

# Civil Engineering and Development Department

**Agreement No. CE 59/2015 (EP)  
Environmental Team for  
Tseung Kwan O – Lam Tin Tunnel  
Design and Construction**

**Monthly Environmental Monitoring and  
Audit Report for  
March 2022  
(version 1.0)**

Approved By	<b>DRAFT</b> _____ (Dr. HF Chan, Environmental Team Leader)
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REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 64th Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel – Design and Construction” (hereinafter called “the Project”). This report documents the findings of EM&A Works conducted in March 2022.
2. During the reporting month, the following works contracts were undertaken:
  - Contract No. NE/2015/01 – Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works;
  - Contract No. NE/2015/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works;
  - Contract No. NE/2015/03 – Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge;
  - Contract No. NE/2017/01 – Tseung Kwan O – Lam Tin Tunnel –Tseung Kwan O Interchange and Associated Works
  - Contract No. NE/2017/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works.
  - Contract No. NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works
  - Contract No. NE/2017/07 – Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works.

### Environmental Monitoring Works

3. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
4. Summary of the non-compliance (exceedance) in the reporting month for the Project is tabulated in **Table I**.

**Table I Non-compliance (exceedance) Record for the Project in the Reporting Month**

Environmental Monitoring	No. of Non-compliance (Exceedance)		No. of Non-compliance (Exceedance) due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Air Quality	0	0	0	0	Refer to Appendix K
Noise	3	1	3	0	Refer to Appendix K & O
Marine Water Quality	14	64	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A <sup>1</sup>	0	N/A <sup>1</sup>	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A

Note:(1) No Limit Level for Groundwater Level Monitoring (Piezometer Monitoring).

#### *Air Quality Monitoring*

5. No Action/Limit Level exceedance for 1-hour TSP monitoring was recorded.
6. No Action Level exceedance for 24-hour TSP monitoring was recorded.
7. No Limit Level exceedances for 24-hour TSP monitoring was recorded.

#### *Construction Noise Monitoring*

8. Three (3) Action Level exceedance was recorded due to documented complaints in the reporting month. The Summary of Documented Complaints in Reporting Month is tabulated in **Table III**.
9. One (1) Limit Level exceedance was recorded due to monitoring results in this reporting month.

#### *Water Quality Monitoring*

10. Groundwater quality monitoring had been suspended since October 2019 upon the agreement by EPD. Further details should be founded at **Section 5.1**.
11. All marine water quality monitoring was conducted as scheduled in the reporting month. There were fourteen (14) Action Level and sixty-four (64) Limit Level exceedances recorded in Monitoring Stations (M) during marine water quality monitoring. During this reporting month, no sand plume was observed during the water quality monitoring and site audits, therefore there is no direct evidence that the recent exceedances were due to the construction works of the Project. Details of this investigation are presented in **Section 5**. Daily silt curtain inspection and weekly diving inspection have been carried out by contractor, the record, as reviewed by the site auditors, indicated that silt curtains were found in good conditions.

12. Since the all marine works are completed at November 2021, the post reclamation marine water quality monitoring was initiated from December 2021. The monitoring location is presented in **Figure 9** while the monitoring results shall be referred to **Appendix W**.
13. Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. It has switched to monthly basis since 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

#### *Ecological Monitoring*

14. Post-translation coral monitoring survey shall be conducted once every 3 months for a period of 12 months after completion of coral translocation. The post-translocation coral monitoring surveys were completed in November 2017.

#### *Monitoring on Cultural Heritage*

15. Monitoring of impacts on Cultural Heritage at Cha Kwo Ling Tin Hau Temple commenced in May 2017. No Alert, Alarm and Action (AAA) Level exceedance was recorded in the reporting month.

#### *Landscape and Visual Monitoring and Audit*

16. The implementation of landscape and visual mitigation measures was checked during the environmental site inspections. Recommended follow-up actions have been discharged by the Contractor. Details of the audit findings and implementation status are presented in Section 10.

#### *Landfill Gas Monitoring*

17. Monitoring of landfill gases commenced in December 2016 and were carried out by the Contractor at excavation location, Portion III. No Limit Level exceedance was recorded.

#### *Environmental Site Inspection*

18. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Environmental Team. The representative of the IEC joined the site inspection for NE/2017/07 on 30 March 2022 & NE/2015/02, NE/2017/01, NE/2017/02 and NE/2017/06 on 31 March 2022 respectively. Details of the audit findings and implementation status are presented in **Section 10**.

#### *Waste Management*

19. Wastes generated from this Project include inert construction and demolition (C&D) materials, non-inert C&D materials and marine sediment. Details of waste management data is presented in **Section 11** and **Appendix P**.

## Key Information in the Reporting Month

20. Summary of key information in the reporting month is tabulated in **Table II**

**Table II Key Information in the Reporting Month**

Monthly Complaints	Event Details		Action Taken	Status
	Number	Nature		
March 2022	4	Noise / Water	Details refer to App O	Draft CIR submitted / Closed
February 2022	3	Noise	Details refer to App O	Draft CIR submitted
January 2022	4	Noise	Details refer to App O	Closed
December 2021	8	Noise	Details refer to App O	On-going/Closed
November 2021	7	Noise	Details refer to App O	Closed
October 2021	3	Noise / Odour / Water	Details refer to App O	Closed
September 2021	6 <sup>*1</sup>	Air / Noise	Details refer to App O	Closed
August 2021	3	Noise	Details refer to App O	Closed
July 2021	3	Noise / Working Hours	Details refer to App O	Closed
Notifications of any summons & prosecutions received	0	---	N/A	N/A

\*1: 1 complaint at September 2021 was received at early October 2021.

21. Summary of complaints received in the reporting month is tabulated in **Table III**.

**Table III Summary of Complaints Details in Reporting Month**

Complaint No.	Complaint	Investigation Findings	Follow-up Action / Mitigation Measure
<b>Lam Tin Side</b>			
Nil in the Reporting Month			
<b>Tseung Kwan O Side</b>			
594 & 595	Anonymous	The investigation results reveals the complaint is project-related. However, no PME was used on Sunday morning. The lights on barge were turned on for safety purpose.	The Contractor is reminded to follow valid CNP and the details can be referred to CIR-N159
593	Anonymous	The complaint is considered as non-project-related. The so-called pollutant was in fact natural occurring algal bloom.	Nil. The investigation result shall be referred to CIR-W19.
592	Resident of Ocean Shores	The investigation results reveal the complaint is project-related. No non-compliance was recorded.	The Contractor is reminded to follow strictly to the approved CNMP and the details can be referred to CIR-N162.

## Key Construction Work in the reporting month & the next reporting month

22. Summary of key construction work in the reporting month is tabulated in **Table IV**.

**Table IV Summary Table for Key Construction Work in the Reporting Month**

Contract No.	Project Title	Site Activities (March 2022)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	<ol style="list-style-type: none"> <li>1) EHC2 U-Trough &amp; Noise Enclosure</li> <li>2) Site Formation Area 1G1 &amp; 1G2 &amp; 5</li> <li>3) Site Formation Area 2</li> <li>4) Site Formation Slope Stabilization</li> <li>5) Site Formation Retaining Wall</li> <li>6) Administration Building</li> <li>7) West Ventilation Building</li> <li>8) Bridge Construction</li> <li>9) Emergency Stormwater Storage Tank + Stormwater Pumping Station</li> <li>10) Sewage Pumping Station</li> <li>11) S01_2, EHC1&amp;4 Construction</li> <li>12) CKLR Underground Utilities</li> <li>13) Underpass S01_2, EHC 1&amp;4 construction</li> <li>14) CKLR Underground Utilities &amp; Underpass S01</li> <li>15) Landscape Deck &amp; Noise Cover</li> <li>16) LTI Drainage</li> <li>17) Road EHC4 Site Formation Works</li> </ol>
		Main Tunnel	<ol style="list-style-type: none"> <li>18) Main Tunnel Lining Works</li> <li>19) Branch Tunnel Lining Works</li> <li>20) S02_2 Excavation &amp; Lining</li> <li>21) Tunnel E&amp;M Works</li> </ol>
		TKO Interchange	<ol style="list-style-type: none"> <li>22) Bridge Construction</li> <li>23) East Ventilation Building</li> <li>24) Underground Utilities / Drainage Works</li> <li>25) Slope stabilization works</li> </ol>
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	<ol style="list-style-type: none"> <li>1) Sloping Seawall Construction</li> <li>2) Construction of U-trough</li> <li>3) Construction of Seawall Coping</li> <li>4) Construction of Road P2 and SR2</li> </ol>	
NE/2015/03	Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. The EM&A works were terminated in late April 2020.	
NE/2017/01	Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	<ol style="list-style-type: none"> <li>1) Installation of railing</li> <li>2) Construction of Profile barrier</li> <li>3) Grouting Works</li> <li>4) Installation of Traffic Sign Gantry</li> <li>5) Installation of Road Drainage and Drain Pipe</li> </ol>	
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	<ol style="list-style-type: none"> <li>1) Inspection pit excavation and utility diversion works</li> <li>2) Construction of drainage and watermain</li> <li>3) Asphalt Paving</li> <li>4) Pier, Staircase and Lift Shaft Construction</li> <li>5) Road Works</li> </ol>	
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	<ol style="list-style-type: none"> <li>1) Goods arrival &amp; storage on site</li> <li>2) Installation in Admin Building</li> <li>3) Installation works inside Tunnel</li> </ol>	
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	<ol style="list-style-type: none"> <li>1) Precast shell fabrication with 17 out of 17nos. had completed for Portion I</li> <li>2) Precast Segment Fabrication with 236 out of 271 nos.</li> <li>3) Precast pier fabrication with 7 out of 17 nos in Portion I.</li> <li>4) Predrilling Work at Portion I had completed with 35 out of 35 nos.</li> </ol>	



Contract No.	Project Title	Site Activities (March 2022)
		5) Piling work at Portion I had completed with 35 out of 35 nos. 6) Precast Shell Installation with 9 out of 17 nos. had completed at portion II 7) Erection for bridge segment for main bridge at Portion I completed 8) E&M Work and External Work at Portion V Plant Room Building in progress 9) Touch up painting and painting of east and west side spans ring weld in progress 10) Welding of L3 parapet base plate on steel bridge 11) Waterproofing works for division area, footpath area and cycle track area. 12) Construction of steel-concrete transition zone in Portion II 13) Top, transverse, bottom and external tension at Portion II 14) Construction of long stitching and planter wall at Portion II 15) Installation of ducting at Portion II.

### Future Key Issues

23. The future key environmental issues in the coming month include:

**Table V Summary Table for Site Activities in the next Reporting Period**

Contract No. and Project Title	Site Activities (April 2022)	Key Environmental Issues *	
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough & Noise Enclosure 2) EHC7 U-Trough 3) Site Formation Area 1G1 & 1G2 & 5 4) Site Formation Area 2 5) Site Formation Slope Stabilization 6) Site Formation Retaining Wall 7) Administration Building 8) West Ventilation Building 9) Bridge Construction 10) CKLR Underground Utilities 11) Underpass S01 12) Landscape Deck & Noise Cover 13) LTI Drainage 14) Road EHC4 Site Formation Works	(A) / (B) / (C) / (D) / (E) / (G)
	Main Tunnel	15) Main Tunnel Lining Works 16) Branch Tunnel Lining Works 17) S02_2 Excavation & Lining 18) Tunnel E&M Works	(B)
	TKO Interchange	19) Bridge Construction 20) East Ventilation Building 21) Underground Utilities / Drainage Works 22) Slope Stabilization Works	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Sloping Seawall Construction 2) Construction of U-trough 3) Construction of Seawall Coping 4) Construction of Road P2 and SR2	(A) / (B) / (C) / (D) / (E) / (G) / (I)	

<b>Contract No. and Project Title</b>	<b>Site Activities (April 2022)</b>	<b>Key Environmental Issues *</b>
NE/2015/03 - Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. Materials are being removed from works area.	N/A
NE/2017/01 – Tseung Kwan O Interchange and Associated Works	1) Installation of Railing 2) Construction of Concrete Profile barrier 3) Grouting Works 4) Installation of Road Drainage and Drain Pipe 5) Road pavement and road marking	(A) / (B) / (E) / (F) / (G)
NE/2017/02 – Tseung Kwan O - Lam Tin Tunnel - Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Construction of drainage and watermain 3) Asphalt Paving 4) Pier, Staircase and Lift Shaft Construction 5) Road Works 6) Road Pavement and Road Marking	(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) Goods arrival & storage on site 2) Installation in Admin Building 3) Installation works inside Tunnel 4) Installation works inside EVB	(E)
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) Top, transverse, bottom and external tension 2) Construction of long stitching 3) Construction of concrete structure above deck 4) Construction of steel-concrete transition zone 5) Waterproofing works 6) Installation of parapet 7) Construction of steel-concrete transition zone 8) Installation of sign gantries 9) Road Pavement	(A) / (B) / (D) / (E) / (F) / (G) / (H) / (I)

**Note:**

- (A) Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- (B) Noisy construction activity such as rock-breaking activities and piling works;
- (C) Runoff from exposed slope or site area;
- (D) Wastewater and runoff discharge from site;
- (E) Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
- (F) Set up and implementation of temporary drainage system for the surface runoff;
- (G) Storage of chemicals/fuel and chemical waste/waste oil on site;
- (H) Accumulation and storage of general and construction waste on site; and
- (I) Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation

## 1. INTRODUCTION

- 1.1 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) as the Environmental Team (ET) to undertake environmental monitoring and auditing services for the Works Contracts involved in the implementation of Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) project to ensure that the environmental performance of the Works Contracts comply with the requirements specified in the Environmental Permit (EP), Environmental Monitoring & Audit (EM&A) Manual, Environmental Impact Assessment (EIA) Report of the TKO-LTT project and other relevant statutory requirements. This is the 64th Monthly EM&A report summarizing the EM&A works for the Project in March 2022.

### **Purpose of the Report**

- 1.2 This is the 64th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in March 2022.

### **Structure of the Report**

- 1.3 The structure of the report is as follows:

Section 1: **Introduction** – purpose and structure of the report.

Section 2: **Contract Information** – summarises background and scope of the Contract, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting month.

Section 3: **Air Quality Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 4: **Noise Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 5: **Water Quality Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 6: **Ecological Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations and Action and Limit Levels, monitoring results and Event / Action Plans.

Section 7: **Cultural Heritage** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations and monitoring results.

Section 8: **Landscape and Visual Monitoring Requirements** – summarises the requirements of landscape and visual monitoring

Section 9: **Landfill Gas Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, monitoring results and Limit Levels and Action Plan

Section 10: **Environmental Site Inspection** – summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 11: **Waste Management** – summarises the waste management data in the reporting month.

Section 12: **Environmental Non-conformance** – summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.

Section 13: **Future Key Issues** – summarises the impact forecast and monitoring schedule for the next three months.

Section 14: **Conclusions and Recommendation**

## 2. PROJECT INFORMATION

### Background

- 2.1 In 2002, Civil Engineering and Development Department (CEDD) commissioned an integrated planning and engineering study under Agreement No. CE 87/2001 (CE) “Further Development of Tseung Kwan O – Feasibility Study” (the “TKO Study”) to formulate a comprehensive plan for further development of TKO New Town. It recommended to further develop TKO to house a total population of 450,000 besides the district’s continuous commercial and industrial developments.
- 2.2 At present, the Tseung Kwan O Tunnel is the main connection between Tseung Kwan O (TKO) and other areas in the territory. To cope with the anticipated transport need, the TKO Study recommended the provision of Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) (hereinafter referred to as “the Project”) and Cross Bay Link (CBL) to meet the long-term traffic demand between TKO and the external areas. The site layout plan for the Project is shown in **Figure 1**. CBL was also entrusted with part of the marine viaducts near Tseung Kwan O Interchange since the commencement of the CBL project the December 2018.
- 2.3 The Environmental Impact Assessment (EIA) Report for the TKO-LTT project was approved under the Environmental Impact Assessment Ordinance (EIAO) in July 2013. The corresponding Environmental Permit (EP) was issued in August 2013 (EP no.: EP-458/2013). Variations to the EP was applied and the latest EP (EP no.: EP-458/2013/C) was issued by the Director of Environmental Protection (DEP) in January 2017.
- 2.4 The commencement dates of construction of this Project are:
- Contract No. NE/2015/01 and Contract No. NE/2015/02: 7 November 2016.
  - Contract No. NE/2015/03: 29 May 2017.
  - Contract No. NE/2017/02: 15 March 2018.
  - Contract No. NE/2017/01: 23 May 2018.
  - Contract No. NE/2017/06: 09 November 2018.
  - Contract No. NE/2017/07: 22 February 2021

### Project Organizations

- 2.5 Different parties with different levels of involvement in the project organization include:
- Project Proponent – Civil Engineering and Development Department (CEDD)
  - The Engineer and the Engineer’s Representative (ER) – AECOM
  - Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
  - Independent Environmental Checker (IEC) – AnewR Consulting Limited (AnewR)

2.6 The key contacts of the Project are shown in **Table 2.1**.

**Table 2.1 Key Project Contacts**

Party	Role	Contact Person	Phone No.	Fax No.
CEDD	Project Proponent	Mr. LO Sai Pak, Sunny	2301 1384	2739 0076
AECOM	Engineer's Representative	Mr. Jackie CW, Ng	3910 1601	3910 1600
Cinotech	Environmental Team	Dr. HF Chan	2151 2088	3107 1388
		Mr. KS Lee	2151 2091	
AnewR	Independent Environmental Checker	Mr. James Choi	2618 2836	3007 8648

### Construction Activities undertaken during the Reporting Month

2.7 The major site activities undertaken in the reporting month included:

**Table 2.2 Summary Table for Major Site Activities in the Reporting Month**

Contract No.	Project Title	Site Activities (March 2022)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough & Noise Enclosure 2) Site Formation Area 1G1 & 1G2 & 5 3) Site Formation Area 2 4) Site Formation Slope Stabilization 5) Site Formation Retaining Wall 6) Administration Building 7) West Ventilation Building 8) Bridge Construction 9) Emergency Stormwater Storage Tank + Stormwater Pumping Station 10) S01_2, EHC1&4 Construction 11) CKLR Underground Utilities 12) Underpass S01 13) Landscape Deck & Noise Cover 14) LTI Drainage 15) Road EHC4 Site Formation Works
		Main Tunnel	16) Main Tunnel Lining Works 17) Branch Tunnel Lining Works 18) S02_2 Excavation & Lining 19) Tunnel E&M Works
		TKO Interchange	20) Bridge Construction 21) East Ventilation Building 22) Underground Utilities / Drainage Works
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Sloping Seawall Construction 2) Construction of U-trough 3) Construction of Seawall Coping 4) Construction of Road P2 and SR2	
NE/2015/03	Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. The EM&A works were terminated in late April 2020.	
NE/2017/01	Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	1) Installation of railing 2) Construction of Profile barrier 3) Grouting Works 4) Installation of Traffic Sign Gantry 5) Installation of Road Drainage and Drain Pipe	
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Construction of drainage and watermain 3) Asphalt Paving	

Contract No.	Project Title	Site Activities (March 2022)
		4) Pier, Staircase and Lift Shaft Construction 5) Road Works
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) Goods arrival & storage on site 2) Installation in Admin Building 3) Installation works inside Tunnel
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) Precast shell fabrication with 17 out of 17nos. had completed for Portion I 2) Precast Segment Fabrication with 236 out of 271 nos. 3) Precast pier fabrication with 7 out of 17 nos in Portion I. 4) Predrilling Work at Portion I had completed with 35 out of 35 nos. 5) Piling work at Portion I had completed with 35 out of 35 nos. 6) Precast Shell Installation with 9 out of 17 nos. had completed at portion II 7) Erection for bridge segment for main bridge at Portion I completed 8) E&M Work and External Work at Portion V Plant Room Building in progress 9) Touch up painting and painting of east and west side spans ring weld in progress 10) Welding of L3 parapet base plate on steel bridge 11) Waterproofing works for division area, footpath area and cycle track area. 12) Construction of steel-concrete transition zone in Portion II 13) Top, transverse, bottom and external tension at Portion II 14) Construction of long stitching and planter wall at Portion II 15) Installation of ducting at Portion II.

2.8 The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in **Table 2.3**.

**Table 2.3 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures**

Construction Works	Major Environmental Impact	Control Measures
As mentioned in <b>Table 2.2</b>	Noise, dust impact, water quality and waste generation	<ul style="list-style-type: none"> <li>• Sufficient watering of the works site with active dust emitting activities</li> <li>• Properly cover the stockpiles</li> <li>• On-site waste sorting and implementation of trip ticket system</li> <li>• Appropriate desilting/sedimentation devices provided on site for treatment before discharge</li> <li>• Use of quiet plant and well-maintained construction plant</li> <li>• Provide movable noise barrier</li> </ul>

**Status of Environmental Licences, Notification and Permits**

2.9 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.4**.

**Table 2.4 Summary of the Status of Environmental Licences, Notification and Permits**

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
<b>Environmental Permit (EP)</b>				
N/A	EP-458/2013/C	20/1/2017	N/A	Valid
<b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b>				
NE/2015/01	EPD Ref no.: 405305	21/07/2016	N/A	Valid
	EPD Ref no.: 405582	28/07/2016	N/A	Valid
NE/2015/02	EPD Ref no.: 406100	12/08/2016	N/A	Valid
NE/2015/03	EPD Ref no.: 416072	26/04/2017	N/A	Valid
NE/2017/02	EPD Ref no.: 429867	19/01/2018	N/A	Valid
NE/2017/01	EPD Ref no.: 430070	25/01/2018	N/A	Valid
NE/2017/06	EPD Ref no.: 461507	03/11/2020	N/A	Valid
<b>Billing Account for Construction Waste Disposal</b>				
NE/2015/01	Account No. 7025431	11/07/2016	N/A	Valid
NE/2015/02	Account No. 7025654	16/08/2016	N/A	Valid
NE/2015/03	Account No. 7026805	30/12/2016	N/A	Valid
NE/2017/02	Account No. 7029651	22/12/2017	N/A	Valid
NE/2017/01	Account No. 7029994	01/02/2018	N/A	Valid
NE/2017/06	Account No. 7032520	22/11/2018	N/A	Valid
NE/2017/07	Account No. 7031412	24/07/2018	N/A	Valid
<b>Registration of Chemical Waste Producer</b>				
NE/2015/01	Waste Producer No. 5218-290-L2881-02	22/08/2016	N/A	Valid
	Waste Producer No. 5213-833-L2532-03	22/08/2016	N/A	Valid
NE/2015/02	Waste Producer No. 5213-838-C4094-01	23/08/2016	N/A	Valid
NE/2015/03	Waste Producer No. 5213-265-W3435-04	19/07/2017	N/A	Valid
NE/2017/02	Waste Producer No. 5213-833-Z4004-04	01/02/2018	N/A	Valid
NE/2017/01	Waste Producer No. 5213-833-C4262-01	12/02/2018	N/A	Valid
NE/2017/07	Waste Producer No. 5213-839-C1232-19	28/08/2018	N/A	Valid
<b>Effluent Discharge License under Water Pollution Control Ordinance</b>				
NE/2015/01	WT00027354-2017	22/03/2017	31/03/2022	Valid until 31 Mar 22
	WT00027405-2017	22/03/2017	31/03/2022	Valid until 31 Mar 22
	WT00028495-2017	11/08/2017	31/08/2022	Valid
	WT00039948-2021	28/02/2022	30/11/2026	Valid



Contract No.	Permit / License No.	Valid Period		Status
		From	To	
NE/2015/02	WT00030654-2018	16/04/2018	30/04/2023	Valid
NE/2015/02	WT00040338-2022	28/01/2022	28/02/2027	Valid
NE/2015/03	WT00027295-2017	20/03/2017	31/03/2022	Valid until 31 Mar 22
NE/2017/01	WT00030711-2018	11/04/2018	30/04/2023	Valid
	WT00030716-2018	23/05/2018	31/05/2023	Valid
NE/2017/02	WT00030654-2018	16/04/2018	30/04/2023	Valid
NE/2017/07	WT00032842-2018	01/03/2019	31/03/2024	Valid
	WT00034178-2019	15/07/2019	31/07/2024	Valid
<b>Construction Noise Permit (CNP)</b>				
NE/2015/01	GW-RE1114-21	01/12/2021	31/05//2022	Valid
	GW-RE1133-21	22/12/2021	21/03/2022	Valid until 21 Mar 22
	GW-RE1206-21	14/12/2021	13/03/2022	Valid until 13 Mar 22
	GW-RE1303-21	28/12/2021	27/03/2022	Valid until 27 Mar 22
	GW-RE0028-22	21/01/2022	20/04/2022	Valid
	GW-RE0177-22	22/03/2022	21/09/2022	Valid
	GW-RE0188-22	14/03/2022	13/06/2022	Valid
NE/2015/02	GW-RE0151-22	01/03/2022	21/04/2022	Valid from 1 Mar 22
	GW-RE0228-22	22/03/2022	21/09/2022	Valid from 22 Mar 22
	GW-RE0237-22	17/03/2022	16/09/2022	Valid from 17 Mar 22
	GW-RE0279-22	29/03/2022	23/05/2022	Valid from 29 Mar 22
NE/2017/01	GW-RE0967-21	06/10/2021	27/03/2022	Valid until 27 Mar 22
	GW-RE1100-21	10/11/2021	02/05/2022	Valid
NE/2017/02	GW-RE0047-22	27/01/2022	30/04/2022	Valid
NE/2017/07	GW-RE0132-22	14/02/2022	09/03/2022	Valid until 9 Mar 22
	GW-RE0304-22	31/03/2022	30/07/2022	Valid from 31 Mar 22
<b>Marine Dumping Permit</b>				
NE/2017/01	EP/MD/21-011	N/A	N/A	N/A

### Summary of EM&A Requirements

- 2.10 The EM&A programme requires construction noise monitoring, air quality monitoring, water quality monitoring, environmental site audit, etc. The EM&A requirements for each parameter are described in the following sections, including:
- All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event Action Plans;
  - Environmental mitigation measures, as recommended in the Project EIA Report.
- 2.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 10** of this report.
- 2.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in the reporting month.

### 3. AIR QUALITY

#### Monitoring Requirements

- 3.1 According to EM&A Manual of the Project, 1-hour and 24-hour TSP monitoring are required to monitor the air quality. For regular impact monitoring, a sampling frequency of at least once in every six days shall be undertaken at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

#### Monitoring Locations

- 3.2 Six designated monitoring stations were selected for air quality monitoring programme. **Table 3.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

**Table 3.1 Locations for Air Quality Monitoring**

Monitoring Stations	Location	Location of Measurement
AM1	Tin Hau Temple	Ground Level
AM2	Sai Tso Wan Recreation Ground	Ground Level
AM3	Yau Lai Estate Bik Lai House	Rooftop (41/F)
AM4 <sup>(1)</sup>	Sitting-out Area at Cha Kwo Ling Village	Ground Level
AM4(A) <sup>(2) (*)</sup>	Cha Kwo Ling Public Cargo Working Area Administrative Office	Rooftop (3/F)
AM5(A) <sup>(*)</sup>	Tseung Kwan O DSD Desilting Compound	Ground Level
AM6(A) <sup>(*)</sup>	Park Central, L1/F Open Space Area	1/F

Remarks: (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

(\*) Air quality monitoring at designated station AM4(24-hr TSP), AM5 and AM6 was rejected by the premise owners. Therefore, baseline and impact air quality monitoring works were carried out at alternative air quality monitoring stations AM4(A) (24-hr TSP only), AM5(A) and AM6(A) respectively.

#### Monitoring Equipment

- 3.3 High Volume Samplers (HVS) were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined periodically by HVS to check the validity and accuracy of the results measured by direct reading method.
- 3.4 Wind data monitoring equipment was set at rooftop (about 41/F) of Yau Lai Estate Bik Lai House for logging wind speed and wind direction such that the wind sensors are clear of obstructions or turbulence caused by building. The wind data monitoring equipment is re-calibrated at least once every six months and the wind directions are divided into 16 sectors of 22.5 degrees each. The location is shown in **Figure 2**.
- 3.5 **Table 3.2** summarizes the equipment to be used in the air quality monitoring. Copies of calibration certificates are attached in **Appendix B**.

**Table 3.2 Air Quality Monitoring Equipment**

Equipment	Model and Make	Quantity
Calibrator	TISCH Model: TE-5025A	1
1-hour TSP Dust Meter	Sibata Model No.: LD-3B / LD-5R	5
	Met One Instruments Model No.: AEROCET-831	0
	Handheld Particle Counter Hal-HPC300 / Hal-HPC301	0
HVS Sampler	TISCH Model: TE-5170	1
	GMW Model: GS2310	5
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1
	Davis Weather Stations, Vantage Pro 2, Model No. 6152CUK	0

### Monitoring Parameters and Frequency

3.6 **Table 3.3** summarizes the monitoring parameters, monitoring period and frequencies of air quality monitoring.

**Table 3.3 Frequency and Parameters of Air Quality Monitoring**

Monitoring Stations	Parameter	Frequency
AM1, AM2, AM3, AM4, AM5(A) and AM6(A)	1-hour TSP	3 times per 6 days
AM1, AM2, AM3, AM4(A), AM5(A) and AM6(A)	24-hour TSP	Once per 6 days

### Monitoring Methodology

#### *1-hour TSP Monitoring*

##### Measuring Procedures

3.7 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Model LD3 / LD3B / LD5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

(AEROCET-531)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Remove the red rubber cap from the AEROCET-531 inlet nozzle.
- Turn on the power switch that is located on the right side of the AEROCET-531.
- On power up the product intro screen is displayed for 3 seconds. The intro screen displays the product name and firmware version.
- Then the main counter screen will be displayed.
- Press the START button. Internal vacuum pump start running. After 1 minute the pump will stop and the 0.5 $\mu$ m and 5 $\mu$ m channels will show the cumulative counts of particles larger than 0.5 $\mu$ m and 5 $\mu$ m per cubic foot.
- The AEROCET-531 is now checked out and ready for use.
- To switch off the AEROCET-531 power to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, and display value and site condition were recorded during the monitoring period.

(Equipment: Hal Technology; Model no. Hal-HPC300 / Hal-HPC301)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to “ON” and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

- 3.8 The following maintenance/calibration is required for the direct dust meters:
- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

***24-hour TSP Monitoring***Instrumentation

- 3.9 High volume samplers (HVS) (TISCH Model: TE-5170 and GMW Model: GS2310) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 3.10 The positioning of the HVS samplers are as follows:
- a horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
  - no two samplers shall be placed less than 2 meter apart

- the distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- a minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
- a minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
- no furnace or incinerator flue is nearby;
- airflow around the sampler is unrestricted;
- the sampler is more than 20 metres from the dripline;
- any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
- permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- a secured supply of electricity is needed to operate the samplers.

#### Operating/analytical procedures for the operation of HVS

- 3.11 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 3.12 For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3µm diameter were used.
- 3.13 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 3.14 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centred with the stamped number upwards, on a supporting screen.
- 3.15 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 3.16 The shelter lid was closed and secured with the aluminium strip.
- 3.17 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- 3.18 After sampling, the filter was removed and sent to the HOKLAS laboratory (ALS Hong Kong) for weighing. The elapsed time will be also recorded.
- 3.19 Before weighing, all filters was equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

- 3.20 The following maintenance/calibration is required for the HVS:
- The high volume motors and their accessories will be properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking will be made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers will be calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

**Results and Observations**

- 3.21 No Action/Limit Level exceedance was recorded for 1-hour TSP monitoring.
- 3.22 No Action and no Limit Level exceedance was recorded for 24-hour TSP monitoring.
- 3.23 The air temperature, precipitation and the relative humidity data was obtained from Hong Kong Observatory where the wind speed and wind direction were recorded by the installed Wind Anemometer at rooftop of Yau Lai Estate Bik Lai House (41/F). The location is shown in **Figure 2**. This weather information for the reporting month is summarized in **Appendix C**.
- 3.24 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.
- 3.25 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

**Table 3.4 Major Dust Source during Air Quality Monitoring**

Station	Major Dust Source
AM1 – Tin Hau Temple	Road Traffic at Cha Kwo Ling Road
AM2 – Sai Tso Wan Recreation Ground	N/A
AM3 – Yau Lai Estate Bik Lai House	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
AM4 - Sitting-out Area at Cha Kwo Ling Village	Road Traffic at Cha Kwo Ling Road
AM4(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office	Road Traffic at Cha Kwo Ling Road
AM5(A) - Tseung Kwan O DSD Desilting Compound	Vehicle Movement within the Desilting Compound
AM6(A) - Park Central, L1/F Open Space Area	Road Traffic at Po Yap Road

## 4. NOISE

### Monitoring Requirements

- 4.1 According to EM&A Manual of the Project, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

### Monitoring Locations

- 4.2 Noise monitoring was conducted at 8 designated monitoring stations (CM1, CM2, CM3, CM4, CM5, CM6(A), CM7(A), CM8(A)) in the reporting period. **Table 4.1** and **Figure 3** show the locations of these stations.

**Table 4.1 Noise Monitoring Stations**

Monitoring Stations	Locations	Location of Measurement
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	Rooftop (41/F)
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	Rooftop (41/F)
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	Rooftop (40/F)
CM4	Tin Hau Temple, Cha Kwo Ling	Ground Level
CM5	CCC Kei Faat Primary School, Yau Tong	Rooftop (6/F)
CM6(A)*	Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores	Ground Level
CM7(A)*	Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores	Ground Level
CM8(A)*	Park Central, L1/F Open Space Area	1/F

Remarks:

\* Noise monitoring at designated station CM6, CM7 & CM8 was rejected by the premise owners. Therefore, baseline and impact noise monitoring works were carried out at alternative noise monitoring stations CM6(A), CM7(A) and CM8(A) respectively.

### Monitoring Equipment

- 4.3 Integrating Sound Level Meter was used for impact noise monitoring. The meters are Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 4.2** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix B**.

**Table 4.2 Noise Monitoring Equipment**

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 957/ 959 / 979	5
	BSWA308 SLM	2
Calibrator	SV30A	0
	Brüel & Kjær 4231	0
	ST-120	1

- 4.4 **Table 4.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**. Additional weekly impact monitoring are carried out for evening time (1900 – 2300 hours) for monitoring stations CM1, CM2, CM3 & CM6(A) and night-time (2300 – 0700 hours) for monitoring stations CM1, CM2 & CM3.

**Table 4.3 Frequency and Parameters of Noise Monitoring**

Monitoring Stations	Parameter	Period	Frequency	Measurement
CM1	L <sub>10</sub> (30 min) dB(A) L <sub>90</sub> (30 min) dB(A) L <sub>eq</sub> (30 min) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Façade
CM2				Façade
CM3				Façade
CM4				Façade
CM5				Façade
CM6(A)				Free Field
CM7(A)				Free Field
CM8(A)				Façade
CM1	L <sub>10</sub> (5 min) dB(A)	1900 – 0700 hrs on normal weekdays		Façade
CM2	L <sub>90</sub> (5 min) dB(A)			Façade
CM3				Façade
CM6(A)	L <sub>eq</sub> (5 min) dB(A)	1900 – 2300 hrs on normal weekdays		Free Field

### Monitoring Methodology and QA/QC Procedure

- 4.5 The monitoring procedures are as follows:
- The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
  - For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels was adjusted with a correction of +3 dB(A).
  - The battery condition was checked to ensure the correct functioning of the meter.
  - Parameters such as frequency weighting, the time weighting and the measurement time was set as follows:
    - frequency weighting: A
    - time weighting : Fast
    - measurement time : 30 minutes
  - Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement will be more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
  - At the end of the monitoring period, the L<sub>eq</sub>, L<sub>90</sub> and L<sub>10</sub> was recorded. In addition, noise sources was recorded on a standard record sheet.
  - Noise monitoring will be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring was provided to ensure sufficient data would be obtained.



Maintenance and Calibration

- 4.6 The microphone head of the sound level meter and calibrator was cleaned with a soft cloth at quarterly intervals.
- 4.7 The sound level meter and calibrator was checked and calibrated at yearly intervals.
- 4.8 Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

**Results and Observations**

- 4.9 One (1) Limit Level exceedance during daytime was recorded due to monitoring results in this reporting month. No project-related Action/ Limit level exceedances for evening/night-time construction noise monitoring was recorded.
- 4.10 Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 4.11 The major noise source identified at the noise monitoring stations are shown in **Table 4.4**.

**Table 4.4 Major Noise Source during Noise Monitoring**

<b>Monitoring Stations</b>	<b>Locations</b>	<b>Major Noise Source</b>
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM4	Tin Hau Temple, Cha Kwo Ling	Road Traffic at Cha Kwo Ling Road
CM5	CCC Kei Faat Primary School, Yau Tong	Road Traffic at Yau Tong Road
CM6(A)	Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores	Road Traffic at O King Road near Ocean Shores
CM7(A)	Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores	Road Traffic at Tong Yin Street
CM8(A)	Park Central, L1/F Open Space Area	Road Traffic at Po Yap Road

- 4.12 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured  $L_{eq}$  – Baseline  $L_{eq}$  = CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 4.5, 4.6 and 4.7**.

**Table 4.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations**

Station	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
CM1	65.5	75
CM2	63.6	
CM3	65.6	
CM4	62.0	
CM5	68.2	70*
CM6(A)	61.9	75
CM7(A)	58.3	
CM8(A)	69.1	

(\*) Noise Limit Level is 65 dB(A) during school examination periods.

**Table 4.6 Baseline Noise Level and Noise Limit Level for Monitoring Stations (Evening-time & Daytime (Holiday))**

Station	Baseline Noise Level, dB (A) (Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime (0700-1900 hrs))	Noise Limit Level, dB (A) (Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime (0700-1900 hrs))
CM1	64.4	70
CM2	62.2	
CM3	64.7	
CM6(A)	60.2	65 <sup>1</sup>

1. ASR B was adopted according to the EIA as traffic in the surrounding area has not been changed.

**Table 4.7 Baseline Noise Level and Noise Limit Level for Monitoring Stations (Night-time)**

Station	Baseline Noise Level, dB (A) (Night-time (2300 – 0700 hrs))	Noise Limit Level, dB (A) (Night-time (2300 – 0700 hrs))
CM1	14-day baseline monitoring results for the time period of impact measurement at each station would be adopted	55
CM2		
CM3		

## 5. WATER QUALITY

### Monitoring Requirements

#### Groundwater Quality

- 5.1 The existing groundwater quality monitoring programme has been suspended as the monitoring results had been deemed non-representative of the impact from the project justified by two major factors: (1) influence on the monitoring results from non-project related factors, such as anthropogenic activities and natural phenomenon; and (2) large separation between the monitoring stations and works area. In addition, as no alternative locations for the groundwater quality monitoring were available, the groundwater quality monitoring has been suspended since October 2019 upon the agreement by EPD.

#### Marine Water Quality

- 5.2 Marine water quality monitoring was conducted three times per week at the designated monitoring stations. Monitoring took place two times per monitoring day during mid ebb and mid flood tides at three depths (1 meter from surface, mid depth and 1 meter from the bottom). For Tseung Kwan O Salt Water Intake (i.e. Station M6), water sampling and in-situ measurements was taken at the vertical level where the water abstraction point of the intake is located (i.e. approximately mid-depth level). If the water depth is less than 6m, the mid-depth measurement may be omitted. If the depth is less than 3m, only the mid-depth measurements need to be taken.
- 5.3 Duplicate in-situ measurements (Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity) and water samples (suspended solids (SS)) at each depth were monitored in accordance with the requirements in the EM&A Manual. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides were not less than 0.5m.
- 5.4 According to the Environmental Review Report (ERR) for Variations of Environmental Permit (Ref: C45-03), water quality monitoring and audit programme was implemented for monitoring of oxygen depletion (e.g. Dissolved Oxygen (DO) level) in this embayed waters during the period when the fully enclosed barrier is installed. A “Proposal for Water Quality Monitoring in Temporary Marine Embayment” has been submitted to EPD in July 2017 to propose the monitoring frequency, parameter, location, etc. EPD has no further comment on the Proposal. Since January 2020, the cofferdam has been partially removed and the seawater is no longer enclosed. Therefore, no embayment water quality monitoring is required.

#### Groundwater Level Monitoring (Piezometer Monitoring)

- 5.5 Daily piezometer monitoring at any time of the day shall be carried throughout the whole period when any tunnel construction activities are carried out within +/- 50m of the piezometer gate in plan. The monitoring commenced in June 2018. It has switched to monthly basis since 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

## Monitoring Locations

### Marine Water Quality

- 5.6 A total of twelve monitoring stations are designated for the water quality monitoring program according to EM&A Manual. One additional monitoring station (W1) is designated for monitoring of oxygen depletion in the embayed waters during the period when the fully enclosed barrier is installed. In addition, an extra monitoring station (W2) was set up in December 2021 for post-reclamation marine water monitoring. The locations are also summarized in **Table 5.2**. Their locations shown on **Figure 5** with the exception of W2, which was presented in **Figure 9**.

**Table 5.2 Marine Quality Monitoring Stations**

Monitoring Stations	Descriptions	Coordinates	
		Easting	Northing
M1	Junk Bay Coral Site – Junk Bay near Chiu Keng Wan	844255	817565
M2	Junk Bay Coral Site – Junk Bay	844076	817087
M3	Junk Bay Coral Site – Junk Island	844491	817890
M4	Junk Bay Coral Site – Chiu Keng Wan	843209	816416
M5	Junk Bay Coral Site – Fat Tong Chau	845463	815769
M6	Tseung Kwan O Salt Water Intake	845512	817442
C1	Control Station – Southeast	844696	814773
C2	Control Station – Northwest	842873	816014
G1	Gradient Station	844418	817560
G2	Gradient Station	844290	817384
G3	Gradient Station	844488	817735
G4	Gradient Station	844967	817551
W2	Embayed Area formed by TKO-LT Tunnel Reclamation	844313	817801

### Monitoring Equipment

- 5.7 For in-situ monitoring, a multi-parameter meter was used to measure Dissolved oxygen (DO) concentration, DO saturation (DO %), pH, temperature and turbidity. A sampler was used to collect water samples for laboratory analysis of SS, BOD<sub>5</sub>, TOC, Total Nitrogen, Ammonia-N and Total Phosphate.

#### Dissolved Oxygen (DO) and Temperature Measuring Equipment

- 5.8 The instrument for measuring dissolved oxygen and temperature was portable and weatherproof complete with cable, sensor, comprehensive operation manuals and use DC power source. It was capable of measuring:
- a dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation; and
  - a temperature of 0-45 degree Celsius.
- 5.9 It has a membrane electrode with automatic temperature compensation complete with a cable.
- 5.10 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.11 Salinity compensation was built-in in the DO equipment.

Turbidity

- 5.12 Turbidity was measured in-situ by the nephelometric method. The instrument was portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not be less than 25m in length.

pH

- 5.13 The instrument was consisting of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It was readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

Water Depth Detector

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

Water Sampler

- 5.15 Water samples collected for laboratory analysis were stored in high density polythene bottles sample containers, with appropriate preservatives added. All sampling bottles were labelled (waterproof) with the sampling date and time, sample lot number and sampling location reference number to avoid mishandling.

Sample Container and Storage

- 5.16 Following collection, water samples for laboratory analysis were stored in high density polythene bottles, with preservative appropriately added where necessary. They will be packed in ice (cooled to 4°C without being frozen), delivered to the laboratory and analysed as soon as possible.

Calibration of In-Situ Instruments

- 5.17 All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring.
- 5.18 For the on-site calibration of field equipment, the BS 1427:1993, "Guide to Field and on-site test methods for the analysis of waters" was observed.
- 5.19 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe. The probe was then be calibrated with a solution of known NTU.
- 5.20 Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.
- 5.21 **Table 5.3** summarizes the equipment used in the water quality monitoring program. Copies of the calibration certificates of the equipment are shown in **Appendix B**.

**Table 5.3 Water Quality Monitoring Equipment**

Equipment	Model and Make	Qty.
Water Sampler	Kahlsico Water-Bottle Model 135DW 150	1
Multi-parameter Water Quality System	YSI 6820-C-M	0
	Aquaread AP-2000-D	0
	YSI EXO1 Multiparameter Sondes	1
Monitoring Position Equipment	“Magellan” Handheld GPS Model GPS-320	1
Water Depth Detector	Fishfinder 140	1

**Monitoring Parameters and Frequency**

5.22 **Table 5.4** summarizes the monitoring parameters, monitoring period and frequencies of the water quality monitoring in the reporting period.

**Table 5.4 Water Quality Monitoring Parameters and Frequency**

Monitoring Stations	Parameters, unit	Depth	Frequency
<b>Marine Water Quality</b>			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	<i>In-situ:</i> Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity  <i>Laboratory Testing:</i> Suspended Solids (SS)	<u>M1-M5, C1-C2, G1-G4</u> <ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above sea bed.</li> <li>If the water depth is less than 3m, mid-depth sampling only.</li> <li>If the water depth is less than 6m, omit mid-depth sampling.</li> </ul> <u>M6</u> <ul style="list-style-type: none"> <li>at the vertical level where the water abstraction point of the intake is located (i.e. approximately mid-depth level)</li> </ul>	3 days per week / 2 per monitoring day (1 for mid-ebb and 1 for mid-flood)
W2	<i>In-situ:</i> Dissolved oxygen (DO), pH, temperature and salinity	<ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above sea bed.</li> <li>If the water depth is less than 3m, mid-depth sampling only.</li> <li>If the water depth is less than 6m, omit mid-depth sampling.</li> </ul>	Once per month

## Monitoring Methodology

### Marine Water Quality

- 5.23 The monitoring stations were accessed using survey boat by the guide of a hand-held Global Positioning System (GPS). The depth of the monitoring location was measured using depth meter in order to determine the sampling depths. Afterwards, the probes of the in-situ measurement equipment was lowered to the predetermined depths (1 m below water surface, mid-depth and 1 m above seabed) and the measurements was carried out accordingly. The in-situ measurements at predetermined depths was carried out in duplicate. In case the difference in the duplicate in-situ measurement results was larger than 25%, the third set of in-situ measurement would be carried out for result confirmation purpose.
- 5.24 Water sampler was lowered into the water to the required depths of sampling. Upon reaching the pre-determined depth, a messenger to activate the sampler was then released to travel down the wire. The water sample was sealed within the sampler before retrieving. At each station, water samples for SS at three depths (1 m below water surface, mid-depth and 1 m above seabed) were collected accordingly. Water samples were stored in a cool box and kept at less than 4°C but without frozen and sent to the laboratory as soon as possible.

### Laboratory Analytical Methods

- 5.25 The testing of all parameters were conducted by ALS Hong Kong (HOKLAS Registration No.083) and comprehensive quality assurance and control procedures in place in order to ensure quality and consistency in results. The testing method and limit of reporting are provided in **Table 5.5**.

**Table 5.5 Methods for Laboratory Analysis for Water Samples**

Parameters (Unit)	Proposed Method	Reporting Limit	Detection Limit
SS (mg/L)	APHA 2540 D	0.5 mg/L <sup>(1)</sup>	0.5 mg/L
BOD <sub>5</sub> (mg O <sub>2</sub> /L)	APHA 19ed 5210B	2 mg O <sub>2</sub> /L	--
TOC (mg-TOC/L)	In-house method SOP020 (Wet Oxidation)	1 mg-TOC/L	--
Total Nitrogen (mg/L)	In-house method SOP063 (FIA)	0.6 mg/L	--
Ammonia-N (mg NH <sub>3</sub> -N/L)	In-house method SOP057 (FIA)	0.05 mg NH <sub>3</sub> -N/L	--
Total Phosphorus (mg-P/L) <sup>(2)</sup>	In-house method SOP055 (FIA)	0.05 mg-P/L	--

Note:

1) Limit of Reporting is reported as Detection Limit for non-HOKLAS report.

2) Parameter Total Phosphorus represents the laboratory testing for total phosphate content in water which is the sum of all three forms of phosphates in water.

## QA/QC Requirements

### Decontamination Procedures

- 5.26 Water sampling equipment used during the course of the monitoring programme was decontaminated by manual washing and rinsed clean seawater/distilled water after each sampling event. All disposal equipment was discarded after sampling.

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### Sampling Management and Supervision

- 5.27 Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.
- 5.28 QA/QC procedures as attached in **Appendix J** are available for the parameters analysed in the HOKLAS-accredited laboratory, ALS Hong Kong.

### **Results and Observations**

#### Groundwater Quality Monitoring

- 5.29 Monitoring of groundwater quality had been suspended since October 2019. (Details refer to Section 5.1)

#### Marine Water Quality Monitoring

- 5.30 Marine water monitoring results and graphical presentations are shown in **Appendix I**. Other relevant data was also recorded, such as monitoring location / position, time, sampling depth, weather conditions and any special phenomena or work underway nearby.
- 5.31 Calculated Action and Limit Levels for Marine Water Quality is presented in **Appendix I**. There were fourteen (14) Action Level and sixty-four (64) Limit Level exceedances recorded in Monitoring Stations (M) during marine water quality monitoring.
- 5.32 The monitoring result for post-reclamation marine water quality monitoring is present in **Appendix W**. No action or limit level of dissolved oxygen is recorded in the reporting month.
- 5.33 Exceedances of turbidity and suspended solid were recorded on from various monitoring stations non-specifically among all stations including the control stations. Investigations over March 2022 showed that the range of SS levels recorded in March 2022 remained consistent with the records in recent months. All Contractor is reminded to strictly follow the approved drainage plan and clear drainage regularly. In particular, all drainage shall be checked and cleared after heavy rainstorm as sediments may accumulate along pipes and culverts. Further details can be found in **Appendix K**.
- 5.34 Silt curtain inspections are carried out before the commencement of the construction works every day and diving surveys are also conducted once a week to inspect the silt curtain below the water level. The inspection report are verified by both the RE and the diving specialist and the records are reviewed weekly during the site audits.



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Groundwater Level Monitoring (Piezometer Monitoring)

- 5.35 Daily piezometer monitoring at any time of the day shall be carried throughout the whole period when any tunnel construction activities are carried out within +/- 50m of the piezometer gate in plan.
- 5.36 Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. As the construction activity was 120m away from the piezometer gate, no monitoring was conducted in this reporting month.

Mitigation Measures Adopted by Contractors for Surface runoff Prevention

- 5.37 During dry season, the Contractors have maintained the mitigation measures adopted on Site, in order to prevent surface run-off and muddy water from discharging to the public areas. The mitigation measures adopted by each Contract are summarised below:

NE2015/01

- 5.38 At Lam Tin Side, the Site drainage systems are divided into two parts, namely the site formation and tunnel site drainage which includes:
1. Site formation drainage system collects surface run-off from open excavation areas including slope works and flows naturally to the lowest point in the Site, where they are pumped to the wetseps and sedimentation tank for treatment near LTI site entrance before they are discharged to the designated discharge point.
  2. Tunnel drainage system collects surface run-off from the tunnel which are then pumped to the sedimentation tanks near tunnel adit, where three sets of wetseps and sedimentation tanks were set up. The treated water will be discharged to designated discharge point near the Eastern Harbour Crossing (EHC) area.
- 5.39 At Eastern Harbour Crossing (EHC), two sets of wetseps and sedimentation tanks are set up on site. The wastewater will flow to the lowest catchpit by gravity, which are then pumped to wetseps for wastewater treatment. The sandbags/bunds are also set up at the vehicle entrance to surface run-off from the Site.
- 5.40 At Tseung Kwan O (TKO), the surface run-off from the slope are directed to the lowest point at cavern via the permanent drainage, which are then pumped to the sedimentation tanks for wastewater treatment via temporary pipes. The treated water will be discharged at designated discharge points. The wetseps and sedimentation tanks are provided under the BMCPC bridge and at the two sides of marine working platform. Water from natural stream will also be diverted to existing drainage to avoid overloading the capacity of the wastewater treatment system. The reservoir on the right side of marine working platform will be enlarged to cater for higher water storage demands. During heavy rainfall, the water stored at the exit of the tunnel shall be pumped into the sedimentation tanks on the right.

NE2015/02

- 5.41 The exposed sloped area at Portion 9 has been covered with geotextile or tarpaulin to avoid surface run-off. Since March 2021, the stormwater at Portion IX, VIII, VII, VI, II and I will be collected towards to the sedimentation tanks at the edge of site boundary.

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- 5.42 Certain amount of stormwater received in Portion 9 will be directed and pumped via the flex tube and sump towards the water treatment system and the approved discharge points (as shown in **Appendix V**). Water generated from Portion VI and V and some water in Portion IX are treated via storage tanks and sedimentation tanks and discharged into approved discharge points (manholes of DN2100 Drain and Area Z).
- 5.43 The peripheral open U-channel are also provided along the site boundary, which shall be directed to the storage tank and WetSep for treatment in Area A.
- 5.44 Regular cleaning depending on site conditions are provided for the WetSep at Area A and Z; and the storage tanks and sedimentation tanks at Area A. The water treated by the sedimentation tank and the wetsep shall be discharged towards the designated discharge point. Quality of the effluent are also monitored regularly.

NE2017/02

- 5.45 Existing manholes are covered with sandbags and geotextiles to avoid surface run-off from entering the channels.
- 5.46 Stockpiles are covered with tarpaulin to avoid surface run-off.
- 5.47 Concrete blocks and sandbags are placed along the periphery of the site boundary to avoid surface run-off.
- 5.48 Stormwater within the site enters the excavated area and flow naturally into the sump due height difference. The stormwater collected in the sump shall be pumped into the sedimentation tank where the run-off is treated before discharging into the designated discharge point.

NE2015/03

- 5.49 The existing manhole cover are covered with geotextile to prevent muddy water from entering the existing U-channels along the side of Po Shun Road. Manhole inspection are carried out by taking silt measurement regularly in case if silt enters the channel, and silt shall be removed from the manhole if silt were found.
- 5.50 Sandbags were placed at the periphery of the site along the hoarding to prevent surface runoff from escaping the site.
- 5.51 Exposed slopes are covered with tarpaulin to prevent surface run-off.
- 5.52 The surface run-off shall be pumped into the sedimentation tank where they are treated before entering the designated discharge points.

NE2017/01

- 5.53 Temporary peripheral open U-channels and sumps are provided for collecting the stormwater, which are pumped and directed towards the sedimentation tank for treatment. The treated water shall be directed to the designated discharge point.

## 6. ECOLOGY

### Post-Translocation Coral Monitoring

- 6.1 Post-translocation monitoring survey is recommended in the EM&A Manual to audit the success of coral translocation. Information gathered during each post-translocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey.
- 6.2 Under Contract No. NE/2015/01 and NE/2015/02, a total of 14 and 29 coral colonies were tagged and translocated respectively from the Donor Site to the Recipient Site in November 2016. Ten (10) corals at the Recipient Site were also tagged by each Contract as reference for post-translocation monitoring.
- 6.3 The post-translocation coral monitoring shall be conducted once every 3 months after completion for a period of 12 months. Location of post-translocation coral monitoring is shown in **Figure 7**. The fourth post-translocation coral monitoring was carried out on 07 November 2017. No further monitoring is required.

## 7. CULTURAL HERITAGE

### Monitoring Requirement

- 7.1 According to the EP Conditions and EM&A Manual, monitoring of vibration impacts was conducted when the construction works are less than 100m from the Built Heritage in close proximity of the worksite, namely the Cha Kwo Ling Tin Hau temple. Tilting and settlement monitoring should be applied on the Cha Kwo Ling Tin Hau Temple. Construction works less than 100m from the Cha Kwo Ling Tin Hau temple commenced on 8 May 2017.
- 7.2 As stated in the “*Built Heritage Mitigation Plan*” for this Project, during the period of the construction works conducted within 100m from the Cha Kwo Ling Tin Hau Temple, monitoring on settlement and tilting will be conducted once a day for the Cha Kwo Ling. Monitoring of vibration will be conducted during blasting at Cha Kwo Ling area once a day. When there is no blasting to be conducted at the area, vibration monitoring at the Cha Kwo Ling Tin Hau Temple will be conducted once per day when there are piling works or rock breaking works within the 100m from the Cha Kwo Ling Tin Hau Temple.

### Monitoring Locations

- 7.3 One vibration monitoring point and three building settlement monitoring points were proposed for monitoring of the cultural heritage. The building settlement markers were placed on the wall on three sides of the Temple, except the front, of the Cha Kwo Ling Tin Hau Temple and the vibration monitoring point is located within the Cha Kwo Ling Tin Hau Temple. Monitoring Location is shown in **Figure 8**.

