



生態系統顧問有限公司
ECOSYSTEMS LTD.

Your ref.
Our ref. 2486-1/LCS/L012
Date: 14 November 2024

Environmental Protection Department
Environmental Assessment Division
Territory South Group
Lantau North West
27th Floor, Southorn Centre,
130 Hennessy Road, Wan Chai,
Hong Kong

By Post and Email

Attn: Mr. Andy Wong (EPD Env Protection Offr (Territory S)11)

Dear MR. WONG,

**Contract No. PW 1/2024 Environmental Monitoring Works for Lung Kwu Chau Jetty
Repair Works
Submission of Monthly EM&A Report (Issue 2)**

Pursuant to Conditions 4.6 of the EP No. EP-150/2002/A, we hereby submit the Monthly EM&A Report (Issue 2) for the captioned Project at Lung Kwu Chau Jetty.

The aforesaid submission has been certified by the Environmental Team (ET) and verified by the Independent Engineer (IE). The ET certification and the IE verification letters have been enclosed for your record. Should you have any questions please feel free to contact us.

Yours faithfully,

Vincent LAI (ET Leader)
Managing Director
Ecosystems Ltd.



生態系統顧問有限公司
ECOSYSTEMS LTD.

Your ref.

Our ref. 2486-1/LCS/L011

By Post and Email

Date: 14 November 2024

Civil Engineering and Development Department
Civil Engineering Office
Port Works Division
Maintenance Section 2
4/F, Civil Engineering and Development Building,
101 Princess Margaret Road, Homantin,
Kowloon

Attn: Mr. Li (CEDD Engr / Maintenance 2 B)

Dear Sir,

**Contract No. PW 1/2024 Environmental Monitoring Works for Lung Kwu Chau Jetty
Repair Works
Certification of Monthly EM&A Report (Issue 2)**

Pursuant to Conditions 4.6 of the EP No. EP-150/2002/A, we hereby certify the Monthly EM&A Report (Issue 2) for the captioned Project at Lung Kwu Chau Jetty.

Should you have any questions please feel free to contact us.

Yours faithfully,

Vincent LAI (ET Leader)
Managing Director
Ecosystems Ltd.

cc Independent Engineer Mr. Ivan Ting

By Post

Our Ref : P240304 -EMA-202410-V

Date : 14th November 2024

Civil Engineering and Development Department
Civil Engineering Office
Port Works Division
Maintenance Section 2
4/F, Civil Engineering and Development Building,
101 Princess Margaret Rd, Homantin, Kowloon

Attn: Mr. Kalvin Li

Agreement No. PW 2/2024**Independent Environmental Checker for Lung Kwu Chau Jetty Repair Works****Monthly EM&A Report for October 2024**

Dear Sir,

Pursuant to Condition 4.6 of Environmental Permit (EP) No. EP-150/2002/A, please note the report "Monthly EM&A Report No 2 (Issue 2)" dated 14 November 2024 submitted under the EP, certified by the Environmental Team Leader on 14 November 2024, had been reviewed and is hereby verified.

Should you have any query, please feel free to contact the undersigned at 3756 9590 or ivanting@umwelt.consulting.

Your faithfully,

For and on behalf of:

Umwelt Consulting Limited



Ting Po Chung Ivan

Independent Engineer

Contract No. PW 1/2024 Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Monthly EM&A Report No 2 (Issue 2)



Ecosystems Limited

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ISSUES AND REVISION RECORD

Issue	Date	Description
1	7 Nov 2024	Draft Issue
2	14 Nov 2024	Revised Issue

	Name	Role	Signature	Date
Prepared by	Klinsmann CHEUNG	Ecologist		14/11/2024
Approved by	Vincent LAI	Environmental Team Leader		14/11/2024

EXECUTIVE SUMMARY

The Lung Kwu Chau Jetty (the Jetty) is situated within the Sha Chau and Lung Kwu Chau Marine Park, the construction and operation of the Jetty is a designated project, a statutory EIA process was conducted, and the Environmental Impact Assessment (EIA) report was approved in November 2002 (Register No.: AEIAR-066/2002). The current Environmental Permit (EP) (EP No. EP-150/2002/A) was granted by the Director of Environmental Protection to CEDD in May 2003, and the construction works were completed in November 2003. However, substantial repair works would be required after inspection by CEDD in 2023.

The EP was issued to CEDD for the construction and operation of the Jetty, and the proposed repair works could be covered by the existing scope of EP. Ecosystems Ltd. is commissioned by CEDD as the Environmental Team responsible for the environmental monitoring requirements recommended in the EM&A Manual and EIA Report.

According to the EM&A Manual, baseline marine water monitoring was carried out at 3 designated monitoring stations from 15 July to 12 August 2024. The proposed repair works commenced on 23rd September 2024 and respective monitoring was also commenced.

Monitoring parameters including Dissolved Oxygen (DO), Turbidity and Suspended Solids (SS), and other relevant data (such as water depth, monitoring time, water temperature, salinity, pH, Dissolved Oxygen Saturation (%), tidal stages, weather and sea conditions) were recorded during the baseline monitoring.

This is the 2nd EM&A report submitted under the Condition 4.2 of EP No. EP-150/2002/A. This report summarizes the findings on EM&A during the period from 1st to 31st October 2024.

Exceedance of Action and Limit Levels

During the monitoring period in October 2024, high levels of turbidity and suspended solids were recorded on 18th October 2024 at control stations C1 and C2 during mid-flood tide. The high level was probably due to localized natural variations. No Project-related Action or Limit Level exceedance was recorded.

Implementation of Mitigation Measures

The monthly joint site inspection was carried out on 4th October 2024 with IE and CEDD, and five weekly site inspections were carried out on 4th, 9th, 16th, 25th and 30th October 2024 to confirm the implementation measures undertaken by the Contractor in the reporting month. The outcomes are presented in **Section 3.2**.

Record of Complaints

There was no record of complaints received, and no notifications of any summons and successful prosecutions in the reporting month.

Future Key Issues

Construction activities to be undertaken in the next reporting period of November 2024 include coring 219mm dia. holes for anchor posts, installation of anchor posts and erection of formwork for the slab. Potential environmental impacts due to the construction activities will be monitored.

Environmental mitigation measures will be implemented on site as recommended, monthly joint site inspection, and weekly site audits will be carried out to ensure that the environmental conditions are acceptable.

1. INTRODUCTION

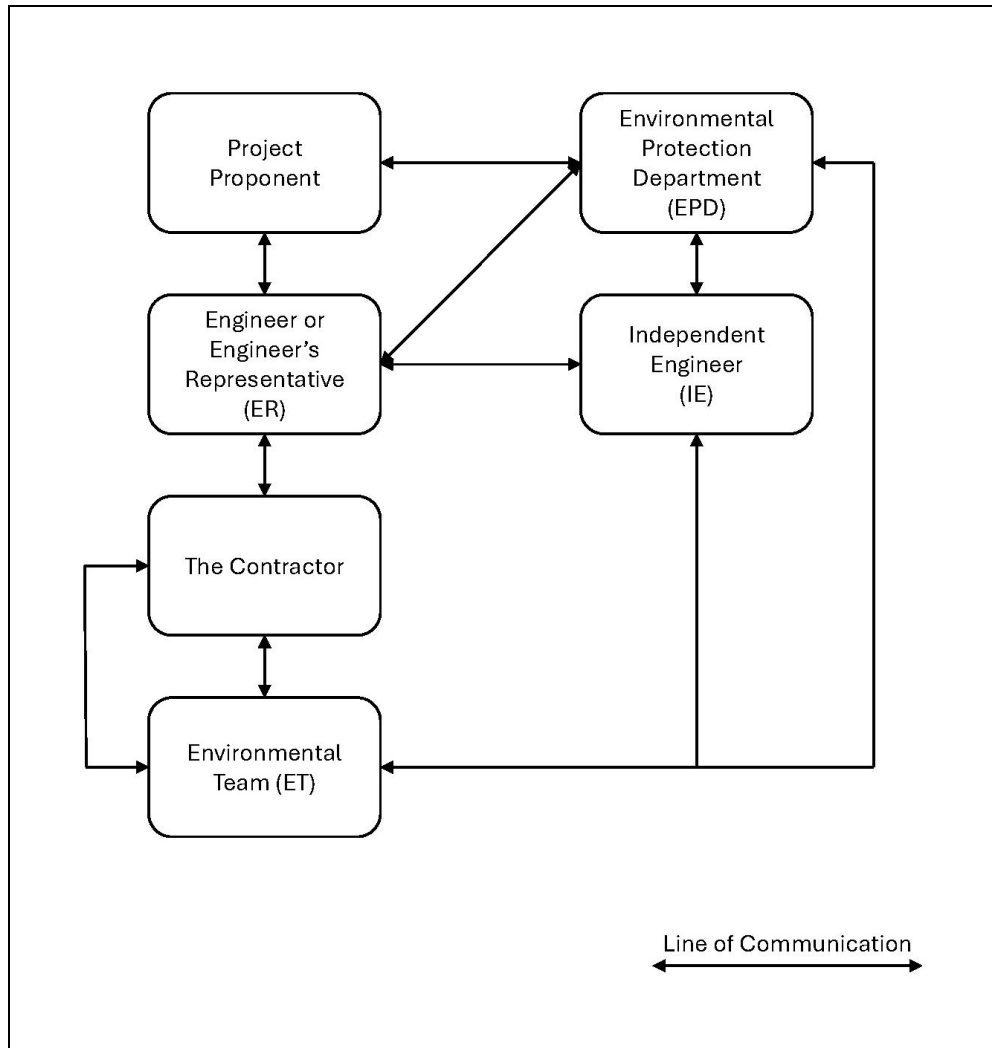
1.1 Background

- 1.1.1 The Lung Kwu Chau Jetty (the Jetty) is situated within Sha Chau and Lung Kwu Chau Marine Park which is managed by the Civil Aviation Department (CAD) and maintained by Port Works Division (PWD) of Civil Engineering and Development Department (CEDD). Since the Jetty is situated within the marine park, the construction and operation of the Jetty is a designated project, a statutory EIA process was conducted, and the Environmental Impact Assessment (EIA) report was approved in November 2002 (Register No.: AEIAR-066/2002). The current Environmental Permit (EP) (EP No. EP-150/2002/A) was granted by the Director of Environmental Protection to CEDD in May 2003, and the construction works were completed in November 2003.
- 1.1.2 Further to the previous repair works, PWD inspected the Jetty in November 2023 and considered that substantial repair works would be required. Location plan of the works area is shown in **Figure 1**. The scope of the works comprises:
- (i) removing damaged pier slab at the Jetty;
 - (ii) taking down and refixing the dislocated concrete blocks;
 - (iii) concreting the pier slab at the Jetty; and
 - (iv) installing anchor posts on the Jetty.
- 1.1.3 The EP (EP No. EP-150/2002/A) was issued to CEDD for the construction and operation of the Jetty, and the proposed repair works could be covered by the existing scope of EP. Ecosystems Ltd. is commissioned by CEDD as the Environmental Team to take into account the environmental monitoring requirements recommended in the EM&A Manual and EIA Report.
- 1.1.4 In accordance with the approved EIA Report, an EM&A programme is recommended to ensure compliance with the EIA study recommendations, to assess the effectiveness of the recommended mitigation measures and to identify any further need for additional mitigation measures or remedial action.

1.2 Project Organization

1.2.1 The project organization structure and lines of communication with respect to the environmental management structure is shown below:

Project Organization for Environmental Works



1.2.2 The key personnel and contact are summarized in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
CEDD (Project Proponent)	Engineer	Kalvin Li	2762 5567	2714 2054
Contractor (Build King – CRCC Harbour Joint Venture)	Site Agent	Jerry Lau	6353 5489	-
Ecosystems Ltd.	Environmental Team Leader	Vincent Lai	2553 0468	2552 9191
Umwelt Consulting Ltd.	Independent Engineer	Ivan Ting	3756 9590	3582 3310

1.3 Summary of Construction Activities

1.3.1 Summary of construction works and construction waste created in October 2024:

- Maintaining the double silt curtain;
- Removal of the existing slab at the catwalk of the jetty;
- Coring 219mm dia. holes for anchor posts at the pier head of the jetty;
- Construction waste created around 34m³

1.3.2 The construction works programme of the Project is provided in **Appendix A**.

1.4 Summary of EM&A Programme Requirements

1.4.1 The status of EM&A programme for the relevant environmental aspects required under the EM&A Manual are presented in **Table 1.2**. The requirements of relevant environmental monitoring are presented in **Section 2**.

Table 1.2 Summary of Status for the Relevant EM&A Programme under the EM&A Manual

Parameters	Descriptions	Locations	Frequencies	Status
Water Quality	Dissolved oxygen (DO), dissolved oxygen saturation (DO%, temperature, turbidity, salinity, pH and suspended solids (SS)	C1, C2 and M2	3 days per week	On-going
Environmental Site Inspection	Mitigation measures, and waste management	Project Site	Weekly	On-going
Joint Site Environmental Audit	Mitigation measures, and waste management	Project Site	Monthly	On-going

2. ENVIRONMENTAL MONITORING AND AUDIT RESULTS

2.1 Summary of EM&A Manual's Requirement

2.1.1 In accordance with the EM&A Manual under the Project, impact monitoring shall be conducted during construction phase during dredging works. However, no dredging works are proposed for the present repairing works. The purpose of the present impact monitoring is to ensure the implementation of the recommended mitigation measures, provide effective control of any malpractices, and provide continuous improvements to the environmental conditions. The interval between two sets of monitoring shall not be less than 36 hours with a frequency of 3 days a week, at mid-flood and mid-ebb tides. The baseline conditions included the water quality parameters specified in the EM&A Manual, including dissolved oxygen (DO), dissolved oxygen saturation (DO%), temperature, turbidity, salinity, pH and suspended solids (SS) in the water body at all designated monitoring station for the Project. Further details of the water quality impact monitoring under this Project are presented in the following sections.

2.2 Monitoring Locations

2.2.1 Water quality impact monitoring was carried out at 3 locations within Sha Chau and Lung Kwu Chau Marine Park. The marine water quality monitoring stations during the baseline monitoring, construction monitoring and post-construction monitoring are shown in **Figure 2**. The coordinates of the monitoring stations are listed in **Table 2.1**.

Table 2.1 Coordinates of the Monitoring Site and Control Sites

Monitoring/Control Station	Easting	Northing
C1	806116	827618
C2	806034	825308
M2	806329	826408

2.3 Monitoring Parameters

2.3.1 Monitoring parameters listed in **Table 2.2** were measured by the ET to ensure that any deteriorating water quality could be readily detected and timely action be taken to rectify the situation. **Table 2.3** shows the other relevant water quality data also recorded during the monitoring.

Table 2.2 Monitoring Parameters

In-situ measurement	Laboratory analysis
Dissolved Oxygen (mg/L)	Suspended solids (mg/L)
Turbidity (NTU)	

Table 2.3 Other Relevant Water Quality Parameters

Water quality parameters	
Tidal stages	Ambient temperature and marine water temperature (°C)
Water depth (m)	Dissolved Oxygen saturation (%)
Monitoring time (hr:mm)	Salinity (ppt)
Weather condition	pH

2.4 Monitoring Frequency

2.4.1 The monitoring frequency during baseline monitoring is summarized in **Table 2.4**. The baseline monitoring programme is shown in **Table 2.5**.

Table 2.4 Monitoring Frequency of Water Quality Monitoring

Frequency	Monitoring depth
3 days/week, 2 tides/day	1m below water surface, mid-depth and 1m above sea bed

Table 2.5 Monitoring Programme in October 2024

Monitoring Date	1st Tide Monitoring	2nd Tide Monitoring
2/10/2024 (Wed)	13:00 Mid-Ebb	19:00 Mid-Flood
*# 4/10/2024 (Fri)	08:00 Mid-Flood	14:00 Mid-Ebb
7/10/2024 (Mon)	10:00 Mid-Flood	16:00 Mid-Ebb
* 9/10/2024 (Wed)	07:00 Mid-Ebb	13:00 Mid-Flood
11/10/2024 (Fri)	08:00 Mid-Ebb	15:00 Mid-Flood
14/10/2024 (Mon)	11:00 Mid-Ebb	17:00 Mid-Flood
* 16/10/2024 (Wed)	12:00 Mid-Ebb	18:00 Mid-Flood
18/10/2024 (Fri)	08:00 Mid-Flood	14:00 Mid-Ebb
21/10/2024 (Mon)	10:00 Mid-Flood	16:00 Mid-Ebb
23/10/2024 (Wed)	07:00 Mid-Ebb	13:00 Mid-Flood
* 25/10/2024 (Fri)	09:00 Mid-Ebb	15:00 Mid-Flood
28/10/2024 (Mon)	11:00 Mid-Ebb	17:00 Mid-Flood
* 30/10/2024 (Wed)	11:00 Mid-Ebb	17:00 Mid-Flood

*Date of site inspection

#Date of joint site inspection

2.5 Monitoring Methodology and Equipment Used

Positioning of the monitoring stations

2.5.1 A hand-held digital Global Positioning System (GPS) was used to identify the designated monitoring stations prior to water sampling.

Water depth measurement

2.5.2 A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.

Water quality multi-meter

2.5.3 Portable, weatherproof multi-meter with built-in salinity compensation (YSI ProDSS) was used in the monitoring. It could be capable for measuring:

- A dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation;
- A temperature of 0-45 degree Celsius
- Turbidity with photoelectric sensor between 0-1000 NTU
- Salinity in the range 0-40 ppt

Water sampling and sample analysis

2.5.4 In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. If the water depth is less than 6m, the mid-depth station was omitted and if the water depth is below 3m, only the mid depth station was monitored.

2.5.5 A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 liters, was lowered into the water body at the predetermined depth. The opening ends of the sampler were then be closed accordingly, and water samples were collected.

2.5.6 The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labelled with a unique sample ID and sealed with a screw cap. The water samples were then be delivered to a local HOKLAS-accredited laboratory (ALS Technichem (HK) Pty Ltd) within 24 hours for analysis.

2.6 Quality Assurance (QA) / Quality Control (QC) results and Determination Limits

2.6.1 The in-situ monitoring multi-meter was checked, calibrated and certified by a laboratory accredited under HOKLAS before use, and subsequently re-calibrated at 3 monthly intervals, if necessary. At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. For the in-situ parameters to be measured, duplicate measurements were performed by dropping the calibrated probes of the multi-meter (i.e. YSI ProDSS) to the designated depths of the water column and taking readings after stabilized. The duplicate measurements were averaged if the difference is not greater than 25%.

2.6.2 The summary of laboratory testing method of total suspended solids analysis is shown in **Table 2.6**.

Table 2.6 Summary of Laboratory Testing Method of Total Suspended Solids

Laboratory analysis	Testing procedure	Method detection limit
Total suspended solids	American Public Health Association (APHA) Standard Methods for the Examination of Water and Wastewater, 23rd edition, 2540D or equivalent method	2mg/L

2.7 Details of Site Equipment Used for In-situ Measurement

2.7.1 List of in-situ water quality monitoring equipment is shown in **Table 2.7**. All of the monitoring equipment complied with the requirements as set out in the EM&A Manual. All the monitoring instrument / equipment has been checked, calibrated and certified by a laboratory accredited under HOKLAS. The calibration certificates are attached in **Appendix B**.

Table 2.7 Details Monitoring Equipment (In-situ measurement)

Parameter	Model (serial no., if any)	Date of Calibration / Performance check	Due Date
Coordinate of Monitoring stations	Garmin eTrex 30	N/A	N/A
Dissolved Oxygen (% and Saturation), Temperature	YSI ProDSS ODO optical dissolved (24F100112)	9/10/2024	8/01/2025
Turbidity	YSI ProDSS Turbidity (24E105092)	9/10/2024	8/01/2025
Salinity	YSI ProDSS Conductivity (24F101051)	9/10/2024	8/01/2025
pH	YSI ProDSS pH sensor (24G100579)	9/10/2024	8/01/2025
Water Depth	HONDEX PS-7	N/A	N/A

3. RESULTS AND OBSERVATION

3.1 Results

General

3.1.1 Water quality impact monitoring was conducted three times per week at 3 monitoring stations (C1, C2 & M2) from 1/10/2024 to 31/10/2024. The monitoring results with weather and sea conditions at each monitoring day were attached in **Appendices C1 and C2**.

