



# **Intermodal Transfer Terminal – Bonded Vehicular Bridge and Associated Roads**

Monthly EM&A Report for July 2022

August 2022

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Airport Authority Hong Kong

# **Intermodal Transfer Terminal – Bonded Vehicular Bridge and Associated Roads**

Monthly EM&A Report for July 2022

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**This Submission of Construction Phase Monthly Environmental  
Monitoring and Audit (EM&A) Report for July 2022**


**has been reviewed and certified by**

**the Environmental Team Leader (ETL) in accordance with**

**Condition 3.4 of Environmental Permit No. EP-560/2018 and**

**Section 10.3 of the EM&A Manual of the Project.**

**Certified by:**



---

Ir Thomas Chan  
Environmental Team Leader (ETL)  
Mott MacDonald Hong Kong Limited

**Date**

20 September 2022

Your Ref: -  
Our Ref: 60610093/C/FYW2209201

**By Email**

Airport Authority Hong Kong  
HKIA Tower, 1 Sky Plaza Road,  
Hong Kong International Airport,  
Lantau, Hong Kong

**Attn: Alan Chan (Manager, Civil)**

20 September 2022

Dear Sir,

**Contract C19C02 – Independent Environmental Checker Consultancy Services for  
Intermodal Transfer Terminal – Bonded Vehicular Bridge and Associated Roads  
Monthly Environmental and Audit (EM&A) Report for July 2022**

Reference is made to the Environmental Team's submission of Monthly EM&A Report for July 2022 in accordance with Condition 3.4 of the Environmental Permit (No: EP-560/2018) and Section 10.3 of the EM&A Manual of the Project certified by the ET Leader on 20 September 2022.

We would like to inform you that we have verified on the captioned submission in accordance with the requirement stipulated in Condition 1.9 of EP-560/2018.

Should you have any queries, please feel free to contact the undersigned at 3922 9366.

Yours faithfully,  
AECOM Asia Co. Ltd.



Y W Fung  
Independent Environmental Checker

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## Executive summary

On 23 August 2018, the Environment Impact Assessment (EIA) Report (Register No.: AEIAR-216/2018) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-560/2018) was issued for the construction and operation of the Project.

In June 2019, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by Airport Authority Hong Kong (AAHK) to provide Environmental Team (ET) consultancy services for implementation of an Environmental Monitoring and Audit (EM&A) programme of the “Intermodal Transfer Terminal – Bonded Vehicular Bridge and Associated Roads” (hereinafter referred to as “the Project”) in accordance with the Environmental Permit (EP) requirements throughout the Pre-construction, Construction and Post-construction phases.

The project construction was commenced on 5 October 2020 and the construction phase EM&A programme started on 5 October 2020.

This is the 22<sup>nd</sup> Monthly EM&A Report for the construction phase of the Project which summaries findings of the EM&A programme during the reporting period from 1 to 31 July 2022.

### Key Construction Works in the Reporting Period

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

- Plant and material mobilization for marine works
- Plant and material mobilization for landside works
- Marine bored piling works (till 25 July 2022)
- Pier and bridge deck construction
- Ancillary buildings construction
- Abutment, upramp structure & superstructure
- Retaining wall construction
- Drainage works

### Environmental Monitoring and Audit Progress

The monthly EM&A programme was undertaken by ET in accordance with the approved EM&A Manual. A summary of the monitoring activities during the reporting period is presented below:

**Table I: Summary Table for EM&A Activities in the Reporting Period**

EM&A Activities	Number of Sessions
Water quality monitoring	12 (which 3 sessions were under ACL project)
Weekly environmental site inspections	4

### Breaches of Action and Limit Levels

#### *Water Quality*

There was no breach of Action or Limit Levels for water quality during the reporting month.

### Complaint Log

There was no complaint in relation to the environmental impact received during the reporting period.

### **Notifications of Summons and Successful Prosecutions**

There was no notifications of summons or successful prosecutions received during this reporting period.

### **Reporting Changes**

There was no reporting change during the reporting period.

### **Future Key Issues**

The future key issues to be undertaken in the upcoming month are:

- Plant and material mobilization for landside works
- Plant and material mobilization for marine works
- Marine superstructure (Pier and bridge deck construction)
- Ancillary buildings construction
- Abutment, upramp structure & superstructure
- Retaining wall construction
- Drainage works



# 1 Introduction

## 1.1 Background

On 23 August 2018, the Environment Impact Assessment (EIA) Report (Register No.: AEIAR-216/2018) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-560/2018) was issued for the construction and operation of the Project.

The Project site is situated between the Hong Kong-Zhuhai-Macao Bridge Boundary Crossing Facilities (HKBCF) Island and the Hong Kong International Airport (HKIA), at the south of the existing SkyPier on the Airport Island. The Bonded Vehicular Bridge serves as a land connection between the HKBCF Island and Intermodal Transfer Terminal (ITT) building next to the SkyPier to be built by AAHK. Part of the bridge is located in the marine area (marine section) and part on the HKBCF Island (land section). The marine section of the site is situated in a marine area between HKIA and HKBCF Island.

The Bonded Vehicular Bridge serves as a dedicated direct vehicular access connecting the ITT of HKIA and HKBCF Island. The Project scale is anticipated to be small, the bridge's marine section is approximately 360 m in length, supported by bridge concrete piers. The Bridge's land section spans over the HKBCF Island with a total length of approximately 210 m.

In June 2019, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by Airport Authority Hong Kong (AAHK) to provide Environmental Team (ET) consultancy services for implementation of an Environmental Monitoring and Audit (EM&A) programme in accordance with the EP requirements throughout the Pre-construction, Construction and Post-construction phases of the Project.

Baseline monitoring for the Project was carried out between August to October 2019, and the baseline monitoring report was submitted in April 2020 in accordance with the requirements set out in the EP and recommended in the EM&A Manual and received no further comment from the Environmental Protection Department (EPD).

For Construction phase of the Project, the construction has been commenced on 5 October 2020 and the construction phase EM&A programme was started on 5 October 2020.

This is the 22<sup>nd</sup> monthly EM&A report summarising the key findings of the construction phase EM&A programme from 1 to 31 July 2022 (the reporting period) and is submitted to fulfil requirements in Condition 3.4 of EP and Section 10.3 of EM&A Manual of the Project.

## 1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure of the key personnel are shown in **Appendix A**. The key personnel contact names and numbers are summarized in **Table 1.1**.

**Table 1.1: Contact Information of Key Personnel**

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Senior Project Engineer, Environment	Becky Yan	2183 2773
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Thomas Chan	2828 5967
	Deputy Environmental Team Leader	Gary Chow	2828 5874
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Y W Fung	3922 9366
	Deputy Independent Environmental Checker	Lemon Lam	3922 9381
Main Contractor (Gammon Construction Limited)	Senior Project Manager	Brian Ho	9041 7535
	Environmental Officer	Elena Lai	6841 3324

### 1.3 Construction Works Programme and Construction Works Area

The construction works commenced on 5 October 2020. The construction works programme and the construction works area of the Project are shown in **Appendix B** and **Appendix C** respectively.

### 1.4 Construction Works undertaken during the Reporting Period

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

- Plant and material mobilization for marine works
- Plant and material mobilization for landside works
- Marine bored piling works (till 25 July 2022)
- Pier and bridge deck construction
- Ancillary buildings construction
- Abutment, upramp structure & superstructure
- Retaining wall construction
- Drainage works

## 2 Water Quality Monitoring

### 2.1 Impact Water Quality Monitoring

The impact water quality monitoring was conducted three days per week at mid-flood and mid-ebb tides, at 5 water quality monitoring stations. Samples were taken at three depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth station was omitted. For locations with water depth less than 3m, only the mid-depth station was monitored. Duplicate in-situ measurements and water samples were collected from each independent monitoring event for all parameters to ensure a robust statistically interpretable dataset.

### 2.2 Monitoring Methodology

#### 2.2.1 Monitoring Parameters

For the 3 impact stations (M1 to M3) and 2 control stations (C1 and C2), monitoring of DO, DO%, pH, temperature, turbidity, salinity, SS and water depth were undertaken.

Other relevant data were also recorded, including monitoring location, time, tidal stages, weather conditions and any special phenomena or work during the monitoring.

#### 2.2.2 Monitoring Locations

With reference to the Baseline Monitoring Report, the water quality monitoring was conducted at three locations in the sea channel between the HKIA and the HKBCF (M1, M2 and M3) and two control stations (C1 and C2), locations are shown in **Figure 2.1** and summarized in **Table 2.1**.

**Table 2.1: Locations of Marine Water Quality Monitoring Stations**

ID	Monitoring Station	Easting	Northing
M1	Impact Station	812423	819635
M2 <sup>(1)</sup>	Impact Station	812629	819845
M3 <sup>(2)</sup>	Impact Station	812586	820069
C1	Control Station - West	812419	820670
C2	Control Station - East	813072	820595

Notes:

1. As updated in the baseline monitoring report, the water quality monitoring at M2 station was shifted to bring it closer to the Project site and away from the SkyPier ferry movements for better representation.
2. As updated in the baseline monitoring report, the water quality monitoring at M3 station was shifted to the location near the seawater intake of HKBCF to better represent the potential water quality impacts at the nearby sensitive receiver

#### 2.2.3 Monitoring Schedule for the Reporting Period

Construction impact monitoring for water quality was undertaken in compliance with the EM&A Manual during the reporting month. Due to the No. 8 Storm Signal in force on 2 July 2022, the impact water quality monitoring was cancelled for both ebb and flood tide.

The schedule for water quality monitoring of the reporting period is presented in **Appendix D**.

## 2.2.4 Monitoring Equipment

Water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 21st ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including dissolved oxygen (DO), dissolved oxygen saturation (DO%), pH, temperature, turbidity, salinity and water depth were collected using the equipment listed in **Table 2.2**.

Water samples for suspended solids (SS) analysis were stored in suitable containers provided by the HOKLAS laboratory with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the HOKLAS laboratory as soon as possible after collection.

**Table 2.2: Impact Water Quality Monitoring Equipment**

Equipment	Brand and Model	Quantity
Water Sampler	Van Dorn Water Sampler	2
Monitoring Position Equipment (measurement of DGPS)	Garmin eTrex 20x	1
Water Depth Detector (measurement of water depth)	Garmin STRIKER™ Series	1
Multifunctional Meter (measurement of DO, DO%, temperature, turbidity, salinity and pH)	YSI ProDSS (Multiparameter Sampling Instrument)	2

## 2.2.5 Maintenance and Calibration of In-situ Instruments

In-situ monitoring instruments for water quality parameters were checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for DO measurement was carried out before commencement of monitoring and after completion of all measurements each day. The turbidity meter was calibrated in order to establish the relationship between NTU units and the levels of suspended solids. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe was then calibrated with a solution of known NTU. Standard buffer solutions of at least pH 7 and pH 10 was used for calibration of the pH instrument before and after use on each monitoring day.

Calibration certificates of the monitoring equipment used in the monitoring for water quality parameters are provided in **Appendix E**.

## 2.2.6 Laboratory Measurement / Analysis

Analysis of SS was out in a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at each of the control stations and impact stations for carrying out the laboratory SS determination.

The SS determination works started within 24 hours after collection of the water samples. The analysis followed the APHA 2540D analytical method with a detection limit of 1 mg/L.

## 2.3 Event and Action Plan

### 2.3.1 Action and Limit Levels

The Action and Limit Levels for the impact monitoring stations were extracted from Table 2.8 of the Baseline Monitoring Report. The derived Action and Limit Levels are summarized in **Table 2.3**.

**Table 2.3: Derived Action and Limit Levels**

Parameters	Action Level	Limit Level
Impact Stations M1 and M2		
DO in mg/L		
Surface & Middle	4.3	4.0
Bottom	3.8	3.0
SS in mg/L	14.2	17.4
	AND	AND
	120% of upstream control station at the same tide of the same day	130% of upstream control station at the same tide of the same day
Turbidity in NTU	11.0	16.3
	AND	AND
	120% of upstream control station at the same tide of the same day	130% of upstream control station at the same tide of the same day
Impact Station M3		
SS in mg/L	33	42

Notes:

1. For DO measurement, non-compliance occurs when the monitoring result is lower than the limits.
2. For parameters other than DO, non-compliance of water quality occurs when the monitoring result is higher than the limits.
3. Depth-averaged results are used unless specified otherwise.
4. Impact station M3 is represents the impact station SR1A of "Expansion of Hong Kong International Airport into a Three-Runway System". The AL levels for M3 in **Table 2.3** is referencing the agreed and adopted AL levels of SR1A from the Updated EM&A Manual for Expansion of Hong Kong International Airport into a Three-Runway System.

### 2.3.2 Event and Action Plan

In the event of water quality monitoring results at impact stations exceeding the Action and/or Limit levels for water quality as defined in **Table 2.3**, the actions in accordance with the Event and Action Plan presented in **Appendix F** shall be carried out.

## 2.4 Impact Water Quality Monitoring Results

The water quality monitoring results for all parameters (i.e. DO, turbidity and SS) obtained during the reporting period were within their corresponding Action and Limit Levels. Detailed impact monitoring results and relevant graphical plots are presented in **Appendix G**.

As informed by AAHK, the marine works below sea water level of the Project were completed on 25 July 2022. Since the construction activities under sea water level and the impact water quality monitoring of Airport City Link (ACL) project were commenced (i.e. 26 July 2022) right after the completion of the construction activities under the sea water level of the ITT-BVB project, as the impact water quality monitoring programme and monitoring locations under the EM&A Manual of EP (Permit no.: EP-581/2020) of ACL project are the same as that of ITT-BVB project. Hence, the water quality monitoring results of ACL project will be adopted and presented in this Monthly EM&A Report as agreed with AAHK, and such arrangement will be continued until the completion of all marine works of the Project.

## 2.5 Post-Construction Water Quality Monitoring

According to EM&A Section 4.2.11, a post-construction water quality monitoring should be carried out for 4 weeks in the same manner as the impact water quality monitoring.

However, upon considering the following several justifications,

- a. similarity on the construction works of marine section among ITT-BVB and Airport City Link (ACL) (EP no. EP-581/2020) projects,
- b. the construction activities under sea water level of ACL project would be commenced right after the completion of construction activities under sea water level for ITT-BVB, and
- c. same water quality monitoring programme among ITT-BVB and ACL projects.

It is proposed to combine the post-construction water quality monitoring of ITT-BVB with the post-construction water quality monitoring of ACL project, in which the 4-week combined post-construction water quality monitoring will be conducted after completion of the construction activities under sea water level of ACL project.

The alternative arrangement for post-construction water quality monitoring was proposed to EPD on 7 July 2022 and EPD expressed no comment on 18 July 2022 on the alternative arrangement.

## 2.6 Conclusion

During the reporting period, all monitoring results were within their corresponding Action and Limit Levels. Hence, no Action and Limit Level exceedance of water quality level was recorded during the reporting period.

In the meantime, the Contractor was reminded to implement and maintain all mitigation measures during weekly site inspection and regular environmental management meetings. These include maintaining mitigation measures properly as recommended in the EM&A Manual.

As informed by AAHK, the marine works below sea water level was completed on 25 July 2022. Refer to Section 2.4, the water quality monitoring results of ACL project will be adopted and presented in this Monthly EM&A Report as agreed with AAHK, and such arrangement will be continued until the completion of all marine works of the Project.

In addition, the post-construction water quality monitoring of ITT-BVB will combine with the post-construction water quality monitoring of ACL project and will be conducted after completion of the construction activities under sea water level of ACL project.

## 3 Environmental Site Inspection and Audit

### 3.1 Environmental Site Inspection

Site inspections were carried out by ET on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the Project. Key observations were recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. During the reporting period, site inspections were carried out on 6, 13, 20 and 27 July 2022. Joint IEC site inspection was carried out on 13 July 2022.

Monthly landscape and visual site audit was carried out on 13 July 2022.

Key observations and reminders during the site inspections and landscape and visual site audit are described in **Table 3.1**.

**Table 3.1: Summary of Site Inspections and Recommendations**

Inspection Date	Key Observations / Reminders	Recommendations / Actions	Close-Out Date
29 Jun 2022	The haul road was observed dry.	The Contractor should provide regular water spraying for the haul road to prevent fugitive dust emission.	6 Jul 2022
6 Jul 2022	The double layer silt curtain at Pier 1 was not properly deployed at the position as stipulated in the silt curtain deployment plan to enclose piling area.	The Contractor should arrange maintenance for the silt curtain and ensure the silt curtain remain intact and properly installed.	13 Jul 2022
6 Jul 2022	Soil and sand was deposited at the temporary access platform at Pier 1.	The Contractor should clear the soil and sand and prevent any debris from falling into seawater.	13 Jul 2022
6 Jul 2022	The silt curtain at Pier 2 was observed not fully intact (Reminder).	The Contractor was reminded to arrange maintenance for the silt curtain at Pier 2 to ensure that the silt curtain remains intact before commencement of installation of cofferdam.	6 Jul 2022
13 Jul 2022	Dusty material was observed on the paved haul road.	The Contractor should remove the dusty material on haul road to minimise silty runoff from site and fugitive dust emission.	20 Jul 2022
13 Jul 2022	Abandoned battery, chemical container and oil drums were observed without measures for spillage prevention near retaining wall works area and at Pier 8.	The Contractor should provide drip trays for spillage prevention and dispose unused containers as chemical waste.	20 Jul 2022
13 Jul 2022	Exposed site area at drainage works area and VG9 was observed dry.	The Contractor should provide regular water spraying on the exposed site area for dust suppression.	20 Jul 2022
13 Jul 2022	Dusty material and tyre trails were observed at the site entrance and nearby public road.	The Contractor should provide cleaning to keep the public road free of dust.	20 Jul 2022

Inspection Date	Key Observations / Reminders	Recommendations / Actions	Close-Out Date
20 Jul 2022	No drip tray was provided for the chemical containers for spillage prevention near ramp works area and site entrance.	The Contractor should provide drip trays for the chemical containers to contain any potential spillage.	27 Jul 2022
20 Jul 2022	Soil stockpile near excavation area for drainage work was observed dry.	The Contractor should provide sufficient dust suppression measures (e.g. water spraying) for the stockpile to prevent fugitive dust emission.	27 Jul 2022

### 3.2 Advice on the Solid and Liquid Waste Management Status

The Contractor was registered as a chemical waste producer for the Project. Construction and demolition (C&D) material sorting was carried out on site. Sufficient numbers of receptacles were provided for general refuse collection and sorting. Excavated inert C&D materials were reused to minimise the disposal of C&D waste to public fill. The Contractor was reminded to maintain on site waste sorting and recording system and maximize reuse / recycling of C&D wastes, whenever these are generated.

The monthly summary of waste flow table is detailed in **Appendix H**.

The valid environmental licenses and permits for the Project during the reporting period are summarized in **Appendix I**.

### 3.3 Implementation Status of Environmental Mitigation Measures

In response to the site audit findings, the Contractor carried out corrective actions.

A summary of the environmental mitigation measures implementation status is presented in **Appendix J**. Necessary mitigation measures were implemented properly, observations and reminders were issued to the Contractor where actions were taken by the Contractor to rectify the identified issues.

### 3.4 Summary of Exceedance of the Environmental Quality Performance Limit

#### Water Quality

Water quality monitoring was conducted in the reporting period and with no Action and Limit Level exceedances of water quality level was recorded at M1, M2 and M3.

Detailed impact monitoring results and relevant graphical plots are presented in **Appendix G**.

### 3.5 Summary of Complaints, Notifications of Summons and Successful Prosecutions

#### Complaint Log

There was no complaint received in relation to the environmental impact during the reporting period.

#### Notifications of Summons or Status of Prosecution

There was no notification of summons or prosecutions received during the reporting period.



## Cumulative Statistics

Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Table 3.2**.

**Table 3.2: Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions**

Reporting Period	Environmental Complaints	Notifications of Summons	Successful Prosecutions
This reporting period (Jul 2022)	0	0	0
From commencement date of construction to end of reporting period	0	0	0

## 4 Future Key Issues

### 4.1 Construction Programme for the Coming Month

As informed by the Contractor, the major construction activities for the next reporting period (August 2022) are summarized in **Table 4.1**.

**Table 4.1: Construction Activities for the Next Reporting Period**

Period	Description of Activities
Aug 2022	<ul style="list-style-type: none"><li>• Plant and material mobilization for landside works</li><li>• Plant and material mobilization for marine works</li><li>• Marine Superstructure (Pier and bridge deck construction)</li><li>• Ancillary buildings construction</li><li>• Abutment, upramp structure &amp; superstructure</li><li>• Retaining wall construction</li><li>• Drainage works</li></ul>

### 4.2 Environmental Site Inspection for the Next Reporting Period

The tentative schedule for weekly site inspection for the next reporting period is provided in **Appendix D**.

## 5 Conclusions

### General

The construction works for the Project commenced on 5 October 2020. The ET of the Project has undertaken environmental site inspections and water quality monitoring under the construction phase EM&A programme during the reporting period.

### Water Quality Monitoring

No Action and Limit Level exceedances of water quality level was recorded at M1, M2 and M3 during the reporting period.

As informed by AAHK, the marine works below sea water level was completed on 25 July 2022. The water quality monitoring results of ACL project will be adopted and presented in this Monthly EM&A Report as agreed with AAHK, and such arrangement will be continued until the completion of all marine works of the Project.

### Environmental Site Inspections

Environmental site inspections were carried out four (4) times during the reporting period. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.

### Complaint Log

There was no complaint received in relation to the environmental impact during the reporting period.