### Monitoring Equipment

- 7.4 Building settlement is measured via a settlement marker attached to the wall of Cha Kwo Ling Tin Hau Temple by adhesive tape.
- 7.5 Vibration monitoring was conducted by using vibrographs: Minimate Plus manufactured by InstanTel. These vibrographs will be calibrated annually and its performance follows the requirements given in the “*Guidance Note on Vibration Monitoring*” (GN-VM) issued by the Civil Engineering and Development Department, which is based on the Performance Specification for Blasting Seismographs by International Society of Explosive Engineers (ISEE (2000)).
- 7.6 **Table 7.1** summarizes the equipment employed by the Contractor for cultural heritage monitoring. Copies of calibration certificates are attached in **Appendix B**.

**Table 7.1 Cultural Heritage Monitoring Equipment**

Equipment	Manufacturer and Model	Quantity
Digital Level for tilting	Leica LS15 Serial No.: 701141	1
Digital Caliper for tilting	Mitutoyo CD-6” ASX Serial No.: A17047921	1
iCivil-1011 Inclinometer for building settlement	iCivil-1011 Inclinometer Serial No.: HK110118 / HK110120	2
Vibrographs for vibration monitoring	MiniMate Plus / MicroMate manufactured by InstanTel Model No.: 716A0403 / 721A2501	33

## Monitoring Methodology

- 7.7 Vibrograph (velocity seismograph) was deployed at each monitoring station to measure and record the PPV and amplitude of ground motion in three mutually perpendicular directions. Vibration monitoring equipment fulfils the requirements stated in the Government guidelines and is calibrated to HOKLAS standards. Each monitoring would not be more than 10 minutes. Settlement monitoring should be conducted by surveyors manually.

## Alert, Alarm and Action Levels

- 7.8 The Alert, Alarm and Action (AAA) Levels are given in **Table 7.2**.

**Table 7.2 AAA Levels for Monitoring for Cultural Heritage**

Parameter	Alert Level	Alarm Level	Action Level
Vibration	ppv: 4.5 mm/s	ppv: 4.8 mm/s	ppv: 5mm/s Maximum Allowable Vibration Amplitude: 0.1mm
Building Settlement Markers	6mm	8mm	10mm
Building Tilting <sup>(1)</sup>	1:2000	1:1500	1:1000

Remarks:

- (1) Building tilting measurement was replaced by building settlement point measurement. The tilting can be calculated by the ratio of the maximum settlement difference between 2 points and the distance between the 2 points.

## Results

- 7.9 In the reporting month, cultural heritage monitoring was carried out by the Contractor at the aforesaid location on 26 occasions. No AAA Level exceedance was recorded in the reporting month. The monitoring results are presented in **Appendix T**.

## Mitigation Measures for Cultural Heritage

- 7.10 According to Condition 3.6 of the EP (EP No.: EP-458/2013/C), to prevent damage to Cha Kwo Ling Tin Hau Temple and its Fung Shui rocks (Child-given rocks) during the construction phase, a temporarily fenced-off buffer zone (Rocks buffer zone is 5 m from the edge of Rocks and 15m from the edge of Rocks alter) with allowance for public access (minimum 1 m) around the temple and the Fung Shui rocks shall be provided. The open yard in front of the temple should be kept as usual for annual Tin Hau festival.
- 7.11 As there is a large buffer distance from the current works to Cha Kwo Ling Tin Hau Temple and the Fung Shui rocks (Child-given rocks), the temporarily fenced-off rocks buffer zone and from the edge of Rocks alter is not required. The fenced-off rocks buffer zone would be implemented when there is construction activities in vicinity of the cultural heritage.

## **8. LANDSCAPE AND VISUAL IMPACT REQUIREMENTS**

- 8.1 Landscape and visual mitigation measures during the construction phase shall be checked to ensure that they are fully realized and implemented on site.
- 8.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures listed in “Implementation Schedule and Recommended Mitigation Measures” (shown in **Appendix N**). The summaries of observations and recommendations related to landscape and visual impacts, if any, are shown in **Appendix L**.
- 8.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.

## 9. LANDFILL GAS MONITORING

### Monitoring Requirement

- 9.1 In accordance with the EM&A Manual, monitoring of landfill gas is required for construction works within the Sai Tso Wan Landfill Consultation Zone during the construction phase. This section presents the results of landfill gas measurements performed by the Contractor. **Appendix A** shows the Limit Levels for the monitoring works.
- 9.2 The “Landfill Gas Monitoring Proposal”, including the monitoring programme and detailed actions, is submitted to the EPD for approval. Details of monitoring in this Proposal is in line with the monitoring requirements stipulated in the EM&A Manual.

### Monitoring Parameters and Frequency

- 9.3 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.
- 9.4 According to the implementation schedule and recommended mitigation measures of the EM&A Manual, measurements of the following frequencies should be carried out:

#### Excavations deeper than 1m

- at the ground surface before excavation commences;
- immediately before any worker enters the excavation;
- at the beginning of each working day for the entire period the excavation remains open; and
- periodically throughout the working day whilst workers are in the excavation.

#### Excavations between 300mm and 1m deep

- directly after the excavation has been completed; and
- periodically whilst the excavation remains open.

#### For excavations less than 300mm deep

- monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person

### Monitoring Locations

- 9.5 Monitoring of oxygen, methane and carbon dioxide was performed for excavations at 1m depth or more within the Consultation Zone. In this reporting month, the area required to be monitored for landfill gas are shown below and **Figure 6** shows the landfill gas monitoring locations.

- |                                  |               |
|----------------------------------|---------------|
| ➤ Excavation Locations           | : Portion III |
| ➤ Manholes and Chambers          | : N/A         |
| ➤ Relocation of monitoring wells | : N/A         |
| ➤ Any other Confined Spaces      | : N/A         |

### Monitoring Equipment noise mitigation

- 9.6 **Table 9.1** summarizes the equipment employed by the Contractor for the landfill gas monitoring.

**Table 9.1 Landfill Gas Monitoring Equipment**

<b>Equipment</b>	<b>Model and Make</b>	<b>Quantity</b>
Portable gas detector	ALTAIR 5X Multigas Detector (Serial No. 137333)	1

**Results and Observations**

- 9.7 In the reporting month, landfill gas monitoring was carried out by the Contractor at the aforesaid locations on 130 occasions. No Limit Level exceedance for landfill gas monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix R**. Copies of calibration certificates are attached in **Appendix B**.



## 10. ENVIRONMENTAL AUDIT

### Site Audits

- 10.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix L**.
- 10.2 Joint weekly site audits by the representatives of the Engineer, Contractor and the ET were conducted in the reporting month as shown in below:
- Contract No. NE/2015/01: 2, 9, 16, 23, 30
  - Contract No. NE/2015/02: 3, 11, 17, 24, 31
  - Contract No. NE/2017/01: 3, 11, 17, 24, 31
  - Contract No. NE/2017/02: 3, 11, 17, 24, 31
  - Contract No. NE/2017/06: 3, 11, 17, 24, 31
  - Contract No. NE/2017/07: 2, 9, 16, 23, 30
- 10.3 Monthly joint site inspection with the representative of IEC was conducted for NE/2015/01 and NE/2017/07 on 30 March 2022, while NE/2015/02, NE/2017/01, NE/2017/02 and NE/2017/06 were conducted on 24 March 2022.
- 10.4 The EM&A programme of Contract No. NE/2015/03 had been terminated on 21 April 2020 under the approval of EPD.

### Implementation Status of Environmental Mitigation Measures

- 10.5 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Implementation Schedule and Recommended Mitigation Measures is provided in **Appendix N**.
- 10.6 During site inspections in the reporting month, no non-compliance was recorded on reporting month. The observations and recommendations made during the audit sessions are summarized in **Appendix L**.

## 11. WASTE MANAGEMENT

- 11.1 Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials and marine sediments. Inert C&D waste includes soil, broken rock, broken concrete and building debris, while non-inert C&D materials are made up of C&D waste which cannot be reused or recycled and has to be disposed of at the designated landfill sites. Marine sediment shall be expected from excavation and dredging works of this Project.
- 11.2 With reference to relevant handling records of this Project, the quantities of different types of waste generated in the reporting month are summarised and presented in **Appendix P**.
- 11.3 The Contractors are advised to minimize the wastes generated through the recycling or reusing. All mitigation measures stipulated in the approved EM&A Manual and waste management plans shall be fully implemented. The status of implementation of waste management and reduction measures are summited in **Appendix N**.

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## 12. ENVIRONMENTAL NON-CONFORMANCE

### Summary of Exceedances

- 12.1 One (1) Limit Level exceedance of noise was recorded due to the monitoring results in the reporting month. Three (3) Action Level exceedances of construction noise were recorded in the reporting month.
- 12.2 No Limit Level exceedance of air quality was recorded in the reporting month. No Action Level exceedance of air quality monitoring was recorded in the reporting month.
- 12.3 Fourteen (14) Action Level and Sixty-four (64) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.
- 12.4 No Action and Limit Level exceedances were recorded for W2 during the post-reclamation marine water quality monitoring.
- 12.5 Actions carried out in accordance with the Event and Action Plans in **Appendix M** are presented in **Appendix K** – Summary of Exceedance.

### Summary of Environmental Complaint

- 12.6 Four (4) environmental complaints were received in the reporting month. The Cumulative Complaint Log is presented in **Appendix O**. The investigation status and result is also reported in **Appendix O**.

### Summary of Environmental Summon and Successful Prosecution

- 12.7 No notification of summon or successful environmental prosecution was received in this reporting period. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix O**.

### 13. FUTURE KEY ISSUES

13.1 Tentative construction programmes for the next three months are provided in **Appendix Q**.

13.2 Major site activities to be undertaken for the next reporting period are summarized in **Table 13.1**.

**Table 13.1 Summary Table for Site Activities in the next Reporting Period**

<b>Contract No. and Project Title</b>	<b>Site Activities (April 2022)</b>		<b>Key Environmental Issues *</b>
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough & Noise Enclosure 2) Site Formation Area 1G1 & 1G2 & 5 3) Site Formation Area 2 4) Site Formation Slope Stabilization 5) Site Formation Retaining Wall 6) Administration Building 7) West Ventilation Building 8) Bridge Construction 9) Emergency Stormwater Storage Tank + Stormwater Pumping Station 10) S01_2, EHC1&4 Construction 11) CKLR Underground Utilities 12) Underpass S01 13) Landscape Deck & Noise Cover 14) LTI Drainage 15) Road EHC4 Site Formation Works	(A) / (B) / (C) / (D) / (E) / (G)
	Main Tunnel	16) Main Tunnel Lining Works 17) Branch Tunnel Lining Works 18) S02_2 Excavation & Lining 19) Tunnel E&M Works	(B)
	TKO Interchange	20) Bridge Construction 21) East Ventilation Building 22) Underground Utilities / Drainage Works	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Sloping Seawall Construction 2) Construction of U-trough 3) Construction of Seawall Coping 4) Construction of Road P2 and SR2		(A) / (B) / (C) / (D) / (E) / (G) / (I)
NE/2015/03 - Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. Materials are being removed from works area.		N/A
NE/2017/01 – Tseung Kwan O Interchange and Associated Works	1) Installation of Railing 2) Construction of Concrete Profile barrier 3) Grouting Works 4) Installation of Road Drainage and Drain Pipe 5) Road pavemnet and road marking		(A) / (B) / (E) / (F) / (G)
NE/2017/02 –Tseung Kwan O - Lam Tin Tunnel - Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Construction of drainage and watermain 3) Asphalt Paving 4) Pier, Staircase and Lift Shalt Construction 5) Road Works 6) Road Pavement and Road Marking		(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and	1) Goods arrival & storage on site 2) Installation in Admin Building 3) Installation works inside Tunnel 4) Installation works inside EVB		(E)

<b>Contract No. and Project Title</b>	<b>Site Activities (April 2022)</b>	<b>Key Environmental Issues *</b>
Surveillance System(TCSS) and Associated Works		
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) Top, transverse, bottom and external tension 2) Construction of long stitching 3) Construction of concrete structure above deck 4) Construction of steel-concrete transition zone 5) Waterproofing works 6) Installation of parapet 7) Construction of steel-concrete transition zone 8) Installation of sign gantries 9) Road Pavement	(A) / (B) / (D) / (E) / (F) / (G) / (H) / (I)

**Note:**

- (A) Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- (B) Noisy construction activity such as rock-breaking activities and piling works;
- (C) Runoff from exposed slope or site area;
- (D) Wastewater and runoff discharge from site;
- (E) Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
- (F) Set up and implementation of temporary drainage system for the surface runoff;
- (G) Storage of chemicals/fuel and chemical waste/waste oil on site;
- (H) Accumulation and storage of general and construction waste on site; and
- (I) Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation.

**Key Issues for the Coming Month**

## 13.3 Key environmental issues in the coming month include:

- Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- Noisy construction activity such as rock-breaking activities and piling works;
- Runoff from exposed slope or site area;
- Wastewater and runoff discharge from site;
- Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
- Set up and implementation of temporary drainage system for the surface runoff;
- Precaution measures in case of heavy rainfall brought along by typhoon;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation and storage of general and construction waste on site; and
- Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation.

## 14. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 14.1 This is the 64th Environmental Monitoring and Audit (EM&A) Report which presents the EM&A works undertaken during the period in March 2022 in accordance with EM&A Manual and the requirement under EP.

#### Air Quality Monitoring

- 14.2 No Action/Limit Level exceedance for 1-hour TSP monitoring was recorded.
- 14.3 No Limit Level exceedance for 24-hour TSP monitoring was recorded.
- 14.4 No Action Level exceedance for 24-hour TSP monitoring was recorded.

#### Construction Noise Monitoring

- 14.5 One (1) Limit Level exceedance was recorded due to the monitoring results recorded in this reporting month.
- 14.6 Three (3) Action Level exceedance was recorded for documented complaints. The details of complaint shall be referred to **Appendix O**.

#### Water Quality Monitoring

- 14.7 Groundwater quality monitoring had been suspended since October 2019. Details shall be referred to **Section 5.1**.
- 14.8 Fourteen (14) Action Level and sixty-four (64) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.
- 14.9 No Action and Limit Level exceedances were recorded for W2 during the post-reclamation marine water quality monitoring in the reporting month.
- 14.10 Tunnel construction activities are within +/- 50m of the piezometer gate in plan. Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. It has switched to monthly basis since 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

#### Ecological Monitoring

- 14.11 The post-translocation coral monitoring surveys were completed in November 2017.

#### Monitoring on Cultural Heritage

- 14.12 No Alert Alarm and Action (AAA) Level exceedance of cultural heritage monitoring on cultural heritage was recorded in the reporting month.

#### Landscape and Visual Monitoring and Audit

- 14.13 No non-compliance of the landscape and visual impact was recorded in the reporting month.

#### Landfill Gas Monitoring

- 14.14 Monitoring of landfill gases in the reporting month was carried out by the Contractor at excavation location, Portion III. No Limit Level exceedance was recorded.

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### Environmental Site Inspection

- 14.15 Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Environmental Team. During site inspections in the reporting month, no non-compliance was identified. The environmental deficiency observed during the reporting month are shown in **Appendix L**.

### Complaint, Prosecution and Notification of Summons

- 14.16 Four (4) environmental complaints, no successful prosecution and notification of summon were received during the reporting period.

### **Recommendations**

- 14.17 The following recommendations were made to the Contractor for the reporting month:

#### *Air Quality Impact*

- To regularly apply watering on dry surface should be applied to minimize erosion.
- To aim the water spray at the rock breaking point for effective dust suppression.
- To water materials before loading/unloading.
- To turn off idle equipment.

#### *Construction Noise*

- To provide sufficient noise barriers for noisy PMEs as practically at LTI according to CNMP.
- To repair the gaps between the noise barriers.
- To place compatible noise barrier close to the breaking point for effective noise screening.
- To erect sound proof canvases on derrick lighter barge

#### *Water Quality Impact*

- To clear the oil slick and check for any damage of the silt curtain.
- To repair damaged or missing silt curtain
- To check whether the curtain has been set to the seabed.
- To ensure that the pumping rate of bored pile is sufficient to avoid discharging waste water into the sea.
- To clear floating refuse between the cofferdam and silt curtain.
- To clear oil slick within and outside cofferdam.
- To control the amount of loading materials in the barge to avoiding spillage.
- To cover stockpile near seafront.
- To remove wastewater and oil in drip tray.
- To remove pond/still water.

#### *Waste/Chemical Management*

- To bund or lock the chemical storage area.
- To clear dripping oil from bored piling machine.
- To clear oil slick on seawater.
- To clear oil on the floor.

#### *Landscape and Visual*

- To avoid placing any construction materials in the tree protection zone.

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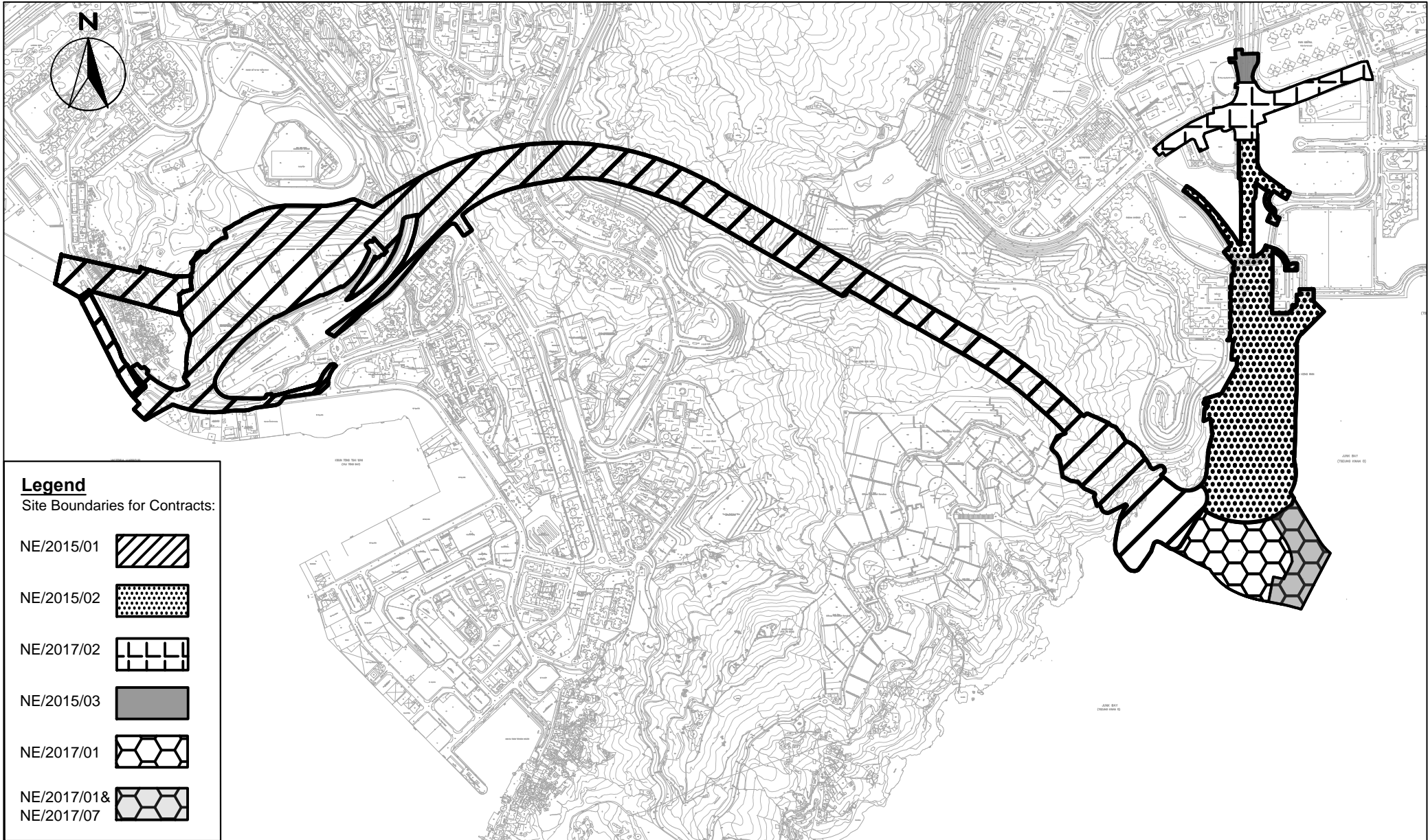
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## FIGURES

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**Legend**  
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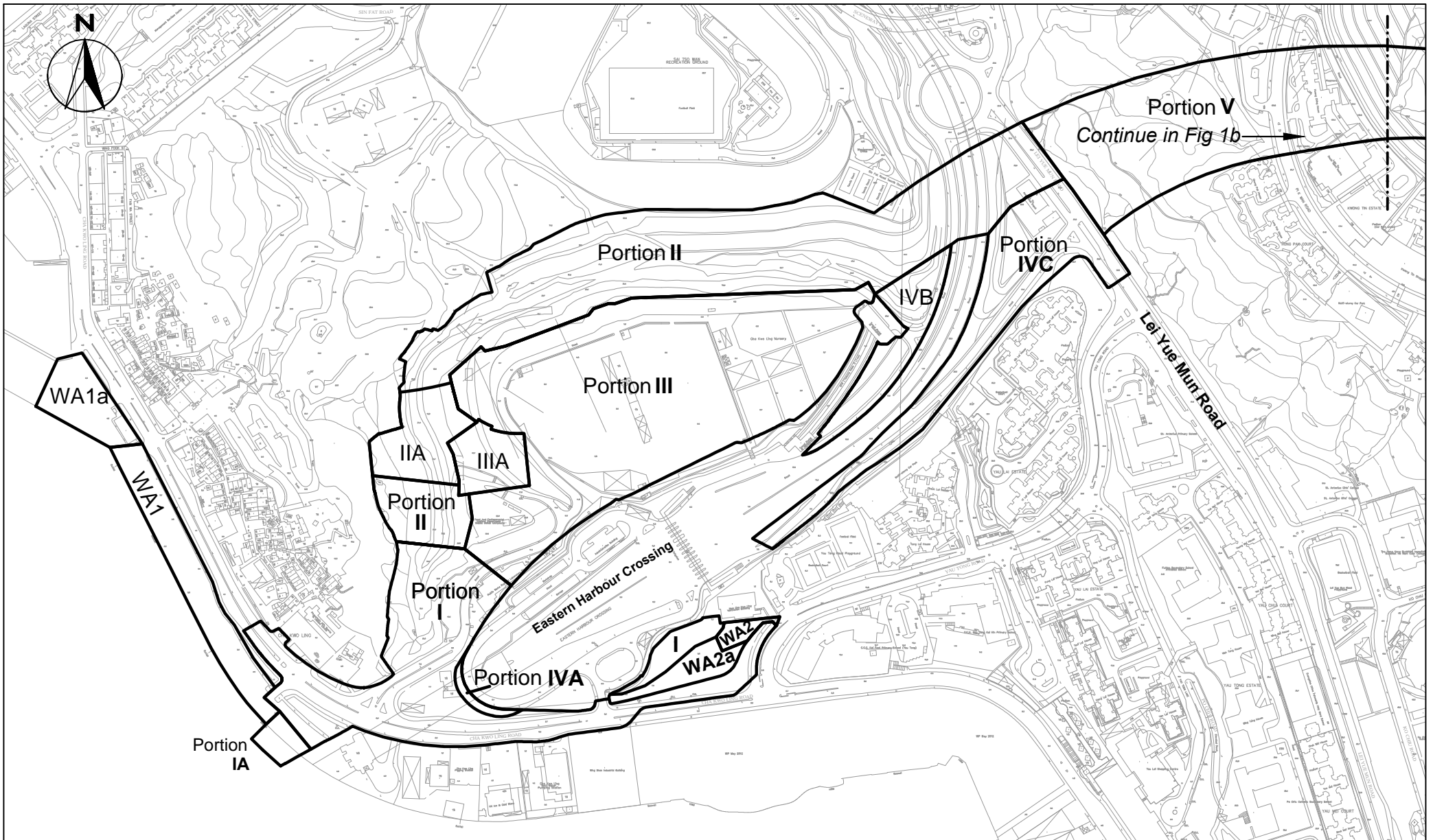
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NE/2015/02	
NE/2017/02	
NE/2015/03	
NE/2017/01	
NE/2017/01 & NE/2017/07	



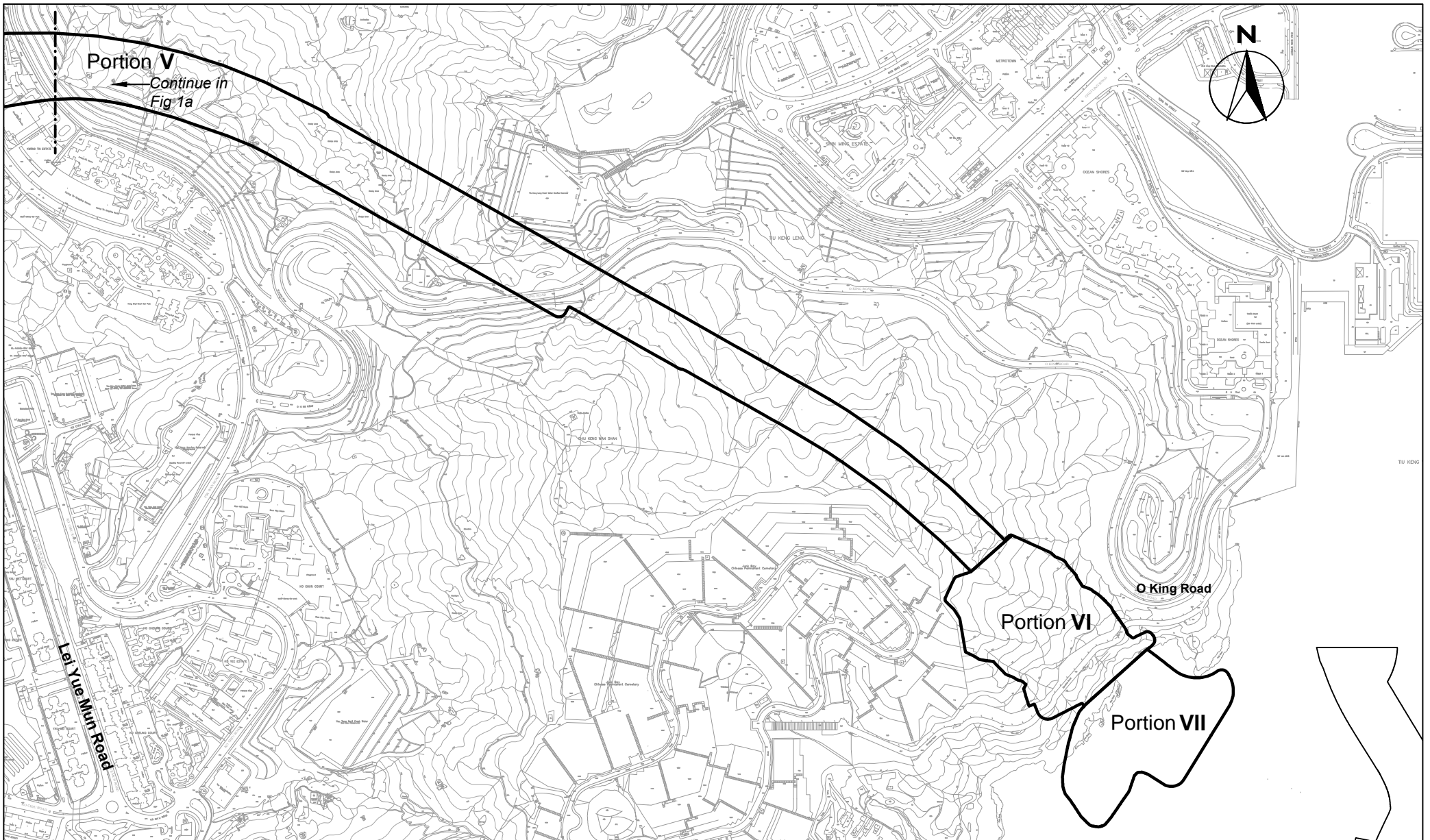
Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction  
**Site Layout Plan**

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JOB No.	MA16034	FIGURE NO.	1	REV -



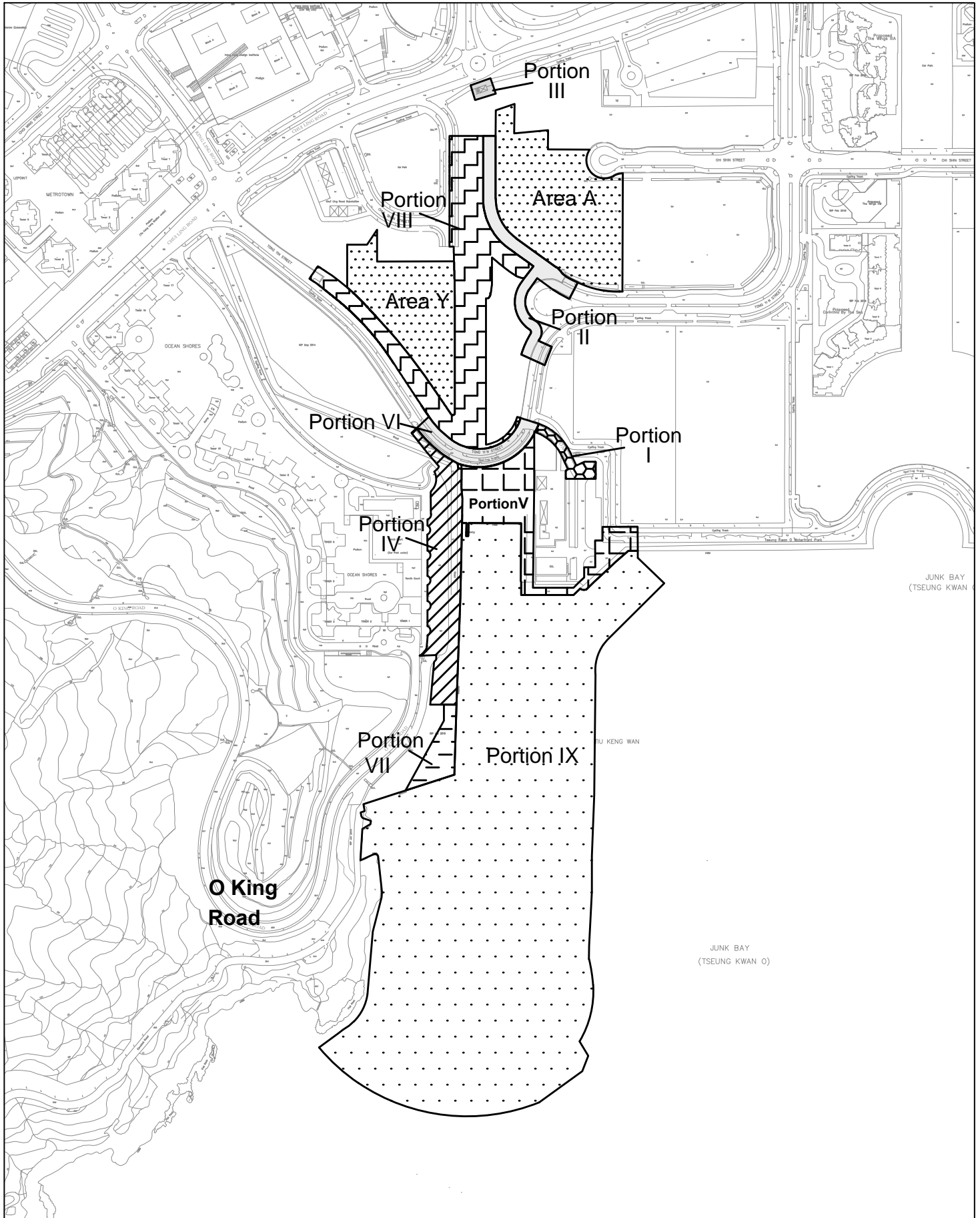



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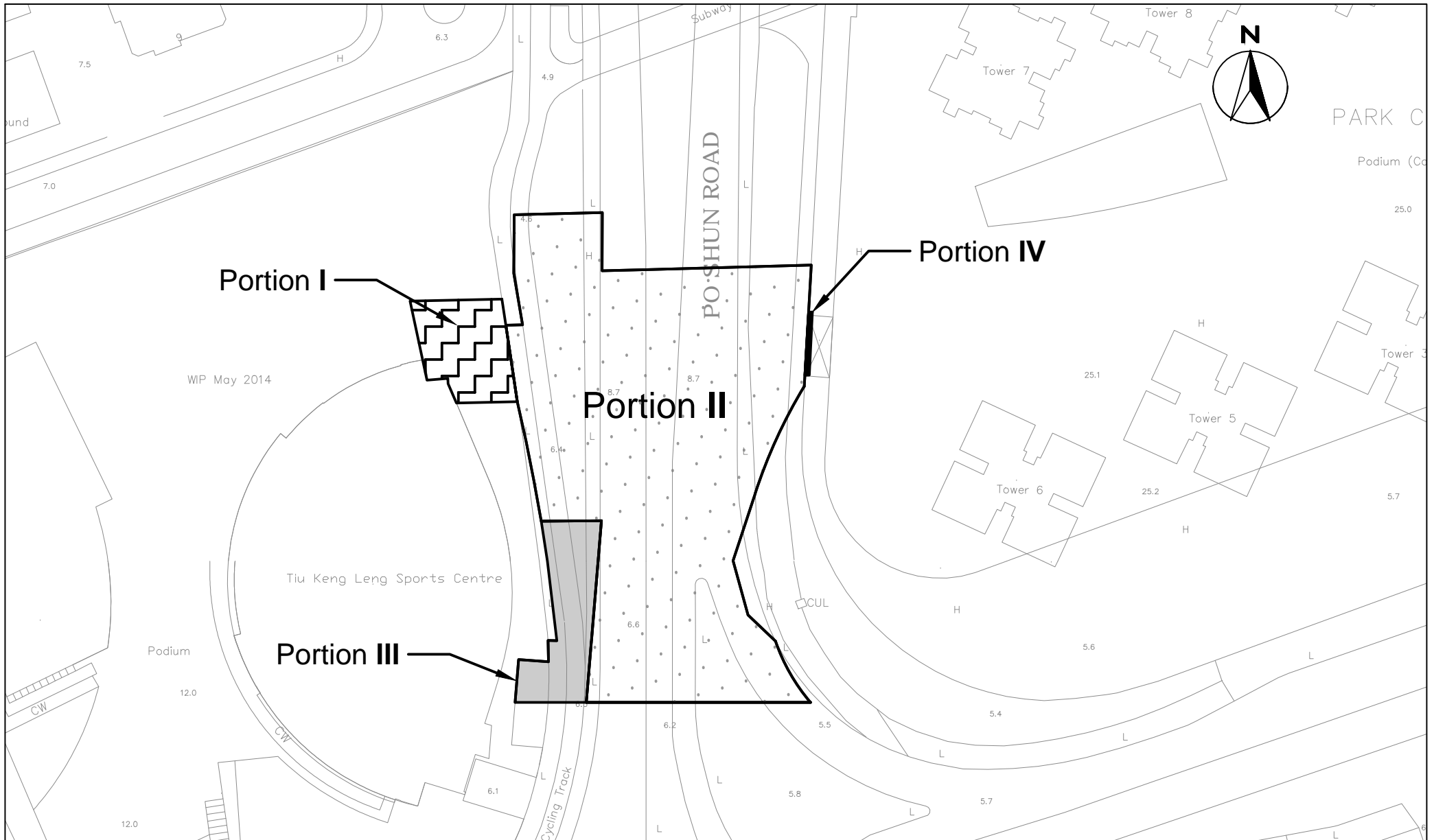


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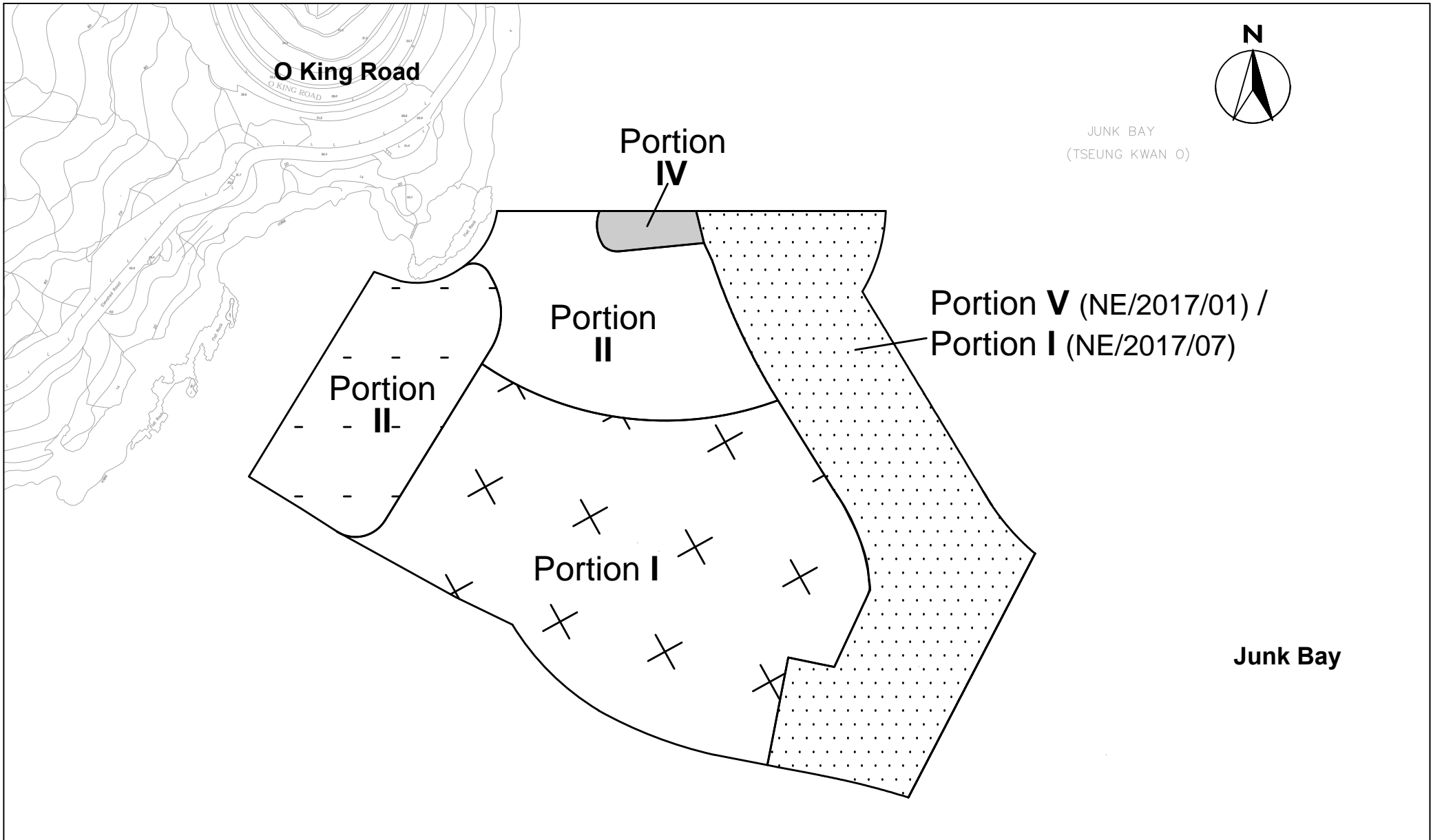





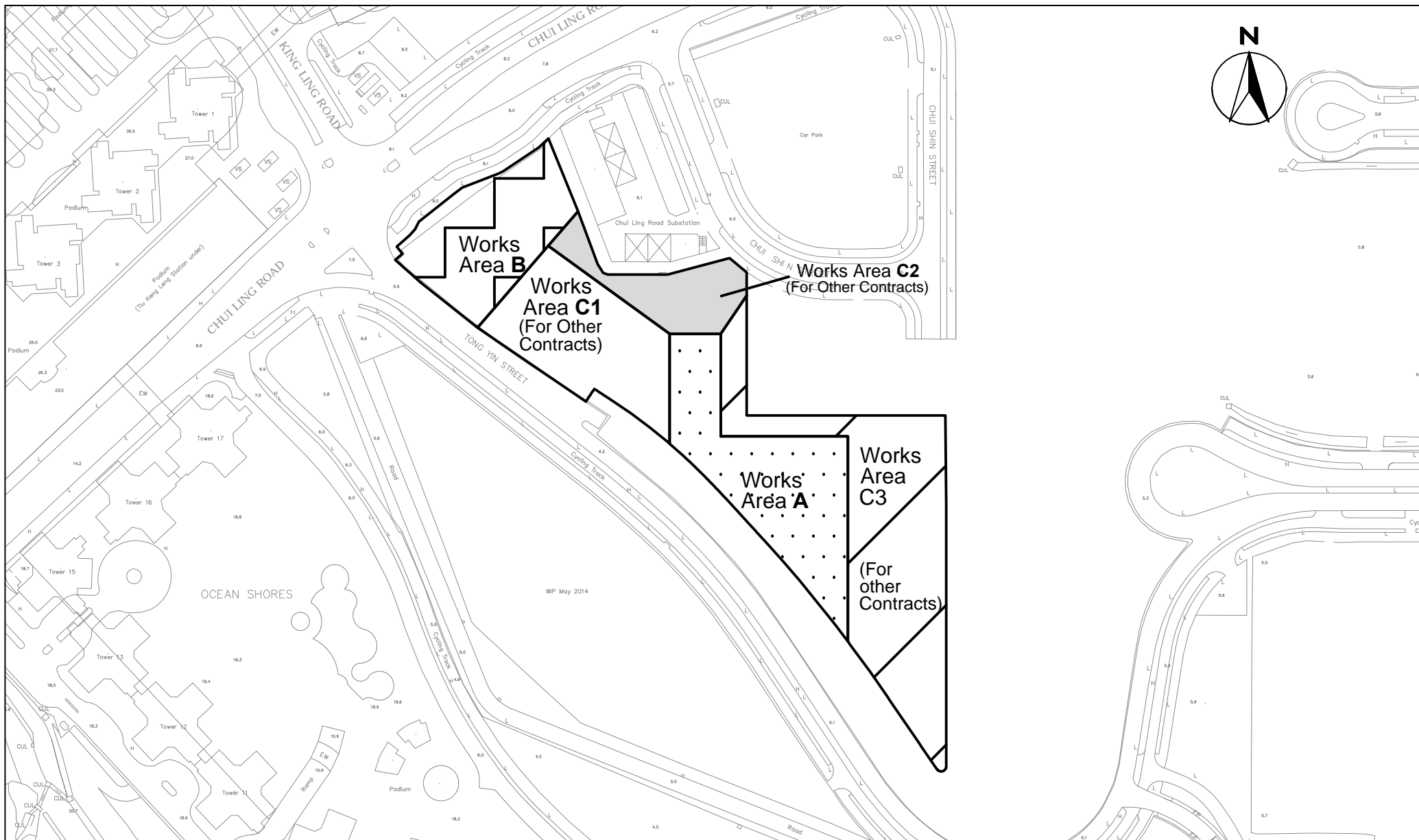
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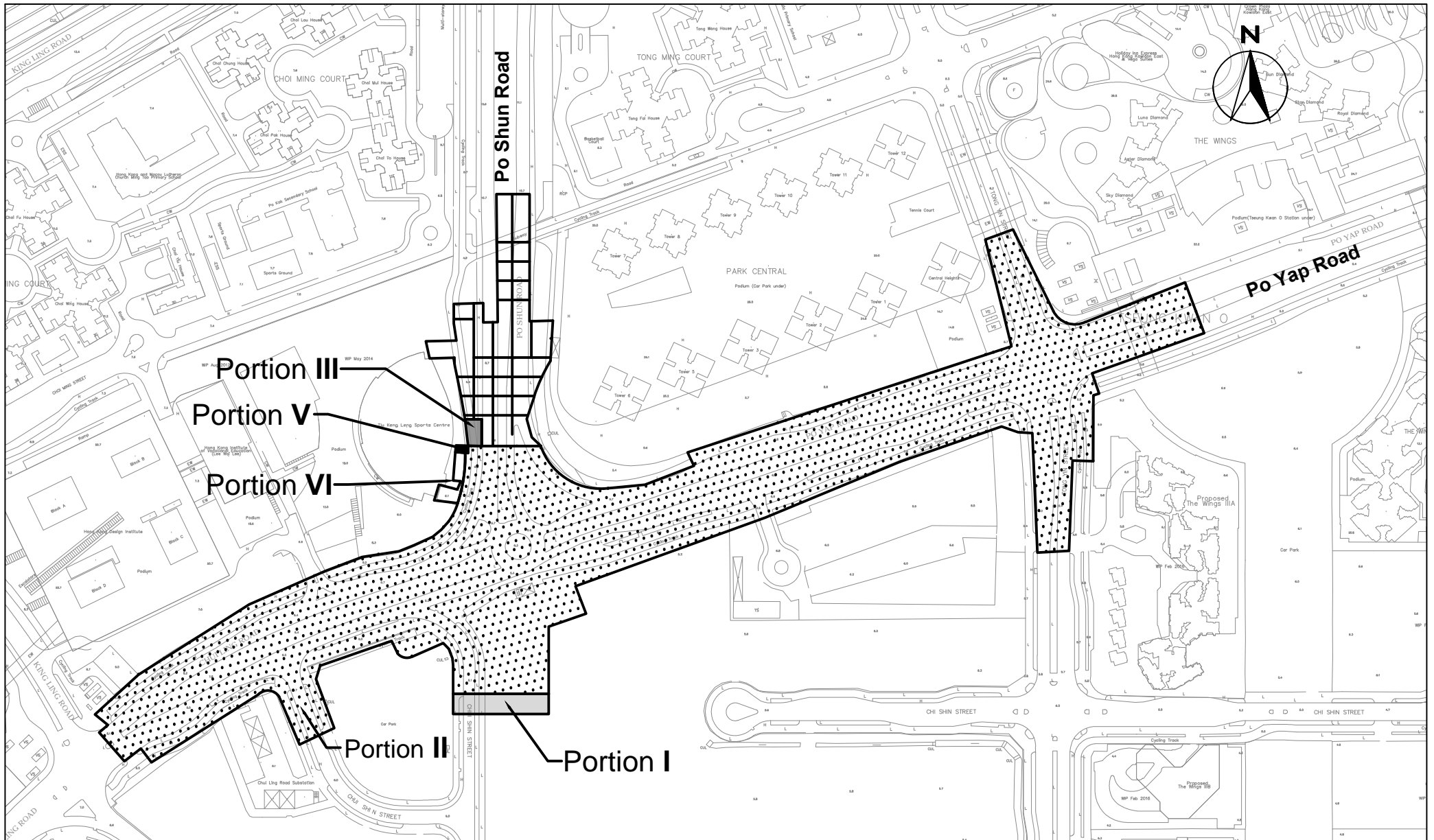
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JOB No.	MA16034	FIGURE NO.	1d
		REV	-



 <b>CINOTECH</b> Cinotech Consultants Limited	Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction		SCALE	1:3000@A4	DATE	11 March 2021	
	<b>Site Portions in Tseung Kwan O under Works Contract No. <u>NE/2017/01</u></b>		CHECK	CC	DRAWN	KC	
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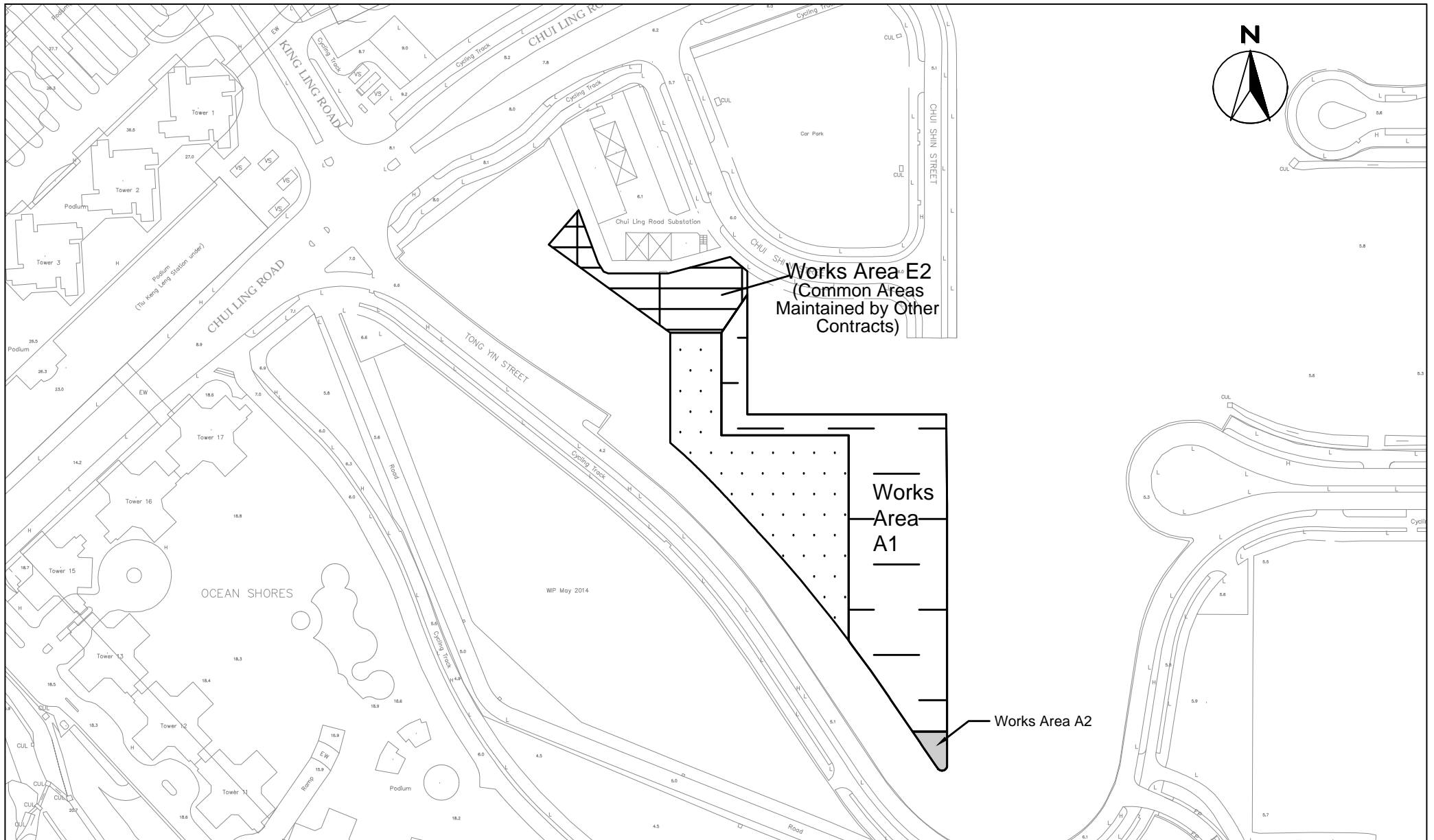


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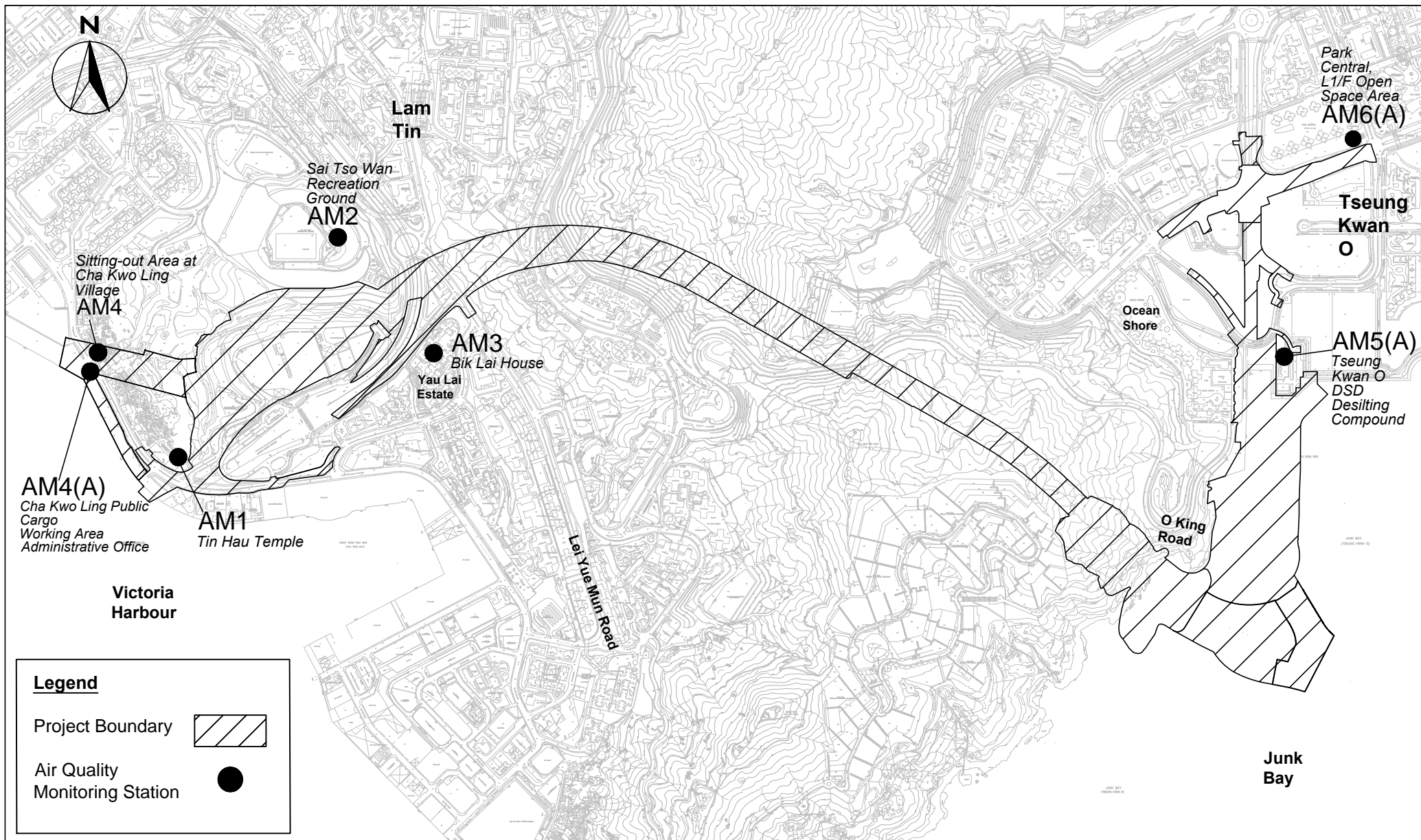


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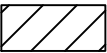





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**Legend**

Project Boundary 

Air Quality Monitoring Station 

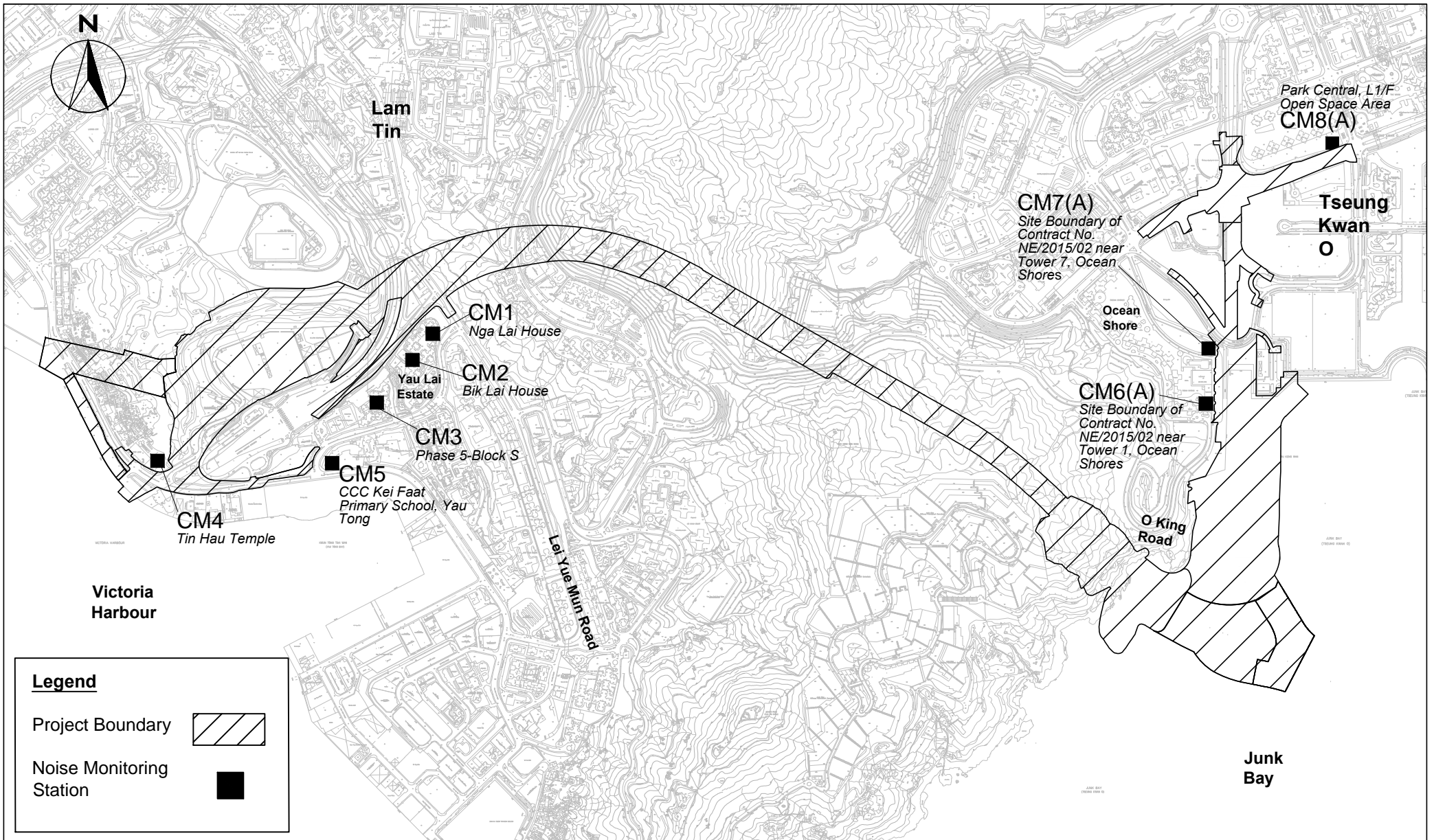


Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

**Air Quality Monitoring Station**

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CHECK	CC	DRAWN	KC	
JOB No.	MA16034	FIGURE NO.	2	REV -





Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

**Noise Monitoring Stations**

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JOB No.	MA16034	FIGURE NO.	3	REV -



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PROJECT NO.	MA16034	FIGURE NO.	5	REV —



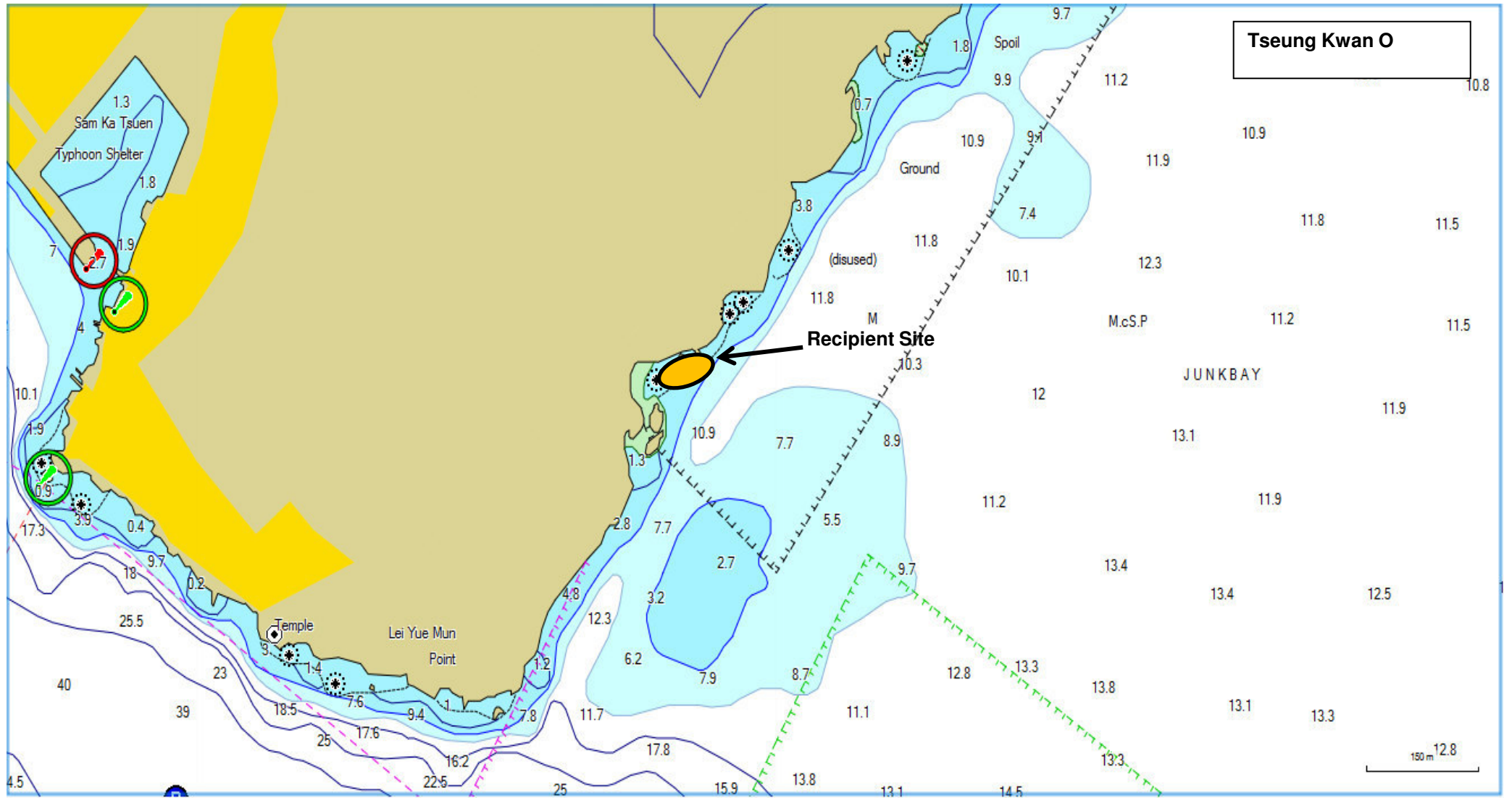


Title Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Locations of Landfill Gas Monitoring

Scale N.T.S  
 Date Dec-16

Project No. MA16034  
 Figure 6





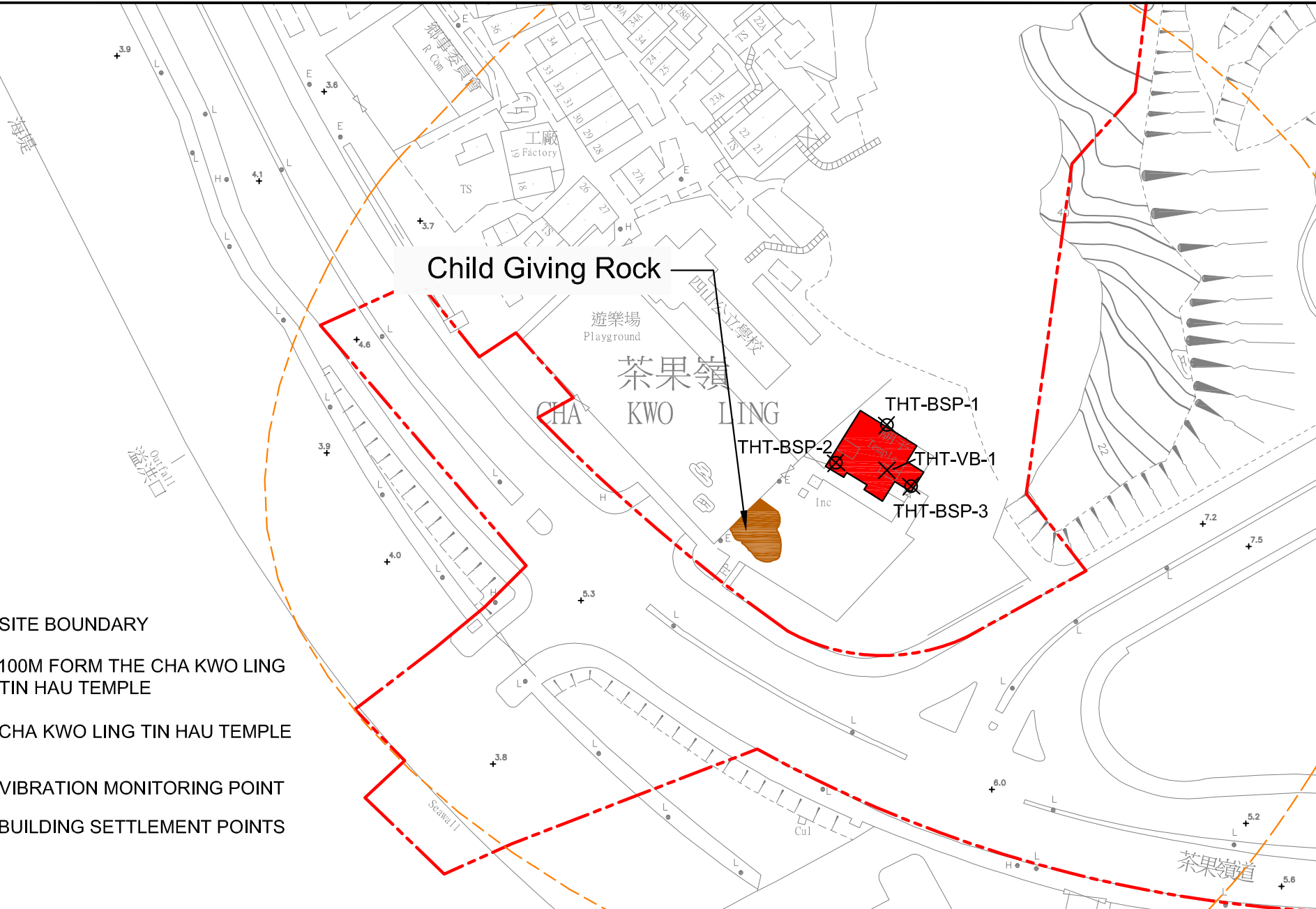
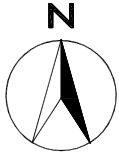
Title Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Location of Post-translocation Coral Monitoring

Scale N.T.S  
 Date Mar-17

Project No. MA16034  
 Figure 7







**LEGEND**

- SITE BOUNDARY
- 100M FORM THE CHA KWO LING TIN HAU TEMPLE
- CHA KWO LING TIN HAU TEMPLE
- X VIBRATION MONITORING POINT
- ⊗ BUILDING SETTLEMENT POINTS



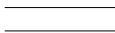


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CHECK	JF	DRAWN	AC	
JOB No.	MA16034	FIGURE NO.	8	REV -



Ocean Shore

TIU KENG  
LENG

### Legend

-  MARINE AREA EMBAYED BY RECLAMATION
-  RECLAMATION FOOTPRINT
-  O KING ROAD
-  LOCATION OF OUTFALL
-  MONITORING STATION W2

SCALE	1:4000@A4	DATE	NOV 2019	
CHECK	BC	DRAWN	KC	
PROJECT NO.	MA16034	FIGURE NO.	9	REV —



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**APPENDIX A  
ACTION AND LIMIT LEVELS**

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## APPENDIX A – Action and Limit Levels

### Air Quality

#### *1-hr TSP*

Monitoring Stations	Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	Tin Hau Temple	275	500
AM2	Sai Tso Wan Recreation Ground	273	
AM3	Yau Lai Estate Bik Lai House	271	
AM4	Sitting-out Area at Cha Kwo Ling Village	278	
AM5(A)	Tseung Kwan O DSD Desilting Compound	273	
AM6(A)	Park Central, L1/F Open Space Area	285	

#### *24-hr TSP*

Monitoring Stations	Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AM1	Tin Hau Temple	173	260
AM2	Sai Tso Wan Recreation Ground	192	
AM3	Yau Lai Estate Bik Lai House	167	
AM4(A)	Cha Kwo Ling Public Cargo Working Area Administrative Office	210	
AM5(A)	Tseung Kwan O DSD Desilting Compound	175	
AM6(A)	Park Central, L1/F Open Space Area	165	

### Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) <sup>(1)</sup>
1900-2300 on all days and 0700-2300 on general holidays (including Sundays)		60/65/70 dB(A) <sup>(2)(3)</sup>
2300-0700 on all days		45/50/55 dB(A) <sup>(2)(3)</sup>

<sup>1</sup> 70 dB(A) for schools and 65 dB(A) for schools during examination period.

<sup>2</sup> Acceptable Noise Levels for Area Sensitivity Rating of A/B/C

<sup>3</sup> If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

## **Water Quality**

### ***Groundwater***

<b>Parameters</b>	<b>Action</b>	<b>Limit</b>
DO in mg L <sup>-1</sup>	7.6	7.6
pH	6.0 – 8.9	6.0 – 9.0
BOD <sub>5</sub> in mg L <sup>-1</sup>	2.0	2.0
TOC in mg L <sup>-1</sup>	Stream 1 and Stream 2: 9	Stream 1 and Stream 2: 9
	Stream 3: 6	Stream 3: 6
Total Nitrogen in mg L <sup>-1</sup>	2.0	2.1
Ammonia-N in mg L <sup>-1</sup>	0.15	0.20
Total Phosphate in mg L <sup>-1</sup>	0.05	0.05
SS in mg L <sup>-1</sup>	7.6	12.1
Turbidity in NTU	2.1	2.3

Notes:

1. For pH, non-compliance of the water quality limits occurs when monitoring result is out of the range of the limits.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity, SS, 5-day biochemical oxygen demand (BOD<sub>5</sub>), Total organic carbon (TOC), Total Nitrogen, Ammonia-N and Total Phosphate, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

### ***Groundwater Level Monitoring***

<b>Drill Hole No.</b>	<b>38568-LDH1</b>	<b>TKO-LBH907</b>
Action Level (mPD)	+74.65	+17.59

*Marine Water Quality*

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2, 4 and 5)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u> or 120% of upstream control station's Turbidity at the same tide of the same day	<u>22.2 NTU</u> or 130% of upstream control station's Turbidity at the same tide of the same day
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2, 4 and 5)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u> or 120% of upstream control station's SS at the same tide of the same day	<u>6.9mg/L</u> or 130% of upstream control station's SS at the same tide of the same day
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u> or 120% of upstream control station's SS at the same tide of the same day	<u>7.4 mg/L</u> or 130% of upstream control station's SS at the same tide of the same day
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u> or 120% of upstream control station's SS at the same tide of the same day	<u>7.9 mg/L</u> or 130% of upstream control station's SS at the same tide of the same day
	<b><u>Station M6</u></b>		
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.
5. Refer to Appendix I – Marine Water Quality Monitoring Results and Graphical Presentations for results of upstream control stations at each tide on each day.

### ***Water Quality Monitoring in Temporary Marine Embayment***

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 2)	Depth Average	<u>4.8 mg/L</u> <sup>(4)</sup>	<u>4 mg/L</u> <sup>(3)</sup>
	Bottom	<u>2.4 mg/L</u> <sup>(4)</sup>	<u>2 mg/L</u> <sup>(3)</sup>

Notes:

1. "depth-averaged" is calculated by taking the arithmetic means of reading of all sampling depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. Current Water Quality Objectives (WQOs) for marine waters of Hong Kong
4. As an alert for adverse water quality impact, the Action Level is set as 120% of the Current WQOs for marine waters of Hong Kong.

### **Ecology**

#### ***Post-translocation Coral Monitoring***

<b>Parameter</b>	<b>Action Level Definition</b>	<b>Limit Level Definition</b>
<b>Mortality</b>	If during Impact Monitoring a 15% increase in the percentage of partial mortality on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of partial mortality occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.

### **Landfill Gas Monitoring**

<b>Parameter</b>	<b>Limit Level</b>
Oxygen	<19%
	<18%
Methane	>10% LEL (i.e. > 0.5% by volume)
	>20% LEL (i.e. > 1% by volume)
Carbon Dioxide	>0.5%
	>1.5%

### **Alert, Alarm, Action Levels for Built Heritage Monitoring**

<b>Parameter</b>	<b>Alert Level</b>	<b>Alarm Level</b>	<b>Action Level</b>
Vibration	ppv:4.5mm/s	ppv: 4.8mm/s	ppv: 5mm/s Maximum Allowable Vibration Amplitude: 0.1mm
Building Settlement Point	6mm	8mm	10mm
Building Tilting	1:2000	1:1500	1:1000

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**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFICATES**

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# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/05/0034

Project No. AM1 - Tin Hau Temple  
 Date: 9-Feb-22 Next Due Date: 9-Apr-22 Operator: SK  
 Equipment No.: A-01-05 Model No.: GS2310 Serial No. 10599

Ambient Condition			
Temperature, Ta (K)	<b>289.1</b>	Pressure, Pa (mmHg)	<b>764.2</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.2</b>	3.70	62.87	<b>9.4</b>	3.12
2	<b>10.2</b>	3.25	55.31	<b>7.0</b>	2.69
3	<b>7.6</b>	2.81	47.80	<b>5.2</b>	2.32
4	<b>5.4</b>	2.37	40.36	<b>3.3</b>	1.85
5	<b>3.0</b>	1.76	30.19	<b>2.0</b>	1.44


### By Linear Regression of Y on X

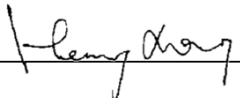
Slope, mw = 0.0522 Intercept, bw = -0.1827  
 Correlation coefficient\* = 0.9976

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; W = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>4.10</u>	

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 9-Feb-22

Checked by: Henry Leung Signature:  Date: 9-Feb-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/08/0034

Project No. AM2 - Sai Tso Wan Recreation Ground  
 Date: 9-Feb-22 Next Due Date: 9-Apr-22 Operator: SK  
 Equipment No.: A-01-08 Model No.: GS2310 Serial No. 1287

Ambient Condition			
Temperature, Ta (K)	<u>289.1</u>	Pressure, Pa (mmHg)	<u>764.2</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05922</u>	Intercept, bc	<u>-0.02420</u>
Last Calibration Date:	<u>31-Jan-22</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>31-Jan-23</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.2</u>	3.70	62.87	<u>9.2</u>	3.09
2	<u>10.4</u>	3.28	55.85	<u>6.8</u>	2.65
3	<u>8.0</u>	2.88	49.03	<u>5.1</u>	2.30
4	<u>5.4</u>	2.37	40.36	<u>3.4</u>	1.88
5	<u>3.0</u>	1.76	30.19	<u>2.0</u>	1.44

### By Linear Regression of Y on X

Slope, mw = 0.0501 Intercept, bw = -0.1155  
 Correlation coefficient\* = 0.9976

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; W = (mw x Qstd + bw) <sup>2</sup> x (760 / Pa) x (Ta / 298) =	<u>4.01</u>

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 9-Feb-22  
 Checked by: Henry Leung Signature:  Date: 9-Feb-22



# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/03/0034

Project No. AM3 - Yau Lai Estate, Bik Lai House  
 Date: 9-Feb-22 Next Due Date: 9-Apr-22 Operator: SK  
 Equipment No.: A-01-03 Model No.: GS2310 Serial No. 10379

Ambient Condition			
Temperature, Ta (K)	<u>289.1</u>	Pressure, Pa (mmHg)	<u>764.2</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05922</u>	Intercept, bc	<u>-0.02420</u>
Last Calibration Date:	<u>31-Jan-22</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>31-Jan-23</u>	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.2</u>	<u>3.70</u>	<u>62.87</u>	<u>9.2</u>	<u>3.09</u>
2	<u>10.4</u>	<u>3.28</u>	<u>55.85</u>	<u>7.0</u>	<u>2.69</u>
3	<u>8.3</u>	<u>2.93</u>	<u>49.94</u>	<u>5.4</u>	<u>2.37</u>
4	<u>5.4</u>	<u>2.37</u>	<u>40.36</u>	<u>3.4</u>	<u>1.88</u>
5	<u>2.9</u>	<u>1.73</u>	<u>29.68</u>	<u>2.0</u>	<u>1.43</u>

### By Linear Regression of Y on X

Slope, mw = 0.0501 Intercept, bw = -0.0985

Correlation coefficient\* = 0.9980

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.07

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 9-Feb-22

Checked by: Henry Leung Signature:  Date: 9-Feb-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/54/0034

Project No. AM4(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office  
 Date: 9-Feb-22 Next Due Date: 9-Apr-22 Operator: SK  
 Equipment No.: A-01-54 Model No.: TE-5170 Serial No. 1536

Ambient Condition			
Temperature, Ta (K)	<b>289.1</b>	Pressure, Pa (mmHg)	<b>764.2</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.2</b>	3.70	62.87	<b>9.6</b>	3.15
2	<b>10.8</b>	3.35	56.91	<b>7.6</b>	2.81
3	<b>7.8</b>	2.84	48.42	<b>5.4</b>	2.37
4	<b>5.9</b>	2.47	42.17	<b>3.6</b>	1.93
5	<b>3.0</b>	1.76	30.19	<b>2.0</b>	1.44

### By Linear Regression of Y on X

Slope,  $m_w =$  0.0532 Intercept,  $b_w =$  -0.2208  
 Correlation coefficient\* = 0.9967

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$m_w \times Qstd + b_w = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (m_w \times Qstd + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$  4.12

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 9-Feb-22

Checked by: Henry Leung Signature:  Date: 9-Feb-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/37/0034

Project No. AM5(A) - Tseung Kwan O DSD Desilting Compound  
 Date: 9-Feb-22 Next Due Date: 9-Apr-22 Operator: SK  
 Equipment No.: A-01-37 Model No.: GS2310 Serial No. 1704

Ambient Condition			
Temperature, Ta (K)	<b>289.1</b>	Pressure, Pa (mmHg)	<b>764.2</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.2</b>	3.70	62.87	<b>9.6</b>	3.15
2	<b>10.8</b>	3.35	56.91	<b>7.4</b>	2.77
3	<b>8.6</b>	2.99	50.82	<b>5.9</b>	2.47
4	<b>5.6</b>	2.41	41.09	<b>3.4</b>	1.88
5	<b>3.0</b>	1.76	30.19	<b>2.0</b>	1.44

### By Linear Regression of Y on X

Slope,  $m_w =$  0.0528 Intercept,  $b_w =$  -0.2126  
 Correlation coefficient\* = 0.9967

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$m_w \times Qstd + b_w = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (m_w \times Qstd + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$  4.09

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 9-Feb-22

Checked by: Henry Leung Signature:  Date: 9-Feb-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/07/0033

Project No. AM6 - Park Central  
 Date: 4-Jan-22 Next Due Date: 4-Mar-22 Operator: SK  
 Equipment No.: A-01-07 Model No.: GS2310 Serial No. 10592

Ambient Condition			
Temperature, Ta (K)	<b>292.1</b>	Pressure, Pa (mmHg)	<b>764.6</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05846	Intercept, bc	-0.00313
Last Calibration Date:	11-Jan-21	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	11-Jan-22				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>12.5</b>	3.58	61.32	<b>8.4</b>	2.94
2	<b>9.3</b>	3.09	52.90	<b>6.3</b>	2.54
3	<b>7.5</b>	2.77	47.51	<b>4.8</b>	2.22
4	<b>4.9</b>	2.24	38.41	<b>3.2</b>	1.81
5	<b>3.0</b>	1.75	30.07	<b>2.1</b>	1.47

### By Linear Regression of Y on X

Slope, mw = 0.0474 Intercept, bw = 0.0113  
 Correlation coefficient\* = 0.9984

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation


From the TSP Field Calibration Curve, take Qstd = 43 CFM

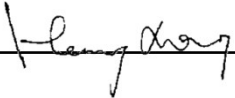
From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.10

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 4-Jan-22

Checked by: Henry Leung Signature:  Date: 4-Jan-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/07/0034

Project No. AM6 - Park Central  
 Date: 4-Mar-22 Next Due Date: 4-May-22 Operator: SK  
 Equipment No.: A-01-07 Model No.: GS2310 Serial No. 10592

Ambient Condition			
Temperature, Ta (K)	<u>294.3</u>	Pressure, Pa (mmHg)	<u>760.8</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05922</u>	Intercept, bc	<u>-0.02420</u>
Last Calibration Date:	<u>31-Jan-22</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>31-Jan-23</u>	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>12.6</u>	3.57	60.76	<u>8.6</u>	2.95
2	<u>9.3</u>	3.07	52.25	<u>6.4</u>	2.55
3	<u>7.6</u>	2.78	47.28	<u>4.8</u>	2.21
4	<u>4.9</u>	2.23	38.04	<u>3.2</u>	1.80
5	<u>3.0</u>	1.74	29.86	<u>2.1</u>	1.46

**By Linear Regression of Y on X**

Slope, mw = 0.0488 Intercept, bw = -0.0352  
 Correlation coefficient\* = 0.9972

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.20

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 4-Mar-22

Checked by: Henry Leung Signature:  Date: 4-Mar-22

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Laser Dust Monitor Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-3B  
 Serial No.: 2Y6194  
 Equipment No.: SA-01-02 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 578  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 578

Calibration of 1 hr TSP			
Calibration Point	Laser Dust Monitor		HVS
	Total Count	Count / Minute X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	4420	73.6	146.0
2	3950	65.8	129.0
3	3500	58.3	115.0
<b>Average</b>		<b>65.9</b>	<b>130.0</b>


By Linear Regression of Y on X  
 Slope, mw = 2.0272 Intercept, bw = -3.5902  
 Correlation coefficient\* = 0.9990

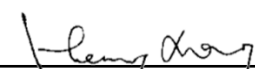
Set Correlation Factor, SCF  
 SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 2.0

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 8Y2374  
 Equipment No.: SA-01-04 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 652  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 652

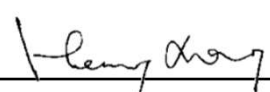
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	71.5	146.0
2	64.5	129.0
3	57.0	115.0
<b>Average</b>	<b>64.3</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>2.1347</u> Intercept, bw = <u>-7.3328</u> Correlation coefficient* = <u>0.9971</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )		130.0
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )		64.3
Measureing time, (min)		60.0
Set Correlation Factor , SCF SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ] <u>2.0</u>		

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 8Y2373  
 Equipment No.: SA-01-05 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 657  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 657

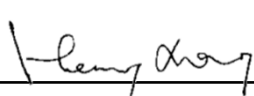
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	62.5	146.0
2	56.0	129.0
3	49.5	115.0
<b>Average</b>	<b>56.0</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>2.3846</u> Intercept, bw = <u>-3.5385</u> Correlation coefficient* = <u>0.9984</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )		130.0
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )		56.0
Measuring time, (min)		60.0
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ]		<u>2.3</u>

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Limited)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)



**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 972777  
 Equipment No.: SA-01-06 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 645  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 645

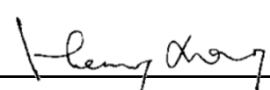
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	69.0	146.0
2	62.0	129.0
3	54.5	115.0
<b>Average</b>	<b>61.8</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>2.1347</u> Intercept, bw = <u>-1.9960</u> Correlation coefficient* = <u>0.9971</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )	130.0	
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )	61.8	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ]	<u>2.1</u>	

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 972778  
 Equipment No.: SA-01-07 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 735 CPM  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 735 CPM

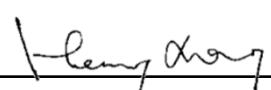
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	72.0	146.0
2	63.0	129.0
3	54.0	115.0
<b>Average</b>	<b>63.0</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>1.7222</u> Intercept, bw = <u>21.5000</u> Correlation coefficient* = <u>0.9984</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )		130.0
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )		63.0
Measureing time, (min)		60.0
Set Correlation Factor , SCF SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ] <u>2.1</u>		

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 972779  
 Equipment No.: SA-01-08 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 744 CPM  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 744 CPM

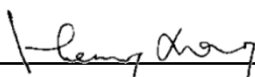
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	66.0	146.0
2	59.5	129.0
3	53.0	115.0
<b>Average</b>	<b>59.5</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>2.3846</u> Intercept, bw = <u>-11.8846</u> Correlation coefficient* = <u>0.9984</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )	130.0	
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )	59.5	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ]	<u>2.2</u>	

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 972780  
 Equipment No.: SA-01-09 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 739 CPM  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 739 CPM

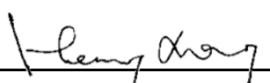
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	65.0	146.0
2	60.0	129.0
3	55.0	115.0
<b>Average</b>	<b>60.0</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>3.1000</u> Intercept, bw = <u>-56.0000</u> Correlation coefficient* = <u>0.9984</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )		130.0
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )		60.0
Measureing time, (min)		60.0
Set Correlation Factor , SCF SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ] <u>2.2</u>		

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

**Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler


Description: Digital Dust Indicator Date of Calibration 29-Jan-22  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 29-Mar-22  
 Model No.: LD-5R  
 Serial No.: 972781  
 Equipment No.: SA-01-10 Sensitivity 0.001 mg/m3  
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 734 CPM  
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 734 CPM

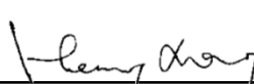
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m <sup>3</sup> ) X-axis	Mass concentration (µg/m <sup>3</sup> ) Y-axis
1	71.0	146.0
2	60.5	129.0
3	51.0	115.0
<b>Average</b>	<b>60.8</b>	<b>130.0</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>1.5512</u> Intercept, bw = <u>35.6349</u> Correlation coefficient* = <u>0.9996</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m <sup>3</sup> )	130.0	
Particulate Concentration by Dust Meter (µg/m <sup>3</sup> )	60.8	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, (µg/m <sup>3</sup> ) ]	<u>2.1</u>	

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)**

Calibrated by:   
 Technical Officer (Wong Shing Kwai)

Approved by:   
 Project Manager (Henry Leung)

## Certificate of Calibration - Wind Monitoring Station

Description: Yau Lai Estate, Bik Lai House  
 Manufacturer: Davis Instruments  
 Model No.: Davis7440  
 Serial No.: MC01010A44  
 Equipment No.: SA-03-04  
 Date of Calibration: 19-Feb-2022  
 Next Due Date: 19-Aug-2022

### 1. Performance check of Wind Speed


Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	$D = V1 - V2$
0.0	0.0	0.0
1.5	1.5	0.0
2.5	2.5	0.0
4.2	4.3	-0.1

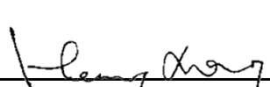
### 2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	$D = W1 - W2$
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

### Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer
2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:   
 \_\_\_\_\_  
 Wong Shing Kwai

Approved by:   
 \_\_\_\_\_  
 Henry Leung



**APPLICANT: Cinotech Consultants Limited**  
**RM 1710, Technology Park,**  
**18 On Lai Street,**

Test Report No.:	00114
Date of Issue:	2021-05-07
Date Received:	2021-03-25
Test Period	2021-03-26 to 2021-03-26
Next Due Date:	2022-03-26

**ATTN: Mr. Henry Leung**

**Certificate of Calibration**

**Item for calibration**

Description	Integrating Sound Level Meter
Manufacturer	BSWA Technology
Model No.	BSWA 308
Serial No.	580287
Microphone No.	590079
Equipment No.	N-12-05

**Test conditions:**

Room Temperature : 22-25 degree Celsius  
Relative Humidity : 35-70%

**Method reference:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

**Measuring equipment :**

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

\*\*\*\*\*



## Test Report

### Results:

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.0	0.0	$\pm 1.5$
114.0	114.0	0.0	$\pm 1.5$

### REMARK:

1. The indication value was obtained from the average of ten replicated measurement.
2. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC 17025.
3. This report supersedes the test report no. 00100 issued on 26 Mar 2021.

-----**End of Report**-----

*PREPARED AND CHECKED BY:*

For and On Behalf of **High Precision Chemical Testing Limited**

*Laboratory Director (CHAN Hon-Fai)*



## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00164  
Application No. : HP00042

Issue Date : 25 Jan 2022

### Certificate of Calibration

Applicant : Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-08-12

Manufacturer: : SVANTEK

Other information :

Model No.	SVAN 957
Serial No.	23851
Microphone No.	17204

Date Received : 19 Jan 2022

Test Period : 21 Jan 2022 to 21 Jan 2022

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius  
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.  
2. The result(s) relate only to the items tested or calibrated.

*For and on behalf of*  
**HIGH PRECISION CHEMICAL TESTING LIMITED**

A handwritten signature in black ink, appearing to read 'Lee Wai Kit', is written over a horizontal line.

Lee Wai Kit  
Laboratory Manager

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00164  
Application No. : HP00042

Issue Date : 25 Jan 2022

### Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.1	+0.1	± 1.5
114.0	114.2	+0.2	± 1.5

- Note** : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.  
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00145  
Application No. : HP00029

Issue Date : 04 Nov 2021

### Certificate of Calibration

Applicant : Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-03  
Manufacturer: : BSWA Technology

Other information	Model No.	BSWA 308
	Serial No.	570188
	Microphone No.	570608

Date Received : 26 Oct 2021

Test Period : 26 Oct 2021 to 02 Nov 2021

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius  
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.  
2. The result(s) relate only to the items tested or calibrated.

*For and on behalf of*  
**HIGH PRECISION CHEMICAL TESTING LIMITED**

A handwritten signature in black ink, appearing to be 'Lee Wai Kit', written over a horizontal line.

Lee Wai Kit  
Laboratory Manager

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00145  
Application No. : HP00029

Issue Date : 04 Nov 2021

### Certificate of Calibration

Measuring equipment :	Description	Sound Calibrator
	Manufacturer	Brüel & Kjær
	Model No.	TYPE 4231
	Serial No.	2326353
	Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	93.9	-0.1	± 1.5
114.0	114.0	0.0	± 1.5

- Note** : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.  
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00149  
Application No. : HP00031

Issue Date : 16 Nov 2021

### Certificate of Calibration

Applicant : Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-04

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	580238
Microphone No.	590073

Date Received : 05 Nov 2021

Test Period : 08 Nov 2021 to 12 Nov 2021

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius  
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.  
2. The result(s) relate only to the items tested or calibrated.

*For and on behalf of*  
**HIGH PRECISION CHEMICAL TESTING LIMITED**

A handwritten signature in black ink, appearing to read 'Lee Wai Kit', is written over a horizontal line.

Lee Wai Kit  
Laboratory Manager

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00149

Issue Date : 16 Nov 2021

Application No. : HP00031

### Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	93.7	-0.3	± 1.5
114.0	114.0	0.0	± 1.5

- Note** : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.  
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

**High Precision Chemical Testing Ltd.**

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00150  
Application No. : HP00032

Issue Date : 16 Nov 2021

**Certificate of Calibration**

Applicant : Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-13-01

Manufacturer: : SOUNDTEK

Other information :

Model No.	ST-120
Serial No.	181001608

Date Received : 05 Nov 2021

Test Period : 08 Nov 2021 to 12 Nov 2021

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius  
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : **1. Information of the sample description provided by the Applicant.**  
**2. The result(s) relate only to the items tested or calibrated.**

***For and on behalf of***  
**HIGH PRECISION CHEMICAL TESTING LIMITED**

Lee Wai Kit  
Laboratory Manager

## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park  
18 On Lai Street, Shatin  
NT, Hong Kong  
Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00150  
Application No. : HP00032

Issue Date : 16 Nov 2021

### Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Description	Sound Meter
Manufacturer	BSWA Technology
Model No.	BSWA 308
Serial No.	570188
Microphone No.	570608
Equipment No.	N-12-03

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.1	+0.1	± 0.3
114.0	114.0	0.0	± 0.5

**Note** : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.  
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -



## High Precision Chemical Testing Ltd.

Rm 1904, Technology Park

18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>



Report No. : 00146  
Application No. : HP00030

Issue Date : 04 Nov 2021

### Certificate of Calibration

Applicant : Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be YSI EXO1 Multi-parameter Sonde.

Equipment No.: : SW-08-166

Manufacturer: : YSI Incorporated, a Xylem brand

Other information :

Description:	Serial No.
- EXO Optical DO Sensor, Ti	17K101625
- EXO conductivity/Temperature Sensor, Ti	17H103448
- EXO Turbidity Sensor, Ti	17K100333
- EXO pH Sensor Assembly, Guarded, Ti	17B100260

Date Received : 27 Oct 2021

Test Period : 27 Oct 2021 to 4 Nov 2021

Test Requested : Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

Test Method : According to manufacturer instruction manual, APHA 23rd Ed 4500-O G

Test conditions : Room Temperature: 22-25 degree Celsius  
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : **1. Information of the sample description provided by the Applicant.**  
**2. The results relate only to the items tested or calibrated.**

*For and on behalf of*  
**HIGH PRECISION CHEMICAL TESTING LIMITED**

A handwritten signature in black ink, appearing to be 'Lee Wai Kit', written over a horizontal line.

Lee Wai Kit  
Laboratory Manager

Report No. : 00146  
Application No. : HP00030

Issue Date : 04 Nov 2021

## Certificate of Calibration

Test Result : **Conductivity performance checking**

Expected Reading (mS/cm)	Instrument Readings (mS/cm)	Acceptance Criteria	Comment
146.9	148.1	140-154	Pass
1412	1390	1341-1483	Pass
6667	6556	6334-7000	Pass
12890	12695	12246-13535	Pass
58670	58297	55737-61604	Pass

**Temperature performance checking**

Expected Reading (°C)	Instrument Readings (°C)	Acceptance Criteria	Comment
10.0	10.566	±2.0	Pass
25.0	25.421	±2.0	Pass
35.0	35.330	±2.0	Pass

**pH performance checking**

Expected Reading (pH unit)	Instrument Readings (pH unit)	Acceptance Criteria	Comment
4.01	4.03	4.0 ± 0.2	Pass
7.00	7.07	7.0 ± 0.2	Pass
10.01	10.11	10.0 ± 0.2	Pass

**D.O. performance checking**

Expected Reading	Instrument Readings (mg/L)	Acceptance Criteria	Comment
0.00	0.18	--	--
8.26	8.21	±0.20	Pass

**Turbidity performance checking**

Expected Reading(NTU)	Instrument Readings (NTU)	Acceptance Criteria	Comment
0	0.08	--	--
5	5.20	4.5-5.5	Pass
50	50.12	45-55	Pass
100	100.32	95-105	Pass

**Note** : "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

- End of report -

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**APPENDIX C**  
**WEATHER INFORMATION**

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Table I: Weather over the Reporting Month

March 2022				
Table I				
Day	Mean Pressure (hPa)	Air Temperature	Mean Relative Humidity (%)	Total Rainfall (mm)
		Mean (°C)		
1	1016.9	22.0	77.0	0.0
2	1017.2	20.7	83.0	0.0
3	1017.2	19.5	76.0	0.0
4	1014.6	21.3	77.0	0.0
5	1013.5	20.6	84.0	0.0
6	1015.7	19.1	77.0	0.0
7	1017.2	19.8	70.0	4.8
8	1018.2	17.5	53.0	0.0
9	1017.2	18.7	57.0	0.0
10	1015.8	20.7	60.0	0.0
11	1014.0	22.1	71.0	0.0
12	1013.6	22.3	68.0	0.0
13	1012.8	23.6	75.0	0.1
14	1011.9	24.1	78.0	0.0
15	1010.8	23.8	80.0	0.0
16	1011.7	22.3	79.0	Trace
17	1009.4	24.3	85.0	Trace
18	1008.8	24.4	84.0	0.0
19	1009.9	23.3	85.0	0.0
20	1012.6	21.0	88.0	Trace
21	1012.9	22.1	89.0	Trace
22	1012.8	23.0	93.0	Trace
23	1014.7	17.7	94.0	54.8
24	1014.3	17.6	91.0	1.8
25	1010.4	23.1	90.0	0.7
26	1010.4	26.4	86.0	0.1
27	1013.4	21.9	83.0	Trace
28	1017.4	17.5	89.0	30.3
29	1017.2	19.1	82.0	0.1
30	1015.9	22.4	74.0	0.0
31	1016.3	24.4	69.0	Trace

## Appendix C - Weather Conditions during Monitoring Period

March 2022			
Table II: Wind Speed and Directions			
November 2021	Time	Direction	Wind Speed m-s
1 Mar 2022	12:00 AM	NW	0.4
1 Mar 2022	1:00 AM	NW	0.4
1 Mar 2022	2:00 AM	NW	0.9
1 Mar 2022	3:00 AM	WNW	0.4
1 Mar 2022	4:00 AM	W	0.4
1 Mar 2022	5:00 AM	W	0.4
1 Mar 2022	6:00 AM	W	0.9
1 Mar 2022	7:00 AM	NE	0.9
1 Mar 2022	8:00 AM	NNW	0.4
1 Mar 2022	9:00 AM	NE	0.4
1 Mar 2022	10:00 AM	NE	0.4
1 Mar 2022	11:00 AM	NNW	0.9
1 Mar 2022	12:00 PM	NNW	1.3
1 Mar 2022	1:00 PM	NNW	1.3
1 Mar 2022	2:00 PM	W	1.3
1 Mar 2022	3:00 PM	WNW	1.3
1 Mar 2022	4:00 PM	W	0.9
1 Mar 2022	5:00 PM	W	0.9
1 Mar 2022	6:00 PM	W	0.9
1 Mar 2022	7:00 PM	W	1.3
1 Mar 2022	8:00 PM	W	1.8
1 Mar 2022	9:00 PM	WNW	1.3
1 Mar 2022	10:00 PM	W	1.3
1 Mar 2022	11:00 PM	W	1.3
3 Mar 2022	12:00 AM	W	1.3
3 Mar 2022	1:00 AM	NE	0.4
3 Mar 2022	2:00 AM	NNW	0.9
3 Mar 2022	3:00 AM	NE	0.9
3 Mar 2022	4:00 AM	NE	1.3
3 Mar 2022	5:00 AM	NNW	1.3
3 Mar 2022	6:00 AM	NNW	0.9
3 Mar 2022	7:00 AM	NNW	2.2
3 Mar 2022	8:00 AM	NNW	3.6
3 Mar 2022	9:00 AM	NNW	3.6
3 Mar 2022	10:00 AM	NNW	3.1
3 Mar 2022	11:00 AM	NNW	3.1
3 Mar 2022	12:00 PM	NNW	1.8
3 Mar 2022	1:00 PM	NNW	1.3
3 Mar 2022	2:00 PM	NE	0.4
3 Mar 2022	3:00 PM	ENE	0.9
3 Mar 2022	4:00 PM	NNE	0.9
3 Mar 2022	5:00 PM	ENE	0.9
3 Mar 2022	6:00 PM	NE	0.9
3 Mar 2022	7:00 PM	NW	1.3
3 Mar 2022	8:00 PM	NW	0.9
3 Mar 2022	9:00 PM	NW	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	3 Mar 2022	10:00 PM	W	0.9
	3 Mar 2022	11:00 PM	NW	1.3
	3 Mar 2022	12:00 AM	NW	1.8
	3 Mar 2022	1:00 AM	WNW	1.3
	3 Mar 2022	2:00 AM	NW	1.3
	3 Mar 2022	3:00 AM	NW	1.3
	3 Mar 2022	4:00 AM	NW	1.3
	3 Mar 2022	5:00 AM	NW	0.4
	3 Mar 2022	6:00 AM	E	0.9
	3 Mar 2022	7:00 AM	ESE	0.9
	3 Mar 2022	8:00 AM	E	1.3
	3 Mar 2022	9:00 AM	ENE	1.3
	3 Mar 2022	10:00 AM	ENE	0.9
	3 Mar 2022	11:00 AM	E	0.9
	3 Mar 2022	12:00 PM	ENE	0.9
	3 Mar 2022	1:00 PM	E	0.4
	3 Mar 2022	2:00 PM	ENE	0.9
	3 Mar 2022	3:00 PM	NW	0.4
	3 Mar 2022	4:00 PM	ENE	0.9
	3 Mar 2022	5:00 PM	WNW	0.9
	3 Mar 2022	6:00 PM	W	0.9
	3 Mar 2022	7:00 PM	W	1.3
	3 Mar 2022	8:00 PM	W	0.4
	3 Mar 2022	9:00 PM	NE	0.4
	3 Mar 2022	10:00 PM	NNW	0.9
	3 Mar 2022	11:00 PM	NE	0.4
	4 Mar 2022	12:00 AM	NE	0.4
	4 Mar 2022	1:00 AM	NNW	0.4
	4 Mar 2022	2:00 AM	NNW	0.9
	4 Mar 2022	3:00 AM	NNW	0.9
	4 Mar 2022	4:00 AM	WSW	0.4
	4 Mar 2022	5:00 AM	WSW	0.4
	4 Mar 2022	6:00 AM	W	0.4
	4 Mar 2022	7:00 AM	NW	0.9
	4 Mar 2022	8:00 AM	W	1.3
	4 Mar 2022	9:00 AM	W	1.3
	4 Mar 2022	10:00 AM	W	1.3
	4 Mar 2022	11:00 AM	WNW	1.3
	4 Mar 2022	12:00 PM	W	0.9
	4 Mar 2022	1:00 PM	W	1.3
	4 Mar 2022	2:00 PM	W	1.8
	4 Mar 2022	3:00 PM	W	1.3
	4 Mar 2022	4:00 PM	W	1.3
	4 Mar 2022	5:00 PM	WNW	1.3
	4 Mar 2022	6:00 PM	W	1.3
	4 Mar 2022	7:00 PM	W	1.3

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	4 Mar 2022	8:00 PM	W	0.9
	4 Mar 2022	9:00 PM	W	1.3
	4 Mar 2022	10:00 PM	WNW	1.3
	4 Mar 2022	11:00 PM	W	1.8
	5 Mar 2022	12:00 AM	W	1.3
	5 Mar 2022	1:00 AM	W	1.8
	5 Mar 2022	2:00 AM	NE	1.8
	5 Mar 2022	3:00 AM	NNW	2.2
	5 Mar 2022	4:00 AM	NE	1.3
	5 Mar 2022	5:00 AM	NE	1.8
	5 Mar 2022	6:00 AM	NNW	1.3
	5 Mar 2022	7:00 AM	NNW	0.9
	5 Mar 2022	8:00 AM	NNW	0.9
	5 Mar 2022	9:00 AM	W	1.3
	5 Mar 2022	10:00 AM	W	1.3
	5 Mar 2022	11:00 AM	WNW	0.9
	5 Mar 2022	12:00 PM	WNW	1.3
	5 Mar 2022	1:00 PM	W	0.9
	5 Mar 2022	2:00 PM	NW	1.3
	5 Mar 2022	3:00 PM	NW	1.3
	5 Mar 2022	4:00 PM	NW	1.8
	5 Mar 2022	5:00 PM	WNW	0.9
	5 Mar 2022	6:00 PM	W	1.3
	5 Mar 2022	7:00 PM	W	1.3
	5 Mar 2022	8:00 PM	W	2.2
	5 Mar 2022	9:00 PM	NE	1.8
	5 Mar 2022	10:00 PM	NNW	1.8
	5 Mar 2022	11:00 PM	NE	1.8
	6 Mar 2022	12:00 AM	NE	1.8
	6 Mar 2022	1:00 AM	NNW	0.9
	6 Mar 2022	2:00 AM	NNW	3.6
	6 Mar 2022	3:00 AM	NNW	3.1
	6 Mar 2022	4:00 AM	NW	3.1
	6 Mar 2022	5:00 AM	NW	3.6
	6 Mar 2022	6:00 AM	NW	1.3
	6 Mar 2022	7:00 AM	NW	1.3
	6 Mar 2022	8:00 AM	WNW	1.3
	6 Mar 2022	9:00 AM	W	0.9
	6 Mar 2022	10:00 AM	W	0.9
	6 Mar 2022	11:00 AM	W	0.9
	6 Mar 2022	12:00 PM	NE	0.9
	6 Mar 2022	1:00 PM	NNW	1.3
	6 Mar 2022	2:00 PM	NE	0.9
	6 Mar 2022	3:00 PM	NE	0.9
	6 Mar 2022	4:00 PM	NNW	0.4
	6 Mar 2022	5:00 PM	NNW	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	6 Mar 2022	6:00 PM	NNW	1.8
	6 Mar 2022	7:00 PM	E	0.9
	6 Mar 2022	8:00 PM	E	1.8
	6 Mar 2022	9:00 PM	E	1.3
	6 Mar 2022	10:00 PM	E	0.4
	6 Mar 2022	11:00 PM	ENE	0.4
	7 Mar 2022	12:00 AM	E	0.9
	7 Mar 2022	1:00 AM	ENE	0.9
	7 Mar 2022	2:00 AM	E	1.8
	7 Mar 2022	3:00 AM	E	0.9
	7 Mar 2022	4:00 AM	ENE	1.8
	7 Mar 2022	5:00 AM	E	0.9
	7 Mar 2022	6:00 AM	E	1.8
	7 Mar 2022	7:00 AM	E	1.3
	7 Mar 2022	8:00 AM	ESE	0.4
	7 Mar 2022	9:00 AM	ESE	0.4
	7 Mar 2022	10:00 AM	NW	0.9
	7 Mar 2022	11:00 AM	E	0.9
	7 Mar 2022	12:00 PM	E	1.8
	7 Mar 2022	1:00 PM	E	0.9
	7 Mar 2022	2:00 PM	E	0.9
	7 Mar 2022	3:00 PM	ENE	1.8
	7 Mar 2022	4:00 PM	E	1.8
	7 Mar 2022	5:00 PM	E	1.3
	7 Mar 2022	6:00 PM	ENE	1.3
	7 Mar 2022	7:00 PM	ENE	1.3
	7 Mar 2022	8:00 PM	ENE	0.9
	7 Mar 2022	9:00 PM	E	1.3
	7 Mar 2022	10:00 PM	ESE	0.4
	7 Mar 2022	11:00 PM	NW	0.0
	8 Mar 2022	12:00 AM	ENE	0.0
	8 Mar 2022	1:00 AM	ENE	0.4
	8 Mar 2022	2:00 AM	E	0.4
	8 Mar 2022	3:00 AM	E	0.9
	8 Mar 2022	4:00 AM	E	1.3
	8 Mar 2022	5:00 AM	E	0.9
	8 Mar 2022	6:00 AM	E	0.9
	8 Mar 2022	7:00 AM	ENE	0.9
	8 Mar 2022	8:00 AM	ESE	0.4
	8 Mar 2022	9:00 AM	E	0.9
	8 Mar 2022	10:00 AM	E	1.3
	8 Mar 2022	11:00 AM	E	1.8
	8 Mar 2022	12:00 PM	ESE	1.8
	8 Mar 2022	1:00 PM	ENE	0.9
	8 Mar 2022	2:00 PM	E	1.3
	8 Mar 2022	3:00 PM	NW	1.3



## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	8 Mar 2022	4:00 PM	E	0.9
	8 Mar 2022	5:00 PM	ENE	2.7
	8 Mar 2022	6:00 PM	E	1.3
	8 Mar 2022	7:00 PM	E	0.9
	8 Mar 2022	8:00 PM	ENE	0.9
	8 Mar 2022	9:00 PM	ENE	0.0
	8 Mar 2022	10:00 PM	ENE	0.4
	8 Mar 2022	11:00 PM	E	0.0
	9 Mar 2022	12:00 AM	ESE	0.4
	9 Mar 2022	1:00 AM	NW	0.4
	9 Mar 2022	2:00 AM	ENE	0.4
	9 Mar 2022	3:00 AM	ENE	0.4
	9 Mar 2022	4:00 AM	E	0.0
	9 Mar 2022	5:00 AM	E	0.4
	9 Mar 2022	6:00 AM	E	0.4
	9 Mar 2022	7:00 AM	W	0.4
	9 Mar 2022	8:00 AM	E	0.4
	9 Mar 2022	9:00 AM	ENE	0.4
	9 Mar 2022	10:00 AM	ENE	0.4
	9 Mar 2022	11:00 AM	E	0.4
	9 Mar 2022	12:00 PM	N	0.4
	9 Mar 2022	1:00 PM	ENE	0.4
	9 Mar 2022	2:00 PM	E	1.3
	9 Mar 2022	3:00 PM	NW	1.3
	9 Mar 2022	4:00 PM	NW	2.2
	9 Mar 2022	5:00 PM	NW	1.3
	9 Mar 2022	6:00 PM	NW	0.4
	9 Mar 2022	7:00 PM	E	0.9
	9 Mar 2022	8:00 PM	E	0.4
	9 Mar 2022	9:00 PM	ESE	0.4
	9 Mar 2022	10:00 PM	ESE	0.4
	9 Mar 2022	11:00 PM	ESE	0.4
	10 Mar 2022	12:00 AM	ESE	0.4
	10 Mar 2022	1:00 AM	NNE	0.4
	10 Mar 2022	2:00 AM	E	0.4
	10 Mar 2022	3:00 AM	NW	0.4
	10 Mar 2022	4:00 AM	NW	0.9
	10 Mar 2022	5:00 AM	NE	0.4
	10 Mar 2022	6:00 AM	NW	0.9
	10 Mar 2022	7:00 AM	NW	0.4
	10 Mar 2022	8:00 AM	NE	0.9
	10 Mar 2022	9:00 AM	NW	1.3
	10 Mar 2022	10:00 AM	NW	1.3
	10 Mar 2022	11:00 AM	NW	1.8
	10 Mar 2022	12:00 PM	NW	1.8
	10 Mar 2022	1:00 PM	NW	2.2

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	10 Mar 2022	2:00 PM	NW	0.4
	10 Mar 2022	3:00 PM	NW	0.4
	10 Mar 2022	4:00 PM	NW	0.4
	10 Mar 2022	5:00 PM	NW	0.4
	10 Mar 2022	6:00 PM	NW	1.3
	10 Mar 2022	7:00 PM	ENE	1.3
	10 Mar 2022	8:00 PM	NW	2.2
	10 Mar 2022	9:00 PM	NW	1.3
	10 Mar 2022	10:00 PM	NW	0.4
	10 Mar 2022	11:00 PM	NW	0.9
	11 Mar 2022	12:00 AM	NW	0.4
	11 Mar 2022	1:00 AM	NW	0.4
	11 Mar 2022	2:00 AM	NW	0.4
	11 Mar 2022	3:00 AM	NW	0.4
	11 Mar 2022	4:00 AM	NW	0.4
	11 Mar 2022	5:00 AM	N	0.4
	11 Mar 2022	6:00 AM	NNW	0.4
	11 Mar 2022	7:00 AM	NNW	0.4
	11 Mar 2022	8:00 AM	NW	0.9
	11 Mar 2022	9:00 AM	NNW	0.4
	11 Mar 2022	10:00 AM	NW	0.9
	11 Mar 2022	11:00 AM	E	0.9
	11 Mar 2022	12:00 PM	ENE	0.9
	11 Mar 2022	1:00 PM	E	1.3
	11 Mar 2022	2:00 PM	E	2.2
	11 Mar 2022	3:00 PM	ENE	2.7
	11 Mar 2022	4:00 PM	ENE	1.3
	11 Mar 2022	5:00 PM	ENE	1.3
	11 Mar 2022	6:00 PM	E	1.8
	11 Mar 2022	7:00 PM	ESE	1.3
	11 Mar 2022	8:00 PM	NW	1.3
	11 Mar 2022	9:00 PM	ENE	0.9
	11 Mar 2022	10:00 PM	ENE	0.9
	11 Mar 2022	11:00 PM	E	0.4
	13 Mar 2022	12:00 AM	E	0.0
	13 Mar 2022	1:00 AM	E	0.4
	13 Mar 2022	2:00 AM	NW	0.0
	13 Mar 2022	3:00 AM	---	0.0
	13 Mar 2022	4:00 AM	---	0.0
	13 Mar 2022	5:00 AM	NNW	0.0
	13 Mar 2022	6:00 AM	NW	0.4
	13 Mar 2022	7:00 AM	NW	0.4
	13 Mar 2022	8:00 AM	NW	0.4
	13 Mar 2022	9:00 AM	NW	0.4
	13 Mar 2022	10:00 AM	E	1.3
	13 Mar 2022	11:00 AM	E	1.3

