far away from NSRs as possible.		Implemented
	Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.		Implemented
	Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		Implemented
	Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.		N/O
	The construction activities should be planned and carried out in sequence rather than simultaneously at each location. Therefore, only one unit of each type of equipment should be operated at any one time.		N/O
	Open trench construction of the gravity sewers, each work front should be around 20 m to 30 m in length.		N/O
	Include noise levels specification when ordering new equipment items.		Implemented
	Develop and implement a regularly scheduled equipment maintenance programme so that equipment items are properly operated and serviced. The programme should be implemented by properly trained personnel.	Construction Sites / Operation Phase	N/A
S4.11	Designated monitoring stations as defined in EM&A Manual/During construction phase.	NM1 and NM2 / Construction Phase	Implemented
Water Quality Impact			
S5.9.3	- Furthermore, a number of standard measures and good site practices should be implemented to avoid/ minimize the potential impacts from marine construction. These measures include: - All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment; - All vessels must have a clean ballast system; - No soil waste is allowed to be disposed overboard.	Construction Sites / Construction Phase	Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S5.9.3	No discharge of sewage/grey wastewater should be allowed. Wastewater 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.	Construction Sites / Construction Phase	Implemented
EP Clause 2.11	The submarine outfall in Starling Inlet shall be constructed by trenchless method such as Horizontal Directional Drilling or equivalent such that the seabed (except at the diffuser location) will not be disturbed.	Construction Sites / Construction Phase	Implemented
	Mitigation/ precaution measures recommended in the method statement of submarine outfall construction should be implemented.		Implemented
	Cofferdam shall be installed at the receiving pit of the diffuser of submarine outfall. Excavation of sediment and construction of the diffuser shall be conducted in dry condition within the fully drained cofferdam.		N/A
S5.9.4	<u>General Construction Activities</u> Standard site practices outlined in ProPECC PN 2/23 "Construction Site Drainage" should be followed as far as practicable in order to reduce surface runoff, minimize erosion, and also to retain and reduce any SS prior to discharge.	Land Sites and Drainage Sites / Construction Phase	Implemented
	Silt removal facilities such as silt traps or sedimentation facilities should 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 should be based on the guidelines provided in ProPECC PN 2/23.		Implemented
	All drainage facilities and erosion and sediment control structures should 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 should be removed regularly.		Implemented
	Earthworks to form the final surfaces should be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.		Implemented
	Appropriate surface drainage should be designed and provided where necessary.		Implemented
	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.		Implemented
	Oil interceptors should 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.		N/O
	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, should be adequately designed for the controlled release of storm flows. The temporary diverted drainage, if any, should be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.		N/O
S5.9.5	Appropriate infiltration control, such as cofferdam wall, should be adopted to limit groundwater inflow to the excavation works areas in the Project site. Groundwater pumped out from excavation area should be discharged into the storm system via silt removal facilities.	Land Sites and Drainage Sites / Construction Phase	Implemented
S5.9.6	If needed, 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.		Implemented
S5.9.7	<u>Spillage of Chemicals</u> 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 streams or marine water.		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S5.9.9	- The following design measures are also provided in the TSTP and the expanded STKSTW to avoid the risk of emergency discharge: - Provision of dual power supply and backup generator to eliminate the risk of power failure; - Provision of standby equipment (online and on-shelf) for all treatment units; - Operation of STKSTW is under 24-hour monitoring by Shift Team of Sha Tau Kok (for new STKSTW) and/or Shek Wu Hui STW in order to allow inspection and any necessary repair works by DSD at the earliest possible time; - A remote control and monitoring system (SCADA) will also be installed to allow off-site DSD staff (Shift Team) to monitor the operation of STKSTW; and - Provision of on-site storage of raw sewage up to 6 hours for the TSTP and STKSTW	TSTP / Operation Phase	Implemented