Action and Limit Levels

3.1.2 The calculated Action and Limit Levels for the monitoring of the proposed repair works based on the baseline water quality monitoring results are shown in **Table 3.1**.

Table 3.1 Action and Limit Level for Marine Water Quality at Lung Kwu Chau

Parameters	Action Level	Limit Level
Dissolved Oxygen (DO), in mg/L (Surface, Middle and Bottom)	<u>Surface and Middle</u> 5.05 mg/L <u>Bottom</u> 3.94 mg/L	<u>Surface and Middle</u> 4 mg/L or 3.68 mg/L <u>Bottom</u> 2 mg/L or 3.17 mg/L
Suspended Solids (SS), in mg/L (Depth-averaged)	20.95 mg/L or 120% of upstream control station's SS at the same tide of the same day	41.82 mg/L or 130% of the upstream control station's SS at the same tide on the same day
Turbidity in NTU (Depth-averaged)	15.29 NTU or 120% of the upstream control station's turbidity at the same tide on the same day	22.57 NTU or 130% of the upstream control station's turbidity at the same tide on the same day

Remarks:

1. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
2. For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
4. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.

3.1.3 During the monitoring period in October 2024, high levels of turbidity and suspended solids were recorded on 18th October 2024 at control stations C1 and C2 during mid-flood tide. The high level was probably due to localized natural variations. No Project-related Action or Limit Level exceedance was recorded. The summary of marine water quality exceedances is shown in **Table 3.2**. Summary of the water monitoring results from all monitoring stations during the reporting period is shown in **Table 3.3**.

Table 3.2 Daily Exceedance Summary of Marine Water Quality

October 2024						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 No exceedances in all WMP*	3	4 No exceedances in all WMP*	5
6	7 No exceedances in all WMP*	8	9 No exceedances in all WMP*	10	11 No exceedances in all WMP*	12
13	14 No exceedances in all WMP*	15	16 No exceedances in all WMP*	17	18 <u>At the Mid-flood (a.m.)</u> High level of turbidity and suspended solids in C1 & C2	19
20	21 No exceedances in all WMP*	22	23 No exceedances in all WMP*	24	25 No exceedances in all WMP*	26
27	28 No exceedances in all WMP*	29	30 No exceedances in all WMP*	31		

Remarks:

* WMP = Water monitoring parameters

Table 3.3 Summary of the Water Monitoring Results from All Monitoring Stations

Monitoring parameters		Monitoring Stations			Action and Limit Level	
		C1	M2	C2	AL	LL
DO (mg/L)	Surface & Middle Depth Average	5.78	5.91	5.89	5.05	4 or 3.68
	Surface & Middle Depth Max	7.67	8.95	7.82		
	Surface & Middle Depth Min	4.75	5.08	4.97		
	Bottom Depth Average	5.65	5.82	5.81	3.94	2 or 3.17
	Bottom Depth Max	6.71	8.71	6.95		
	Bottom Depth Min	4.65	4.62	4.74		
Turbidity (NTU)	Average	6.21	5.67	6.64	15.29	22.57
	Max	44.83	21.59	35.26		
	Min	0.56	0.76	0.56		
Suspended Solids (mg/L)	Average	8.86	7.41	9.42	20.95	41.82
	Max	47	33	59		
	Min	2	2	2		

Remarks:

- AL = Action Level
- LL = Limit Level

3.1.4 In case of any exceedance of the Action or Limit Levels, appropriate actions set out in the Event and Action Plan from the EM&A Manual (**Appendix D**), shall be taken upon ETL's notification.

3.1.5 Graphical plots of impact monitoring data since September 2024 are shown in **Appendix E**.

3.2 Environmental Site Inspection

3.2.1 Regular environmental site inspections were carried out with the Contractor to confirm the implementation of appropriate environmental protection and pollution control mitigation measures under the Project.

3.2.2 In the reporting period, one environmental joint site inspection was carried out on 4th October 2024 with IE and CEDD, and five weekly site inspections were carried out on 4th, 9th, 16th, 25th and 30th October 2024. The checklists of the site inspections are shown in **Appendix F**.

3.2.3 Waste management audits were also performed during the regular environmental site inspections carried out in the reporting period. No non-compliance for Contractor's waste management practices was identified during the audits. There were about 34m³ of construction waste were generated by the Contractor during the reporting month. The construction waste generated in October 2024 was stored in the hopper of the derrick lighter for proper treatment in later months.

3.3 Summary of Environmental Complaints, Notification of Summons and Successful Prosecutions

3.3.1 There were no environmental complaints, notification of summons and successful prosecutions recorded in the reporting period.

4. FORECAST FOR THE NEXT REPORTING PERIOD

4.1 Works Programme for the Next Reporting Period

4.1.1 Tentative construction works in November 2024:

- Coring 219mm dia. holes for anchor posts;
- Installation of anchor posts;
- Erection of formwork for the slab

4.1.2 Potential environmental impacts due to the construction activities will be monitored. The ET will keep track on the construction activities to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

4.2 Monitoring Schedule for the Next Reporting Period

4.2.1 The tentative schedule for marine water quality monitoring for the next reporting period is provided in **Appendix G**.

5. CONCLUSION

- 5.1.1 This Monthly EM&A Report presents the key findings of the EM&A works during the reporting period from 1st to 31st October 2024 for the construction works for the Project in accordance with the EM&A Manual and the requirements of the EP.
- 5.1.2 Environmental auditing works, including monthly joint site inspection conducted by ET, IE and CEDD, and weekly site inspections of construction works were conducted by the ET during the reporting period. No non-compliance of environmental statutory requirements was identified.
- 5.1.3 During the reporting month, no Project-related exceedances of water quality parameters were recorded. There were also no environmental complaints, notification of summons and successful prosecutions recorded in the reporting month.
- 5.1.4 The ET will keep track on the construction works to confirm compliance if environmental requirements and the proper implementation of all necessary mitigation measures.

FIGURE



Figure 1 Location Plan of the Works Area

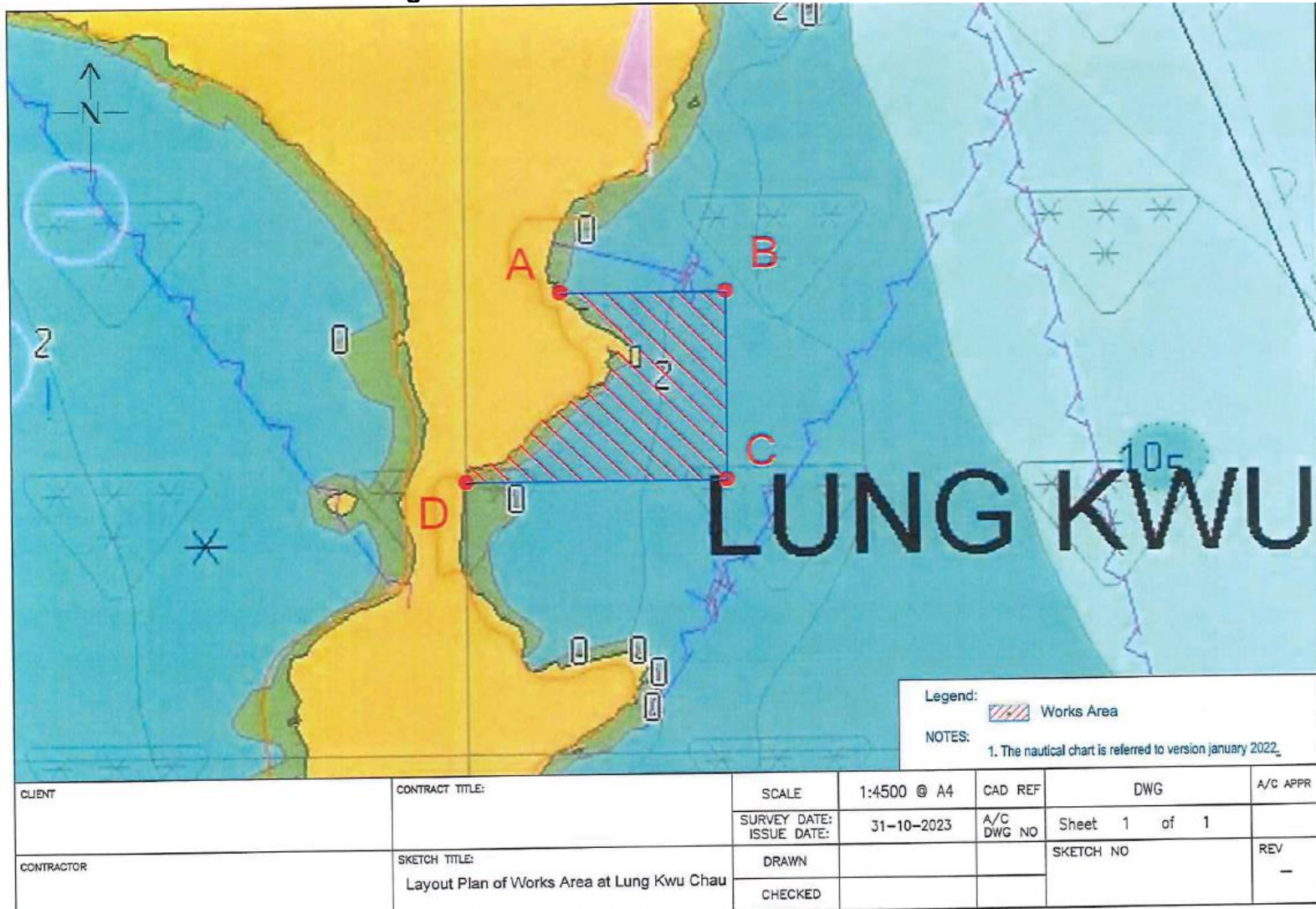
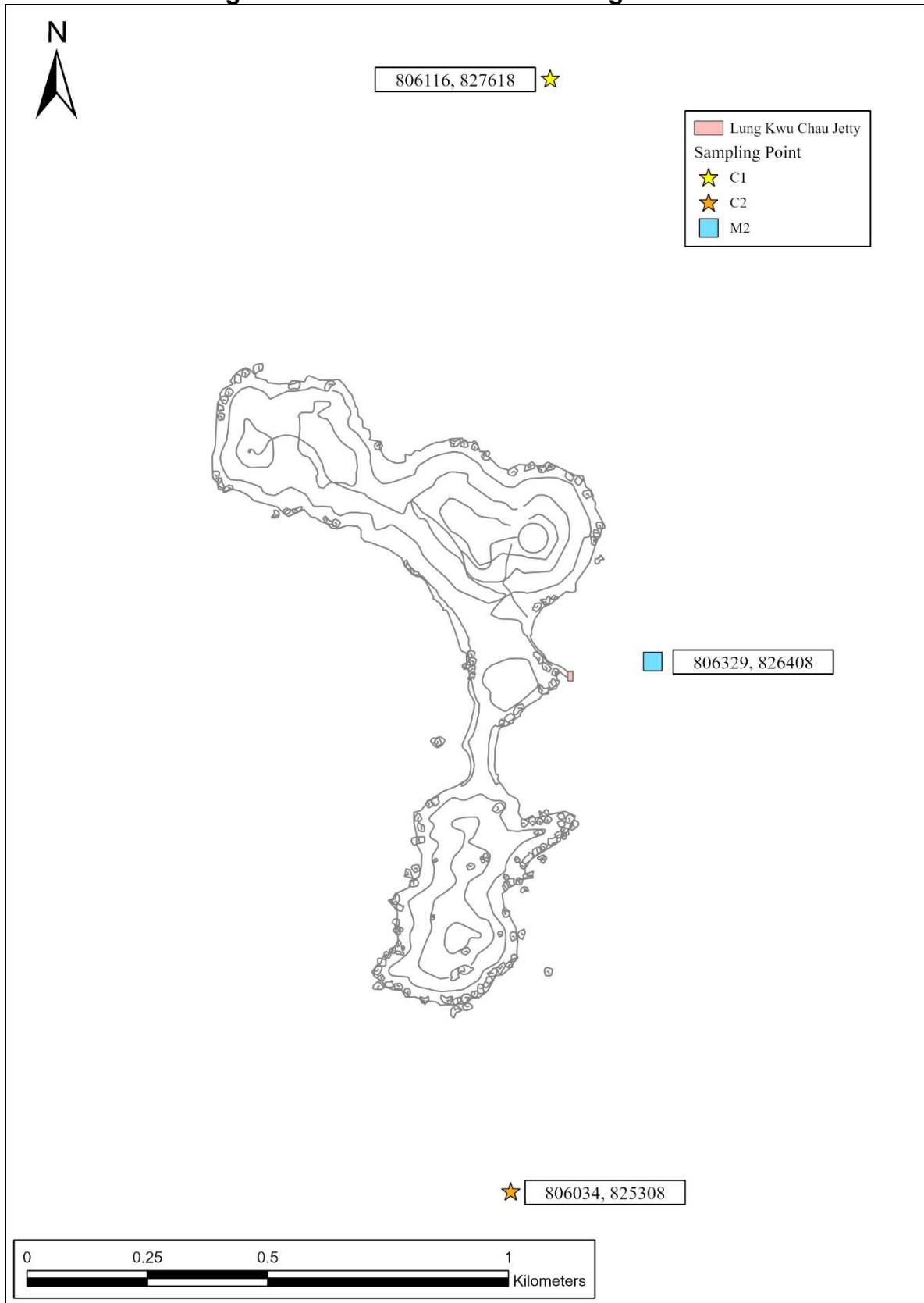


Figure 2 Location of Monitoring Stations



APPENDICES

Appendix A

Construction Works Programme

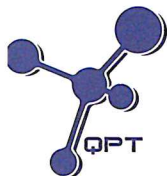
CEDD Maintenance Contract for Piers (2022-2027)
Task Order No. MW/091/2201
Repair and Enhancement Works in Lung Kwu Chau Jetty
TASK ORDER PROGRAMME

識別碼	Task Name	工期	開始時間	完成時間	前置任務	2024年上半年						2024年下半年						2025年上半年					
						十一月	十二月	一月	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月	一月	二月	三月	四月
1	Task Order Programme - Repair and enhancement works in Lung Kwu Chau Jetty	613 days	1/12/2023	11/12/2025		1/12																	
2	Start Date	0 days	1/12/2023	1/12/2023		1/12																	
3	Completion Date	0 days	23/5/2025	23/5/2025		23/5																	
4	1. Application for Working Permits and Documentation Approval	90 days	1/12/2023	21/3/2024		1/12																	
5	1.1 Application for MDN	90 days	1/12/2023	21/3/2024	2SS	21/3																	
6	1.2 Preparation and submission of materilas method statement, programme and risk assessment	28 days	1/12/2023	5/1/2024	2SS	1/12																	
7	1.3 Principle Approval from CEDD	14 days	6/1/2024	22/1/2024	6	6/1																	
8	2. Mobilization and preparation of materials	4 days	21/9/2024	25/9/2024		21/9																	
9	2.1 Mobilization and preparation of construction materials	4 days	21/9/2024	25/9/2024	7,5,31	25/9																	
10	3. Construction Works	170 days	26/9/2024	21/4/2025		26/9																	
11	3.1 Site set-up and placement of sinkers for vessel berthing	2 days	26/9/2024	27/9/2024	9,5	27/9																	
12	3.2 Erection of silt curtain	2 days	28/9/2024	30/9/2024	11	30/9																	
13	3.3 Phase 1 - Removal of concrete slab	45 days	2/10/2024	23/11/2024	12	2/10																	
14	3.4 Phase 1 - Take down and refix the displaced concrete blocks by the derrick lighter	15 days	25/11/2024	11/12/2024	13	25/11																	
15	3.5 Phase 1 - Erect formwork for Portion 1 and 2	14 days	12/12/2024	30/12/2024	14	12/12																	
16	3.6 Phase 1 - Concreting works for Portion 1 and 2	2 days	31/12/2024	2/1/2025	15	31/12																	
17	3.7 Phase 1 - Erect formwork for Portion 3 & 4	14 days	31/12/2024	16/1/2025	15	31/12																	
18	3.8 Phase 1 - Concreting works for Portion 3 & 4	2 days	17/1/2025	18/1/2025	17	17/1																	
19	3.9 Phase 1 - Coring and installation of anchor posts	40 days	12/10/2024	27/11/2024	12SS+10 days	12/10																	
20	3.10 Phase 2 - Removal of concrete slab	35 days	17/1/2025	1/3/2025	19,17	17/1																	
21	3.11 Phase 2 - Take down and refix the displaced concrete blocks by the derrick lighter	8 days	3/3/2025	11/3/2025	20	3/3																	
22	3.12 Phase 2 - Erect formwork for Portion 5 and 6	8 days	12/3/2025	20/3/2025	21	12/3																	
23	3.13 Phase 2 - Concreting works for Portion 5 and 6	2 days	21/3/2025	22/3/2025	22	21/3																	
24	3.14 Phase 2 - Erect formwork for Portion 7 & 8	9 days	21/3/2025	31/3/2025	22	21/3																	
25	3.15 Phase 2 - Concreting works for Portion 7 & 8	2 days	1/4/2025	2/4/2025	24	1/4																	
26	3.14 Phase 2 - Erect formwork for Portion 9 & 10	8 days	3/4/2025	11/4/2025	25	3/4																	
27	3.15 Phase 2 - Concreting works for Portion 9 & 10	2 days	12/4/2025	14/4/2025	26	12/4																	
28	3.16 Phase 2 - Coring and installation of anchor posts	35 days	28/11/2024	10/1/2025	19	28/11																	
29	3.17 Demobilization and site clearance	6 days	15/4/2025	21/4/2025	28,27	15/4																	
30	4. Water Quality Monitoring	433 days	15/7/2024	11/12/2025		15/7																	
31	4.1 Baseline W.Q.M and obtaining approval from EPD by ET	58 days	15/7/2024	20/9/2024	5FS+90 days	15/7																	
32	4.2 Impact W.Q.M by ET	173 days	22/4/2025	8/11/2025	31FS+1 day,29	22/4																	
33	4.3 Post Project W.Q.M by ET	28 days	10/11/2025	11/12/2025	32	10/11																	

Build King - CRCC Harbour JV Rev. 5 on 5 Oct 2024	任務		進度		摘要		上顯型要徑任務		上顯型進度		外部任務		摘要群組	
	要徑任務		里程碑		上顯型任務		上顯型里程碑		分割		專案摘要		期限	

Appendix B

Calibration Certificates for Water Quality Monitoring Equipment



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD100029
Date of Issue : 10 October 2024
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PART A - CUSTOMER INFORMATION

Ecosystems Limited
Unit B13, 12/F., Block B2, Yau Tong Industrial City, 17 Ko Fai Road, Yau Tong, Kowloon, HK

PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS Multi Parameters
Manufacturer : YSI
Serial Number : 24C101291
Date of Received : 04 October 2024
Date of Calibration : 09 October 2024
Date of Next Calibration : 08 January 2025
Request No. : D-BD100029

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

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

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.10	0.10	Satisfactory
7.42	7.50	0.08	Satisfactory
10.01	10.07	0.06	Satisfactory

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

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
17.0	17.0	0.0	Satisfactory
24.5	24.2	-0.3	Satisfactory
31.5	30.0	-1.5	Satisfactory

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

(3) Salinity

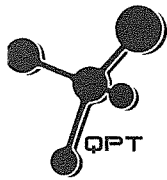
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.18	1.8	Satisfactory
20	20.78	3.9	Satisfactory
30	30.00	6.0	Satisfactory