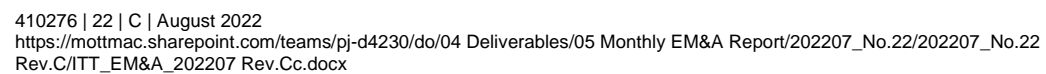
### Reporting Changes

There was no reporting change during the reporting period.

### Notifications of Summons and Successful Prosecutions

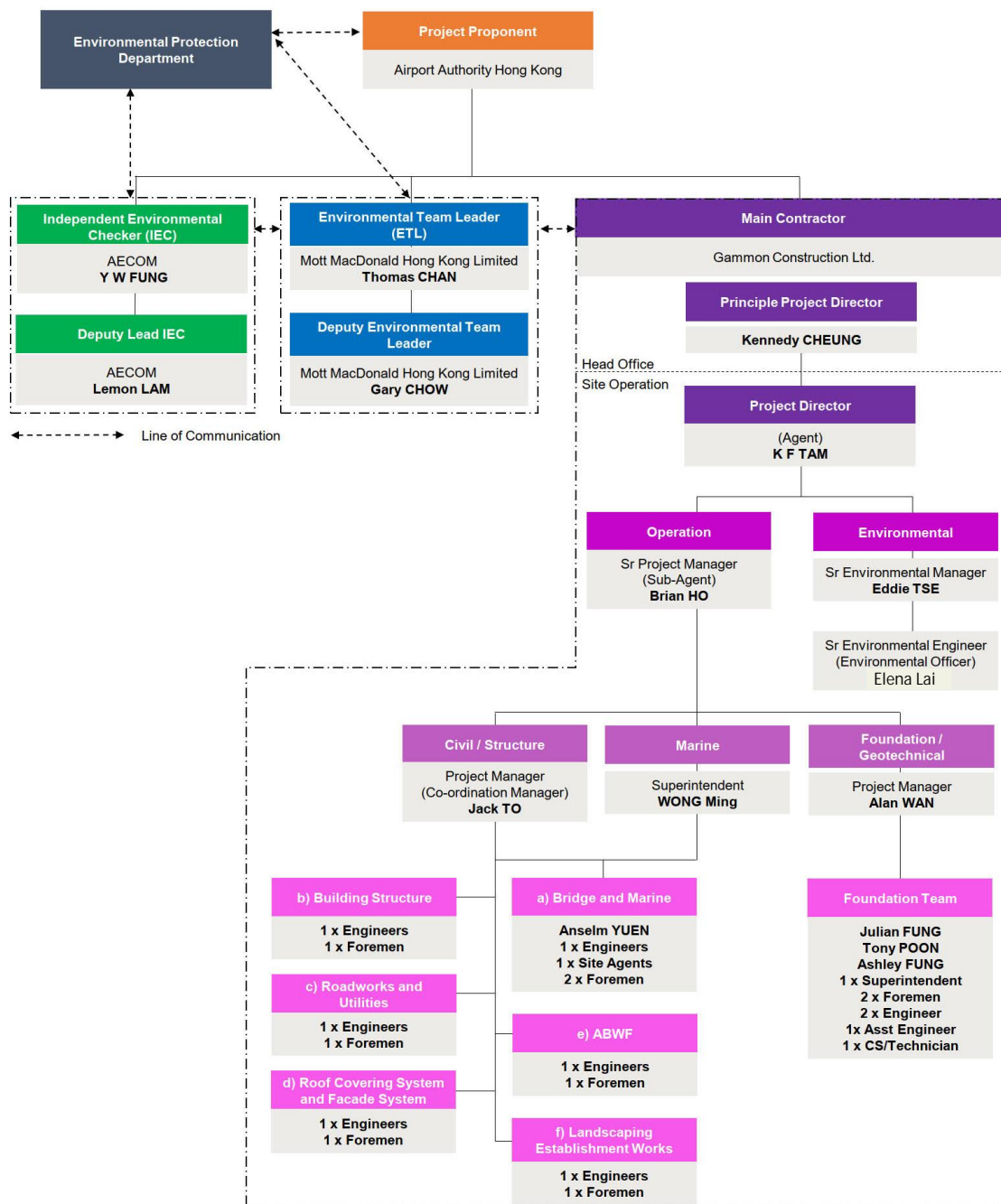
There was no notification of summons or successful prosecutions received during the reporting period.

# Figure



# Appendices

## Appendix A. Project Organisation





## Appendix B. Construction Works Programme

C19W10 ITTB AD2 Monthly Programme Rev. C Updated as 31 Jul 2022

Activity ID	Activity Name	Current Start	Current Finish	Orig Dur	Pct Com	2022			
						Jul	Aug	Sep	Oct
C19W10 ITTB AD2 Monthly Programme Rev. C Updated as 31 Jul 2022									
Contract Dates									
Key Dates (PS Appendix B)									
Contract Completion Dates									
Option Works									
19W10.K.KD3A	KD-3A Comp. Optical F/C Connection & Fit-out Works to Govt Facilities for T&C (120 Wks)		19-Oct-22*	0	0%			KD-3A Comp. Optical F/C Connection & Fit-out Works to Govt Facilities for T&C (120 Wks)	↕
Target Completion Dates									
Option Works									
19W10.K.TD3A	TD-3A Comp. Optical F/C Connection & Fit-out Works to Govt Facilities for T&C		19-Oct-22*	0	0%			TD-3A Comp. Optical F/C Connection & Fit-out Works to Govt Facilities for T&C	↕
Site Access and Vacate Dates (PS Appendix C2)									
Cost Centre 1 - Preliminaries and General Requirements									
Cost Centre 3 - Bonded Vehicular Bridge - Marine Portion from Chainage CH0.000 to CH439.827									
Marine Piling and Substructure Works									
Pier 7									
Pier 6									
Pier 2									
Monopile									
19W10.C.81215	Monopile Bored Piling Works	27-Apr-22 A	22-Jul-22 A	40	100%				
19W10.C.81235	Sonic & Interface Test and Report Submission	13-Aug-22	19-Aug-22	7	0%		Sonic & Interface Test and Report Submission		
19W10.C.81240	Submit BA14	20-Aug-22	02-Sep-22	14	0%		Submit BA14		
19W10.C.81245	Submit BA8	03-Sep-22	30-Sep-22	28	0%			Submit BA8	
Marine Superstructure									
Pier 4									
19W10.C.31890	Assembly of Travelling Formworks (TF3 & 4)	02-Jul-22 A	14-Jul-22 A	6	100%				
19W10.C.31900	Cantilever Erection of 9 cycles	06-Jul-22 A	03-Oct-22	63	12.22%	9 cycles			
19W10.C.31910	Cast the Stitching at Between P3 to P4 Span	05-Oct-22	13-Oct-22	7	0%			Cast the Stitching at Between P3 to P4 Span	
19W10.C.31920	Cast the Stitching at Between P4 to P5 Span	07-Oct-22	15-Oct-22	7	0%			Cast the Stitching at Between P4 to P5 Span	
19W10.C.31950	Stressing P3-P4 Bottom Tendon	14-Oct-22	19-Oct-22	5	0%			Stressing P3-P4 Bottom Tendon	
19W10.C.31960	Stressing P4-P5 Bottom Tendon	17-Oct-22	21-Oct-22	5	0%			Stressing P4-P5 Bottom Tendon	
Pier 3									
19W10.C.31430	Assembly of Travelling Formworks (TF3 & 4)	28-Jun-22 A	10-Jul-22 A	6	100%				
19W10.C.31440	Cantilever Segment Erection (Pier 3, 10 cycles)	02-Jul-22 A	22-Sep-22	70	40%				
Pier 7									
19W10.C.31620	Erect Falsework	20-Jul-22 A	04-Aug-22	18	7.78%	Erect Falsework			
19W10.C.31630	Construct M.J. Segment	05-Aug-22	22-Aug-22	14	0%		Construct M.J. Segment		
19W10.C.31640	Cast Packing Between M.J. Segment	23-Aug-22	03-Sep-22	10	0%		Cast Packing Between M.J. Segment		
19W10.C.31650	Install TPT & Nailing System	05-Sep-22	07-Sep-22	3	0%		Install TPT & Nailing System		
19W10.C.31660	Assembly of Travelling Formworks (TF1 & 2)	05-Oct-22	11-Oct-22	6	0%			Assembly of Travelling Formworks (TF1 & 2)	
19W10.C.31670	Cantilever Erection of 4 cycles	13-Oct-22	14-Nov-22	28	0%			Cantilever Erection of 4 cycles	
Pier 6									
19W10.C.32000	Hammer Head	12-Aug-22	12-Sep-22	24	0%		Hammer Head		
19W10.C.32060	Assembly of Travelling Formworks (TF1 & 2) with Marine Navigation Channel Diversion	23-Sep-22	30-Sep-22	6	0%		Assembly of Travelling Formworks (TF1 & 2) with Marine Navigation Channel Diversion		
19W10.C.32080	Cantilever Erection of 8 cycles	03-Oct-22	08-Dec-22	56	0%			Cantilever Erection of 8 cycles	
Pier 2									
19W10.C.32280	Curing of Pier 2	30-Sep-22	02-Oct-22	3	0%			Curing of Pier 2	
19W10.C.32290	Steel Frame Setting-up	03-Oct-22	27-Oct-22	20	0%			Steel Frame Setting-up	
19W10.C.32360	Setting-up the Temporary Jacks	28-Oct-22	29-Oct-22	2	0%			Setting-up the Temporary Jacks	
Installation of Permanent Bearings									
19W10.C.32580	Installation of Permanent Bearings at P2	03-Oct-22	08-Oct-22	5	0%			Installation of Permanent Bearings at P2	
19W10.C.32660	Installation of Permanent Bearings at P7	05-Aug-22	10-Aug-22	5	0%	Installation of Permanent Bearings at P7			
ITT Transfer Deck									
19W10.C.32330	Bearing installation at ITT	01-Aug-22	08-Aug-22	7	0%	Bearing installation at ITT			
Cost Centre 4 - Bonded Vehicular Bridge - Land Portion from Chainage CH439.827 to CH685.000									
Cost Centre 5 - Ancillary Buildings									

	Actual LOE		Critical Remaining Work		Start Constraint
	Remaining LOE		Milestone		Finish Constraint
	Actual Work		Crit Milestone		No Predecessors
	Remaining Work		Actual Milestone		No Successors

Project ID: C19W10-DWPG-B-AD-M25  
3-Month Rolling Programme (As of 30 June 2022)

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Data Date: 31-Jul-22  
Printed: 12-Aug-22 13:48  
Layout: C19W10 ITT 3MRP - M25  
TASK filters: 3-Month Rolling (MPU), Not Level of Effort.

Date	Revision	Checked	Approved
5-Apr-22	3MRP Mar 2022	DW	BH

C19W10 ITTB AD2 Monthly Programme Rev. C Updated as 31 Jul 2022

Activity ID		Activity Name		Current Start	Current Finish	Orig Dur	Pct Com	2022			
								Jul	Aug	Sep	Oct
Structure Works											
C&ED Observation Booth											
ImmD Kiosk 1											
ImmD Kiosk 2											
C&ED Operation and Equipment Room											
Toilet A											
19W10.C.51880	Excavation	01-Aug-22	03-Aug-22	3	0%	Excavation					
19W10.C.52110	Construction of footings	04-Aug-22	11-Aug-22	7	0%	Construction of footings					
19W10.C.52120	Construction of screen wall/ column & structure wall	12-Aug-22	20-Aug-22	7	0%	Construction of screen wall/ column & structure wall					
19W10.C.52310	Mass concrete fill	22-Aug-22	26-Aug-22	5	0%	Mass concrete fill					
19W10.C.52520	Construction of ground slab	27-Aug-22	01-Sep-22	4	0%	Construction of ground slab					
19W10.C.52840	Construction of RC beam & roof slab (Toilet A)	02-Sep-22	09-Sep-22	7	0%	Construction of RC beam & roof slab (Toilet A)					
C&ED Mobile X-Ray Tent											
19W10.C.51865	Installation of ELS	01-Sep-22	19-Sep-22	14	0%	Installation of ELS					
19W10.C.51870	Excavation	20-Sep-22	26-Sep-22	6	0%	Excavation					
19W10.C.52100	Construction of footings (3 bays)	27-Sep-22	14-Oct-22	12	0%	Construction of footings (3 bays)					
19W10.C.52340	Construction of retaining wall	15-Oct-22	28-Oct-22	12	0%	Construction of retaining wall					
Water Pump & Tank Room											
Electrical Room											
Generator Room											
Facade & Roof											
ABWF Works											
Building Services Works											
Cost Centre 6 - Airport and Specialist Systems											
Cost Centre 7 - External Works											
Fencing and Modification Works											
Permanent Fencing											
Modification of Sign Gantry DS 23											
19W10.C.71570	Modified site gantry shop drawing submission & approval	25-Jul-22 A	22-Aug-22	24	10.83%	Modified site gantry shop drawing submission & approval					
19W10.C.71572	Fabrication & delivery of modified sign gantry DS 23	23-Aug-22	22-Nov-22	79	0%	Fabrication & delivery of modified sign gantry DS 23					
19W10.C.71581	Remove existing sign gantry	23-Aug-22	06-Sep-22	12	0%	Remove existing sign gantry					
Retaining Wall (RW1, RW2 & RW3)											
RW1 (3m height with 6m length)											
19W10.C.71130	Completion of ELS and Excavation	06-May-22 A	13-Aug-22	12	0%	Completion of ELS and Excavation					
19W10.C.71210	Steel Fixing and Cast the Slab	15-Aug-22	22-Aug-22	6	0%	Steel Fixing and Cast the Slab					
19W10.C.71220	Steel Fixing and Cast the Wall	23-Aug-22	29-Aug-22	6	0%	Steel Fixing and Cast the Wall					
19W10.C.71230	Backfilling	30-Aug-22	12-Sep-22	10	0%	Backfilling					
RW2 ( 2.15m height with 4m length)											
19W10.C.71250	Completion of ELS and Excavation	21-May-22 A	06-Aug-22	6	0%	Completion of ELS and Excavation					
19W10.C.71260	Steel Fixing and Cast the Slab	08-Aug-22	13-Aug-22	6	0%	Steel Fixing and Cast the Slab					
19W10.C.71270	Steel Fixing and Cast the Wall	15-Aug-22	22-Aug-22	6	0%	Steel Fixing and Cast the Wall					
19W10.C.71280	Backfilling	23-Aug-22	30-Aug-22	7	0%	Backfilling					
RW3 ( 1.65m height with 3.2m length)											
19W10.C.71320	Completion of ELS and Excavation	06-Jun-22 A	05-Aug-22	5	0%	Completion of ELS and Excavation					
19W10.C.71330	Steel Fixing and Cast the Slab	06-Aug-22	12-Aug-22	6	0%	Steel Fixing and Cast the Slab					
19W10.C.71380	Steel Fixing and Cast the Wall	13-Aug-22	20-Aug-22	6	0%	Steel Fixing and Cast the Wall					
19W10.C.71390	Backfilling	22-Aug-22	27-Aug-22	6	0%	Backfilling					
At-Grade Roadworks											
19W10.C.71240	Lay sub-base	29-Aug-22	30-Sep-22	25	0%	Lay sub-base					
19W10.C.71580	Compaction & testing (sub-base)	03-Oct-22	02-Nov-22	25	0%	Compaction & testing (sub-base)					
C&ED Bonded Bus Inspection Aera Canopy											
E & M Works											
E&M Works at Carriageway											
19W10.C.71170	Access to the Carriageways		30-Sep-22	0	0%	Access to the Carriageways					

	Actual LOE		Critical Remaining Work		Start Constraint
	Remaining LOE		Milestone		Finish Constraint
	Actual Work		Crit Milestone		No Predecessors
	Remaining Work		Actual Milestone		No Successors

Project ID: C19W10-DWPG-B-AD-M25  
3-Month Rolling Programme (As of 30 June 2022)

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Data Date: 31-Jul-22  
Printed: 12-Aug-22 13:48  
Layout: C19W10 ITT 3MRP - M25  
TASK filters: 3-Month Rolling (MPU), Not Level of Effort.

Date	Revision	Checked	Approved
5-Apr-22	3MRP Mar 2022	DW	BH

C19W10 ITTB AD2 Monthly Programme Rev. C Updated as 31 Jul 2022

Activity ID	Activity Name	Current Start	Current Finish	Orig Dur	Pct Com	2022			
						Jul	Aug	Sep	Oct
19W10.C.71180	E&M Installation	03-Oct-22	08-Nov-22	30	0%			E&M Installation	
<b>Utilities</b>									
<b>Road Drainage (Outside Chainage CH685)</b>									
19W10.C.71030	SMH 37 to SMH 39	01-Aug-22	13-Aug-22	12	0%	SMH 37 to SMH 39			
19W10.C.71060	SMH 46 to SMH 55	31-Mar-21 A	11-Aug-22	30	16.67%				
19W10.C.71120	SMH 26 to SMH 37	13-May-22 A	20-Sep-22	60	13.33%				
19W10.C.71290	SMH 40 to SMH 46	16-Sep-22	01-Nov-22	36	0%			SMH 40 to SMH 46	
19W10.C.71300	SMH 09 to SMH 26	20-Jun-22 A	15-Sep-22	48	25%				
19W10.C.71340	SMH 1201 to 1203	15-Jul-22 A	06-Aug-22	12	50%	SMH 1201 to 1203			
19W10.C.71400	Modify Existing SMH 1301 to 1303	08-Aug-22	22-Aug-22	12	0%	Modify Existing SMH 1301 to 1303			
19W10.C.71480	SMH 1002 to SMH 1004	28-May-22 A	04-Jul-22 A	12	100%				
19W10.C.71510	SMH 01 to SMH 08	25-Aug-22	20-Oct-22	42	0%			SMH 01 to SMH 08	
19W10.C.71515	SMH 1101 to 1108	25-Aug-22	20-Oct-22	42	0%			SMH 1101 to 1108	
19W10.C.71660	CCTV (others)	23-Aug-22	06-Sep-22	12	0%			CCTV (others)	
<b>Sewerage</b>									
19W10.C.71460	FTMH 003 to 003C	13-Jan-22 A	10-Aug-22	18	50%				
19W10.C.71490	FTMH 004 to 003B	13-Jan-22 A	03-Aug-22	6	50%				
19W10.C.71520	FTMH 006 to 003B	13-Jan-22 A	03-Aug-22	6	50%				
19W10.C.71530	FTMH 007 to 010	25-Jan-22 A	06-Sep-22	30	0%				
19W10.C.71670	CCTV	07-Sep-22	22-Sep-22	12	0%			CCTV	
19W10.C.71680	Pressure test	23-Sep-22	10-Oct-22	12	0%			Pressure test	
<b>ELV Ducting</b>									
19W10.C.71150	ELV Ducting At Grade	01-Aug-22	18-Oct-22	60	0%	ELV Ducting At Grade			
<b>Water Main</b>									
19W10.C.71080	Install Water Main	02-Apr-22 A	18-Oct-22	91	14.07%				
<b>EL Cable &amp; Ducting</b>									
19W10.C.71090	EL Cable & Ducting At Grade	01-Aug-22	29-Dec-22	120	0%	EL Cable & Ducting At Grade			
<b>TCSS Ducting</b>									
19W10.C.71350	TCSS Ducting	13-Sep-22	04-Jan-23	90	0%			TCSS Ducting	
<b>Telecom Ducting</b>									
19W10.C.72000	Telecom Ducting	01-Aug-22	07-Sep-22	31	0%	Telecom Ducting			
19W10.C.72010	Connection by others (PCCW)	08-Sep-22	23-Sep-22	12	0%		Connection by others (PCCW)		
19W10.C.81380	Connection by others (HTC)	24-Sep-22	11-Oct-22	12	0%			Connection by others (HTC)	
19W10.C.81390	Connection by others (HGV)	13-Oct-22	26-Oct-22	12	0%			Connection by others (HGV)	
19W10.C.81400	Connection by others (HGC)	27-Oct-22	09-Nov-22	12	0%			Connection by others (HGC)	
<b>Road Lighting Ducting</b>									
19W10.C.71360	Road Lighting Ducting At Grade	30-Sep-22	19-Jan-23	90	0%			Road Lighting Ducting At Grade	
19W10.C.71610	Drawing Submission and Material Ordering	01-Aug-22	22-Nov-22	90	0%	Drawing Submission and Material Ordering			
<b>Irrigation</b>									
19W10.S.71000	Submit WWO 046 Part 1 & 2	31-Jul-22		0	0%	Submit WWO 046 Part 1 & 2			
19W10.S.71010	Consent of Works		29-Aug-22	0	0%		Consent of Works		
<b>Fire Hydrant</b>									
19W10.C.71110	Fire Hydrant At Grade	01-Aug-22	22-Nov-22	90	0%	Fire Hydrant At Grade			
<b>E-Bus Charger</b>									
19W10.C.72030	Material Order & delivery	03-Jun-22 A	30-Jan-23	180	2.78%				
<b>Cost Centre 8 - Project Site Office at Chun Yue Road</b>									
<b>OPTION WORKS</b>									
<b>Option C19W10/A - Installation of Optical Fibre Cable Connection</b>									
19W10.C.A1040	Civil Provision for Optical Fibre Connection	06-May-22 A	20-Aug-22	85	80%				
19W10.C.A1060	MEP installation	09-Aug-22	19-Oct-22	54	0%	MEP installation			
<b>Option C19W10/B - Canopy Installation</b>									

	Actual LOE		Critical Remaining Work		Start Constraint
	Remaining LOE		Milestone		Finish Constraint
	Actual Work		Crit Milestone		No Predecessors
	Remaining Work		Actual Milestone		No Successors

Project ID: C19W10-DWPG-B-AD-M25  
3-Month Rolling Programme (As of 30 June 2022)

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**Data Date:** 31-Jul-22  
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**Layout:** C19W10 ITT 3MRP - M25  
TASK filters: 3-Month Rolling (MPU), Not Level of Effort.