S5.9.10	- Additional measures provided to avoid plant failure associated fine screen include: 2 duties + 1 standby fine screens would be provided; - Uninstalled spare parts would be provided; - Monitoring equipment of fine screens would be installed; - Routine inspection and scheduled maintenance works would be strengthened and carried out regularly; and - Equipment and necessary measures such as lifting opening would be provided to shorten the time required for replacement of screen.	Operation Phase	N/A
S5.9.12	To avoid cross-connection of the reclaimed water supply to the potable water supply, the pipes for the reclaimed water will be specially arranged to differentiate them from that of the potable water pipe, e.g. clearly labelled with warning signs and notices, colour-coded, and/or using different pipe size.	Operation Phase	N/A
	Caution would also be taken to avoid the use of high-pressure jet in cleansing and landscape irrigation to minimize aerosol formation from the reclaimed effluent.		N/A
S5.12.1	Marine water quality monitoring at selected WSRs is recommended for installation, maintenance and removal of sheetpile and sediment removal works under this Project. Site audit would also be conducted throughout the marine and land-based construction under this Project. Details environmental monitoring procedures and audit requirements are provided in the standalone EM&A manual.	FCZ1A, SGA, M1A, H1A, H4A, N1 & N2 / Construction Phase	Implemented
S5.12.2	Marine water quality monitoring at selected WSRs is recommended for the first year of (1) interim operation of the TSTP, (2) operation of phase 1 and (3) phase 2 expansion of the STKSTW. Follow-up water quality monitoring should be commenced within 24 hours after an emergency discharge event and continue until the recovery of water quality. Monitoring of effluent quality would also be required for WPCO permit requirement. Detailed environmental monitoring procedures are provided in the standalone EM&A manual. (completed in July 2021)	Operation Phase	N/A
Waste Management and Land Contamination			
S6.6.1	An Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/2005 – “Environmental Management on Construction Sites” should be prepared by the main Contractor of each construction contract upon appointment. The EMP should describe the arrangements for avoidance, reduction, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities.	Construction Sites / Construction Phase	Implemented
S6.6.3	An appropriate person, such as site agent or environmental officer should be nominated, to be responsible for good site practices, arrangement for collection and effective disposal of all wastes generated at the site to an approved facility. Training of construction staff should be undertaken by the Contractor about the concept of site cleanliness and appropriate waste management procedures. Requirements for staff training should be included in the EMP.		Implemented
S6.6.4	Good planning and site management practices should be employed to eliminate over ordering or mixing of construction materials to reduce wastage. Regular cleaning and maintenance of the waste storage area should be provided.		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S6.6.5	A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be implemented in accordance with DEVB TCW No. 6/2010. In order to monitor the disposal of C&D materials and solid wastes at public fill reception facilities and landfills and to control fly-tipping, a trip-ticket system should be included.	Construction Sites / Construction Phase	Implemented
S6.6.6	Imported soft fill and rocks, if required, should be sourced from CEDD's fill bank, other projects or other approved sources instead of using new materials. Approval from the Engineer and all other relevant parties should be obtained by the Contractor before importation of the fill materials.	Construction Phase	N/O
S6.6.7	- All waste materials should be segregated into categories covering: - inert C&D materials suitable for public filling facilities; - recyclable materials / waste - remaining non-inert C&D materials for landfill; - spent bentonite for public filling facilities; - chemical waste; and - general refuse for landfill	Construction Sites / Construction Phase	Implemented
S6.6.9	Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert wastes.		Implemented
S6.6.11	The reuse of inert C&D materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials.		Implemented
S6.6.12	Prior to export of material from the site, the potential for it to be reused should be assessed. Most C&D materials can easily be reused with minimum processing. Waste separation methods should be followed to ensure that C&D waste is separated at source. Suitable soft materials should be used for landscaping and grading of embankments. Fine material should be separated out and used as topsoil.	Construction Phase	N/A
S6.6.13	Use of recycled aggregates whenever possible	Design and Construction Phase	N/A
S6.6.14, S6.6.30	All C&D materials should be sorted on-site into inert and non-inert components by the Contractor. Non-inert C&D materials (C&D waste) such as wood, glass and plastic should be reused and recycled before disposal to a designated landfill as a last resort. Inert C&D materials (public fill) should be reused onsite or in other projects approved by relevant parties before disposed of at public fill reception facilities. Steel and other metals if any should be recovered from C&D materials and recycled.	Construction Sites / Construction Phase	Implemented