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

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
8.05	7.76	-0.29	Satisfactory
5.49	5.26	-0.23	Satisfactory
2.54	2.35	-0.19	Satisfactory
1.81	1.35	-0.46	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	0.52	--	Satisfactory
10	10.87	8.7	Satisfactory
20	20.21	1.1	Satisfactory
100	106.28	6.3	Satisfactory
800	801.28	0.2	Satisfactory

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

--- END OF REPORT ---

Appendix C1

Water Quality Monitoring Results

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average
2/10/2024	Mid-Ebb	M2	Sunny	Rough	13:41	13:42	29	4.6	surface	1	8.13	8.13	29.2	29.2	27.68	27.675	13.02	12.99	12.4	6.76	6.76	6.76	102.9	102.9	21	20	17.5	
			Sunny	Rough	13:41	13:42					8.13		29.2		27.67		12.96			6.76			102.9		19			
			Sunny	Rough	13:40	13:41			bottom	3.6	8.13	8.13	29.2	29.2	27.67	27.67	11.68	11.75		6.77	6.77	6.77	103	103	14	15		
			Sunny	Rough	13:40	13:41					8.13		29.2		27.67		11.82			6.77			103		16			
	Mid-Ebb	C1	Sunny	Rough	13:21	13:22	29	7.7	surface	1	8.05	8.05	29.1	29.1	26.81	26.81	3.96	3.98	8.07	6.83	6.83	6.815	103.2	103.2	3	3.5	4	
			Sunny	Rough	13:21	13:22					8.05		29.1		26.81		4			6.83			103.2		4			
			Sunny	Rough	13:20	13:21			middle	3.85	8.07	8.07	29.2	29.2	27.73	27.73	3.65	3.655		6.8	6.8	6.815	103.4	103.4	4	3.5		
			Sunny	Rough	13:20	13:21					8.07		29.2		27.73		3.66			6.8			103.4		3			
			Sunny	Rough	13:19	13:20			bottom	6.7	8.07	8.07	29.2	29.2	28.36	28.36	16.64	16.57		6.67	6.665	6.665	101.7	101.65	5	5		
			Sunny	Rough	13:19	13:20					8.07		29.2		28.36		16.5			6.66			101.6		5			
	Mid-Ebb	C2	Sunny	Rough	14:02	14:03	29	4.8	surface	1	8.14	8.14	29.1	29.1	28.89	28.885	10.59	10.57	10.4	6.49	6.49	6.49	99.2	99.2	12	12	14	
			Sunny	Rough	14:02	14:03					8.14		29.1		28.88		10.55			6.49			99.2		12			
			Sunny	Rough	14:01	14:02			bottom	3.8	8.16	8.16	29	29	29.45	29.435	10.4	10.315		6.36	6.365	6.365	97.4	97.4	17	16		
			Sunny	Rough	14:01	14:02					8.16		29		29.42		10.23			6.37			97.4		15			
	Mid-Flood	M2	Sunny	Rough	19:03	19:04	27.7	4.2	surface	1	8.22	8.22	29	29	27.27	27.27	5.93	5.93	5.52	6.69	6.69	6.69	101.1	101.1	5	5	5	
			Sunny	Rough	19:03	19:04					8.22		29		27.27		5.93			6.69			101.1		5			
			Sunny	Rough	19:02	19:03			bottom	3.2	8.25	8.25	29.3	29.3	29.79	29.79	5.12	5.11		6.38	6.38	6.38	98.2	98.2	5	5		
			Sunny	Rough	19:02	19:03					8.25		29.3		29.79		5.1			6.38			98.2		5			
	Mid-Flood	C1	Sunny	Rough	19:27	19:28	27.7	7.1	surface	1	8.15	8.15	29.1	29.1	28.76	28.76	4.57	4.58	11.8	6.43	6.435	6.2575	98.2	98.25	5	4.5	18.33	
			Sunny	Rough	19:27	19:28					8.15		29.1		28.76		4.59			6.44			98.3		4			
			Sunny	Rough	19:26	19:27			middle	3.55	8.14	8.14	29.3	29.3	30.07	30.06	9.51	9.485		6.08	6.08	6.08	93.8	93.8	5	5		
			Sunny	Rough	19:26	19:27					8.14		29.3		30.05		9.46			6.08			93.8		5			
			Sunny	Rough	19:25	19:26			bottom	6.1	8.13	8.13	29.3	29.3	30.3	30.3	22.96	21.185		6	6.005	6.005	92.7	92.7	47	45.5		
			Sunny	Rough	19:25	19:26					8.13		29.3		30.3		19.41			6.01			92.7		44			
	Mid-Flood	C2	Sunny	Rough	19:47	19:48	27.7	4	surface	1	8.16	8.16	29.1	29.1	28.87	28.87	4.62	4.62	6.52	6.55	6.55	6.55	100.1	100.1	4	4	5.75	
			Sunny	Rough	19:47	19:48					8.16		29.1		28.87		4.62			6.55			100.1		4			
			Sunny	Rough	19:46	19:47			bottom	3	8.16	8.16	29.2	29.2	28.99	28.99	8.44	8.41		6.53	6.525	6.525	99.9	99.85	8	7.5		
			Sunny	Rough	19:46	19:47					8.16		29.2		28.99		8.38			6.52			99.8		7			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average
4/10/2024	Mid-Ebb	M2	Sunny	Rough	14:00	14:00	25	5.4	surface	1	8.09	8.09	28	28	31.15	31.15	8.16	8.18	9.57	5.9	5.9	5.9	89.7	89.75	10	9.5	11.5	
			Sunny	Rough	14:00	14:01					8.09		28		31.15		8.2			5.9			89.8		9			
			Sunny	Rough	14:01	14:02			8.09	8.09	27.9	27.9	31.42	31.415	11.01	10.95	5.89	5.885		5.885	89.5		89.45	14	13.5			
			Sunny	Rough	14:02	14:03			8.09		27.9		31.41		10.89		5.88				89.4			13				
	Mid-Ebb	C1	Sunny	Rough	14:23	14:24	25	7.9	surface	1	8.09	8.09	28	28.05	30.57	30.565	6.8	6.815	7.67		5.99	5.985	6.01	90.7	90.65	8	7.5	8.17
			Sunny	Rough	14:23	14:24					8.09		28.1		30.56		6.83				5.98			90.6		7		
			Sunny	Rough	14:24	14:25			8.1	8.1	28	28	30.75	30.745	7.45	7.435	6.04	6.035		91.5	91.5	7		7.5				
			Sunny	Rough	14:24	14:25			8.1		28		30.74		7.42		6.03			91.5		8						
			Sunny	Rough	14:25	14:26			8.11	8.11	27.8	27.8	31.79	31.865	8.34	8.745	6.1	6.075		6.075	92.7	92.35		10	9.5			
			Sunny	Rough	14:25	14:26			8.11		27.8		31.94		9.15		6.05				92			9				
	Mid-Ebb	C2	Sunny	Rough	14:50	14:51	25	5.6	surface	1	8.1	8.1	28	28	31.9	31.9	9.21	9.19	11.9		6.31	6.305	6.305	97	96.95	10	10.5	13.5
			Sunny	Rough	14:50	14:51					8.1		28		31.9		9.19				6.3			96.9		11		
			Sunny	Rough	14:51	14:52			8.11	8.11	27.8	27.8	32.09	32.09	14.23	14.585	5.98	5.975			5.975	91.1		90.95	17	16.5		
			Sunny	Rough	14:51	14:52			8.11		27.8		32.09		14.94		5.97					90.8			16			
	Mid-Flood	M2	Sunny	Rough	8:02	8:03	23.5	5.5	surface	1	8.1	8.1	27.8	27.8	30.55	30.555	12.86	12.91	13.6	5.99		5.99	5.99	90.4	90.4	14	14	16.25
			Sunny	Rough	8:02	8:03					8.1		27.8		30.56		12.96			5.99				90.4		14		
			Sunny	Rough	8:03	8:04			8.11	8.11	27.8	27.8	30.56	30.56	14.26	14.235	6.09	6.08		6.08	91.8	91.65		19	18.5			
			Sunny	Rough	8:03	8:04			8.11		27.8		30.56		14.21		6.07				91.5			18				
	Mid-Flood	C1	Sunny	Rough	8:24	8:25	23.5	9.1	surface	1	8.08	8.08	27.9	27.9	30.17	30.17	4.96	4.945	9.12		5.91	5.915	5.815	89.2	89.2	6	6	17.5
			Sunny	Rough	8:24	8:25					8.08		27.9		30.17		4.93				5.92			89.2		6		
			Sunny	Rough	8:25	8:26			8.08	8.08	28.2	28.15	30.62	30.565	8.36	7.97	5.71	5.715		86.8	86.85	8		8				
			Sunny	Rough	8:25	8:26			8.08		28.1		30.51		7.58		5.72			86.9		8						
			Sunny	Rough	8:26	8:27			8.09	8.09	28.5	28.5	31.48	31.45	14.89	14.435	5.62	5.62		5.62	86.2	86.2		40	38.5			
			Sunny	Rough	8:26	8:27			8.09		28.5		31.42		13.98		5.62				86.2			37				
	Mid-Flood	C2	Sunny	Rough	8:43	8:44	23.5	5.9	surface	1	8.1	8.1	27.9	27.9	30.72	30.72	10.18	10.305	11.6		5.95	5.95	6.035	90.1	90.05	12	12	13.5
			Sunny	Rough	8:43	8:44					8.1		27.9		30.72		10.43				5.95			90		12		
			Sunny	Rough	8:44	8:45			8.11	8.11	27.9	27.9	30.74	30.735	12.93	12.835	6.05	6.035			91.6	91.35		14	15			
			Sunny	Rough	8:44	8:45			8.11		27.9		30.73		12.74		6.02				91.1			16				

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)					
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average	DA*	
7/10/2024	Mid-Ebb	M2	Sunny	Rough	16:22	16:22	29	7.1	surface	1	8.12	8.12	28.54	28.54	30.56	30.56	17.84	10.535	8.81	5.49	5.49	5.44	70.84	70.84	6	6	6.17			
			Sunny	Rough	16:22	16:22					8.12		28.54		30.56		3.23			5.49			70.84		6					
			Sunny	Rough	16:21	16:21			middle	3	8.11	8.105	28.37	28.37	31	31	4.55	4.605	5.39	5.39	69.37	69.37	6	6						
			Sunny	Rough	16:21	16:21					8.1		28.37		31		4.66		5.39		69.37		6							
			Sunny	Rough	16:20	16:20			bottom	6.1	8.11	8.11	28.39	28.39	31.2	31.2	11.34	11.285	5.38	5.38	5.38	5.38	69.39	69.39	7	6		6.5		
			Sunny	Rough	16:20	16:20					8.11		28.39		31.2		11.23		5.38		69.39		6							
	Mid-Ebb	C1	Sunny	Rough	16:14	16:14	29	7	surface	1	8.15	8.15	28.88	28.88	29.4	29.4	12.6	9.365	11	5.67	5.67	5.585	73.61	73.61	4	5	4.5			
			Sunny	Rough	16:14	16:14					8.15		28.88		29.4		6.13			5.67			73.61		5					
			Sunny	Rough	16:13	16:13			middle	3	8.13	8.13	28.51	28.51	29.75	29.75	12.28	12.255	5.5	5.5	70.69	70.69	5	6	5.5					
			Sunny	Rough	16:13	16:13					8.13		28.51		29.75		12.23		5.5		70.69		6							
			Sunny	Rough	16:12	16:12			bottom	6	8.14	8.14	28.32	28.32	30.3	30.3	11.34	11.31	6.04	6.04	6.04	6.04	77.69	77.69	6	6				
			Sunny	Rough	16:12	16:12					8.14		28.32		30.3		11.28		6.04		77.69		6							
	Mid-Ebb	C2	Sunny	Rough	16:02	16:02	29	5	surface	1	8.13	8.13	28.85	28.85	29.5	29.5	5.72	5.725	6.74	5.41	5.41	5.41	70.19	70.19	6	7	6.5			
			Sunny	Rough	16:02	16:02					8.13		28.85		29.5		5.73			5.41			70.19		7					
			Sunny	Rough	16:01	16:01			bottom	4	8.12	8.12	28.76	28.76	29.6	29.6	7.86	7.755		5.87	5.87		5.87	5.87	76.07	76.07	10	9	9.5	
			Sunny	Rough	16:01	16:01					8.12		28.76		29.6		7.65			5.87			76.07		9					
	Mid-Flood	M2	Sunny	Rough	10:48	10:48	28.6	8	surface	1	8.1	8.1	28.46	28.46	28	28	2.61	2.615	3.04	5.85	5.85	5.825	75.38	75.38	3	3	3			
			Sunny	Rough	10:48	10:48					8.1		28.46		28		2.62			5.85			75.38		3					
			Sunny	Rough	10:49	10:49			middle	3.5	8.1	8.1	28.46	28.46	28.5	28.5	2.35	2.34		5.8	5.8		74.76	74.76	3	4		3.5		
			Sunny	Rough	10:49	10:49					8.1		28.46		28.5		2.33			5.8			74.76		4					
			Sunny	Rough	10:50	10:50			bottom	7	8.1	8.1	28.44	28.44	28.54	28.54	4.22	4.165		5.78	5.78		5.78	5.78	74.39	74.39		2	3	2.5
			Sunny	Rough	10:50	10:50					8.1		28.44		28.54		4.11			5.78			74.39		3					
	Mid-Flood	C1	Sunny	Rough	10:37	10:37	28.6	7.2	surface	1	8.12	8.12	28.29	28.29	27.5	27.5	2.13	2.13	2.56	5.23	5.23	5.295	67.19	67.19	5	5	11			
			Sunny	Rough	10:37	10:37					8.12		28.29		27.5		2.13			5.23			67.19		5					
			Sunny	Rough	10:38	10:38			middle	3.1	8.11	8.11	28.28	28.28	30.6	30.6	3.21	3.21		5.36	5.36		68.85	68.85	10	8		9		
			Sunny	Rough	10:38	10:38					8.11		28.28		30.6		3.21			5.36			68.85		8					
			Sunny	Rough	10:39	10:39			bottom	6.2	8.11	8.11	28.14	28.14	30.8	30.8	2.34	2.34		5.63	5.63		5.63	5.63	72.14	72.14		18	20	19
			Sunny	Rough	10:39	10:39					8.11		28.14		30.8		2.34			5.63			72.14		20					
Mid-Flood	C2	Sunny	Rough	10:31	10:31	28.6	5.2	surface	1	8.1	8.1	28.45	28.45	29.02	29.02	2.22	2.265	2.31	5.22	5.22	5.22	67.13	67.13	3	3	7.75				
		Sunny	Rough	10:31	10:31					8.1		28.45		29.02		2.31			5.22			67.13		3						
		Sunny	Rough	10:32	10:32			bottom	4.2	8.1	8.1	28.35	28.35	29.09	29.09	2.29	2.345		5.43	5.43		5.43	5.43	69.9	69.9		12	13	12.5	
		Sunny	Rough	10:32	10:32					8.1		28.35		29.09		2.4			5.43			69.9		13						