Date	Revision	Checked	Approved
5-Apr-22	3MRP Mar 2022	DW	BH

## Appendix C. Construction Works Area



Doc. No. ACM/C16C001/AAITB/C/DR/0000500	A
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1. FOR THE FIRE HYDRANT MAIN DETAILS ON VIADUCT, REFER TO DRAWING NO. ACM/C16C001/AITTB/C/DR/9021200.

(H) PROPOSED FIRE HYDRANT  
ON VIADUCT

Pre-casted steel panel  
for pile cap construction  
(i.e. cofferdam)

## Pier 9

— EXISTING SKYPIER

EXISTING SIGN GA  
(TO BE MODIFIED)

EXISTING HMB SUBSTATION

## — PLANT BUILDING

<h2 style="text-align: center;">Hong Kong International Airport</h2>							
<p>Title <b>CONTRACT C19W10 INTERMODAL TRANSFER TERMINAL - BONDED VEHICULAR BRIDGE AND ASSOCIATED ROADS GENERAL ARRANGEMENT AND PROVISION OF FIRE HYDRANT ON VIADUCT</b></p>							
Originator	Design Ref.	Location	Discipline	Type	Number	Status	Revision
Drawing No.	A/C/M/C16/C001/A	AITTR / C	/ DB/000500	TENDER			A



## **Appendix D. Environmental Site Inspection and Monitoring Schedule**

Jul-22

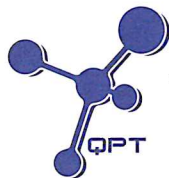
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 <sup>(1)</sup> Water Quality Monitoring mid- ebb: 15:08 mid- flood: 7:48
3	4	5 Water Quality Monitoring mid- ebb: 17:01 mid- flood: 9:59	6 Environmental Site Inspection	7 Water Quality Monitoring mid- ebb: 6:59 mid- flood: 12:19	8	9 Water Quality Monitoring mid- ebb: 9:01 mid- flood: 15:33
10	11	12 Water Quality Monitoring mid- ebb: 11:43 mid- flood: 4:36	13 Environmental Site Inspection	14 Water Quality Monitoring mid- ebb: 13:25 mid- flood: 6:16	15	16 Water Quality Monitoring mid- ebb: 15:03 mid- flood: 7:59
17	18	19 Water Quality Monitoring mid- ebb: 17:19 mid- flood: 10:47	20 Environmental Site Inspection	21 Water Quality Monitoring mid- ebb: 7:31 mid- flood: 13:11	22	23 Water Quality Monitoring mid- ebb: 9:41 mid- flood: 16:38
24	25	26 <sup>(2)</sup> Water Quality Monitoring mid- ebb: 11:54 mid- flood: 4:18	27 Environmental Site Inspection	28 <sup>(2)</sup> Water Quality Monitoring mid- ebb: 13:06 mid- flood: 5:47	29	30 <sup>(2)</sup> Water Quality Monitoring mid- ebb: 14:15 mid- flood: 7:07
31		<b>Notes:</b> (1) The water quality monitoring on 2 Jul 2022 was cancelled due to Signal No. 8 SouthEast in force. (2) The water quality monitoring schedule under the ACL project.				



# Aug-22

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 (1) Water Quality Monitoring mid- ebb: 15:54 mid- flood: 9:10	3 Environmental Site Inspection	4 (1) Water Quality Monitoring mid- ebb: 17:07 mid- flood: 10:48	5	6 (1) Water Quality Monitoring mid- ebb: 7:10 mid- flood: 13:48
7	8	9 (1) Water Quality Monitoring mid- ebb: 10:36 mid- flood: 3:14	10 Environmental Site Inspection	11 (1) Water Quality Monitoring mid- ebb: 12:26 mid- flood: 5:19	12	13 (1) Water Quality Monitoring mid- ebb: 14:01 mid- flood: 7:07
14	15	16 (1) Water Quality Monitoring mid- ebb: 16:01 mid- flood: 9:36	17 Environmental Site Inspection	18 (1) Water Quality Monitoring mid- ebb: 17:07 mid- flood: 11:25	19	20 (1) Water Quality Monitoring mid- ebb: 7:29 mid- flood: 19:58
21	22	23 (1) Water Quality Monitoring mid- ebb: 10:49 mid- flood: 23:13	24 Environmental Site Inspection	25 (1) Water Quality Monitoring mid- ebb: 12:09 mid- flood: 19:19	26	27 (1) Water Quality Monitoring mid- ebb: 13:19 mid- flood: 20:07
28	29	30 (1) Water Quality Monitoring mid- ebb: 14:53 mid- flood: 8:24	31 Environmental Site Inspection			
		<b>Notes:</b> (1) The water quality monitoring schedule under the ACL project.				

## Appendix E. Calibration Certificates



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

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

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

## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB060021

Date of Issue : 13 June 2022

Page No. : 1 of 2

### PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Flat 2207, Yu Fun House Yu Chui Court, Shatin

New Territories (HK) Hong Kong

Attn :

### PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)

Manufacturer : YSI (a xylem brand)

Serial Number : 16H104233

Date of Received : 10 June 2022

Date of Calibration : 10 June 2022

Date of Next Calibration : 09 September 2022

### PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
Turbidity	APHA 21e 2130B
Dissolved oxygen	APHA 21e 4500 O
pH value	APHA 21e 4500 H+
Salinity	APHA 21e 2520B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Conductivity	APHA 21e 2510B

### PART D - CALIBRATION RESULT

#### (1) Turbidity

EXPECTED READING (NTU)	DISPLAY READING (NTU)	TOLERANCE (%)	RESULT
0	0.03	--	Satisfactory
10	9.98	-0.2	Satisfactory
20	20.16	0.8	Satisfactory
100	107.6	7.6	Satisfactory
800	796	-0.5	Satisfactory

Tolerance of Turbidity should be less than  $\pm 10.0$  (%)

#### (2) Dissolved oxygen

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE	RESULT
7.78	7.81	0.03	Satisfactory
4.72	4.92	0.20	Satisfactory
2.60	2.38	-0.22	Satisfactory
0.09	0.30	0.21	Satisfactory

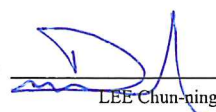
Tolerance of Dissolved oxygen should be less than  $\pm 0.5$  (mg/L)

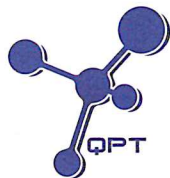
#### (3) pH value

TARGET (PH UNIT)	DISPLAY READING (PH UNIT)	TOLERANCE	RESULT
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--- CONTINUED ON NEXT PAGE ---

AUTHORIZED  
SIGNATORY:

  
LEE Chun-ning  
Assistant Manager (Chemical Testing)



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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TARGET ( PH UNIT )	DISPLAY READING ( PH UNIT )	TOLERANCE	RESULT
4.00	3.96	-0.04	Satisfactory
7.42	7.48	0.06	Satisfactory
10.01	9.95	-0.06	Satisfactory

Tolerance of pH value should be less than  $\pm 0.2$  ( pH unit )

### (4) Salinity

EXPECTED READING ( G/L )	DISPLAY READING ( G/L )	TOLERANCE ( % )	RESULT
10	9.92	-0.80	Satisfactory
20	20.20	1.00	Satisfactory
30	30.22	0.73	Satisfactory

Tolerance of Salinity should be less than  $\pm 10.0$  ( % )

### (5) Temperature

READING OF REF. THERMOMETER ( °C )	DISPLAY READING ( °C )	TOLERANCE	RESULT
10	10	0	Satisfactory
20	20	0	Satisfactory
40	40	0	Satisfactory

Tolerance of Temperature should be less than  $\pm 2.0$  ( °C )

### (6) Conductivity

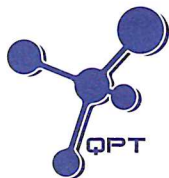
EXPECTED READING ( MS/CM AT 25°C )	DISPLAY READING	TOLERANCE ( % )	RESULT
146.9	137.1	-6.67	Satisfactory
1412	1328.2	-5.93	Satisfactory
12890	12567.8	-2.50	Satisfactory
58670	57574	-1.87	Satisfactory
111900	109783	-1.89	Satisfactory

Tolerance of Conductivity should be less than  $\pm 10.0$  ( % )

### 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 ---



專業化驗有限公司

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB060020

Date of Issue : 13 June 2022

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### PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Flat 2207, Yu Fun House Yu Chui Court, Shatin

New Territories (HK) Hong Kong

Attn :

### PART B - SAMPLE INFORMATION

Name of Equipment : YSI ProDSS (Multi-Parameters)

Manufacturer : YSI (a xylem brand)

Serial Number : 17E100747

Date of Received : 10 June 2022

Date of Calibration : 10 June 2022

Date of Next Calibration : 09 September 2022

### PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

#### Test Parameter

#### Reference Method

Turbidity

APHA 21e 2130B

Dissolved oxygen

APHA 21e 4500 O

pH value

APHA 21e 4500 H+

Salinity

APHA 21e 2520B

Temperature

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

Conductivity

APHA 21e 2510B

### PART D - CALIBRATION RESULT

#### (1) Turbidity

EXPECTED READING (NTU)	DISPLAY READING (NTU)	TOLERANCE (%)	RESULT
0	0.03	--	Satisfactory
10	9.85	-1.5	Satisfactory
20	20.2	1.0	Satisfactory
100	108.4	8.4	Satisfactory
800	797	-0.4	Satisfactory

Tolerance of Turbidity should be less than  $\pm 10.0$  (%)

#### (2) Dissolved oxygen

EXPECTED READING (MG/L)	DISPLAY READING (MG/L)	TOLERANCE	RESULT
7.78	7.86	0.08	Satisfactory
4.72	4.91	0.19	Satisfactory
2.60	2.33	-0.27	Satisfactory
0.09	0.30	0.21	Satisfactory

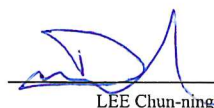
Tolerance of Dissolved oxygen should be less than  $\pm 0.5$  (mg/L)

#### (3) pH value

TARGET (PH UNIT)	DISPLAY READING (PH UNIT)	TOLERANCE	RESULT
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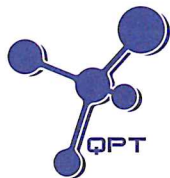
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AUTHORIZED  
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專業化驗有限公司

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB060020

Date of Issue : 13 June 2022

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TARGET ( PH UNIT )	DISPLAY READING ( PH UNIT )	TOLERANCE	RESULT
4.00	4.08	0.08	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	9.94	-0.07	Satisfactory

Tolerance of pH value should be less than  $\pm 0.2$  ( pH unit )

### ( 4 ) Salinity

EXPECTED READING ( G/L )	DISPLAY READING ( G/L )	TOLERANCE ( % )	RESULT
10	9.90	-1.00	Satisfactory
20	19.91	-0.45	Satisfactory
30	30.29	0.97	Satisfactory

Tolerance of Salinity should be less than  $\pm 10.0$  ( % )

### ( 5 ) Temperature

READING OF REF. THERMOMETER ( °C )	DISPLAY READING ( °C )	TOLERANCE	RESULT
10	10	0	Satisfactory
20	20	0	Satisfactory
40	40	0	Satisfactory

Tolerance of Temperature should be less than  $\pm 2.0$  ( °C )

### ( 6 ) Conductivity

EXPECTED READING ( MS/CM AT 25°C )	DISPLAY READING	TOLERANCE ( % )	RESULT
146.9	136.7	-6.94	Satisfactory
1412	1329.7	-5.83	Satisfactory
12890	12608.3	-2.19	Satisfactory
58670	57422	-2.13	Satisfactory
111900	109847	-1.83	Satisfactory

Tolerance of Conductivity should be less than  $\pm 10.0$  ( % )

### 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 F. Event and Action Plan

**Table F.1: Event and Action Plan for Marine Water Quality**

Event	Action			
	ET	IEC	AAHK / PM	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat <i>in-situ</i> measurement to confirm findings;</li> <li>2. Identify reasons for non-compliance and source(s) of impact;</li> <li>3. Inform IEC and Contractor;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC and Contractor;</li> <li>6. Repeat measurement on next day of exceedance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures;</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise AAHK / PM accordingly;</li> <li>3. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures;</li> <li>2. Make agreement on the mitigation measures to be implemented;</li> <li>4. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the AAHK / PM and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment;</li> <li>4. Consider changes of working methods;</li> <li>5. Discuss with ET and IEC and propose mitigation measures.</li> </ol>
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> <li>1. Repeat <i>in-situ</i> measurement to confirm findings;</li> <li>2. Identify reasons for non-compliance and source(s) of impact;</li> <li>3. Inform IEC and Contractor;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC and Contractor;</li> <li>6. Ensure mitigation measures are implemented;</li> <li>7. Prepare to increase the monitoring frequency to daily;</li> <li>8. Repeat measurement on next day of exceedance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures;</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the AAHK / PM accordingly;</li> <li>3. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures;</li> <li>2. Make agreement on the mitigation measures to be implemented;</li> <li>3. Assess the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the AAHK / PM and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment</li> <li>4. Consider changes of working methods;</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and AAHK / PM within 3 working days;</li> <li>6. Implement the agreed mitigation measures.</li> </ol>
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat <i>in-situ</i> measurement to confirm findings;</li> <li>2. Identify reasons for non-compliance and source(s) of impact;</li> <li>3. Inform IEC, Contractor and</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures;</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the AAHK /</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>2. Request Contractor to critically review the working methods;</li> <li>3. Make agreement</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the AAHK / PM and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and</li> </ol>



Event	Action			
	ET	IEC	AAHK / PM	Contractor
	EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, AAHK / PM and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of limit level.	PM accordingly; 3. Assess the effectiveness of the implemented mitigation measures.	on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures.	equipment; 4. Consider changes of working methods; 5. Discuss with ET, IEC and AAHK / PM and propose mitigation measures to IEC and AAHK / PM within three working days; 6. Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat <i>in-situ</i> measurement to confirm findings; 2. Identify reasons for non-compliance and source(s) of impact; 3. Inform IEC, Contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, AAHK / PM and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the AAHK / PM accordingly; 3. Assess the effectiveness of implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. 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.	1. Inform AAHK / PM and confirm notification of non-compliance in writing; 2. Rectify unacceptable practices; 3. Check all plant and equipment; 4. Consider changes of working method; 5. Discuss with ET, IEC and AAHK / PM and propose mitigation measures to IEC and AAHK / PM within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the AAHK / PM, to slow down or to stop all or part of the construction activities.

## **Appendix G. Monitoring Data and Graphical Plots**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 05 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Misty	Moderate	15:21	8.4	Surface	1.0	27.0	27.1	8.1	8.1	10.7	10.7	87.2	87.8	6.6	6.5	6.8	8.6	3.4	3.9
						1.0	27.1		8.1		10.6		88.4		6.6		6.7		3.5	
					Middle	4.2	27.0	27.0	8.1	8.1	12.0	11.6	84.9	86.4	6.3		8.7		3.8	
						4.2	27.0		8.1		11.2		87.9		6.6		8.6		4.2	
					Bottom	7.4	27.0	27.0	8.1	8.1	16.8	16.5	86.4	87.4	6.3	6.4	10.5		4.4	
						7.4	27.0		8.1		16.2		88.3		6.4		10.4		4.2	
					Surface	1.0	27.0	27.0	8.1	8.2	10.5	10.5	88.5	88.7	6.6	6.6	3.4	4.9	4.1	4.8
						1.0	27.0		8.2		10.5		88.8		6.7		3.4		4.4	
C2	Misty	Moderate	15:38	9.0	Middle	4.5	27.0	27.1	8.1	8.2	10.8	10.9	86.3	86.6	6.5		4.9		4.8	
						4.5	27.1		8.2		10.9		86.9		6.5		4.8		4.6	
					Bottom	8.0	27.1	27.1	8.1	8.1	16.3	16.4	86.6	87.8	6.3	6.4	6.5		5.2	
						8.0	27.1		8.1		16.4		89.0		6.4		6.5		5.5	
					Surface	1.0	27.2	27.2	8.2	8.2	10.3	10.3	90.7	90.4	6.8	6.8	8.6	9.3	3.9	4.0
						1.0	27.2		8.2		10.2		90.1		6.8		8.7		3.5	
M1	Misty	Moderate	15:25	5.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	27.2	27.2	8.1	8.2	10.4	10.4	91.4	91.0	6.9	6.9	9.9		4.2	
						4.0	27.2		8.2		10.3		90.5		6.8		9.8		4.5	
M2	Misty	Moderate	15:28	4.8	Surface	1.0	27.1	27.1	8.1	8.2	9.8	10.0	89.9	89.6	6.7	6.7	9.2	9.6	3.0	3.4
						1.0	27.1		8.2		10.1		89.2		6.7		9.1		2.9	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	27.1	27.1	8.0	8.1	10.6	10.8	90.7	90.3	6.8	6.8	10.0		3.6	
						3.8	27.1		8.1		11.0		89.8		6.7		10.1		4.0	
M3	Misty	Moderate	15:31	8.0	Surface	1.0	26.9	26.9	8.3	8.3	10.5	10.6	86.7	86.0	6.5	6.1	7.6	8.4	5	4
						1.0	26.9		8.3		10.6		85.3		6.4		7.7		5	
					Middle	4.0	26.9	26.9	8.3	8.3	12.6	12.7	77.9	77.5	5.8		8.1		4	
						4.0	26.9		8.2		12.8		77.0		5.6		8.1		4	
					Bottom	7.0	27.0	27.0	8.1	8.2	19.1	19.2	79.0	79.4	5.7	5.7	9.4		4	
						7.0	27.0		8.2		19.2		79.7		5.7		9.3		4	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 05 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)						
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA					
C1	Misty	Moderate	10:29	9.2	Surface	1.0	27.0	27.0	7.6	7.7	9.3	9.4	86.8	86.7	6.6	6.5	4.4	4.9	3.4	3.7					
						1.0	27.0		7.7		9.4		86.6		6.5		4.4		3.1						
					Middle	4.6	27.0	27.0	7.6	7.7	11.9	11.7	86.3	86.6	6.4		6.0		3.8						
						4.6	27.0		7.7		11.5		86.9		6.5		6.0		3.6						
					Bottom	8.2	27.3	27.2	7.6	7.6	15.6	15.0	88.1	87.7	6.4	4.0	4.3								
						8.2	27.0		7.6		14.4		87.3		6.4	4.3	4.0								
					C2	Misty	Moderate	10:12	10.0	Surface	1.0	26.9	26.9	7.7	7.7	9.1	9.1	86.9	86.8	6.6	6.4	5.1	6.5	3.1	3.8
											1.0	26.9		7.7		9.1		86.7		6.6		5.0		3.3	
Middle	5.0	26.9	26.9	7.7						7.7	12.9	12.6	83.5	83.6	6.2	6.8	3.5								
	5.0	26.9		7.7							12.2		83.6		6.2	6.7	3.8								
Bottom	9.0	27.0	27.0	7.6						7.7	17.0	17.1	84.8	84.7	6.1	7.5	4.6								
	9.0	27.0		7.7							17.2		84.5		6.0	7.6	4.2								
M1	Misty	Moderate	10:22	5.2						Surface	1.0	27.1	27.1	7.5	7.6	9.4	9.4	90.3	90.2	6.8	6.8	8.9	9.2	3.7	4.1
											1.0	27.0		7.6		9.4		90.1		6.8		8.9		3.9	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-								
						-	-		-		-		-		-	-	-								
					Bottom	4.2	27.4	27.2	7.5	7.6	10.2	10.3	90.7	90.5	6.8	9.5	4.3								
						4.2	27.0		7.6		10.4		90.3		6.8	9.5	4.6								
					M2	Misty	Moderate	10:19	4.0	Surface	1.0	27.0	27.0	7.7	7.7	9.1	9.1	91.1	91.1	6.9	6.9	4.1	4.6	4.5	4.8
											1.0	27.0		7.7		9.1		91.1		6.9		4.1		4.5	
Middle	-	-	-	-						-	-	-	-	-	-	-	-								
	-	-		-							-		-		-	-	-								
Bottom	3.0	27.1	27.1	7.7						7.7	9.1	9.1	92.1	91.6	7.0	5.1	5.3								
	3.0	27.0		7.7							9.1		91.1		6.9	5.2	4.9								
M3	Misty	Moderate	10:25	6.0						Surface	1.0	27.0	27.0	7.6	7.7	9.4	9.4	88.3	88.3	6.7	6.6	3.8	4.5	3	4
											1.0	27.0		7.7		9.4		88.2		6.5		3.8		4	
					Middle	3.0	27.0	27.0	7.6	7.6	10.2	10.5	87.3	87.2	6.6	4.5	4								
						3.0	27.0		7.6		10.8		87.1		6.4	4.6	4								
					Bottom	5.0	27.2	27.1	7.6	7.6	11.8	11.9	89.6	89.9	6.7	5.2	5								
						5.0	27.0		7.6		11.9		90.1		6.7	5.2	5								