S6.6.15	Good quality reusable topsoil should be stockpiled for later landscaping works. Stockpiles should be less than 2m in height, formed to a safe angle of repose and hydroseeded or covered with tarpaulin to prevent erosion during the rainy season and to minimise dust generation.		Implemented
S6.6.16	Control measures for temporary stockpiles on-site should be taken in order to minimize the noise, generation of dust, pollution of water and visual impact.		Implemented
S6.6.17	The public fill to be disposed to public fill reception facilities must consist entirely of inert construction materials. Disposal of C&D waste to landfill must not have more than 50% by weight of inert material. The C&D waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight.		Implemented
S6.6.18	In order to avoid dust or odour impacts, any vehicles leaving a works area carrying C&D waste or public fill should have their load covered up before leaving the construction site.		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S6.6.20	With reference to the Sediment Quality Report in the EIA, only Category L sediment was identified. In accordance with ETWB TCW No. 34/2002, Type 1 – Open Sea Disposal should be adopted for the disposal of 3,040 m³ excavated sediment during construction of the proposed outfall diffuser. The location of marine disposal site should be sought with MFC/CEDD. The Contractor shall obtain a Marine Dumping Permit in accordance with the Dumping at Sea Ordinance. The Contractor should provide separate submissions (e.g. Sediment Sampling and Testing Plan / Sediment Quality Report) to EPD / DASO authority when applying for the marine dumping permit under the Dumping at Sea Ordinance.	Construction Sites / Construction Phase	N/A
S6.6.21	Bentonite slurry used in the drilling works should be treated and recycled at the works area in STKSTW. Any bentonite that is not suitable for recycling should be suitably dewatered before disposed of at public fill reception facilities.		Implemented
S6.6.22 & S6.6.37	Where the construction/ operation processes produce chemical waste, the Contractor must register with EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD.	Construction Sites / Construction and Operation Phase	Implemented
S6.6.23 & S6.6.37	Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and should be collected by a licensed chemical waste collector.		Implemented
S6.6.24 & S6.6.37	Suitable containers should be used for specific types of chemical wastes, containers should be properly labelled (English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, safely stored and securely closed. Stored volume should not be kept more than 450 liters unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2 m height or height of tallest container with adequate ventilation and space.		Implemented
S6.6.25 & S6.6.37	Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any grease traps should be collected and disposed of by a licensed contractor.		Implemented
S6.6.26 & S6.6.37	Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a designated secure place. If possible, such waste should be sent to oil recycling companies, and the empty oil drums collected by appropriate companies for reuse or refill.		Implemented
S6.6.27	The registered chemical waste producer (i.e. the Contractor has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the Chemical Waste Treatment Centre in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes.	Construction Sites / Construction Phase	Implemented
S6.6.28	No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.		Implemented
S6.6.29	All wooden materials used on-site should be kept separate from other wastes to avoid damage and to facilitate reuse. Timber which cannot be reused should be sorted out from other waste and stored separately from all inert waste before being disposed of to landfill.	Construction Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
S6.6.32	General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at designated landfill. A temporary refuse collection point should be set up by the Contractor at the works area to facilitate the collection of refuse by licensed waste collector. The removal of waste from the site should be arranged on a daily or at least on every second day by the Contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.	Construction Sites / Construction Phase	Implemented
S6.6.33	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		Implemented
S6.6.35	Dewatered sludge should be delivered by sealed sludge tanker for treatment at the Sludge Treatment Facility in Tuen Mun.	Operation Phase	N/A
S6.6.36	Screenings should be collected and stored in covered containers before disposed of at landfill. Likewise, worn membrane filters and general refuse should be properly stored and disposed of at landfill.		N/A
Ecology			
S7.7.3	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.	Construction Sites / Construction Phase	Implemented
	Regularly check the work site boundaries to ensure that they are not breached, and that damage does not occur to surrounding areas.		Implemented
	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.		Implemented