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	13 Mar 2022	12:00 PM	ENE	2.2
	13 Mar 2022	1:00 PM	ESE	1.3
	13 Mar 2022	2:00 PM	NW	0.4
	13 Mar 2022	3:00 PM	NW	0.9
	13 Mar 2022	4:00 PM	NW	0.4
	13 Mar 2022	5:00 PM	NW	0.4
	13 Mar 2022	6:00 PM	NW	0.4
	13 Mar 2022	7:00 PM	NW	0.4
	13 Mar 2022	8:00 PM	E	0.4
	13 Mar 2022	9:00 PM	ENE	0.4
	13 Mar 2022	10:00 PM	E	0.4
	13 Mar 2022	11:00 PM	E	0.4
	13 Mar 2022	12:00 AM	ENE	0.9
	13 Mar 2022	1:00 AM	ENE	0.4
	13 Mar 2022	2:00 AM	ENE	0.4
	13 Mar 2022	3:00 AM	E	0.9
	13 Mar 2022	4:00 AM	ESE	0.0
	13 Mar 2022	5:00 AM	NW	0.9
	13 Mar 2022	6:00 AM	ENE	0.9
	13 Mar 2022	7:00 AM	ENE	0.9
	13 Mar 2022	8:00 AM	E	0.4
	13 Mar 2022	9:00 AM	E	1.3
	13 Mar 2022	10:00 AM	E	0.4
	13 Mar 2022	11:00 AM	NNE	0.9
	13 Mar 2022	12:00 PM	NW	0.9
	13 Mar 2022	1:00 PM	NW	1.3
	13 Mar 2022	2:00 PM	NW	2.7
	13 Mar 2022	3:00 PM	NW	2.7
	13 Mar 2022	4:00 PM	NW	2.7
	13 Mar 2022	5:00 PM	NW	1.8
	13 Mar 2022	6:00 PM	NW	0.4
	13 Mar 2022	7:00 PM	NW	0.9
	13 Mar 2022	8:00 PM	NW	1.3
	13 Mar 2022	9:00 PM	W	0.4
	13 Mar 2022	10:00 PM	NW	0.9
	13 Mar 2022	11:00 PM	NW	0.4
	14 Mar 2022	12:00 AM	WSW	0.4
	14 Mar 2022	1:00 AM	NW	1.3
	14 Mar 2022	2:00 AM	NW	0.9
	14 Mar 2022	3:00 AM	NW	1.8
	14 Mar 2022	4:00 AM	NW	1.8
	14 Mar 2022	5:00 AM	NW	1.8
	14 Mar 2022	6:00 AM	NW	0.9
	14 Mar 2022	7:00 AM	NW	1.3
	14 Mar 2022	8:00 AM	NW	0.9
	14 Mar 2022	9:00 AM	W	0.4

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	14 Mar 2022	10:00 AM	NW	0.4
	14 Mar 2022	11:00 AM	NW	0.9
	14 Mar 2022	12:00 PM	ENE	1.3
	14 Mar 2022	1:00 PM	NW	0.9
	14 Mar 2022	2:00 PM	ENE	1.3
	14 Mar 2022	3:00 PM	ENE	1.8
	14 Mar 2022	4:00 PM	NW	2.7
	14 Mar 2022	5:00 PM	NE	1.8
	14 Mar 2022	6:00 PM	NW	0.9
	14 Mar 2022	7:00 PM	ENE	0.4
	14 Mar 2022	8:00 PM	E	0.4
	14 Mar 2022	9:00 PM	E	0.4
	14 Mar 2022	10:00 PM	E	0.4
	14 Mar 2022	11:00 PM	NW	0.4
	15 Mar 2022	12:00 AM	NW	0.4
	15 Mar 2022	1:00 AM	ESE	2.2
	15 Mar 2022	2:00 AM	WNW	0.9
	15 Mar 2022	3:00 AM	WNW	0.9
	15 Mar 2022	4:00 AM	E	2.2
	15 Mar 2022	5:00 AM	ENE	1.8
	15 Mar 2022	6:00 AM	NW	1.8
	15 Mar 2022	7:00 AM	ENE	2.2
	15 Mar 2022	8:00 AM	ENE	2.2
	15 Mar 2022	9:00 AM	NW	1.3
	15 Mar 2022	10:00 AM	NE	1.8
	15 Mar 2022	11:00 AM	NW	1.8
	15 Mar 2022	12:00 PM	ENE	1.3
	15 Mar 2022	1:00 PM	E	2.7
	15 Mar 2022	2:00 PM	E	2.7
	15 Mar 2022	3:00 PM	E	2.7
	15 Mar 2022	4:00 PM	E	3.1
	15 Mar 2022	5:00 PM	E	1.8
	15 Mar 2022	6:00 PM	E	1.8
	15 Mar 2022	7:00 PM	ESE	1.3
	15 Mar 2022	8:00 PM	E	1.3
	15 Mar 2022	9:00 PM	E	1.3
	15 Mar 2022	10:00 PM	ENE	0.9
	15 Mar 2022	11:00 PM	ESE	0.9
	16 Mar 2022	12:00 AM	ESE	1.3
	16 Mar 2022	1:00 AM	E	0.9
	16 Mar 2022	2:00 AM	NNW	0.9
	16 Mar 2022	3:00 AM	ENE	1.8
	16 Mar 2022	4:00 AM	E	1.3
	16 Mar 2022	5:00 AM	E	2.7
	16 Mar 2022	6:00 AM	ENE	2.7
	16 Mar 2022	7:00 AM	SE	2.7

## Appendix C - Weather Conditions during Monitoring Period

March 2022			
Table II: Wind Speed and Directions			
November 2021	Time	Direction	Wind Speed m-s
16 Mar 2022	8:00 AM	NW	3.1
16 Mar 2022	9:00 AM	NW	1.8
16 Mar 2022	10:00 AM	E	1.8
16 Mar 2022	11:00 AM	E	1.3
16 Mar 2022	12:00 PM	E	1.3
16 Mar 2022	1:00 PM	E	1.3
16 Mar 2022	2:00 PM	E	0.9
16 Mar 2022	3:00 PM	SE	0.9
16 Mar 2022	4:00 PM	E	1.3
16 Mar 2022	5:00 PM	ESE	0.9
16 Mar 2022	6:00 PM	ESE	0.9
16 Mar 2022	7:00 PM	ESE	0.9
16 Mar 2022	8:00 PM	ESE	1.3
16 Mar 2022	9:00 PM	ESE	1.3
16 Mar 2022	10:00 PM	ESE	0.9
16 Mar 2022	11:00 PM	ESE	1.3
17 Mar 2022	12:00 AM	ESE	0.9
17 Mar 2022	1:00 AM	E	0.4
17 Mar 2022	2:00 AM	SE	0.9
17 Mar 2022	3:00 AM	SE	0.9
17 Mar 2022	4:00 AM	SE	1.3
17 Mar 2022	5:00 AM	SE	1.3
17 Mar 2022	6:00 AM	WNW	1.8
17 Mar 2022	7:00 AM	WNW	1.3
17 Mar 2022	8:00 AM	WNW	1.8
17 Mar 2022	9:00 AM	NNW	1.8
17 Mar 2022	10:00 AM	WNW	0.9
17 Mar 2022	11:00 AM	WNW	0.9
17 Mar 2022	12:00 PM	NNW	1.3
17 Mar 2022	1:00 PM	NNW	1.8
17 Mar 2022	2:00 PM	WNW	0.9
17 Mar 2022	3:00 PM	NW	0.4
17 Mar 2022	4:00 PM	NW	0.4
17 Mar 2022	5:00 PM	NNW	0.4
17 Mar 2022	6:00 PM	ENE	0.4
17 Mar 2022	7:00 PM	NW	1.3
17 Mar 2022	8:00 PM	ENE	0.9
17 Mar 2022	9:00 PM	ENE	1.8
17 Mar 2022	10:00 PM	NW	1.3
17 Mar 2022	11:00 PM	NE	2.2
18 Mar 2022	12:00 AM	NW	2.7
18 Mar 2022	1:00 AM	ENE	2.7
18 Mar 2022	2:00 AM	E	1.3
18 Mar 2022	3:00 AM	E	1.8
18 Mar 2022	4:00 AM	E	1.3
18 Mar 2022	5:00 AM	NNW	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	18 Mar 2022	6:00 AM	NNW	0.4
	18 Mar 2022	7:00 AM	NNW	0.4
	18 Mar 2022	8:00 AM	NNW	0.9
	18 Mar 2022	9:00 AM	NNW	0.9
	18 Mar 2022	10:00 AM	NNW	0.4
	18 Mar 2022	11:00 AM	NNW	0.4
	18 Mar 2022	12:00 PM	NNW	0.4
	18 Mar 2022	1:00 PM	NNW	0.9
	18 Mar 2022	2:00 PM	NNW	0.9
	18 Mar 2022	3:00 PM	N	0.4
	18 Mar 2022	4:00 PM	NNW	0.0
	18 Mar 2022	5:00 PM	NNW	0.9
	18 Mar 2022	6:00 PM	NW	0.4
	18 Mar 2022	7:00 PM	NNW	0.4
	18 Mar 2022	8:00 PM	N	0.4
	18 Mar 2022	9:00 PM	NNW	0.9
	18 Mar 2022	10:00 PM	NNW	0.9
	18 Mar 2022	11:00 PM	N	0.4
	19 Mar 2022	12:00 AM	ENE	0.0
	19 Mar 2022	1:00 AM	ENE	0.0
	19 Mar 2022	2:00 AM	ENE	0.0
	19 Mar 2022	3:00 AM	ENE	0.0
	19 Mar 2022	4:00 AM	ENE	0.0
	19 Mar 2022	5:00 AM	N	0.0
	19 Mar 2022	6:00 AM	N	0.0
	19 Mar 2022	7:00 AM	N	0.4
	19 Mar 2022	8:00 AM	NNW	0.9
	19 Mar 2022	9:00 AM	NW	0.9
	19 Mar 2022	10:00 AM	NNW	1.8
	19 Mar 2022	11:00 AM	NNW	1.8
	19 Mar 2022	12:00 PM	W	0.9
	19 Mar 2022	1:00 PM	NNW	0.9
	19 Mar 2022	2:00 PM	W	1.3
	19 Mar 2022	3:00 PM	W	0.9
	19 Mar 2022	4:00 PM	W	0.4
	19 Mar 2022	5:00 PM	NNW	0.4
	19 Mar 2022	6:00 PM	ENE	0.4
	19 Mar 2022	7:00 PM	E	0.9
	19 Mar 2022	8:00 PM	ENE	0.9
	19 Mar 2022	9:00 PM	NE	0.9
	19 Mar 2022	10:00 PM	NE	0.9
	19 Mar 2022	11:00 PM	ENE	1.3
	20 Mar 2022	12:00 AM	E	1.3
	20 Mar 2022	1:00 AM	0.0	0.9
	20 Mar 2022	2:00 AM	0.0	0.9
	20 Mar 2022	3:00 AM	E	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022			
Table II: Wind Speed and Directions			
November 2021	Time	Direction	Wind Speed m-s
20 Mar 2022	4:00 AM	E	0.9
20 Mar 2022	5:00 AM	ENE	0.9
20 Mar 2022	6:00 AM	ENE	0.9
20 Mar 2022	7:00 AM	N	0.9
20 Mar 2022	8:00 AM	ENE	0.9
20 Mar 2022	9:00 AM	NE	0.9
20 Mar 2022	10:00 AM	NNW	1.3
20 Mar 2022	11:00 AM	W	1.8
20 Mar 2022	12:00 PM	NNW	1.3
20 Mar 2022	1:00 PM	NNW	1.8
20 Mar 2022	2:00 PM	NNW	1.8
20 Mar 2022	3:00 PM	NNW	2.2
20 Mar 2022	4:00 PM	NNW	1.8
20 Mar 2022	5:00 PM	NNW	2.2
20 Mar 2022	6:00 PM	NE	1.8
20 Mar 2022	7:00 PM	ENE	0.9
20 Mar 2022	8:00 PM	N	0.4
20 Mar 2022	9:00 PM	N	0.0
20 Mar 2022	10:00 PM	E	0.4
20 Mar 2022	11:00 PM	NE	0.0
21 Mar 2022	12:00 AM	NE	0.0
21 Mar 2022	1:00 AM	NE	0.0
21 Mar 2022	2:00 AM	NNE	0.0
21 Mar 2022	3:00 AM	NNE	0.0
21 Mar 2022	4:00 AM	NE	0.0
21 Mar 2022	5:00 AM	NE	0.0
21 Mar 2022	6:00 AM	NE	0.0
21 Mar 2022	7:00 AM	NNW	0.0
21 Mar 2022	8:00 AM	NE	0.0
21 Mar 2022	9:00 AM	NE	0.0
21 Mar 2022	10:00 AM	NNW	0.4
21 Mar 2022	11:00 AM	NNW	1.3
21 Mar 2022	12:00 PM	NNW	0.9
21 Mar 2022	1:00 PM	NNW	0.9
21 Mar 2022	2:00 PM	NNW	0.9
21 Mar 2022	3:00 PM	NNW	0.9
21 Mar 2022	4:00 PM	NNW	3.1
21 Mar 2022	5:00 PM	NNW	1.8
21 Mar 2022	6:00 PM	NNW	1.3
21 Mar 2022	7:00 PM	NE	0.4
21 Mar 2022	8:00 PM	ENE	0.9
21 Mar 2022	9:00 PM	NNE	0.9
21 Mar 2022	10:00 PM	ENE	0.9
21 Mar 2022	11:00 PM	NE	0.9
23 Mar 2022	12:00 AM	WNW	0.4
23 Mar 2022	1:00 AM	WNW	0.4

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	23 Mar 2022	2:00 AM	WNW	0.4
	23 Mar 2022	3:00 AM	NW	0.4
	23 Mar 2022	4:00 AM	W	0.0
	23 Mar 2022	5:00 AM	W	0.0
	23 Mar 2022	6:00 AM	WNW	0.0
	23 Mar 2022	7:00 AM	WNW	0.4
	23 Mar 2022	8:00 AM	W	0.4
	23 Mar 2022	9:00 AM	W	0.9
	23 Mar 2022	10:00 AM	W	0.9
	23 Mar 2022	11:00 AM	SSW	0.9
	23 Mar 2022	12:00 PM	SSW	0.9
	23 Mar 2022	1:00 PM	W	1.3
	23 Mar 2022	2:00 PM	SW	1.3
	23 Mar 2022	3:00 PM	SW	0.9
	23 Mar 2022	4:00 PM	SSW	0.0
	23 Mar 2022	5:00 PM	SSW	0.4
	23 Mar 2022	6:00 PM	SSW	1.3
	23 Mar 2022	7:00 PM	WNW	0.4
	23 Mar 2022	8:00 PM	WNW	0.4
	23 Mar 2022	9:00 PM	WNW	0.4
	23 Mar 2022	10:00 PM	WNW	0.0
	23 Mar 2022	11:00 PM	WNW	0.4
	23 Mar 2022	12:00 AM	W	0.9
	23 Mar 2022	1:00 AM	WNW	0.0
	23 Mar 2022	2:00 AM	WNW	0.4
	23 Mar 2022	3:00 AM	WNW	0.9
	23 Mar 2022	4:00 AM	WNW	1.8
	23 Mar 2022	5:00 AM	NW	1.3
	23 Mar 2022	6:00 AM	ESE	0.9
	23 Mar 2022	7:00 AM	ESE	0.9
	23 Mar 2022	8:00 AM	NW	2.7
	23 Mar 2022	9:00 AM	WNW	1.3
	23 Mar 2022	10:00 AM	WNW	1.8
	23 Mar 2022	11:00 AM	WNW	0.0
	23 Mar 2022	12:00 PM	WNW	0.9
	23 Mar 2022	1:00 PM	SW	1.3
	23 Mar 2022	2:00 PM	ENE	1.3
	23 Mar 2022	3:00 PM	ENE	1.3
	23 Mar 2022	4:00 PM	SW	1.3
	23 Mar 2022	5:00 PM	SW	1.8
	23 Mar 2022	6:00 PM	SSW	0.9
	23 Mar 2022	7:00 PM	SW	1.3
	23 Mar 2022	8:00 PM	ENE	0.9
	23 Mar 2022	9:00 PM	ENE	0.9
	23 Mar 2022	10:00 PM	SW	0.4
	23 Mar 2022	11:00 PM	ESE	0.9



## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	24 Mar 2022	12:00 AM	W	0.4
	24 Mar 2022	1:00 AM	NE	0.4
	24 Mar 2022	2:00 AM	NW	0.4
	24 Mar 2022	3:00 AM	WNW	0.0
	24 Mar 2022	4:00 AM	W	0.0
	24 Mar 2022	5:00 AM	W	0.4
	24 Mar 2022	6:00 AM	NW	0.4
	24 Mar 2022	7:00 AM	WNW	0.9
	24 Mar 2022	8:00 AM	WNW	1.3
	24 Mar 2022	9:00 AM	NW	1.3
	24 Mar 2022	10:00 AM	W	0.9
	24 Mar 2022	11:00 AM	WSW	0.9
	24 Mar 2022	12:00 PM	WNW	0.9
	24 Mar 2022	1:00 PM	WNW	0.9
	24 Mar 2022	2:00 PM	ESE	0.9
	24 Mar 2022	3:00 PM	E	0.9
	24 Mar 2022	4:00 PM	WNW	0.4
	24 Mar 2022	5:00 PM	NW	0.4
	24 Mar 2022	6:00 PM	W	0.4
	24 Mar 2022	7:00 PM	W	0.9
	24 Mar 2022	8:00 PM	NW	0.9
	24 Mar 2022	9:00 PM	WNW	0.9
	24 Mar 2022	10:00 PM	WNW	1.3
	24 Mar 2022	11:00 PM	ESE	1.8
	25 Mar 2022	12:00 AM	E	2.7
	25 Mar 2022	1:00 AM	WNW	3.6
	25 Mar 2022	2:00 AM	NW	2.2
	25 Mar 2022	3:00 AM	W	2.2
	25 Mar 2022	4:00 AM	W	1.8
	25 Mar 2022	5:00 AM	NW	1.3
	25 Mar 2022	6:00 AM	WNW	0.9
	25 Mar 2022	7:00 AM	NW	0.4
	25 Mar 2022	8:00 AM	WNW	0.4
	25 Mar 2022	9:00 AM	ENE	0.4
	25 Mar 2022	10:00 AM	NW	0.9
	25 Mar 2022	11:00 AM	ENE	0.9
	25 Mar 2022	12:00 PM	ENE	1.3
	25 Mar 2022	1:00 PM	NW	0.4
	25 Mar 2022	2:00 PM	NE	0.9
	25 Mar 2022	3:00 PM	NW	1.8
	25 Mar 2022	4:00 PM	ENE	0.4
	25 Mar 2022	5:00 PM	E	0.9
	25 Mar 2022	6:00 PM	E	0.9
	25 Mar 2022	7:00 PM	E	0.9
	25 Mar 2022	8:00 PM	NW	1.8
	25 Mar 2022	9:00 PM	NW	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	25 Mar 2022	10:00 PM	NW	0.4
	25 Mar 2022	11:00 PM	NW	0.0
	26 Mar 2022	12:00 AM	NW	0.9
	26 Mar 2022	1:00 AM	NW	0.4
	26 Mar 2022	2:00 AM	NW	0.9
	26 Mar 2022	3:00 AM	NW	0.9
	26 Mar 2022	4:00 AM	NW	1.3
	26 Mar 2022	5:00 AM	NW	2.7
	26 Mar 2022	6:00 AM	NNW	2.2
	26 Mar 2022	7:00 AM	NW	2.7
	26 Mar 2022	8:00 AM	NW	3.1
	26 Mar 2022	9:00 AM	NW	2.2
	26 Mar 2022	10:00 AM	NW	1.3
	26 Mar 2022	11:00 AM	NW	0.9
	26 Mar 2022	12:00 PM	NW	0.9
	26 Mar 2022	1:00 PM	NW	0.9
	26 Mar 2022	2:00 PM	NW	0.9
	26 Mar 2022	3:00 PM	NW	0.9
	26 Mar 2022	4:00 PM	NW	0.9
	26 Mar 2022	5:00 PM	NW	0.9
	26 Mar 2022	6:00 PM	WNW	1.3
	26 Mar 2022	7:00 PM	NW	0.9
	26 Mar 2022	8:00 PM	NW	1.8
	26 Mar 2022	9:00 PM	NW	0.9
	26 Mar 2022	10:00 PM	NW	0.9
	26 Mar 2022	11:00 PM	W	0.9
	27 Mar 2022	12:00 AM	W	0.9
	27 Mar 2022	1:00 AM	NW	0.9
	27 Mar 2022	2:00 AM	NW	1.3
	27 Mar 2022	3:00 AM	NW	0.9
	27 Mar 2022	4:00 AM	W	0.0
	27 Mar 2022	5:00 AM	WNW	0.9
	27 Mar 2022	6:00 AM	W	0.9
	27 Mar 2022	7:00 AM	WNW	0.9
	27 Mar 2022	8:00 AM	NNE	0.4
	27 Mar 2022	9:00 AM	W	0.4
	27 Mar 2022	10:00 AM	ENE	0.4
	27 Mar 2022	11:00 AM	NW	0.9
	27 Mar 2022	12:00 PM	ENE	0.0
	27 Mar 2022	1:00 PM	ENE	0.0
	27 Mar 2022	2:00 PM	NW	0.9
	27 Mar 2022	3:00 PM	NE	0.9
	27 Mar 2022	4:00 PM	NW	0.0
	27 Mar 2022	5:00 PM	ENE	0.0
	27 Mar 2022	6:00 PM	E	1.3
	27 Mar 2022	7:00 PM	E	1.8

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	27 Mar 2022	8:00 PM	E	0.9
	27 Mar 2022	9:00 PM	WSW	1.3
	27 Mar 2022	10:00 PM	WSW	0.9
	27 Mar 2022	11:00 PM	WSW	1.3
	28 Mar 2022	12:00 AM	W	0.4
	28 Mar 2022	1:00 AM	NE	0.4
	28 Mar 2022	2:00 AM	ENE	0.4
	28 Mar 2022	3:00 AM	NE	0.0
	28 Mar 2022	4:00 AM	NE	0.4
	28 Mar 2022	5:00 AM	WSW	0.4
	28 Mar 2022	6:00 AM	W	0.4
	28 Mar 2022	7:00 AM	WSW	0.9
	28 Mar 2022	8:00 AM	WSW	0.9
	28 Mar 2022	9:00 AM	WSW	0.9
	28 Mar 2022	10:00 AM	WSW	1.3
	28 Mar 2022	11:00 AM	WNW	1.8
	28 Mar 2022	12:00 PM	WNW	2.7
	28 Mar 2022	1:00 PM	WSW	3.6
	28 Mar 2022	2:00 PM	ENE	2.2
	28 Mar 2022	3:00 PM	SW	2.2
	28 Mar 2022	4:00 PM	ENE	1.8
	28 Mar 2022	5:00 PM	E	1.3
	28 Mar 2022	6:00 PM	SW	0.9
	28 Mar 2022	7:00 PM	ENE	0.4
	28 Mar 2022	8:00 PM	ENE	0.4
	28 Mar 2022	9:00 PM	SW	0.4
	28 Mar 2022	10:00 PM	SW	0.9
	28 Mar 2022	11:00 PM	SSW	0.9
	29 Mar 2022	12:00 AM	SW	1.3
	29 Mar 2022	1:00 AM	E	0.9
	29 Mar 2022	2:00 AM	ENE	0.4
	29 Mar 2022	3:00 AM	E	0.4
	29 Mar 2022	4:00 AM	ENE	0.4
	29 Mar 2022	5:00 AM	NW	0.0
	29 Mar 2022	6:00 AM	ENE	0.9
	29 Mar 2022	7:00 AM	WNW	0.9
	29 Mar 2022	8:00 AM	ENE	0.9
	29 Mar 2022	9:00 AM	ESE	1.3
	29 Mar 2022	10:00 AM	NW	0.4
	29 Mar 2022	11:00 AM	NW	0.4
	29 Mar 2022	12:00 PM	NW	0.9
	29 Mar 2022	1:00 PM	NNE	0.4
	29 Mar 2022	2:00 PM	NNW	0.4
	29 Mar 2022	3:00 PM	W	0.4
	29 Mar 2022	4:00 PM	SW	0.9
	29 Mar 2022	5:00 PM	SW	0.9

## Appendix C - Weather Conditions during Monitoring Period

March 2022				
Table II: Wind Speed and Directions				
November 2021	Time	Direction	Wind Speed m-s	
	29 Mar 2022	6:00 PM	SSW	0.4
	29 Mar 2022	7:00 PM	SW	0.4
	29 Mar 2022	8:00 PM	E	0.4
	29 Mar 2022	9:00 PM	ENE	0.9
	29 Mar 2022	10:00 PM	E	0.4
	29 Mar 2022	11:00 PM	ENE	0.4
	30 Mar 2022	12:00 AM	NW	0.4
	30 Mar 2022	1:00 AM	ENE	0.0
	30 Mar 2022	2:00 AM	WNW	0.9
	30 Mar 2022	3:00 AM	SW	1.3
	30 Mar 2022	4:00 AM	ENE	1.3
	30 Mar 2022	5:00 AM	ENE	1.3
	30 Mar 2022	6:00 AM	SW	1.3
	30 Mar 2022	7:00 AM	SW	1.8
	30 Mar 2022	8:00 AM	SSW	0.9
	30 Mar 2022	9:00 AM	SW	1.3
	30 Mar 2022	10:00 AM	ENE	0.9
	30 Mar 2022	11:00 AM	ENE	0.9
	30 Mar 2022	12:00 PM	SW	0.4
	30 Mar 2022	1:00 PM	ESE	0.9
	30 Mar 2022	2:00 PM	W	0.4
	30 Mar 2022	3:00 PM	NE	0.4
	30 Mar 2022	4:00 PM	NW	0.4
	30 Mar 2022	5:00 PM	WNW	0.0
	30 Mar 2022	6:00 PM	SW	0.0
	30 Mar 2022	7:00 PM	SW	0.4
	30 Mar 2022	8:00 PM	SSW	0.4
	30 Mar 2022	9:00 PM	SW	0.9
	30 Mar 2022	10:00 PM	E	1.3
	30 Mar 2022	11:00 PM	ENE	1.3
	31 Mar 2022	12:00 AM	E	0.9
	31 Mar 2022	1:00 AM	ENE	0.9
	31 Mar 2022	2:00 AM	NW	0.9
	31 Mar 2022	3:00 AM	ENE	0.9
	31 Mar 2022	4:00 AM	WNW	0.9
	31 Mar 2022	5:00 AM	E	0.9
	31 Mar 2022	6:00 AM	WNW	0.4
	31 Mar 2022	7:00 AM	NW	0.4
	31 Mar 2022	8:00 AM	W	0.4
	31 Mar 2022	9:00 AM	W	0.9
	31 Mar 2022	10:00 AM	NW	0.9
	31 Mar 2022	11:00 AM	WNW	0.9
	31 Mar 2022	12:00 PM	WNW	1.3
	31 Mar 2022	1:00 PM	ESE	1.8
	31 Mar 2022	2:00 PM	E	2.7
	31 Mar 2022	3:00 PM	SW	0.4

## Appendix C - Weather Conditions during Monitoring Period

March 2022			
Table II: Wind Speed and Directions			
November 2021	Time	Direction	Wind Speed m-s
31 Mar 2022	4:00 PM	SW	0.4
31 Mar 2022	5:00 PM	SSW	2.2
31 Mar 2022	6:00 PM	SW	1.8
31 Mar 2022	7:00 PM	E	1.3
31 Mar 2022	8:00 PM	ENE	0.9
31 Mar 2022	9:00 PM	E	0.4
31 Mar 2022	10:00 PM	ENE	1.3
31 Mar 2022	11:00 PM	NW	0.9

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**APPENDIX D  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**Agreement No. CE/59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Impact Air Quality and Noise Monitoring Schedule (March 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
				<b>24 hr TSP</b>	<b>1 hr TSP X3</b> [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]  <b>Noise [Evening time (19:00-23:00)]</b> [CM1, CM2, CM3]  <b>Noise [Night-time (23:00-07:00)]</b> [CM1, CM2, CM3]	
<b>6-Mar</b>	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
			<b>24 hr TSP</b>	<b>1 hr TSP X3</b> [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]  <b>Noise [Daytime (07:00-19:00)]</b> [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A)]  <b>Noise [Evening time (19:00-23:00)]</b> [CM6(A)]	<b>Noise [Evening time (19:00-23:00)]</b> [CM1, CM2, CM3]  <b>Noise [Night-time (23:00-07:00)]</b> [CM1, CM2, CM3]	
<b>13-Mar</b>	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
		<b>24 hr TSP</b>	<b>1 hr TSP X3</b> [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]  <b>Noise [Daytime (07:00-19:00)]</b> [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A)]  <b>Noise [Evening time (19:00-23:00)]</b> [CM6(A)]		<b>Noise [Evening time (19:00-23:00)]</b> [CM1, CM2, CM3]  <b>Noise [Night-time (23:00-07:00)]</b> [CM1, CM2, CM3]	
<b>20-Mar</b>	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
	<b>24 hr TSP</b>	<b>1 hr TSP X3</b> [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]  <b>Noise [Daytime (07:00-19:00)]</b> [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A)]  <b>Noise [Evening time (19:00-23:00)]</b> [CM6(A)]			<b>Noise [Evening time (19:00-23:00)]</b> [CM1, CM2, CM3]  <b>Noise [Night-time (23:00-07:00)]</b> [CM1, CM2, CM3]	<b>24 hr TSP</b>
<b>27-Mar</b>	<b>28-Mar</b>	<b>29-Mar</b>	<b>30-Mar</b>	<b>31-Mar</b>		
	<b>1 hr TSP X3</b> [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]  <b>Noise [Daytime (07:00-19:00)]</b> [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A)]  <b>Noise [Evening time (19:00-23:00)]</b> [CM6(A)]			<b>24 hr TSP</b>		

**Air Quality Monitoring Station**

AM1 - Tin Hau Temple  
 AM2 - Sai Tso Wan Recreation Ground  
 AM3 - Yau Lai Estate Bik Lai House  
 AM4<sup>(1)</sup> - Sitting-out Area at Cha Kwo Ling Village  
 AM4(A)<sup>(2)</sup> - Cha Kwo Ling Public Cargo Working Area Administrative Office  
 AM5(A) - Tseung Kwan O DSD Desilting Compound  
 AM6(A) - Park Central, L1/F Open Space Area

**Noise Monitoring Station**

CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong  
 CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong  
 CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong  
 CM4 - Tin Hau Temple, Cha Kwo Ling  
 CM5 - CCC Kei Faat Primary School, Yau Tong  
 CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores  
 CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores  
 CM8(A) - Park Central, L1/F Open Space Area

Note (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

**Agreement No. CE/59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Tentative Impact Water Quality Monitoring Schedule (Mar 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>27-Feb</b>	28-Feb	1-Mar	2-Mar	3-Mar	4-Mar	5-Mar
			Mid-Ebb 12:33 Mid-Flood 7:02		Mid-Ebb 13:45 Mid-Flood 7:58	
<b>6-Mar</b>	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar	12-Mar
	Mid-Ebb 15:26 Mid-Flood 9:11		Mid-Ebb 16:56 Mid-Flood 9:56		Mid-Ebb -- Mid-Flood 7:35	
<b>13-Mar</b>	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar
	Mid-Ebb -- Mid-Flood 9:10		Mid-Ebb 11:41 Mid-Flood 16:55		Mid-Ebb 12:08 Mid-Flood 7:00	
<b>20-Mar</b>	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar
	Mid-Ebb 14:24 Mid-Flood 8:14		Mid-Ebb 15:51 Mid-Flood 9:16		Mid-Ebb -- Mid-Flood 11:12	
<b>27-Mar</b>	28-Mar	29-Mar	30-Mar	31-Mar		
	Mid-Ebb 14:55 Mid-Flood 10:08		Mid-Ebb 11:35 Mid-Flood 17:01			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Monitoring Station:

C1, C2, G1, G2, G3, G4, M1, M2, M3, M4, M5, M6



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**APPENDIX E  
1-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATIONS**

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## APPENDIX E - 1-HOUR TSP MONITORING RESULTS

<b>Location AM1 - Tin Hau Temple</b>			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
4-Mar-22	13:00	Sunny	40.0
4-Mar-22	14:00	Sunny	44.0
4-Mar-22	15:00	Sunny	50.0
10-Mar-22	14:00	Sunny	39.6
10-Mar-22	15:00	Sunny	48.4
10-Mar-22	16:00	Sunny	48.4
16-Mar-22	13:00	Sunny	52.9
16-Mar-22	14:00	Sunny	59.8
16-Mar-22	15:00	Sunny	66.7
22-Mar-22	13:00	Fine	46.2
22-Mar-22	14:00	Fine	41.8
22-Mar-22	15:00	Fine	48.4
28-Mar-22	9:28	Rainy	48.3
28-Mar-22	10:28	Rainy	39.1
28-Mar-22	11:28	Rainy	39.1
Average			47.5
Maximum			66.7
Minimum			39.1

<b>Location AM2 - Sai Tso Wan Recreation Ground</b>			
Date	Time	Weather	<i>Particulate Concentration (<math>\mu\text{g}/\text{m}^3</math>)</i>
4-Mar-22	10:00	Sunny	86.1
4-Mar-22	11:00	Sunny	88.2
4-Mar-22	12:00	Sunny	73.5
10-Mar-22	12:00	Sunny	21.0
10-Mar-22	13:00	Sunny	18.9
10-Mar-22	14:00	Sunny	25.2
16-Mar-22	13:45	Sunny	41.8
16-Mar-22	14:45	Sunny	22.0
16-Mar-22	15:45	Sunny	33.0
22-Mar-22	11:00	Cloudy	144.9
22-Mar-22	12:00	Cloudy	88.2
22-Mar-22	13:00	Cloudy	63.0
28-Mar-22	11:00	Rainy	18.9
28-Mar-22	12:00	Rainy	25.2
28-Mar-22	13:00	Rainy	29.4
Average			52.0
Maximum			144.9
Minimum			18.9

## APPENDIX E - 1-HOUR TSP MONITORING RESULTS

<b>Location AM3 - Yau Lai Estate Bik Lai House</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
4-Mar-22	9:00	Sunny	34.0
4-Mar-22	10:00	Sunny	38.0
4-Mar-22	11:00	Sunny	40.0
10-Mar-22	14:00	Sunny	22.0
10-Mar-22	15:00	Sunny	19.8
10-Mar-22	16:00	Sunny	22.0
16-Mar-22	9:30	Sunny	87.4
16-Mar-22	10:30	Sunny	96.6
16-Mar-22	11:30	Sunny	80.5
22-Mar-22	16:00	Fine	55.0
22-Mar-22	17:00	Fine	59.4
22-Mar-22	18:00	Fine	50.6
28-Mar-22	15:11	Rainy	52.9
28-Mar-22	16:11	Rainy	46.0
28-Mar-22	17:11	Rainy	46.0
Average			50.0
Maximum			96.6
Minimum			19.8

<b>Location AM4 - Sitting-out Area at Cha Kwo Ling Village</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
4-Mar-22	16:00	Sunny	34.0
4-Mar-22	17:00	Sunny	28.0
4-Mar-22	18:00	Sunny	28.0
10-Mar-22	15:00	Sunny	25.2
10-Mar-22	16:00	Sunny	23.1
10-Mar-22	17:00	Sunny	21.0
16-Mar-22	15:20	Sunny	48.3
16-Mar-22	16:20	Sunny	66.7
16-Mar-22	17:20	Sunny	59.8
22-Mar-22	9:00	Fine	41.8
22-Mar-22	10:00	Fine	50.6
22-Mar-22	11:00	Fine	57.2
28-Mar-22	12:40	Rainy	43.7
28-Mar-22	13:40	Rainy	57.5
28-Mar-22	14:40	Rainy	50.6
Average			42.4
Maximum			66.7
Minimum			21.0

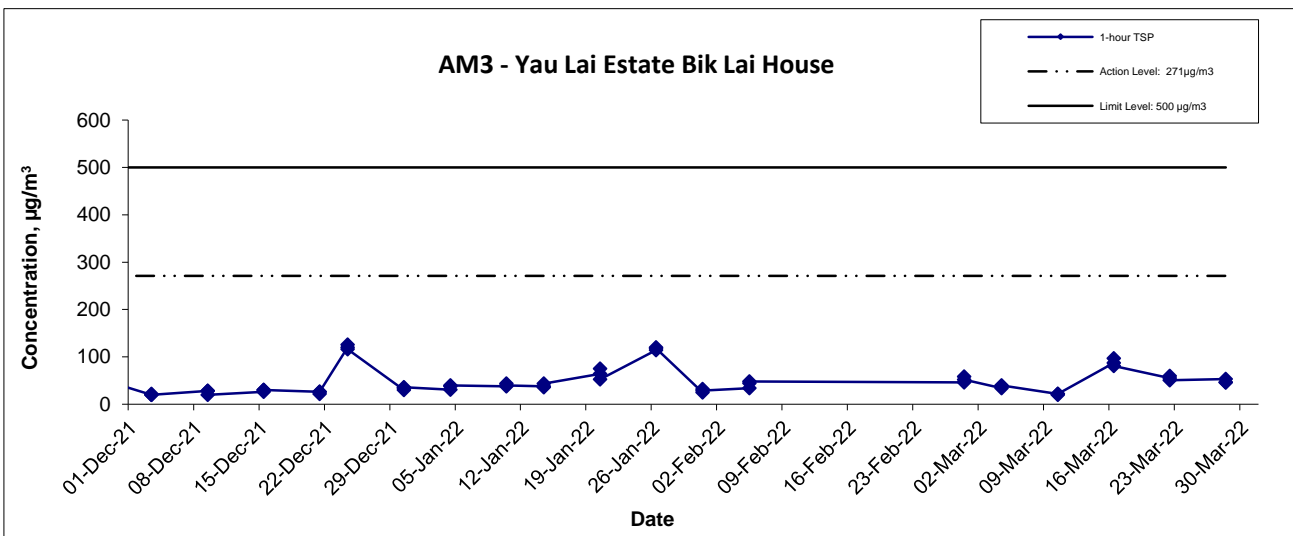
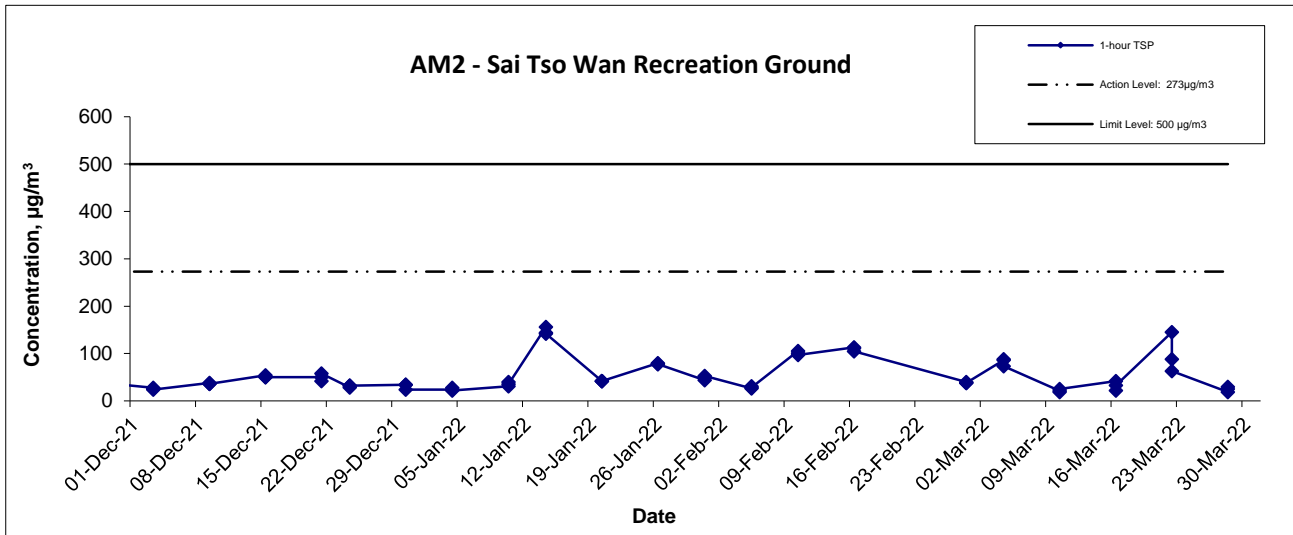
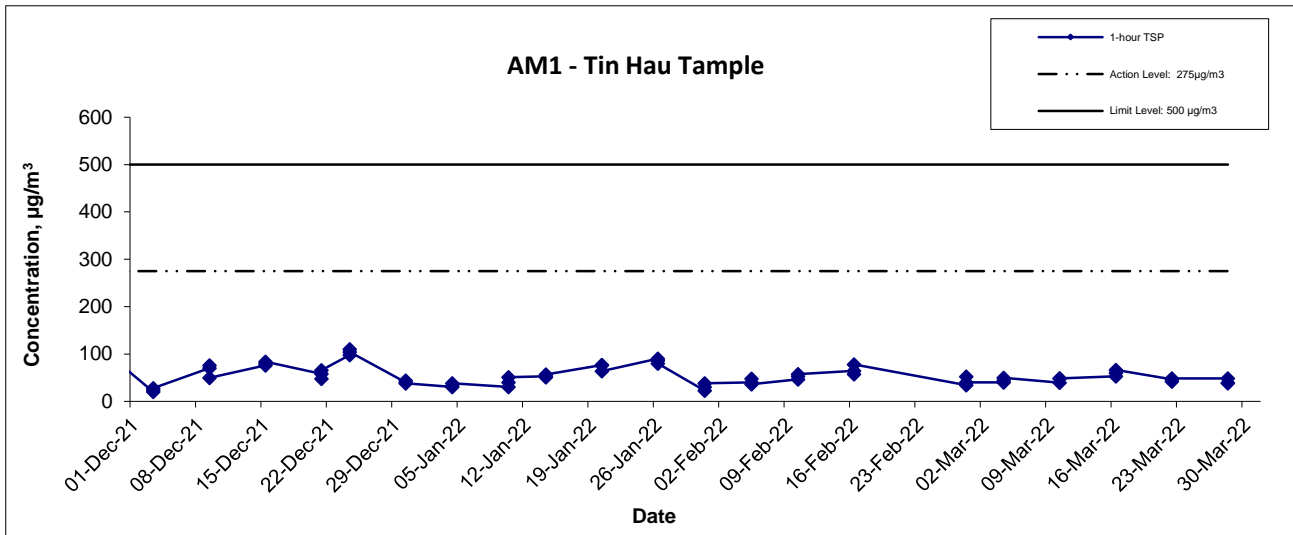
## APPENDIX E - 1-HOUR TSP MONITORING RESULTS


<b>Location AM5(A) - Tseung Kwan O DSD Desilting Compound</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
4-Mar-22	11:45	Sunny	126.0
4-Mar-22	12:45	Sunny	113.4
4-Mar-22	13:45	Sunny	117.6
10-Mar-22	10:45	Sunny	21.0
10-Mar-22	11:45	Sunny	16.8
10-Mar-22	12:45	Sunny	14.7
16-Mar-22	9:00	Sunny	48.4
16-Mar-22	10:00	Sunny	55.0
16-Mar-22	11:00	Sunny	57.2
22-Mar-22	14:00	Cloudy	128.1
22-Mar-22	15:00	Cloudy	128.1
22-Mar-22	16:00	Cloudy	195.3
28-Mar-22	14:00	Rainy	31.5
28-Mar-22	15:00	Rainy	29.4
28-Mar-22	16:00	Rainy	31.5
		Average	74.3
		Maximum	195.3
		Minimum	14.7

<b>Location AM6(A) - Park Central, L1/F Open Space Area</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
4-Mar-22	14:00	Sunny	98.7
4-Mar-22	15:00	Sunny	107.1
4-Mar-22	16:00	Sunny	121.8
10-Mar-22	9:30	Sunny	27.3
10-Mar-22	10:30	Sunny	18.9
10-Mar-22	11:30	Sunny	18.9
16-Mar-22	9:00	Sunny	69.3
16-Mar-22	10:00	Sunny	63.0
16-Mar-22	11:00	Sunny	71.4
22-Mar-22	15:00	Cloudy	218.4
22-Mar-22	16:00	Cloudy	224.7
22-Mar-22	17:00	Cloudy	237.3
28-Mar-22	15:00	Rainy	31.5
28-Mar-22	16:00	Rainy	35.7
28-Mar-22	17:00	Rainy	37.8
		Average	92.1
		Maximum	237.3
		Minimum	18.9

# APPENDIX E - 1-HOUR TSP MONITORING RESULTS

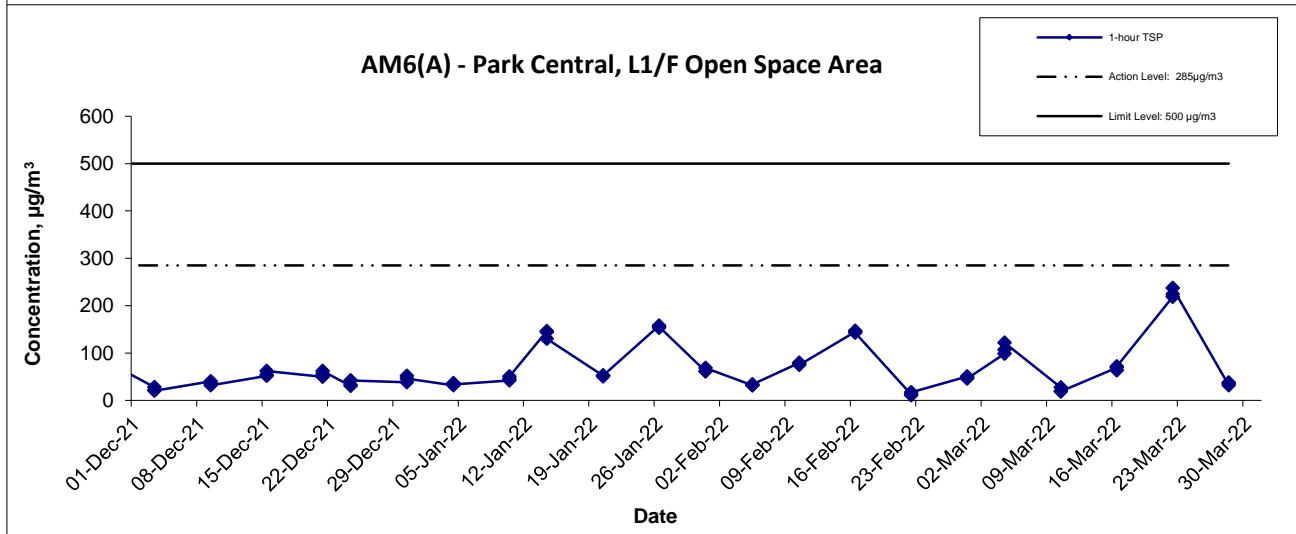
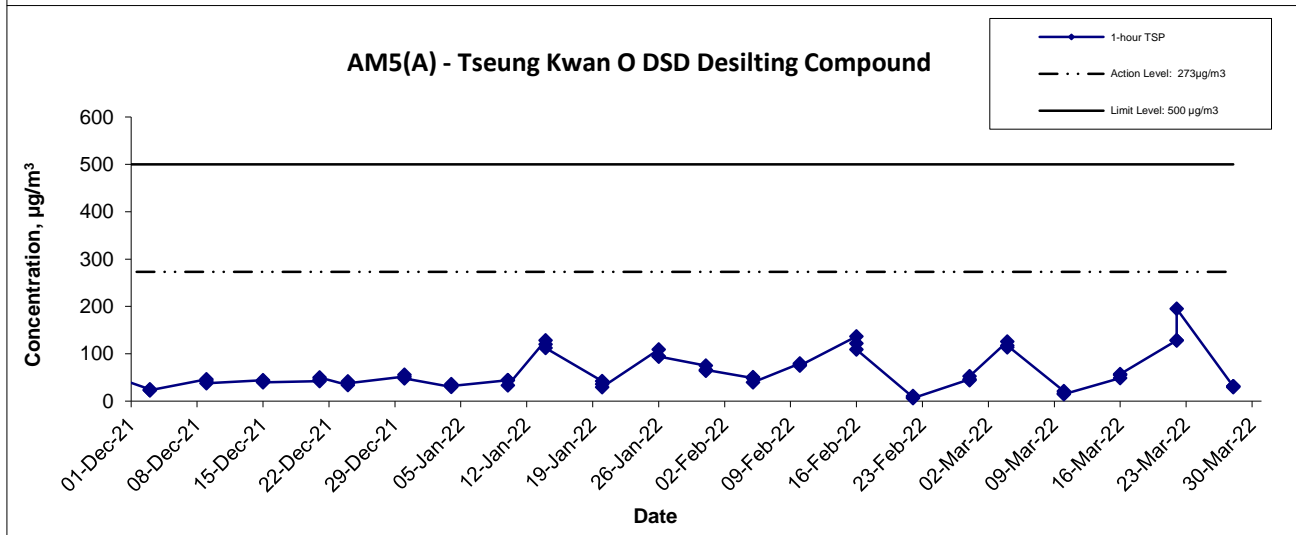
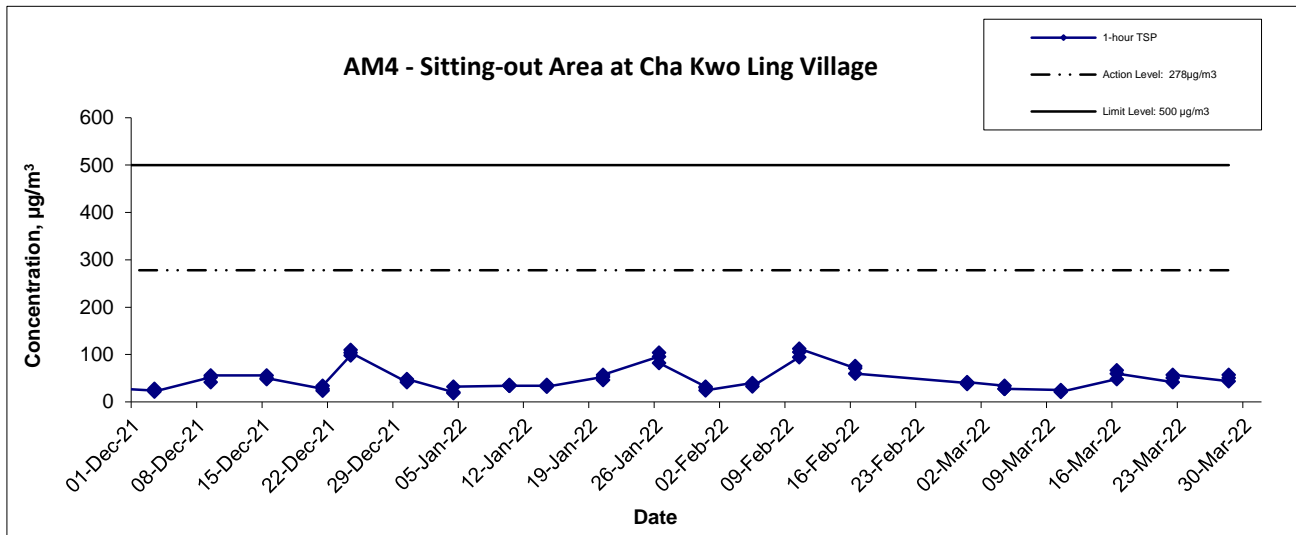
## 1-hr TSP Concentration Levels




Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of 1-hour TSP Monitoring Results	Scale	Project	
		N.T.S	
	Date	Appendix	
	Mar-22	E	

# APPENDIX E - 1-HOUR TSP MONITORING RESULTS

## 1-hr TSP Concentration Levels



Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of 1-hour TSP Monitoring Results	Scale	Project	
	Date	No.	
	N.T.S	MA16034	
	Mar-22	Appendix	
		E	

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**APPENDIX F  
24-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATIONS**

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## Appendix F - 24-hour TSP Monitoring Results

### Location AM1 - Tin Hau Temple

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.3985	3.5726	0.1741	9691.2	9715.1	24.0	1.21	1.21	1.21	1735.2	100.3
9-Mar-22	Sunny	3.3209	3.4838	0.1629	9715.1	9739.1	24.0	1.21	1.21	1.21	1741.2	93.6
15-Mar-22	Sunny	3.3127	3.4214	0.1087	9739.1	9763.0	23.9	1.20	1.20	1.20	1722.3	63.1
21-Mar-22	Fine	3.3491	3.5003	0.1512	9763.0	9787.0	24.0	1.20	1.20	1.20	1730.6	87.4
26-Mar-22	Rainy	3.4025	3.5216	0.1191	9787.0	9811.0	24.0	1.19	1.20	1.20	1725.6	69.0
31-Mar-22	Fine	3.2995	3.4380	0.1385	9811.0	9835.0	24.0	1.20	1.21	1.21	1737.3	79.7
											Min	63.1
											Max	100.3
											Average	82.2

### Location AM2 - Sai Tso Wan Recreation Ground

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.2890	3.3348	0.0458	30739.2	30763.2	24.0	1.21	1.20	1.21	1738.7	26.3
9-Mar-22	Sunny	3.3095	3.3596	0.0501	30763.2	30787.2	24.0	1.21	1.21	1.21	1741.1	28.8
15-Mar-22	Fine	3.3216	3.3944	0.0728	30787.2	30811.2	24.0	1.20	1.20	1.20	1727.6	42.1
21-Mar-22	Cloudy	3.6552	3.7192	0.0640	30811.2	30835.2	24.0	1.20	1.20	1.20	1730.2	37.0
26-Mar-22	Rainy	3.3569	3.3754	0.0185	30835.2	30859.2	24.0	1.19	1.20	1.20	1725.1	10.7
31-Mar-22	Sunny	3.3899	3.4326	0.0427	30859.2	30883.2	24.0	1.20	1.21	1.21	1737.1	24.6
											Min	10.7
											Max	42.1
											Average	28.3

### Location AM3 - Yau Lai Estate, Bik Lai House

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.3704	3.5067	0.1363	5177.5	5201.5	24.0	1.21	1.20	1.21	1737.1	78.5
9-Mar-22	Sunny	3.2891	3.4110	0.1219	5201.5	5225.5	24.0	1.21	1.21	1.21	1740.3	70.0
15-Mar-22	Sunny	3.4049	3.5300	0.1251	5225.5	5249.5	24.0	1.20	1.20	1.20	1725.9	72.5
21-Mar-22	Fine	3.3366	3.5072	0.1706	5249.5	5273.5	24.0	1.20	1.20	1.20	1728.6	98.7
26-Mar-22	Rainy	3.3771	3.4544	0.0773	5273.5	5297.5	24.0	1.19	1.20	1.20	1723.4	44.9
31-Mar-22	Fine	3.3275	3.4305	0.1030	5297.5	5321.5	24.0	1.20	1.21	1.21	1735.6	59.3
											Min	44.9
											Max	98.7
											Average	70.6

### Location AM4(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.3806	3.5392	0.1586	15175.1	15199.7	24.6	1.21	1.21	1.21	1781.9	89.0
9-Mar-22	Sunny	3.3374	3.4919	0.1545	15199.7	15223.7	24.0	1.21	1.21	1.21	1741.5	88.7
15-Mar-22	Sunny	3.3041	3.3956	0.0915	15223.7	15247.7	24.0	1.20	1.20	1.20	1729.2	52.9
21-Mar-22	Fine	3.3072	3.4685	0.1613	15247.7	15271.7	24.0	1.20	1.20	1.20	1731.1	93.2
26-Mar-22	Rainy	3.3827	3.4629	0.0802	15271.7	15295.7	24.0	1.19	1.20	1.20	1726.2	46.5
31-Mar-22	Fine	3.2985	3.4145	0.1160	15295.7	15319.7	24.0	1.20	1.21	1.21	1737.7	66.8
											Min	46.5
											Max	93.2
											Average	72.8