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value
9/10/2024	Mid-Ebb	M2	Cloudy	Moderate	7:15	7:15	25.6	5	surface	1	8.13	8.13	28.07	28.07	27.7	27.7	2.56	2.6	3.24	5.29	5.475	5.475	67.69	70.06	7	7	7.5
			Cloudy	Moderate	7:15	7:16					8.13		28.07		27.7		2.64			5.66			72.43		7		
			Cloudy	Moderate	7:14	7:14			8.13	8.13	27.92	28.015	28.9	28.8	3.79	3.885	4.73	4.78		4.78	60.36	61.11	8	8			
			Cloudy	Moderate	7:14	7:14			8.13	8.13	28.11	28.015	28.7	28.8	3.98	3.885	4.83	4.78		4.78	61.85	61.11	8	8			
	Mid-Ebb	C1	Cloudy	Moderate	7:28	7:28	25.6	8.2	surface	1	8.13	8.13	28.13	28.13	27.4	27.4	2.23	2.235	5.76	5.61	5.615	5.47	71.86	71.93	7	7	8
			Cloudy	Moderate	7:28	7:28					8.13		28.13		27.4		2.24			5.62			71.99		7		
			Cloudy	Moderate	7:27	7:27			8.13	8.125	28.31	28.335	28.7	28.75	4.67	4.83	5.34	5.325		5.47	68.62	68.46	7	6.5			
			Cloudy	Moderate	7:27	7:27			8.12	8.125	28.36	28.335	28.8	28.75	4.99	4.83	5.31	5.325		5.47	68.3	68.46	6	6.5			
			Cloudy	Moderate	7:26	7:26			8.13	8.13	28.07	28.1	28.7	28.65	10.3	10.21	4.65	4.845		4.845	59.5	62.03	11	10.5			
			Cloudy	Moderate	7:26	7:26			8.13	8.13	28.13	28.1	28.6	28.65	10.12	10.21	5.04	4.845		4.845	64.56	62.03	10	10.5			
	Mid-Ebb	C2	Cloudy	Moderate	7:01	7:01	25.6	4.5	surface	1	8.12	8.12	28.13	28.125	28.1	28.05	2.89	2.835	4.28	4.97	5.105	5.105	63.66	65.39	8	9	16.25
			Cloudy	Moderate	7:01	7:02					8.12		28.12		28.125		28			2.78			5.24		67.11		
			Cloudy	Moderate	7:00	7:00			8.13	8.125	28.09	28.12	28.3	28.25	5.57	5.72	5.84	5.29		5.29	74.76	67.75	25	23.5			
			Cloudy	Moderate	7:00	7:00			8.12	8.125	28.15	28.12	28.2	28.25	5.87	5.72	4.74	5.29		5.29	60.74	67.75	22	23.5			
	Mid-Flood	M2	Cloudy	Moderate	13:38	13:39	27.2	5.1	surface	1	8.13	8.13	28.33	28.33	27.4	27.4	3.34	3.45	5.32	5.08	5.455	5.455	65.3	70.13	3	3.5	4.75
			Cloudy	Moderate	13:39	13:39					8.13		28.33		27.4		3.56			5.83			74.95		4		
			Cloudy	Moderate	13:38	13:38			8.12	8.12	28.4	28.415	29	29	7.12	7.185	4.85	4.735		4.735	62.43	60.97	6	6			
			Cloudy	Moderate	13:38	13:38			8.12	8.12	28.43	28.415	29	29	7.25	7.185	4.62	4.735		4.735	59.5	60.97	6	6			
	Mid-Flood	C1	Cloudy	Moderate	13:26	13:26	27.2	8.5	surface	1	8.12	8.12	28.5	28.5	27.5	27.55	4.71	4.69	7.54	5.3	5.51	5.28	68.34	71.05	3	2.5	8.67
			Cloudy	Moderate	13:26	13:26					8.12		28.5		27.6		4.67			5.72			73.75		2		
			Cloudy	Moderate	13:25	13:25			8.11	8.11	28.51	28.53	28.6	28.6	7.89	7.885	4.75	5.05		5.28	61.26	65.15	3	3			
			Cloudy	Moderate	13:25	13:25			8.11	8.11	28.55	28.53	28.6	28.6	7.88	7.885	5.35	5.05		5.28	69.04	65.15	3	3			
			Cloudy	Moderate	13:25	13:25			8.12	8.12	28.54	28.54	28.8	28.85	9.99	10.055	5.55	5.515		5.515	71.61	71.16	18	20.5			
			Cloudy	Moderate	13:25	13:25			8.12	8.12	28.54	28.54	28.9	28.85	10.12	10.055	5.48	5.515		5.515	70.71	71.16	23	20.5			
	Mid-Flood	C2	Cloudy	Moderate	13:47	13:47	27.2	5.2	surface	1	8.12	8.12	28.26	28.27	27.9	27.9	6.78	6.85	8.14	5.1	5.455	5.455	65.48	70.05	3	2.5	2.75
			Cloudy	Moderate	13:47	13:47					8.12		28.28		27.9		6.92			5.81			74.62		2		
			Cloudy	Moderate	13:46	13:46			8.12	8.12	28	28.045	28.3	28.3	9.65	9.435	5.66	5.88		5.88	72.34	75.21	3	3			
			Cloudy	Moderate	13:46	13:46			8.12	8.12	28.09	28.045	28.3	28.3	9.22	9.435	6.1	5.88		5.88	78.08	75.21	3	3			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value
11/10/2024	Mid-Ebb	M2	Sunny	Moderate	8:45	8:45	27.5	5.2	surface	1	7.97	7.96	28	28	29.98	29.97	2.56	7.97	5.84	6	5.815	5.815	90.6	87.75	2	2	2
			Sunny	Moderate	8:46	8:47					7.95		28		29.96		2.18			5.63			84.9		2		
			Sunny	Moderate	8:40	8:41			bottom	4.1	7.96	7.96	28	28	30.58	30.585	3.85	3.705		5.79	5.715	5.715	87.7	86.65	2	2	
			Sunny	Moderate	8:41	8:41					7.96		28		30.59		3.56			5.64			85.6		2		
	Mid-Ebb	C1	Sunny	Moderate	8:19	8:19	27.5	7.7	surface	1.2	7.92	7.935	28.1	28.1	30.36	30.4	2.8	2.905	4.3	5.39	5.375	5.3175	80.2	80.7	3	3.5	4.167
			Sunny	Moderate	8:20	8:20					7.95		28.1		30.44		3.01			5.36			81.2		4		
			Sunny	Moderate	8:16	8:16			middle	3.5	7.94	7.94	28.2	28.2	30.84	30.905	3.8	3.73		5.28	5.26	5.23	80.3	80.05	4	4	
			Sunny	Moderate	8:17	8:17					7.94		28.2		30.97		3.66			5.24			79.8		4		
			Sunny	Moderate	8:13	8:13			bottom	6.7	7.94	7.945	28.3	28.25	31.66	31.67	6.13	6.255		5.24	5.23	5.23	80.2	80	5	5	
			Sunny	Moderate	8:14	8:14					7.95		28.2		31.68		6.38			5.22			79.8		5		
	Mid-Ebb	C2	Sunny	Moderate	9:09	9:09	27.5	4.3	surface	1	7.99	7.975	28.1	28.1	30.45	30.455	2.3	2.315	3.44	5.51	5.51	5.51	83.5	83.5	3	3	3
			Sunny	Moderate	9:10	9:11					7.96		28.1		30.46		2.33			5.51			83.5		3		
			Sunny	Moderate	9:06	9:06			bottom	3.3	7.98	7.965	28.1	28.1	30.77	30.725	5.08	4.565		5.48	5.48	5.48	83.2	83.2	3	3	
			Sunny	Moderate	9:07	9:08					7.95		28.1		30.68		4.05			5.48			83.2		3		
	Mid-Flood	M2	Sunny	Moderate	15:20	15:20	27.5	6.4	surface	1	7.94	7.95	28	28	29.11	29.12	1.64	1.62	2.18	5.88	5.875	5.6425	88.3	88.25	3	3	2.5
			Sunny	Moderate	15:21	15:21					7.96		28		29.13		1.6			5.87			88.2		3		
			Sunny	Moderate	15:17	15:17			middle	3.2	7.91	7.92	28.2	28.2	30.69	30.705	2.37	2.55		5.45	5.41	5.41	82.9	82.3	2	2	
			Sunny	Moderate	15:17	15:18					7.93		28.2		30.72		2.73			5.37			81.7		2		
			Sunny	Moderate	15:15	15:15			bottom	5.4	7.9	7.91	28.2	28.2	30.8	30.955	2.2	2.355		5.53	5.47	5.47	84.1	83.3	3	2.5	
			Sunny	Moderate	15:16	15:17					7.92		28.2		31.11		2.51			5.41			82.5		2		
	Mid-Flood	C1	Sunny	Moderate	15:36	15:36	27.5	9	surface	1	7.95	7.95	28.2	28.2	29.79	29.95	1.46	1.47	3.57	5.77	5.685	5.43	87.3	86.05	2	2	3
			Sunny	Moderate	15:37	15:38					7.95		28.2		30.11		1.48			5.6			84.8		2		
			Sunny	Moderate	15:33	15:33			middle	4.5	7.92	7.925	28.3	28.3	31.45	31.465	3.17	3.45		5.2	5.175	5.245	79.5	79.15	2	2	
			Sunny	Moderate	15:34	15:35					7.93		28.3		31.48		3.73			5.15			78.8		2		
			Sunny	Moderate	15:30	15:31			bottom	8	7.92	7.925	28.3	28.3	31.66	31.655	5.77	5.8		5.27	5.245	5.245	80.8	80.35	5	5	
			Sunny	Moderate	15:32	15:32					7.93		28.3		31.65		5.83			5.22			79.9		5		
	Mid-Flood	C2	Sunny	Moderate	15:06	15:06	27.5	4.5	surface	1	7.91	7.915	28.1	28.15	29.3	29.73	1.4	1.555	2.5	5.87	5.725	5.725	88.4	86.45	2	2	2
			Sunny	Moderate	15:06	15:07					7.92		28.2		30.16		1.71			5.58			84.5		2		
Sunny			Moderate	15:02	15:03	bottom			3.5	7.84	7.865	28.2	28.2	31.04	31.075	3.15	3.435	5.56		5.455	5.455	84.7	83.15	2	2		
Sunny			Moderate	15:04	15:04					7.89		28.2		31.11		3.72		5.35				81.6		2			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average
14/10/2024	Mid-Ebb	M2	Sunny	Moderate	11:41	11:42	28.3	3.9	surface	1	8.16	8.16	28.5	28.5	29.53	29.53	6.78	6.795	7.2	7.43	7.425	7.425	112.7	112.7	12	12	12.25	
			Sunny	Moderate	11:41	11:42					8.16		28.5		29.53		6.81			7.42			112.7		12			
			Sunny	Moderate	11:40	11:41			bottom	2.9	8.17	8.17	28.5	28.5	29.56	29.56	7.64	7.61		7.41	7.41	7.41	112.4	112.45	13	12.5		
			Sunny	Moderate	11:40	11:41					8.17		28.5		29.56		7.58			7.41		112.5	12					
	Mid-Ebb	C1	Sunny	Moderate	11:19	11:20	28.3	7.8	surface	1	8.18	8.18	28.6	28.6	29.23	29.23	2.88	2.885	7.7	7.65	7.66	7.2625	116.2	116.3	6	5.5	11	
			Sunny	Moderate	11:19	11:20					8.18		28.6		29.23		2.89			7.67			116.4		5			
			Sunny	Moderate	11:18	11:19			middle	3.9	8.11	8.115	28.4	28.4	30	30	6.77	6.81		6.87	6.865	104.3	104.3	12	11.5			
			Sunny	Moderate	11:18	11:19					8.12		28.4		30		6.85			6.86		104.3		11				
			Sunny	Moderate	11:17	11:18			bottom	6.8	8.1	8.095	28.3	28.3	30.16	30.16	13.52	13.4		6.71	6.71	6.71	102	101.95	17	16		
			Sunny	Moderate	11:17	11:18					8.09		28.3		30.16		13.28			6.71		101.9	15					
	Mid-Ebb	C2	Sunny	Moderate	11:58	11:59	28.3	4.3	surface	1	8.22	8.22	28.6	28.6	29.47	29.47	6.12	6.145	6.28	7.7	7.71	7.71	116.9	117.1	12	10	10.25	
			Sunny	Moderate	11:58	11:59					8.22		28.6		29.47		6.17			7.72			117.3		8			
			Sunny	Moderate	11:57	11:58			bottom	3.3	8.2	8.2	28.4	28.4	28.77	29.255	6.45	6.415		6.93	6.94	6.94	105.2	105.35	10	10.5		
			Sunny	Moderate	11:57	11:58					8.2		28.4		29.74		6.38			6.95		105.5	11					
	Mid-Flood	M2	Sunny	Moderate	17:21	17:22	25.9	4.2	surface	1	8.38	8.665	28.9	28.9	26.48	26.48	1.56	1.55	1.76	8.94	8.945	8.945	134.3	134.35	6	5.5	5	
			Sunny	Moderate	17:19	17:20					8.95		28.9		26.48		1.54			8.95			134.4		5			
			Sunny	Moderate	17:18	17:19			bottom	3.2	8.39	8.39	28.9	28.9	26.59	26.585	1.97	1.965		8.69	8.7	8.7	130.8	130.85	5	4.5		
			Sunny	Moderate	17:18	17:19					8.39		28.9		26.58		1.96			8.71		130.9	4					
	Mid-Flood	C1	Sunny	Moderate	17:05	17:06	25.9	8.7	surface	1	8.27	8.27	28.7	28.7	27.39	27.365	1.43	1.445	1.51	7.26	7.255	6.9075	109.2	109.15	4	4.5	4.83	
			Sunny	Moderate	17:05	17:06					8.27		28.7		27.34		1.46			7.25			109.1		5			
			Sunny	Moderate	17:04	17:05			middle	4.35	8.19	8.19	28.6	28.6	28.36	28.4	1.48	1.435		6.57	6.56	99.1	99.05	5	5			
			Sunny	Moderate	17:04	17:05					8.19		28.6		28.44		1.39			6.55		99		5				
			Sunny	Moderate	17:03	17:04			bottom	7.7	8.18	8.18	28.6	28.6	28.82	28.82	1.67	1.66		6.34	6.335	6.335	95.9	95.85	6	5		
			Sunny	Moderate	17:03	17:04					8.18		28.6		28.82		1.65			6.33		95.8	4					
	Mid-Flood	C2	Sunny	Moderate	17:36	17:37	25.9	4.6	surface	1	8.26	8.265	28.7	28.7	27.37	27.37	1.58	1.575	1.92	7.81	7.815	7.815	117.6	117.65	5	5.5	5.75	
			Sunny	Moderate	17:36	17:37					8.27		28.7		27.37		1.57			7.82			117.7		6			
			Sunny	Moderate	17:35	17:36			bottom	3.6	8.21	8.21	28.6	28.6	28.64	28.645	2.27	2.255		6.9	6.895	6.895	104.4	104.35	6	6		
			Sunny	Moderate	17:35	17:36					8.21		28.6		28.65		2.24			6.89		104.3	6					

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)				
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average	DA*
16/10/2024	Mid-Ebb	M2	Sunny	Moderate	13:08	13:08	31.1	5.3	surface	1	8.09	8.09	28.8	28.8	29.5	29.495	11.59	11.52	11.8	6.06	6.06	6.06	92.4	92.45	14	13.5	16.75		
			Sunny	Moderate	13:08	13:08					8.09		28.8		29.49		11.45			6.06			92.5		13				
			Sunny	Moderate	13:06	13:07			bottom	4.3	8.1	8.09	28.9	28.85	29.48	29.5	10.96	12.105		6.02	6.035		6.035	91.9	92.1	18		20	
			Sunny	Moderate	13:07	13:08					8.08		28.8		29.52		13.25			6.05				92.3		22			
	Mid-Ebb	C1	Sunny	Moderate	13:35	13:35	31.1	8.5	surface	1	8.11	8.11	28.6	28.65	29.43	29.43	12.7	12.04	14.5	5.97	5.985	5.9575		90.8	91.05	14	14	19.17	
			Sunny	Moderate	13:35	13:35					8.11		28.7		29.43		11.38			6				91.3		14			
			Sunny	Moderate	13:35	13:35			middle	4.25	8.1	8.105	28.6	28.6	29.43	29.43	14.79	14.08		5.91	5.93		5.93	89.8	90.1	19	17.5		
			Sunny	Moderate	13:35	13:35					8.11		28.6		29.43		13.37			5.95				90.4		16			
			Sunny	Moderate	13:33	13:34			bottom	7.5	8.1	8.1	28.6	28.55	29.48	29.48	17.19	17.485		5.87	5.875			5.875	89.2	89.2	28		26
			Sunny	Moderate	13:34	13:35					8.1		28.5		29.48		17.78			5.88					89.2		24		
	Mid-Ebb	C2	Sunny	Moderate	12:32	12:32	31.1	5.3	surface	1	8.05	8.05	28.7	28.7	30.57	30.57	6.15	5.95	6.55	5.94	5.945	5.95			91.1	91.1	8	9	9.25
			Sunny	Moderate	12:32	12:32					8.05		28.7		30.57		5.75			5.95					91.1		10		
			Sunny	Moderate	12:28	12:29			bottom	4.3	8.01	8.02	28.7	28.7	30.57	30.565	7.2	7.155		5.97	5.955		5.95		91.4	91.15	10	9.5	
			Sunny	Moderate	12:29	12:30					8.03		28.7		30.56		7.11			5.94					90.9		9		
	Mid-Flood	M2	Sunny	Moderate	17:25	17:26	27.4	4.2	surface	1	8.08	8.08	28.9	28.9	28.64	28.64	3.5	3.5	5.71	6.04	6.04	6.0325		91.9	91.9	5	5	8.667	
			Sunny	Moderate	17:26	17:27					8.08		28.9		28.64		3.5			6.04				91.9		5			
			Sunny	Moderate	17:24	17:24			middle	2.1	8.08	8.08	28.8	28.8	28.67	28.68	5	5.28		6.03	6.025		6.025	91.7	91.6	5	5.5		
			Sunny	Moderate	17:24	17:25					8.08		28.8		28.69		5.56			6.02				91.5		6			
			Sunny	Moderate	17:23	17:23			bottom	3.2	8.09	8.09	28.8	28.8	28.79	28.775	8.68	8.335		6.02	6.02			6.02	91.5	91.5	19		15.5
			Sunny	Moderate	17:23	17:23					8.09		28.8		28.76		7.99			6.02					91.5		12		
	Mid-Flood	C1	Sunny	Moderate	17:43	17:43	27.4	8.7	surface	1	8.07	8.07	28.9	28.9	28.83	28.835	3.81	3.835	6.09	5.92	5.915	5.8925			90	89.95	7	8	12
			Sunny	Moderate	17:44	17:45					8.07		28.9		28.84		3.86			5.91					89.9		9		
			Sunny	Moderate	17:41	17:41			middle	4.35	8.08	8.075	28.8	28.85	28.88	28.87	4.36	4.25		5.86	5.87		5.87		89.2	89.35	9	9	
			Sunny	Moderate	17:41	17:42					8.07		28.9		28.86		4.14			5.88					89.5		9		
			Sunny	Moderate	17:40	17:40			bottom	7.7	8.08	8.08	28.7	28.7	29.1	29.115	8.89	10.185		5.8	5.8			5.8	88.2	88.2	17	19	
			Sunny	Moderate	17:40	17:41					8.08		28.7		29.13		11.48			5.8					88.2		21		
	Mid-Flood	C2	Sunny	Moderate	17:06	17:06	27.4	4.6	surface	1	8.03	8.03	29	29	28.68	28.685	4.14	4.16	5.5	5.88	5.885	5.885			89.5	89.6	5	5	7
			Sunny	Moderate	17:07	17:07					8.03		29		28.69		4.18			5.89					89.7		5		
Sunny			Moderate	17:05	17:05	bottom			3.6	8.02	8.02	28.7	28.75	29.52	29.485	7.09	6.835	5.68		5.68	5.68		86.5		86.5	9	9		
Sunny			Moderate	17:06	17:06					8.02		28.8		29.45		6.58		5.68					86.5			9			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	DA*	Value
18/10/2024	Mid-Ebb	M2	Sunny	Moderate	14:02	14:03	30.7	4.5	surface	1	8.15	8.145	28.7	28.7	29.96	29.98	5.5	5.59	6.87	5.79	5.77	5.77	88.4	88.05	7	6.5	9.75	
			Sunny	Moderate	14:02	14:03					8.14		28.7		30		5.68			5.75			87.7		6			
			Sunny	Moderate	14:03	14:04			bottom	3.5	8.11	8.11	28.5	28.5	30.27	30.275	7.95	8.155		5.43	5.42	5.42	82.8	82.65	14	13		
			Sunny	Moderate	14:03	14:04					8.11		28.5		30.28		8.36			5.41			82.5		12			
	Mid-Ebb	C1	Sunny	Moderate	14:26	14:27	30.7	8.7	surface	1	8.12	8.12	28.6	28.6	30.44	30.44	10.08	10.105	10.9	5.72	5.715	5.61	87.4	87.3	13	14.5	14.5	
			Sunny	Moderate	14:26	14:27					8.12		28.6		30.44		10.13			5.71			87.2		16			
			Sunny	Moderate	14:27	14:28			middle	4.35	8.13	8.13	28.6	28.6	30.41	30.415	10.55	10.545		5.51	5.505	5.61	84.1	84.1	13	13.5		
			Sunny	Moderate	14:27	14:28					8.13		28.6		30.42		10.54			5.5			84.1		14			
			Sunny	Moderate	14:28	14:29			bottom	7.7	8.12	8.12	28.4	28.4	30.6	30.635	11.8	12.025		5.37	5.36	5.36	81.9	81.75	16	15.5		
			Sunny	Moderate	14:28	14:29					8.12		28.4		30.67		12.25			5.35			81.6		15			
	Mid-Ebb	C2	Sunny	Moderate	14:48	14:49	30.7	4.9	surface	1	8.13	8.13	28.6	28.6	30.49	30.49	7.53	7.56	12.3	5.84	5.83	5.83	89.3	89.15	9	9.5	16.5	
			Sunny	Moderate	14:48	14:49					8.13		28.6		30.49		7.59			5.82			89		10			
			Sunny	Moderate	14:49	14:50			bottom	3.9	8.13	8.125	28.5	28.5	30.63	30.64	16.01	16.96		5.62	5.615	5.615	85.9	85.8	22	23.5		
			Sunny	Moderate	14:49	14:50					8.12		28.5		30.65		17.91			5.61			85.7		25			
	Mid-Flood	M2	Sunny	Moderate	8:21	8:22	27.1	4.7	surface	1	8.05	8.045	28.5	28.5	28.57	28.57	8.82	8.705	14.9	5.51	5.51	5.51	83.3	83.25	9	9.5	20.75	
			Sunny	Moderate	8:21	8:22					8.04		28.5		28.57		8.59			5.51			83.2		10			
			Sunny	Moderate	8:22	8:23			bottom	3.7	8.02	8.02	28.5	28.5	29.15	29.155	21.59	21.095		5.39	5.39	5.39	81.6	81.6	33	32		
			Sunny	Moderate	8:22	8:23					8.02		28.5		29.16		20.6			5.39			81.6		31			
	Mid-Flood	C1	Sunny	Moderate	8:45	8:46	27.1	9.2	surface	1	8.14	8.14	28.7	28.7	30	30.015	5.68	5.715	20.3	5.66	5.675	5.6	88	87.85	24	23	32.67	
			Sunny	Moderate	8:45	8:46					8.14		28.7		30.03		5.75			5.69			87.7		22			
			Sunny	Moderate	8:46	8:47			middle	4.6	8.13	8.13	28.6	28.6	30.42	30.42	10.55	10.56		5.52	5.525	5.6	84.4	84.55	36	35		
			Sunny	Moderate	8:46	8:47					8.13		28.6		30.42		10.57			5.53			84.7		34			
			Sunny	Moderate	8:47	8:48			bottom	8.2	8.03	8.03	28.4	28.45	30.07	30.085	44.83	44.655		5.22	5.215	5.215	79.4	79.3	42	40		
			Sunny	Moderate	8:47	8:48					8.03		28.5		30.1		44.48			5.21			79.2		38			
	Mid-Flood	C2	Sunny	Moderate	8:04	8:05	27.1	5.2	surface	1	7.89	7.895	28.2	28.2	31.16	31.2	22.09	22.555	28.9	5.43	5.425	5.425	82.9	82.8	35	33.5	45.75	
			Sunny	Moderate	8:04	8:05					7.9		28.2		31.24		23.02			5.42			82.7		32			
			Sunny	Moderate	8:05	8:06			bottom	4.2	7.97	7.975	28.2	28.2	31.65	31.65	35.18	35.22		5.32	5.32	5.32	81.3	81.3	57	58		
			Sunny	Moderate	8:05	8:06					7.98		28.2		31.65		35.26			5.32			81.3		59			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
21/10/2024	Mid-Ebb	M2	Sunny	Moderate	16:19	16:20	30.9	4.8	surface	1	8.01	8.01	28.7	28.7	29.45	29.46	7.25	7.33	9.46	5.13	5.13	5.085	78.2	78.2	9	10	14.5	
			Sunny	Moderate	16:19	16:20					8.01		28.7		29.47		7.41			5.13			78.2		11			
			Sunny	Moderate	16:18	16:19			bottom	3.8	8	8	28.6	28.6	30.18	30.18	11.5	11.595		5.09	5.085		77.6	77.6	20	19		
			Sunny	Moderate	16:18	16:19					8		28.6		30.18		11.69			5.08			77.6		18			
	Mid-Ebb	C1	Sunny	Moderate	16:03	16:04	30.9	7.7	surface	1	8.03	8.03	29.5	29.5	28.9	28.9	2.91	2.895	4.28	5.79	5.79	5.665	89	89	5	4.5	4.67	
			Sunny	Moderate	16:03	16:04					8.03		29.5		28.9		2.88			5.79			89		4			
			Sunny	Moderate	16:02	16:03			middle	3.85	8.01	8.01	29.2	29.2	29.08	29.08	4.5	4.485		5.54	5.54		84.9	84.9	5	5		
			Sunny	Moderate	16:02	16:03					8.01		29.2		29.08		4.47			5.54			84.9		5			
			Sunny	Moderate	16:01	16:02			bottom	6.7	8.02	8.02	28.8	28.8	29.49	29.485	5.46	5.455		5.42	5.42		82.6	82.65	5	4.5		
			Sunny	Moderate	16:01	16:02					8.02		28.8		29.48		5.45			5.42			82.7		4			
	Mid-Ebb	C2	Sunny	Moderate	16:41	16:42	30.9	4.9	surface	1	8.04	8.04	29.1	29.1	29.08	29.08	6.54	6.53	8.51	5.73	5.73	5.715	87.6	87.65	11	10	11.5	
			Sunny	Moderate	16:41	16:42					8.04		29.1		29.08		6.52			5.73			87.7		9			
			Sunny	Moderate	16:40	16:41			bottom	3.9	8.04	8.04	29.1	29.1	29.15	29.15	10.43	10.49		5.71	5.715		87.4	87.45	14	13		
			Sunny	Moderate	16:40	16:41					8.04		29.1		29.15		10.55			5.72			87.5		12			
	Mid-Flood	M2	Sunny	Moderate	10:25	10:26	27.9	5.5	surface	1	7.96	7.96	28.7	28.75	27.97	27.965	4.4	4.39	6.18	5.15	5.155	5.08	77.9	77.9	4	4.5	5.25	
			Sunny	Moderate	10:25	10:26					7.96		28.8		27.96		4.38			5.16			77.9		5			
			Sunny	Moderate	10:24	10:25			bottom	4.5	7.97	7.97	28.7	28.7	28.42	28.415	8.02	7.96		5.08	5.08		77	77	6	6		
			Sunny	Moderate	10:24	10:25					7.97		28.7		28.41		7.9			5.08			77		6			
	Mid-Flood	C1	Sunny	Moderate	10:51	10:52	27.9	8.5	surface	1	7.98	7.98	28.8	28.8	27.45	27.45	3.36	3.36	4.94	5.28	5.28	5.22	79.6	79.6	4	4	6.5	
			Sunny	Moderate	10:51	10:52					7.98		28.8		27.45		3.36			5.28			79.6		4			
			Sunny	Moderate	10:50	10:51			middle	4.25	7.98	7.98	28.6	28.6	28.36	28.37	4.36	4.385		5.16	5.16		78	77.95	6	6		
			Sunny	Moderate	10:50	10:51					7.98		28.6		28.38		4.41			5.16			77.9		6			
			Sunny	Moderate	10:49	10:50			bottom	7.5	7.97	7.97	29.7	29.2	28.68	28.69	7.02	7.08		5.06	5.06		76.7	76.75	10	9.5		
			Sunny	Moderate	10:49	10:50					7.97		28.7		28.7		7.14			5.06			76.8		9			
	Mid-Flood	C2	Sunny	Moderate	10:09	10:10	27.9	4.8	surface	1	7.89	7.89	28.8	28.8	27.44	27.44	3.65	3.66	4.03	5.27	5.27	5.27	79.4	79.45	5	5	6.5	
			Sunny	Moderate	10:09	10:10					7.89		28.8		27.44		3.67			5.27			79.5		5			
			Sunny	Moderate	10:08	10:09			bottom	3.8	7.91	7.905	28.7	28.7	27.6	27.61	4.38	4.395		5.27	5.27		79.5	79.45	8	8		
			Sunny	Moderate	10:08	10:09					7.9		28.7		27.62		4.41			5.27			79.4		8			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)			Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average
23/10/2024	Mid-Ebb	M2	Sunny	Moderate	7:25	7:25	27.1	4.8	surface	1	7.9	7.895	28.1	28.1	28.59	28.59	3.98	3.975	4.24	5.56	5.53	5.53	83.4	82.95	6	5.5	6.5	
			Sunny	Moderate	7:25	7:26					7.89		28.1		28.59		3.97			5.5			82.5		5			
			Sunny	Moderate	7:27	7:28			7.87	28.1	28.6	4.01	5.45	81.8	7													
			Sunny	Moderate	7:28	7:28			7.87	28.1	28.73	5	5.38	80.9	8													
	Mid-Ebb	C1	Sunny	Moderate	7:00	7:01	27.1	6	surface	1	7.87	7.87	28.1	28.1	29.35	29.35	8.16	8.11	8.39	5.43	5.425	5.425	81.9	81.8	9	10	14.5	
			Sunny	Moderate	7:01	7:02					7.87		28.1		29.35		8.06			5.42			81.7		11			
			Sunny	Moderate	7:03	7:03			7.87	28.2	29.37	8.31	5.41	81.6	16													
			Sunny	Moderate	7:04	7:05			7.87	28.2	29.49	9.02	5.35	80.9	22													
	Mid-Ebb	C2	Sunny	Moderate	7:49	7:49	27.1	4	surface	1	7.9	7.9	28	28.05	28.43	28.435	10.75	10.445	10.3	5.85	5.7	5.7	87.6	85.35	13	12.5	15.25	
			Sunny	Moderate	7:50	7:50					7.9		28.1		28.44		10.14			5.55			83.1		12			
			Sunny	Moderate	7:51	7:51			7.9	28.1	28.43	10.03	5.4	80.9	14													
			Sunny	Moderate	7:51	7:52			7.9	28.1	28.44	10.47	5.39	80.8	22													
	Mid-Flood	M2	Sunny	Moderate	13:26	13:27	28.3	4.6	surface	1	7.99	7.995	28.2	28.2	28.74	28.75	5.8	5.715	4.11	5.79	5.78	5.78	87.1	86.9	7	6.5	4.5	
			Sunny	Moderate	13:27	13:28					8		28.2		28.76		5.63			5.77			86.7		6			
			Sunny	Moderate	13:29	13:29			8	28.3	29.04	2.43	5.61	84.5	3													
			Sunny	Moderate	13:30	13:30			8	28.2	28.96	2.57	5.57	84	2													
	Mid-Flood	C1	Sunny	Moderate	13:00	13:01	28.3	7	surface	1	8.01	8.01	28.3	28.3	29.53	29.525	1.93	1.9	2.83	5.72	5.61	5.42	86.6	84.9	2	2	2.17	
			Sunny	Moderate	13:02	13:02					8.01		28.3		29.52		1.87			5.5			83.2		2			
			Sunny	Moderate	13:04	13:04			8.01	28.4	29.8	3.34	5.22	79.3	2													
			Sunny	Moderate	13:04	13:05			8.01	28.4	29.79	3.2	5.24	79.5	2													
			Sunny	Moderate	13:06	13:07			8	28.4	30	3.4	5.22	79.3	3													
			Sunny	Moderate	13:07	13:08			8.01	8.005	28.4	28.4	29.9	29.95	3.21	3.305	5	5.11		5.11	78.9	79.1	2	2.5				
	Mid-Flood	C2	Sunny	Moderate	13:54	13:55	28.3	4.5	surface	1	8.02	8.02	28.3	28.3	29.21	29.21	1.82	1.79	1.87	5.77	5.69	5.69	87.1	85.9	2	2	2.25	
			Sunny	Moderate	13:55	13:56					8.02		28.3		29.21		1.76			5.61			84.7		2			
			Sunny	Moderate	13:57	13:57			8.01	28.3	29.21	1.84	5.54	83.6	3													
			Sunny	Moderate	13:58	13:59			8.01	28.3	29.21	2.05	5.52	83.4	2													