	To avoid/ minimise the potential disturbance on the Night Roosting Site for Great Egret if confirmed to be continuing their usage before the construction activities, major noisy works such as concrete breaking should not be undertaken within an area of 100m from the Night Roosting Site after 16:00 under normal working hours. (i.e. 16:00 to 07:00 of the following day).		N/A
	Strong artificial lighting should not be used in the area at night to avoid disturbance to the roosting ardeids.		N/A
Landscape and Visual			
Table 9.6 of EM&A Manual	<u>Preservation of Existing Vegetation</u> Existing trees designated to be retained in-situ should be properly protected. Tree protection measures to be undertake shall be in accordance with DEVB TC(W) 7/2015 on “Tree Preservation” and Guidelines on Tree Preservation during Development” by DEVB. This may include the clear demarcation and fencing-off of tree protection zones, tight site supervision and monitoring to prevent tree damage by construction activities, and periodic arboricultural inspection and maintenance to uphold tree health. A total of around 108 nos. of trees should be retained in-situ within the tree survey area.	Construction Sites / Construction Phase	Implemented
	<u>Preservation of Existing Vegetation (con’t)</u> Under current proposal, no tree is recommended to be transplanted since the trees in conflict with the proposed works are not suitable to be transplanted. However, should transplantation be proposed in the detailed design stage after an update tree survey, the recommended final recipient sites should be adjacent to their current locations. Enough time should be reserved for tree transplantation works to increase the survival rate of the transplanting trees. To ensure the survival of transplanted trees, protection work should be considered. The tree transplantation proposal shall be submitted to relevant authorities for approval together with the formal tree removal application. Tree transplanting works shall be undertaken in accordance with Guidelines on Tree Transplanting by DEVB.		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Table 9.6 of EM&A Manual	<u>Control of Site Construction Activities</u> - Construction site controls shall be enforced, where possible, to ensure that the landscape and visual impacts arising from the construction phase activities are minimised. These construction site controls should include but not limited to the following: - Storage of materials should be carefully arranged to minimise potential landscape and visual impact. - The location and appearance of site accommodation should be carefully designed to minimize potential landscape and visual impact. - Site lighting should be carefully designed to prevent light spillage, - Extent of the works area and construction period should be minimised as far as practicable. - Screen hoarding with compatible design to blend into the surrounding natural environment should be considered (Screen hoarding may not be practicable for works of upgrading existing rising mains due to the spatial constraints of the works area along the Shun Hing Street). - Temporary works areas should be reinstated at the earliest possible opportunity.	Construction Sites / Construction Phase	Implemented
Table 9.7 of EM&A Manual	<u>Suitable design of the proposed TSTP</u> - Colour of natural tones and non-reflective building materials shall be used for any outward facing building facades to avoid visual and glare disturbance; - Responsive lighting design. - Directional and full cut off lighting is recommended within the boundaries of STKSTW to minimise light spillage to the surroundings; - Minimise geographical spread of lighting, only applying for safety at the key access points of the STKSTW; and - Limited lighting intensity to meet the minimum safety and operation requirement.	Construction Sites / Design and Construction Phase	Implemented
Cultural Heritage			
S10.3.50	Undertake trenchless excavation in the vicinity of the Tin Hau Temple and provide a buffer zone of 10m between the works area for the open cut section and the Tin Hau Temple.	Construction Phase	N/O
S10.3.51	A condition survey and vibration impact assessment should be undertaken and if construction vibration monitoring and structural strengthening measures are required.		N/A
S10.3.52	Vibration and settlement monitoring should also be undertaken during the construction works to ensure that safe levels of vibration are not exceeded, if it is recommended in the condition survey report.		N/A
S10.3.53	If the maximum level is exceeded all works must stop and the structure must be examined to determine if it has been damaged. The contractor must also take measures, such as using smaller pneumatic drills to ensure that the levels are reduced to acceptable limits.		N/A
S10.3.54	If at any time during the construction period, the foundation of the structure is affected by the works; the works shall be immediately suspended and the AMO notified. If the works cause any damage to the structures, the proponent should be responsible for the restoration and repair at their own cost. A method statement should be submitted to AMO for comment and the works should be under AMO's supervision.		N/O
S10.3.55	Protective covering should be provided as an additional mitigation measure to the Tin Hau Temple.		N/O