### Location AM5(A) - Tseung Kwan O DSD Desilting Compound

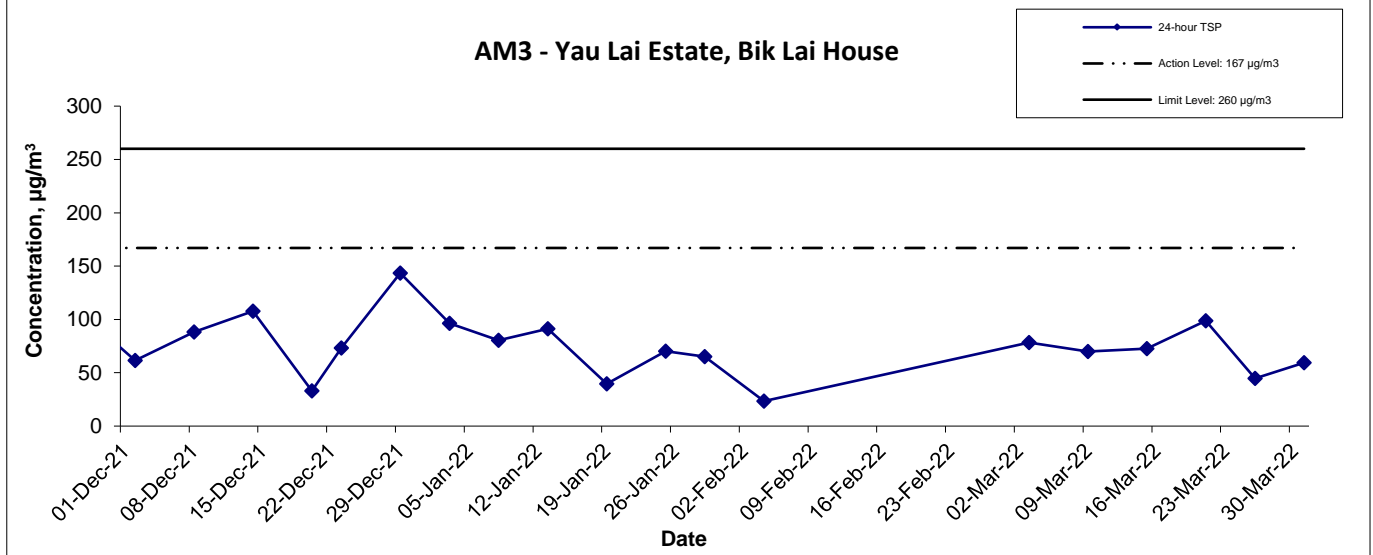
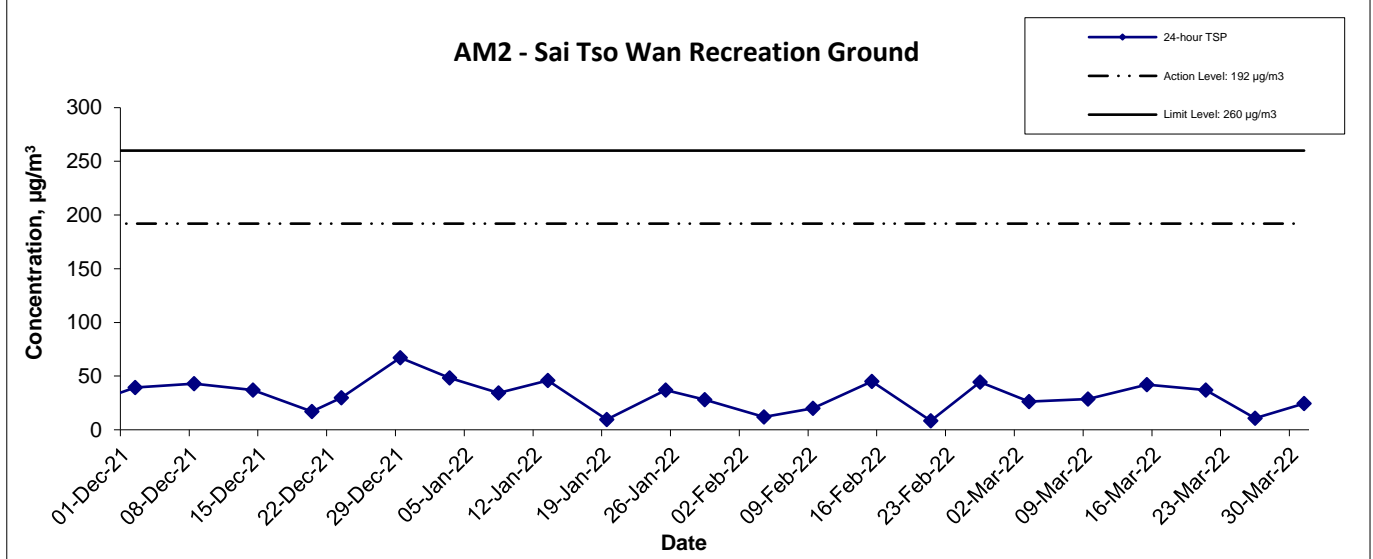
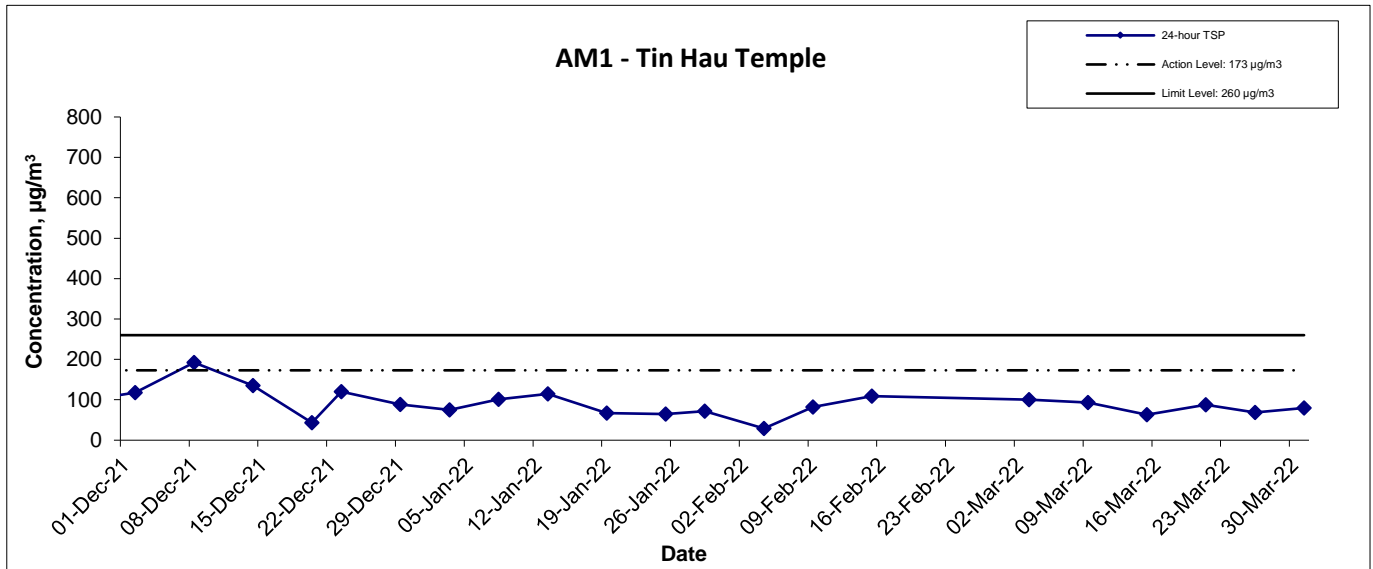
Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.3012	3.4433	0.1421	32466.7	32490.7	24.0	1.21	1.21	1.21	1741.7	81.6
9-Mar-22	Sunny	3.3367	3.4872	0.1505	32490.7	32514.7	24.0	1.21	1.21	1.21	1742.6	86.4
15-Mar-22	Fine	3.3210	3.5191	0.1981	32514.7	32538.7	24.0	1.20	1.20	1.20	1729.6	114.5
21-Mar-22	Cloudy	3.6757	3.8214	0.1457	32538.7	32562.7	24.0	1.20	1.20	1.20	1732.1	84.1
26-Mar-22	Rainy	3.3101	3.3926	0.0825	32562.7	32586.7	24.0	1.19	1.20	1.20	1727.2	47.8
31-Mar-22	Sunny	3.3955	3.4946	0.0991	32586.7	32610.7	24.0	1.26	1.26	1.26	1810.7	54.7
											Min	47.8
											Max	114.5
											Average	78.2


### Location AM6(A) - Park Central, L1/F Open Space Area

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
3-Mar-22	Sunny	3.3056	3.3600	0.0544	4356.9	4380.9	24.0	1.22	1.21	1.21	1748.1	31.1
9-Mar-22	Sunny	3.3170	3.3700	0.0530	4380.9	4404.9	24.0	1.22	1.22	1.22	1760.1	30.1
15-Mar-22	Fine	3.3026	3.3654	0.0628	4404.9	4428.9	24.0	1.21	1.21	1.21	1745.8	36.0
21-Mar-22	Cloudy	3.6892	3.7579	0.0687	4428.9	4452.9	24.0	1.22	1.21	1.21	1748.6	39.3
26-Mar-22	Rainy	3.3660	3.4091	0.0431	4452.9	4476.9	24.0	1.21	1.22	1.21	1743.2	24.7
31-Mar-22	Sunny	3.3527	3.3964	0.0437	4476.9	4500.9	24.0	1.26	1.27	1.27	1823.1	24.0
											Min	24.0
											Max	39.3
											Average	30.9

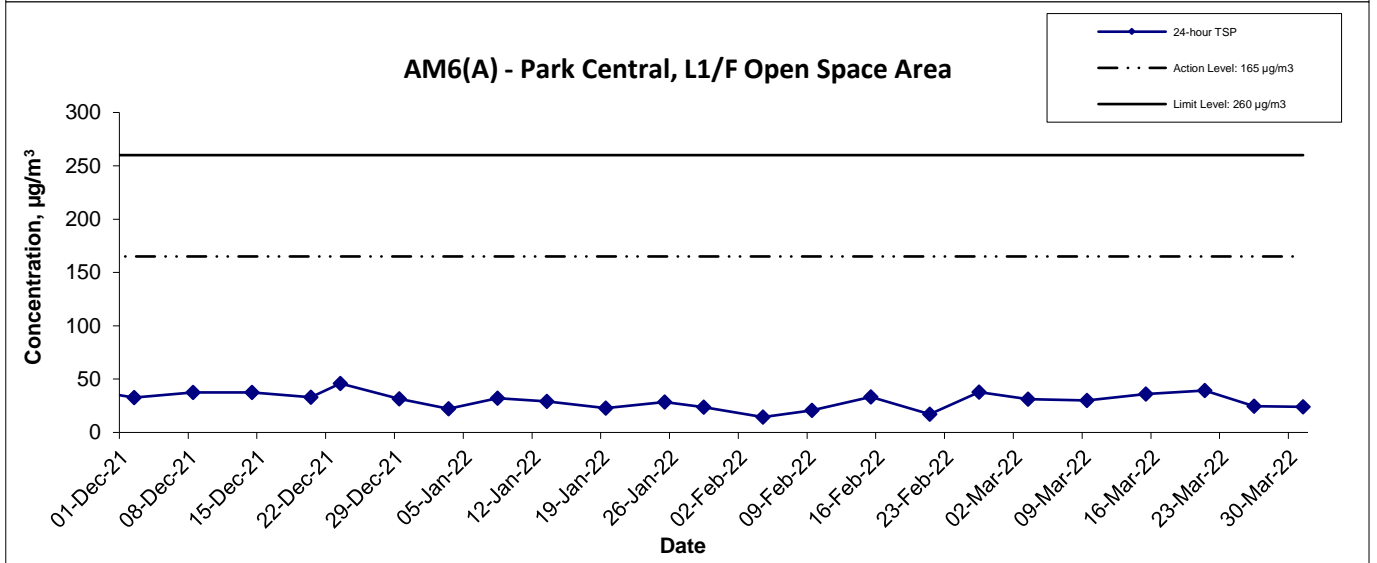
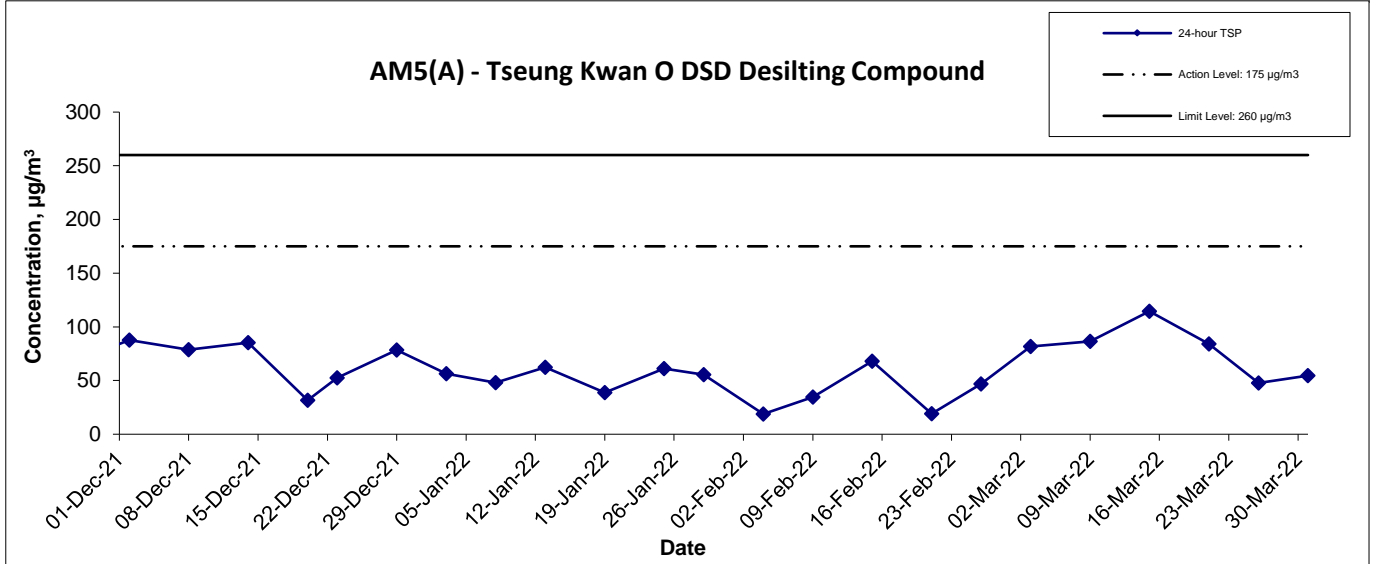
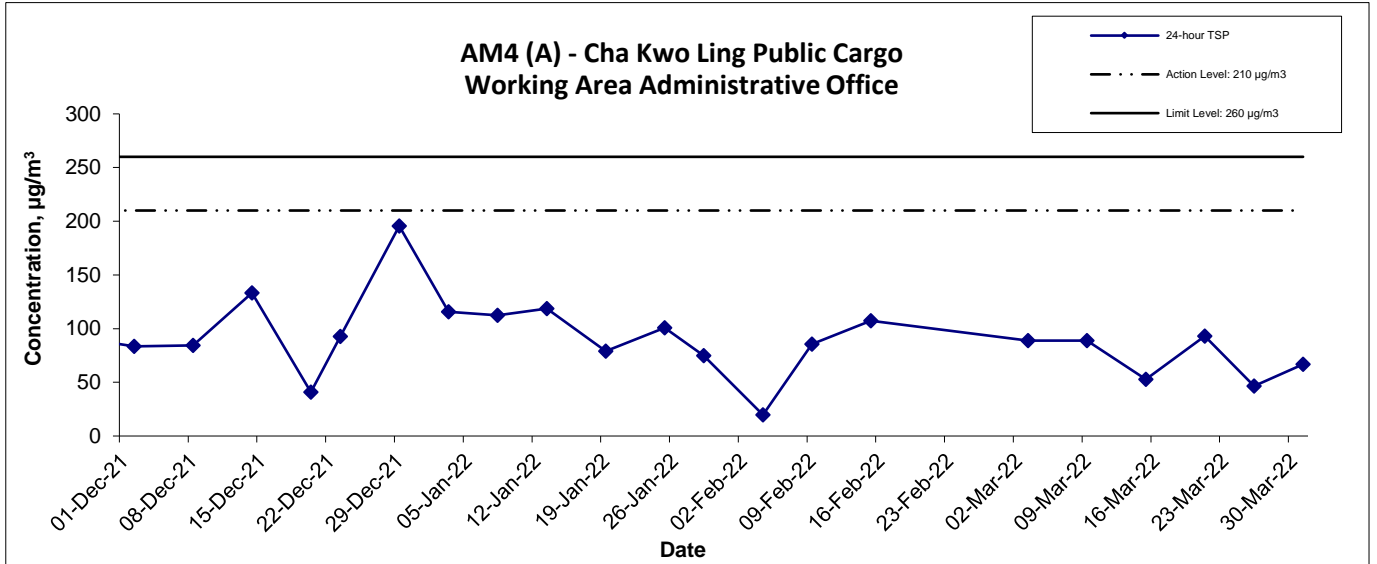



### 24-hr TSP Concentration Levels



Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of 24-hour TSP Monitoring Results	Scale	Project	
		N.T.S	
	Date	Mar-22	Appendix F

### 24-hr TSP Concentration Levels



Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction	Scale	Project	
	N.T.S	No. MA16034	
Graphical Presentation of 24-hour TSP Monitoring Results	Date	Appendix	
	Mar-22	F	

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**APPENDIX G  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

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## Appendix G - Noise Monitoring Results

### Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong

Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	10:00	Sunny	76.0	73.5	77.8	65.5	76
16-Mar-22	9:10	Sunny	67.4	69.6	64.7	65.5	63
22-Mar-22	13:00	Fine	71.3	74.7	68.6	65.5	70
28-Mar-22	13:45	Drizzle	73.9	75.5	72.0	65.5	73

### Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong

Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	10:45	Sunny	65.2	65.9	64.2	63.6	60
16-Mar-22	10:35	Sunny	73.5	75.4	70.9	63.6	73
22-Mar-22	14:00	Fine	69.8	73.1	67.5	63.6	69
28-Mar-22	13:03	Drizzle	74.6	77.5	69.2	63.6	74

### Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong

Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	11:30	Sunny	65.1	66.4	63.2	65.6	65 Measured ≤ Baseline
16-Mar-22	9:55	Sunny	73.8	75.9	70.3	65.6	73
22-Mar-22	15:00	Fine	70.9	73.8	67.9	65.6	69
28-Mar-22	14:35	Drizzle	74.1	75.4	71.6	65.6	73

### Location CM4 - Tin Hau Temple, Cha Kwo Ling

Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	12:30	Sunny	56.1	58.1	53.0	62.0	56 Measured ≤ Baseline
16-Mar-22	13:15	Sunny	68.3	71.5	63.2	62.0	67
22-Mar-22	9:00	Fine	65.3	68.6	62.2	62.0	63
28-Mar-22	11:24	Drizzle	59.3	60.2	51.2	62.0	59 Measured ≤ Baseline

### Location CM5 - CCC Kei Faat Primary School, Yau Tong

Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	14:00	Sunny	72.5	76.2	61.2	68.2	70
16-Mar-22	11:30	Sunny	69.1	72.4	63.1	68.2	62
22-Mar-22	10:30	Fine	67.8	70.2	64.9	68.2	68 Measured ≤ Baseline
28-Mar-22	15:19	Drizzle	67.9	69.5	65.4	68.2	68 Measured ≤ Baseline

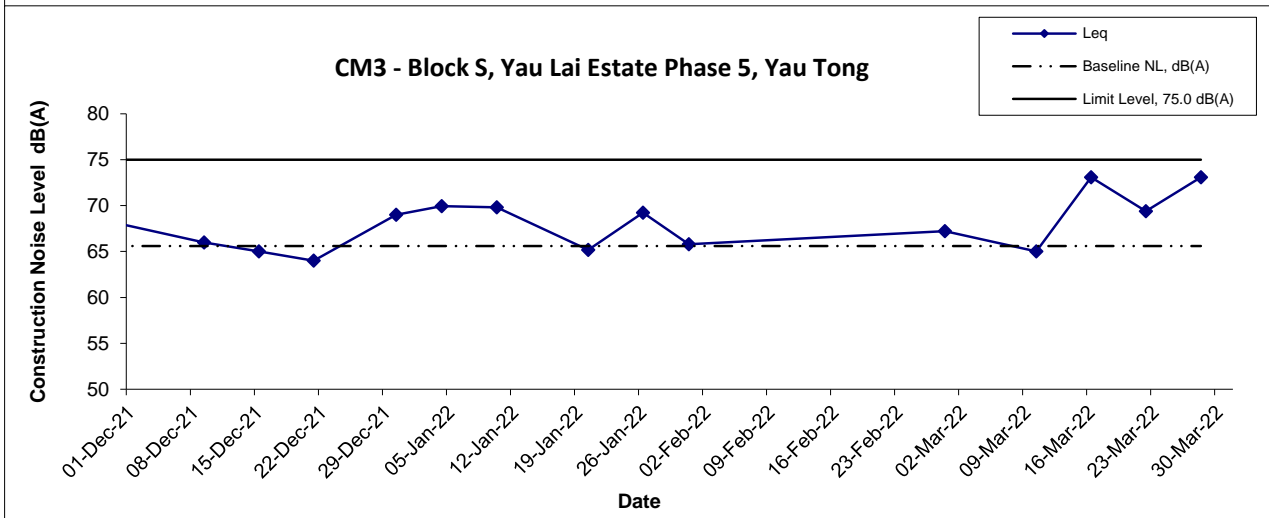
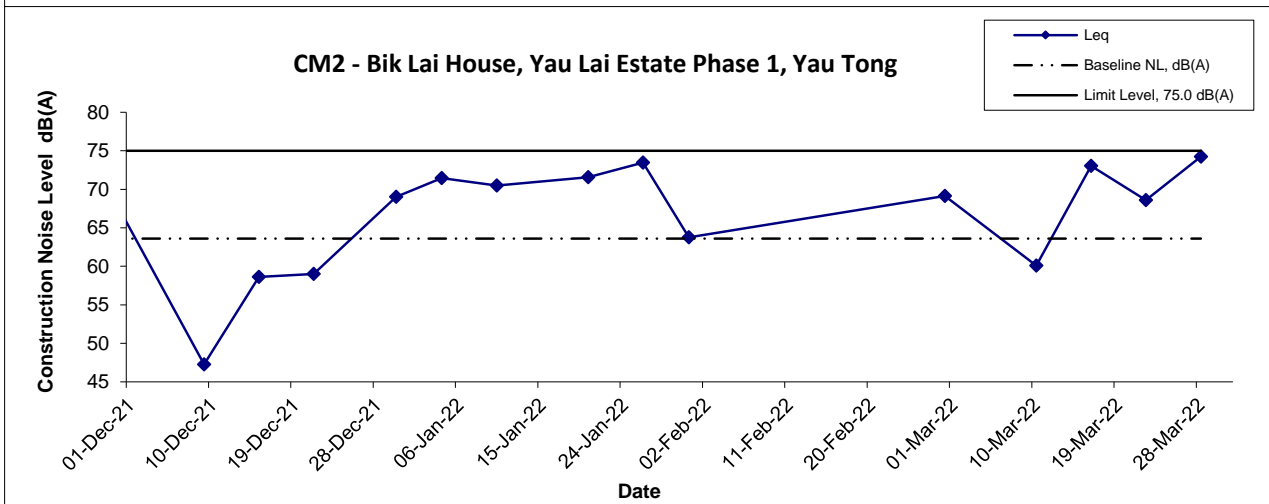
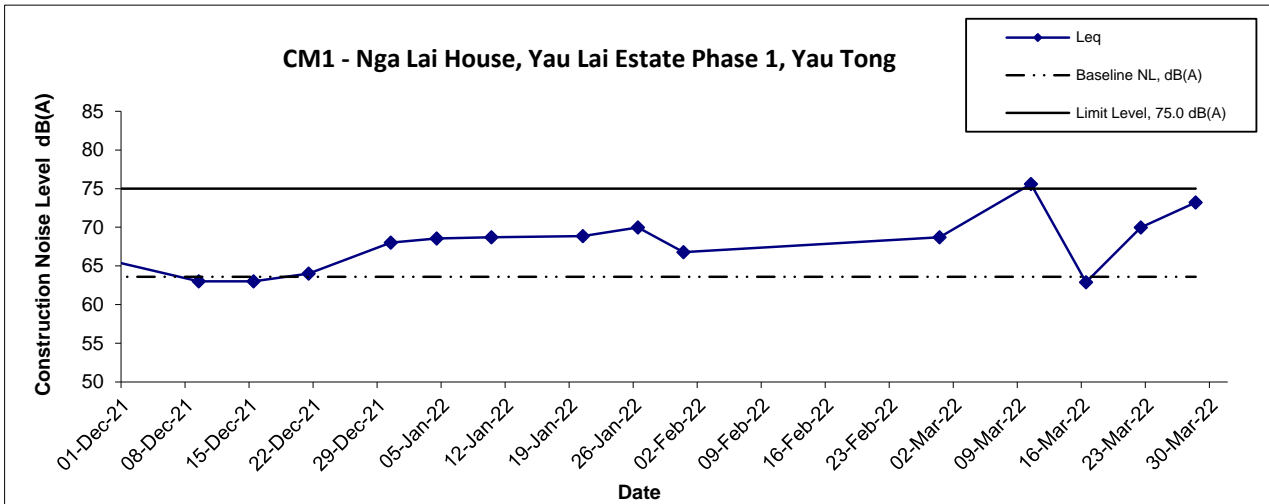
## Appendix G - Noise Monitoring Results

Location CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	11:45	Sunny	60.2	61.4	55.1	61.9	60 Measured ≤ Baseline
16-Mar-22	11:33	Sunny	65.3	67.5	62.1	61.9	63
22-Mar-22	14:35	Sunny	67.9	70.9	63.9	61.9	67
28-Mar-22	12:30	Drizzle	64.2	66.7	60.2	61.9	60

Location CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	11:00	Sunny	60.0	63.0	56.7	58.3	55
16-Mar-22	10:12	Sunny	67.5	69.9	63.1	58.3	67
22-Mar-22	14:00	Sunny	58.1	60.7	54.0	58.3	58 Measured ≤ Baseline
28-Mar-22	12:00	Drizzle	63.6	67.2	56.3	58.3	62

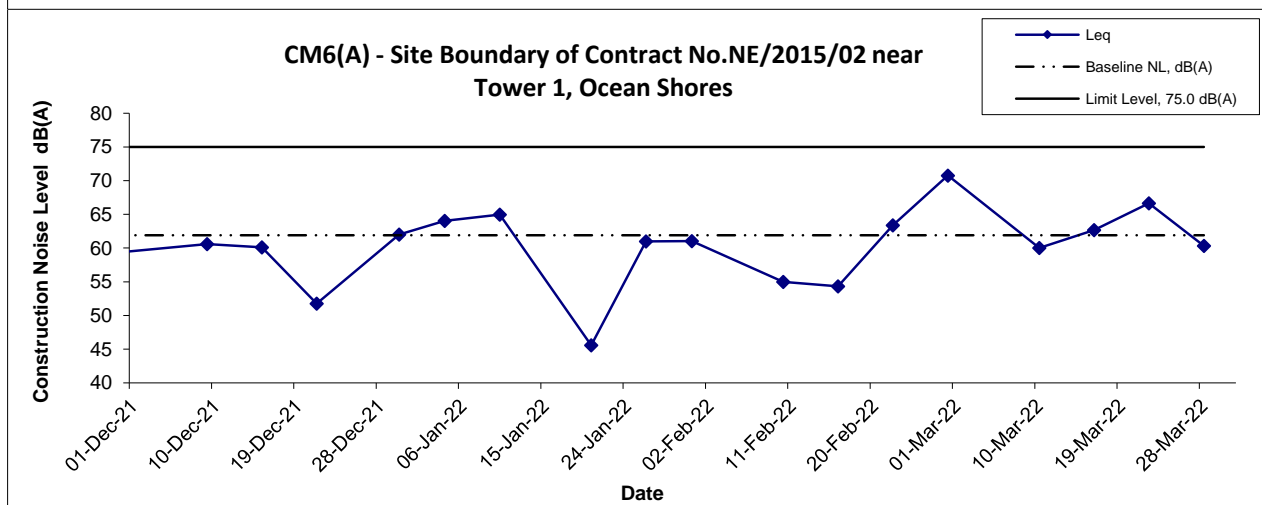
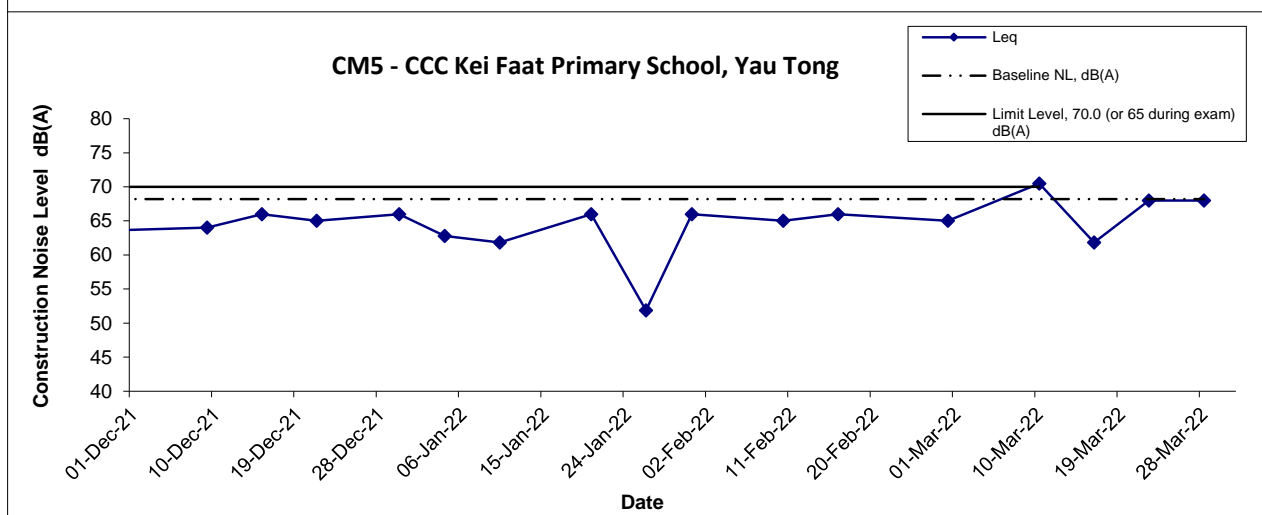
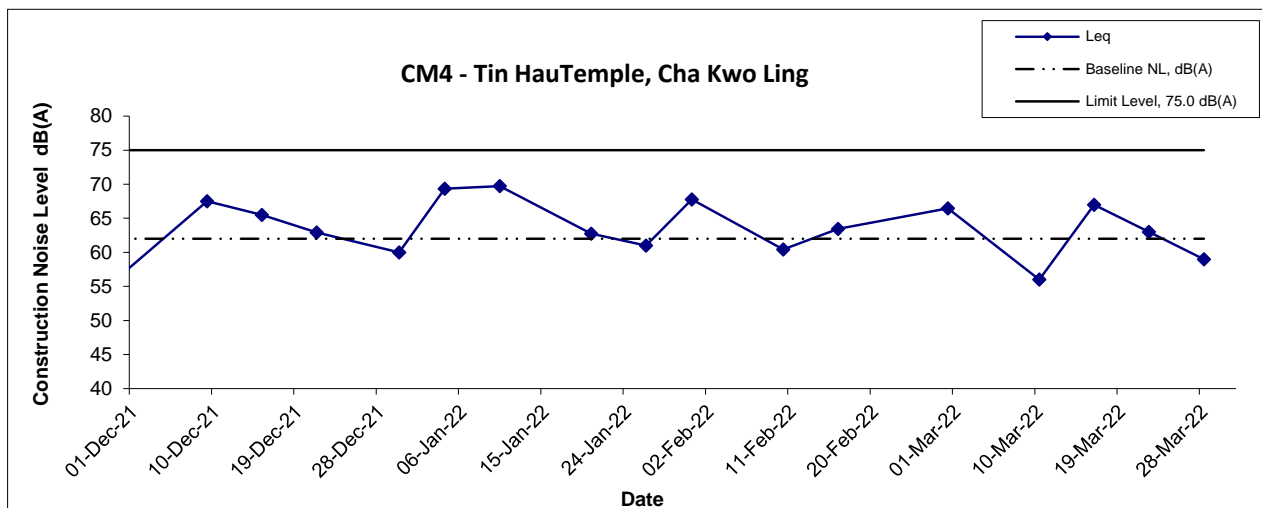
Location CM8(A) - Park Central, L1/F Open Space Area							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	9:30	Sunny	60.6	62.9	58.3	69.1	61 Measured ≤ Baseline
16-Mar-22	9:00	Sunny	70.3	72.1	67.0	69.1	64
22-Mar-22	15:20	Sunny	62.5	65.1	60.1	69.1	63 Measured ≤ Baseline
28-Mar-22	14:30	Drizzle	61.8	63.7	59.4	69.1	62 Measured ≤ Baseline

## Noise Levels



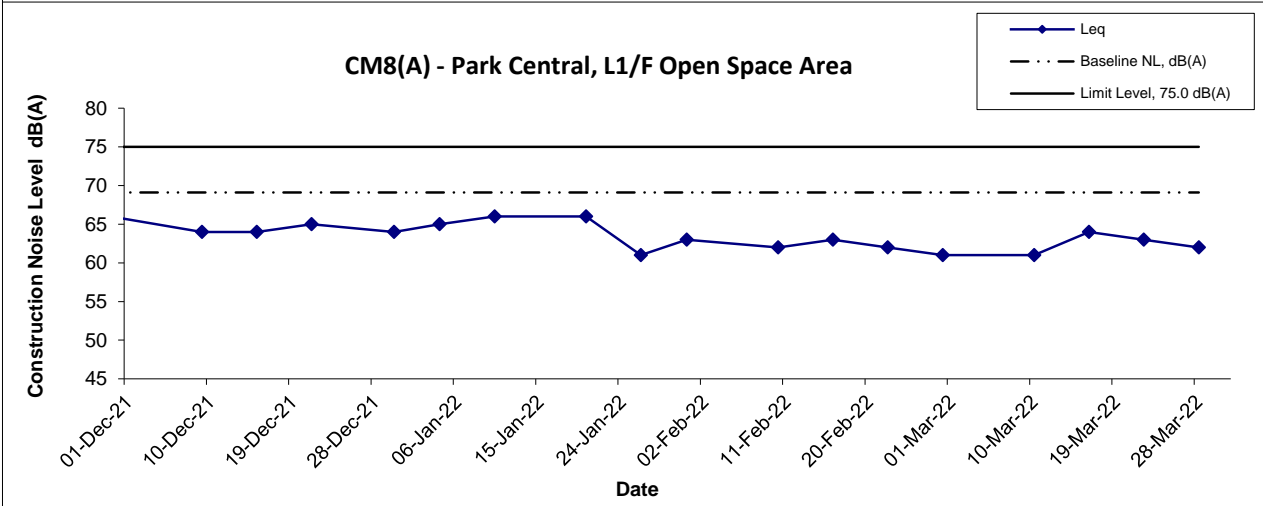
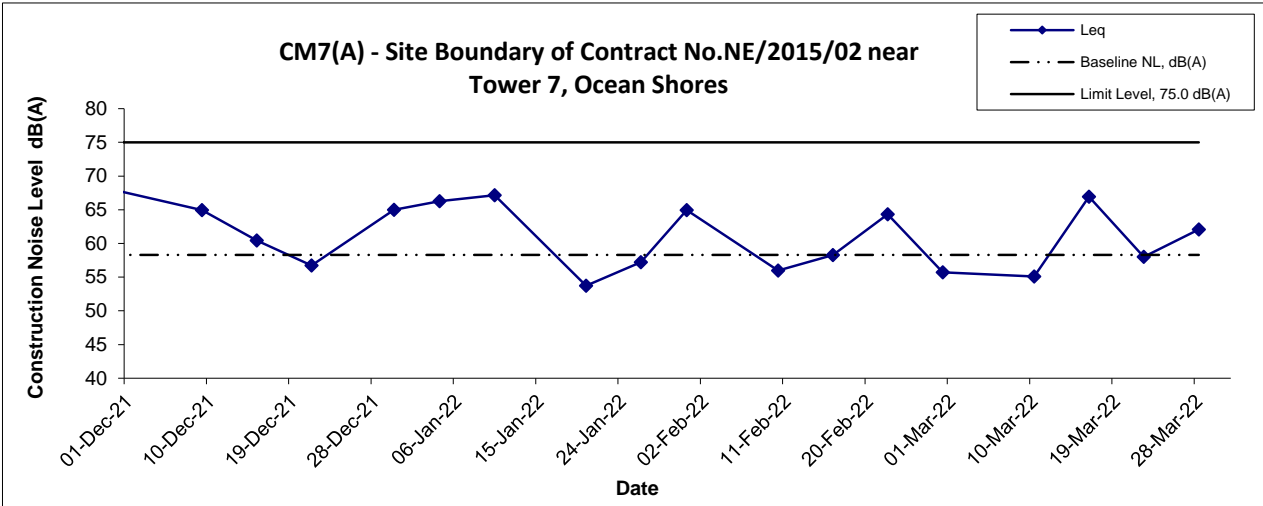
Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Construction Noise Monitoring Results	Scale	Project	CINOTECH
	N.T.S	No. MA16034	
	Date	Appendix	
	Mar-22	G	

## Noise Levels



Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Construction Noise Monitoring Results	Scale	Project	CINOTECH
	N.T.S	No. MA16034	
	Date	Appendix	
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## Noise Levels



Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Construction Noise Monitoring Results	Scale	Project	CINOTECH
	N.T.S	No. MA16034	
	Date	Appendix	
	Mar-22	G	



**Appendix G - Noise Monitoring Results**

(Restricted Hours - 19:00 to 23:00 on all other days & 07:00 to 23:00 holidays)

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
4-Mar-22	22:00	Fine	60.2	62.4	59.0	60.6	64.4	61 Measured ≤ Baseline				
	22:05		60.8	62.5	59.1							
	22:10		60.7	62.3	59.1							
11-Mar-22	22:00	Fine	58.3	60.2	50.1	58.7			64.4	59 Measured ≤ Baseline		
	22:05		58.8	60.4	51.6							
	22:10		58.9	60.8	51.6							
18-Mar-22	21:00	Fine	58.3	60.2	50.1	58.7					64.4	59 Measured ≤ Baseline
	21:05		58.8	60.4	51.6							
	21:10		58.9	60.8	51.6							
25-Mar-22	21:00	Fine	62.3	65.4	60.1	62.2	64.4	62 Measured ≤ Baseline				
	21:05		62.2	65.3	60.1							
	21:10		62.1	65.2	60.0							

Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
4-Mar-22	22:20	Fine	61.0	63.4	56.2	60.9	62.2	61 Measured ≤ Baseline				
	22:25		60.9	63.0	56.8							
	22:30		60.8	62.9	56.7							
11-Mar-22	22:20	Fine	59.3	61.8	52.4	59.4			62.2	59 Measured ≤ Baseline		
	22:25		59.6	61.9	52.6							
	22:30		59.4	61.8	52.6							
18-Mar-22	22:00	Fine	59.3	61.8	52.4	59.4					62.2	59 Measured ≤ Baseline
	22:05		59.6	61.9	52.6							
	22:10		59.4	61.8	52.6							
25-Mar-22	22:00	Fine	61.9	64.1	59.8	61.8	62.2	62 Measured ≤ Baseline				
	22:05		61.8	64.0	59.7							
	22:10		61.7	64.9	59.6							

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
4-Mar-22	22:40	Fine	61.2	63.8	59.2	60.7	64.7	61 Measured ≤ Baseline				
	22:45		60.7	62.9	56.7							
	22:50		60.1	62.9	56.4							
11-Mar-22	22:40	Fine	59.2	63.1	56.2	61.0			64.7	61 Measured ≤ Baseline		
	22:45		59.4	63.5	56.0							
	22:50		63.1	65.6	61.5							
18-Mar-22	22:30	Fine	59.2	63.1	56.2	59.2					64.7	59 Measured ≤ Baseline
	22:35		59.4	63.5	56.0							
	22:40		59.0	63.6	56.1							
25-Mar-22	21:00	Fine	53.9	55.2	51.6	59.9	64.7	60 Measured ≤ Baseline				
	22:00		61.7	64.9	59.6							
	22:30		60.9	63.3	58.6							

Location CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
10-Mar-22	19:00	Fine	52.9	54.4	50.5	53.2	60.2	60 Measured ≤ Baseline				
	19:05		54.3	54.9	50.4							
	19:10		52.1	52.9	49.7							
16-Mar-22	19:16	Fine	58.3	59.1	56.1	57.9			60.2	58 Measured ≤ Baseline		
	19:21		58.1	59.0	53.1							
	19:26		57.2	58.9	53.2							
22-Mar-22	19:00	Cloudy	52.1	54.4	49.8	52.6					60.2	53 Measured ≤ Baseline
	19:05		51.5	52.8	49.9							
	19:10		53.9	55.2	51.6							
28-Mar-22	19:00	Drizzle	59.9	61.3	54.9	59.4	60.2	59 Measured ≤ Baseline				
	19:05		58.2	61.2	53.3							
	19:10		59.9	62.6	56.1							

**Appendix G - Noise Monitoring Results**

(Restricted Hours - 2300-0700 on all days)

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong									
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
4-Mar-22	23:40	Fine	60.3	62.4	52.3	60.4	62.8	60 Measured ≤ Baseline	
	23:45		60.9	62.2	54.3				
	23:50		60.1	62.0	54.5				
11-Mar-22	23:40	Fine	59.8	62.2	53.3	59.1	62.8	59 Measured ≤ Baseline	
	23:45		59.1	62.0	53.9				
	23:50		58.4	61.4	54.0				
18-Mar-22	23:40	Fine	58.6	60.8	56.4	58.5	62.8	59 Measured ≤ Baseline	
	23:45		58.5	60.6	56.2				
	23:50		58.4	60.5	56.1				
25-Mar-22	23:45	Fine	56.8	58.9	55.1	56.7	62.8	57 Measured ≤ Baseline	
	23:50		56.7	58.8	55.0				
	23:55		56.5	58.7	54.9				

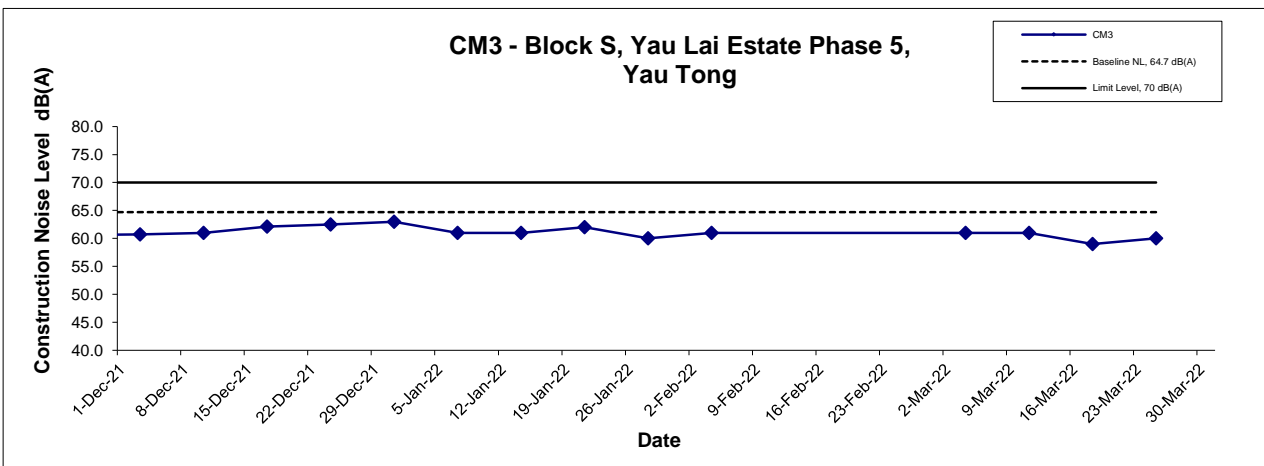
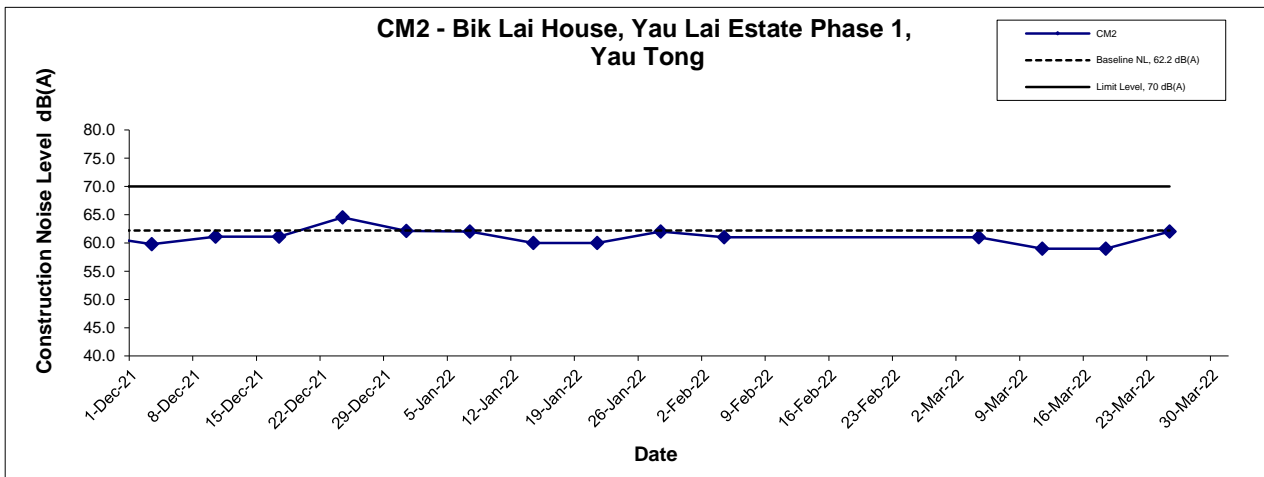
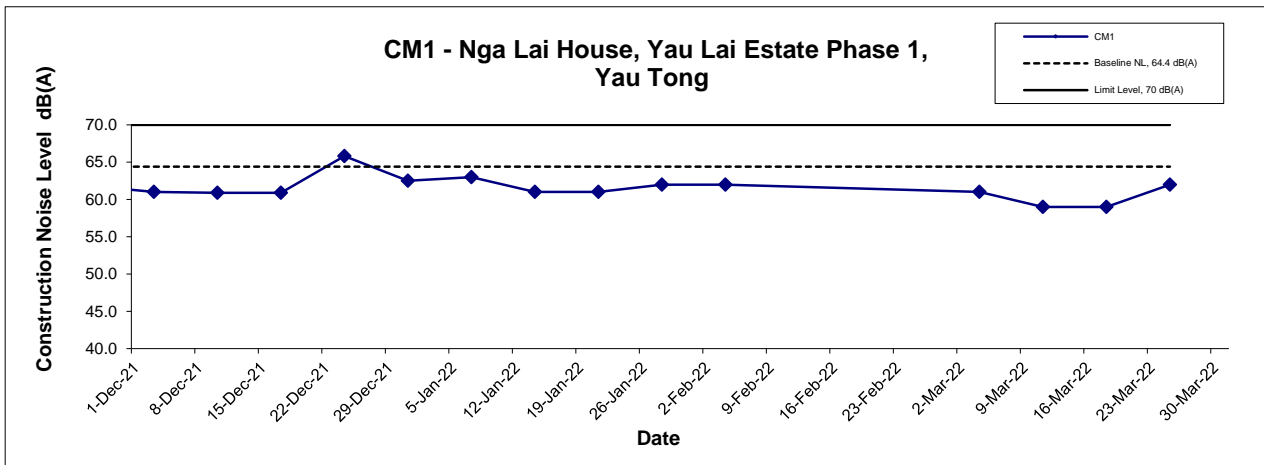
Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong									
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
4-Mar-22	23:20	Fine	60.3	62.4	58.1	60.2	61.6	60 Measured ≤ Baseline	
	23:25		60.4	62.5	58.0				
	23:30		59.8	62.3	57.1				
11-Mar-22	23:20	Fine	58.7	62.3	53.1	58.1	61.6	58 Measured ≤ Baseline	
	23:25		58.4	62.6	53.4				
	23:30		57.1	61.6	53.5				
18-Mar-22	23:25	Fine	59.7	61.3	57.1	59.5	61.6	60 Measured ≤ Baseline	
	23:30		59.6	61.2	57.0				
	23:35		59.2	61.1	56.8				
25-Mar-22	23:25	Fine	57.6	60.1	55.4	57.5	61.6	58 Measured ≤ Baseline	
	23:30		57.5	60.0	55.3				
	23:35		57.4	59.9	55.1				

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong									
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
4-Mar-22	23:00	Fine	61.3	63.7	56.7	60.8	64.0	61 Measured ≤ Baseline	
	23:05		61.0	63.4	56.9				
	23:10		60.0	62.4	56.8				
11-Mar-22	23:00	Fine	59.9	62.3	56.0	59.5	64.0	60 Measured ≤ Baseline	
	23:05		59.6	62.0	56.2				
	23:10		59.0	62.3	56.4				
18-Mar-22	23:00	Fine	60.6	62.9	57.6	60.5	64.0	61 Measured ≤ Baseline	
	23:05		60.5	62.7	57.5				
	23:10		60.4	62.6	57.3				
25-Mar-22	23:00	Fine	58.9	61.8	56.7	58.8	64.0	59 Measured ≤ Baseline	
	23:05		58.8	61.7	56.6				
	23:10		58.6	61.5	56.5				

Remark:

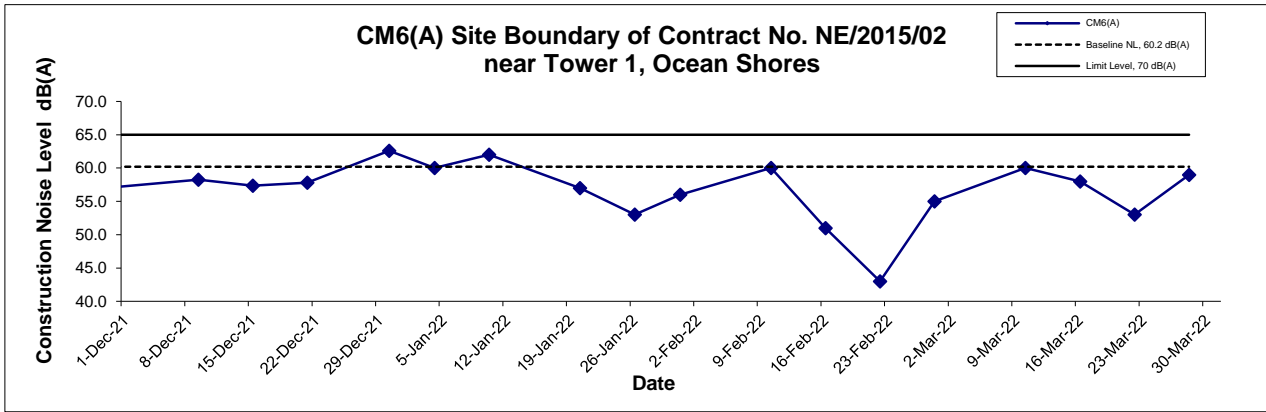
"Measured ≤ Baseline" means that the averaged measured Leq is smaller than the baseline Leq, and therefore the measured levels are not valid exceedances.

## Noise Levels (Restricted Hours - 19:00 - 23:00 on normal weekdays)



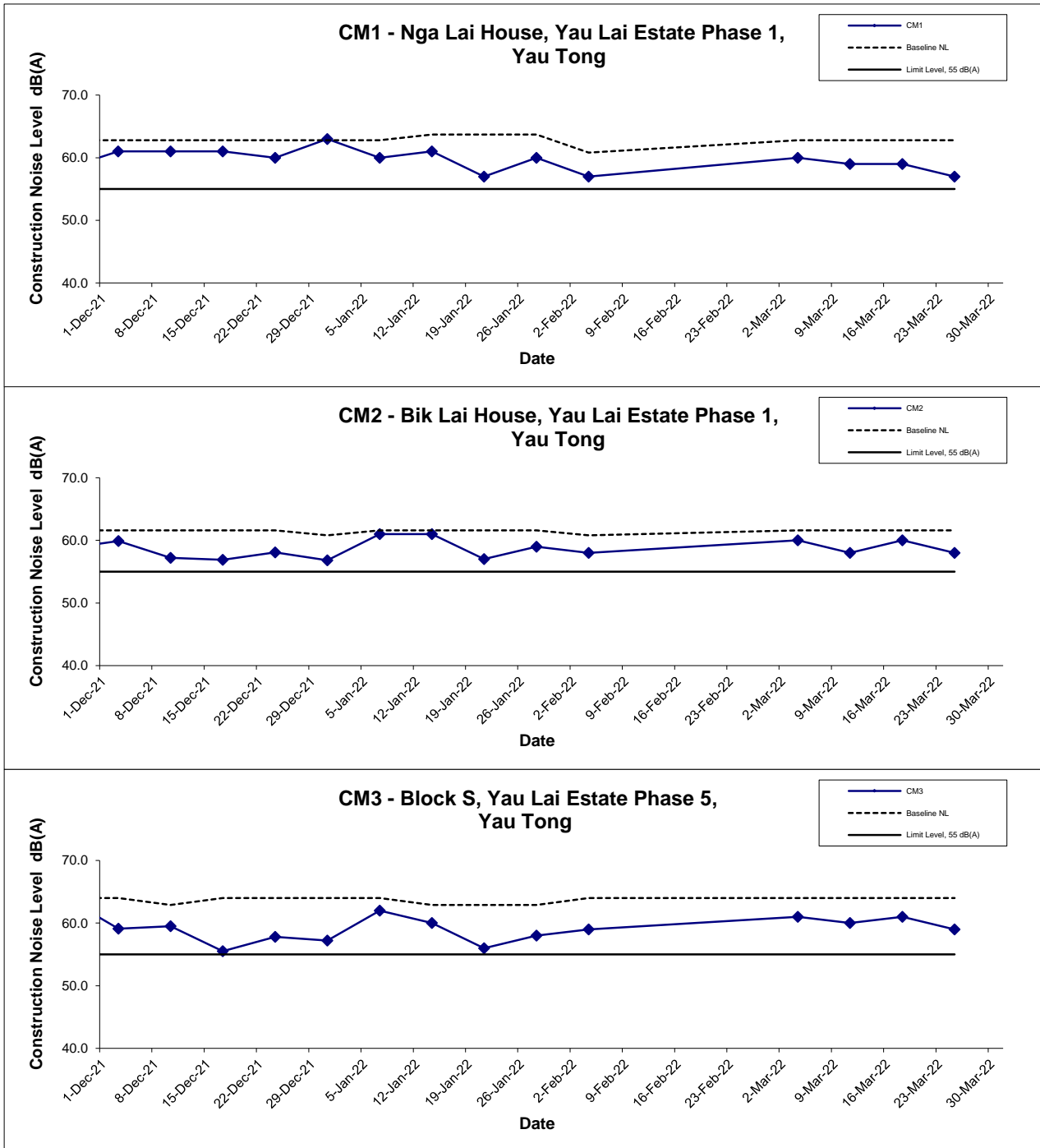
Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Restricted Noise Monitoring Results	Scale	N.T.S	Project No.	MA16034	CINOTECH
	Date	Mar-2022	Appendix	G	

**Noise Levels**  
**(Restricted Hours - 19:00 - 23:00 on normal weekdays)**



Title	Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction	Scale	N.T.S	Project No.	MA16034	<b>CINOTECH</b>
	Graphical Presentation of Restricted Noise Monitoring Results	Date	Mar-2022	Appendix	G	

## Noise Levels (Restricted Hours - 2300-0700 on normal weekdays)



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	Date Mar-2022	Appendix G	

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**APPENDIX H**  
**Silt Curtain Deployment Plan**

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Contract No:

**NE/2017/07**

Project Title:

**Cross Bay Link, Tseung Kwan O,**

**Main Bridge and Associated Works**

# Silt Curtain Deployment Plan

Document No:

Revision: 6

Date: 2 March 2022

Prepared by:

Calvin So

Environmental Officer

Endorsed by:

Raymond Suen

Site Agent



## Revision History and Amendment Summary

Revision No.	Description for Amendment	By	Date
0	Draft	Calvin So	27 Oct 2020
1	1 <sup>st</sup> Revision	Calvin So	29 Nov 2020
2	2 <sup>nd</sup> Revision	Calvin So	9 Dec 2020
3	3 <sup>rd</sup> Revision	Calvin So	14 Jan 2021
4	4 <sup>th</sup> Revision	Calvin So	24 Mar 2021
5	5 <sup>th</sup> Revision	Calvin So	21 Jan 2022
6	6 <sup>th</sup> Revision	Calvin So	2 Mar 2022





## Content

<b>1.0</b>	<b>General</b>	<b>4</b>
1.1	Objective	4
1.2	Construction Plants	4
<b>2.0</b>	<b>Scope of Works and Construction Programme</b>	<b>5</b>
<b>3.0</b>	<b>Silt Curtain Design</b>	<b>5</b>
<b>4.0</b>	<b>Silt Curtain Installation</b>	<b>6</b>
<b>5.0</b>	<b>Silt Curtain Maintenance</b>	<b>7</b>
<b>6.0</b>	<b>Silt Curtain Removal/ Repositioning</b>	<b>8</b>

## Appendices

Appendix A – Tentative Programme for Major Marine Works

Appendix B – Typical Details of Proposed Silt Curtain

Appendix C – Specification of Geotextile of Silt Curtain

Appendix D – Silt Curtain Inspection Checklist

Appendix E – Site Layout

Appendix F – Environmental Mitigation Implementation Schedule

Appendix G – Discharge License WT00032842-2018



## 1.0 General

### 1.1 Objective

Prior to the commencement of marine works as well as the whole construction period with marine works in the sea under Contract No. NE/2017/07, China Road and Bridge Corporation (CRBC) will be responsible for the installation, operation and maintenance of the silt curtain. The silt curtain act as a measure to maintain the water quality in the vicinity of the marine works. CRBC will also be responsible to remove the aforementioned silt curtain after the completion of the works.