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 07 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Fine	Moderate	08:04	9.6	Surface	1.0	27.3	27.3	7.9	7.9	6.3	6.3	89.8	89.9	6.9	6.5	7.7	8.7	7.6	6.6
						1.0	27.2		7.9		6.2		89.9		6.9		7.6		7.2	
					Middle	4.8	26.4	26.5	8.0	8.0	9.8	10.1	78.7	79.6	6.0		8.5		6.8	
						4.8	26.5		7.9		10.3		80.5		6.1		8.6		6.7	
					Bottom	8.6	26.2	26.4	7.9	7.9	26.5	26.8	66.6	66.5	4.6	4.6	9.8		5.5	
						8.6	26.6		7.8		27.0		66.3		4.6		9.8		5.9	
C2	Fine	Moderate	07:42	10.0	Surface	1.0	27.3	27.2	7.9	8.0	5.4	5.4	91.8	90.9	7.1	6.4	7.1	7.2	6.0	5.3
						1.0	27.1		8.0		5.3		89.9		7.0		7.0		6.4	
					Middle	5.0	26.6	26.5	7.9	7.9	13.0	12.8	78.8	77.8	5.8		7.2		4.9	
						5.0	26.4		7.9		12.6		76.7		5.8		7.2		5.2	
					Bottom	9.0	26.2	26.4	7.9	7.9	27.5	27.0	65.3	66.1	4.5	4.6	7.4		4.6	
						9.0	26.6		7.8		26.5		66.9		4.6		7.4		4.7	
M1	Fine	Moderate	07:51	5.4	Surface	1.0	27.0	27.1	7.9	7.9	6.2	6.1	91.6	92.6	7.1	7.2	7.5	8.0	4.1	4.9
						1.0	27.1		7.9		6.0		93.6		7.2		7.6		4.5	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.4	27.0	27.0	7.8	7.8	16.2	15.9	81.1	82.3	5.9	6.0	8.4		5.6	
						4.4	26.9		7.8		15.6		83.4		6.1		8.3		5.3	
M2	Fine	Moderate	07:54	4.3	Surface	1.0	27.1	27.2	7.9	8.0	6.6	6.5	93.8	93.6	7.2	7.2	7.2	7.3	3.1	3.8
						1.0	27.2		8.0		6.4		93.3		7.2		7.2		3.4	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.3	26.7	26.8	7.9	7.9	9.9	9.9	87.8	85.7	6.6	6.5	7.4		4.3	
						3.3	26.9		7.8		9.8		83.5		6.3		7.5		4.4	
M3	Fine	Moderate	07:58	6.6	Surface	1.0	27.2	27.3	7.9	7.9	5.7	5.7	91.5	91.8	7.0	7.0	7.4	8.1	7	6
						1.0	27.3		7.9		5.7		92.0		7.1		7.5		7	
					Middle	3.3	26.9	27.0	7.9	7.9	7.0	7.1	90.3	90.4	6.9		8.1		6	
						3.3	27.0		7.9		7.1		90.5		6.9		8.2		6	
					Bottom	5.6	26.9	27.0	7.8	7.8	15.1	14.5	83.4	84.4	6.1	6.2	8.8		5	
						5.6	27.1		7.8		13.9		85.4		6.3		8.7		5	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 07 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Cloudy	Moderate	11:11	9.8	Surface	1.0	27.3	27.4	7.9	7.9	7.2	7.0	94.0	94.4	7.2	7.0	7.0	6.1	8.2	7.9
						1.0	27.4		7.9		6.8		94.7		7.2		7.1		8.4	
					Middle	4.9	26.7	26.9	7.9	7.9	10.3	10.3	88.3	88.7	6.7		7.3		8.0	
						4.9	27.0		7.9		10.2		89.1		6.7		7.3		7.7	
					Bottom	8.8	26.6	26.7	7.9	7.9	24.6	23.6	76.9	78.1	5.4	5.5	4.0		7.5	
						8.8	26.8		7.8		22.5		79.3		5.6		3.9		7.3	
					Surface	1.0	27.3	27.3	7.9	7.9	9.1	9.0	92.4	92.0	7.0	6.3	7.4	8.1	8.4	7.7
						1.0	27.3		7.9		8.8		91.5		6.9		7.4		8.5	
C2	Cloudy	Moderate	11:40	10.2	Middle	5.1	26.3	26.4	7.9	7.9	15.5	16.1	77.3	77.8	5.7		8.0		7.9	
						5.1	26.5		7.9		16.6		78.3		5.7		8.1		7.9	
					Bottom	9.2	26.2	26.2	7.9	7.9	27.8	28.0	70.0	69.1	4.8	4.8	8.7		6.6	
						9.2	26.2		7.9		28.1		68.1		4.7		8.7		6.7	
M1	Cloudy	Moderate	11:30	5.5	Surface	1.0	27.5	27.5	8.0	8.0	7.1	7.3	93.6	92.9	7.1	7.1	7.1	8.1	6.5	7.1
						1.0	27.4		8.0		7.4		92.1		7.0		7.1		6.7	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.5	26.6	26.8	7.9	7.9	18.3	18.3	82.1	82.7	6.0	6.0	9.1		7.5	
						4.5	26.9		7.9		18.2		83.2		6.0		9.0		7.8	
M2	Cloudy	Moderate	11:25	4.6	Surface	1.0	27.0	27.1	8.0	8.0	7.2	7.1	92.6	93.2	7.1	7.2	7.3	7.4	7.2	7.5
						1.0	27.2		8.0		7.0		93.7		7.2		7.2		6.9	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.6	26.6	26.7	7.9	7.9	17.7	17.1	82.8	82.7	6.0	6.0	7.5		7.8	
						3.6	26.7		7.9		16.5		82.5		6.0		7.5		8.1	
M3	Cloudy	Moderate	11:19	6.7	Surface	1.0	27.2	27.3	8.0	8.0	8.0	8.0	94.8	94.7	7.2	6.7	7.3	7.8	11	12
						1.0	27.3		8.0		8.0		94.5		7.2		7.2		11	
					Middle	3.4	26.6	26.6	7.9	7.9	15.0	14.7	83.5	83.6	6.2		7.4		11	
						3.4	26.6		7.9		14.3		83.7		6.2		7.5		12	
					Bottom	5.7	26.3	26.5	7.9	7.9	27.0	26.8	72.2	72.3	5.0	5.0	8.5		13	
						5.7	26.7		7.9		26.6		72.4		5.0		8.6		13	

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**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 09 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	09:59	10.2	Surface	1.0	27.7	27.6	7.9	8.0	5.6	5.6	88.5	87.1	6.8	5.9	10.3	9.4	6.0	5.0
						1.0	27.5		8.0		5.6		85.7		6.6		9.5		5.2	
					Middle	5.1	26.8	26.8	7.9	7.9	15.9	16.3	71.4	70.8	5.2		10.1		5.0	
						5.1	26.8		7.9		16.6		70.1		5.1		8.1		3.2	
					Bottom	9.2	26.5	26.6	7.9	7.9	24.0	23.8	66.8	69.0	4.7	4.9	9.6		5.7	
						9.2	26.6		7.8		23.6		71.2		5.0		8.9		4.6	
					Surface	1.0	27.7	27.7	7.9	7.9	6.7	6.5	85.9	85.8	6.5	5.8	9.5	9.1	6.4	5.7
						1.0	27.7		7.9		6.3		85.7		6.5		9.5		5.8	
C2	Sunny	Moderate	09:34	10.0	Middle	5.0	26.9	26.9	7.9	7.9	17.4	17.1	70.3	69.4	5.1		8.1		5.6	
						5.0	26.8		7.9		16.7		68.4		5.0		8.4		5.4	
					Bottom	9.0	26.6	26.6	7.9	7.9	26.2	25.4	65.8	67.4	4.6	4.7	9.5		5.4	
						9.0	26.6		7.9		24.6		69.0		4.8		9.5		5.7	
M1	Sunny	Moderate	09:48	5.8	Surface	1.0	27.8	27.7	7.9	7.9	7.2	7.4	90.7	89.6	6.8	6.8	8.5	8.8	6.1	6.3
						1.0	27.5		7.9		7.6		88.4		6.7		8.6		6.0	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.8	27.1	27.4	7.8	7.8	19.8	19.8	72.3	73.5	5.1	5.2	9.4		7.1	
						4.8	27.6		7.8		19.8		74.7		5.3		8.7		6.0	
M2	Sunny	Moderate	09:44	5.9	Surface	1.0	27.5	27.4	7.9	8.0	6.9	6.7	89.1	88.1	6.8	6.8	9.8	10.2	4.8	5.0
						1.0	27.3		8.0		6.5		87.0		6.7		10.0		4.5	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.9	27.3	27.3	7.9	7.9	17.3	19.3	76.6	74.4	5.2	5.2	10.8		5.1	
						4.9	27.2		7.8		21.3		72.2		5.1		10.0		5.6	
M3	Sunny	Moderate	09:53	6.2	Surface	1.0	28.2	28.0	7.9	7.9	6.5	6.6	92.5	91.0	7.0	6.4	9.2	8.0	7	6
						1.0	27.7		7.9		6.6		89.5		6.8		8.4		6	
					Middle	3.1	27.3	27.2	7.9	8.0	7.7	7.9	85.0	81.7	5.8		8.0		6	
						3.1	27.0		8.0		8.1		78.3		5.9		7.5		7	
					Bottom	5.2	26.9	26.9	7.8	7.8	20.5	20.5	71.9	72.3	5.1	5.2	7.5		6	
						5.2	26.9		7.8		20.5		72.7		5.2		7.3		7	

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**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 09 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Cloudy	Moderate	14:22	10.3	Surface	1.0	28.2	28.5	8.0	8.0	6.4	6.4	95.3	95.5	7.2	6.5	7.8	6.0	7.1	6.7
						1.0	28.7		8.0		6.3		95.6		7.1		8.7		6.4	
					Middle	5.2	27.2	27.1	7.9	7.9	15.4	15.8	79.8	79.0	5.8		5.9		6.7	
						5.2	26.9		7.9		16.1		78.2		5.7		6.0		6.6	
					Bottom	9.3	26.5	26.5	7.9	7.9	28.0	28.1	69.0	68.3	4.7	4.7	4.0		6.2	
						9.3	26.5		7.9		28.1		67.5		4.6		3.7		7.0	
					Surface	1.0	28.2	28.1	8.0	8.0	8.7	8.3	94.3	92.3	7.0	6.3	8.0	9.6	5.8	5.6
						1.0	27.9		8.0		7.9		90.2		6.8		7.4		5.6	
					Middle	5.0	27.7	27.4	8.0	8.0	11.5	12.6	88.8	82.9	5.6		7.4		5.2	
						5.0	27.1		8.0		13.6		76.9		5.7		7.8		5.2	
M1	Cloudy	Moderate	14:33	5.9	Surface	1.0	28.5	28.5	8.1	8.1	7.2	7.2	106.6	106.7	8.0	8.0	8.9	7.9	6.9	6.9
						1.0	28.5		8.1		7.2		106.8		8.0		9.3		6.9	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.9	28.1	28.4	8.0	8.0	11.7	11.6	95.6	96.9	7.0	7.1	6.8		6.4	
						4.9	28.6		8.0		11.5		98.2		7.1		6.7		7.5	
					Surface	1.0	29.1	29.0	8.1	8.1	6.7	6.8	107.7	106.9	8.0	8.0	7.9	8.3	5.2	5.9
						1.0	28.8		8.0		6.8		106.0		7.9		8.8		6.3	
M2	Cloudy	Moderate	14:36	4.8	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	28.1	28.2	8.0	8.0	8.3	8.0	94.4	95.7	7.0	7.1	8.1		5.9	
						3.8	28.3		7.9		7.7		97.0		7.2		8.4		6.0	
M3	Cloudy	Moderate	14:28	6.9	Surface	1.0	28.9	28.9	8.0	8.0	6.5	6.5	99.0	97.8	7.4	6.9	9.4	9.6	7	7
						1.0	28.8		8.0		6.5		96.6		7.2		9.4		8	
					Middle	3.5	27.5	27.5	8.0	8.0	9.2	9.2	88.1	87.3	6.6		7.9		7	
						3.5	27.5		7.9		9.1		86.4		6.5		7.7		7	
					Bottom	5.9	27.7	27.6	7.8	7.8	18.5	17.3	76.6	76.6	5.4	5.5	11.3		6	
						5.9	27.4		7.8		16.0		76.5		5.5		12.0		6	

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**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 12 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Calm	10:21	10.0	Surface	1.0	28.7	28.7	7.9	7.9	12.7	12.5	100.8	100.8	7.3	7.3	7.1	8.1	4.0	3.4
						1.0	28.7		7.9		12.2		100.7		7.3		7.1		3.8	
					Middle	5.0	29.2	29.0	7.9	7.9	12.7	12.8	100.8	100.8	7.2		8.1		3.5	
						5.0	28.7		7.9		12.8		100.7		7.3		8.1		3.3	
					Bottom	9.0	29.5	29.1	7.9	7.9	12.6	12.7	101.2	101.0	7.2	7.3	9.2		2.9	
						9.0	28.7		7.9		12.8		100.7		7.3		9.1		3.1	
					Surface	1.0	28.7	28.7	8.0	8.1	11.8	11.8	100.3	99.8	7.3	7.2	4.1	5.3	3.4	3.2
						1.0	28.7		8.1		11.8		99.3		7.2		4.0		3.6	
C2	Sunny	Calm	10:38	10.0	Middle	5.0	28.7	28.7	8.0	8.0	13.0	13.3	100.5	99.9	7.2		5.0		3.2	
						5.0	28.7		8.0		13.6		99.3		7.1		5.0		3.2	
					Bottom	9.0	28.7	28.7	7.9	8.0	14.1	14.0	101.1	100.3	7.2	7.2	6.8		2.9	
						9.0	28.7		8.0		13.8		99.5		7.1		6.7		2.8	
M1	Sunny	Calm	10:32	5.0	Surface	1.0	29.3	29.1	8.0	8.0	14.5	14.4	104.0	104.3	7.3	7.4	7.0	7.7	5.2	4.8
						1.0	28.8		8.0		14.3		104.6		7.4		7.1		5.1	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	29.7	29.4	8.0	8.0	15.7	15.1	109.5	108.8	7.6	7.7	8.5		4.6	
						4.0	29.0		8.0		14.5		108.0		7.7		8.1		4.2	
M2	Sunny	Calm	10:29	4.0	Surface	1.0	29.6	29.3	7.9	8.0	13.2	13.2	107.4	107.9	7.6	7.7	7.1	7.7	3.6	3.8
						1.0	29.0		8.0		13.1		108.3		7.7		7.0		3.3	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.0	29.9	29.6	7.9	8.0	13.2	13.3	105.9	106.7	7.5	7.6	8.1		4.0	
						3.0	29.3		8.0		13.3		107.5		7.6		8.4		4.4	
M3	Sunny	Calm	10:25	6.2	Surface	1.0	29.0	28.9	7.9	8.0	13.1	13.3	103.2	103.2	7.4	7.4	6.7	7.4	5	5
						1.0	28.8		8.0		13.5		103.2		7.4		6.7		6	
					Middle	3.1	29.2	29.0	7.9	7.9	14.6	14.6	103.1	103.3	7.3		7.0		5	
						3.1	28.8		7.9		14.6		103.4		7.4		7.1		5	
					Bottom	5.2	29.5	29.2	7.9	7.9	14.8	14.8	103.7	103.7	7.3	7.4	8.5		5	
						5.2	28.8		7.9		14.7		103.6		7.4		8.5		5	

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**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 12 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Calm	05:50	9.2	Surface	1.0	28.3	28.3	7.5	7.5	16.4	16.3	84.5	85.1	6.0	6.0	7.0	6.6	4.4	3.7
						1.0	28.3		7.5		16.2		85.6		6.1		7.0		4.0	
					Middle	4.6	28.6	28.5	7.5	7.5	16.3	16.4	83.6	83.4	5.9		8.5		3.5	
						4.6	28.3		7.4		16.4		83.1		5.9		8.6		3.8	
					Bottom	8.2	28.8	28.6	7.5	7.5	17.4	17.6	88.2	88.6	6.2	6.2	4.0		3.1	
						8.2	28.3		7.5		17.8		88.9		6.2		4.2		3.2	
					Surface	1.0	28.5	28.6	7.5	7.5	12.4	12.9	101.6	101.3	7.4	7.1	1.1	2.9	2.9	3.5
						1.0	28.6		7.5		13.3		100.9		7.3		1.1		3.2	
C2	Sunny	Calm	05:33	10.8	Middle	5.4	28.5	28.6	7.5	7.5	13.9	14.6	97.1	96.3	7.0		3.3		3.6	
						5.4	28.6		7.5		15.2		95.4		6.8		3.2		3.7	
					Bottom	9.8	28.6	28.6	7.4	7.5	17.5	16.8	93.0	94.7	6.6	6.7	4.3		4.0	
						9.8	28.6		7.5		16.1		96.3		6.8		4.2		3.8	
					Surface	1.0	28.6	28.7	7.5	7.5	14.3	14.1	103.1	103.3	7.4	7.4	7.1	7.6	4.6	4.2
						1.0	28.7		7.5		13.9		103.4		7.4		7.1		4.4	
M1	Sunny	Calm	05:40	5.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	28.5	28.6	7.5	7.5	14.4	14.3	103.3	103.3	7.4	7.4	8.1		3.9	
						4.0	28.6		7.5		14.1		103.2		7.4		8.1		4.0	
M2	Sunny	Calm	05:43	4.6	Surface	1.0	28.6	28.7	7.5	7.5	14.6	14.5	104.5	105.1	7.5	7.5	7.5	7.7	4.2	4.8
						1.0	28.7		7.5		14.4		105.6		7.5		7.4		4.6	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.6	28.6	28.7	7.5	7.5	14.6	14.6	103.9	104.0	7.4	7.4	8.0		5.4	
						3.6	28.7		7.5		14.6		104.0		7.4		8.0		5.0	
M3	Sunny	Calm	05:46	7.6	Surface	1.0	28.4	28.4	7.5	7.5	14.6	14.5	99.8	100.0	7.1	6.7	7.1	8.2	4	5
						1.0	28.4		7.5		14.4		100.2		7.2		7.1		4	
					Middle	3.8	28.5	28.4	7.5	7.5	16.1	16.4	89.9	88.5	6.4		8.1		5	
						3.8	28.3		7.5		16.7		87.1		6.2		8.0		5	
					Bottom	6.6	28.7	28.6	7.5	7.5	19.7	19.6	92.3	92.5	6.4	6.4	9.5		5	
						6.6	28.4		7.5		19.5		92.7		6.4		9.4		6	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 14 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	11:46	9.8	Surface	1.0	28.8	28.8	7.7	7.7	17.5	17.4	85.2	84.4	6.0	5.9	6.0	7.2	6.8	5.8
						1.0	28.7		7.7		17.3		83.6		5.9		6.0		7.1	
					Middle	4.9	28.7	28.7	7.7	7.7	17.7	17.7	84.1	83.0	5.9		7.3		6.1	
						4.9	28.7		7.7		17.7		81.8		5.7		7.3		5.7	
					Bottom	8.8	28.8	28.8	7.7	7.7	17.6	18.0	84.4	83.2	5.9	5.8	8.3		4.6	
						8.8	28.8		7.7		18.4		82.0		5.7		8.2		4.3	
C2	Sunny	Moderate	12:03	9.4	Surface	1.0	28.8	28.8	7.7	7.7	16.7	16.7	86.4	86.3	6.1	6.1	6.6	6.9	4.2	4.7
						1.0	28.7		7.7		16.7		86.2		6.0		6.5		3.9	
					Middle	4.7	28.8	28.8	7.7	7.7	18.4	18.3	86.4	86.6	6.0		6.9		4.5	
						4.7	28.8		7.7		18.2		86.7		6.1		6.9		4.9	
					Bottom	8.4	28.9	28.9	7.7	7.7	18.4	18.4	87.7	87.4	6.1	6.1	7.1		5.3	
						8.4	28.8		7.7		18.3		87.0		6.1		7.2		5.6	
M1	Sunny	Moderate	11:53	5.4	Surface	1.0	29.1	29.1	7.7	7.7	18.2	18.2	100.0	100.5	7.0	7.0	6.0	6.8	5.3	5.7
						1.0	29.1		7.7		18.1		101.0		7.0		6.1		5.1	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.4	29.1	29.1	7.8	7.8	18.1	18.2	102.3	101.8	7.1	7.1	7.5		6.0	
						4.4	29.1		7.8		18.2		101.3		7.0		7.4		6.3	
M2	Sunny	Moderate	11:56	4.2	Surface	1.0	28.9	28.9	7.8	7.8	18.2	18.2	92.4	91.3	6.4	6.4	7.2	8.5	5.5	5.8
						1.0	28.8		7.8		18.2		90.2		6.3		7.2		5.0	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.2	28.9	28.9	7.8	7.8	18.2	18.2	93.4	92.4	6.5	6.5	9.9		6.1	
						3.2	28.8		7.8		18.2		91.3		6.4		9.8		6.5	
M3	Sunny	Moderate	11:50	6.0	Surface	1.0	28.6	28.7	7.8	7.8	19.2	19.1	88.2	88.0	6.1	6.1	6.0	7.1	6	7
						1.0	28.7		7.8		18.9		87.7		6.1		6.0		6	
					Middle	3.0	28.7	28.7	7.8	7.8	20.0	19.5	87.6	87.5	6.1		7.0		7	
						3.0	28.7		7.8		19.0		87.3		6.1		7.1		7	
					Bottom	5.0	28.7	28.7	7.7	7.7	20.5	19.8	88.5	88.5	6.1	6.2	8.3		7	
						5.0	28.7		7.7		19.1		88.4		6.2		8.3		7	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 14 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	07:00	9.0	Surface	1.0	28.0	28.1	7.8	7.8	19.4	19.4	86.4	86.1	6.1	5.7	5.3	5.1	7.6	8.1
						1.0	28.1		7.8		19.4		85.8		6.0		5.3		7.2	
					Middle	4.5	28.2	28.2	7.8	7.8	24.5	24.5	77.8	77.5	5.3		6.0		8.2	
						4.5	28.1		7.8		24.4		77.1		5.3		6.0		7.9	
					Bottom	8.0	28.6	28.4	7.8	7.8	24.6	25.0	80.0	79.3	5.4	5.4	4.0		8.9	
						8.0	28.2		7.8		25.4		78.5		5.3		4.0		8.6	
					Surface	1.0	28.3	28.3	7.8	7.8	19.3	19.6	90.7	90.6	6.3	6.1	4.0	5.2	6.2	5.1
						1.0	28.2		7.7		19.8		90.4		6.3		4.0		5.9	
					Middle	5.2	28.2	28.3	7.7	7.7	20.0	20.9	85.0	85.1	5.9		5.3		5.1	
						5.2	28.3		7.7		21.8		85.1		5.8		5.3		4.7	
					Bottom	9.4	28.4	28.4	7.7	7.6	21.5	21.7	86.4	86.5	6.0	6.0	6.4		4.2	
						9.4	28.3		7.5		21.8		86.6		5.9		6.3		4.4	
M1	Sunny	Moderate	06:49	5.2	Surface	1.0	28.7	28.7	7.8	7.8	16.1	16.2	92.5	92.7	6.6	6.6	5.8	6.1	5.0	5.7
						1.0	28.7		7.7		16.2		92.8		6.6		5.7		5.2	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.2	28.5	28.7	7.7	7.7	18.4	19.1	92.6	93.1	6.5	6.5	6.4		6.5	
						4.2	28.8		7.7		19.8		93.5		6.4		6.5		6.1	
					Surface	1.0	28.5	28.6	7.7	7.6	16.9	16.7	91.3	91.3	6.5	6.5	7.1	7.8	5.8	5.6
						1.0	28.6		7.5		16.4		91.2		6.4		7.1		6.1	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	28.4	28.5	7.7	7.8	19.6	20.5	92.2	92.4	6.4	6.4	8.5		5.0	
						3.8	28.6		7.8		21.3		92.6		6.3		8.4		5.4	
M3	Sunny	Moderate	06:56	7.2	Surface	1.0	27.7	27.7	7.8	7.8	20.5	19.6	82.8	82.7	5.8	5.4	3.9	4.5	6	7
						1.0	27.7		7.8		18.7		82.6		5.8		4.0		6	
					Middle	3.6	27.6	27.7	7.8	7.8	26.1	26.1	72.0	72.1	4.9		4.2		6	
						3.6	27.8		7.8		26.0		72.1		4.9		4.2		6	
					Bottom	6.2	27.7	27.8	7.8	7.8	25.9	26.0	69.3	69.3	4.7	4.7	5.3		8	
						6.2	27.9		7.8		26.0		69.2		4.7		5.3		8	