Note:

*N/A = Not applicable at current stage

N/O = Not observed in the site walk

Implemented = Compliance

Not Implemented = Non-compliance

Appendix 9 Weather and Meteorological Conditions

July 2025 Weather

Station: Hong Kong Observatory

Date	Mean Pressure (hPa)	Air Temperature			Mean Relative	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)	Humidity (%)	
July 2025						
1	1008	29.8	28.2	26.4	87	5.5
2	1008.8	33.3	30	27.4	80	0.5
3	1007.5	33.6	30.3	28.4	76	0
4	1005.4	34.5	30.8	28.5	71	0
5	1003.3	34.8	30.6	29	71	3.7
6	1002.8	33.5	30.3	28.2	71	0
7	1003.1	34.3	31.2	29.1	77	0
8	1002.7	33.3	30.9	29.7	76	0
9	1000	33.6	30.7	25.8	77	15.2
10	996.7	29	26.3	25	93	126.4
11	998.9	29.9	27.9	25.9	84	0
12	1004.8	31.3	28.7	26.4	87	38.4
13	1006.2	33.3	30.1	27.8	81	1.9
14	1004.5	33.2	30.2	27.8	79	9.2
15	1003.5	32.7	30.3	28.3	79	3.2
16	1004.1	34	31.1	29	75	0
17	1003.1	34.2	31.3	29.2	76	0
18	1000	31.3	28.6	26.1	85	19
19	994.3	33.5	29.5	27	78	10
20	988.5	28	27	25.9	91	87.6
21	997.4	27.9	27.1	26.4	92	42.4
22	1002	30.5	28	25.8	88	95.7
23	1003.2	33.3	29	26.4	81	2.6
24	1002	32	29.4	27.5	77	Trace
25	1000.1	33.6	29.2	25.4	78	31.8
26	1000	35.2	30.2	26.1	74	0
27	1000.1	33.1	30.4	28.8	76	0
28	998.1	32.8	30.1	28.3	80	0.6
29	996.9	29.1	27.8	25.8	90	106.5
30	997.4	32.6	29.8	28.5	84	0
31	998.6	31.8	29.9	28.2	83	1.5

Note (From Hong Kong Observatory):
Trace means rainfall less than 0.05 mm

Source: Hong Kong Observatory

Appendix 10 Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Environmental Complaints Log

Reference	Date of Complaint	Received From	Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply

Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	1	0	1
Noise	2	0	2
Water	0	0	0
Waste Management	3	0	3

Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste Management	0	0	0

Appendix 11 Summary of Site Audit

Summary of Site Environmental Audit in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality		N/A	
Noise		N/A	
Water Quality		N/A	
Chemical and Waste Management		N/A	
Land Contamination		N/A	
Ecological Impact		N/A	
Landscape and Visual Impact		N/A	
Permit / Licenses		N/A	
Others		N/A	

Appendix 12 Outstanding Issues and Deficiencies

Summary of Outstanding Issues and Deficiencies in the Reporting Month

Parameters	Outstanding Issues	Deficiencies
Air Quality	NA	Any items of deficiencies can be referred to Appendix 11 .
Noise	NA	
Water Quality	NA	
Chemical and Waste Management	NA	
Land Contamination	NA	
Landscape and Visual Impact	NA	
Permit / Licenses	NA	
Others	NA	