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)			
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value	Average
25/10/2024	Mid-Ebb	M2	Sunny	Moderate	9:18	9:18	27.9	4.7	surface	1	7.97	7.97	26.1	26.25	29.19	29.19	3.39	3.385	3.31	5.84	5.845	5.845	85.1	85.1	4	4	4.75	
			Sunny	Moderate	9:18	9:18					7.97		26.4		29.19		3.38			5.85			85.1		4			
			Sunny	Moderate	9:25	9:25			bottom	3.7	7.99	7.99	26.1	26.1	29.27	29.27	3.27	3.235		5.98	5.975	5.975	87	87	6	6		5.5
			Sunny	Moderate	9:25	9:25					7.99		26.1		29.27		3.2			5.97			87		5			
	Mid-Ebb	C1	Sunny	Moderate	9:00	9:00	27.9	7	surface	1	7.94	7.94	26	26	28.74	28.755	1.21	1.225	1.23	5.72	5.72	5.6675	83	83	5	5.5	5.5	
			Sunny	Moderate	9:00	9:00					7.94		26		28.77		1.24			5.72			83		6			
			Sunny	Moderate	9:05	9:05			middle	3.5	7.95	7.95	26.5	26.45	30.27	30.23	1.57	1.44		5.61	5.615	82.7	82.7	3	3	3.5		
			Sunny	Moderate	9:05	9:05					7.95		26.4		30.19		1.31			5.62		82.7		4				
			Sunny	Moderate	9:10	9:10			bottom	6	7.95	7.95	26.6	26.6	30.76	30.755	1.17	1.03		5.59	5.595	5.595	82.9	82.9	8	8		7.5
			Sunny	Moderate	9:10	9:10					7.95		26.6		30.75		0.89			5.6			82.9		7			
	Mid-Ebb	C2	Sunny	Moderate	9:31	9:31	27.9	4.4	surface	1	8.08	8.08	26.5	26.5	30.41	30.37	4.75	4.605	5.88	5.7	5.705	5.705	84.2	84.2	7	7	9	
			Sunny	Moderate	9:31	9:31					8.08		26.5		30.33		4.46			5.71			84.2		7			
			Sunny	Moderate	9:35	9:35			bottom	3.4	8.12	8.125	26.8	26.8	31.32	31.355	7.01	7.15		5.71	5.71	85.1	85.15	9	9	11		
			Sunny	Moderate	9:35	9:35					8.13		26.8		31.39		7.29			5.71		85.2		13				
	Mid-Flood	M2	Sunny	Moderate	15:18	15:18	28.1	5.4	surface	1	8.12	8.12	27.1	27.1	31.08	31.095	0.86	0.9	1.2	5.74	5.745	5.745	85.9	86	4	4	4	
			Sunny	Moderate	15:18	15:18					8.12		27.1		31.11		0.94			5.75			86.1		5			
			Sunny	Moderate	15:25	15:25			bottom	4.4	8.17	8.165	27.2	27.2	31.78	31.775	1.51	1.5		5.65	5.65	5.65	85	85	3	3		3.5
			Sunny	Moderate	15:25	15:25					8.16		27.2		31.77		1.49			5.65			85		4			
	Mid-Flood	C1	Sunny	Moderate	15:00	15:00	28.1	7	surface	1	8.13	8.13	27.1	27.1	31.28	31.28	0.56	0.56	1.84	5.61	5.615	5.5183	84	84.05	5	5	6.17	
			Sunny	Moderate	15:00	15:00					8.13		27.1		31.28		0.56			5.62			84.1		5			
			Sunny	Moderate	15:05	15:05			middle	3.5	8.12	8.12	27.2	27.2	31.71	31.71	2.17	2.17		5.42	5.4215	81.4	81.45	4	4	3.5		
			Sunny	Moderate	15:05	15:05					8.12		27.2		31.71		2.17			5.423		81.5		3				
			Sunny	Moderate	15:10	15:10			bottom	6	8.13	8.13	27.2	27.2	31.87	31.87	2.79	2.79		5.49	5.495	5.495	82.6	82.65	10	10		10
			Sunny	Moderate	15:10	15:10					8.13		27.2		31.87		2.79			5.5			82.7		10			
	Mid-Flood	C2	Sunny	Moderate	15:31	15:31	28.1	5.1	surface	1	8.11	8.11	27.3	27.3	31.48	31.48	0.63	0.63	0.6	5.8	5.8	5.8	87.3	87.3	2	2	2.5	
			Sunny	Moderate	15:31	15:31					8.11		27.3		31.48		0.63			5.8			87.3		2			
			Sunny	Moderate	15:35	15:35			bottom	4.1	8.13	8.13	27.3	27.3	31.49	31.49	0.56	0.57		5.85	5.85	5.85	88.1	88.05	3	3		3
			Sunny	Moderate	15:35	15:35					8.13		27.3		31.49		0.58			5.85			88		3			

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value
28/10/2024	Mid-Ebb	M2	Sunny	Calm	11:18	11:19	25.6	5.3	surface	1	8.07	8.07	26.4	26.4	32.78	32.78	2.22	2.46	2.225	5.71	5.71	5.71	85.1	85.1	4	4	3.5
			Sunny	Calm	11:18	11:19					8.07		26.4		32.78		2.23		5.71	85.1		4					
			Sunny	Calm	11:17	11:18			bottom	4.3	8.07	8.07	26.4	26.4	32.78	32.78	2.67		2.69	5.73	5.73	5.73	85.5	85.5	3	3	
			Sunny	Calm	11:17	11:18					8.07		26.4		32.78		2.71			5.73		85.5	3				
	Mid-Ebb	C1	Sunny	Calm	11:42	11:43	25.6	6.4	surface	1	8.08	8.08	26.4	26.4	32.75	32.75	1.59	2.16	1.595	5.76	5.76	5.765	85.9	85.9	3	3	3.167
			Sunny	Calm	11:42	11:43					8.08		26.4		32.75		1.6		5.76	85.9		3					
			Sunny	Calm	11:41	11:42			middle	3.2	8.09	8.09	26.4	26.4	32.76	32.76	3		3.015	5.77	5.77	86.1	86.15	3	3		
			Sunny	Calm	11:41	11:42					8.09		26.4		32.76		3.03			5.77		86.2		3			
			Sunny	Calm	11:40	11:41			bottom	5.4	8.12	8.12	26.4	26.4	32.75	32.75	1.87		1.86	5.87	5.87	5.87	87.6	87.65	3	3.5	
			Sunny	Calm	11:40	11:41					8.12		26.4		32.75		1.85			5.87		87.7	4				
	Mid-Ebb	C2	Sunny	Calm	11:03	11:04	25.6	4.6	surface	1	8.01	8.01	26.1	26.1	32.61	32.61	1.16	1.27	1.18	5.79	5.79	5.79	86	86	2	2	2
			Sunny	Calm	11:03	11:04					8.01		26.1		32.61		1.2		5.79	86		2					
			Sunny	Calm	11:02	11:03			bottom	3.6	8.01	8.015	26.1	26.1	32.61	32.61	1.33		1.365	5.79	5.79	5.79	86	86	2	2	
			Sunny	Calm	11:02	11:03					8.02		26.1		32.61		1.4			5.79		86	2				
	Mid-Flood	M2	Sunny	Calm	17:17	17:18	27.1	5	surface	1	8.15	8.15	26.3	26.3	32.19	32.19	1.27	1.73	1.265	5.69	5.69	5.69	84.5	84.5	2	2	3.75
			Sunny	Calm	17:17	17:18					8.15		26.3		32.19		1.26		5.69	84.5		2					
			Sunny	Calm	17:16	17:17			bottom	4	8.16	8.16	26.5	26.5	32.44	32.44	2.17		2.19	5.65	5.655	5.655	84.4	84.4	6	5.5	
			Sunny	Calm	17:16	17:17					8.16		26.5		32.44		2.21			5.66		84.4	5				
	Mid-Flood	C1	Sunny	Calm	17:02	17:03	27.1	6.8	surface	1	8.14	8.14	26.3	26.3	31.84	31.84	0.74	1.03	0.735	5.7	5.7	5.685	84.6	84.6	2	2.5	2.167
			Sunny	Calm	17:02	17:03					8.14		26.3		31.84		0.73		5.7	84.6		3					
			Sunny	Calm	17:01	17:02			middle	3.4	8.15	8.15	26.4	26.4	32.2	32.195	0.63		0.625	5.67	5.67	84.5	84.5	2	2		
			Sunny	Calm	17:01	17:02					8.15		26.4		32.19		0.62			5.67		84.5		2			
			Sunny	Calm	17:00	17:01			bottom	5.8	8.16	8.16	26.4	26.4	32.34	32.34	1.73		1.715	5.66	5.66	5.66	84.4	84.4	2	2	
			Sunny	Calm	17:00	17:01					8.16		26.4		32.34		1.7			5.66		84.4	2				
	Mid-Flood	C2	Sunny	Calm	17:41	17:42	27.1	4.6	surface	1	8.13	8.13	26.5	26.5	32.73	32.73	2.03	2.46	2.025	5.63	5.63	5.63	84.3	84.3	2	2	4.25
			Sunny	Calm	17:41	17:42					8.13		26.5		32.73		2.02		5.63	84.3		2					
			Sunny	Calm	17:39	17:40			bottom	3.6	8.13	8.13	26.5	26.5	32.73	32.73	2.89		2.895	5.73	5.73	5.73	85.7	85.7	7	6.5	
			Sunny	Calm	17:39	17:40					8.13		26.5		32.73		2.9			5.73		85.7	6				