This deployment plan describes in detail the design, method of installation, operation and maintenance of the proposed silt curtain.

The silt curtain deployment plan shall also comply with the following reference Specifications and Drawings:

- General Specification Sections 21 and 25
- Particular Specification Sections 21 and 25
- Environmental Permit (EP No. EP-458/2013/C) Condition 2.8
- Working Drawings Nos. 60329339/C1/C00/1000A, 1015, 1021B, 1101

### 1.2 Construction Plants

Plant and equipment to be used for the proposed silt curtain deployment include, but not limited to, the followings:

- Split Hopper      1 no.
- Derrick Lighter    1 no.
- Grab Dredger      1 no.

Adequate resources shall be deployed to suit the construction programme.

## 2.0 Scope of Works and Construction Programme

The works to be executed under this contract involves construction of Tseung Kwan O Interchange and Associated Works.

- Construction of marine viaducts forming the Tseung Kwan O Interchange at Junk Bay;
- Construction of 5 bridges and 17 pile caps and approx. 35 piles

In general, silt curtain will be deployed during all the marine works. A brief programmes showing the tentative commencement and completion dates of the major marine works are enclosed in **Appendix A**.

## 3.0 Silt Curtain Design

General type silt curtain consists of a layer of geotextile mounted on the temporary working platform and extended to the seabed level secured by steel chain ballast. The silt curtain will surround the platform by tying the silt curtain to the railing of the platform. The panels can be assembled and connected by rope through a series of grommet. In between overlap sits the winching rope to adjust curtain depth whenever necessary.

Regarding the conditions of the discharge licence (WT00032842-2018) (**Appendix G**), all the construction wastewater should be treated before discharge.

For the bored pile construction stage, wastewater will be generated during the drilling and piling works. The wastewater will be treated by wastewater treatment facilities and discharged within silt curtain. The silt curtain will be deployed by surrounding the temporary platform as shown in **Appendix B**.

For the pile cap construction stage, ingress seawater will be pumped out from the precast pile cap shell to provide a dry condition for concreting. The wastewater will be treated by wastewater treatment facilities and discharged within silt curtain.

As for preventive measure against dropping of fresh concrete to the sea during the concreting stage at the shell, tarpaulin sheets will be provided between the barge and the shell to prevent the contamination to the seawater.

Woven geotextile will be used as the curtain fabric, heavy duty geotextile which is strong and has small pore size which consider suitable for such work. Reinforcement can be

incorporated in the curtain body for strength and stiffness. Shackles will be placed as option at the reinforcement to strengthen panel connection.

Sufficient length of geotextile shall be allowed such that the silt curtain can be extended from the water surface to the seabed during high tide condition. The typical section of the proposed silt curtain is attached in **Appendix B** and the foundation layout which indicates the location of piles and the location of silt curtain is attached in **Appendix E**.

Product catalogue with specification and job reference of the proposed geotextile for the silt curtain is attached in **Appendix C**.

#### **4.0 Silt Curtain Installation**

CRBC will install the silt curtain as stated below:

1. Prepare the geotextile with size suitable for the specific platform size on the Derrick Lighter or Barge.
2. Tie the top end of the geotextile and connected to the reinforced belt, the bottom end with the steel chain ballast.
3. Row up the top part of the silt curtain to the specific length suitable for the lift up distance of the Derrick Lighter.
4. Lift the silt curtain up and place it above the temporary platform, make sure the bottom part of the silt curtain is surrounding the platform.
5. Lift down the silt curtain with steel chain ballast into sea and sit on seabed.
6. Workers with life jacket then tie the geotextile with the temporary platform by steel plate.

In order to maintain the position of the silt curtain especially at location with strong current, spot check by workers will be carried out for each silt curtain before and after works every day.

CRBC will also conduct and submit weekly inspection with the supervisor throughout the periods of marine piling and pile cap construction to the Project Manager or Supervisor to demonstrate that the silt curtains are in good working conditions. Diver inspection would be carried out once per every three months or if necessary such as after the adverse weather and any unforeseeable condition which might damage the silt curtain physical condition to ensure the bottom of the silt curtain is well placed on the seabed level and no damage of silt curtain under water.

## 5.0 Silt Curtain Maintenance

On-board supervisors will be assigned to check the condition of the silt curtain weekly before commencement of works. An inspection checklist will be prepared and filled in by the site supervisors. All checklists will be kept on site for record purpose. Refer **Appendix D** for the sample of Silt Curtain Inspection Checklist.

For the tentative arrangement of silt curtain under adverse weather, the silt curtain will be removed temporarily during adverse weather and related works will be suspended immediately until the silt curtain is installed again.

Refuse around the silt curtains will be collected at regular intervals on a daily basis so that water behind the silt curtains will be kept free from floating debris.

Sufficient spare geotextile will be kept on site for replacing of damaged silt curtains. The spare geotextile shall be kept in place to avoid direct contact with water and sunlight.

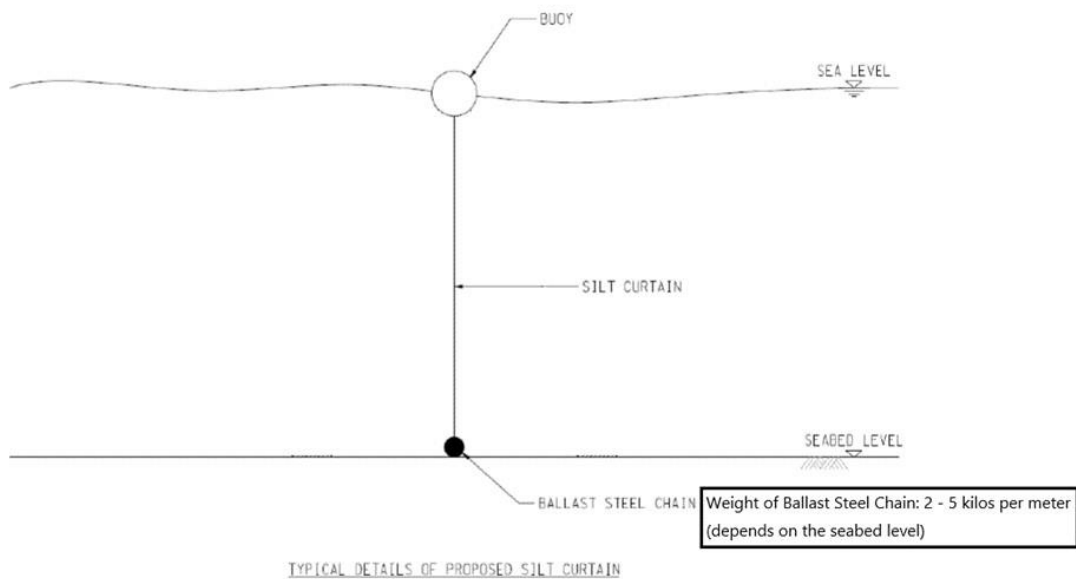


Figure 1 Typical details of proposed silt curtain



## **6.0 Silt Curtain Removal/ Repositioning**

Removal of silt curtain shall be carried out by derrick lighter after completion of ground investigation and bored pile construction in order to reduce negative impact on water quality during ground investigation and bored pile construction. Actions upon repositioning of silt curtain will be same as deployment of a new silt curtain. The condition of the silt curtain will be jointly inspected with the Supervisor before relocation to the new position. CRBC will responsible to revise the SCDP if there is any amendments or changes from the original design in separate application.



## Appendix A – Tentative Programme for Major Marine Works

Data Date : 08-Nov-21

**Contract No. NE/2017/07 Cross Bay Link, Tseung Kwan O - Main Bridge and Associated Works**

Activity ID	Activity Name	Duration	Start	Finish	Contract Start	Contract Finish	Month
							1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
	<b>Fabrication Works</b>	526	16-Sep-20A	18-Mar-22	18-Jun-21	03-Nov-21	[Gantt bar for Fabrication Works]
	<b>Pre-stressing Works</b>	154	08-Nov-21	10-Apr-22	25-Jun-21	20-Nov-21	[Gantt bar for Pre-stressing Works]
	<b>Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)</b>	540	13-Jan-21A	06-Jul-22	28-Jun-21	06-Jul-23	[Gantt bar for Section 1 of the Works]
	<b>Construction Work (Works Available for Piles 5D,9D,5E, 9E, 5F, 9F, 5H, 9H, 1L, 2L)</b>	417	13-Jan-21A	05-Mar-22	28-Jun-21	06-Jul-23	[Gantt bar for Construction Work]
	<b>Pre-drilling Works (Except 5B &amp; 9B)</b>	82	13-Jan-21A	21-Apr-21A	28-Jun-21	06-Jul-23	[Gantt bar for Pre-drilling Works]
	<b>Piling Works</b>	155	16-Mar-21A	10-Sep-21A	28-Jun-21	06-Jul-23	[Gantt bar for Piling Works]
	<b>Installation of Precast Pile Cap &amp; 1st Pour for Pile Cap - 1L</b>	97	15-Aug-21A	20-Nov-21	28-Jun-21	12-Jul-21	[Gantt bar for Installation of Precast Pile Cap]
	<b>Installation of Precast Pier &amp; 2nd Pour for Pile Cap - 1L</b>	29	22-Nov-21	02-Dec-21	02-Aug-21	30-Aug-21	[Gantt bar for Installation of Precast Pier]
	<b>Stage 1 - Erection of Bridge Segments for Bridge ML</b>	27	06-Dec-21	01-Jan-22	11-Aug-21	03-Sep-21	[Gantt bar for Stage 1 - Erection of Bridge Segments]
	<b>Segment Erection between Pier 1L-N and Pier W5 - Stage 1-1</b>	21	09-Dec-21	29-Dec-21	11-Aug-21	31-Aug-21	[Gantt bar for Segment Erection between Pier 1L-N and Pier W5]
	<b>Segment Erection between Pier 1L-N and Pier 1K - Stage 1-2</b>	12	19-Dec-21	30-Dec-21	25-Aug-21	01-Sep-21	[Gantt bar for Segment Erection between Pier 1L-N and Pier 1K]
	<b>Segment Erection between Pier 1L-S and Pier W5 - Stage 1-3</b>	26	06-Dec-21	31-Dec-21	26-Aug-21	02-Sep-21	[Gantt bar for Segment Erection between Pier 1L-S and Pier W5]
	<b>Segment Erection between Pier 1L-S and Pier 1K - Stage 1-4</b>	12	21-Dec-21	01-Jan-22	27-Aug-21	03-Sep-21	[Gantt bar for Segment Erection between Pier 1L-S and Pier 1K]
	<b>Stitching Work, TCSS, Duct and Handover Works</b>	63	16-Dec-21	05-Mar-22	13-Sep-21	27-Nov-21	[Gantt bar for Stitching Work, TCSS, Duct and Handover Works]
	<b>Construction Work (Works Available for Piles 5B,9B,5C,9C,5G,9G,2K)</b>	348	22-Jul-21A	06-Jul-22	28-Jun-21	30-Jun-22	[Gantt bar for Construction Work]
	<b>Pre-drilling Works (5B &amp; 9B)</b>	32	22-Jul-21A	01-Sep-21A	19-Aug-21	19-Aug-21	[Gantt bar for Pre-drilling Works]
	<b>Construction Work for Piers 5B, 9B, 5C,9C, 5G,9G</b>	271	01-Aug-21A	06-May-22	28-Jun-21	10-Dec-21	[Gantt bar for Construction Work for Piers]
	<b>Piling Works (For Pier 5B, 9B, 5C, 9C, 5G, 9G)</b>	116	01-Aug-21A	27-Nov-21	19-Jul-21	07-Oct-21	[Gantt bar for Piling Works]
	<b>Installation of Precast Pile Cap &amp; 1st Pour for Pile Cap</b>	161	24-Aug-21A	17-Mar-22	28-Jun-21	08-Nov-21	[Gantt bar for Installation of Precast Pile Cap]
	<b>Installation of Precast Pier &amp; 2nd Pour for Pile Cap</b>	109	11-Dec-21	29-Mar-22	04-Sep-21	19-Nov-21	[Gantt bar for Installation of Precast Pier]
	<b>Stage 2 - Erection of Bridge Segments</b>	120	13-Dec-21	11-Apr-22	03-Oct-21	21-Nov-21	[Gantt bar for Stage 2 - Erection of Bridge Segments]
	<b>Erection of Bridge Segments for Bridge S400 and Bridge CT</b>	120	13-Dec-21	11-Apr-22	03-Oct-21	21-Nov-21	[Gantt bar for Erection of Bridge Segments]
	<b>Stitching Work, TCSS, Duct and Handover Works</b>	40	16-Mar-22	06-May-22	26-Oct-21	10-Dec-21	[Gantt bar for Stitching Work, TCSS, Duct and Handover Works]
	<b>Construction Work for Pier 2K</b>	124	03-Jan-22	06-May-22	04-Sep-21	30-May-22	[Gantt bar for Construction Work for Pier 2K]
	<b>Footway and cycle track, Road Surfacing, Street Furniture Installation and Remaining Works</b>	122	07-Mar-22	06-Jul-22	17-Nov-21	30-Jun-22	[Gantt bar for Footway and cycle track, Road Surfacing, Street Furniture Installation and Remaining Works]



土木工程拓展署  
Civil Engineering and  
Development Department



中國路橋工程有限責任公司  
CHINA ROAD AND BRIDGE CORPORATION

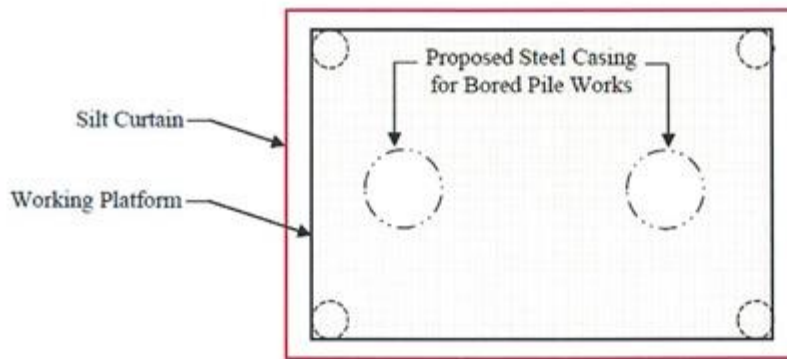
◆ Milestone  
■ Summary

**Executive Summary Programme**  
**MPU\_November 2021**  
(Sheet 2 of 2)

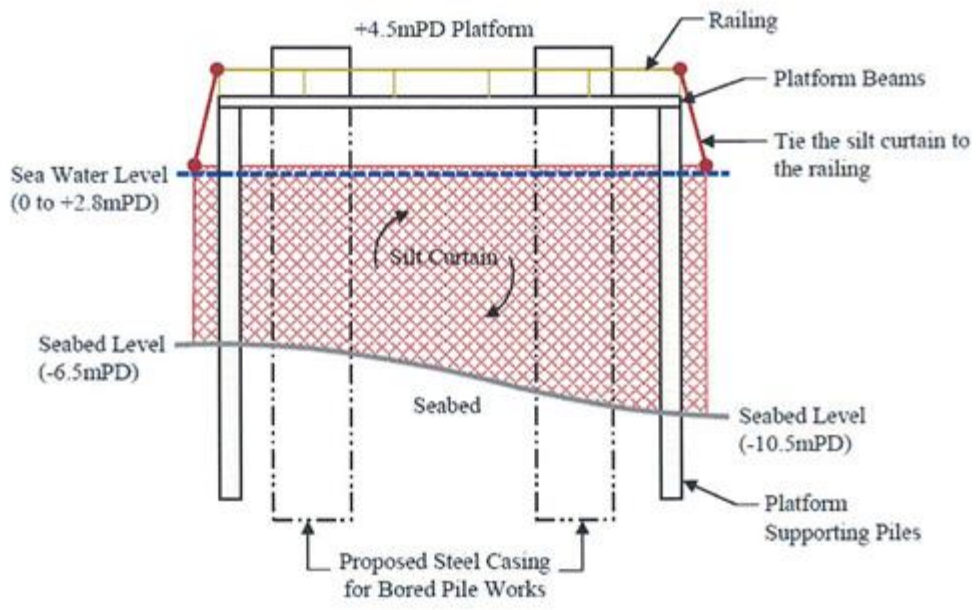




## Appendix B – Typical Details of Proposed Silt Curtain



PLAN



ELEVATION



## Appendix C – Specification of Geotextile for Silt Curtain

# COMPANY INTRODUCTION



**DAEYOUN GEOTECH**

# INDEX

- 1. Company Information**
- 2. Company History**
- 3. Factory Introduction**
- 4. Plant Investment Plan in the Future**
- 5. Manufacturing Process**
- 6. Main Buyer and Partnership with Construction Company**
- 7. Performance Experience in Vietnam & Overseas Market**
- 8. Certification**





## COMPANY INFORMATION

<b>Company Name</b>	<b>DAEYOUN GEOTECH CO., LTD</b>
C.E.O	Mr. Sang Ki Lee
Establish	1991
Employee	35 people
Head office	No. 1121, Poonglim Bldg, Gongdeok-dong, Mapo-gu, Seoul, Korea
Main Business	PET/PP Woven Geotextiles Silt Protector / Curtain
Capacity	15 million sqm / year

**GEONIA® Silt Protector DSP Technical Data Sheet**  
 High Performance Silt Protector (Floating Curtain)

[www.egeonia.com](http://www.egeonia.com)
**DSP15 (150/150)**

Mechanical Properties		Test Method	Unit		Value
<b>Physical Properties</b>					
Tensile Strength	MD	ASTM D4595	kN/m	≥	150
Tensile Strength	CD	ASTM D4595	kN/m	≥	150
Elongation	MD	ASTM D4595	%	≤	15
Elongation	CD	ASTM D4595	%	≤	15
Rate of Contraction		ISO 7771	%	±	0.2
<b>Hydraulic Properties</b>					
Water flow rate (h:50mm)		ASTM D4491	l/m <sup>2</sup> /sec (mm/sec)	≥	1.0
Water Permittivity (h:50mm)		ASTM D4491	sec <sup>-1</sup>	≥	0.02
Apparent Opening Size(O <sub>95</sub> )		ASTM D4751	mm	≤	0.075

Above data sheet is our standard properties for the reference usage. DAEYOUN GEOTECH will not be responsible caused by any discrepancy with above data sheet. Please contact us if you need specified data sheet.

GEONIA® is a registered trademark of DAEYOUN GEOTECH.  
MADE IN KOREA



## DSP METALIC PARTS METARIAL AND COATING

2014-12-24

ITEM	METARIAL	COATING
<b>EYELET</b>	STEEL (S20C)	PAINTING (oil based paint)
<b>STEEL PLATE</b>	STEEL (S20C)	GALVANIZED (50~80μm)
<b>REINFORCED STEEL PLATE</b>	STEEL (S20C)	HOT DIP GALVANIZE (over 80μm)
<b>BOLT&amp;NUT</b>	STEEL (S20C)	GALVANIZED (50~80μm)
<b>CHAIN</b>	STEEL (S20C)	COAL TAR PAINTING

\* Above materials and coating methods can be changed according to manufacturer's decision.

\* Any kind of change will be noticed to buyer in advance when it occurred.





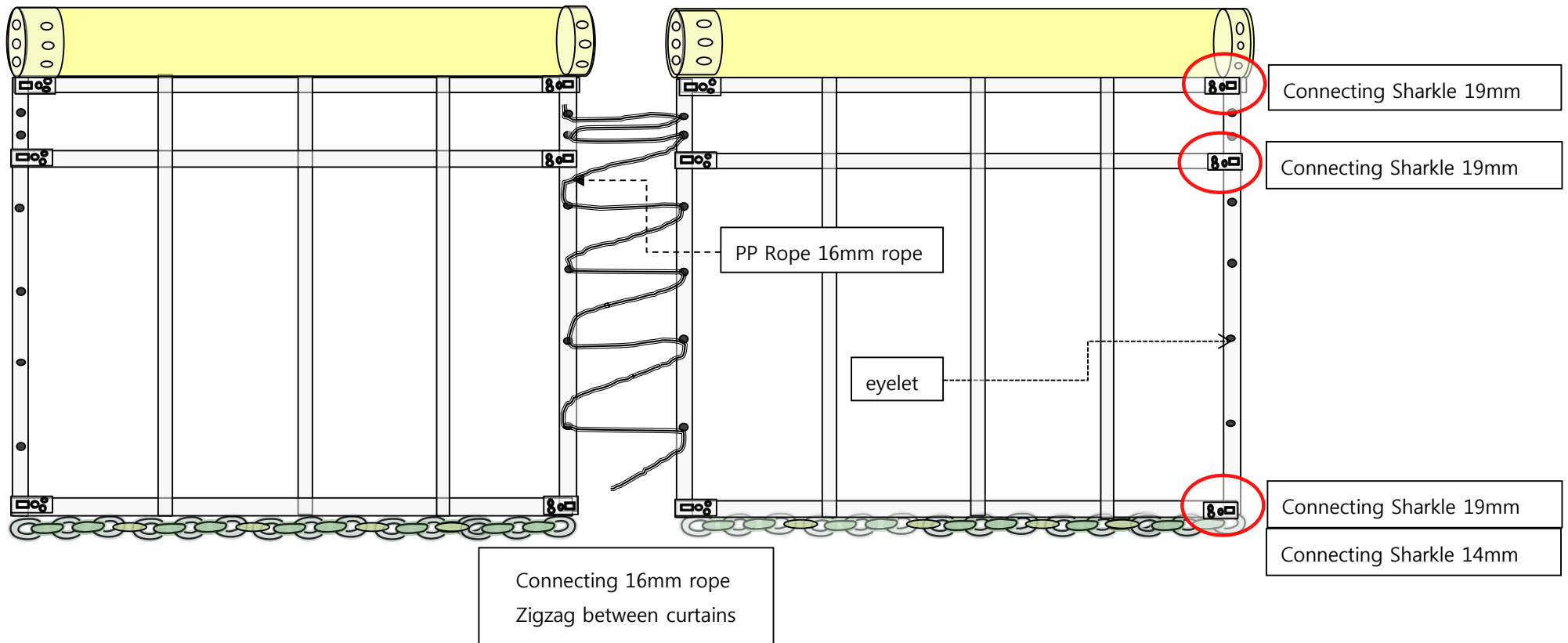
**Silt Protector**

**Installation**

**Caution**

**Maintenance**

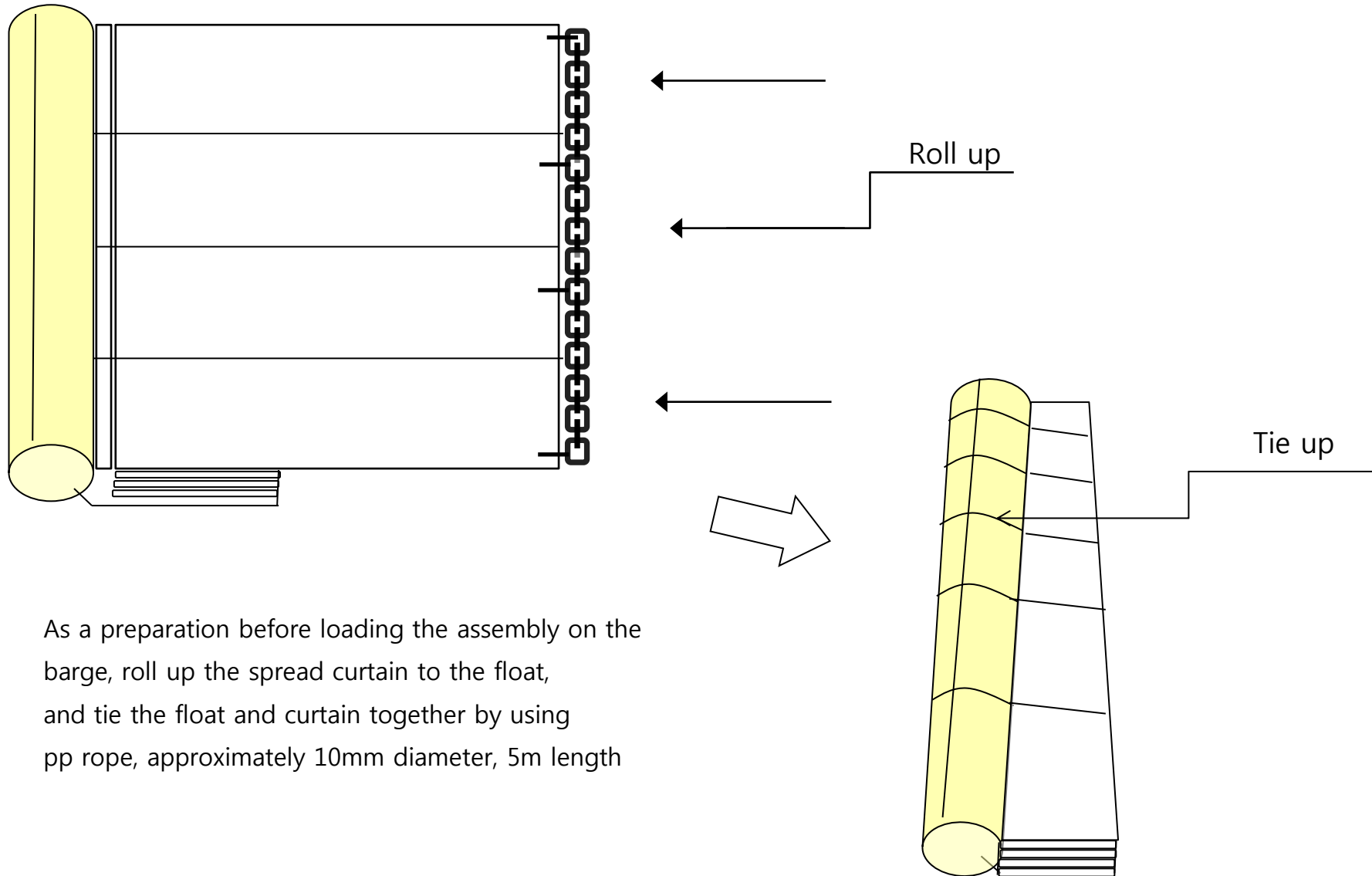
## Installation Guide (Connecting curtain and curtain)



\* Number of connections(between curtain and curtain)

	19mm sharkle	No. of eyelet
2m height of curtain	3	6
3m height of curtain	4	9
4m height of curtain	4	12
5m height of curtain	5	15
6m height of curtain	5	18

## Installation Guide (Temporary tying curtains)



As a preparation before loading the assembly on the barge, roll up the spread curtain to the float, and tie the float and curtain together by using pp rope, approximately 10mm diameter, 5m length

## Caution

### Caution

Designate a person who is in charge of management of the Silt Protector.

If an environment that exceeds the design conditions is estimated, remove the Silt Protector immediately, or the unit may be damaged. If the Silt Protector requires a repair, take necessary actions soon. If it is left without being repaired, the function of the unit may be affected adversely or the damage may expand so that it cannot be repaired.

If the Silt Protector has been dislocated from the proper position or the layout has been deformed, restore it to original position or formation immediately. Otherwise, serious accident may be caused.

Be careful not to damage the float and curtain when removing sea shells and plants from these components. The float is made of Styrofoam which is inflammable. Keep fire away from this component.

### Preconditions for maintenance

Check the Silt Protector periodically, and any component that have been deteriorated due to aging must be repaired or replaced with new component.

# Maintenance 1

## Maintenance

### Daily inspection

The Silt Protector should be visually monitored by patrol during the period it is placed in the water. The patrol is performed on the boat for the purpose of preventing ships from running against the unit and of finding abnormality in earlier phase. (once per day)

**Caution:** In case the Silt Protector has a serious trouble, Failure to do the daily check may cause serious trouble in addition to the loss of its normal pollution protection performance.

### Periodic inspection

In addition to visual inspection on the boat, periodically dive to check the unit thoroughly. (Once per every three months)

**Caution:** In case the Silt Protector has been damaged, failure to do the periodical check may cause the loss of its normal pollution protection performance and a damage that cannot be repaired to occur.

### Extra inspection

After typhoon or other abnormal weather, check the unit for the purpose of finding possible damages or troubles earlier. This check is performed basically on the boat, but dive to check the unit if necessary.

**Caution:** In case the Silt Protector has been seriously damaged, failure to do the extra check may cause the loss of its normal pollution protection performance and a damage that cannot be repaired to occur.

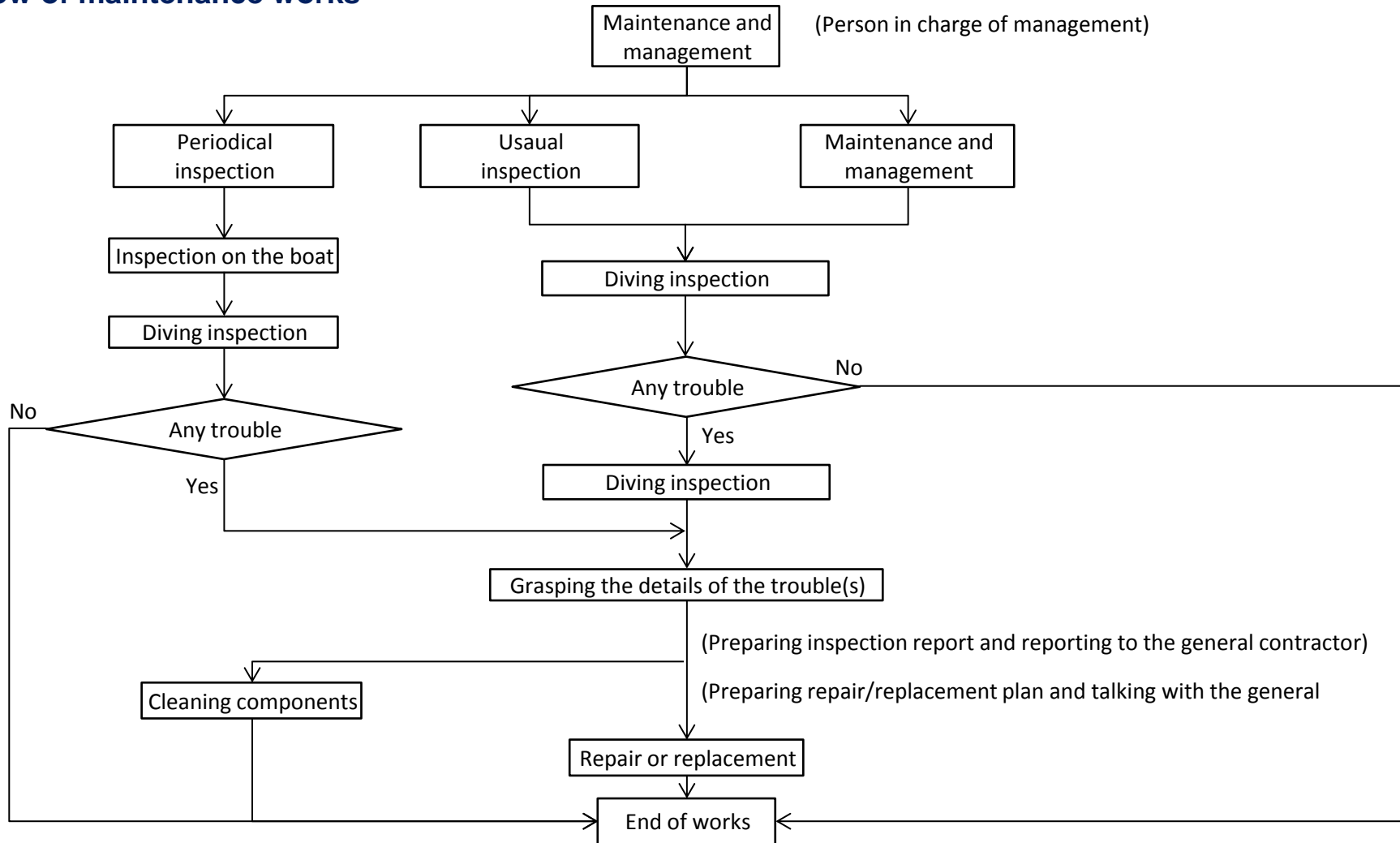
### Sea shell removal

If it is found that the freeboard of the float is less than 1/2 of its diameter due to increase of the total weight with the growth of sea shells and plants on the float and curtain, dive to clean these components. It is recommended to monitor the change of the freeboard of the float. Check it at the periodical inspection, and record the growth of the sea organisms. (perform these works as necessary.)

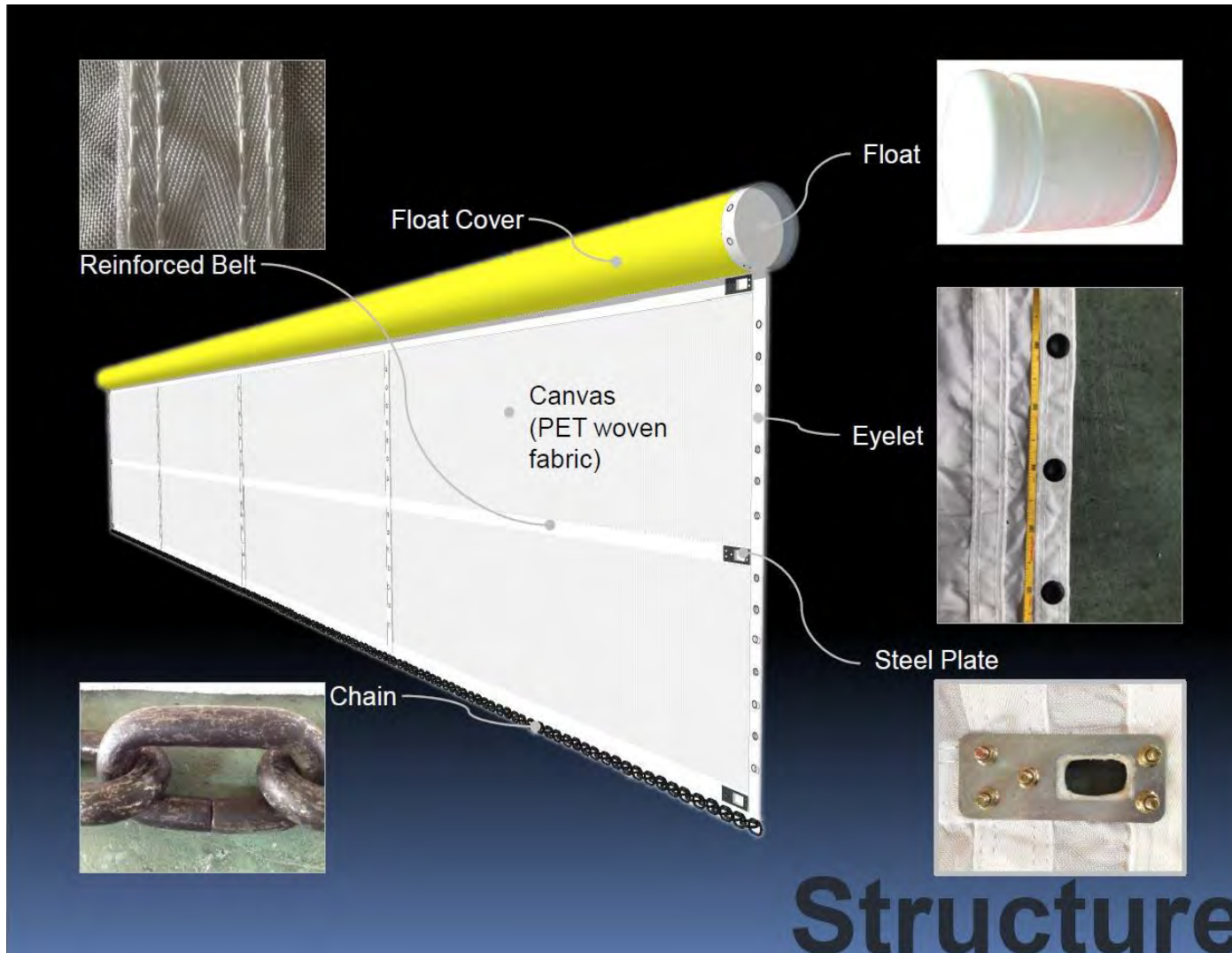
**Caution:** Failure to do the cleaning may increase the weight of the Silt Protector resulting in sinking it to cause loss of the function. Be careful not to damage the Silt Protector when cleaning the unit.

## Maintenance 2

### Flow of maintenance works



# Parts



## Project list of Silt Protector

We, Daeyoun Geotech, hereby certify that the following are our main project list in **Vietnam**.

Name of Project	Contract Amount (USD)	Month/Year	Span
NSRP Project	300,000	Sep. 2013	150 spans
Lach Huyen Project	100,000	Sep. 2013	100 spans
Total	400,000	-	250 spans

We, Daeyoun Geotech, hereby certify that the following are our main project list in **Korea**.

Name of Project	Contract Amount (USD)	Month/Year	Span
Gamcheon Port (International Fish Market) Construction	160,000	Nov. 2013	267 spans
Boryeong-Taeon 2 Sector	210,000	Oct. 2013	350 spans
Heaundae Beach	432,000	May. 2013	720 spans
Dangjin Thermal Power Plant Construction	450,000	Aug. 2013	750 spans
Incheon Port International Passenger Wharf Construction	10,000	Sep. 2012	17 spans
Pusan New Port Second (2-5 Step)	10,000	Sep. 2012	17 spans
Galsa Bay Shipbuilding Industry Construction	100,000	Aug. 2012	167 spans
Mokpo South-Port Government Ships Pier Construction	50,000	Aug. 2012	83 spans
Aewol Port Step 2	10,000	Jul. 2012	17 spans
Port Mooring Facilities Construction	15,000	Mar. 2012	25 spans
Gogyunsan 3 Sector	10,000	Jan. 2012	17 spans
Gwangyang Drainage Construction	15,000	Jan. 2012	25 spans
Sinma Port Construction	25,000	Jul. 2011	42 spans
Ulsan New Port Construction	12,000	Jul. 2011	20 spans
Gwangyang Plant Expansion Construction	20,000	May. 2011	33 spans
Yeosu Oil Tank Construction	10,000	Apr. 2011	17 spans
Samcheong Green Power Construction	13,000	Feb. 2011	22 spans
Pusan Port Coast Guard Pier Construction	10,000	Feb. 2011	17 spans
Jeongoghang Aquarium Relocation	10,000	Feb. 2011	17 spans
Dangjin Thermal Power Plant Construction	15,000	Feb. 2011	25 spans
Kyungin-Ara Waterway Construction	12,000	Feb. 2011	20 spans
Seogmun 5 Sector	10,000	Jan. 2010	17 spans
Daewoo Tongyeong LNG Construction	20,000	Sep. 2009	33 spans
Total	1,629,000	-	2715 spans



## SILT PROTECTOR PROJECT LIST (OVERSEAS)

We, Daeyoun Geotech, hereby certify that the following are our main overseas project list in overseas

Name of Project	Nation	Contract (USD)	Month/Year
Pinang Island Reclamation Project	Malaysia	11,585	MAR. 2016
Tsuen Wan West Station, TW-6 Property Development	HongKong	898	AUG. 2015
Replacement and rehaulitaion of water mains at Peng Chau	HongKong	3,016	MAR. 2015
Deep vemet Mixing Trial Works	HongKong	10,186	MAR. 2015
Dual 2-lane carriageway between HZMB BCF and North Lantsu Highway	HongKong	20,306	APR. 2014
Catbi airport	VIETNAM	300,000	DEC. 2013
Congio Island development	VIETNAM	100,000	DEC. 2013
Congio Island development	VIETNAM	100,000	DEC. 2013
Pomosa Posco	VIETNAM	300,000	DEC. 2013
Hanoi-Haiphong pkg7 GS	VIETNAM	500,000	DEC. 2013
Pomosa Hathin Steel	VIETNAM	200,000	DEC. 2013
Camau Road & etc	VIETNAM	1,500,000	DEC. 2013
The Sothern Coastal Corridor-Minh Luong project	VIETNAM	730,000	DEC. 2012
Siltprotect(NSRP Project)	VIETNAM	300,000	SEP. 2013
Siltprotect(Lach Huyen Project)	VIETNAM	100,000	SEP. 2013
The Sothern Coastal Corridor-Kenh 14 Bridge	VIETNAM	100,000	NOV. 2012
Rach Gia Giang Bypass Project	VIETNAM	250,000	NOV. 2012
Hanoi-Haiphong Express Way 5 Sector	VIETNAM	500,000	AUG. 2012
Hanoi-Haiphong Express Way 4 Sector	VIETNAM	1,000,000	MAR. 2012
Hanoi-Haiphong Express Way 6 Sector	VIETNAM	520,000	MAR. 2012
Hanoi-Haiphong Express Way 2 Sector	VIETNAM	520,000	OCT. 2011
Hanoi-Haiphong Express Way 10 Sector	VIETNAM	520,000	SEP. 2011
Hanoi-Haiphong Express Way 3 Sector	VIETNAM	600,000	SEP. 2011
Hanoi-Haiphong Express Way 8 Sector	VIETNAM	600,000	SEP. 2011
Hanoi-Haiphong Express Way 7 Sector	VIETNAM	615,000	APR. 2011
Hochiminh TBO Project	VIETNAM	50,000	APR. 2011
Posco port for steel process factory in Phu My	VIETNAM	150,000	APR. 2010
National way Hochiminh~Trung Luong project	VIETNAM	200,000	FEB. 2010
Caimep Industrial Park	VIETNAM	200,000	JUN. 2010
National way No. 61B project	VIETNAM	200,000	JUN. 2010
National way No.51 project	VIETNAM	300,000	JUN. 2009
Hanoi-Hochiminh Express Way Caugie-Ninh binh project	VIETNAM	400,000	JAN. 2008
Hanoi Than Tri Bridge	VIETNAM	300,000	JAN. 2008

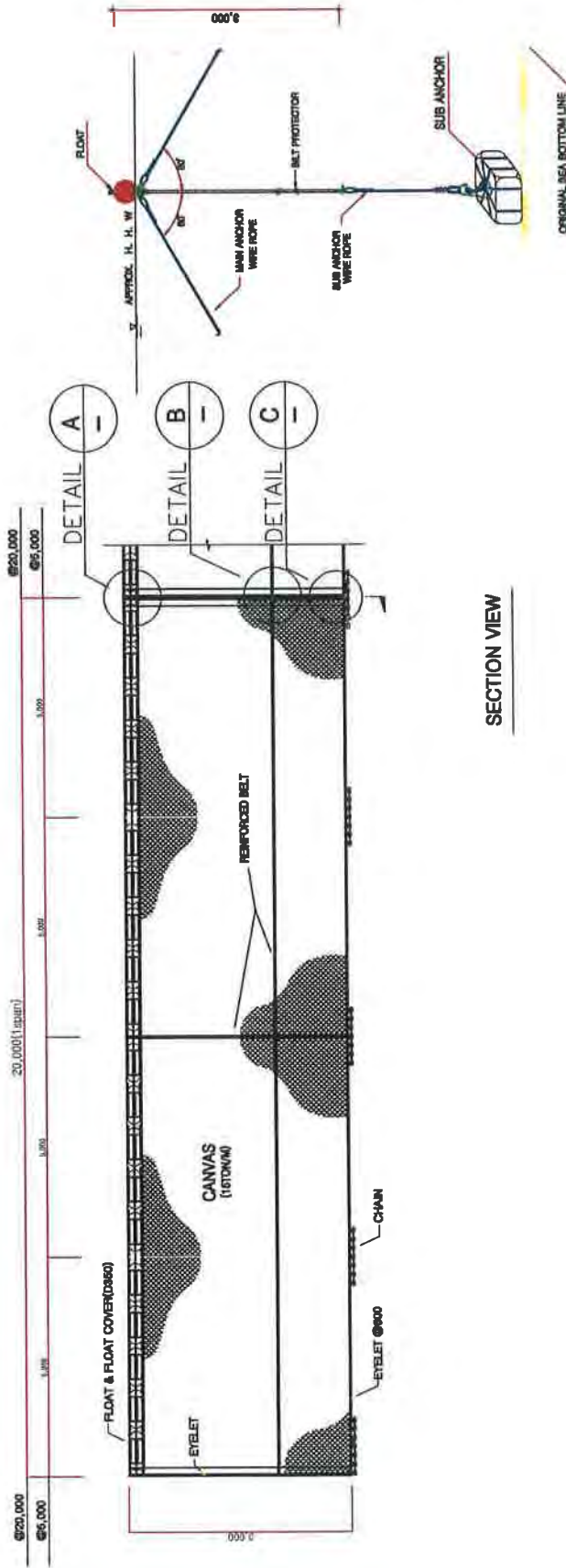


## Daeyoun Geotextile Silt Protector

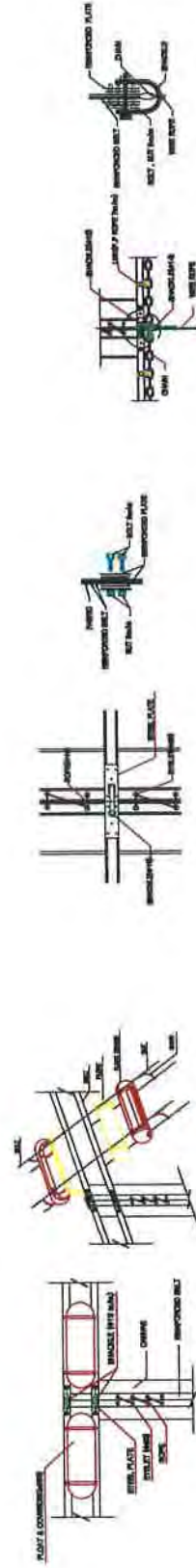
Date	Project	Client	Consultant	Model	Size (W x Lm)	No. of Span
Jul-03	CV/2002/04 Penny's Bay Reclamation Stage 2	Gammon Construction Ltd	Scott Wilson Ltd		5 x 20m 5 x 10m	86 256
May-13	DC/2011/01 Drainage Maintenance and Construction in Mainland South Districts (2011-2015)	World Diamond Engineering Ltd	Drainage Services Department	GSP 15	5x20m 3x5m 3x2m 3x13m	1 10 1 4
Apr-14	HY/2012/07 Dual 2-lane carriageway between HZMB BCF and North Lantau Highway	Gammon Construction Ltd	AECOM Asia Co Ltd	DSP15	6 x 20 7 x 20 9 x 20	24 10 10
Mar-15	16/WSD/11 Replacement and rehabilitation of water mains at Peng Chau, Sunshine Island and Hei Ling Chau	Pipe Tech Ltd MIRDTEC HK Ltd	AECOM Asia Co Ltd	DSP 15 DSP 15 DSP 15	0.6 x 20 1.2 x 20 1.5 x 20	1 22 6
Mar-15	P552 Deep Cement Mixing Trial Works	Penta Ocean Construction Co	Atkins	DSP30 DSP30	8 x 20 8 x 25	2 6
Aug-15	Tsuen Wan West Station, TW-6 Property Development	Hip Hing Construction Co Ltd	Mannars Chan & Associates	DSP15	4 x 20	1
Dec-15	HK/2012/08 Wan Chai Development Phase II - Central Wan Chai Bypass at Wan Chai West	China State - Leader JV	AECOM Asia Co. Ltd	DSP30 DSP30 DSP15 DSP15 DSP15	10 x 20 5 x 10 10 x 20 9 x 20 8 x 20	6 6 5 5 5
Mar-16	Asia Pacific Gateway (APG) - Tseung Kwan O (Cape Collinson)	Maritime Mechanic Ltd	Environmental Resources Management	DSP15	14 x 12	20
Nov-16	Dredging works at Marina Cove	Fung Kau Kee Contractors Ltd		DSP15	5 x 20	2
Nov-16	HY/2012/08 Tuen Mun - Chek Lap Kok Link Northern Connection Sub-sea Tunnel Section	Crown Asia Engineering Ltd Dragages - Bouygues JV	AECOM Asia Co. Ltd	DSP15	8 x 20 9 x 20 10 x 20 Marker Buoy Dia: 520mm	5 5 5 12 nos.
Dec-16	C3203 3rd Runway System Project DCM Ground Improvement Works (Package 3)	Sambo E & C Co Ltd	Airport Authority	DSP 30 Barge Type	4 x 10 2 x 10 4 x 9 1.6 x 9 2.8 x 9 1.8 x 9 2 x 9	46 2 246 4 2 2 2
Dec-16	C3204 3rd Runway System Project DCM Ground Improvement Works (Package 4)	CRBC-Sambo JV	Airport Authority	DSP30	6 x 5.3 6 x 11.3 6 x 12.3 6 x 12.8 6 x 13.8 6 x 6	2 2 20 4 4 30
Jan-17	C3201 3rd Runway System Project DCM Ground Improvement Works (Package 1)	Penta Ocean-China State- Dong Ah JV	Airport Authority	DSP 30	6 x 8	134
Feb-17	P560 Aviation Fuel Pipeline Diversion Works	Kat Yue Construction Engineering Ltd	Airport Authority	DSP15	1.5 x 20	8
Apr-17	HKHA20120023 Public rental housing, Shek Mun Estate	Hin Sum Engineering Co Ltd	Housing Authority	DSP / SG110	3 x 20	2
Jun-17	C3204 3rd Runway System Project DCM Ground Improvement Works (Package 4)	CRBC - Sambo JV	Airport Authority	DSP30	6 x 6	50
Jul-17	Refuse Boom at Tai O by World Wide Fund	G and E Co Ltd		DSP15	0.5 x 20	3
Aug-17	Lyric Theater Complex and Extended Basement Project for the WKCD Authority	Gammon Construction Ltd	AECOM Asia Co. Ltd / Mott Macdonald HK	DSP15	8 x 20	6



# SILT PROTECTOR (Cover Type)



SECTION VIEW



DETAIL A

DETAIL B

DETAIL C

설계자	설계자	검토자	시공자
DATE	DATE	DATE	DATE
SCALE	SCALE	SCALE	SCALE
CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY
DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY
APPROVED BY	APPROVED BY	APPROVED BY	APPROVED BY
REVISION SHEET NO.	REVISION SHEET NO.	REVISION SHEET NO.	REVISION SHEET NO.
SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.
TITLE	TITLE	TITLE	TITLE
PROJECT	PROJECT	PROJECT	PROJECT
DSP16/S120/D360	DSP16/S120/D360	DSP16/S120/D360	DSP16/S120/D360



# Prototype Sample



# Tube Type



# Coverhead Type







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Fax: 2570 0089

website: [www.g-and-e.com](http://www.g-and-e.com)

## G and E – a Perspective

G and E, founded in 1984, is a geosynthetics specialist who distributes a wide variety of geosynthetics from a list of renowned global manufacturers. The Company also manages a competent installation contracting service. To better serve our clients, design and engineering service have also been established in our portfolio. We aspire to provide our client comprehensive engineering solutions, from technical application and design, the supply of materials and their installation, to the conformance testing and project commissioning.

G and E takes a strong vision on geosynthetics application and development by working closely with international consultants, academics, professional organizations, research institutions, testing laboratories and renowned manufacturers, a mission to broaden the versatility of geosynthetics and its innovation.



Our vast product range covers:

Geotextile, geomembrane, geodrain, geocomposite, geogrid, geocell, band drain, erosion control systems, geosynthetic clay liner, rockfall barrier, gabion, geofoam, silt curtain, concrete mattress and geotextile container, extending a very wide scope of application in most civil, geotechnical and marine engineering.

We offer our clients:

- Extensive product knowledge and installation method statement
- Comprehensive services, application, design, contracting and commissioning
- Highly attentive and superior professional work
- Superb quality products at competitive price



G and E is ISO9001:2008 quality management certified, and a VSRS registered subcontractor. G and E has a remarkably successful working relationship with a long list of clients, the Government, project owners, contractors, designers, consultant engineers, overseas distributors and trading partners. The clientele extends to Macau, Southeast Asia and Southern China.

Talk to us today and see how we can work together for cost-effective and time saving solutions. We are stepping into our 32<sup>nd</sup> year in the field and have valuable experience to share with you.

ISO9001:2008

International Geosynthetics  
Society

Product Endorsement

A Registered Subcontractor





G and E is a distribution network and sourcing agent of geosynthetics, as well as a provider of professional design and installation services.



Central – Wan Chai Bypass - seawall separation using heavy non-woven geotextile Bontec SNW120

The company handles a comprehensive range of geosynthetic materials:

<u>GEOTEXTILE:</u>	PP, PET woven, non-woven, thermal bonded, needle punched, spun bond, special weave & composite
<u>GEOMEMBRANE:</u>	HDPE, LLDPE, PVC, keyed preformed, tunnel lining, concrete protection liner, gas barrier, basement waterproofing, leakage collection & effluent containment
<u>GEODRAIN:</u>	Geonet, geocomposite, band drain, sheet drain & roof drain
<u>GEOGRID:</u>	HDPE, PET, PP for reinforced slope and wall, MSEW, stabilization geogrid, special composite
<u>EROSION CONTROL:</u>	Erosion mat, concrete mat, coir mat, geocell, gabion, rockfall mesh, flexible rockfall fence
<u>MARINE ENGINEERING:</u>	Silt curtain, turbidity control, block mat, geotextile tube, trash boom, geotextile container
<u>GCL:</u>	Geosynthetic clay liner, bentonite liner and composite
<u>HDPE PIPE:</u>	Sewer pipe, dual wall pipe, submarine outfall
<u>TUNNELING:</u>	GFRP rebar for soft eye, tunnel support & invert drainage
<u>SPECIAL SERVICE:</u>	Geomembrane leak location survey, HDPE pipe welding, HDPE lining repair



# CERTIFICATE

N° SCUUK000938E

certifies that:

## G and E Company Limited

14/F, Kiu Yin Commerical Building, 361-363 Lockhart Road, Wanchai, Hong Kong

operates a management system that has been assessed as conforming to:

### ISO 9001 : 2015

for the scope of activities:

**General Construction installation work Service and sales of Construction material such as Geosynthetics**

Issue date: **1st July 2019**

Valid until: **27th March 2021** (Subject to adherence to the agreed ongoing programme, successful endorsement of certification following each audit and compliance with the terms and conditions of certification.)