Appendix 13 The on-site time & duties of ET and IEC

On-site Time & duties for the Team of ET and IEC

On-site Time & duties for the Team ET of during the reporting month		
Works to be carried on-site	Purposes	Actual Man-hour per week
Environmental site inspection (4, 11, 18, 25 and 30 July 2025)	- To audit and assess the effectiveness of the Contractor's site practice and work methodologies regarding on environmental and landscape & visual mitigation measures as stipulated in the EM&A Manual. - To take pro-active actions to pre-empt environmental problems. - To audit compliance with the intended aims of the measures implemented by the Contractor. - The findings will notify to the Contractor at the time of inspection to enable the rapid resolution of identified non- conformities. - To carry out the follow-up actions if non-conformities identified during the site inspection.	3 hours per week
Keeping and logging records in the log-book	To keep a contemporaneous log-book of any such instance or circumstance or change of circumstances.	1 hours per week
Impact noise monitoring (4, 11, 18 and 25 July 2025)	- To carry out impact noise monitoring at each station at 0700-1900 hours on normal weekdays; per week when construction activities are underway. - To check the performance of monitoring and to track the varying environmental impact. - To carry out remedial actions described in the Event/Action Plans of the EM&A Manual in accordance with the time frame set out in the Event/ Action Plans in case where specified criteria in the EM&A Manual are exceeded.	3 hours per week
Meeting with the ER, IEC, and contractor (4, 11, 18, 25 and 30 July 2025)	- To discuss with ER, IEC and Contractor any observations that improvement works is required to enhance the overall environmental performance; liaise with Contractor on any environmental non-compliance identified and follow up actions taken. - To liaise with the Project Proponent, IEC, RSS and other individuals or parties concerning other environmental issues deemed to be relevant to the construction/ operation process. - To review the complaint issue with ER, IEC and Contractor to prevent further complaints.	2 hours per week
Additional Monitoring for Critical work activities (recommended)	Purposes	Additional minimum on-site time
Construction Phase		
Monitoring of decommission of existing rising main and demolition of sewage pumping station inside the close area of Sha Tau Kok Chuen	- To audit the Contractor's site practice and work methodologies regarding environmental mitigation measures contained in the EM&A Manual. - To check any non-compliance with the construction methodology, mitigation measures and environmental monitoring and audit requirements recommended in the approved Method Statement submitted by the Contractor. - To take pro-active actions to pre-empt environmental problems.	Such work has not yet commenced.

<u>Operation Phase</u>		
Marine Water quality monitoring during the first year of the TSTP	- To obtain water samples from the Water Quality Monitoring Stations as stipulated in the Table 5.3 of EM&A Manual. - To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 4.3 of Baseline Environmental Monitoring Report (Water).	Completed
Marine Water quality monitoring during the first year of the STKSTW (1, 3, 5, 8, 10, 12, 15, 17, 19, 22, 24, 26, 29 and 31 July 2025)	- To obtain water samples from the Water Quality Monitoring Stations as stipulated in the Table 5.3 of EM&A Manual. - To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 4.3 of Baseline Environmental Monitoring Report (Water).	6 hours per day
Continuous monitoring of treated sewage effluent from the TSTP	- To obtain 24-hour flow-weighted composite effluent sample for subsequent chemical analysis and testing. - To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 5.4 of EM&A Manual. - To notify the plant operator for the non-compliance and to identify the cause for the non-compliance if any noncompliance.	Completed
Continuous monitoring of treated sewage effluent from the STKSTW	- To obtain 24-hour flow-weighted composite effluent sample for subsequent chemical analysis and testing. - To check the monitoring parameter against the Action and Limit Levels stipulated in the Table 5.4 of EM&A Manual. - To notify the plant operator for the non-compliance and to identify the cause for the non-compliance if any noncompliance.	4 hours per day
Testing & Commissioning for the TSTP	To ascertain the effectiveness of the deodorization systems as required in the EM&A at the TSTP and STKSTW during the operation phase.	Completed
Monitoring of odour emission at the exhausts at TSTP	To check any non-compliance with the monitoring parameter as stipulated in the EM&A Manual	1 hour per six months
Odour patrol during the period of maintenance of the deodorization system for TSTP	- To patrol and sniff along an odour patrol route at the existing STKSTW site boundary. - To carry out the follow-up actions if any exceedance of the Action or Limit Level occurs actions in accordance with the Event/Action Plan presented in Table 3.5 of EM&A Manual should be carried out.	No maintenance of deodorization system for TSTP in the reporting month.