Date (dd-mm-yyyy)	Tide	Station	Weather (Sunny/Cloudy/Rainy)	Sea (Calm/Moderate/Rough)	Sampling Time		Ambient Temperature	Total Water Depth (m)	Level	Sampling Depth (m)	pH		Water Temperature (°C)		Salinity (ppt)		Turbidity (NTU)			DO mg/L			DO Saturation (%)		Suspended Solids (mg/L)		
			Condition	Condition	Start	Finish					Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	Value	Average	Value
30/10/2024	Mid-Ebb	M2	Sunny	Moderate	11:47	11:48	29	6.5	surface	1	8.05	8.05	26.1	26.1	32.99	32.99	3.17	3.215	3.56	5.61	5.615	5.6075	83.5	83.5	4	4	3.83
			Sunny	Moderate	12:47	11:48					8.05	8.05	26.1	26.1	32.99	32.99	3.26			5.62			83.5		4		
			Sunny	Moderate	11:46	11:47			middle	3.25	8.05	8.05	26.1	26.1	33	33	3.36	3.24		5.6	5.6		83.2	88.2	4	4.5	
			Sunny	Moderate	11:46	11:47					8.05	8.05	26.1	26.1	33	33	3.12			5.6			93.2		5		
			Sunny	Moderate	11:45	11:46			bottom	5.5	8.05	8.05	26	26	33.04	33.04	3.94	4.21		5.55	5.55		82.5	82.5	3	3	
			Sunny	Moderate	11:45	11:46					8.05	8.05	26	26	33.04	33.04	4.48			5.55			82.5		3		
	Mid-Ebb	C1	Sunny	Moderate	12:11	12:12	29	8.3	surface	1	8.08	8.08	26.5	26.5	33.15	33.15	1.34	1.365	1.87	5.63	5.63	5.63	84.4	84.4	3	2.5	3
			Sunny	Moderate	12:11	12:12					8.08	8.08	26.5	26.5	33.15	33.15	1.39			5.63			84.4		2		
			Sunny	Moderate	12:10	12:11			middle	4.15	8.09	8.09	26.4	26.4	33.15	33.15	1.61	1.58		5.63	5.63		84.2	84.2	3	2.5	
			Sunny	Moderate	12:10	12:11					8.09	8.09	26.4	26.4	33.15	33.15	1.55			5.63			84.2		2		
			Sunny	Moderate	12:09	12:10			bottom	7.3	8.09	8.085	26.3	26.3	33.14	33.14	2.36	2.66		5.63	5.61		84.1	83.75	4	4	
			Sunny	Moderate	12:09	12:10					8.08	8.085	26.3	26.3	33.14	33.14	2.96			5.59			83.4		4		
	Mid-Ebb	C2	Sunny	Moderate	11:32	11:33	29	5.5	surface	1	7.92	7.92	26.1	26.1	33.29	33.29	5.18	5.1	7.3	5.68	5.68	5.68	84.6	84.6	6	6.5	8.5
			Sunny	Moderate	11:32	11:33					7.92	7.92	26.1	26.1	33.29	33.29	5.02			5.68			84.6		7		
			Sunny	Moderate	11:31	11:32			bottom	4.5	7.89	7.88	26	26	33.35	33.345	9.59	9.505		5.65	5.68		84.1	84.2	11	10.5	
			Sunny	Moderate	11:31	11:32					7.87	7.88	26	26	33.34	33.345	9.42			5.71			84.3		10		
	Mid-Flood	M2	Sunny	Moderate	17:20	17:21	29	6.5	surface	1	8.12	8.12	26.4	26.4	32.43	32.43	0.87	0.815	1.12	5.86	5.865	5.815	87.4	87.4	2	2	2
			Sunny	Moderate	17:20	17:21					8.12	8.12	26.4	26.4	32.43	32.43	0.76			5.87			87.4		2		
			Sunny	Moderate	17:19	17:20			middle	3.25	8.13	8.13	26.4	26.4	32.6	32.59	0.87	0.88		5.76	5.765		85.9	86	2	2	
			Sunny	Moderate	17:19	17:20					8.13	8.13	26.4	26.4	32.58	32.59	0.89			5.77			86.1		2		
			Sunny	Moderate	17:18	17:19			bottom	5.5	8.15	8.145	26.3	26.3	32.84	32.84	1.65	1.65		5.71	5.705		85.2	85.1	2	2	
			Sunny	Moderate	17:18	17:19					8.14	8.145	26.3	26.3	32.84	32.84	1.65			5.7			85		2		
	Mid-Flood	C1	Sunny	Moderate	17:42	17:43	29	12.6	surface	1	8.1	8.1	26.4	26.4	32.59	32.59	1.3	1.27	1.39	5.69	5.69	5.65	84.8	84.85	2	2	2
			Sunny	Moderate	17:42	17:43					8.1	8.1	26.4	26.4	32.59	32.59	1.24			5.69			84.9		2		
			Sunny	Moderate	17:41	17:42			middle	6.3	8.11	8.11	26.3	26.3	32.81	32.81	1.44	1.45		5.61	5.61		83.7	83.7	2	2	
			Sunny	Moderate	17:41	17:42					8.11	8.11	26.3	26.3	32.81	32.81	1.46			5.61			83.7		2		
			Sunny	Moderate	17:40	17:41			bottom	11.6	8.12	8.12	26.3	26.3	32.81	32.81	1.36	1.435		5.66	5.655		84.4	84.3	2	2	
			Sunny	Moderate	17:40	17:41					8.12	8.12	26.3	26.3	32.81	32.81	1.51			5.65			84.2		2		
	Mid-Flood	C2	Sunny	Moderate	17:03	17:04	29	4.8	surface	1	8.16	8.16	26.4	26.4	32.75	32.76	1.18	1.175	1.23	5.75	5.745	5.745	85.8	85.75	2	2	2.25
			Sunny	Moderate	17:03	17:04					8.16	8.16	26.4	26.4	32.77	32.76	1.17			5.74			85.7		2		
Sunny			Moderate	17:02	17:03	bottom			3.8	8.16	8.16	26.4	26.4	32.78	32.795	1.24	1.29	5.76		5.75	86.1		85.95	3	2.5		
Sunny			Moderate	17:02	17:03					8.16	8.16	26.4	26.4	32.81	32.795	1.34		5.74			85.8			2			

Appendix C2

Weather Condition during Impact Monitoring

October 2024 Weather Condition

Weather Station: Tuen Mun

Date	Rainfall (mm)	Max. Temp. (°C)	Min. Temp. (°C)	Relative Humidity (%)
1/10/2024	0	33.8	26.7	52 - 63
2/10/2024	0	29.3	24.6	44 - 63
3/10/2024	0	28.9	22.8	46 - 53
4/10/2024	0	29.7	24	45 - 59
5/10/2024	0	31.2	24.4	56 - 78
6/10/2024	0	32	25.6	58 - 80
7/10/2024	0	32.7	26.3	51 - 83
8/10/2024	0	31.4	25.1	53 - 73
9/10/2024	Trace	29.6	25.5	62 - 73
10/10/2024	Trace	30.4	23.4	54 - 81
11/10/2024	8.7	27.9	24.6	61 - 93
12/10/2024	0	29.8	24.6	53 - 77
13/10/2024	0	30.4	24.2	62 - 79
14/10/2024	0	31.1	24.4	64 - 82
15/10/2024	0	30.8	24.9	64 - 82
16/10/2024	Trace	31.9	26.1	63 - 81
17/10/2024	Trace	30.7	26.3	71 - 81
18/10/2024	Trace	30.6	26	69 - 83
19/10/2024	0	32.8	24.9	57 - 83
20/10/2024	1.9	30.8	26.2	65 - 85
21/10/2024	Trace	31.7	25.5	62 - 81
22/10/2024	0	31.9	24.6	47 - 80
23/10/2024	0	27.8	23.2	50 - 64
24/10/2024	0	27	21	30 - 55
25/10/2024	0	29.7	23.1	39 - 54
26/10/2024	0.7	27.3	24.4	54 - 82
27/10/2024	Trace	29.2	23.7	67 - 78
28/10/2024	Trace	26.2	24	63 - 72
29/10/2024	Trace	26.6	22.7	65 - 77
30/10/2024	0	29.5	23.1	56 - 72
31/10/2024	0	29.5	22.8	46 - 61

Note:

* Trace means rainfall less than 0.05mm

* Source: Hong Kong Observatory

Appendix D

Event and Action Plan for Marine Water Quality

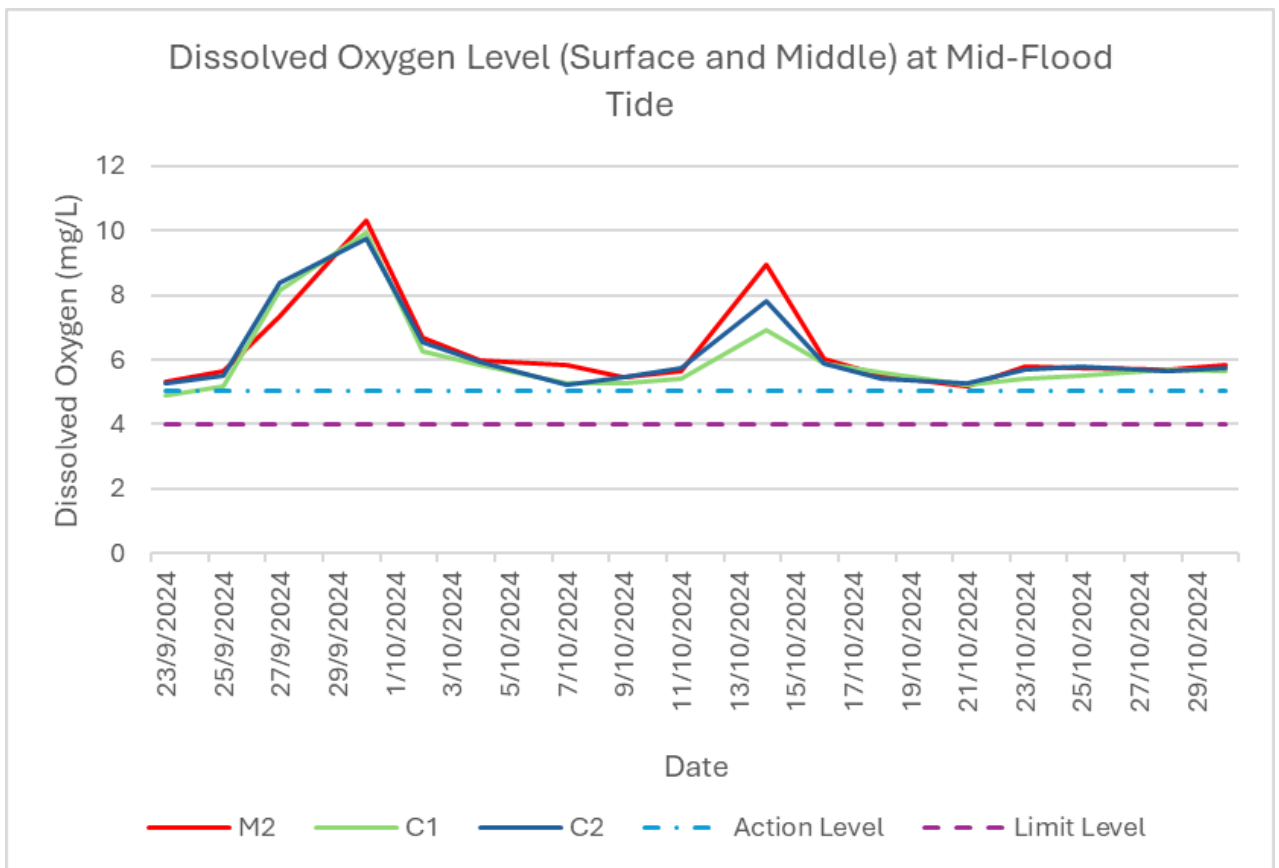
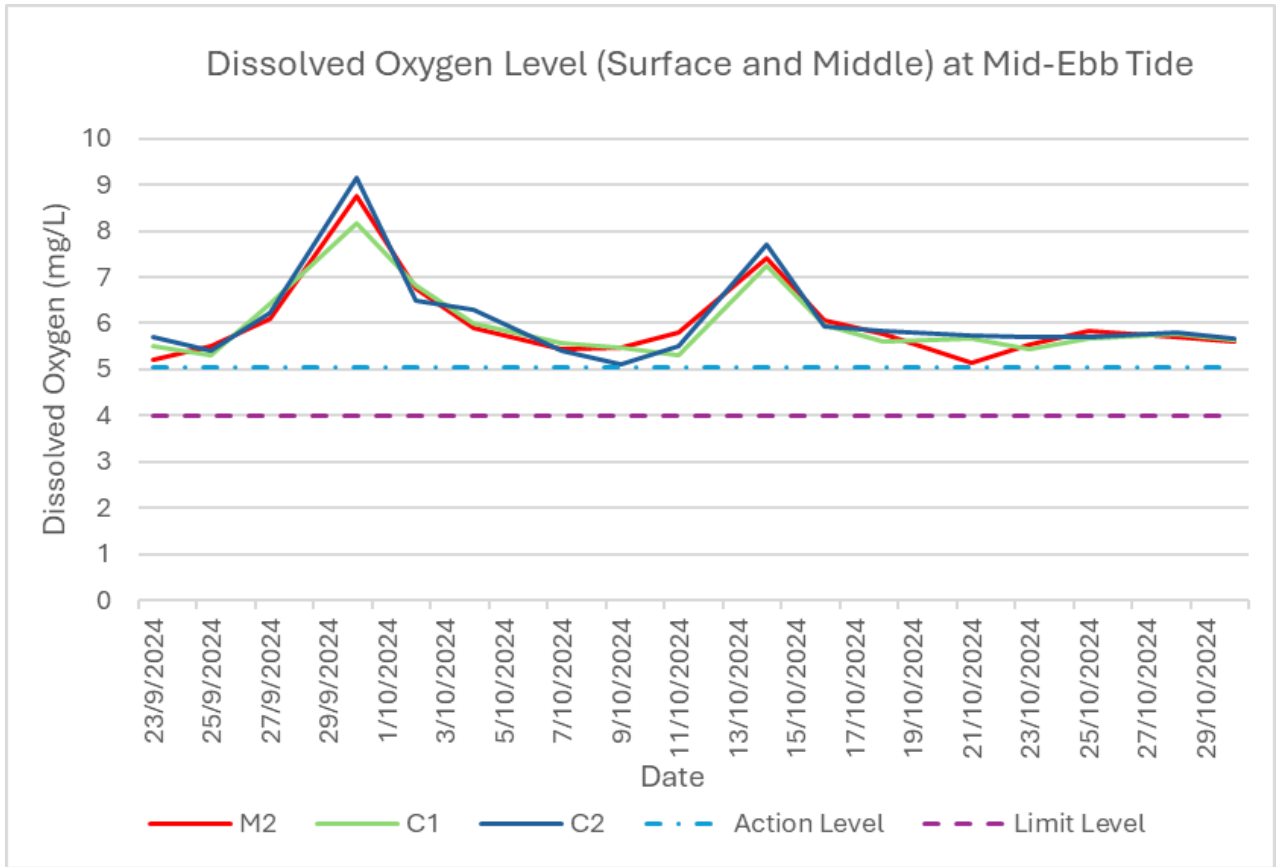
Event	ET Leader	ER	Contractor
Action level being exceeded by one sampling day	<p>Repeat <i>in situ</i> measurement on next day of exceedance to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Inform Contractor and ER;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods.</p>	<p>Check monitoring data submitted by ET and Contractor's working methods;</p> <p>Confirm receipt of notification of non-compliance in writing;</p> <p>Notify Contractor.</p>	<p>Inform the ER and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Amend working methods if appropriate.</p>
Action level being exceeded by two or more consecutive sampling days	<p>Repeat measurement on next day of exceedance to confirm findings;</p> <p>Identify source(s) of impact;</p> <p>Inform Contractor, ER and EPD;</p> <p>Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>Discuss mitigation measures with ER and Contractor;</p> <p>Ensure mitigation measures are implemented;</p> <p>Increase the monitoring frequency to daily until no exceedance of Action level.</p>	<p>Check monitoring data submitted by ET and Contractor's working methods;</p> <p>Discuss with ET and Contractor on the proposed mitigation measures;</p> <p>Ensure mitigation measures are properly implemented;</p> <p>Assess the effectiveness of the implemented mitigation measures.</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;</p> <p>Rectify unacceptable practice;</p> <p>Check all plant and equipment and consider changes of working methods;</p> <p>Submit proposal of additional mitigation measures to ER within 3 working days of notification and discuss with ET and ER;</p> <p>Implement the agreed mitigation measures.</p>

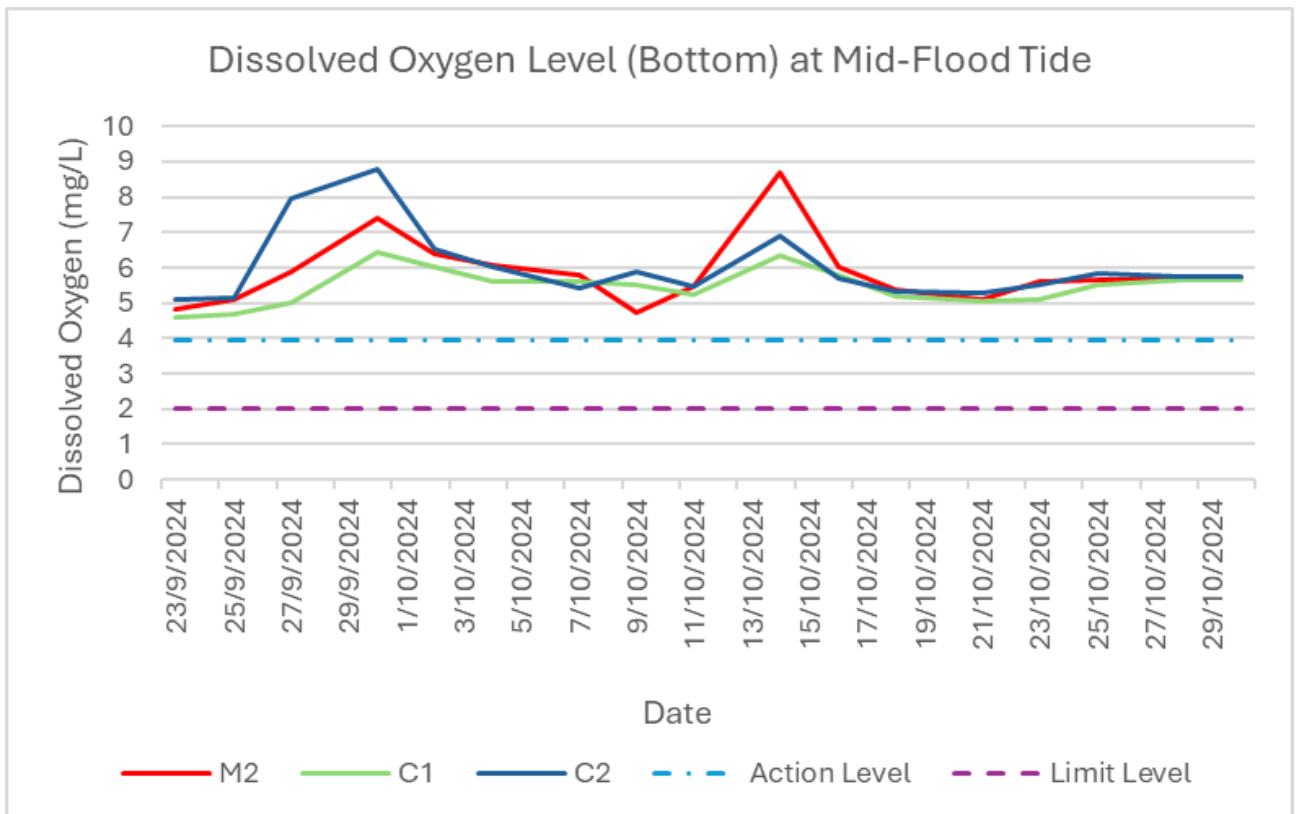
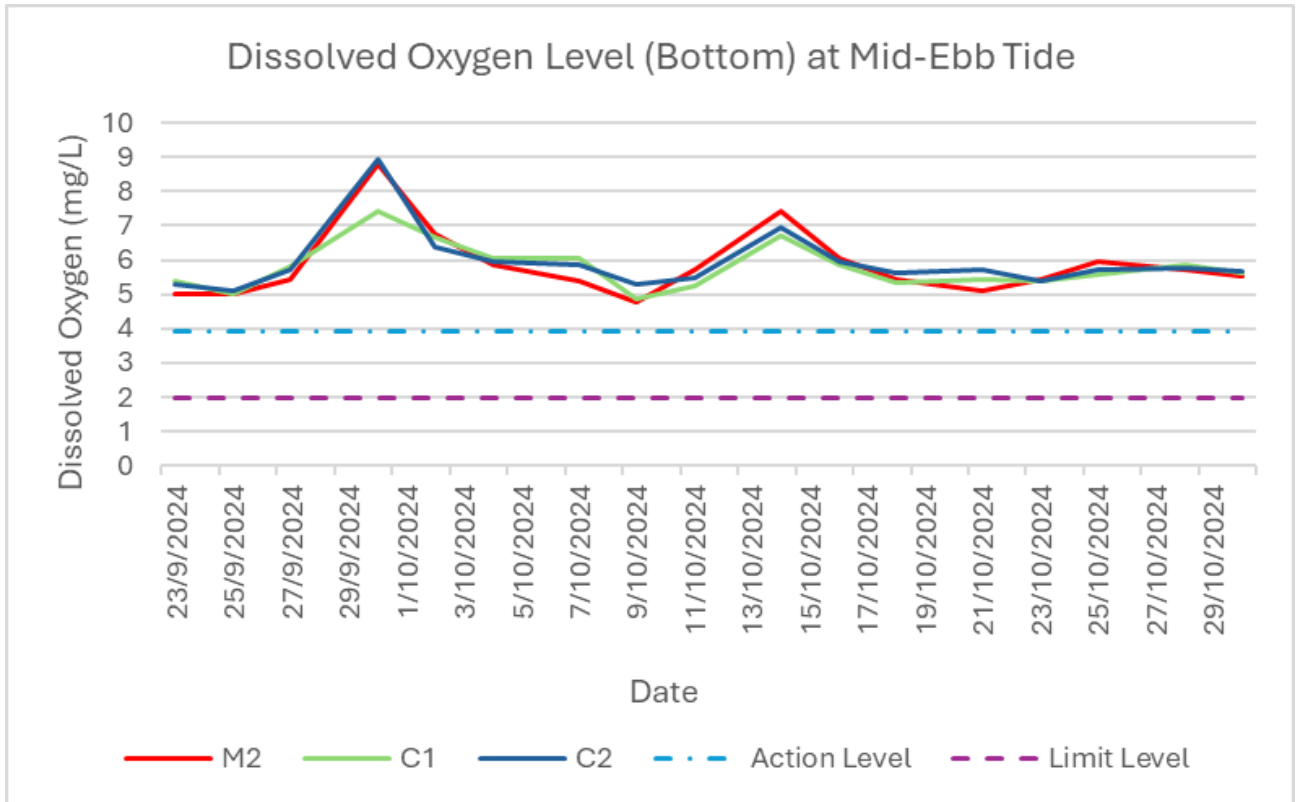
Event	ET Leader	ER	Contractor
<p>Limit level being exceeded by one sampling day</p>	<p>Repeat measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform Contractor, ER and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with ER and Contractor.</p>	<p>Check monitoring data submitted by ET and Contractor's working method; Confirm receipt of notification of failure in writing; Discuss with ET and Contractor on the proposed mitigation measures; Request Contractor to review the working methods.</p>	<p>Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET and ER.</p>
<p>Limit level being exceeded by two or more consecutive sampling days</p>	<p>Repeat measurement on next day of exceedance to confirm findings; Identify source(s) of impact; Inform Contractor, ER and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with ER and Contractor; Ensure mitigation measures are</p>	<p>Check monitoring data submitted by ET and Contractor's working method; Discuss with ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Ensure mitigation measures are properly implemented;</p>	<p>Take immediate action to avoid further exceedance; Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET and ER; Implement the agreed mitigation measures; Resubmit proposals of mitigation measures if problem still not under control;</p>