Original date of certification: **22nd January 2014**

**Matthew Westby** Operations Director UK



SOCOTEC Certification UK Ltd - 6 Gordano Court -  
Serbert Close- Portishead - Bristol BS20 7FS  
UNITED KINGDOM

[www.socotec-certification-international.com](http://www.socotec-certification-international.com)



## **Material Submission**

### **BONTEC SG110/110 Woven Polypropylene Geotextile**



#### **G AND E COMPANY LIMITED**

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Tel: 2570 0130 Fax: 2570 0089  
website: [www.g-and-e.com](http://www.g-and-e.com)

January 2019



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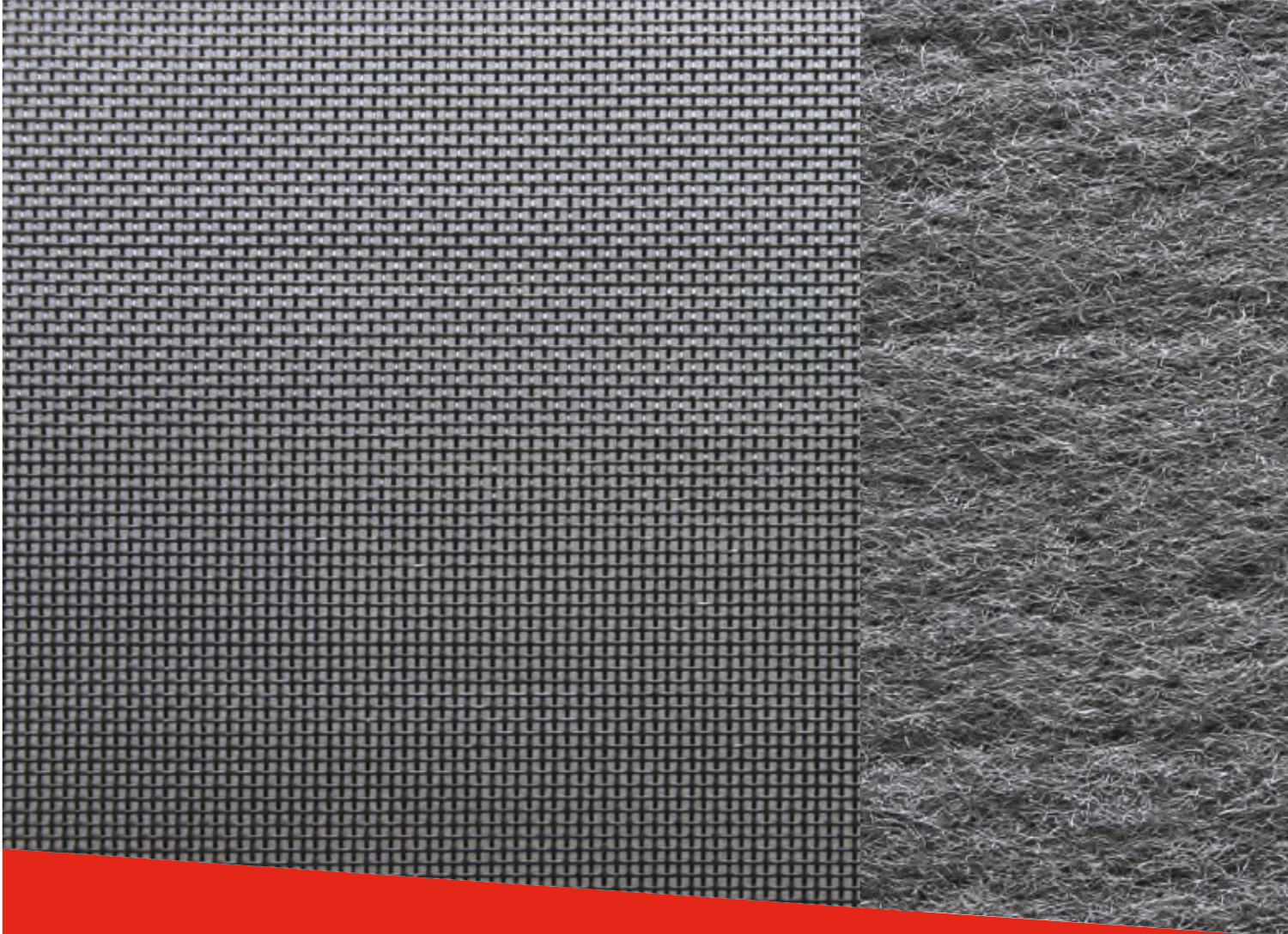
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- ISO 9001:2015 Certificate



**bontec**

woven and nonwoven geotextiles



# GEOTEXTILE

WE UNDERCOVER  
THE WORLD



**Bonar**  
partners in performance

# Bontec Geotextile

Bontec is an internationally renowned brand of geotextiles. We have earned this reputation over the past thirty years thanks to our quality, service and flexible production processes. This flexibility is a result of the vertical integration of our production. We control the entire process – from raw materials to finished product – for both our woven and nonwoven varieties.

We are therefore not dependent upon the quality or delivery time of others, and we can guarantee your success. Our Bontec brand offers state of the art woven and nonwoven geotextiles that provide answers to meet all of your challenges. Thanks to continuous research and investment in the latest technology, we provide the best solutions for all possible functions of geotextiles.

## Nonwoven process    Woven process

Starting with polypropylene granules,

we extrude endless synthetic filaments. After stretching and shrinking, these filaments are cut into fibres.

These fibres are then deposited in layers by a crosslapper.

By means of our own unique process we needle punch the layers into each other, after which they are thermo fixated. The result is an extremely high performance geotextile.

Starting with polypropylene granules,

we extrude an endless synthetic foil. This foil is then cut into fine tapes.

After stretching, the tapes are wound on spools that form the basis of a beam. That beam feeds the loom in the machine direction.

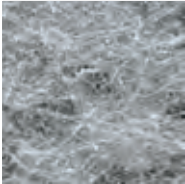
Subsequently the tapes are woven on a loom to a fabric with the desired specifications.





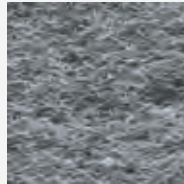
# Nonwoven Geotextile

## NW Thermally Bonded Nonwoven Geotextiles



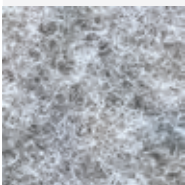
Produced by applying mechanical and thermal bonding processes. NW has the highest tensile strength of the range and is used primarily for lightweight separation and filtration. Its excellent hydraulic properties are ideal for use in filtration applications. Typical uses include the encapsulation of a trench drain.

## VNW Nonwoven Needle Punched (Colored) Geotextile



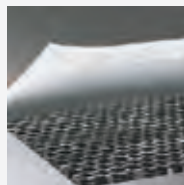
Produced by needle punching colored polypropylene fibres. The range varies from 200 to 2,000 g/m<sup>2</sup>. VNW is used for protection of membranes, as a component for drainage composites, or as a component for erosion control composites.

## SNW Superior Needle Punched Nonwoven Geotextiles



Produced in a manner similar to NW, SNW offers extraordinary properties for its very low weight. SNW is used primarily in circumstances that require both high tensile strength and elongation. Typical areas of application include membrane protection in reservoirs and landfills.

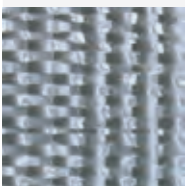
## LG Geocomposites



For the production of LG, woven and nonwoven geotextile are needle punched together. This process combines the properties of the two types in a single layer. These products are used in situations that require a high tensile strength as well as extreme protection.

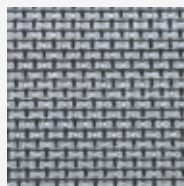
# Woven Geotextile

## SG Lightweight 'Standard Grade' Woven Geotextile



These lightweight, woven geotextiles from 65 to 250 g/m<sup>2</sup> are used primarily for separation. For example, SG prevents good quality sand or granules from mixing with underlying soil. It is used for the construction of roads, parking lots and airport runways.

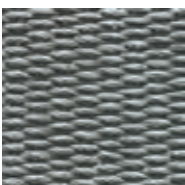
## HF 'High Flow' Woven Geotextile



Thanks to their specific structure, HF geotextiles have high permeability. This quality is very important for erosion control and infiltration applications. Typical applications include:

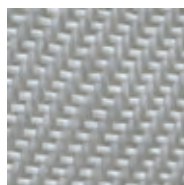
- As an under layer for concrete revetment blocks or between dissimilar layers of quick draining granular fill consisting of fine sand and rounded gravel.
- The envelopment of infiltration crates or tubes for rainwater management.

## SG Heavyweight 'Standard Grade' Woven Geotextile



These heavyweight, woven geotextiles vary from 250 to 600g/m<sup>2</sup> and they possess tensile strengths up to 200 kN/m and above. Heavyweight SG is used in heavy load circumstances, such as temporary basal reinforcement, coastal reinforcement and soil stabilization.

## HS 'High Strength' Woven Geotextile



The polyester wovens have a very high tensile strength of up to 600 kN /m. This strength and their very low stretch make them ideal for situations where:

- Reinforcement of the ground is essential.
- The construction of very steep, or even vertical, slopes with different types of soil is required.

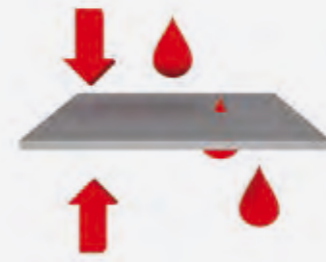


# Use of Geotextiles



## 1 Erosion control

In erosion control, the geotextile protects soil surfaces from the tractive forces of moving water or wind and rainfall erosion.



## 2 Filtration

The use of geotextiles in filter applications is probably the oldest, most widely known, and most used function of geotextiles. The geotextile is used to prevent fine soil particles from moving with the water flow normal to the plane.



## 3 Protection

A geotextile can be used as a protective layer against mechanical damage during installation and after the completion of a particular construction project. It will help prevent the puncturing of geomembranes used in constructions such as tunnels, landfills or reservoirs.



## 4 Drainage

When functioning as a drain, a geotextile acts as a conduit for the movement of liquids or gasses in the plane of the geotextile. Relatively thick nonwoven geotextiles are the products most commonly used. Selection should be based on transmissivity, which is the capacity for in-plane flow.



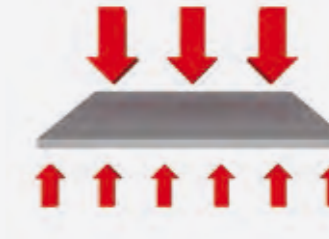
## 5 Stress relief

The geotextile provides a stress-relieving interlayer between the existing pavement and the overlay that reduces and retards reflective cracks under certain conditions. It also acts as a moisture barrier to prevent surface water from entering the pavement structure.



## 6 Reinforcement

The geotextile interacts with soil through friction or adhesion forces to resist tensile or shear forces. To provide reinforcement, a geotextile must have sufficient strength, low elongation and low creep to avoid movement of the structure.



## 7 Separation

Separation is the process of preventing two dissimilar materials from mixing. In this function, a geotextile is most often required to prevent the undesirable mixing of fill and natural soils or of two different types of fill.





# Value chain

## World player with local market presence

- Most complete product range
- Vertically integrated production - from raw material to finished stock
- Strong logistic service and stock supported key products to meet market needs
- Health and Safety from production right through delivery on site as an absolute priority
- Over 30 years of experience in a constantly evolving hi-tech market:
  - > Innovation driven
  - > Project specific engineered solutions

## Advantages of Bontec Geotextiles

- Intelligent installation techniques
- Cost and energy saving
- Increased life-span of projects



#### PRODUCTION SITES

- Belgium - Zele & Lokeren
- China - Yizheng
- Germany - Groß Ippener & Obernburg
- Hungary - Tiszaújváros
- Saudi-Arabia - Yanbu
- The Netherlands - Arnhem & Emmen
- USA - Asheville, NC

Development Centers in the Netherlands, Belgium and USA  
Sales offices in UK, France and China



#### PRODUCT PORTFOLIO

**Geotextiles**  
**Geocomposites**  
**Geogrids**  
**Geocells**  
**Vertical Drains**  
**Erosion Control Systems**  
**Construction Fibres**

##### **Bonar N.V.**

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partners in performance

[www.bontec.be](http://www.bontec.be)



# SG WOVEN GEOTEXTILES

we under<sup>cover</sup> the world

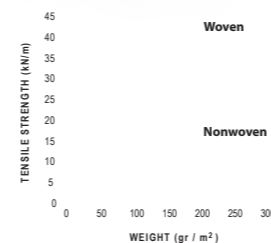
**A TOTAL RANGE OF GEOTEXTILES**

Headquarters:  
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 Industriestraat 39  
 B-9240 Zele  
 BELGIUM  
 T.: +32 (0) 52 457 487  
 F.: + 32 (0) 52 457 495  
 E-MAIL: geotextiles@bonartf.com

For UK and Ireland:  
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 DD3 7EU  
 T.: +44 (0)1382 346102  
 F.: +44 (0)1382 229238  
 E-MAIL: geotextiles@bonaryarns.com

website: [www.bonartf.com](http://www.bonartf.com)

**bontec**  
 woven and nonwoven geotextiles



SEPARATION



REINFORCEMENT

Other geotextiles available within the Bontec range include Highflow, High strength Wovens and Thermally Bonded & Needle-punched Nonwovens

Visit us at our website:  
[www.bonartf.com](http://www.bonartf.com)

For UK and Ireland: **BONAR YARNS & FABRICS Ltd**  
 St. Salvador Street | Dundee | Scotland | DD3 7EU  
 T.: +44 (0)1382 346102 | F.: +44 (0)1382 229238  
 E-MAIL: geotextiles@bonaryarns.com

## SG Woven Geotextiles PRODUCT PROFILE

“An exciting range of Standard Grade geotextiles that offer the perfect solution to your Separation requirements. With tensile strengths ranging from 10 to 300 kN/m you can be certain that an SG fabric will be available with the performance that you are looking for.”

DAILY SEPARATION, SOIL STRENGTHENING OR GROUND REINFORCEMENT?

**Bontec SG woven geotextiles** are manufactured from polypropylene tapes & yarns, and exhibit an excellent chemical resistance to commonly encountered acids and alkalis at ambient temperatures. Available in a lightweight range with products from 80 to 200g/m<sup>2</sup>, and a heavyweight range from 200 to 800g/m<sup>2</sup>.

### Bontec SG facts include:

Tensile strengths up to 300 kN per metre (kN/m) width  
 CBR Puncture Strengths ranging from 1.800 N to 12.500 N

**SG Mechanical Properties that offer maximum strength at minimal cost and ensure the products survivability both against installation damage and in the longer term.**

**Lightweight woven geotextiles typically offer greater mechanical strengths per unit weight than comparable nonwoven grades. This makes lightweight woven geotextiles the ideal choice for separation**

Waterflows normal to the plane that are generally several times more than that required by design

A range of consistent opening sizes suited for use in soils ranging from clay to coarse granular fill.

**SG hydraulic properties that are suited to the demands of everyday separators.**

**Available ex-stock in 4.5m and 5.25m wide rolls or other widths to order**

### Typical applications for SG woven geotextiles include:

As a general purpose separator for use under site access roads and areas of hardstanding.

As a separation and strengthening layer under new roadways, car parks, industrial units etc.

As an erosion control layer under heavy rock armour in coastal defence projects. For any separation application where there exists a need to prevent the intermixing of soft foundation soils with good clean granular fill.

SG Woven Geotextiles have been manufactured as a cost effective solution to your soil separation and stabilisation applications. They are manufactured from highly durable polypropylene polymer and have a long life expectancy when used in permanent structures.

For further product information, be it a technical data sheet or to discuss your project with one of our in-house geotextile experts please do not hesitate to contact one of our offices listed below.

Headquarters: **BONAR TECHNICAL FABRICS NV/SA**  
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 T.: +32 (0) 52 457 487 | F.: + 32 (0) 52 457 495  
 E-MAIL: geotextiles@bonartf.com

# Bontec® SG 110/110

## Heavy weight Polypropylene Woven Geotextiles

### Technical data sheet

#### Product description

Polymer	Density	Melting Point	Construction
100% Polypropylene	0,91 kg/dm <sup>3</sup>	165 °C	Tapes

#### Properties

Mechanical Properties	Standard	Performance	Tolerance
Tensile strength - MD	EN ISO 10319	110 kN/m	-9,9 kN/m
Tensile strength - CMD	EN ISO 10319	110 kN/m	-9,9 kN/m
Elongation at maximum load - MD	EN ISO 10319	10 %	+/-2,3 %
Elongation at maximum load - CMD	EN ISO 10319	8 %	+/-1,8 %
Static puncture resistance (CBR)	EN ISO 12236	12,5 kN	-2,5 kN
Dynamic perforation resistance (cone drop)	EN ISO 13433	10 mm	+2,0 mm
Tensile strength at 2% elongation - MD	EN ISO 10319	15 kN/m	
Tensile strength at 2% elongation - CMD	EN ISO 10319	25 kN/m	
Tensile strength at 5% elongation - MD	EN ISO 10319	45 kN/m	
Tensile strength at 5% elongation - CMD	EN ISO 10319	60 kN/m	

Hydraulic Properties	Standard	Performance	Tolerance
Water permeability normal to the plane (Vlh50)	EN ISO 11058	25 l/m <sup>2</sup> s	-8 l/m <sup>2</sup> s
Characteristic Opening Size (O90)	EN ISO 12956	230 µm	+/-69,0 µm

Physical Properties	Standard	Performance	Tolerance
Weight	EN ISO 9864	464 g/m <sup>2</sup>	+/-46,4 g/m <sup>2</sup>
Length (+/- 1%) x width (+/- 1%)		100 x 5,25 m	
Truck Load Volume (+/- 10%)		30450 m <sup>2</sup>	
Roll diameter (+/- 10%)		45 cm	

Durability	Standard	Performance	
Predicted minimal durability in years in natural soils with 4 < pH < 9 and soil temperatures < 25°C	EN 13249 +1 : 2015	60 years	

The Quality Management System of Bonar has been approved to the ISO 9001 Quality Management System Standard. Certificates are available on request.

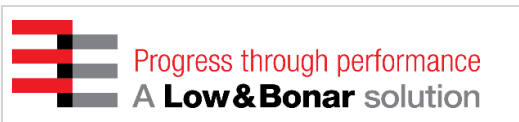


The information set forth in this data sheet reflects the best knowledge at the time of publication. The document is subject to change pursuant to new developments and findings. The same reservation applies to the properties of the products described. No liability is undertaken for results obtained by usage of the products and information.

Version date: 1/11/2014

3

Version n°



**Low & Bonar NV**  
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T: +32 (0) 52 457 487 / F: +32 (0) 52 457 495  
info@lowandbonar.com / www.bontecgeosynthetics.com



# QUALITY MANAGEMENT SYSTEM CERTIFICATE

## ISO 9001 : 2015

*BQA nv hereby declares that the management system of the company BontexGeo NV*

**BontexGeo**  
Leading in Geosynthetics

*located at Industriestraat 39 - 9240 Zele - Belgium, has been examined  
and found in conformity with the ISO 9001, edition 2015, standard for the following application field:*

***Development, manufacturing & sales of a standard range of technical textiles such as building textiles and geosynthetics,  
as well as similar products especially designed to customer specifications.***

*This certificate has been issued by BQA nv according to its quality manual concerning the certification of  
systems, and after concluding the contract of certification N° CER\_IUY\_QMS\_17-3-2020\_301\_N  
under which the company accepts a regular control of its management system.*

*Certificate N° BQA\_QMS\_C\_2004301  
Issue date 2020-03-17  
Valid until 2023-03-19*



*D. SIMOENS  
Directeur*



*Any person aware of misuse of this certificate may address himself to BQA nv. This certificate may only be disclosed in its entirety.*

*BQA nv – Technologiepark-Zwijnaarde 70 - 9052 Gent Zwijnaarde*

# CERTIFICATE OF ENVIRONMENTAL MANAGEMENT SYSTEM ISO 14001 : 2015

*BQA nv hereby declares that the environmental management system of the company BontexGeo NV*

**BontexGeo**  
Leading in Geosynthetics

*located at Industriestraat 39 – 9240 Zele - Belgium, has been examined  
and found in conformity with the ISO 14001, edition 2015, standard for the following application field:*

***Development, manufacturing & sales of a standard range of technical textiles such as building textiles and geosynthetics, as well as similar products especially designed to customer specifications.***

*This certificate has been issued by BQA nv according to its quality manual EMS concerning the certification of environmental management systems, and after the contract of certification N° CER\_IUY\_EMS\_17-03-2020\_411\_N under which the company accepts a regular control of its environmental management system.*

*Certificate N° BQA\_EMS\_C\_200402*

*Issue date 2020-03-17*

*Valid until 2023-03-19*



019-EMS

D. SIMOENS  
Directeur



*Any person aware of misuse of this certificate may address himself to BQA nv. This certificate may only be disclosed in its entirety.*

*BQA nv – Technologiepark-Zwijnaarde 70 – 9052 Gent-Zwijnaarde*



## Certificate of Conformity of the Factory Production Control 1213–CPR–5945

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product(s)

**NW** 5, 6, 6 UV, 7, 8, 8 D, 8/8 ABG, 8.5, 9, 10, 10 UV, 10 UV IT, 11, 12, 12 UV, 13, 130 N, 15, 15 I, 15 UV, 150 I, 16, 16 ABG, 160 N, 18, 18 UV, 19 UV, 20, 20 XUV, 200 I, 21, 21 UV, 23 P, 250 I,

GTX-N, needle punched, thermally treated; PP; used for the functions: S + F + D

**25, 25 R, 26, 29, 30, 32, 32 R, 40, 40 R, 45,**

GTX-N, needle punched, thermally treated; PP; used for the functions: S + F + D + P

**Forte, Light, Medium, Supra, UNI, X Forte, X Light**

GTX-N, needle punched, thermally treated; PP; used for the functions: S + F

**SNW** 100, 120, 140, 25, 25 XUV, 31, 40 UV, 46, 50, 50 SP, 55, 55 M, 55 XUV, 62, 70, 75, 75 XUV, 80, 85, 90,

GTX-N, needle punched; PP; used for the functions: S + F + D + P

**14, 17, 17 T,**

GTX-N, needle punched; PP; used for the functions: S + F + D

**VNW** 200-PP-K, 200-PP-Z, 300-PP-K, 350-PPZ30, 400-PP-K, 450-PP-K, 500-PP-K, 600-PP-K, 600-PPZ30, 700-PP-K, 800-PP-K, 1000 PP-K, 1200-PP-K, 1500-PP-K, 1800-PP-K, 2000-PP-K,

GTX-N, needle punched; PP; used for the functions: S + F + D + P

produced by or for

**Bonar NV**  
Industriestraat 39  
9240 Zele / Belgium

and produced in the manufacturing plant(s)

**615**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard(s)

**EN 13249:2000/A1:2005; EN 13250:2000/A1:2005; EN 13251:2000/A1:2005;  
EN 13252:2000/A1:2005; EN 13253:2000/A1:2005; EN 13254:2000/A1:2005;  
EN 13255:2000/A1:2005; EN 13257:2000/A1:2005; EN 13265:2000/A1:2005**

under system 2+ for the performances set out in this certificate are applied and that the factory production control

**fulfils all the prescribed requirements for these performances.**

This certificate was first issued on 2014-11-04 and will remain valid as long as the test methods and/or factory production control requirements included in the harmonised standard(s), used to assess the performance of the declared essential characteristics, do not change, and the construction product, and the manufacturing conditions in the plant are not modified significantly, unless suspended or withdrawn by the factory production control certification body.

i. V.

## Certificate of Conformity of the Factory Production Control 1213–CPR–5945

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product(s)

**PROTEC 250, 250 FR, 300, 33, 400, 500, 500 SP, 600, 700, 750, 750 XUV, 800 FR,  
800, 800 XUV, 1000 FR,**

GTX-N, needle punched; PP; used for the functions: S + F + D + P

**X 1000, X 1200**

GTX-N, needle punched; PP; used for the functions: F + D + P

**TS**

**1, 2,**

GTX-N, thermally bonded; PP; used for the functions: S + F

**3, 4, 5,**

GTX-N, thermally bonded; PP; used for the functions: S + F + D

produced by or for

**Bonar NV**

Industriestraat 39  
9240 Zele / Belgium

and produced in the manufacturing plant(s)

**615**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard(s)

**EN 13249:2000/A1:2005; EN 13250:2000/A1:2005; EN 13251:2000/A1:2005;  
EN 13252:2000/A1:2005; EN 13253:2000/A1:2005; EN 13254:2000/A1:2005;  
EN 13255:2000/A1:2005; EN 13257:2000/A1:2005; EN 13265:2000/A1:2005**

under system 2+ for the performances set out in this certificate are applied and that the factory production control

**fulfils all the prescribed requirements for these performances.**

This certificate was first issued on 2014-11-04 and will remain valid as long as the test methods and/or factory production control requirements included in the harmonised standard(s), used to assess the performance of the declared essential characteristics, do not change, and the construction product, and the manufacturing conditions in the plant are not modified significantly, unless suspended or withdrawn by the factory production control certification body.

Würzburg, 04 November 2014

i. V.

Dipl.-Ing. Helmut Zanzinger  
Certification Body





Ref: G&E042811(declaration SG110110)

Date: 26 April 2011

Attn: To whom it may concern

**Declaration - Bontec SG 110/110 Woven Geotextile**

We hereby would like to confirm that Bontec SG 110/110 woven geotextiles are made of silt film tapes. Silt film tapes are manufactured in our slit film extrusion department in Belgium, prior to being woven on Sulzer looms. The Geotextiles are being produced in accordance with:

- ISO 9001:2000 – Quality Certificate (in annex)
- ISO 14001: Environmental Certificate (in annex)

Bontec SG 110/110 woven geotextiles are:

- Resistant to all naturally occurring soil acids and alkalis;
- Resistant to biological attack;
- Resistant to deterioration caused by the effects of exposure to weather and burial; and
- Stable over the temperature range 0°C and 60°C.

The geotextiles have the following characteristics :

CBR Burst Strength (EN ISO 12236)	12,500N (*)
Tensile Strength (EN ISO 10319)	110kN/m (*)
Volume water flow rate (VWFR) at 100mm water head (EN ISO 11058)	25 l/m <sup>2</sup> /s (at 50mm head) (*) 50 l/m <sup>2</sup> /s (at 100mm head) (*)

(\*) The common tolerances around the avg which are used in the industry are applied and are stated on the CE datasheets

Should you require further information, please do not hesitate to contact us.

Thank you.

Best Regards,

Koen Van Compernelle  
Bonar Technical Fabrics

**BONAR TECHNICAL FABRICS**  
Industriestraat 39  
B-9240 Zele  
BTW BE 421.053.442  
T: 003252457483 - F. 003252457495

Zelev, 14/01/2019

## CERTIFICATION OF COMFORMANCE

The undersigned supplier LOW & BONAR NV, hereby states under his responsibility that the following product complies with the indicated technical properties:

order 247038 your order PO 190110A

Type	NW 10 525	: 13.125,00 m <sup>2</sup>
	SNW 120 525	: 2.756,25 m <sup>2</sup>
	SG 20/20 F	: 7.875,00 m <sup>2</sup>
	SG 110/110	: 10.500,00 m <sup>2</sup>

Delivery docs : Packing list Nr T1900388 – T1900386

Manufacturer : Low & Bonar NV, Industriestraat 39, 9240 Zelev, Belgium  
Goods are of Belgian (EU) origin

LOW AND BONAR NV



LOW & BONAR NV  
Industriestraat 39  
B - 9240 Zelev  
BTW BE 0421 053 442  
T. 0032 52 457 441  
F. 0032 52 457 495



## **RECOMMENDATION FOR THE INSTALLATION OF GEOTEXTILES**

- The **BONTEC** geotextiles shall be kept in its original packaging in order to protect it from damaging UV-rays and high temperatures.
- The **BONTEC** geotextiles shall be stored protected from wind, rain, excess moisture or sunlight.
- The **BONTEC** geotextiles shall only be unpacked just before use. The material shall be covered within 1 week
- The **BONTEC** geotextiles shall be labelled and show the following data :
  - roll number
  - quality
  - name of the manufacturer
  - roll length & width
  - roll weight
- The **BONTEC** geotextiles shall be laid with the longitudinal ascis down slopes
- A minimum overlap of 500 mm between the different sheets shall be respected. Sewing of the different fabrics shall be done with a double prayer stitching technique with non deteriorating thread.
- Wherever visibility or installation of the **BONTEC** geotextile is poor an extra safety overlap of +/- 1 m shall be respected
- The surfaces to be covered with **BONTEC** geotextiles shall be smooth and free of sticks, roots, sharp objects, and all debris that may damage the fabric. The surface to be covered shall be firm and unyielding, with no sudden changes or brakes in grade.
- The compacted sub-base shall be maintained in a smooth, uniform and compacted condition during installation of the fabric.
- In area's where wind is prevalent, fabric installation shall be started at the upwind side of the project and proceed downwind. The leading edge of the fabric shall be secured at all times with sandbags or other means sufficient to hold it down during high winds. Sandbags or rubber tires may be used as required to hold the fabric in position during installation. Tires shall not have exposed steel cords or other sharp edges which may snag or cut the fabric. Materials, equipment or other items shall not be dragged across the fabric or be allowed to slide down slopes on the fabric.
- Should the fabric be damaged during any step of the installation, the damaged section shall be repaired by covering it with a piece of fabric which extends at least 0,6 meter in all directions beyond the damaged area. The fabric shall be secured as directed by the engineer.
- Smoking shall not be permitted by personnel working on the fabric.



## Appendix D – Silt Curtain Inspection Checklist



**中國路橋工程有限責任公司**  
CHINA ROAD AND BRIDGE CORPORATION

Contract No. NE/2017/07  
Cross Bay Link – Tseung Kwan O  
Main Bridge and Associated Works

### Silt Curtain Weekly Inspection Checklist

Location: \_\_\_\_\_

Inspection Date and Time: \_\_\_\_\_

Item	Description	Condition		Immediate Action Required?		Target Rectification Date	Remarks
		Yes	No	Yes	No		
1	Any floating debris/ refuse within silt screen / curtain?						
2	Supporting frame / buoys in good condition?						
3	Tying rope in good condition?						
4	Geotextile intact and in good condition?						
5	Sinkers in good condition?						
6	Any obstruction to water flow between geotextile?						

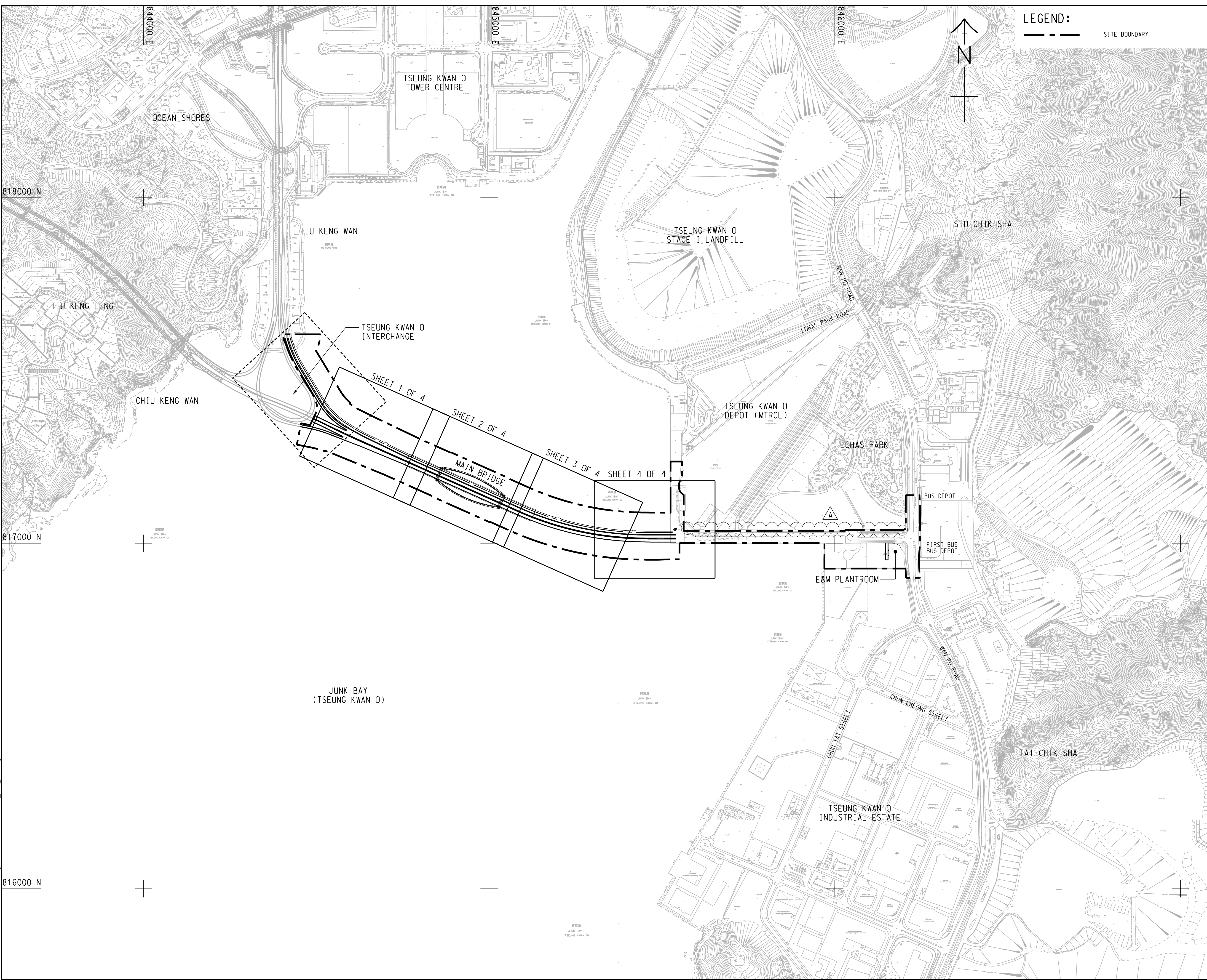
Checked by: \_\_\_\_\_ (Post)  
 \_\_\_\_\_ (Name)  
 \_\_\_\_\_ (Sign)



## Appendix E – Site Layout



2018/08  
 Plot File by: HUPF  
 PATH: P:\PROJECTS\60329339\Drawing\CONTRACT\C1\1000\C1\_C00\_1000.dgn  
 Project Management Initials: Designer: WIN Checked: RPCM Approved: CWN ISO A1 594mm x 841mm  
 CWN  
 RPCM  
 WIN



**LEGEND:**  
 - - - - - SITE BOUNDARY



**PROJECT**  
 項目  
**CROSS BAY LINK, TSEUNG KWAN O**

**CONTRACT TITLE**  
 CROSS BAY LINK, TSEUNG KWAN O  
 MAIN BRIDGE AND ASSOCIATED WORKS

**CLIENT**  
 業主  
 土木工程拓展署  
 Civil Engineering and  
 Development Department

**CONSULTANT**  
 工程顧問公司  
 AECOM Asia Company Ltd.  
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**ISSUE/REVISION**  
 修訂

I/R	DATE	DESCRIPTION	CHK.
A	MAR.18	TENDER ADDENDUM NO. 4	RPCM
-	DEC.17	TENDER DRAWING	RPCM

**STATUS**  
 階段

**SCALE**  
 比例  
 A1 1 : 5000

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60329339

**CONTRACT NO.**  
 合約編號  
 NE/2017/07

**SHEET TITLE**  
 圖紙名稱  
 KEY PLAN AND LOCATION PLAN

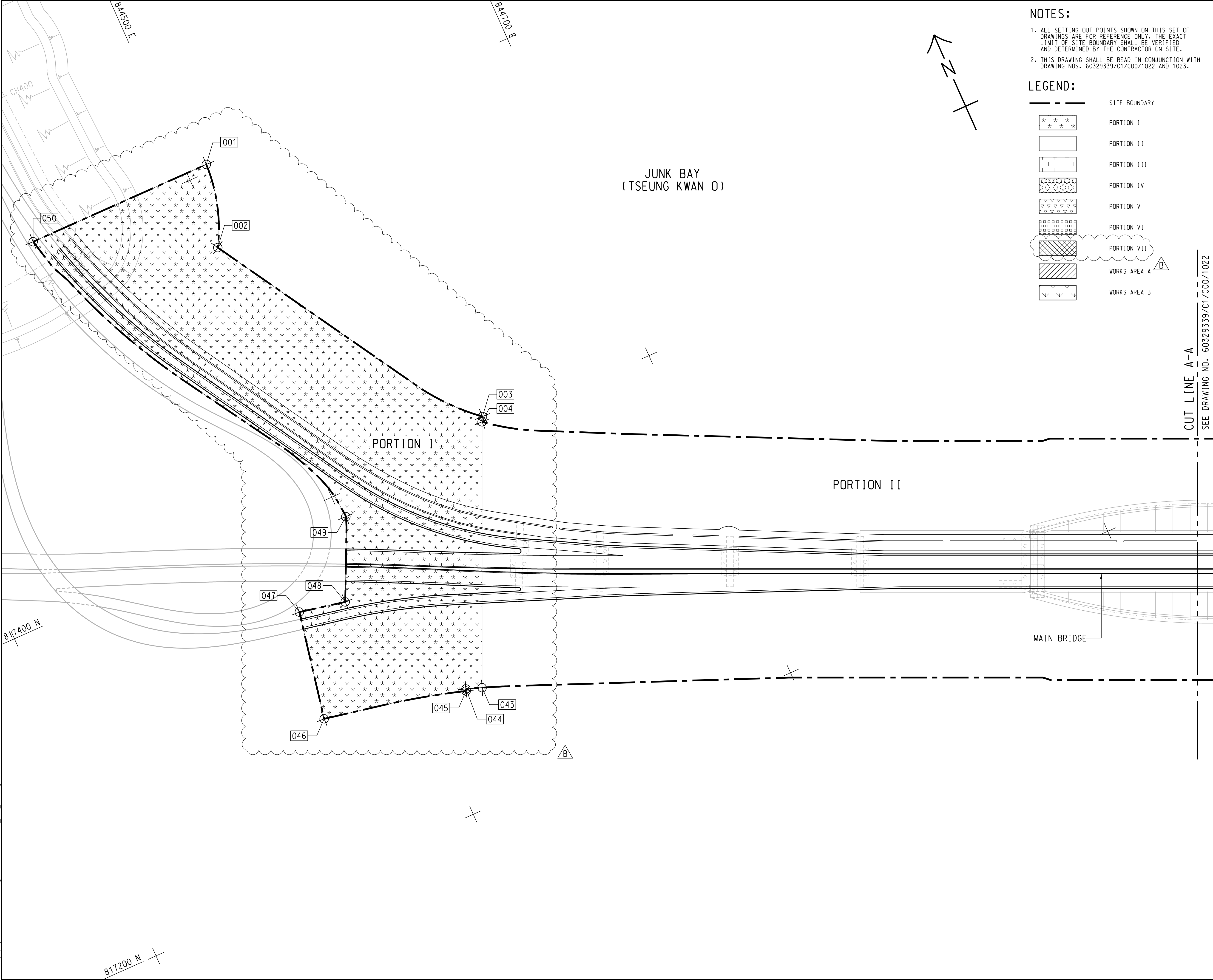
**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/C00/1000A

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Project Management Initials: CNY  
 Designer: WIN  
 Checked: RPCM  
 Approved: CWN  
 ISO A1 594mm x 841mm

Plot File by: HUPF  
 PATH: P:\Projects\60329339\drawing\contract\11000\C1\_C00\_1021.dgn

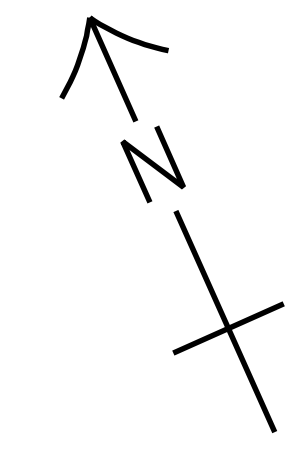


**NOTES:**

1. ALL SETTING OUT POINTS SHOWN ON THIS SET OF DRAWINGS ARE FOR REFERENCE ONLY. THE EXACT LIMIT OF SITE BOUNDARY SHALL BE VERIFIED AND DETERMINED BY THE CONTRACTOR ON SITE.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60329339/C1/C00/1022 AND 1023.

**LEGEND:**

- SITE BOUNDARY
- \*\*\* PORTION I
- PORTION II
- +++ PORTION III
- ▨ PORTION IV
- ▽▽▽ PORTION V
- PORTION VI
- ▨▨▨ PORTION VII
- ▨ WORKS AREA A
- ▽ WORKS AREA B



CUT LINE A-A  
 SEE DRAWING NO. 60329339/C1/C00/1022



**PROJECT**  
 項目  
**CROSS BAY LINK,  
 TSEUNG KWAN O**

**CONTRACT TITLE**  
 CROSS BAY LINK, TSEUNG KWAN O  
 MAIN BRIDGE AND ASSOCIATED WORKS

**CLIENT**  
 業主  
 土木工程拓展署  
 Civil Engineering and  
 Development Department

**CONSULTANT**  
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I/R	DATE	DESCRIPTION	CHK.
修訂	日期	內容摘要	核核
B	MAR.18	TENDER ADDENDUM NO. 4	RPCM
A	JAN.18	TENDER ADDENDUM NO. 1	RPCM
-	DEC.17	TENDER DRAWING	RPCM

**STATUS**  
 階段

**SCALE**  
 比例  
 A1 1 : 1000

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60329339

**CONTRACT NO.**  
 合約編號  
 NE/2017/07

**SHEET TITLE**  
 圖紙名稱  
 PORTION OF SITE

**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/C00/1021B

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Project Management Initials: Designer: WIN Checked: RPCM Approved: CWN ISO A1 594mm x 841mm  
 2018/038  
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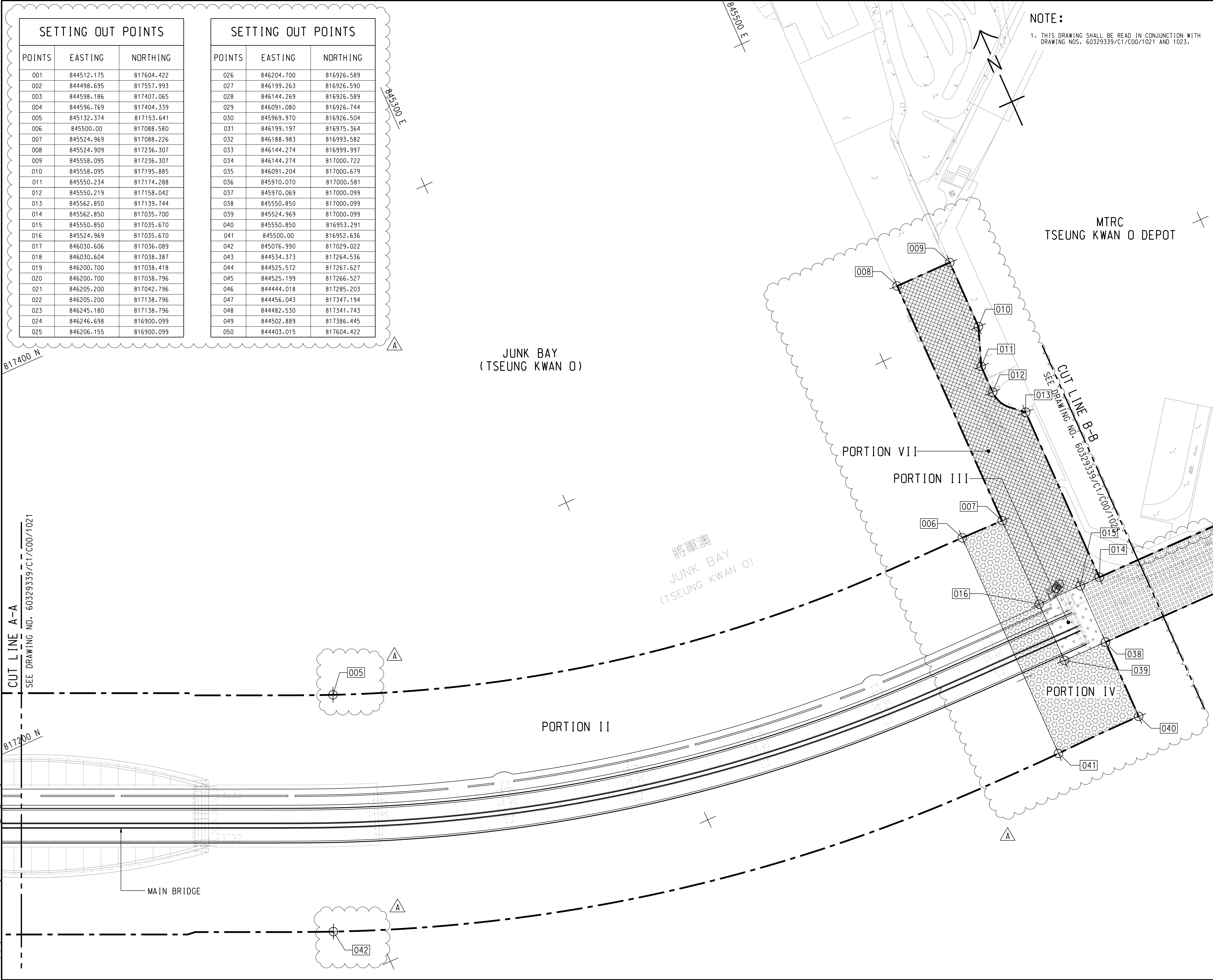
**SETTING OUT POINTS**

POINTS	EASTING	NORTHING
001	844512.175	817604.422
002	844498.695	817557.993
003	844598.186	817407.065
004	844596.769	817404.339
005	845132.374	817153.641
006	845500.00	817088.580
007	845524.969	817088.226
008	845524.909	817236.307
009	845558.095	817236.307
010	845558.095	817195.885
011	845550.234	817174.288
012	845550.219	817158.042
013	845562.850	817139.744
014	845562.850	817035.700
015	845550.850	817035.670
016	845524.969	817035.670
017	846030.606	817036.089
018	846030.604	817038.387
019	846200.700	817038.418
020	846200.700	817038.796
021	846205.200	817042.796
022	846205.200	817138.796
023	846245.180	817138.796
024	846246.698	816900.099
025	846206.155	816900.099

**SETTING OUT POINTS**

POINTS	EASTING	NORTHING
026	846204.700	816926.589
027	846199.263	816926.590
028	846144.269	816926.589
029	846091.080	816926.744
030	845969.970	816926.504
031	846199.197	816975.364
032	846188.983	816993.582
033	846144.274	816999.997
034	846144.274	817000.722
035	846091.204	817000.679
036	845970.070	817000.581
037	845970.069	817000.099
038	845550.850	817000.099
039	845524.969	817000.099
040	845550.850	816953.291
041	845500.00	816952.636
042	845076.990	817029.022
043	844534.373	817264.536
044	844525.572	817267.627
045	844525.199	817266.527
046	844444.018	817285.203
047	844456.043	817347.194
048	844482.530	817341.743
049	844502.889	817386.445
050	844403.015	817604.422

**NOTE:**  
 1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60329339/C1/C00/1021 AND 1023.



**AECOM**

**PROJECT**  
 項目  
**CROSS BAY LINK,  
 TSEUNG KWAN O**

**CONTRACT TITLE**  
 CROSS BAY LINK, TSEUNG KWAN O  
 MAIN BRIDGE AND ASSOCIATED WORKS

**CLIENT**  
 業主  
**CEDD** 土木工程拓展署  
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A	MAR.18	TENDER ADDENDUM NO. 4	RPCM
-	DEC.17	TENDER DRAWING	RPCM

**SCALE**  
 比例  
 A1 1: 1000

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

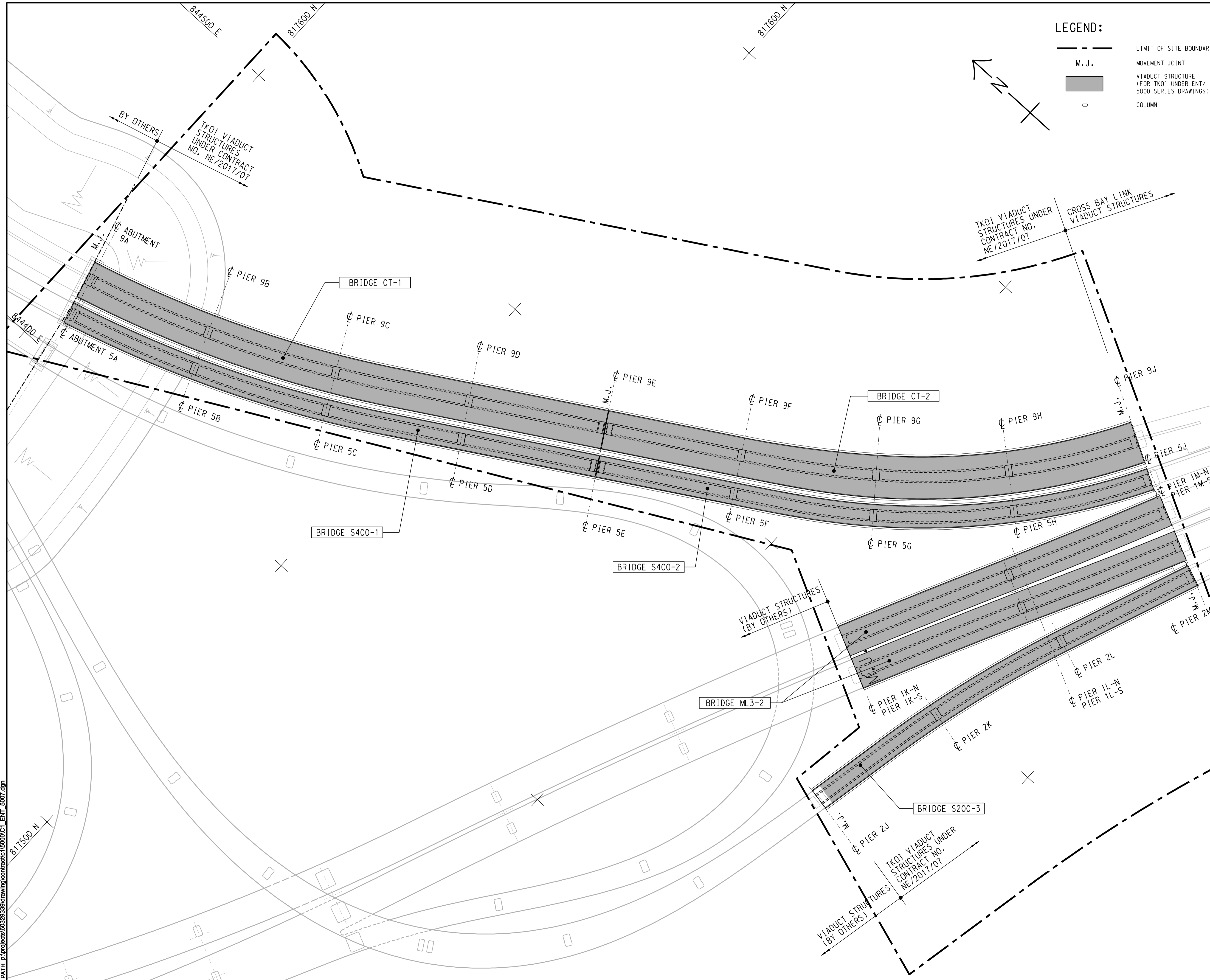
**PROJECT NO.**  
 項目編號  
 60329339

**CONTRACT NO.**  
 合約編號  
 NE/2017/07

**SHEET TITLE**  
 圖紙名稱  
 PORTION OF SITE

**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/C00/1022A

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**LEGEND:**

- LIMIT OF SITE BOUNDARY
- M.J. MOVEMENT JOINT
- VIADUCT STRUCTURE (FOR TKO1 UNDER ENT/5000 SERIES DRAWINGS)
- COLUMN

**AECOM**

**PROJECT**  
 項目  
**CROSS BAY LINK,  
 TSEUNG KWAN O**

CONTRACT TITLE  
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修訂	日期	內容描述	核核
-	DEC.17	TENDER DRAWING	CL

**STATUS**  
 階段

**SCALE**  
 比例  
 A1 1 : 500

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60329339

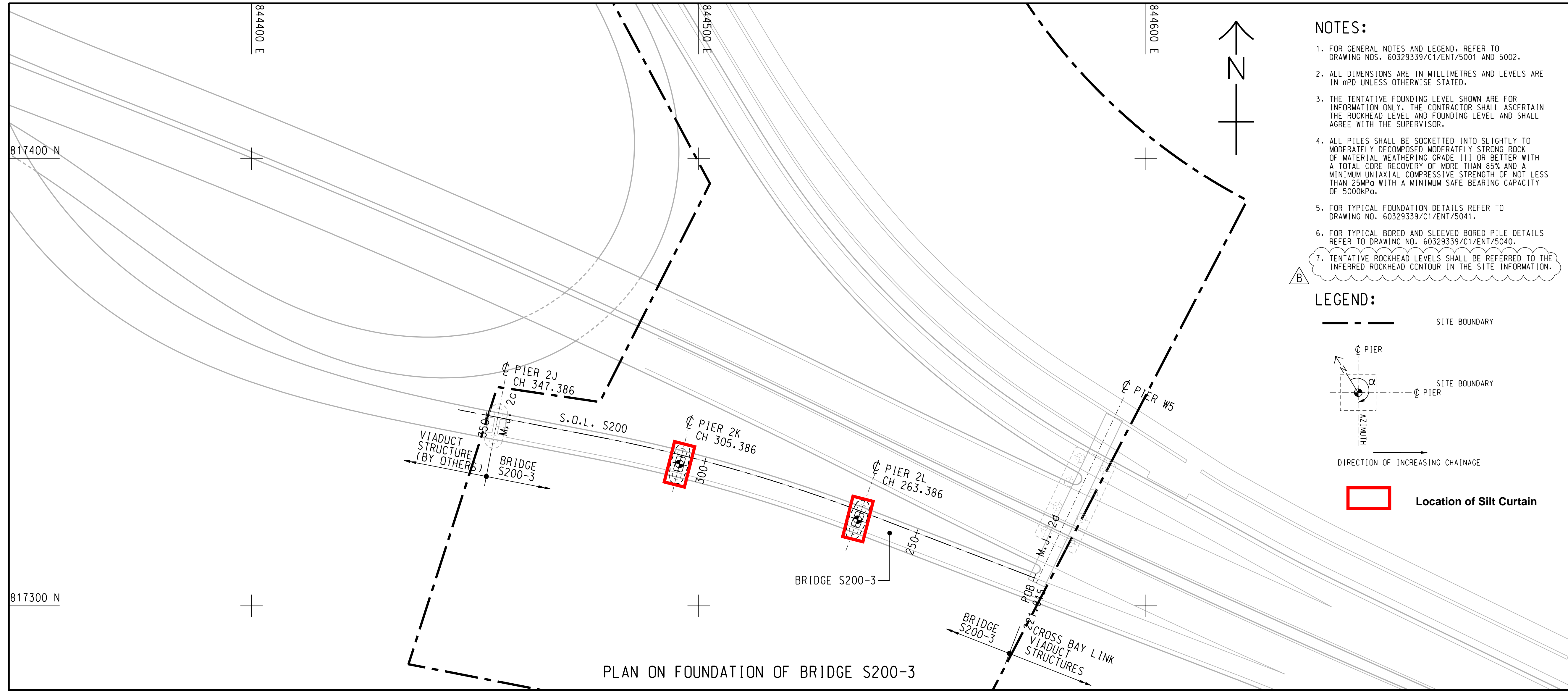
**CONTRACT NO.**  
 合約編號  
 NE/2017/07

**SHEET TITLE**  
 圖紙名稱  
 BRIDGE STRUCTURE  
 LAYOUT PLAN

**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/ENT/5007

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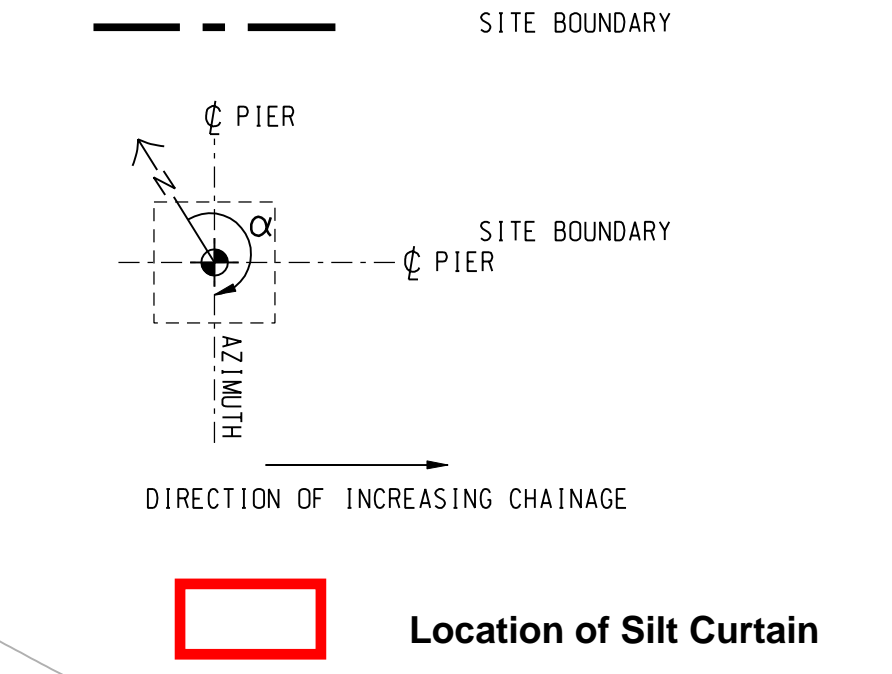




**NOTES:**

- FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NOS. 60329339/C1/ENT/5001 AND 5002.
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN MPD UNLESS OTHERWISE STATED.
- THE TENTATIVE FOUNDING LEVEL SHOWN ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE ROCKHEAD LEVEL AND FOUNDING LEVEL AND SHALL AGREE WITH THE SUPERVISOR.
- ALL PILES SHALL BE SOCKETTED INTO SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OF MATERIAL WEATHERING GRADE III OR BETTER WITH A TOTAL CORE RECOVERY OF MORE THAN 85% AND A MINIMUM UNIAXIAL COMPRESSIVE STRENGTH OF NOT LESS THAN 25MPa WITH A MINIMUM SAFE BEARING CAPACITY OF 5000kPa.
- FOR TYPICAL FOUNDATION DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5041.
- FOR TYPICAL BORED AND SLEEVED BORED PILE DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5040.
- TENTATIVE ROCKHEAD LEVELS SHALL BE REFERRED TO THE INFERRED ROCKHEAD CONTOUR IN THE SITE INFORMATION.