On-site Time & duties for the Team of IEC during the reporting month		
Works to be carried on-site	Purposes	Actual Man-hour per week
General site inspection or Monthly site inspection	- To ensure the EIA recommendations and EP requirements are complied with. - To review the effectiveness of environmental mitigation measures and environmental performance of the Project. - To identify any environmental deficiency needs to be improved. - To identify in any environmental non-compliance.	2 x 2 hours general site inspection or 1 x 4 hours monthly site inspection
Inspection of on-site ET Logbook	To inspect and audit the on-site logbook kept by the ET.	1 hours per week
Audit of Monitoring Works by the ET	To check, audit and verify the environmental monitoring equipment, procedures, data and results of the environmental monitoring works carried out by the ET.	1.5 hours per week
Meeting with the ER, ET and contractor.	- To discuss with ER, ET and Contractor any observations that improvement works is required to enhance the overall environmental performance. - To discuss with ET, ET and Contractor any environmental non-compliance identified and follow up actions required.	1.5 hours per week
Additional Monitoring for Critical work activities (recommended)	Purposes	Additional minimum on-site time
<u>Construction Phase</u>		
Monitoring construction works of Submarine Outfall	- To ensure the EIA recommendations and EP requirements are complied with. - To review the effectiveness of environmental mitigation measures and environmental performance of the Project. - To identify any environmental deficiency needs to be improved. - To identify in any environmental non-compliance.	Completed

Appendix 14 Investigation Report (Exceedance of Marine Water Quality Monitoring)

Bi-Weekly Investigation Report on Action Level or Limit Level Non-Compliance

Date of exceedance	Monitoring Station	Tide	Parameter	Depth Average Result	Action Level	Limit Level	Exceedance	Depth Average Result at Control Station	Daily Effluent Result on the same day	Marine construction activities with contact with water (Y/N)	Exceedance related to Project (Y/N)	Reasons of non-project related exceedance				
												(1)	(2)	(3)	(4)	(5)
22/07/2025	SGA	Ebb	<i>E.coli</i> (CFU/100mL)	215	129	138	Limit Level	221	17	N	N	✓	✓	✓	✓	✓
	M6A	Ebb	<i>E.coli</i> (CFU/100mL)	190	104	133	Limit Level	221	17	N	N	✓	✓	✓	✓	✓
	H4A	Ebb	<i>E.coli</i> (CFU/100mL)	165	78	91	Limit Level	221	17	N	N	✓	✓	✓	✓	✓
24/07/2025	SGA	Flood	<i>E.coli</i> (CFU/100mL)	130	129	138	Action Level	181	16	N	N	✓	✓	✓	✓	✓
	M6A	Flood	<i>E.coli</i> (CFU/100mL)	140	104	133	Limit Level	181	16	N	N	✓	✓	✓	✓	✓
	H4A	Flood	<i>E.coli</i> (CFU/100mL)	174	78	91	Limit Level	181	16	N	N	✓	✓	✓	✓	✓
24/07/2025	H4A	Flood	BOD (mg/L)	5	4.8	5.2	Action Level	4	12	N	N		✓	✓	✓	✓
26/07/2025	SGA	Flood	<i>E.coli</i> (CFU/100mL)	218	129	138	Limit Level	306	Not Detected	N	N	✓	✓	✓	✓	✓
	M6A	Flood	<i>E.coli</i> (CFU/100mL)	269	104	133	Limit Level	306	Not Detected	N	N	✓	✓	✓	✓	✓
	H4A	Flood	<i>E.coli</i> (CFU/100mL)	242	78	91	Limit Level	306	Not Detected	N	N	✓	✓	✓	✓	✓
31/07/2025	SGA	Flood	<i>E.coli</i> (CFU/100mL)	179	129	138	Limit Level	206	5	N	N	✓	✓	✓	✓	✓
	M6A	Flood	<i>E.coli</i> (CFU/100mL)	164	104	133	Limit Level	206	5	N	N	✓	✓	✓	✓	✓
	H4A	Flood	<i>E.coli</i> (CFU/100mL)	130	78	91	Limit Level	206	5	N	N	✓	✓	✓	✓	✓