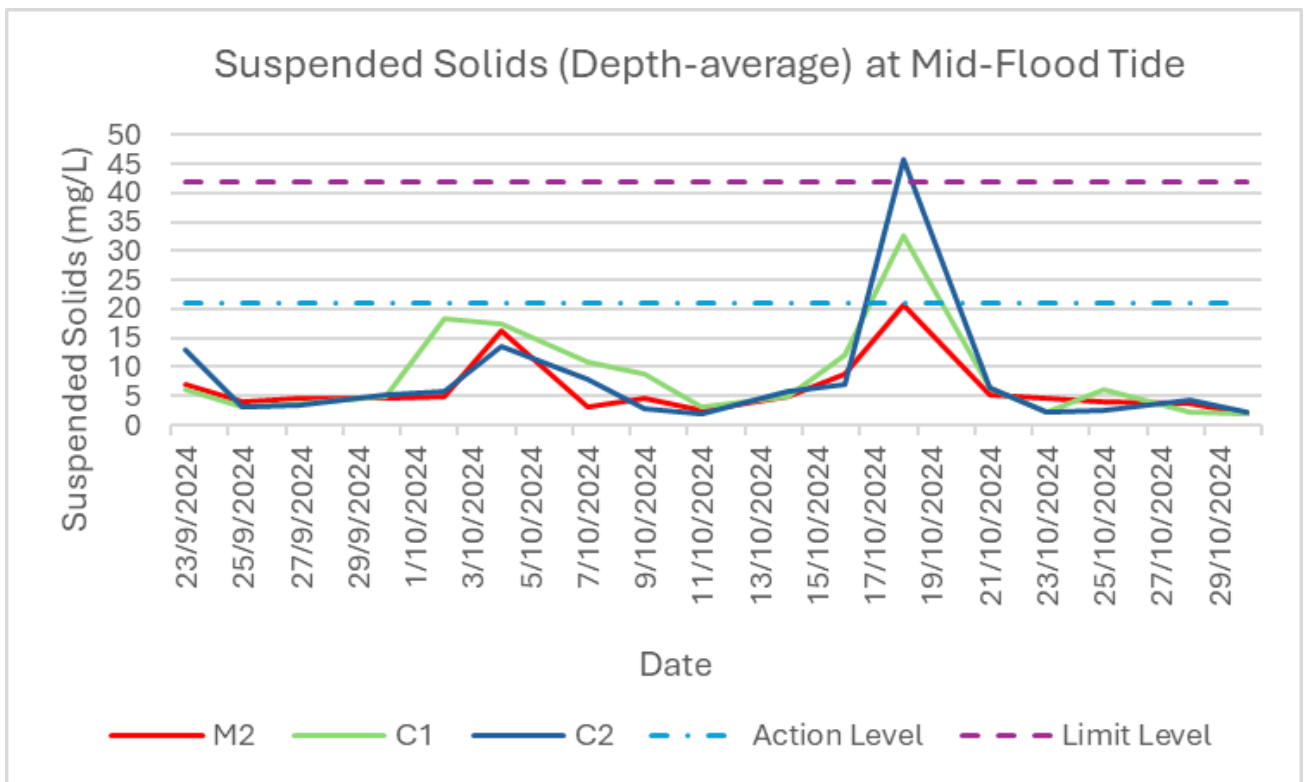
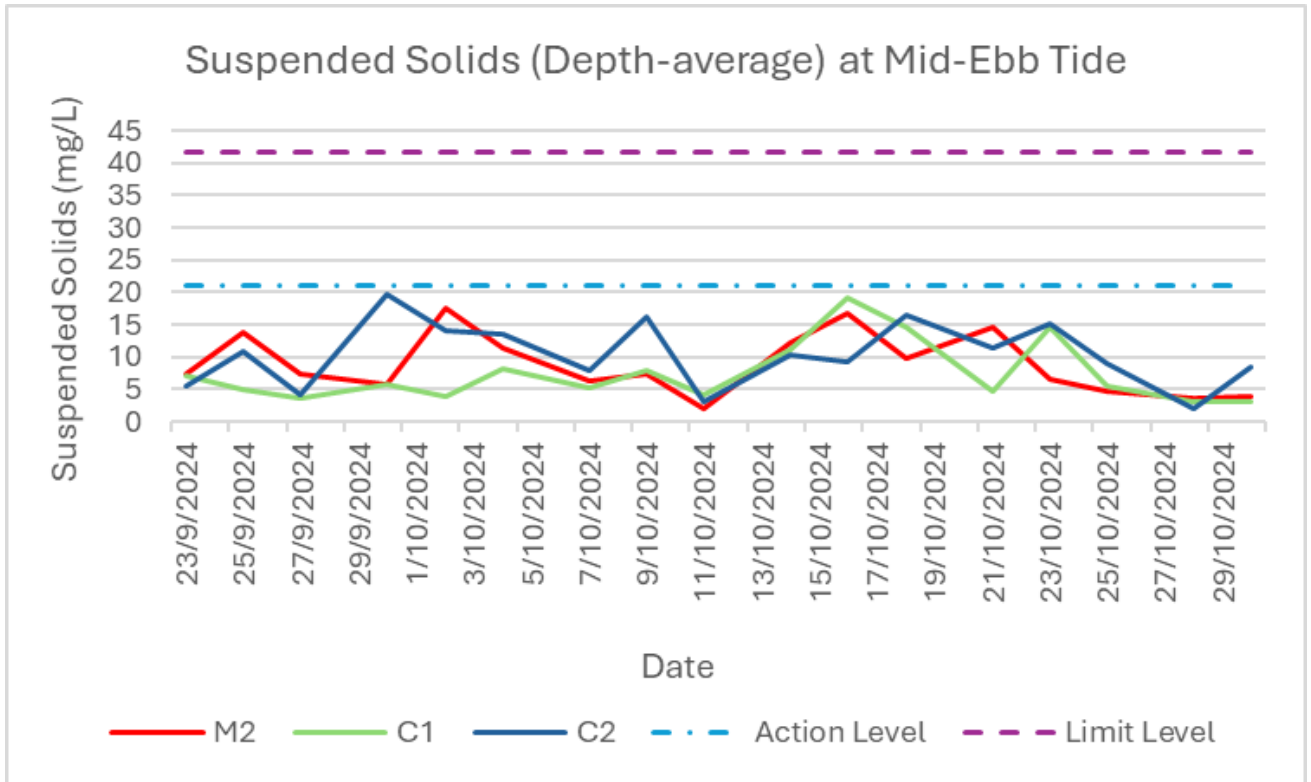
Event	ET Leader	ER	Contractor
	implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

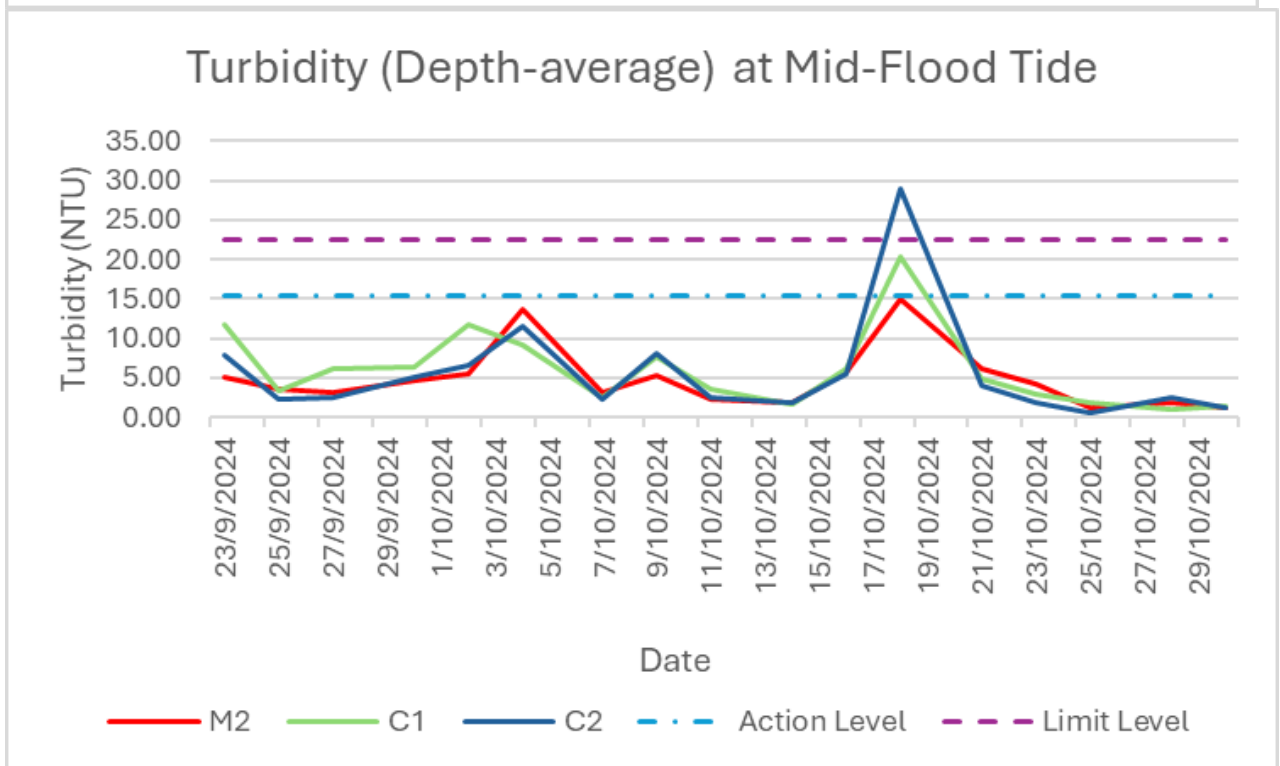
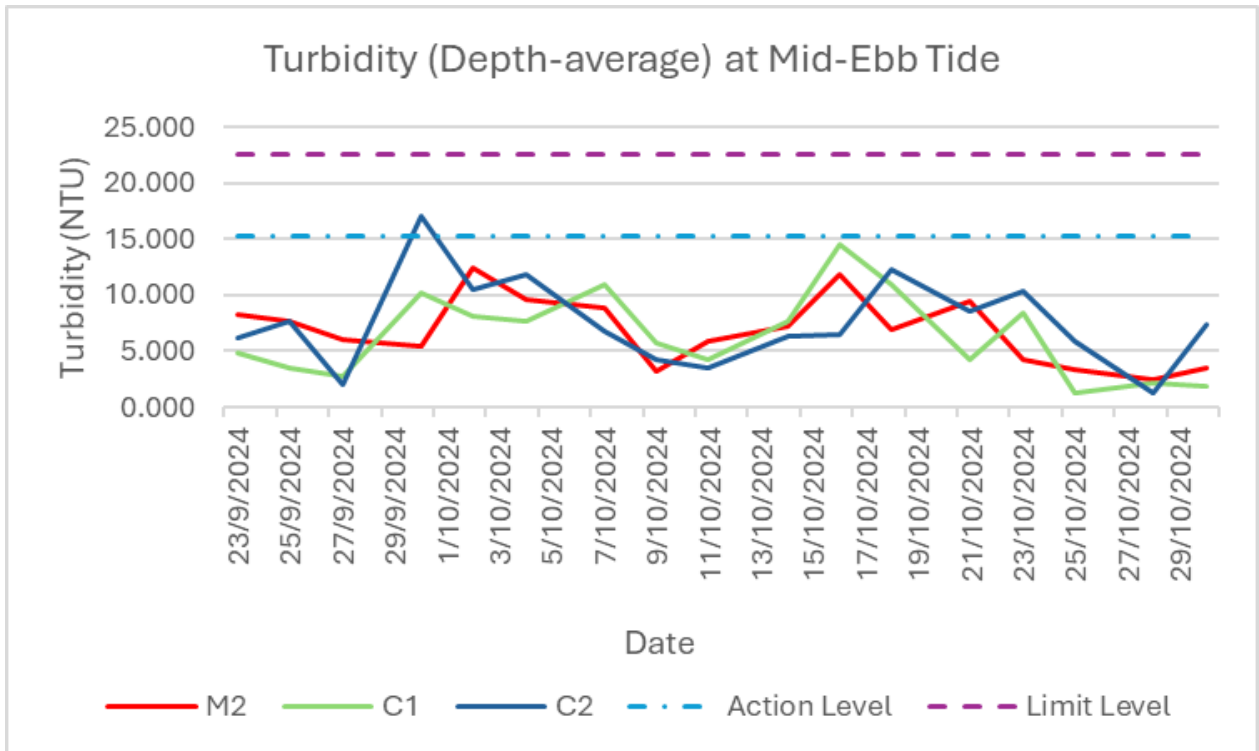
Appendix E

Graphical Plots of Impact Monitoring Data









Appendix F

Environmental Checklist



Ecosystems Ltd.

生態系統顧問有限公司

Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Environmental Checklist for Site Audit

Date: 4/10/2024

Time: 1000

Weather: Cloudy, windy

Audit No: 002

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
Previous follow up action					
1.1	Are previous follow up actions implemented and accepted?			✓	
Measure / Practice to be implemented					
2.1	Is the Environmental Permit displayed at the entrance of construction site?	✓			
2.2	Is Permit under s11 of Cap. 476A for the anchorage works obtained?	✓			
2.3	Is MDN for the proposed reinstatement works obtained?	✓			
2.4	Is the site kept clean and tidy?	✓			
2.5	Is the site free from wastewater discharge to the sea?	✓			
2.6	Are there any measures to prevent leaked oil/chemical from entering the sea?	✓			
2.7	Is the site free from general waste (from construction worker) with reasonable condition?	✓			
2.8	Are there any measures to collect spilt cement and concrete washings during concreting works?	✓			
2.9	Are construction solid waste, debris and rubbish (from construction activities) on site collected, handled and disposed of properly to avoid water quality impacts?	✓			
2.11	Is the 24-hour guard boat present around the Jetty?	✓			
2.12	Is the double layer of floating type silt curtain adopted?	✓			
2.13	Are there spare silt curtains ready on site?	✓			
2.14	Are steel drag anchors adopted for the derrick lighter?			✓	
2.15	Are the armour rock stored properly at the hopper of derrick lighter?	✓			
2.16	Are the broken slab stored properly at the hopper of derrick lighter?	✓			
2.17	Is the repair works area fenced off for maintaining an access for other's use?	✓			
2.18	Is there any foundation of slab interrupted?		✓		
2.19	Is quieter machinery being used (e.g. silenced breaker)?	✓			
2.20	Is there any blasting work observed?		✓		
2.21	Are lifting eyes installed to the concrete blocks, if the existing lifting holes are missing?			✓	
2.22	All pipe leakages shall be repaired promptly, and plant shall not be operated with leaking pipes.			✓	

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
2.23	The decks of all vessels shall be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.	✓			
2.24	Adequate freeboard (i.e. minimum of 200mm) shall be maintained on barges to ensure that decks are not washed by wave action.	✓			
2.25	All hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials	✓			
2.26	Construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds.	✓			
2.27	Loading of barges and hopper barges shall be controlled to prevent splashing of material into the surrounding water. Barges or hopper barges shall not be filled to a level that will cause the overflow of materials or sediment laden water during loading or transportation.	✓			
Mitigation Measures on Marine Park					
3.1	No signs of fishing, hunting and collecting animals and plant or its part.	✓			
3.2	Check the work site boundaries regularly to ensure that no damage occurs to surrounding natural habitats.	✓			
3.3	Prohibit and prevent open fires within the work site boundary during construction and provide temporary firefighting equipment in the work areas.	✓			
3.4	Reinstate temporary work sites/disturbed areas immediately after completion of the construction.			✓	
3.5	The use of high-speed vessels in the construction or operation of the jetty shall be avoided where possible. If high speed vessels must be used, they shall be required to slow to under 10 knots which is the speed restriction for all marine traffic inside the Marine Park Boundary. Furthermore, marine traffic entering the Marine Park to the proposed jetty area shall follow a regular and predictable route.			✓	
3.6	All vessel operators working on the project shall be given a briefing, alerting them to the conservation significance of the Marine Park.	✓			
3.7	A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This shall also be covered in the contractor briefing.	✓			
Good Site Practices and Waste Reduction Measures					
4.1	Nomination of an approved personnel, such as a site agent, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	✓			
4.2	Training of site personnel in proper waste management procedures.	✓			
4.3	High standards of waste management shall be observed on the works vessels and barges to ensure that no waste arisings or fuel/diesel oils are disposed to the surrounding marine waters.	✓			
4.4	No C&D materials and machinery fuels enter the marine waters at the site;	✓			
4.5	No stockpiles of construction material shall be permitted on Lung Kwu Chau Island outside project site bound.	✓			
4.6	All wastes, unused construction materials and construction equipment shall be removed from Lung Kwu Chau Island after the works are completed.	✓			
4.7	A recording system for the number of wastes generated, recycled and disposed of including the disposal sites.	✓			

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
4.8	In order to monitor the disposal of C&D materials at public filling areas, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements.	✓			
4.9	Prior to disposal of C&D waste. It is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.			✓	
4.10	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	✓			
4.11	Plan use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓			

Recorded by:

Date: 4/10/2024,

(Environmental Monitoring Team)

Signature:

Follow up by:

Date:

(Contractor's representative)

Signature:

Jackie Li



Ecosystems Ltd.