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Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 16 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	13:18	9.6	Surface	1.0	27.5	27.5	7.9	7.9	17.4	17.3	72.0	72.1	5.2	5.1	5.5	6.5	3.5	4.4
						1.0	27.5		7.9		17.2		72.1		5.1		5.5		3.8	
					Middle	4.8	27.4	27.5	7.9	7.9	19.2	19.3	72.3	72.4	5.1		6.3		4.0	
						4.8	27.6		7.9		19.3		72.4		5.0		6.3		4.5	
					Bottom	8.6	27.5	27.6	7.9	7.9	20.8	20.8	76.9	76.9	5.4	5.4	7.8		5.4	
						8.6	27.6		7.9		20.7		76.8		5.3		7.7		5.0	
					Surface	1.0	27.6	27.6	7.9	7.9	18.7	18.7	70.2	69.1	5.0	4.9	4.1	5.3	2.7	3.9
						1.0	27.5		7.9		18.7		67.9		4.8		4.2		3.0	
C2	Sunny	Moderate	13:40	9.2	Middle	4.6	27.6	27.6	7.9	7.9	18.7	18.7	70.2	68.4	5.0		5.0		4.3	
						4.6	27.5		7.9		18.7		66.5		4.7		5.0		3.9	
					Bottom	8.2	27.9	27.7	7.9	7.9	20.5	20.6	71.8	71.1	5.0	5.0	6.6		4.8	
						8.2	27.5		7.9		20.6		70.3		5.0		6.7		4.5	
					Surface	1.0	27.7	27.8	7.9	7.9	16.5	16.5	74.5	74.5	5.4	5.4	6.2	6.8	4.1	4.5
						1.0	27.8		7.9		16.4		74.5		5.3		6.3		3.8	
M1	Sunny	Moderate	13:27	5.2	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.2	27.4	27.6	7.9	7.9	19.6	19.7	78.0	78.1	5.5	5.5	7.4		5.3	
						4.2	27.7		7.9		19.8		78.1		5.4		7.4		4.9	
M2	Sunny	Moderate	13:30	4.0	Surface	1.0	27.8	27.9	7.9	7.9	15.8	15.8	76.2	76.3	5.5	5.5	5.2	5.9	4.0	4.1
						1.0	27.9		7.9		15.8		76.4		5.5		5.1		3.7	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.0	27.7	27.8	7.8	7.9	19.4	20.2	76.9	76.9	5.5	5.5	6.7		4.1	
						3.0	27.9		7.9		20.9		76.9		5.4		6.7		4.4	
M3	Sunny	Moderate	13:23	6.2	Surface	1.0	28.0	28.0	7.9	7.9	15.9	15.9	64.9	64.9	5.1	5.1	6.2	7.5	4	4
						1.0	28.0		7.9		15.9		64.9		5.1		6.2		4	
					Middle	3.1	26.6	26.7	7.9	7.9	23.5	23.4	65.3	65.3	5.0		7.8		4	
						3.1	26.7		7.9		23.3		65.2		5.0		7.8		4	
					Bottom	5.2	26.7	26.7	7.9	7.9	23.5	23.5	67.5	67.7	5.2	5.2	8.5		3	
						5.2	26.7		7.9		23.5		67.8		5.2		8.4		3	

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Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 16 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	09:10	8.8	Surface	1.0	27.3	27.5	7.9	7.9	16.7	16.7	72.7	72.8	5.3	5.0	6.2	5.8	6.6	5.6
						1.0	27.7		7.9		16.6		72.8		5.1		6.2		6.2	
					Middle	4.4	27.2	27.5	7.9	7.9	17.0	16.9	65.4	65.3	4.7		7.0		5.3	
						4.4	27.7		7.9		16.8		65.2		4.7		7.1		5.6	
					Bottom	7.8	27.2	27.4	7.8	7.9	21.3	21.0	65.7	65.8	4.6	4.6	4.0		4.6	
						7.8	27.6		7.9		20.7		65.8		4.5		4.0		5.0	
					Surface	1.0	27.4	27.5	7.8	7.8	15.5	15.8	71.4	71.3	5.2	4.9	6.1	7.2	3.0	3.9
						1.0	27.5		7.8		16.1		71.2		5.1		6.1		3.4	
						5.1	27.1	27.3	7.8	7.8	18.8	18.6	66.2	66.5	4.7		7.5		4.0	
						5.1	27.5		7.8		18.3		66.8		4.7		7.4		4.2	
					Bottom	9.2	27.0	27.4	7.8	7.8	21.7	21.6	69.9	70.0	4.9	4.9	8.0		4.6	
						9.2	27.7		7.8		21.4		70.1		4.9		8.1		4.4	
M1	Sunny	Moderate	08:59	5.0	Surface	1.0	28.1	28.1	7.8	7.8	15.2	15.2	80.6	80.5	5.8	5.8	4.2	4.9	5.4	4.3
						1.0	28.1		7.8		15.1		80.4		5.8		4.2		5.0	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	28.1	28.1	7.8	7.8	15.7	15.5	83.6	83.6	6.0	6.0	5.5		3.3	
						4.0	28.1		7.8		15.2		83.5		5.9		5.5		3.6	
					Surface	1.0	28.1	28.1	7.8	7.8	15.4	15.4	80.7	80.6	5.8	5.8	4.1	4.8	4.7	4.6
						1.0	28.1		7.8		15.4		80.4		5.8		4.0		5.0	
						-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.6	28.1	28.1	7.8	7.8	15.5	15.5	84.1	84.2	6.0	6.0	5.5		4.4	
						3.6	28.1		7.8		15.4		84.2		6.0		5.5		4.2	
M3	Sunny	Moderate	09:06	7.0	Surface	1.0	27.9	27.9	7.8	7.8	14.6	14.7	73.3	73.3	5.3	5.2	5.8	6.6	3	4
						1.0	27.9		7.8		14.7		73.2		5.3		5.7		3	
					Middle	3.5	27.8	27.8	7.8	7.8	15.4	15.5	71.9	71.8	5.2		6.8		3	
						3.5	27.8		7.8		15.5		71.6		5.1		6.9		4	
					Bottom	6.0	27.7	27.8	7.8	7.8	17.8	17.9	71.9	71.7	5.1	5.1	7.1		4	
						6.0	27.9		7.8		17.9		71.4		5.1		7.2		4	

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Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 19 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	15:55	9.4	Surface	1.0	29.2	29.0	8.1	8.1	15.2	15.2	105.5	105.4	7.4	6.8	4.2	5.6	2.1	2.7
						1.0	28.8		8.1		15.1		105.2		7.5		4.1		2.4	
					Middle	4.7	28.2	28.2	7.9	7.9	17.4	17.4	87.1	86.2	6.2		5.9		2.5	
						4.7	28.2		7.9		17.3		85.2		6.0		5.9		2.7	
					Bottom	8.4	27.7	27.7	7.9	7.9	22.2	22.2	83.7	85.2	5.8	5.9	6.7		3.2	
						8.4	27.7		7.9		22.1		86.6		6.0		6.7		3.4	
					Surface	1.0	28.9	29.0	8.1	8.1	15.0	15.1	93.4	93.4	6.6	6.4	4.8	5.4	3.1	2.8
						1.0	29.0		8.1		15.2		93.4		6.5		4.8		3.5	
C2	Sunny	Moderate	16:14	9.4	Middle	4.7	29.0	29.1	7.9	8.0	17.4	17.2	89.7	89.5	6.3		5.7		2.9	
						4.7	29.1		8.0		17.0		89.3		6.2		5.6		2.7	
					Bottom	8.4	29.5	29.4	7.9	7.9	18.7	18.9	90.4	90.3	6.2	6.2	5.8		2.2	
						8.4	29.2		7.9		19.1		90.1		6.2		5.8		2.4	
M1	Sunny	Moderate	16:04	5.0	Surface	1.0	28.6	28.4	7.9	7.9	18.2	18.3	92.5	92.4	6.5	6.5	5.2	5.9	3.7	3.2
						1.0	28.2		7.9		18.3		92.3		6.4		5.1		3.3	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	27.9	28.0	7.9	7.9	21.4	22.2	88.0	88.3	6.1	6.1	6.5		3.0	
						4.0	28.1		7.9		22.9		88.5		6.0		6.6		2.9	
M2	Sunny	Moderate	16:07	4.2	Surface	1.0	29.3	29.2	8.0	8.0	17.0	17.1	98.0	97.8	6.8	6.8	3.6	3.9	3.2	2.9
						1.0	29.0		8.0		17.1		97.5		6.8		3.7		3.1	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.2	29.7	29.4	8.0	8.0	18.0	18.1	98.7	98.6	6.8	6.9	4.1		2.7	
						3.2	29.1		8.0		18.2		98.5		6.9		4.1		2.4	
M3	Sunny	Moderate	16:00	6.0	Surface	1.0	28.3	28.3	7.9	7.9	18.2	18.2	93.2	91.9	6.6	6.1	3.1	4.1	4	3
						1.0	28.3		7.9		18.2		90.6		6.4		3.1		4	
					Middle	3.0	27.9	28.2	7.9	7.9	19.8	20.2	82.0	81.9	5.8		4.1		4	
						3.0	28.4		7.9		20.6		81.8		5.7		4.1		3	
					Bottom	5.0	27.7	28.1	7.9	7.9	21.6	21.1	81.2	82.1	5.7	5.7	5.1		3	
						5.0	28.5		7.9		20.6		82.9		5.7		5.1		2	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 19 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	11:07	8.6	Surface	1.0	28.8	28.8	7.9	7.9	15.8	16.0	90.5	90.6	6.4	6.2	4.4	4.7	3.1	2.6
						1.0	28.8		7.9		16.1		90.6		6.4		4.4		2.9	
					Middle	4.3	28.6	28.7	7.9	7.9	16.1	16.3	85.1	85.1	6.0		5.6		2.4	
						4.3	28.8		7.9		16.4		85.1		6.0		5.5		2.6	
					Bottom	7.6	28.8	28.9	7.8	7.9	17.7	17.5	81.3	83.6	5.7	5.9	4.0		2.2	
						7.6	28.9		7.9		17.2		85.8		6.0		4.0		2.3	
					Surface	1.0	29.0	28.6	7.9	7.9	16.0	16.2	75.9	75.7	5.3	5.2	6.8	7.6	3.6	3.1
						1.0	28.1		7.9		16.3		75.5		5.3		6.7		3.4	
						4.9	27.5	27.6	7.9	7.9	21.4	21.3	71.1	71.2	5.0		7.0		3.0	
						4.9	27.7		7.9		21.1		71.2		5.0		7.0		3.0	
					Bottom	8.8	27.4	27.4	7.9	7.9	23.5	23.6	70.8	70.8	4.9	4.9	8.9		2.8	
						8.8	27.4		7.9		23.7		70.8		4.9		9.0		2.6	
M1	Sunny	Moderate	10:56	5.0	Surface	1.0	29.1	29.0	7.9	7.9	16.1	16.1	91.9	91.9	6.5	6.5	4.7	4.8	2.1	3.6
						1.0	28.9		7.9		16.1		91.9		6.4		4.6		2.4	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	29.3	29.1	7.9	7.9	16.1	16.5	93.8	93.7	6.6	6.6	4.9		5.2	
						4.0	28.8		7.9		16.8		93.5		6.6		4.9		4.8	
					Surface	1.0	28.8	28.9	7.9	7.9	16.6	16.5	89.5	89.7	6.3	6.3	4.6	4.8	3.2	3.7
						1.0	28.9		7.9		16.4		89.8		6.3		4.6		2.9	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.4	29.2	29.1	7.9	7.9	17.0	16.7	88.9	89.4	6.2	6.3	5.0		4.5	
						3.4	28.9		7.9		16.4		89.8		6.3		5.0		4.1	
M3	Sunny	Moderate	11:03	6.0	Surface	1.0	28.9	28.9	7.9	7.9	17.0	17.0	88.4	88.4	6.2	6.2	5.9	6.6	3	3
						1.0	28.9		7.9		17.0		88.3		6.2		5.8		3	
					Middle	3.0	28.8	28.9	7.9	7.9	17.1	17.1	87.9	88.2	6.2		6.1		3	
						3.0	28.9		7.9		17.0		88.5		6.2		6.1		4	
					Bottom	5.0	29.0	29.0	7.9	7.9	17.1	17.1	88.0	88.3	6.2	6.2	7.8		4	
						5.0	28.9		7.9		17.0		88.6		6.2		7.9		4	

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Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**



**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 21 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)						
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA					
C1	Sunny	Moderate	09:06	8.4	Surface	1.0	28.2	28.3	8.0	8.0	16.4	16.4	84.5	84.1	6.0	5.7	1.1	1.5	2.4	2.9					
						1.0	28.3		8.0		16.3		83.6		5.9		1.0		2.1						
					Middle	4.2	28.0	28.1	7.8	7.8	18.4	18.2	77.1	76.0	5.4		1.5		2.7						
						4.2	28.2		7.8		18.0		74.9		5.3		1.5		3.0						
					Bottom	7.4	28.1	28.2	7.8	7.9	19.0	18.8	80.5	79.4	5.7	5.6	1.9		3.4						
						7.4	28.2		7.9		18.5		78.2		5.5		2.0		3.6						
					C2	Sunny	Moderate	08:48	9.6	Surface	1.0	28.2	28.3	8.0	8.0	15.5	15.4	85.7	86.6	6.1	5.8	1.0	1.4	2.1	2.5
											1.0	28.3		8.0		15.3		87.5		6.3		1.0		2.3	
Middle	4.8	28.4	28.4	7.9						7.9	17.7	17.7	76.2	75.4	5.4	1.2	2.6								
	4.8	28.3		7.9							17.6		74.5		5.3	1.3	2.5								
Bottom	8.6	28.7	28.5	7.9						7.9	19.0	19.3	83.0	80.9	5.8	5.7	1.8	3.0							
	8.6	28.3		7.9							19.5		78.8		5.5		1.9	2.7							
M1	Sunny	Moderate	08:55	4.8						Surface	1.0	28.5	28.5	8.0	8.0	16.0	16.0	89.6	89.9	6.4	6.4	1.5	1.6	2.9	2.5
											1.0	28.5		8.0		16.0		90.1		6.4		1.4		2.6	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-								
						-	-		-		-		-		-	-	-								
					Bottom	3.8	28.3	28.4	8.0	8.0	16.5	16.3	89.0	89.5	6.3	6.4	1.7	2.4							
						3.8	28.5		8.0		16.0		90.0		6.4		1.7	2.2							
					M2	Sunny	Moderate	08:58	4.4	Surface	1.0	28.5	28.5	8.0	8.0	16.4	16.5	90.6	90.2	6.4	6.4	1.8	2.3	2.1	2.7
											1.0	28.4		8.0		16.5		89.7		6.4		1.8		2.1	
Middle	-	-	-	-						-	-	-	-	-	-	-	-								
	-	-		-							-		-		-	-	-								
Bottom	3.4	28.6	28.5	8.0						8.0	16.5	16.5	91.7	91.0	6.5	6.5	2.7	3.4							
	3.4	28.4		8.0							16.5		90.3		6.4		2.7	3.0							
M3	Sunny	Moderate	09:01	6.2	Surface	1.0	28.2	28.3	8.0	8.0	15.5	15.7	91.3	90.8	6.5	6.1	1.8	2.4	2	3					
						1.0	28.3		8.0		15.8		90.3		6.4		1.8		2						
					Middle	3.1	27.8	28.0	7.9	7.9	17.7	17.0	80.2	80.5	5.7		2.2		3						
						3.1	28.2		7.9		16.3		80.8		5.8		2.2		3						
					Bottom	5.2	27.8	28.0	7.9	7.9	20.4	20.0	83.2	83.3	5.9	5.9	3.1		3						
						5.2	28.2		7.9		19.5		83.4		5.9		3.1		3						

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Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 21 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	12:29	9.2	Surface	1.0	27.7	27.9	8.0	8.0	17.1	17.1	81.5	81.5	5.8	5.8	1.6	2.6	2.8	2.5
						1.0	28.1		8.0		17.1		81.5		5.8		1.5		2.7	
					Middle	4.6	27.5	27.7	7.9	7.9	20.6	20.5	81.1	81.2	5.7		2.2		2.6	
						4.6	27.8		7.9		20.3		81.2		5.7		2.3		2.6	
					Bottom	8.2	27.5	27.7	7.9	7.9	21.1	21.1	82.5	82.5	5.8	5.8	4.0		2.2	
						8.2	27.8		7.9		21.1		82.4		5.8		4.1		2.1	
					Surface	1.0	28.0	28.1	8.0	8.0	18.4	18.4	90.7	92.2	6.4	6.2	1.2	1.5	2.3	2.5
						1.0	28.1		8.0		18.4		93.7		6.6		1.2		2.1	
C2	Sunny	Moderate	12:46	9.0	Middle	4.5	27.9	27.9	7.9	7.9	20.2	19.8	83.3	83.7	5.8		1.5		2.4	
						4.5	27.9		7.9		19.3		84.0		5.9		1.6		2.4	
					Bottom	8.0	28.0	28.0	7.9	8.0	20.7	20.7	87.2	88.3	6.1	6.2	1.7		2.8	
						8.0	28.0		8.0		20.7		89.3		6.2		1.8		2.7	
					Surface	1.0	28.4	28.6	8.0	8.0	17.2	17.2	94.0	93.8	6.7	6.7	1.2	1.5	2.6	2.4
						1.0	28.7		8.0		17.1		93.5		6.6		1.2		2.5	
M1	Sunny	Moderate	12:38	4.8	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	28.2	28.4	7.9	8.0	17.8	17.5	94.4	94.3	6.7	6.7	1.8		2.3	
						3.8	28.5		8.0		17.2		94.2		6.7		1.8		2.2	
					Surface	1.0	28.5	28.7	8.0	8.0	16.6	16.6	99.3	98.2	7.0	6.9	2.2	2.8	3.0	2.5
						1.0	28.8		8.0		16.5		97.0		6.8		2.2		2.6	
M2	Sunny	Moderate	12:41	4.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.0	28.3	28.5	8.0	8.0	16.8	16.7	99.5	99.3	7.1	7.1	3.3		2.1	
						3.0	28.7		8.0		16.5		99.0		7.0		3.3		2.3	
					Surface	1.0	28.3	28.4	8.0	8.0	17.3	17.0	88.1	88.2	6.2	6.1	1.3	2.3	2	2
						1.0	28.5		8.0		16.7		88.2		6.2		1.3		2	
M3	Sunny	Moderate	12:34	6.2	Middle	3.1	28.3	28.4	7.9	8.0	17.7	17.3	85.3	85.3	6.0		2.5		2	
						3.1	28.4		8.0		16.9		85.3		6.0		2.4		2	
					Bottom	5.2	28.3	28.3	7.9	8.0	17.9	17.6	86.3	86.5	6.1	6.1	3.1		3	
						5.2	28.3		8.0		17.2		86.6		6.1		3.1		2	