- 1) Control station value already exceeds either the Action or Limit Level.
- 2) Daily Effluent Sampling on the same day did not exceed the Action or Limit Level.
- 3) No silt plume or pollution discharge from site area was observed.
- 4) Rainfall was recorded during the monitoring period or before the monitoring event, rainfall may lead to release the pollutant content form the soil of the nearby lands.
- 5) Sha Tau Kok Sewage Treatment Works work normally; no emergency discharge was recorded.

Conclusion:

During water quality monitoring on 22, 24, 26 and 31 July 2025, 2 Action Level and 8 Limit Level exceedances were recorded during mid-flood tide, 3 Limit Level exceedances were recorded during mid-ebb tide. Total 2 Action Level and 11 Limit Level exceedances of water quality monitoring were recorded between 16 July to 31 July 2025.

The Sha Tau Kok Sewage Treatment Works operated normally, with no exceedances were recorded in daily effluent on the same sampling days. Additionally, no discharge from construction works was observed, and no marine construction activities were carried out during the monitoring period.

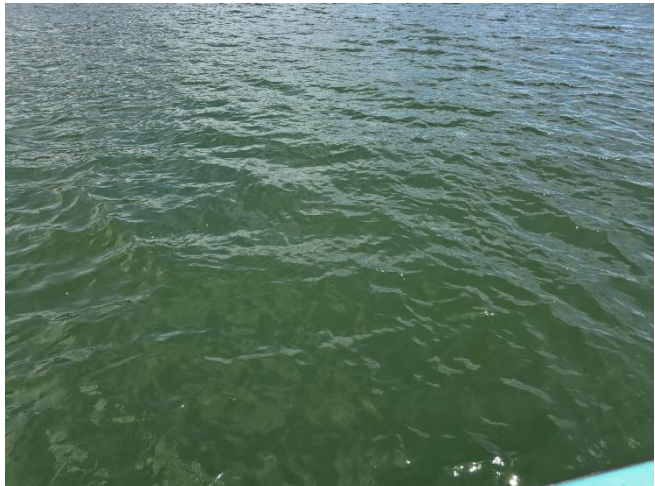
On 24 July 2025, there was no exceedance of BOD5 was recorded at the monitoring station (SGA, FCZ1A) closest to the sewage treatment works.

After investigation, all exceedances were considered non-project related.

Supporting Photo:

Date of exceedance	Monitoring station(s)		
22/07/2025			
	 SGA	 M6A	 H4A

Bi-Weekly Investigation Report (16 July to 31 July 2025)

24/07/2025				
				
	SGA	M6A	H4A	

Bi-Weekly Investigation Report (16 July to 31 July 2025)

26/07/2025				
	 SGA	 M6A	 H4A	

Bi-Weekly Investigation Report (16 July to 31 July 2025)

31/07/2025				
				
	SGA	M6A	H4A	

Bi-Weekly Investigation Report (16 July to 31 July 2025)

2025年7月22日的總雨量 (基於雨量計及雷達數據) 22 July 2025	2025年7月23日的總雨量 (基於雨量計及雷達數據) 23 July 2025	2025年7月24日的總雨量 (基於雨量計及雷達數據) 24 July 2025	2025年7月25日的總雨量 (基於雨量計及雷達數據) 25 July 2025	2025年7月26日的總雨量 (基於雨量計及雷達數據) 26 July 2025
2025年7月31日的總雨量 (基於雨量計及雷達數據) 31 July 2025				

Document prepared by

Aurecon Hong Kong Limited

Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223 – 231 Wai Yip Street, Kwun Tong, Kowloon
Hong Kong S. A. R.

T +852 3664 6888

F +852 3664 6999

E hongkong@aurecongroup.com

W aurecongroup.com

The Aurecon logo consists of a small green square with a white dot inside, followed by the word "aurecon" in a bold, black, sans-serif font.

*Bringing ideas
to life*