生態系統顧問有限公司

Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Environmental Checklist for Site Audit

Date: 9/10/2024

Time: 09:50

Weather: Sunny

Audit No: 003

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
Previous follow up action					
1.1	Are previous follow up actions implemented and accepted?			/	
Measure / Practice to be implemented					
2.1	Is the Environmental Permit displayed at the entrance of construction site?	/			
2.2	Is Permit under s11 of Cap. 476A for the anchorage works obtained?	/			
2.3	Is MDN for the proposed reinstatement works obtained?	/			
2.4	Is the site kept clean and tidy?	/			
2.5	Is the site free from wastewater discharge to the sea?	/			
2.6	Are there any measures to prevent leaked oil/chemical from entering the sea?	/			
2.7	Is the site free from general waste (from construction worker) with reasonable condition?	/			
2.8	Are there any measures to collect spilt cement and concrete washings during concreting works?	/			
2.9	Are construction solid waste, debris and rubbish (from construction activities) on site collected, handled and disposed of properly to avoid water quality impacts?	/			
2.11	Is the 24-hour guard boat present around the Jetty?	/			
2.12	Is the double layer of floating type silt curtain adopted?	/			
2.13	Are there spare silt curtains ready on site?	/			
2.14	Are steel drag anchors adopted for the derrick lighter?	/			
2.15	Are the armour rock stored properly at the hopper of derrick lighter?			/	
2.16	Are the broken slab stored properly at the hopper of derrick lighter?	/			
2.17	Is the repair works area fenced off for maintaining an access for other's use?	/			
2.18	Is there any foundation of slab interrupted?		/		
2.19	Is quieter machinery being used (e.g. silenced breaker)?	/			
2.20	Is there any blasting work observed?		/		
2.21	Are lifting eyes installed to the concrete blocks, if the existing lifting holes are missing?			/	
2.22	All pipe leakages shall be repaired promptly, and plant shall not be operated with leaking pipes.			/	

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
2.23	The decks of all vessels shall be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.	/			
2.24	Adequate freeboard (i.e. minimum of 200mm) shall be maintained on barges to ensure that decks are not washed by wave action.	/			
2.25	All hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials	/			
2.26	Construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds.	/			
2.27	Loading of barges and hopper barges shall be controlled to prevent splashing of material into the surrounding water. Barges or hopper barges shall not be filled to a level that will cause the overflow of materials or sediment laden water during loading or transportation.	/			
Mitigation Measures on Marine Park					
3.1	No signs of fishing, hunting and collecting animals and plant or its part.	/			
3.2	Check the work site boundaries regularly to ensure that no damage occurs to surrounding natural habitats.	/			
3.3	Prohibit and prevent open fires within the work site boundary during construction and provide temporary firefighting equipment in the work areas.	/			
3.4	Reinstate temporary work sites/disturbed areas immediately after completion of the construction.			/	
3.5	The use of high-speed vessels in the construction or operation of the jetty shall be avoided where possible. If high speed vessels must be used, they shall be required to slow to under 10 knots which is the speed restriction for all marine traffic inside the Marine Park Boundary. Furthermore, marine traffic entering the Marine Park to the proposed jetty area shall follow a regular and predictable route.	/			
3.6	All vessel operators working on the project shall be given a briefing, alerting them to the conservation significance of the Marine Park.	/			
3.7	A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This shall also be covered in the contractor briefing.	/			
Good Site Practices and Waste Reduction Measures					
4.1	Nomination of an approved personnel, such as a site agent, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	/			
4.2	Training of site personnel in proper waste management procedures.	/			
4.3	High standards of waste management shall be observed on the works vessels and barges to ensure that no waste arisings or fuel/diesel oils are disposed to the surrounding marine waters.	/			
4.4	No C&D materials and machinery fuels enter the marine waters at the site;	/			
4.5	No stockpiles of construction material shall be permitted on Lung Kwu Chau Island outside project site bound.	/			
4.6	All wastes, unused construction materials and construction equipment shall be removed from Lung Kwu Chau Island after the works are completed.	/			
4.7	A recording system for the number of wastes generated, recycled and disposed of including the disposal sites.	/			

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
4.8	In order to monitor the disposal of C&D materials at public filling areas, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements.	/			
4.9	Prior to disposal of C&D waste. It is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.			/	
4.10	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	/			
4.11	Plan use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	/			

Recorded by:

Date: 9/10/2024

(Environmental Monitoring Team)

Signature:

Anson
Anson
 Anson Leung

Follow up by:

Date:

(Contractor's representative)

Signature:

SL
 Julie Si



Ecosystems Ltd.
生態系統顧問有限公司

Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Environmental Checklist for Site Audit

Date: 16-Oct-2024

Time: 16:30

Weather: Sunny

Audit No: 004

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
Previous follow up action					
1.1	Are previous follow up actions implemented and accepted?			✓	
Measure / Practice to be implemented					
2.1	Is the Environmental Permit displayed at the entrance of construction site?	✓			
2.2	Is Permit under s11 of Cap. 476A for the anchorage works obtained?	✓			
2.3	Is MDN for the proposed reinstatement works obtained?	✓			
2.4	Is the site kept clean and tidy?	✓			
2.5	Is the site free from wastewater discharge to the sea?	✓			
2.6	Are there any measures to prevent leaked oil/chemical from entering the sea?	✓			
2.7	Is the site free from general waste (from construction worker) with reasonable condition?	✓			
2.8	Are there any measures to collect spilt cement and concrete washings during concreting works?			✓	
2.9	Are construction solid waste, debris and rubbish (from construction activities) on site collected, handled and disposed of properly to avoid water quality impacts?	✓			
2.11	Is the 24-hour guard boat present around the Jetty?	✓			
2.12	Is the double layer of floating type silt curtain adopted?	✓			
2.13	Are there spare silt curtains ready on site?	✓			
2.14	Are steel drag anchors adopted for the derrick lighter?			✓	
2.15	Are the armour rock stored properly at the hopper of derrick lighter?			✓	
2.16	Are the broken slab stored properly at the hopper of derrick lighter?	✓			
2.17	Is the repair works area fenced off for maintaining an access for other's use?	✓			
2.18	Is there any foundation of slab interrupted?		✓		
2.19	Is quieter machinery being used (e.g. silenced breaker)?	✓			
2.20	Is there any blasting work observed?		✓		
2.21	Are lifting eyes installed to the concrete blocks, if the existing lifting holes are missing?			✓	
2.22	All pipe leakages shall be repaired promptly, and plant shall not be operated with leaking pipes.			✓	

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
2.23	The decks of all vessels shall be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.	✓			
2.24	Adequate freeboard (i.e. minimum of 200mm) shall be maintained on barges to ensure that decks are not washed by wave action.	✓			
2.25	All hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials	✓			
2.26	Construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds.	✓			
2.27	Loading of barges and hopper barges shall be controlled to prevent splashing of material into the surrounding water. Barges or hopper barges shall not be filled to a level that will cause the overflow of materials or sediment laden water during loading or transportation.	✓			
Mitigation Measures on Marine Park					
3.1	No signs of fishing, hunting and collecting animals and plant or its part.	✓			
3.2	Check the work site boundaries regularly to ensure that no damage occurs to surrounding natural habitats.	✓			
3.3	Prohibit and prevent open fires within the work site boundary during construction and provide temporary firefighting equipment in the work areas.	✓			
3.4	Reinstate temporary work sites/disturbed areas immediately after completion of the construction.			✓	
3.5	The use of high-speed vessels in the construction or operation of the jetty shall be avoided where possible. If high speed vessels must be used, they shall be required to slow to under 10 knots which is the speed restriction for all marine traffic inside the Marine Park Boundary. Furthermore, marine traffic entering the Marine Park to the proposed jetty area shall follow a regular and predictable route.	✓			
3.6	All vessel operators working on the project shall be given a briefing, alerting them to the conservation significance of the Marine Park.	✓			
3.7	A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This shall also be covered in the contractor briefing.	✓			
Good Site Practices and Waste Reduction Measures					
4.1	Nomination of an approved personnel, such as a site agent, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	✓			
4.2	Training of site personnel in proper waste management procedures.	✓			
4.3	High standards of waste management shall be observed on the works vessels and barges to ensure that no waste arisings or fuel/diesel oils are disposed to the surrounding marine waters.	✓			
4.4	No C&D materials and machinery fuels enter the marine waters at the site;	✓			
4.5	No stockpiles of construction material shall be permitted on Lung Kwu Chau Island outside project site bound.	✓			
4.6	All wastes, unused construction materials and construction equipment shall be removed from Lung Kwu Chau Island after the works are completed.			✓	
4.7	A recording system for the number of wastes generated, recycled and disposed of including the disposal sites.	✓			

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
4.8	In order to monitor the disposal of C&D materials at public filling areas, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements.	✓			
4.9	Prior to disposal of C&D waste. It is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.	✓			
4.10	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	✓			
4.11	Plan use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓			

Recorded by: *Ken Mok*
Date: *16 Oct-2024*
(Environmental Monitoring Team)

Signature: *K*

Follow up by: *Jankie Li*
Date: *16/10/2024*
(Contractor's representative)

Signature: *JL*



Ecosystems Ltd.
生態系統顧問有限公司

Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Environmental Checklist for Site Audit

Date: 25/10/2024

Time: 1030

Weather: Sunny, Windy

Audit No: 095

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
Previous follow up action					
1.1	Are previous follow up actions implemented and accepted?			/	
Measure / Practice to be implemented					
2.1	Is the Environmental Permit displayed at the entrance of construction site?	/			
2.2	Is Permit under s11 of Cap. 476A for the anchorage works obtained?	/			
2.3	Is MDN for the proposed reinstatement works obtained?	/			
2.4	Is the site kept clean and tidy?	/			
2.5	Is the site free from wastewater discharge to the sea?	/			
2.6	Are there any measures to prevent leaked oil/chemical from entering the sea?	/			
2.7	Is the site free from general waste (from construction worker) with reasonable condition?	/			
2.8	Are there any measures to collect spilt cement and concrete washings during concreting works?			/	
2.9	Are construction solid waste, debris and rubbish (from construction activities) on site collected, handled and disposed of properly to avoid water quality impacts?	/			
2.11	Is the 24-hour guard boat present around the Jetty?	/			
2.12	Is the double layer of floating type silt curtain adopted?	/			
2.13	Are there spare silt curtains ready on site?	/			
2.14	Are steel drag anchors adopted for the derrick lighter?		/		
2.15	Are the armour rock stored properly at the hopper of derrick lighter?			/	
2.16	Are the broken slab stored properly at the hopper of derrick lighter?	/			
2.17	Is the repair works area fenced off for maintaining an access for other's use?	/			
2.18	Is there any foundation of slab interrupted?		/		
2.19	Is quieter machinery being used (e.g. silenced breaker)?	/			
2.20	Is there any blasting work observed?		/		
2.21	Are lifting eyes installed to the concrete blocks, if the existing lifting holes are missing?			/	
2.22	All pipe leakages shall be repaired promptly, and plant shall not be operated with leaking pipes.			/	

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
2.23	The decks of all vessels shall be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.	/			
2.24	Adequate freeboard (i.e. minimum of 200mm) shall be maintained on barges to ensure that decks are not washed by wave action.	/			
2.25	All hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials	/			
2.26	Construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds.	/			
2.27	Loading of barges and hopper barges shall be controlled to prevent splashing of material into the surrounding water. Barges or hopper barges shall not be filled to a level that will cause the overflow of materials or sediment laden water during loading or transportation.	/			
Mitigation Measures on Marine Park					
3.1	No signs of fishing, hunting and collecting animals and plant or its part.	/			
3.2	Check the work site boundaries regularly to ensure that no damage occurs to surrounding natural habitats.	/			
3.3	Prohibit and prevent open fires within the work site boundary during construction and provide temporary firefighting equipment in the work areas.	/			
3.4	Reinstate temporary work sites/disturbed areas immediately after completion of the construction.			/	
3.5	The use of high-speed vessels in the construction or operation of the jetty shall be avoided where possible. If high speed vessels must be used, they shall be required to slow to under 10 knots which is the speed restriction for all marine traffic inside the Marine Park Boundary. Furthermore, marine traffic entering the Marine Park to the proposed jetty area shall follow a regular and predictable route.	/			
3.6	All vessel operators working on the project shall be given a briefing, alerting them to the conservation significance of the Marine Park.	/			
3.7	A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This shall also be covered in the contractor briefing.	/			
Good Site Practices and Waste Reduction Measures					
4.1	Nomination of an approved personnel, such as a site agent, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	/			
4.2	Training of site personnel in proper waste management procedures.	/			
4.3	High standards of waste management shall be observed on the works vessels and barges to ensure that no waste arisings or fuel/diesel oils are disposed to the surrounding marine waters.	/			
4.4	No C&D materials and machinery fuels enter the marine waters at the site;	/			
4.5	No stockpiles of construction material shall be permitted on Lung Kwu Chau Island outside project site bound.	/			
4.6	All wastes, unused construction materials and construction equipment shall be removed from Lung Kwu Chau Island after the works are completed.			/	
4.7	A recording system for the number of wastes generated, recycled and disposed of including the disposal sites.				

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
4.8	In order to monitor the disposal of C&D materials at public filling areas, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements.	/			
4.9	Prior to disposal of C&D waste. It is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.			/	
4.10	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	/			
4.11	Plan use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	/			

Recorded by: *Michael Ma*
Date: *25/10/2024*
(Environmental Monitoring Team)

Signature: *[Signature]*

Follow up by: *Janice Li*
Date:
(Contractor's representative)

Signature: *[Signature]*



Ecosystems Ltd.
生態系統顧問有限公司

Environmental Monitoring Works for Lung Kwu Chau Jetty Repair Works

Environmental Checklist for Site Audit

Date: 30/10/2024

Time: 1500

Weather: Sunny, windy

Audit No: 006

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
Previous follow up action					
1.1	Are previous follow up actions implemented and accepted?			✓	
Measure / Practice to be implemented					
2.1	Is the Environmental Permit displayed at the entrance of construction site?	✓			
2.2	Is Permit under s11 of Cap. 476A for the anchorage works obtained?	✓			
2.3	Is MDN for the proposed reinstatement works obtained?	✓			
2.4	Is the site kept clean and tidy?	✓			
2.5	Is the site free from wastewater discharge to the sea?	✓			
2.6	Are there any measures to prevent leaked oil/chemical from entering the sea?	✓			
2.7	Is the site free from general waste (from construction worker) with reasonable condition?	✓			
2.8	Are there any measures to collect spilt cement and concrete washings during concreting works?			✓	
2.9	Are construction solid waste, debris and rubbish (from construction activities) on site collected, handled and disposed of properly to avoid water quality impacts?	✓			
2.11	Is the 24-hour guard boat present around the Jetty?	✓			
2.12	Is the double layer of floating type silt curtain adopted?	✓			
2.13	Are there spare silt curtains ready on site?	✓			
2.14	Are steel drag anchors adopted for the derrick lighter?		✓		
2.15	Are the armour rock stored properly at the hopper of derrick lighter?			✓	
2.16	Are the broken slab stored properly at the hopper of derrick lighter?	✓			
2.17	Is the repair works area fenced off for maintaining an access for other's use?	✓			
2.18	Is there any foundation of slab interrupted?		✓		
2.19	Is quieter machinery being used (e.g. silenced breaker)?	✓			
2.20	Is there any blasting work observed?		✓		
2.21	Are lifting eyes installed to the concrete blocks, if the existing lifting holes are missing?			✓	
2.22	All pipe leakages shall be repaired promptly, and plant shall not be operated with leaking pipes.			✓	

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
2.23	The decks of all vessels shall be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard.	✓			
2.24	Adequate freeboard (i.e. minimum of 200mm) shall be maintained on barges to ensure that decks are not washed by wave action.	✓			
2.25	All hopper barges shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials	✓			
2.26	Construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds.	✓			
2.27	Loading of barges and hopper barges shall be controlled to prevent splashing of material into the surrounding water. Barges or hopper barges shall not be filled to a level that will cause the overflow of materials or sediment laden water during loading or transportation.	✓			
Mitigation Measures on Marine Park					
3.1	No signs of fishing, hunting and collecting animals and plant or its part.	✓			
3.2	Check the work site boundaries regularly to ensure that no damage occurs to surrounding natural habitats.	✓			
3.3	Prohibit and prevent open fires within the work site boundary during construction and provide temporary firefighting equipment in the work areas.	✓			
3.4	Reinstate temporary work sites/disturbed areas immediately after completion of the construction.			✓	
3.5	The use of high-speed vessels in the construction or operation of the jetty shall be avoided where possible. If high speed vessels must be used, they shall be required to slow to under 10 knots which is the speed restriction for all marine traffic inside the Marine Park Boundary. Furthermore, marine traffic entering the Marine Park to the proposed jetty area shall follow a regular and predictable route.	✓			
3.6	All vessel operators working on the project shall be given a briefing, alerting them to the conservation significance of the Marine Park.	✓			
3.7	A policy of no dumping of rubbish, food, oil, or chemicals shall be strictly enforced. This shall also be covered in the contractor briefing.	✓			
Good Site Practices and Waste Reduction Measures					
4.1	Nomination of an approved personnel, such as a site agent, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	✓			
4.2	Training of site personnel in proper waste management procedures.	✓			
4.3	High standards of waste management shall be observed on the works vessels and barges to ensure that no waste arisings or fuel/diesel oils are disposed to the surrounding marine waters.	✓			
4.4	No C&D materials and machinery fuels enter the marine waters at the site;	✓			
4.5	No stockpiles of construction material shall be permitted on Lung Kwu Chau Island outside project site bound.	✓			
4.6	All wastes, unused construction materials and construction equipment shall be removed from Lung Kwu Chau Island after the works are completed.			✓	
4.7	A recording system for the number of wastes generated, recycled and disposed of including the disposal sites.	✓			

Item	Environmental Protection Measures / Mitigation Measures	Implementation			Action / Remarks
		Y	N	NA	
4.8	In order to monitor the disposal of C&D materials at public filling areas, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements.	✓			
4.9	Prior to disposal of C&D waste. It is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.			✓	
4.10	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	✓			
4.11	Plan use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	✓			

Recorded by: *Michael Ma*
Date: *30/10/2024*
(Environmental Monitoring Team)

Signature: *EM*

Follow up by: *Jackie Jr*
Date: *30/10/2024*
(Contractor's representative)

Signature: *SL*

Appendix G

Schedule of Water Quality Monitoring in November 2024

Monitoring Date	1st Tide Monitoring	2nd Tide Monitoring
1/11/2024 (Fri)	12:00 Mid-Ebb	18:00 Mid-Flood
4/11/2024 (Mon)	09:00 Mid-Flood	14:00 Mid-Ebb
6/11/2024 (Wed)	10:00 Mid-Flood	15:00 Mid-Ebb
*# 8/11/2024 (Fri)	07:00 Mid-Ebb	13:00 Mid-Flood
11/11/2024 (Mon)	09:00 Mid-Ebb	15:00 Mid-Flood
13/11/2024 (Wed)	10:00 Mid-Ebb	16:00 Mid-Flood
* 15/11/2024 (Fri)	11:00 Mid-Ebb	17:00 Mid-Flood
18/11/2024 (Mon)	09:00 Mid-Flood	14:00 Mid-Ebb
20/11/2024 (Wed)	09:00 Mid-Flood	15:00 Mid-Ebb
* 22/11/2024 (Fri)	07:00 Mid-Ebb	13:00 Mid-Flood
25/11/2024 (Mon)	09:00 Mid-Ebb	15:00 Mid-Flood
27/11/2024 (Wed)	10:00 Mid-Ebb	16:00 Mid-Flood
* 29/11/2024 (Fri)	11:00 Mid-Ebb	17:00 Mid-Flood

* Tentative Site Inspection date

Tentative Joint Site Inspection date