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Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 23 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	10:23	8.2	Surface	1.0	29.9	29.8	8.2	8.2	9.6	9.8	97.6	97.4	7.0	6.6	1.0	1.4	3.1	3.4
						1.0	29.6		8.2		10.0		97.1		7.0		1.0		3.0	
					Middle	4.1	27.1	27.0	7.7	7.7	23.0	23.2	88.4	88.5	6.1		1.1		3.6	
						4.1	26.9		7.7		23.3		88.6		6.2		1.1		3.3	
					Bottom	7.2	27.0	27.0	7.7	7.7	23.1	23.2	82.9	82.7	5.8	5.8	2.0		4.0	
						7.2	27.0		7.7		23.3		82.5		5.7		2.0		3.5	
C2	Sunny	Moderate	10:04	9.4	Surface	1.0	29.6	29.6	8.2	8.2	10.2	10.4	106.4	106.4	7.7	6.8	1.0	1.5	3.2	2.7
						1.0	29.6		8.2		10.5		106.4		7.6		1.0		3.4	
					Middle	4.7	27.0	27.0	7.7	7.7	22.8	22.8	83.2	83.2	5.9		1.6		2.6	
						4.7	27.0		7.7		22.8		83.1		5.8		1.5		2.8	
					Bottom	8.4	26.9	27.0	7.7	7.7	23.7	23.5	83.9	83.7	5.9	5.9	1.8		2.1	
						8.4	27.0		7.7		23.3		83.4		5.8		1.8		2.3	
M1	Sunny	Moderate	10:12	4.4	Surface	1.0	29.4	29.4	8.2	8.2	12.4	12.4	109.2	109.2	7.8	7.8	1.0	1.1	2.3	2.5
						1.0	29.3		8.1		12.4		109.1		7.7		1.0		2.1	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.4	29.3	29.4	8.0	8.0	16.4	16.4	107.7	107.6	7.6	7.6	1.3		3.0	
						3.4	29.4		7.9		16.3		107.4		7.5		1.2		2.6	
M2	Sunny	Moderate	10:15	4.2	Surface	1.0	29.0	29.1	8.1	8.1	13.0	13.1	102.7	102.4	7.4	7.4	1.5	1.9	2.7	2.9
						1.0	29.1		8.1		13.1		102.0		7.3		1.6		2.6	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.2	29.0	29.0	7.8	7.9	18.9	18.9	96.9	96.8	6.8	6.8	2.2		3.0	
						3.2	29.0		7.9		18.8		96.6		6.7		2.1		3.4	
M3	Sunny	Moderate	10:19	6.0	Surface	1.0	27.8	27.8	8.2	8.2	15.1	15.2	108.6	108.0	7.9	7.0	1.9	3.4	3	3
						1.0	27.8		8.2		15.2		107.4		7.8		1.8		3	
					Middle	3.0	27.6	27.6	8.0	8.0	16.5	16.3	86.2	86.2	6.1		3.5		2	
						3.0	27.6		8.0		16.1		86.1		6.2		3.6		3	
					Bottom	5.0	27.0	27.2	7.7	7.8	23.3	23.4	85.6	85.6	6.0	6.0	4.8		2	
						5.0	27.4		7.9		23.4		85.6		6.0		4.8		2	

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**Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Road**

**Water Quality Monitoring**

**Water Quality Monitoring Results on 23 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Sunny	Moderate	15:29	9.2	Surface	1.0	31.0	30.8	8.4	8.4	8.6	8.7	117.6	117.7	8.3	7.8	1.1	1.5	4.0	3.3
						1.0	30.6		8.4		8.7		117.8		8.3		1.1		3.6	
					Middle	4.6	30.1	30.0	8.3	8.4	10.2	10.2	102.4	102.4	7.3		1.2		3.4	
						4.6	29.9		8.4		10.2		102.4		7.2		1.2		3.2	
					Bottom	8.2	27.1	27.3	7.8	7.9	14.5	14.6	96.7	96.7	7.0	7.0	2.0		2.8	
						8.2	27.5		7.9		14.6		96.7		7.0		2.1		3.0	
					Surface	1.0	30.7	30.5	8.4	8.4	18.7	18.7	126.5	126.7	8.4	7.8	1.1	1.7	3.4	2.8
						1.0	30.2		8.4		18.7		126.8		8.5		1.0		3.5	
C2	Sunny	Moderate	15:47	9.0	Middle	4.5	28.1	27.9	7.9	7.9	19.4	19.4	100.4	100.8	6.9		1.4		2.6	
						4.5	27.6		7.9		19.4		101.1		7.2		1.4		2.7	
					Bottom	8.0	27.3	27.6	7.8	7.8	21.9	21.9	98.6	98.3	6.8	6.8	2.5		2.3	
						8.0	27.8		7.8		21.9		98.0		6.8		2.5		2.1	
					Surface	1.0	30.6	30.6	8.4	8.4	11.2	11.2	99.8	99.8	7.0	7.0	1.5	1.9	2.4	2.6
						1.0	30.6		8.4		11.2		99.7		6.9		1.4		2.2	
M1	Sunny	Moderate	15:37	4.8	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	30.6	30.6	8.4	8.4	12.8	12.9	101.2	101.3	7.1	7.1	2.3		2.7	
						3.8	30.6		8.3		12.9		101.4		7.1		2.2		3.0	
					Surface	1.0	30.5	30.5	8.5	8.5	10.9	10.5	114.1	114.2	8.0	8.1	2.0	2.4	2.3	2.6
						1.0	30.5		8.4		10.1		114.2		8.1		2.0		2.4	
M2	Sunny	Moderate	15:40	4.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.0	30.5	30.6	8.3	8.3	12.6	12.6	127.3	127.4	8.9	8.9	2.8		2.6	
						3.0	30.6		8.2		12.6		127.4		8.8		2.8		2.9	
M3	Sunny	Moderate	15:33	6.2	Surface	1.0	30.2	30.2	8.4	8.4	9.2	9.2	138.9	138.9	10.0	9.5	4.6	6.1	3	2
						1.0	30.2		8.4		9.2		138.9		9.8		4.6		3	
					Middle	3.1	29.6	29.6	8.4	8.4	10.1	10.1	126.2	126.2	9.1		6.5		2	
						3.1	29.6		8.3		10.1		126.1		9.0		6.6		2	
					Bottom	5.2	29.6	29.6	8.1	8.1	16.5	16.5	112.8	112.4	7.8	7.8	7.0		2	
						5.2	29.6		8.0		16.4		112.0		7.8		7.1		2	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**

**Airport City Link**  
**Water Quality Monitoring**

**Water Quality Monitoring Results on 26 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Fine	Moderate	11:15	10.4	Surface	1.0	29.5	29.7	8.3	8.4	18.6	18.1	119.5	120.7	8.2	6.0	3.5	5.8	2.8	3.1
						1.0	29.8		8.4		17.6		121.8		8.4		3.4		2.5	
					Middle	5.2	27.3	27.3	7.9	7.9	25.5	25.6	52.1	53.0	3.6		4.7		3.2	
						5.2	27.3		7.9		25.6		53.8		3.7		4.9		3.0	
					Bottom	9.4	26.3	26.3	7.9	7.9	28.9	28.9	51.5	51.4	3.5	3.5	9.2		3.4	
						9.4	26.3		7.9		28.9		51.2		3.5		9.3		3.6	
					Surface	1.0	30.0	29.9	8.4	8.4	17.4	17.4	128.4	128.5	8.8	7.3	3.4	4.6	3.1	3.5
						1.0	29.8		8.4		17.4		128.5		8.9		3.4		3.2	
C2	Fine	Moderate	11:42	10.1	Middle	5.1	27.6	28.2	8.0	8.1	24.1	22.3	84.5	84.1	5.8		4.4		3.4	
						5.1	28.8		8.2		20.5		83.6		5.8		4.4		3.6	
					Bottom	9.1	26.7	26.7	8.0	8.0	27.9	27.9	56.7	58.0	3.9	4.0	6.0		3.9	
						9.1	26.7		8.0		27.8		59.3		4.1		5.9		3.7	
					Surface	1.0	29.6	29.6	8.4	8.4	18.4	18.7	128.0	127.8	8.8	8.8	5.4	6.4	2.6	2.1
						1.0	29.6		8.4		19.0		127.5		8.7		5.4		2.3	
M1	Fine	Calm	11:30	5.6	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.6	29.0	29.2	8.3	8.3	20.0	20.0	111.6	111.7	7.7	7.7	7.5		1.7	
						4.6	29.3		8.3		19.9		111.7		7.7		7.3		1.8	
					Surface	1.0	29.9	29.9	8.4	8.4	18.1	18.0	125.6	125.0	8.6	8.6	9.3	10.3	2.1	2.5
						1.0	29.9		8.4		17.9		124.3		8.5		9.1		2.3	
M2	Fine	Calm	11:34	5.3	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.3	27.9	27.9	8.1	8.1	24.5	24.3	75.6	77.8	5.2	5.4	11.5		2.9	
						4.3	27.9		8.1		24.1		79.9		5.5		11.3		2.7	
M3	Fine	Moderate	11:24	6.2	Surface	1.0	29.4	29.4	8.4	8.4	18.3	18.5	124.5	123.1	8.6	7.6	4.2	6.1	2	3
						1.0	29.3		8.4		18.7		121.7		8.4		4.1		3	
					Middle	3.1	28.7	28.6	8.2	8.2	21.4	21.6	97.1	96.5	6.7		5.5		3	
						3.1	28.4		8.2		21.7		95.9		6.6		5.3		3	
					Bottom	5.2	27.8	27.8	8.1	8.1	24.5	24.7	78.0	79.7	5.4	5.5	8.8		3	
						5.2	27.7		8.1		24.8		81.4		5.6		8.7		3	

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**Airport City Link**  
**Water Quality Monitoring**

**Water Quality Monitoring Results on 26 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)						
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA					
C1	Fine	Moderate	05:06	10.8	Surface	1.0	29.5	29.4	8.5	8.5	17.1	17.2	128.1	127.8	8.8	6.9	3.3	3.9	3.9	3.3					
						1.0	29.3		8.4		17.2		127.5		8.8		3.3								
					Middle	5.4	26.7	26.7	8.0	8.0	26.0	26.1	71.4	72.0	4.9		4.1		3.1						
						5.4	26.7		8.0		26.2		72.5		5.0		3.9		3.3						
					Bottom	9.8	25.5	25.6	8.0	8.0	29.8	29.8	55.5	57.4	3.8	4.0	4.0		3.0						
						9.8	25.6		8.0		29.7		59.3		4.1	4.7	2.8								
					C2	Fine	Moderate	04:40	9.6	Surface	1.0	29.5	29.5	8.5	8.5	17.2	17.1	138.2	137.6	9.5	8.5	2.9	4.8	2.5	2.8
											1.0	29.5		8.5		17.0		137.0		9.4		3.0		2.2	
Middle	4.8	28.6	28.7	8.3						8.3	20.0	19.9	107.7	108.5	7.4	4.1	2.7								
	4.8	28.7		8.3							19.8		109.3		7.5	4.2	2.8								
Bottom	8.6	25.2	25.2	7.9						7.9	30.6	30.7	62.7	62.2	4.3	7.1	3.5								
	8.6	25.2		7.9							30.8		61.7		4.2	7.2	3.2								
M1	Fine	Calm	04:54	5.7						Surface	1.0	29.1	29.1	8.4	8.4	18.5	18.5	124.0	123.1	8.5	8.5	4.8	5.4	2.7	3.2
											1.0	29.0		8.4		18.5		122.2		8.4		4.9		3.0	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-								
						-	-		-		-		-		-	-	-								
					Bottom	4.7	27.8	28.1	8.1	8.2	22.8	22.5	92.9	94.6	6.4	6.5	6.0	3.3							
						4.7	28.3		8.2		22.2		96.3		6.6		6.0	3.7							
					M2	Fine	Calm	04:50	5.8	Surface	1.0	29.5	29.6	8.4	8.4	17.7	17.6	126.1	127.8	8.7	8.8	3.1	4.6	2.4	2.9
											1.0	29.7		8.4		17.4		129.5		8.9		3.3		2.7	
Middle	-	-	-	-						-	-	-	-	-	-	-	-								
	-	-		-							-		-		-	-	-								
Bottom	4.8	27.2	27.6	7.9						8.0	26.6	24.7	62.7	63.8	4.3	4.4	6.0	3.1							
	4.8	27.9		8.1							22.7		64.8		4.4		6.0	3.4							
M3	Fine	Calm	05:00	6.5						Surface	1.0	29.2	29.3	8.4	8.4	18.6	18.5	127.7	127.8	8.8	8.6	4.3	6.6	4	3
											1.0	29.3		8.4		18.4		127.9		8.8		4.5		4	
					Middle	3.3	29.1	29.1	8.4	8.4	18.9	18.9	120.4	120.8	8.3	6.0	3								
						3.3	29.1		8.4		18.8		121.2		8.3	5.9	3								
					Bottom	5.5	27.4	27.2	8.0	8.0	24.6	25.0	70.2	68.9	4.8	4.7	9.6	2							
						5.5	27.0		8.0		25.4		67.6		4.6		9.4	3							

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**Airport City Link**  
**Water Quality Monitoring**

**Water Quality Monitoring Results on 28 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Fine	Moderate	11:57	10.9	Surface	1.0	28.7	28.7	8.1	8.1	18.0	18.2	88.8	88.8	6.2	6.1	3.1	4.6	1.9	2.4
						1.0	28.7		8.1		18.4		88.7		6.2		3.0		1.8	
					Middle	5.5	28.7	28.7	8.1	8.1	18.6	18.6	85.6	86.3	6.0		4.4		2.6	
						5.5	28.7		8.1		18.5		86.9		6.1		4.2		2.3	
					Bottom	9.9	26.0	26.2	8.0	8.0	26.9	26.6	66.1	67.3	4.6	4.7	6.4		3.1	
						9.9	26.3		8.0		26.2		68.5		4.8		6.2		2.8	
					Surface	1.0	29.0	29.0	8.2	8.2	16.7	16.8	97.0	97.5	6.8	6.4	2.6	3.6	2.1	2.5
						1.0	28.9		8.1		16.9		97.9		6.9		2.7		2.2	
C2	Fine	Moderate	12:19	9.9	Middle	5.0	28.6	28.6	8.1	8.1	18.7	18.6	82.4	83.5	5.8		3.6		2.4	
						5.0	28.6		8.1		18.5		84.5		5.9		3.5		2.6	
					Bottom	8.9	26.8	26.7	8.1	8.1	24.3	25.1	68.4	68.7	4.8	4.8	4.6		2.8	
						8.9	26.5		8.0		25.8		68.9		4.8		4.6		3.0	
					Surface	1.0	28.7	28.6	8.1	8.1	19.2	19.3	91.7	91.6	6.4	6.4	2.9	4.2	2.5	2.5
						1.0	28.4		8.1		19.4		91.4		6.4		3.1		2.9	
M1	Fine	Calm	12:06	5.5	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.5	27.9	28.2	8.1	8.1	21.5	21.7	75.3	75.4	5.2	5.2	5.5		2.1	
						4.5	28.5		8.1		21.8		75.5		5.2		5.4		2.3	
					Surface	1.0	28.8	28.9	8.1	8.2	19.3	19.2	96.0	96.6	6.7	6.7	2.4	3.5	2.2	2.0
						1.0	28.9		8.2		19.0		97.1		6.7		2.3		2.4	
M2	Fine	Calm	12:10	5.2	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.2	28.6	28.8	8.1	8.2	19.8	19.5	87.8	88.2	6.1	6.1	4.6		1.8	
						4.2	28.9		8.2		19.2		88.5		6.1		4.5		1.6	
M3	Fine	Moderate	12:02	6.5	Surface	1.0	28.7	28.6	8.2	8.2	19.3	19.1	93.8	93.2	6.5	6.1	2.4	3.5	2	2
						1.0	28.5		8.1		18.9		92.5		6.5		2.5		2	
					Middle	3.3	28.4	28.2	8.1	8.1	19.9	20.2	80.7	81.9	5.6		3.7		2	
						3.3	28.0		8.1		20.5		83.1		5.8		3.6		2	
					Bottom	5.5	26.8	26.8	8.0	8.0	25.4	25.1	69.8	71.5	4.8	5.0	4.3		3	
						5.5	26.8		8.0		24.8		73.2		5.1		4.4		2	
					Surface	1.0	28.7	28.6	8.2	8.2	19.3	19.1	93.8	93.2	6.5		2.4		2	
						1.0	28.5		8.1		18.9		92.5		6.5		2.5		2	

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**Airport City Link**  
**Water Quality Monitoring**

**Water Quality Monitoring Results on 28 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Fine	Moderate	06:55	11.4	Surface	1.0	29.0	29.1	8.2	8.2	18.5	18.5	95.5	95.4	6.6	5.5	3.9	4.2	1.8	2.2
						1.0	29.1		8.2		18.4		95.3		6.6		3.8		1.6	
					Middle	5.7	26.0	26.1	8.0	8.0	26.5	26.0	61.4	62.4	4.3		4.8		2.2	
						5.7	26.1		8.0		25.5		63.4		4.4		4.7		2.3	
					Bottom	10.4	25.8	25.8	8.0	8.0	27.0	27.0	57.4	58.2	4.0	4.1	4.0		2.6	
						10.4	25.8		8.0		26.9		59.0		4.1		3.9		2.5	
					Surface	1.0	28.7	28.8	8.2	8.2	18.8	18.7	97.7	97.5	6.8	5.4	3.9	6.6	2.1	2.7
						1.0	28.8		8.2		18.6		97.2		6.8		3.8		2.3	
C2	Fine	Moderate	06:31	10.3	Middle	5.2	25.6	25.5	8.0	8.0	27.4	27.6	56.1	56.1	3.9		7.3		2.6	
						5.2	25.4		7.9		27.8		56.0		3.9		7.4		2.8	
					Bottom	9.3	25.1	25.1	7.9	7.9	28.6	28.6	50.5	52.2	3.5	3.7	8.6		3.3	
						9.3	25.1		7.9		28.6		53.8		3.8		8.5		3.0	
M1	Fine	Calm	06:45	5.6	Surface	1.0	28.8	28.8	8.1	8.1	19.1	19.2	84.1	82.5	5.8	5.7	3.9	6.1	1.8	2.0
						1.0	28.7		8.1		19.2		80.8		5.6		4.2		1.6	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.6	26.1	26.2	7.9	8.0	26.2	26.0	59.1	60.7	4.1	4.2	8.1		2.3	
						4.6	26.3		8.0		25.7		62.2		4.3		8.0		2.2	
M2	Fine	Calm	06:42	5.4	Surface	1.0	28.9	28.9	8.1	8.1	18.7	18.8	81.5	81.1	5.7	5.7	5.2	6.4	2.5	2.5
						1.0	28.8		8.1		18.8		80.6		5.6		5.3		2.8	
					Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.4	26.3	26.3	7.9	8.0	25.9	25.6	61.6	61.5	4.3	4.3	7.5		2.3	
						4.4	26.3		8.0		25.3		61.4		4.3		7.4		2.2	
M3	Fine	Calm	06:50	6.7	Surface	1.0	28.5	28.4	8.1	8.1	19.6	19.4	82.3	82.9	5.7	5.3	4.5	7.0	3	2
						1.0	28.2		8.1		19.2		83.4		5.8		4.3		3	
					Middle	3.4	26.1	26.8	8.0	8.0	26.3	24.2	67.9	68.5	4.7		6.4		2	
						3.4	27.5		8.0		22.1		69.1		4.8		6.3		2	
					Bottom	5.7	25.8	25.8	7.9	8.0	27.1	27.1	58.5	60.2	4.1	4.2	10.2		2	
						5.7	25.8		8.0		27.0		61.9		4.3		10.3		2	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**



**Airport City Link**  
**Water Quality Monitoring**

**Water Quality Monitoring Results on 30 July 22 during Mid-Ebb Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Misty	Moderate	12:33	9.2	Surface	1.0	27.6	27.7	7.9	7.9	23.0	22.9	65.4	65.3	4.5	4.5	2.8	3.3	2.4	2.7
						1.0	27.8		7.9		22.8		65.1		4.4		2.7		2.1	
					Middle	4.6	26.0	26.1	7.9	7.9	27.1	27.0	65.9	65.6	4.6		3.1		2.7	
						4.6	26.1		7.9		26.8		65.3		4.6		3.1		2.9	
					Bottom	8.2	26.2	26.4	7.9	7.9	27.3	27.1	70.0	70.1	4.9	4.9	4.0		3.2	
						8.2	26.6		7.9		26.8		70.2		4.9		4.0		3.0	
					Surface	1.0	27.9	27.7	8.0	8.0	22.6	22.7	71.8	71.8	5.0	5.1	1.5	2.3	1.9	2.1
						1.0	27.4		8.0		22.8		71.8		5.0		1.4		1.6	
C2	Misty	Moderate	12:55	9.0	Middle	4.5	25.6	26.1	8.0	8.0	27.8	26.8	75.6	75.6	5.2		2.3		2.0	
						4.5	26.5		8.0		25.7		75.6		5.2		2.3		2.1	
					Bottom	8.0	25.9	26.0	8.0	8.0	27.9	27.6	74.7	74.5	5.2	5.2	3.2		2.4	
						8.0	26.0		8.0		27.2		74.3		5.1		3.2		2.7	
					Surface	1.0	27.4	27.8	8.0	8.0	22.7	22.5	78.6	78.5	5.5	5.5	3.1	3.6	1.4	1.8
						1.0	28.1		8.0		22.2		78.4		5.4		3.1		1.3	
M1	Misty	Moderate	12:42	4.8	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.8	26.7	27.2	7.9	8.0	25.6	25.6	80.1	80.2	5.5	5.5	4.0		2.3	
						3.8	27.6		8.0		25.5		80.2		5.4		4.0		2.1	
					Surface	1.0	28.4	28.1	7.9	7.9	21.2	21.5	81.1	81.2	5.5	5.6	3.4	3.8	2.2	2.0
						1.0	27.8		7.9		21.7		81.2		5.6		3.5		2.1	
M2	Misty	Moderate	12:45	4.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	3.0	26.0	25.9	7.9	8.0	27.3	27.5	80.3	80.3	5.6	5.6	4.1		1.6	
						3.0	25.8		8.0		27.6		80.2		5.5		4.1		1.9	
M3	Misty	Moderate	12:37	6.2	Surface	1.0	27.8	27.3	7.9	7.9	22.7	23.2	66.6	66.4	4.6	4.6	2.3	3.1	1	2
						1.0	26.8		7.9		23.7		66.1		4.6		2.3		2	
					Middle	3.1	25.7	25.8	7.9	7.9	27.5	27.2	65.9	65.6	4.6		3.0		2	
						3.1	25.9		7.9		26.9		65.3		4.5		3.0		2	
					Bottom	5.2	25.7	25.7	7.9	7.9	27.8	27.8	70.1	70.4	4.9	4.9	4.1		3	
						5.2	25.7		7.9		27.8		70.7		4.9		4.1		3	

DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

**Airport City Link**  
**Water Quality Monitoring**

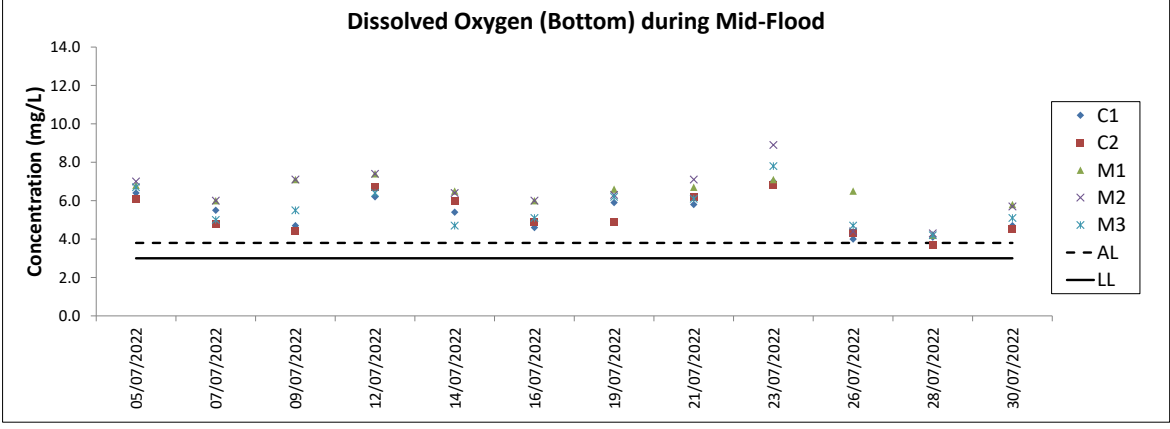
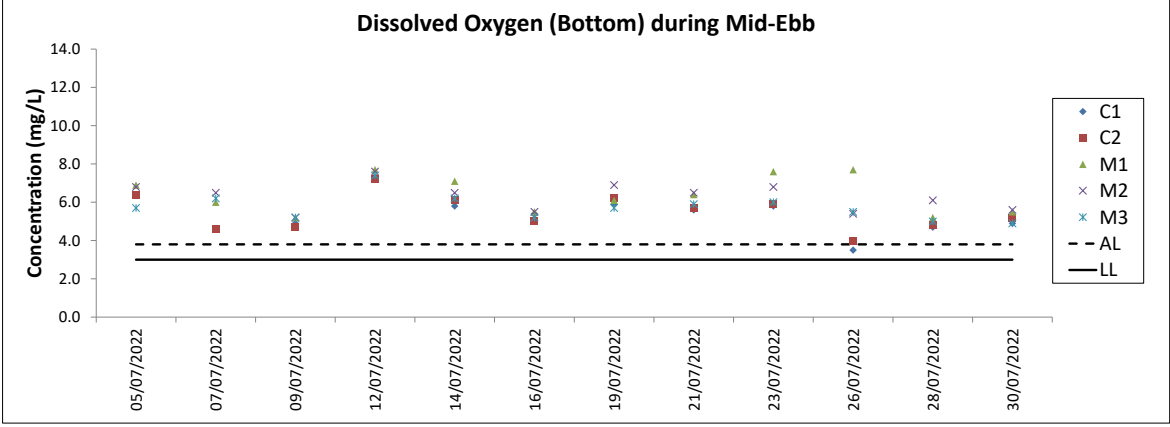
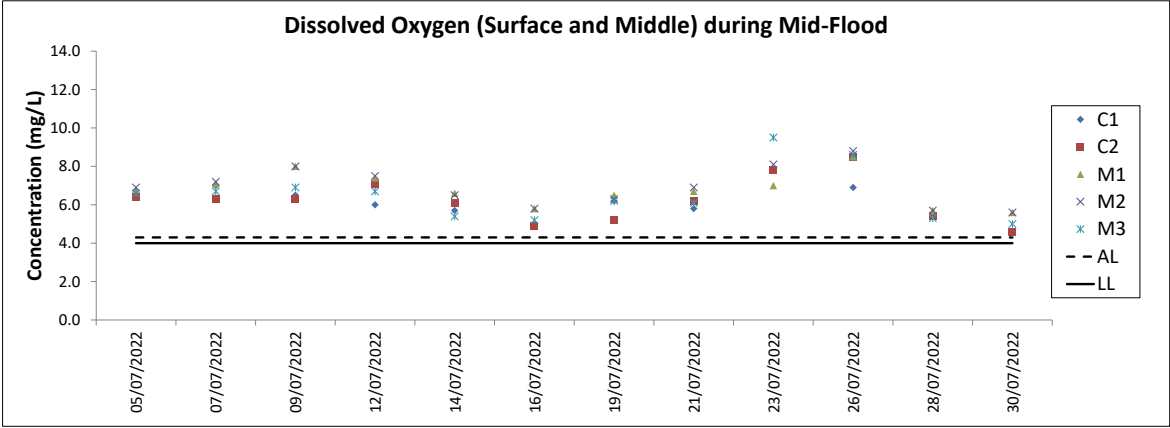
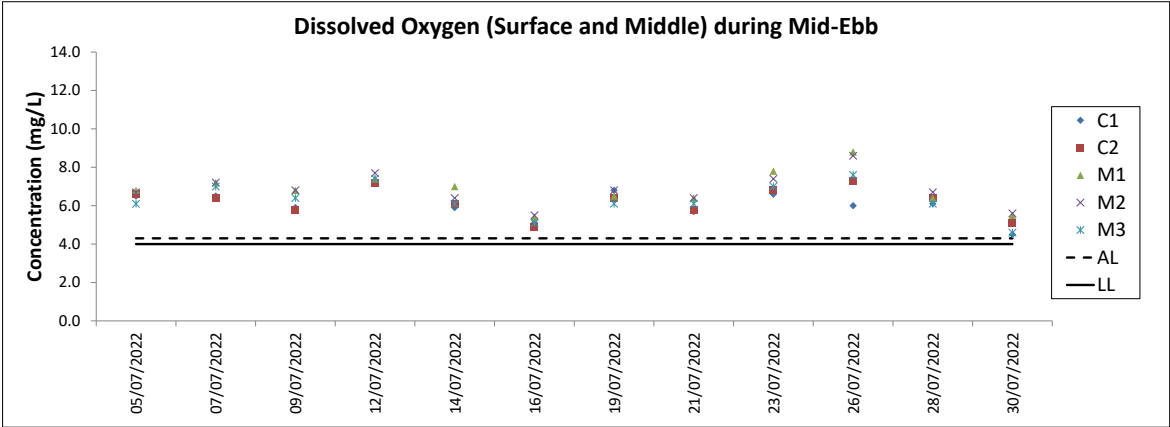
**Water Quality Monitoring Results on 30 July 22 during Mid-Flood Tide**

Monitoring Station	Weather Condition	Sea Condition	Sampling Time	Water Depth (m)	Sampling Depth (m)		Water Temperature (°C)		pH		Salinity (ppt)		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	DA	Value	DA	Value	DA
C1	Misty	Moderate	08:36	8.2	Surface	1.0	27.7	27.6	8.0	8.0	22.7	22.9	65.5	65.5	4.5	4.5	1.4	2.4	3.4	2.7
						1.0	27.5		8.0		23.1		65.5		4.5		1.4		3.6	
					Middle	4.1	26.1	26.2	8.0	8.0	26.8	26.7	64.5	64.3	4.5		2.6		3.0	
						4.1	26.3		8.0		26.5		64.1		4.4		2.6		2.7	
					Bottom	7.2	26.1	26.4	8.0	8.0	26.9	26.7	68.6	68.5	4.8	4.7	3.0		1.8	
						7.2	26.7		8.0		26.5		68.3		4.6		3.3		1.5	
					Surface	1.0	26.9	27.0	8.0	8.0	24.3	24.2	67.4	67.2	4.7	4.6	2.6	3.3	1.9	2.6
						1.0	27.1		8.0		24.1		67.0		4.6		2.7		1.7	
C2	Misty	Moderate	08:12	9.4	Middle	4.7	26.4	26.4	8.0	8.0	25.0	25.6	66.4	65.9	4.7		3.2		2.5	
						4.7	26.3		8.0		26.2		65.4		4.5		3.2		2.3	
					Bottom	8.4	26.1	25.9	7.9	8.0	27.8	27.9	63.1	63.2	4.4	4.5	4.0		3.5	
						8.4	25.7		8.0		27.9		63.3		4.5		4.0		3.7	
					Surface	1.0	28.7	28.7	8.0	8.0	20.8	20.7	81.8	81.7	5.7	5.6	2.5	2.8	2.4	2.1
						1.0	28.7		8.0		20.6		81.5		5.5		2.6		2.4	
M1	Misty	Moderate	08:25	5.0	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.0	28.3	28.5	8.0	8.0	20.9	20.9	84.3	84.3	5.8	5.8	3.0		1.8	
						4.0	28.6		8.0		20.9		84.2		5.7		3.0		1.6	
					Surface	1.0	28.4	28.6	8.0	8.0	20.9	20.7	80.5	80.6	5.6	5.6	1.4	2.1	3.1	2.5
						1.0	28.7		8.0		20.5		80.6		5.6		1.4		2.7	
M2	Misty	Moderate	08:28	5.6	Middle	-	-	-	-	-	-	-	-	-	-		-		-	
						-	-		-		-		-		-		-		-	
					Bottom	4.6	28.2	28.4	8.0	8.0	21.4	21.8	82.9	82.4	5.8	5.7	2.7		2.2	
						4.6	28.6		8.0		22.2		81.9		5.6		2.7		2.1	
					Surface	1.0	28.8	28.3	8.0	8.0	20.5	20.9	72.9	72.6	5.0	5.0	2.3	3.3	4	3
						1.0	27.8		8.0		21.2		72.3		4.9		2.3		4	
M3	Misty	Moderate	08:32	6.0	Middle	3.0	26.6	26.5	8.0	8.0	24.0	24.9	71.6	71.6	5.0		3.4		3	
						3.0	26.4		8.0		25.8		71.6		4.9		3.4		3	
					Bottom	5.0	26.4	26.3	8.0	8.0	26.4	26.6	74.0	74.1	5.1	5.1	4.1		2	
						5.0	26.2		8.0		26.8		74.1		5.1		4.2		2	

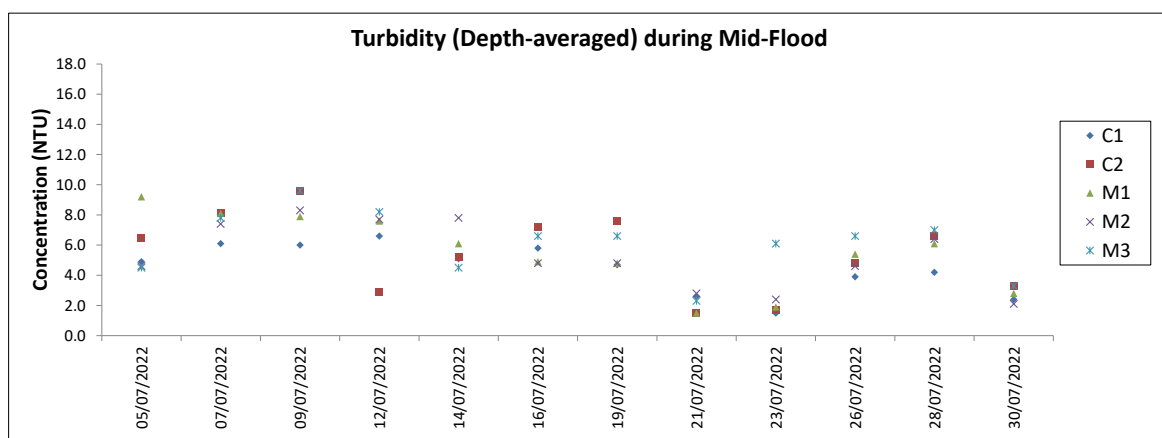
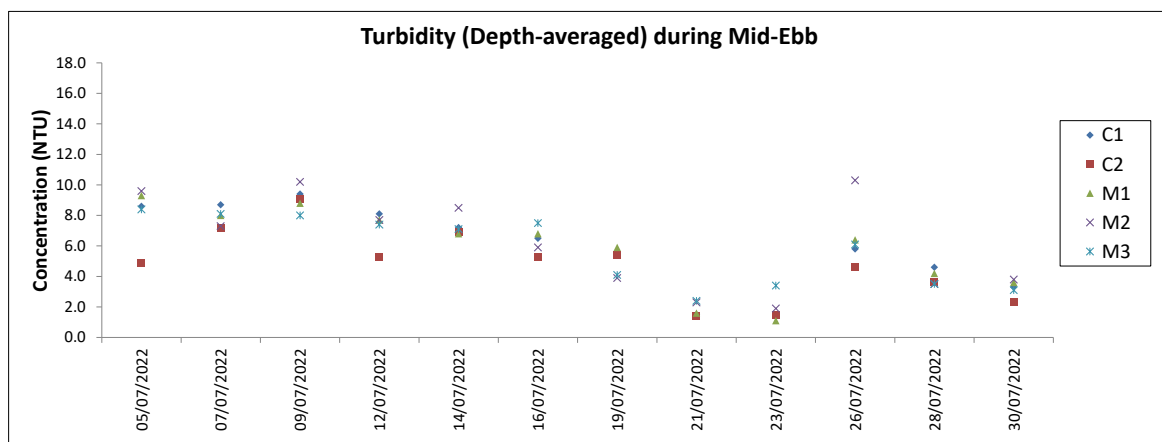
DA: Depth-averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

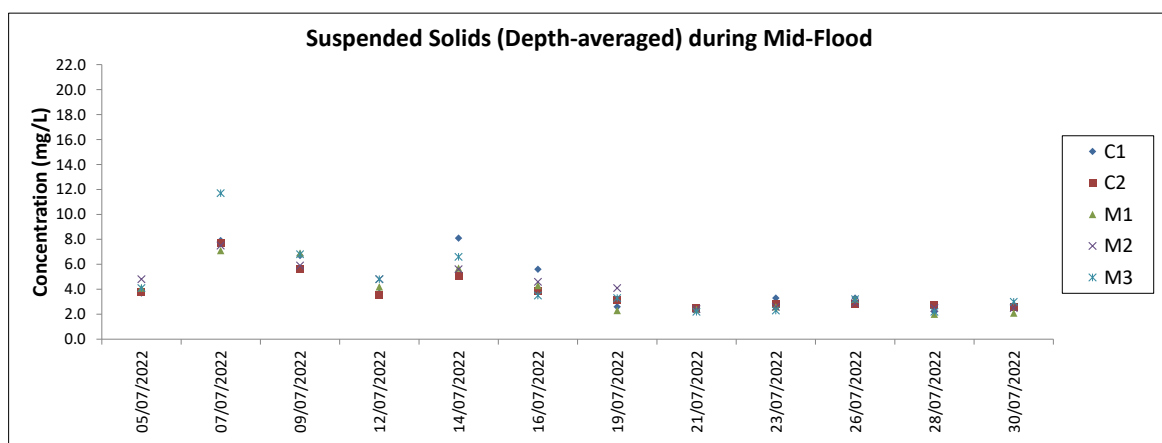
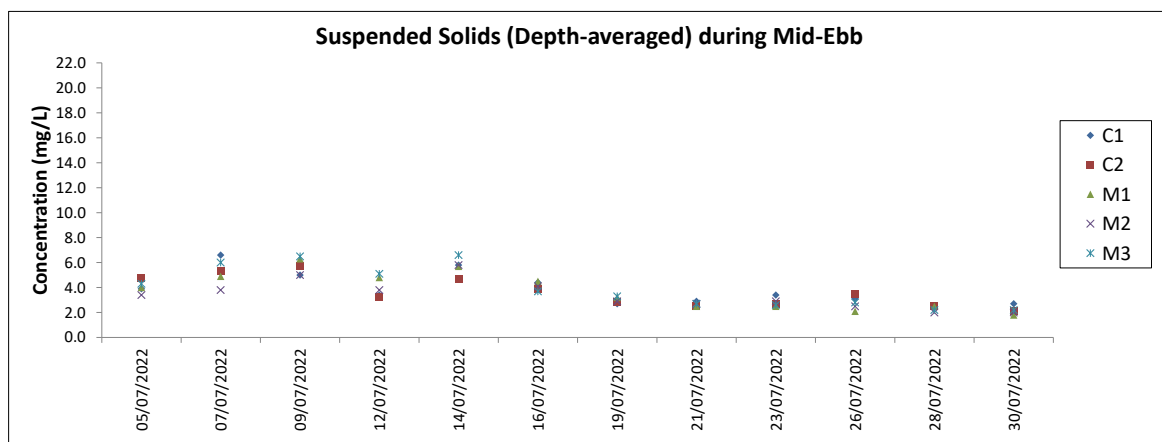
Value exceeding Action Level is underlined; **Value exceeding Limit Level is bolded and underlined**



Note: The Action and Limit Level of dissolved oxygen can be referred to Table 2.3 of the monthly EM&A report.  
Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.  
Weather conditions during monitoring are presented in the data tables above.  
QA/ QC requirements as stipulated in the EM&A Manual were carried out during measurement.  
The water quality monitoring on 2 Jul 2022 was cancelled due to Signal No. 8 SouthEast in force.



Note: The Action and Limit Level of turbidity can be referred to Table 2.3 of the monthly EM&A report.  
Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.  
Weather conditions during monitoring are presented in the data tables above.  
QA/ QC requirements as stipulated in the EM&A Manual were carried out during measurement.  
The water quality monitoring on 2 Jul 2022 was cancelled due to Signal No. 8 SouthEast in force.



Note: The Action and Limit Level of suspended solids can be referred to Table 2.3 of the monthly EM&A report.  
 Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.  
 Weather conditions during monitoring are presented in the data tables above.  
 QA/ QC requirements as stipulated in the EM&A Manual were carried out during measurement.  
 The water quality monitoring on 2 Jul 2022 was cancelled due to Signal No. 8 SouthEast in force.

# Appendix H. Waste Flow Table

**AAHK Contract No. 19W10 Intermodal Transfer Terminal - Bonded Vehicular Bridge and Associated Roads**  
**Monthly Waste Flow Table**

Month	Excavated Waste (tonnes)	Actual Quantities of Inert C&D Materials (excluding excavated waste) (tonnes) e.g. broken concrete					Actual Quantities of Non-inert C&D Waste (tonnes)						
		(a) Total inert C&D material generated (a) = (b) + (c) + (d) + (e)	(b) Reused in contract	(c) Reused in other projects	(d) Sent to recycling company	(e) Disposed to public fill	(f) Recycled scrap metal	(g) Reused / recycled timber	(h) Chemical waste	(i) Other waste disposed to landfill	(j) Total non-inert C&D material generated (j) = (f) + (g) + (h) + (i)	(k) Total recyclable waste (k) = (b) + (c) + (d) + (f) + (g)	(l) Total construction waste generated (l) = (a) + (j)
Jul-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.04	4.04	0.00	4.04
Oct-20	740.49	740.49	0.00	0.00	0.00	740.49	0.00	0.00	0.00	3.55	3.55	0.00	744.04
Nov-20	574.90	574.90	0.00	0.00	0.00	574.90	0.00	0.00	0.00	6.76	6.76	0.00	581.66
Dec-20	536.08	536.08	0.00	0.00	0.00	536.08	0.00	0.00	0.00	2.33	2.33	0.00	538.41
Jan-21	1778.61	1778.61	0.00	0.00	0.00	1778.61	0.00	0.00	0.00	5.33	5.53	0.00	1784.14
Feb-21	4031.66	4031.66	0.00	2832.32	0.00	1199.34	0.00	0.00	0.00	4.40	4.40	2832.32	4036.06
Mar-21	1921.26	1921.26	0.00	419.77	0.00	1501.49	0.00	0.00	0.00	12.28	12.28	419.77	1933.54
Apr-21	3929.82	3929.82	0.00	1702.03	0.00	2227.79	0.00	0.00	0.00	26.48	26.48	1702.03	3956.30
May-21	2062.98	2062.98	0.00	1694.52	0.00	368.46	0.00	0.00	0.00	12.63	12.63	1694.52	2075.61
Jun-21	5098.30	5098.30	0.00	4446.42	0.00	651.88	0.00	0.00	0.54	23.41	23.95	4446.42	5122.25
Jul-21	6868.66	6868.66	0.00	6440.45	0.00	428.21	0.00	0.00	0.00	12.92	12.92	6440.45	6881.58
Aug-21	6884.63	6884.63	0.00	5662.00	0.00	1222.63	8.56	0.00	1.08	38.91	48.55	5670.56	6933.18
Sep-21	3949.49	3949.49	0.00	2798.89	0.00	1150.60	0.00	0.00	0.00	15.66	15.66	2798.89	3965.15
Oct-21	389.98	389.98	0.00	235.10	0.00	154.88	6.20	0.00	0.00	15.48	21.68	241.30	411.66
Nov-21	1926.96	1926.96	285.00	650.00	0.00	991.96	13.78	0.00	0.00	16.18	29.96	948.78	1956.92
Dec-21	672.20	672.20	240.00	0.00	0.00	432.20	0.00	0.00	0.00	17.40	17.40	240.00	689.60
Jan-22	584.00	584.00	584.00	0.00	0.00	0.00	6.03	0.00	0.00	22.17	28.20	590.03	612.20
Feb-22	1056.52	1056.52	378.00	240.26	0.00	438.26	0.00	0.00	0.00	33.95	33.95	618.26	1090.47
Mar-22	1426.34	1426.34	0.00	1199.88	0.00	226.46	0.00	0.00	0.00	38.49	38.49	1199.88	1464.83
Apr-22	68.10	68.10	0.00	0.00	0.00	68.10	0.00	0.00	0.00	50.11	50.11	0.00	118.21
May-22	366.14	366.14	0.00	0.00	0.00	366.14	0.00	0.00	0.00	55.50	55.50	0.00	421.64
Jun-22	5998.31	5998.31	0.00	3943.50	0.00	2054.81	0.00	0.00	0.72	74.26	74.98	3943.50	6073.29
Jul-22	6451.17	6451.17	2116.46	3561.75	0.00	772.96	0.00	0.00	0.00	81.66	81.66	5678.21	6532.83
<b>Total</b>	<b>57316.60</b>	<b>57316.60</b>	<b>3603.46</b>	<b>35826.89</b>	<b>0.00</b>	<b>17886.25</b>	<b>34.57</b>	<b>0.00</b>	<b>2.34</b>	<b>573.90</b>	<b>611.01</b>	<b>39464.92</b>	<b>57927.61</b>

\*Chemical waste, Wasted oil density 0.9kg/L

## **Appendix I. Status of Environmental Permits and Licences**



**Table I.1: Summary of Environmental Licenses and Permits**

Type of Licence / Permit	Reference No.	Valid From	Valid Until	Remark
Environmental Permit	EP-560/2018	24 August 2017	End of Project	N/A
Billing Account for Disposal of Construction Waste	7037763	6 July 2020	End of Project	N/A
Billing Account for Vessel Disposal of Inert Construction Waste	7038221	19 April 2022	18 July 2022	Application No: CEDD01148
Construction Dust Notification under APCO	458075	13 July 2020	N/A	N/A
Construction Noise Permit	GW-RS0235-22	9 Apr 2022	6 Oct 2022	N/A
	GW-RS0504-22	24 Jun 2022	09 Aug 2022	Special case
	GW-RS0607-22	27 Jul 2022	25 Jan 2023	N/A
Chemical Waste Producer	5213-951-G2857-02	24 August 2020	End of Project	N/A
Water Discharge License – Landside	WT00037071-2020	12 January 2021	31 January 2026	N/A
Water Discharge License – Marine	WT00037556-2021	9 Jun 2021	31 May 2026	Variation of discharge license WT00037556-2021 granted on 14 May 2021

## **Appendix J. Environmental Mitigation Measures Implementation Status**

## Recommended Mitigation Measures for Air Quality Impact

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S3.7.1	S2.2.1	<ul style="list-style-type: none"> <li>Relevant control measures as required in the Air Pollution Control (Construction Dust) Regulation shall be implemented to minimise dust impact.</li> </ul>	Obs
		<ul style="list-style-type: none"> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation to maintain the dusty materials wet.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>All stockpiles of aggregate or spoil should be covered and/or water applied.</li> </ul>	Obs
		<ul style="list-style-type: none"> <li>The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	Obs
		<ul style="list-style-type: none"> <li>The load of dusty materials carried by a vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>All NRMMS operated on-site are approved or exempted (as the case may be) and affixed with the requisite approval/exemption labels under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, or are in the process of application for such approval/exemption during the relevant grace period.</li> </ul>	Yes

## Recommended Mitigation Measures for Noise Impact

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S4.5.2	S3.2.1	<ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Silencers or mufflers on construction plant should be utilised.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Mobile plant should be sited as far away from sensitive uses as possible.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Plant known to emit noise strongly in one direction should, where possible, be orientated so that noise is directed away from the nearby sensitive uses.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Material stockpiles and other structures such as site hoarding should be effectively utilised to screen noise from on-site construction activities.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Noisy construction activities such as road breaking, should be scheduled to less sensitive hours during the day, e.g. midday.</li> </ul>	Yes

## Recommended Mitigation Measures for Water Quality Impact

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.9.1	S4.3.1	<ul style="list-style-type: none"> <li>Steel pile casing and watertight cofferdam should be installed at the pier site and seawater trapped inside the casing and cofferdam should be pumped out to generate a dry working environment prior to carrying out sediment excavation.</li> </ul>	Yes
S5.9.2	S4.3.1	<ul style="list-style-type: none"> <li>During dewatering of the cofferdam, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meeting the WPCO / TM-DSS requirements before discharge.</li> </ul>	Yes
S5.9.3	S4.3.1	<ul style="list-style-type: none"> <li>To minimise any adverse water quality impact during the excavation of sediment, a funnel should be placed at the top of pile casing during excavation and silt curtains should be deployed to completely enclose the cofferdam and steel pile casing. Silt curtains should be deployed prior to installation of temporary platform on barge, cofferdam and steel pile casing. Silt curtains should only be removed after completion of pile caps and piers. The Contractor should be responsible for the design, installation and maintenance of the silt curtain to minimise the impacts on water quality. The design and specification of the silt curtains should be submitted by the Contractor to the Project Manager or Project Manager's Representative of AAHK for approval. The marine bridge piers should not be constructed at the same time to avoid adverse hydrodynamic impact due to flow blockage increase during the interim construction stages. All vessels should be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.</li> </ul>	Obs/ Rem
S5.9.5	S4.3.1	<ul style="list-style-type: none"> <li>Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.</li> </ul>	Obs
S5.9.6	S4.3.1	<ul style="list-style-type: none"> <li>Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Before disposal at the public fill reception facilities, the deposited silt and grit should be solicited in such a way that it can be contained and delivered by dump truck instead of tanker truck. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains.</li> </ul>	Yes
S5.9.7	S4.3.1	<ul style="list-style-type: none"> <li>Construction works should be programmed to minimise soil excavation works in rainy seasons (April to September). If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.</li> </ul>	Yes
S5.9.8	S4.3.1	<ul style="list-style-type: none"> <li>Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.</li> </ul>	Yes

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.9.9	S4.3.1	<ul style="list-style-type: none"> <li>Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> </ul>	Yes
S5.9.10	S4.3.1	<ul style="list-style-type: none"> <li>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.</li> </ul>	Yes
S5.9.11	S4.3.1	<ul style="list-style-type: none"> <li>If bentonite slurries are required for any construction works, they should be reconditioned and reused wherever practicable to minimise the disposal volume of used bentonite slurries. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after the related construction activities are completed. Requirements as stipulated in ProPECC Note PN 1/94 should be closely followed when handling and disposing bentonite slurries.</li> </ul>	N/A
S5.9.12	S4.3.1	<ul style="list-style-type: none"> <li>Loading of the excavated marine-based sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>The barge transporting the excavated marine-based sediment to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the Director of Environmental Protection (DEP).</li> </ul>	Yes
S5.9.13	S4.3.1	<ul style="list-style-type: none"> <li>Water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.</li> </ul>	N/A
S5.9.14	S4.3.1	<ul style="list-style-type: none"> <li>All vehicles and plant should be cleaned before they leave a construction site to minimise the deposition of earth, mud, debris on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.</li> </ul>	Yes
S5.9.15	S4.3.1	<ul style="list-style-type: none"> <li>There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO license.</li> </ul>	Yes

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.9.16	S4.3.1	<ul style="list-style-type: none"> <li>No discharge of sewage to the storm water system and marine water will be allowed. Sufficient chemical toilets should be provided in the works areas to handle the sewage generated from the construction workforce. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.</li> </ul>	Yes
S5.9.17	S4.3.1	<ul style="list-style-type: none"> <li>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures.</li> </ul>	Yes
S5.9.18	S4.3.1	<ul style="list-style-type: none"> <li>The Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes.</li> </ul>	Yes
S5.9.19	S4.3.1	<ul style="list-style-type: none"> <li>Any service shop and maintenance facilities should be located on hard standings within a bonded area, and sumps should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> </ul>	N/A
S5.9.20	S4.3.1	<ul style="list-style-type: none"> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Yes
S5.9.22	S4.3.1	<ul style="list-style-type: none"> <li>For the operation of road works, a surface water drainage system should be provided to collect the road runoff. The road drainage should be provided with adequately designed silt trap as necessary. The design of the operational phase mitigation measures for the road works shall take into account the guidelines published in ProPECC PN 5/93 <i>"Drainage Plans subject to Comment by the EPD"</i></li> </ul>	Yes
S5.9.23 to 5.9.29	S4.3.1	<u>Design Measures:</u> <ul style="list-style-type: none"> <li>Exposed surface shall be avoided within the roads to minimise soil erosion. The roads shall be hard paved.</li> <li>The drainage system should be designed to avoid flooding.</li> </ul>	Yes
		<u>Devices and Facilities:</u> <ul style="list-style-type: none"> <li>Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening large substances such as rubbish should be provided at the inlet of drainage system.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Road gullies with standard design and silt traps should be provided to remove particles present in stormwater runoff, where appropriate.</li> </ul>	

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
		<u>Administrative Measures:</u> <ul style="list-style-type: none"> <li>• Good management measures such as regular cleaning and sweeping of road surface/ open areas are suggested. The road surface/ open area cleaning should also be carried out prior to occurrence rainstorm.</li> <li>• Manholes, as well as stormwater gullies, ditches provided at the Project site should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall.</li> </ul>	Yes
S5.9.30	S4.3.1	All the sewage flow generated from the proposed toilets should be properly collected and conveyed to the existing sewerage system on HKBCF Island. No direct discharge of sewage effluent into the marine water will be allowed.	Yes

### Recommended Mitigation Measures for Waste Management

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
		<u>Good Site Practices:</u> <ul style="list-style-type: none"> <li>• Nomination of approved personnel, such as a site manager, to be responsible for implementation of good site practices, arrangements for waste collection and effective disposal to an appropriate facility.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Training of site personnel in site cleanliness, concepts of waste reduction, reuse and recycling, proper waste management and chemical waste handling procedures.</li> </ul>	Yes
S6.5.3	S5.2.1	<ul style="list-style-type: none"> <li>• Provision of sufficient waste reception/ disposal points, and regular collection of waste.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Adoption of appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Provision of regular cleaning and maintenance programme for drainage systems and sumps.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Adoption of a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites).</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Preparation of Waste Management Plan (WMP), as part of the Environmental Management Plan (EMP).</li> </ul>	Yes
		<u>Waste Reduction Measures:</u> <ul style="list-style-type: none"> <li>• Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> </ul>	Yes
S6.5.4	S5.2.1	<ul style="list-style-type: none"> <li>• Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Recycle any unused chemicals or those with remaining functional capacity.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>• Maximise the use of reusable steel formwork to reduce the amount of C&amp;D materials.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Adopt proper storage and site practices to minimise the potential for damage to, or contamination of construction materials.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>• Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated.</li> </ul>	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S6.5.6	S5.2.1	<ul style="list-style-type: none"> <li>Minimise over ordering and wastage through careful planning during purchasing of construction materials.</li> </ul>	N/A
		<u>C&amp;D materials:</u> <ul style="list-style-type: none"> <li>Proper handling and storage of waste such as soil by means of covers and/or water spraying system to minimise the potential environmental impact and to prevent materials from wind-blown or being washed away.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Covering materials during heavy rainfall.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Locating stockpiles to minimise potential visual impacts.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Minimising land intake of stockpile areas as far as possible.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Adopting GPS or equivalent system for tracking and monitoring of all dump trucks engaged for the Project in recording their travel routings and parking locations to prohibit illegal dumping and landfilling of C&amp;D materials.</li> </ul>	N/A
S6.5.7 to 6.5.9	S5.2.1	<ul style="list-style-type: none"> <li>Keeping record and analysis of data collected by GPS or equivalent system related to travel routings and parking locations of dump trucks engaged on site.</li> </ul>	N/A
		<u>General Refuse:</u> <ul style="list-style-type: none"> <li>General refuse should be stored in covered bins or compaction units separately from C&amp;D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site regularly, separately from C&amp;D materials. An enclosed and covered area is preferred to reduce the occurrence of "wind blown" light materials.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>The recyclable component of general refuse, such as aluminium cans, paper and cleansed plastic containers shall be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste shall be set up by the Contractor. The Contractor shall also be responsible for arranging recycling companies to collect these materials.</li> </ul>	Yes
S6.5.10 to 6.5.12	S5.2.1	<ul style="list-style-type: none"> <li>The Contractor should carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins should also be provided in the site as reminders.</li> </ul>	N/A
		<u>Chemical Waste:</u> <ul style="list-style-type: none"> <li>If chemical wastes were to be produced, the Contractor would be required to register with the EPD as a Chemical Waste Producer, and to follow the guidelines stated in the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i>.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Appropriate containers with proper labels should be used for storage of chemical wastes. Chemical wastes should be collected and delivered to designated outlet by a licensed collector. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the CWTC, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	Obs
S6.5.13 to 6.5.16	S5.2.1	<ul style="list-style-type: none"> <li>Any unused chemicals or those with remaining functional capacity should be collected for reuse as far as practicable.</li> </ul>	N/A
		<u>Sediment:</u> <ul style="list-style-type: none"> <li>The sediment should be excavated, handled, treated, transported and/or disposed of in a manner that would minimise adverse environmental impacts.</li> </ul>	Yes



EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
		<ul style="list-style-type: none"> <li>Requirements of the Air Pollution Ordinance (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, treatment, transportation and disposal of the sediment.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>The land-based sediment will be treated using S/S technique and will be reused on site (e.g. as backfilling materials).</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>Any treatment area for the land-based sediment should be confined for carrying out the cement S/S process and any temporary stockpiling. The area should be designed to prevent leachate from entering the ground. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO). In order to minimise the exposure to contaminated materials, workers shall, if necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site.</li> </ul>	Yes
S6.5.17	S5.2.1	<ul style="list-style-type: none"> <li>For off-site disposal, the basic requirements and procedures specified under PNAP No. 252 (ADV-21) shall be followed. Marine Fill Committee (MFC) of CEDD is managing the disposal facilities in Hong Kong for the excavated sediment, while EPD is the authority of issuing marine dumping permit under the Dumping at Sea Ordinance (DASO).</li> </ul>	N/A
S6.5.18 to 6.5.19	S5.2.1	<ul style="list-style-type: none"> <li>For the purpose of site allocation and application of marine dumping permit and if considered necessary by Dumping at Sea Ordinance (DASO) Team/EPD, separate submissions (e.g. SSTP/SQR) shall be submitted to DASO team/EPD for agreement under DASO. Additional SI works, based on the SSTP, shall then be carried out in order to confirm the disposal arrangements of the excavated sediment. A Sediment Quality Report (SQR), reporting the chemical and biological screening results and the estimated quantities of sediment under different disposal options, shall then be submitted to DASO team/EPD for agreement under DASO.</li> <li>To ensure disposal space is allocated for the Project, the Project Proponent should be responsible for obtaining agreement from MFC on the allocation of the disposal site. The contractor(s), on the other hand, should be responsible for the application of the marine dumping permit under DASO from EPD for the sediment disposal.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>The excavated sediments is expected to be loaded onto the barge and transported to the designated disposal sites allocated by MFC. The excavated sediment would be disposed of according to its determined disposal options and PNAP No. 252 (ADV-21).</li> </ul>	N/A
S6.5.20 to 6.5.23	S5.2.1	<ul style="list-style-type: none"> <li>Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiles area should be completely paved in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> </ul>	Yes
		<ul style="list-style-type: none"> <li>The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take</li> </ul>	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
		place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.	
S6.5.24	S5.2.1	<u>Potential Floating Refuse:</u> <ul style="list-style-type: none"> <li>Proper management and education should be given to construction site workers such that accidental release or intentional disposal would be avoided. The refuse should be stored in enclosed bin to avoid adverse impacts to the surroundings including marine environment. Regular checking should also be carried out to ensure that the refuse is stored properly.</li> </ul>	N/A

### Recommended Mitigation Measures for Marine Ecological Impact

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S7.8.3	S6.3.3	<ul style="list-style-type: none"> <li>Based upon a precautionary approach, a speed limit of 10 knots should be strictly enforced on all construction-related vessels.</li> </ul>	Yes
S7.8.6	S6.3.1	<ul style="list-style-type: none"> <li>Good site practices, guidelines and mitigation measures detailed in Water Quality Sections 5.9.1 to 5.9.20 should be adopted to further alleviate water quality impacts.</li> </ul>	Yes
S7.8.9	S6.3.2	<ul style="list-style-type: none"> <li>Coral colonies at REA2 under the direct impacts of habitat loss should be translocated as a precautionary measure. A detailed Coral Translocation Proposal, including description of methodology and precautionary post-translocation monitoring programme, should be prepared and subject to agreement with the authority before commencement of the coral translocation.</li> </ul>	N/A

### Recommended Mitigation Measures for Landscape and Visual Impact

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
		<u>Preservation of New Tree Planting:</u> <ul style="list-style-type: none"> <li>All the planned new trees to be retained and not to be affected by the Project shall be carefully protected during construction in accordance with DevB TCW No. 7/2015 – Tree Preservation during Development issued by GLTM Section of DevB.</li> </ul>	N/A
		<ul style="list-style-type: none"> <li>Any existing vegetation in landscaped area and natural terrain not to be affected by the Project shall be carefully preserved.</li> </ul>	N/A
		<u>Transplanting of Affected Trees:</u> <ul style="list-style-type: none"> <li>Planned trees to be planted under HKBCF unavoidably affected by the works shall be transplanted within the Project boundary or off-site within the Airport Island (i.e. within area of approx. 6.2km) as far as possible in accordance with DevB TCW No. 7/2015 – Tree Preservation and the latest Guidelines on Tree Transplanting issued by GLTM Section of DevB.</li> </ul>	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S8.9.2	S7.3.1	<u>Compensatory Tree Planting:</u> <ul style="list-style-type: none"> <li>Any planned trees to be planted under HKBCF to be felled under the Project shall be compensated within the Project boundary or off-site within the Airport Island (i.e. within area of approx. 6.2km), in accordance with DevB TCW No. 7/2015 – Tree Preservation. The compensatory planting shall be of a ratio not less than 1:1 in terms of number, i.e. the number of compensatory trees shall not be lower than that of the number of trees to be felled. Justification shall be provided if tree compensation requirement could not be met. For trees to be compensated on slopes, the guidelines for tree planting stipulated in GEO Publication No. 1/2011 will be followed.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Control of night-time lighting glare:</u> <ul style="list-style-type: none"> <li>Any lighting provision of the construction works at night shall be carefully control to prevent light overspill to the nearby VSRs and into the sky.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Erection of Decorative Screen Hoarding:</u> <ul style="list-style-type: none"> <li>Decorative Hoarding, which is compatible with the surrounding settings, shall be erected during construction to minimise the potential landscape and visual impacts due to the construction works and activities.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Management of Construction Activities and Facilities:</u> <ul style="list-style-type: none"> <li>The facilities and activities at works sites and areas, which include site office, temporary storage areas, temporary works etc., shall be carefully managed and controlled on the height, deposition and arrangement to minimise any potential adverse landscape and visual impacts.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Reinstatement of Temporarily Disturbed Landscape Areas:</u> <ul style="list-style-type: none"> <li>All hard and soft landscape areas disturbed temporarily during construction shall be reinstated on like-to-like basis, to the satisfaction of the relevant Government Departments.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Aesthetically Pleasing Design of Aboveground / Above-sea Structures:</u> <ul style="list-style-type: none"> <li>The proposed structures in regard of layouts, forms, materials and finishes shall be sensitively designed so as to blend in the structures to the adjacent landscape and visual context.</li> </ul>	N/A
S8.9.2	S7.3.1	<u>Provision of Amenity Planting:</u> <ul style="list-style-type: none"> <li>Amenity planting, including groundcover and trees shall be provided to soften the proposed above-ground structures on HKBCF as far as appropriate.</li> </ul>	N/A

Notes:

Yes = Implemented where applicable

No = Not implemented

Obs/Rem = Observations or reminders were issued, and items were rectified

N/A = Not applicable to the construction works implemented during the reporting period

^ Checked by ET through site inspection and record provided by the Contractor.