**LEGEND:**



**FOUNDATION SCHEDULE:**

SUBSTRUCTURE REFERENCE NO.	TOP OF PILE CAP LEVEL (mPD)	S.O.L.	CHAINAGE	AZIMUTH OF FOUNDATION (α)	FOUNDATION TYPE	NO. OF PILES	TYPE OF PILE	PILE DIAMETER (mm)	PILE CUT OFF LEVEL (mPD)	TENTATIVE SEABED LEVEL (mPD)	TENTATIVE ROCKHEAD LEVEL (MPD)	MIN. SOCKET LENGTH (m)
2K	+2.50	S200	CH 305.386	13° 58' 31"	A2	2	BORED	2000	-0.40	-10.50	*REFER TO NOTE 7	1.50
2L	+2.50	S200	CH 263.386	20° 44' 25"	A2	2	BORED	2000	-0.40	-10.80	*REFER TO NOTE 7	1.50

△

**AECOM**

**PROJECT**  
 項目  
**CROSS BAY LINK, TSEUNG KWAN O**

**CONTRACT TITLE**  
 CROSS BAY LINK, TSEUNG KWAN O MAIN BRIDGE AND ASSOCIATED WORKS

**CLIENT**  
 業主  
**CEDD** 土木工程拓展署  
 Civil Engineering and Development Department

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B	MAR.18	TENDER ADDENDUM NO. 4	CL
A	JAN.17	TENDER ADDENDUM NO. 1	CL
-	DEC.17	TENDER DRAWING	CL

**STATUS**  
 階段

**SCALE**  
 比例  
 A1 1 : 500

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60329339

**CONTRACT NO.**  
 合約編號  
 NE/2017/07

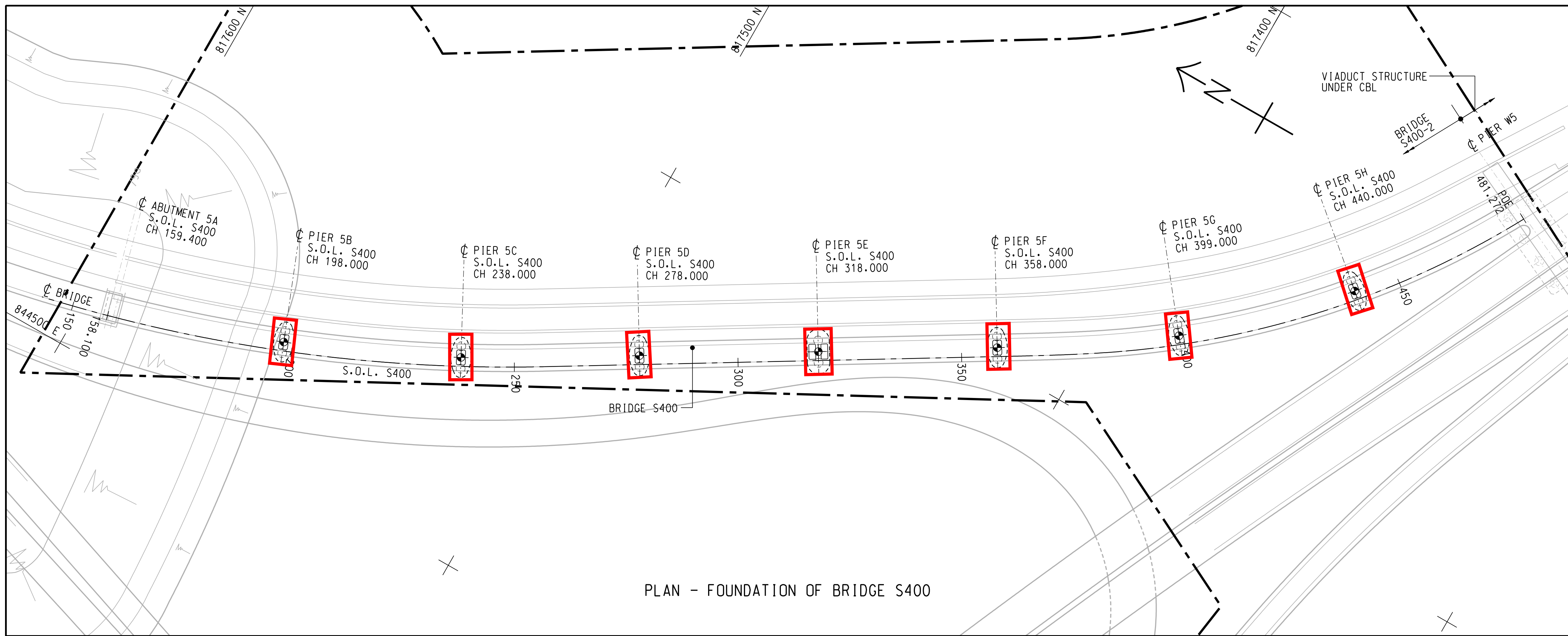
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 圖紙名稱  
 BRIDGE S200-3 FOUNDATION LAYOUT

**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/ENT/5167B

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B	MAR.18	TENDER ADDENDUM NO. 4	CL
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-	DEC.17	TENDER DRAWING	CL



PLAN - FOUNDATION OF BRIDGE S400

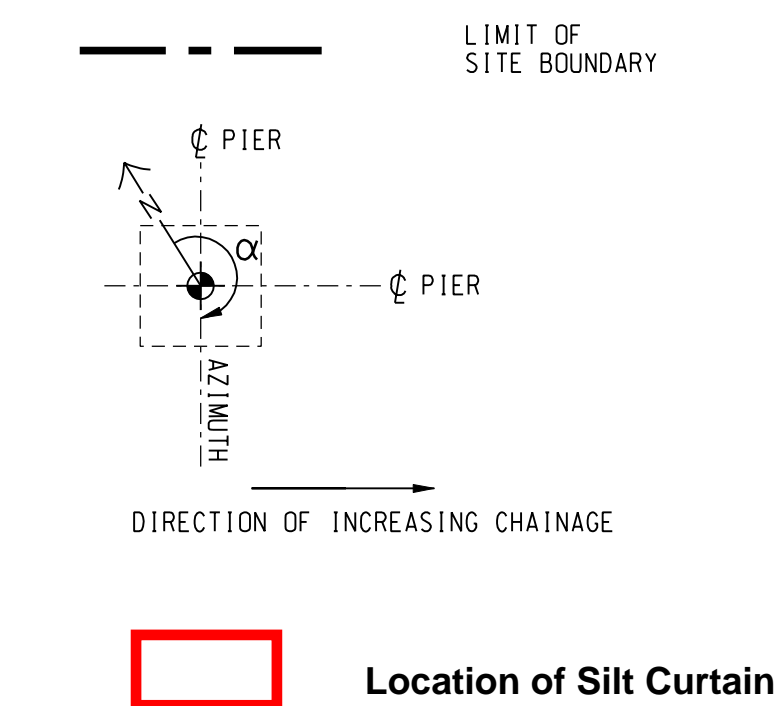
FOUNDATION SCHEDULE:

SUBSTRUCTURE REFERENCE NO.	TOP OF PILE CAP LEVEL (mPD)	S.O.L.	CHAINAGE	AZIMUTH OF FOUNDATION (α)	FOUNDATION TYPE	NO. OF PILES	TYPE OF PILE	PILE DIAMETER (mm)	PILE CUT OFF LEVEL (mPD)	TENTATIVE SEABED LEVEL (mPD)	TENTATIVE ROCKHEAD LEVEL (mPD)	MIN. SOCKET LENGTH (m)
5B	+2.50	S400	CH 198.000	248°24'25"	A1	2	SLEEVED	2000	-0.40	-7.10	* REFER TO NOTE. 8	5.00
5C	+2.50	S400	CH 238.000	241°55'58"	A1	2	BORED	2000	-0.40	-7.75		3.50
5D	+2.50	S400	CH 278.000	238°54'57"	A1	2	BORED	2000	-0.40	-9.85		2.50
5E	+2.50	S400	CH 318.000	238°54'57"	B3	2	BORED	2000	-0.40	-9.85		3.00
5F	+2.50	S400	CH 358.000	238°54'57"	A1	2	BORED	2000	-0.40	-10.20		1.50
5G	+2.50	S400	CH 399.000	231°39'58"	A1	2	BORED	2000	-0.40	-10.20		1.50
5H	+2.50	S400	CH 440.000	220°9'3"	A1	2	BORED	2000	-0.40	-10.80		1.50

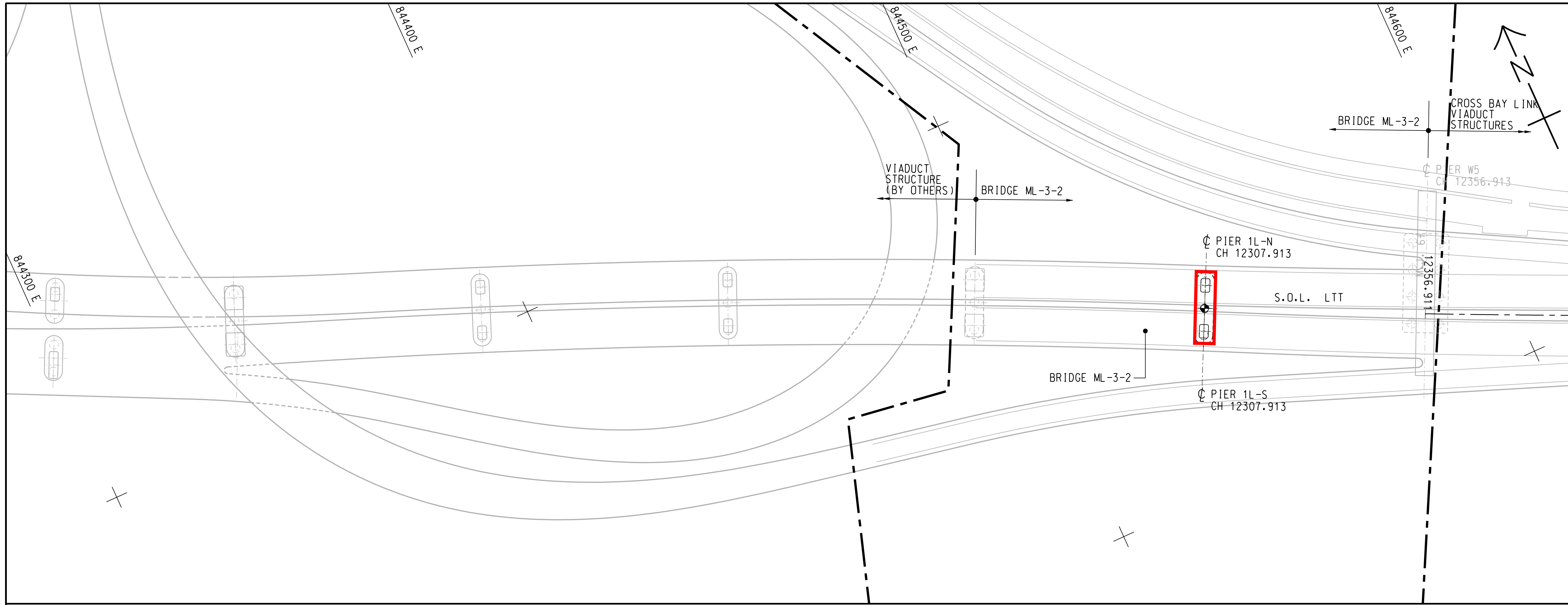
NOTES:

- FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NOS. 60329339/C1/ENT/5001 AND 5002.
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN mPD UNLESS OTHERWISE STATED.
- THE TENTATIVE FOUNDING LEVEL AND CUTOFF LEVEL SHOWN ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE ROCKHEAD LEVEL AND FINISH GROUND LEVEL AND SHALL AGREE WITH THE SUPERVISOR.
- ALL PILES SHALL BE SOCKETTED INTO SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OF MATERIAL WEATHERING GRADE III OR BETTER WITH A TOTAL CORE RECOVERY OF MORE THAN 85% AND A MINIMUM UNIAXIAL COMPRESSIVE STRENGTH OF NOT LESS THAN 25MPa WITH A MINIMUM SAFE BEARING CAPACITY OF 5000kPa.
- EXACT ROCKHEAD LEVEL SHALL BE PROPOSED BY THE CONTRACTOR AND SUBJECT TO THE ACCEPTANCE OF THE SUPERVISOR.
- FOR TYPICAL FOUNDATION DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5041.
- FOR TYPICAL BORED AND SLEEVED BORED PILE DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5040.
- TENTATIVE ROCKHEAD LEVELS SHALL BE REFERRED TO THE INFERRED ROCKHEAD CONTOUR IN THE SITE INFORMATION.

LEGEND:







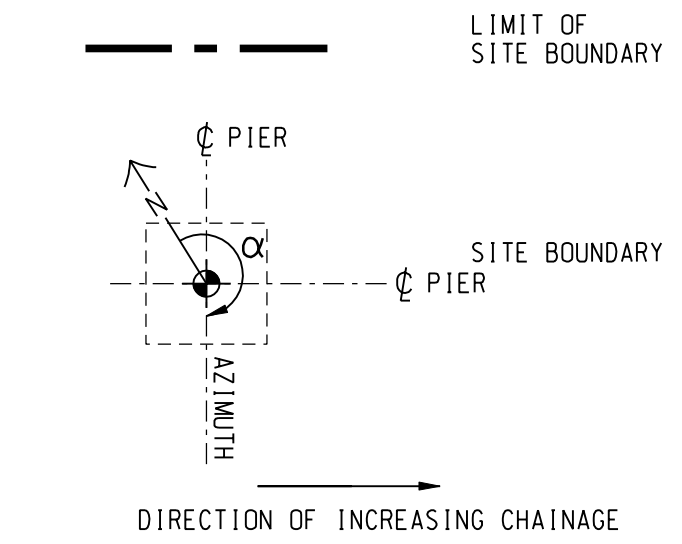
**FOUNDATION SCHEDULE:**

SUBSTRUCTURE REFERENCE NO.	TOP OF PILE CAP LEVEL (mPD)	S.O.L.	CHAINAGE	AZIMUTH OF FOUNDATION (α)	FOUNDATION TYPE	NO. OF PILES	TYPE OF PILE	PILE DIAMETER (mm)	PILE CUT OFF LEVEL (mPD)	TENTATIVE SEABED LEVEL (mPD)	TENTATIVE ROCKHEAD LEVEL (mPD)	MIN. SOCKET LENGTH (m)
1L	+2.50	LTT	CH 12307.913	206°18'97"	C	3	BORED	2000	-0.40	-10.80	* REFER TO NOTE. 8	5.50

**NOTES:**

- FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NOS. 60329339/C1/ENT/5001 AND 5002.
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN mPD UNLESS OTHERWISE STATED.
- THE TENTATIVE FOUNDING LEVEL SHOWN ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE ROCKHEAD LEVEL AND FOUNDING LEVEL AND SHALL AGREE WITH THE SUPERVISOR.
- ALL PILES SHALL BE SOCKETTED INTO SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OF MATERIAL WEATHERING GRADE III OR BETTER WITH A TOTAL CORE RECOVERY OF MORE THAN 85% AND A MINIMUM UNIAXIAL COMPRESSIVE STRENGTH OF NOT LESS THAN 25MPa WITH A MINIMUM SAFE BEARING CAPACITY OF 5000kPa.
- FOR TYPICAL FOUNDATION DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5041.
- FOR TYPICAL BORED AND SLEEVED BORED PILE DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5040.
- FOUNDATION FOR PIER 1M SHALL BE CONSTRUCTED BY THE CONTRACTOR UNDER AGREEMENT NO. CE6/2014(HY) BY OTHERS.
- TENTATIVE ROCKHEAD LEVELS SHALL BE REFERRED TO THE INFERRED ROCKHEAD CONTOUR IN THE SITE INFORMATION.

**LEGEND:**



Location of Silt Curtain

**ISSUE/REVISION**  
 修訂

I/R	DATE	DESCRIPTION	CHK.
B	MAR.18	TENDER ADDENDUM NO. 4	CL
A	JAN.17	TENDER ADDENDUM NO. 1	CL
-	DEC.17	TENDER DRAWING	CL

**STATUS**  
 階段

**SCALE**                      **DIMENSION UNIT**  
 比例                              尺寸單位  
 A1 1: 500                      METRES

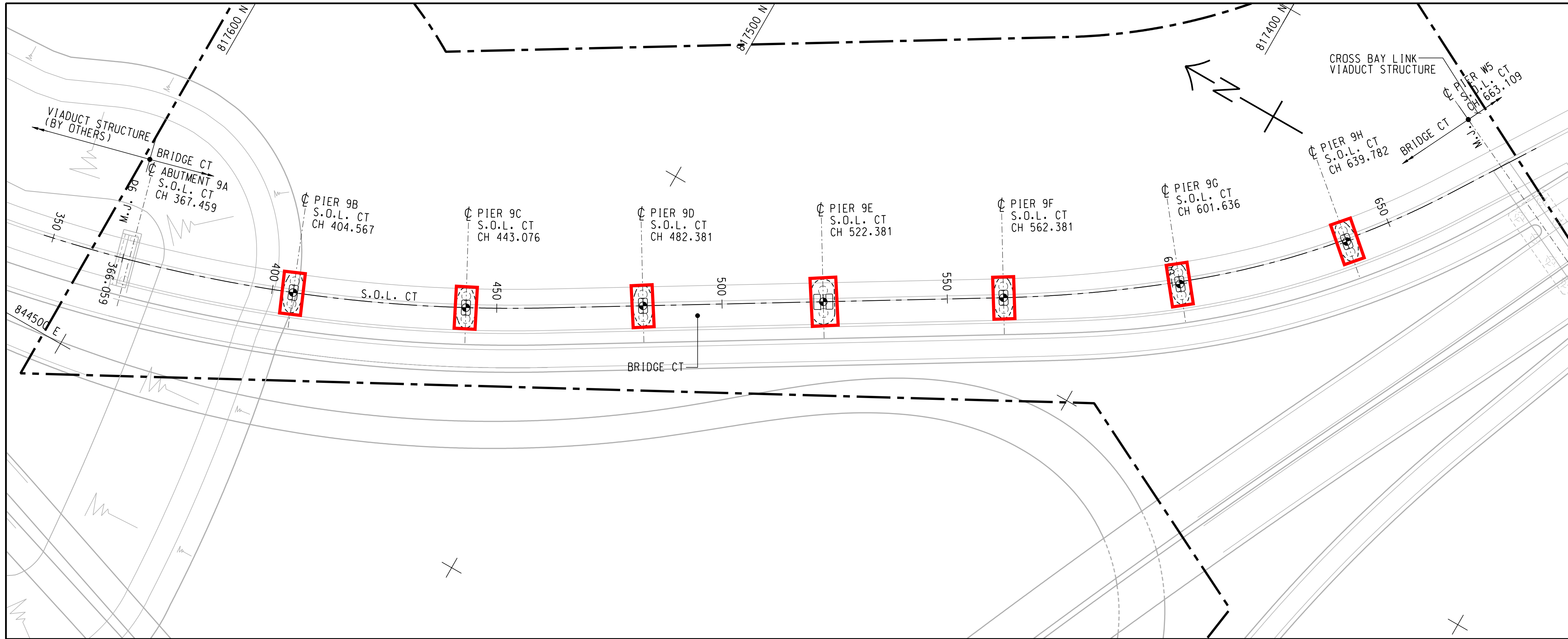
**KEY PLAN**  
 索引圖

**PROJECT NO.**                      **CONTRACT NO.**  
 項目編號                              合約編號  
 60329339                              NE/2017/07

**SHEET TITLE**  
 圖紙名稱  
 BRIDGE ML-3-2  
 FOUNDATION LAYOUT

**SHEET NUMBER**  
 圖紙編號  
 60329339/C1/ENT/5311B





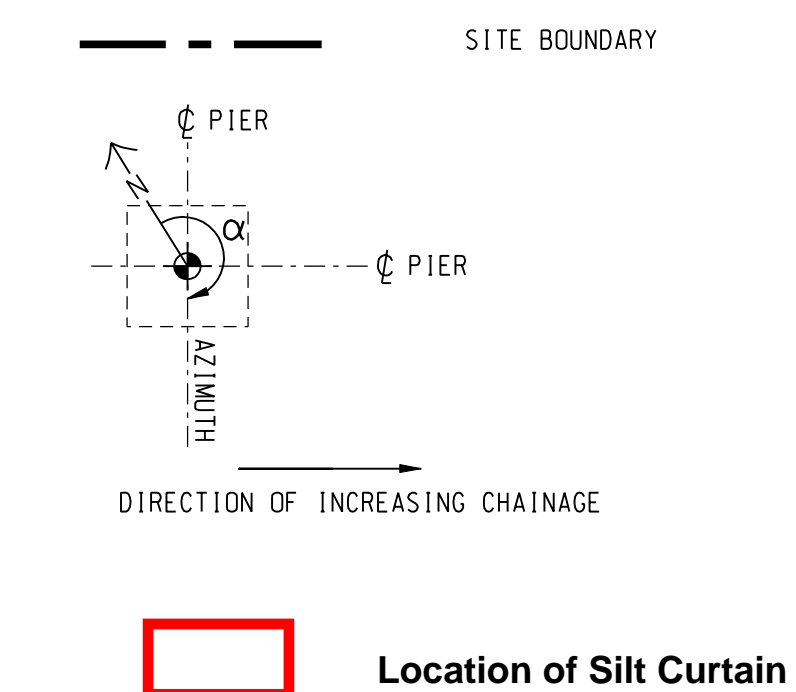
**FOUNDATION SCHEDULE:**

SUBSTRUCTURE REFERENCE NO.	TOP OF PILE CAP LEVEL (mPD)	S.O.L.	CHAINAGE	AZIMUTH OF FOUNDATION (α)	FOUNDATION TYPE	NO. OF PILES	TYPE OF PILE	PILE DIAMETER (mm)	PILE CUT OFF LEVEL (mPD)	TENTATIVE SEABED LEVEL (mPD)	TENTATIVE ROCKHEAD LEVEL (mPD)	MIN. SOCKET LENGTH (m)
9B	+2.50	CT	CH 404.567	248°24'25"	A1	2	SLEEVED	2000	-0.40	-7.10	* REFER TO NOTE. 8	4.50
9C	+2.50	CT	CH 443.076	241°55'58"	A1	2	BORED	2000	-0.40	-7.75		2.50
9D	+2.50	CT	CH 482.381	238°54'57"	A1	2	BORED	2000	-0.40	-9.85		2.00
9E	+2.50	CT	CH 522.381	238°54'57"	B3	2	BORED	2000	-0.40	-9.85		2.50
9F	+2.50	CT	CH 562.381	238°54'57"	A1	2	BORED	2000	-0.40	-10.20		2.00
9G	+2.50	CT	CH 601.636	231°39'58"	A1	2	BORED	2000	-0.40	-10.20		2.00
9H	+2.50	CT	CH 639.782	220°9'3"	A1	2	BORED	2000	-0.40	-10.80		2.00

**NOTES:**

- FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NOS. 60329339/C1/ENT/5001 AND 5002.
- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN mPD UNLESS OTHERWISE STATED.
- THE TENTATIVE FOUNDING LEVEL AND CUTOFF LEVEL SHOWN ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE ROCKHEAD LEVEL AND FINISH GROUND LEVEL AND SHALL AGREE WITH THE SUPERVISOR.
- ALL PILES SHALL SOCKETTED INTO SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OF MATERIAL WEATHERING GRADE III OR BETTER WITH A TOTAL CORE RECOVERY OF MORE THAN 85% AND A MINIMUM UNIAXIAL COMPRESSIVE STRENGTH OF NOT LESS THAN 25MPG WITH A MINIMUM SAFE BEARING CAPACITY OF 5000KPG.
- EXACT ROCKHEAD LEVEL SHALL BE PROPOSED BY THE CONTRACTOR AND SUBJECTED TO THE ACCEPTANCE OF THE SUPERVISOR.
- FOR TYPICAL FOUNDATION DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5041.
- FOR TYPICAL BORED AND SLEEVED BORED PILE DETAILS REFER TO DRAWING NO. 60329339/C1/ENT/5040.
- TENTATIVE ROCKHEAD LEVELS SHALL BE REFERRED TO THE INFERRED ROCKHEAD CONTOUR IN THE SITE INFORMATION.

**LEGEND:**



**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	CHK.
B	MAR.18	TENDER ADDENDUM NO. 4	CL
A	JAN.17	TENDER ADDENDUM NO. 1	CL
-	DEC.17	TENDER DRAWING	CL

**STATUS**

圖樣

**SCALE**

比例

**DIMENSION UNIT**

尺寸單位

**KEY PLAN**

索引圖

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## Appendix F – Environmental Mitigation Implementation Schedule



Environmental Protection Measures/Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation Agent	Implementation Stage	Requirements and/or Standards to be Achieved
<p><u>Marine Piling and Pile Excavation Works</u></p> <p>Marine piling and pile excavation works shall be undertaken in such a manner as to minimise re-suspension of sediments. Standard good practice measures shall be implemented, including the following requirements:</p> <ul style="list-style-type: none"> <li>· All marine piling and pile excavation works shall be conducted within a floating single silt curtain.</li> <li>· Mechanical closed grabs (with a size of 5m<sup>3</sup>) shall be designed and maintained to avoid spillage and should seal tightly while being lifted.</li> <li>· Barges shall have tight fitting seals to their bottom openings to prevent leakage of material.</li> <li>· Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes.</li> <li>· Loading of barges shall be controlled to prevent splashing of dredged material to the surrounding water. Barges shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.</li> <li>· Excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved.</li> <li>· Adequate freeboard shall be maintained on barges to reduce the likelihood of</li> </ul>	<p>To control potential impacts from marine piling and pile excavation works</p>	<p>During marine piling and pile excavation works</p>	<p>Contractor</p>	<p>Construction stage</p>	<ul style="list-style-type: none"> <li>· TM-EIAO;</li> <li>· WPCO</li> </ul>

Environmental Protection Measures/Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation Agent	Implementation Stage	Requirements and/or Standards to be Achieved
<p>decks being washed by wave action.</p> <ul style="list-style-type: none"> <li>· All vessels shall 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> <li>· The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.</li> </ul>					
<p><u>Monitoring</u> Implement a marine water quality monitoring programme under the EM&amp;A on level of suspended solids (SS) / turbidity and dissolved oxygen (DO) shall be carried out.</p>	Control potential water quality impacts from marine piling and pile excavation works	Selected monitoring stations (Drawing no. 209506/EMA/WQ/001)	Contractor	Contraction stage	<ul style="list-style-type: none"> <li>· TM-EIAO;</li> <li>· WPCO</li> </ul>
The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the marine communities inside Junk Bay.	To minimize potential impacts on water quality and protect marine communities	Selected monitoring stations (Drawing no. 209506/EMA/WQ/001)	Contractor	Construction stage	<ul style="list-style-type: none"> <li>· TM-EIAO;</li> <li>· WPCO</li> </ul>

Environmental Protection Measures/Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Location/ Timing	Implementation Agent	Implementation Stage	Requirements and/or Standards to be Achieved
Good Site Practices: – The integrity and effectiveness of all silt curtains should be regularly inspected. Effluent monitoring shall be incorporated to make sure that the discharged effluent from construction sites meets the relevant effluent discharge guidelines.	To minimize potential impacts on water quality and protect fishery resources	All construction sites	Contractor	Construction stage	<ul style="list-style-type: none"> <li>· TM-EIAO;</li> <li>· WPCO</li> </ul>
The marine water quality monitoring programme recommended in Chapter 8 of this EIA report and this EMIS would also serve to protect the fishery resources.	To minimise potential impacts on water quality and protect fishery resources	Selected monitoring stations ( <b>Drawing no. 209506/EMA/WQ/001</b> )	Contractor	Contraction stage	<ul style="list-style-type: none"> <li>· TM-EIAO;</li> <li>· WPCO</li> </ul>



Appendix G – Discharge License WT00032842-2018



Licence No. : WT00032842-2018  
牌照編號 : WT00032842-2018

This Licence is Valid to : 31 March 2024  
本牌照有效期至 : 二〇二四年三月三十一日

ENVIRONMENTAL PROTECTION DEPARTMENT  
環境保護署

WATER POLLUTION CONTROL ORDINANCE (CAP. 358)  
水污染管制條例(第358章)

LICENCE PURSUANT TO SECTION 15/20/23A\*  
按第15 / 20 / 23A\*條簽發的牌照

The Director of Environmental Protection (“the Authority”) grants this licence under the Water Pollution Control Ordinance (“the Ordinance”) on the terms and conditions stated below.

環境保護署署長(「監督」)按下列的條款及條件，根據水污染管制條例(「本條例」)批給此牌照。

1 March 2019

Date  
日期

( CHAN Wai-lun, William )  
For the Authority  
監督 ( 陳偉麟 代行)

PART A 甲部 : GENERAL TERMS 一般條款

Name of Licensee (“the Licensee”) 持牌人名稱(「持牌人」)	China Road and Bridge Corporation 中國路橋工程有限責任公司
Discharge Premises (“the premises”) 排放處所(「處所」)	Construction Site of Cross Bay Link, Tseung Kwan O - Main Bridge and Associated Works – Marine Works Area, Tseung Kwan O, N.T. (CEDD Contract No. NE/2017/07) (See Annex I) 新界將軍澳「將軍澳跨灣連接路 — 主橋及相關工程 — 海事工程」之建築地盤 (土木工程拓展署合約編號 NE/2017/07) (參見附件 I)
Water Control Zone 水質管制區	Junk Bay Water Control Zone 將軍澳水質管制區
Discharge Category 排放種類	Discharge of industrial trade effluent 工業污水排放
Nature of Discharge and Wastewater Treatment Facilities 排放性質及廢水處理設施	Effluent, Surface Run-off, and all other wastewater discharges from the premises 上址排放的污水，地面徑流水及其他的廢水  Screen, Sedimentation Tank, Chemical Precipitation and pH Adjustment 隔濾設施、沉澱池、化學沉降及酸鹼值調節
Discharge Point(s) 排放點	See Point(s) marked D.P.1 & D.P.2 on Annex I attached 參見附件 I 中標指 D.P.1 及 D.P.2 的排放點
Sampling Point(s) 取樣點	See Point(s) marked S.P.1 & S.P.2 on Annexes II & III attached 參見附件 II 及 III 中標指 S.P.1 及 S.P.2 的取樣點

\*Delete as appropriate  
將不適用者刪去

**PART B 乙部 : SPECIFIC CONDITIONS 特別條件**

**B1. Limitations on Discharge 排放限制**

The quantity and composition of any discharge from the premises shall not exceed the limits stated in the table below<sup>(Note a)</sup>. All figures are upper limits unless otherwise indicated. All units are expressed as concentration in milligramme per litre unless otherwise stated.

任何源自處所之排放的量和成份不得超過下表所列的限度<sup>(附註 a)</sup>。除另予表明外，所有數字均為上限。除另予說明外，所有單位均以毫克/升的濃度表示。

Determinand 測量物	Limit 限度
Flow Rate (m <sup>3</sup> / day) 流量(立方米/日)	200
pH (pH units) 酸鹼值 (pH 單位)	6-9 <sup>#</sup>
Suspended Solids 懸浮固體	30
Chemical Oxygen Demand 化學需氧量	80

# Range 上下限

**B2. Self-monitoring and Reporting 自行監測及報告**

The Licensee shall perform self-monitoring as and when required by the Authority.

持牌人須在監督要求時進行自行監測。

The Licensee shall sample the discharge at the Sampling Point(s) and, at his own expense carry out analyses in accordance with the sample type and measurement frequency specified for each determinand named below:-

持牌人須在取樣點為排放抽取樣本，並依照下列指定的測量物、取樣形式及頻率，自資予以分析。

Determinand 測量物	Unit 單位	Sample Type 取樣形式	Frequency 頻率
Suspended Solids 懸浮固體	mg/L 毫克/升	Grab 隨意取集	Bimonthly 每兩個月一次

Results of these monitoring shall be summarized in a report on a ~~Monthly~~/Bi-monthly/~~Quarterly~~/~~Yearly~~\* basis and shall be submitted to the Authority.

所有監測結果須以摘要形式，每一個月/兩個月/三個月/年\*作出報告，並須呈交監督審閱。

\*Delete as appropriate  
將不適用者刪去

**C1. The Discharge 排放**

C1.1 The discharge shall not contain polychlorinated biphenyls (PCB), polyaromatic hydrocarbon (PAH), fumigant, pesticide or toxicant, chlorinated hydrocarbons, flammable or toxic solvents, calcium carbide; any substance likely to damage the sewer or to interfere with any of the treatment processes, or to be harmful to the health and safety of any personnel engaged in the operation or maintenance of a sewerage system; waste liable to form scum or deposits in any part of the drainage or sewerage system, or the waters of Hong Kong; waste liable to form discolouration in any parts of the waters of Hong Kong; sludge, floatable substances or solids larger than 10 mm; and sludge or solid refuse of any kind.

排放不得含有多氯聯苯、聚芳烴、薰蒸劑、殺蟲劑或毒劑、氯化烴、可燃的或有毒的溶劑、碳化鈣；會損毀污水渠結構或干擾任何處理程序的物質，或有損操作及維修排污系統人員健康及安全的任何物質；足以及在排水或排污系統，或香港水域任何範圍內形成浮渣或沉積物的廢物；足以及在香港水域任何範圍內形成變色的廢物；污泥、漂浮物質或體積超越 10 毫米的固體；及任何種類的污泥或固體垃圾。

C1.2 No discharge shall bypass the wastewater treatment facilities, the Sampling Point(s) or the Discharge Point(s) unless it is unavoidable to prevent loss of life, personal injury or severe property damage or no feasible alternative exists.

除非避免人命傷亡或嚴重財物損失或無其他可行代替辦法，排放不得繞流不經其廢水處理設施，取樣點或排放點。

C1.3 Dilution of the discharge to achieve compliance with the limits contained in this licence is prohibited.

不得將排放稀釋，以求達到本牌照內所訂的限度。

**C2. Flow Measurement 量度流量**

The Licensee shall determine the flow rate of the discharge by installing, operating and maintaining a continuous flow measuring device with an accuracy certified by its manufacturer to be within plus or minus 3 percent of the actual flow, and calibrating the flow measuring device regularly according to manufacturer's recommendations. If no such device is installed, the Licensee shall determine the flow rate through using calculation methods agreed by the Authority, by making reference to the amount of water used in the premises being served by mains supply and other sources, less process consumption and any other losses.

持牌人必須設置、操作及保養一個連續性流量計作為測定排放的流量率之方法，其準確程度須經製造商證實為不超逾或低於真正流量的 3%，並應根據製造商建議的方法，定期校準流量計。如沒有設置該設備，持牌人須依照監督同意的計算方法，根據處所由自來水及其他水源供應的總用水量減去工序耗水量及其他耗水量來測定流量率。

**C3. Treatment 處理**

C3.1 The Licensee shall provide necessary wastewater treatment facilities, and shall engage personnel with adequate qualification and experience to properly operate and maintain all wastewater treatment facilities at all times. Standby equipment shall be provided to guard against failure of major treatment equipment.

持牌人須提供必需的廢水處理設施，並須僱用有足夠資格及經驗的人士，時常妥善操作及保養所有廢水處理設施。主要處理設施須配有後備裝置，以應付故障發生。

C3.2 In the event of loss of efficiency of operation, or failure of all or part of the wastewater treatment facility, the Licensee shall take all reasonable steps to the extent necessary to maintain compliance with this licence. Such steps shall remain until operation of the wastewater treatment facility is restored or an alternative method of treatment is provided.

倘若部份或整個廢水處理設施操作失靈或發生故障，持牌人須採取所有必要的合理措施，以求達到符合本牌照的規定。此等措施須維持至廢水處理設施恢復如常操作或有其他代替的處理方法可供採用為止。

C3.3 If the wastewater treatment facilities are not properly operated and maintained to the satisfaction of the Authority, the Licensee shall take immediate and effective remedial actions as required by the Authority.

倘若廢水處理設施的操作及保養未能令監督滿意，持牌人須按監督之規定，採取即時及有效的補救行動。

**C4. Disposal 棄置**

Sludges, screenings, solids, oil and grease, filter backwash, or other pollutants removed in the course of treatment shall be disposed of in a proper manner<sup>(Note b & c)</sup>.

處理過程中所產生的污泥、隔濾物、固體、油脂、過濾器回洗或其他污染物，必須妥善地棄置<sup>(附註 b 及 c)</sup>。



## C5. Monitoring 監測

C5.1 The Licensee shall provide and maintain suitable and accessible facility such as an inspection chamber, manhole or sampling valve at each Sampling Point to enable duly authorized officer(s) of the Authority to take samples of the discharge at any time from the premises.

持牌人須在每一個取樣點提供及保養適當及可容易到達的設施，例如檢查槽，沙井或取樣閥，以確保獲監督授權的人員隨時可在處所內抽取排放樣本。

C5.2 For self-monitoring, “grab samples” shall be taken during the period when the determinand to be analyzed for is likely to be present in its maximum concentration. “Composite samples” shall include samples taken over daily duration of the discharge.

在自行監測中，「隨意取樣本」須在測量物的濃度很可能是最高的那段時間內抽取。「綜合樣本」須包含在每日排放期間不同時候所抽取的樣本。

C5.3 For self-monitoring, all samples shall be analyzed in accordance with the most updated analytical methods used by the Government Chemist <sup>(Note d)</sup>.

在自行監測中，所有樣本均須按照政府化驗師所採用的最新分析方法予以分析<sup>(附註d)</sup>。

## C6. Records and Reporting 紀錄及報告

C6.1 The Licensee shall keep the following records in the premises for inspection by duly authorized officer(s) of the Authority:

持牌人須在處所內保存下列紀錄，以備獲監督授權的人員隨時查閱：

(i) records of flow rate, nature and composition of the discharge;

排放流量率、性質及成份的紀錄；

(ii) updated records of all monitoring information, including all laboratory analytical results relating to samples taken, all original chart recordings for continuous flow and pH monitoring; and

所有最新監測資料的紀錄，包括所有關於已取樣本的檢驗分析結果、所有連續性流量及酸鹼值監測記錄圖表的正本；及

(iii) records of all desludging and degreasing operation, and records of corresponding disposal operation.

所有清除污泥和清理隔油池廢物工序的紀錄，及其棄置工序的紀錄。

Copies of all such records shall be submitted to the Authority upon request.

在監督要求時，須向監督呈交所有該等紀錄的副本。

C6.2 The Licensee shall notify and explain to the Authority: Director of Environmental Protection, Regional Office (E), Sai Kung Section by fax (fax no.: 2756 8588) or electronic mail (email address: hotline\_e@epd.gov.hk) within 24 hours upon the occurrence of an accidental discharge or any emergency bypass or an overflow of untreated effluent or an operation upset which places the discharge in a temporary state of non-compliance with this licence. The Licensee shall within 7 days following the incident, submit to the Authority a detailed report in writing on the cause and duration of the non-compliance and steps taken or to be taken to reduce, eliminate, or prevent recurrence of such non-compliance. Reporting in accordance with this Condition does not relieve the Licensee of any obligations imposed by this licence.

倘若有未經處理的污水意外排放、緊急繞流或溢滿的事件或操作失靈，引至排放出現短暫不符合牌照規定的情況，持牌人須在事發後 24 小時內以傳真（傳真號碼：2756 8588）或電郵（電郵地址：hotline\_e@epd.gov.hk）通知監督：環境保護署署長，區域辦事處（東）西貢區，並予以解釋。持牌人須在事故發生後 7 天內，以書面報告，詳述事件的起因、違反牌照條件的時間及為減少、消除或防止類似事件再次發生所採取或將會採取的措施，送交監督審閱。然而，按照本條件的規定提交報告並不表示持牌人可獲免除承擔本牌照內所載的任何責任。

## C7. Operation Manual 操作手冊

The Licensee shall prepare an operation manual which shall include, as a minimum, operating procedures, inspection programme and repair and maintenance programme for the wastewater treatment facilities. The operation manual shall be kept at the aforesaid wastewater treatment facilities and a copy of the manual shall be submitted to the Authority upon request.

持牌人須擬備廢水處理設施的操作手冊。手冊內容須最低限度包括操作程序、檢查、維修及保養工作計劃表。該手冊須保存在上述廢水處理設施內。持牌人須在監督要求時，呈交手冊副本乙份。

## C8. Notification of Change 更改通知

The Licensee shall notify the Authority: Director of Environmental Protection, Regional Office (E), Sai Kung Section by fax, (fax no.: 2756 8588) or electronic mail (email address: hotline\_e@epd.gov.hk) in writing within 14 days of any changes or proposed changes in the wastewater treatment methods/facilities, the processes of manufacture or the nature of the raw materials used or of any other circumstances which may alter the nature and composition of the discharge or may result in the permanent cessation of the discharge.

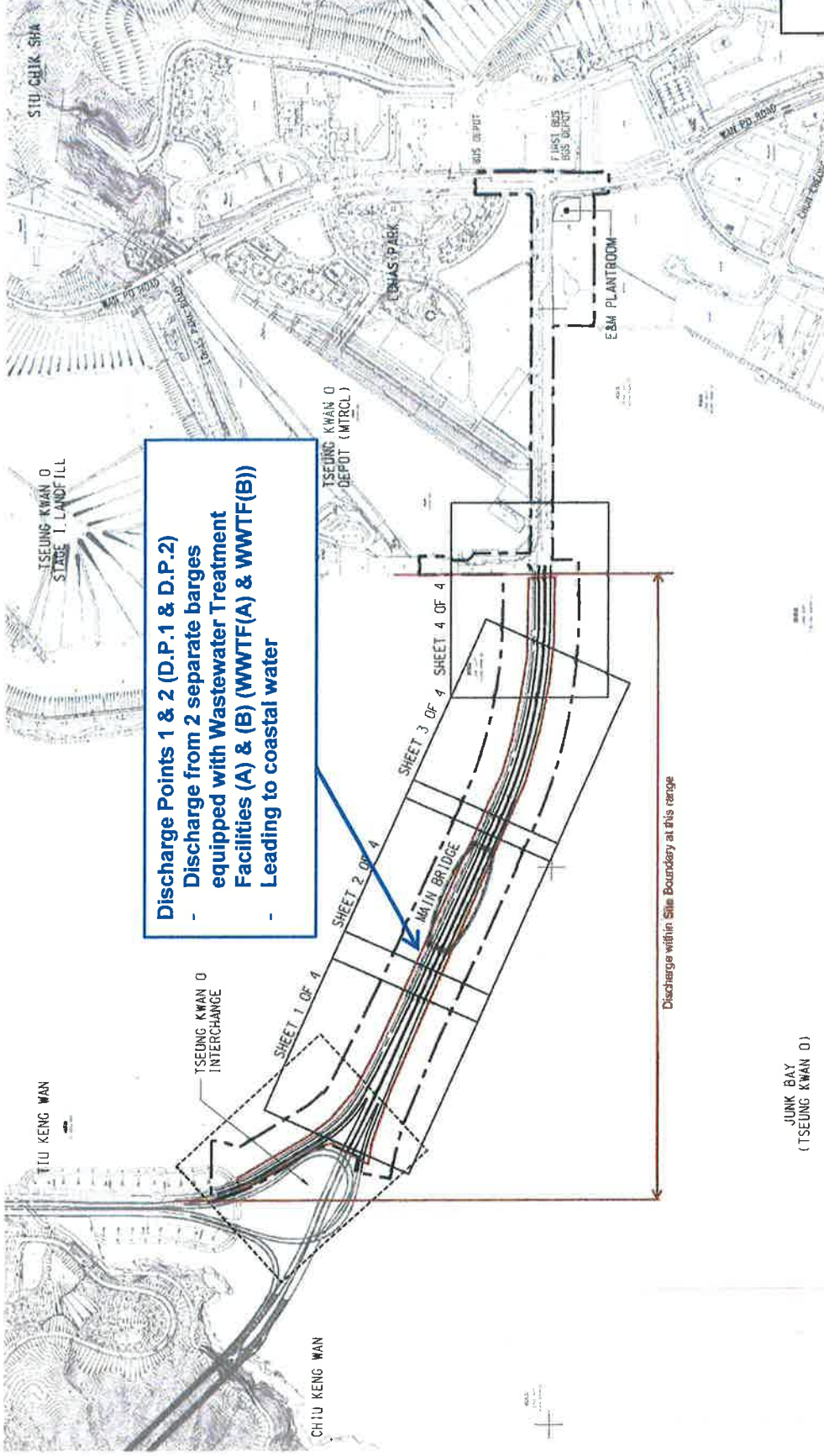
倘若持牌人更改或擬更改其廢水處理設施、生產程序、或所用原料的性質、或有其他足以改變其排放的性質及成份或可導致永久性終止排放的事情，必須在 14 日內以傳真（傳真號碼：2756 8588）或電郵（電郵地址：hotline\_e@epd.gov.hk）書面通知監督：環境保護署署長，區域辦事處(東) 西貢區。

### Notes 附註

- (a) For the purposes of determining compliance with the limits stated in Specific Condition B1, samples shall be taken by the duly authorized officer(s) of the Authority at the Sampling Point(s) or any other points from which the samples so taken are regarded by the duly authorized officer(s) as being representative of the quality of the discharge. When any single sample analyzed for a determinand is proved not complying with corresponding limit set out in the table, the discharge is deemed to have failed to comply with Specific Condition B1.  
為確定排放是否符合特別條件第 B1 項內所列的限度，獲監督授權的人員須在取樣點或在認為可以抽取到具代表性的樣本的任何其他位置抽取樣本。只要在任一個經分析的樣本中，證實任一個測量物不符合表中所列的相應限度時，排放即被視為不符合特別條件第 B1 項。
- (b) An example of proper disposal method for sludge is sending dewatered sludge to landfill for disposal.  
妥善棄置污泥方法中的一個例子是將脫水後的污泥運往堆填區棄置。
- (c) Proper disposal of grease trap waste includes but is not limited to employing registered grease trap waste collector to conduct the disposal work. All registered collectors should have a Certificate of Registration issued by the Environmental Protection Department. The most updated list of the registered collectors can be obtained from the Environmental Protection Department.  
妥善的隔油池廢物棄置方法包括卻不限於聘用已登記的隔油池廢物收集商進行有關的棄置工作。所有已登記的隔油池廢物收集商，均領有由環境保護署發出的登記證明書。已登記的隔油池廢物收集商最新名單，可向環境保護署索取。
- (d) The Licensee may make reference to Annex 1 of the <Technical Memorandum on Effluent Standards> for analytical methods used by the Government Chemist.  
持牌人可參照「流出物標準技術備忘錄」附件 1 有關政府化驗師所採用的分析方法。
- (e) The Licensee shall keep this licence in the premises and make it available at all times for inspection by duly authorized officer(s) of the Authority.  
持牌人須在處所內保存此牌照，以備獲監督授權的人員隨時查閱。
- (f) (i) The Licensee shall allow duly authorized officer(s) of the Authority to enter the premises for the purposes of inspection, sampling, records examination or any other duties authorized by Section 37 and Section 38 of the Ordinance.  
持牌人須准許獲監督授權的人員進入處所內進行檢查、抽取樣本、審查紀錄或執行其他根據本條例第 37 及第 38 條所授權的職務。  
(ii) Where the premises has security measures in force which would require proper identification and clearance before entry, the Licensee shall make necessary arrangements such that upon presentation of evidence of identity and of authorization, duly authorized officer(s) will be permitted to enter, without delay, for the purposes of performing duties.  
倘若由於處所的保安理由而需先行鑑定來人的身份，持牌人必須作出必要的安排，以便獲授權人員在出示身份證明及授權文件後，即可內進執行其職務而不致受延誤。
- (g) (i) For a licence granted under Section 15 of the Ordinance, the Licensee may, not less than 2 months before expiry of the licence, apply under Section 19 of the Ordinance for a new licence. The Authority may grant the licence or otherwise.  
持有根據本條例第 15 條所批給牌照的人士，可於牌照屆滿前不少於 2 個月內，根據本條例第 19 條的規定，申請一面新牌照。監督可批給或拒絕批給牌照。  
(ii) For a licence granted under Section 20 or 23A of the Ordinance, the Licensee may, not more than 4 months and not less than 2 months before expiry of the licence, apply under Section 23 or 23A respectively of the Ordinance for renewal of licence. The Authority may renew the licence or otherwise.  
持有根據本條例第 20 條或第 23 A 條所批給牌照的人士，可於牌照屆滿前不多於 4 個月及不少於 2 個月內，根據本條例的第 23 或 23 A 條的規定，申請牌照續期。監督可將牌照續期或拒絕將牌照續期。
- (h) Under Section 24 of the Ordinance, the Authority may by notice in writing, impose new or amended terms and conditions on this licence or cancel this licence. Under Section 25, 26 and 27 of the Ordinance, a Licensee whose licence has been so varied or cancelled may be entitled to compensation.  
根據本條例第 24 條的規定，監督可以書面通知，向本牌照施加新訂或經修訂的條款及條件，或取消本牌照。根據本條例第 25、26 及 27 條的規定，被更改或取消牌照的持牌人可能會獲得補償。
- (i) Under Section 28 of the Ordinance, the Licensee may apply to the Authority for a variation of this licence.  
根據本條例第 28 條的規定，持牌人可向監督申請更改本牌照。
- (j) Under Section 49 of the Ordinance, this licence shall not be construed as a dispensation from the requirements of any other Ordinance except where that other Ordinance so provides.  
根據本條例第 49 條的規定，本牌照並不得解釋為豁免符合任何其他條例的規定，除非該其他條例如此訂定。
- (k) The licensee should ensure good practice is carried out in dealing with discharges from the construction site. The licensee should make reference to the EPD's Practice Note for Professional Persons, No. PN 1/94, "Construction Site Drainage."  
持牌人須確保妥善處理地盤之去水排放。持牌人可參考環保署印發之 Practice Note for Professional Persons, 編號 PN 1/94, "Construction Site Drainage"

# Annex I

## 附件 I



Construction Site

**Title: Construction Site Boundary and Discharge Points 1 & 2 (D.P.1 & D.P.2)**

**標題: 建築地盤範圍及排放點1及2 (D.P.1及D.P.2)**

**Construction Site of Cross Bay Link, Tseung Kwan O - Main Bridge and Associated Works - Marine Works Area, Tseung Kwan O, N.T. (CEDD Contract No. NE/2017/07)**  
 新界將軍澳「將軍澳跨灣連接路－主橋及相關工程－海事工程」之建築地盤（土木）工程拓展署合約編號 NE/2017/07

Annex to licence No.: **WT00032842-2018**

牌照編號 **WT00032842-2018** 的附件

Date: **November 2018**  
日期:

ENVIRONMENTAL PROTECTION DEPARTMENT,  
HONG KONG  
REGIONAL OFFICE (EAST)

Scale: **NTS**  
比例: 不按比例

香港環境保護署  
區域辦事處(東)





# Annex II

## 附件 II



Sampling Point 1 (S.P.1) at sampling valve of the discharge outlet of Wastewater Treatment Facility (A)  
取樣點 (S.P.1) 位於廢水處理設施 (A) 出水口的取樣閥

### Wastewater Treatment Facility (A)

Title: Wastewater Treatment Facility (A) and Sampling Point (S.P.1)

標題: 廢水處理設施 (A) 及取樣點 (S.P.1)

Construction Site of Cross Bay Link, Tseung Kwan O - Main Bridge and Associated Works - Marine Works Area, Tseung Kwan O, N.T.  
(CEDD Contract No. NE/2017/07)  
新界將軍澳「將軍澳跨灣連接路 - 主橋及相關工程 - 海事工程」之建築地盤 (土木  
工程拓展署合約編號 NE/2017/07)

Annex to licence No.: WT00032842-2018

牌照編號 WT00032842-2018 的附件

Date: November 2018  
日期:

Scale: NTS  
比例: 不按比例

ENVIRONMENTAL PROTECTION DEPARTMENT,  
HONG KONG

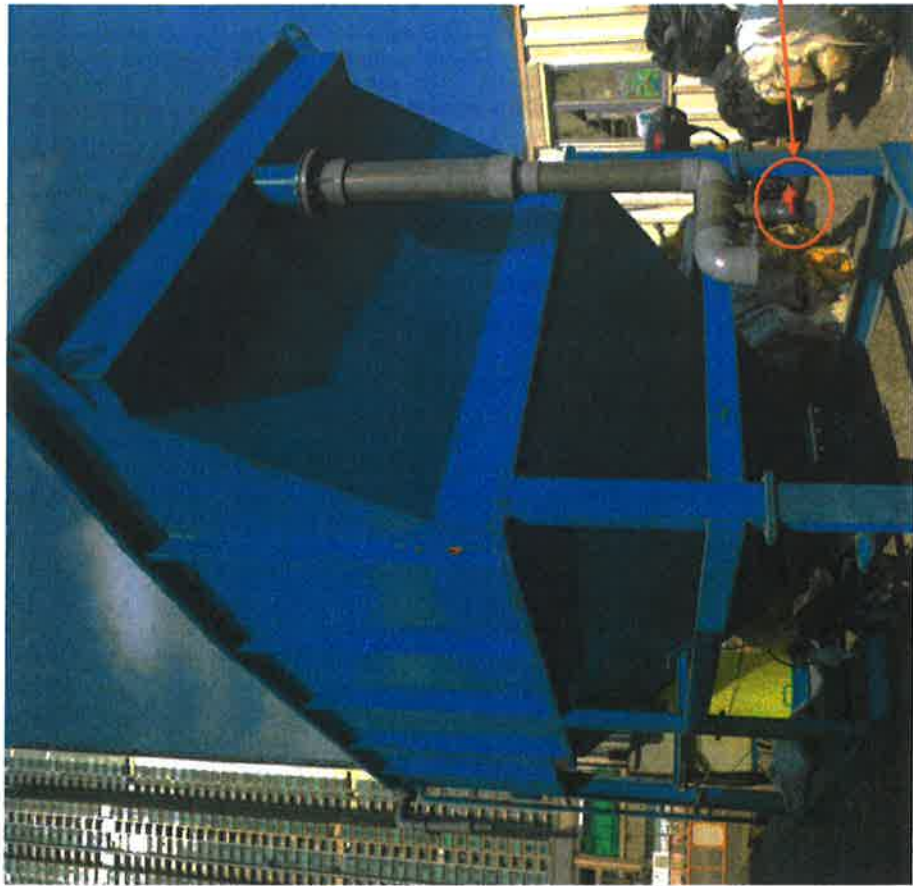
REGIONAL OFFICE (EAST)

香港環境保護署  
區域辦事處(東)



# Annex III

## 附件 III



Sampling Point 2 (S.P.2) at sampling valve of the discharge outlet of Wastewater Treatment Facility (B)  
取樣點 (S.P.2) 位於廢水處理設施 (B) 出水口的取樣閥

### Wastewater Treatment Facility (B)

Title: **Wastewater Treatment Facility (B) and Sampling Point (S.P.2)**

標題: 廢水處理設施 (B) 及取樣點 (S.P.2)

Construction Site of Cross Bay Link, Tseung Kwan O - Main Bridge and Associated Works - Marine Works Area, Tseung Kwan O, N.T.

(CEDD Contract No. NE/2017/07)

新界將軍澳「將軍澳跨灣連接路－主橋及相關工程－海軍工程」之建築地盤 (土木  
工程拓展署合約編號 NE/2017/07)

Annex to licence No.: **WT00032842-2018**

牌照編號 **WT00032842-2018** 的附件

Date: **November 2018**  
日期:

Scale: **NTS**  
比例: 不按比例

ENVIRONMENTAL PROTECTION DEPARTMENT,  
HONG KONG

REGIONAL OFFICE (EAST)

香港環境保護署  
區域辦事處(東)



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**APPENDIX I  
MARINE WATER QUALITY  
MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

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Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 02 March 2022  
 (Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	DA*	Value	Average	DA*	Value	Average	DA*		
C1	Moderate	Cloudy	13:49	Surface	1.0	17.3	17.3	8.2	8.2	30.1	30.5	106.8	106.9	8.7	8.6	8.5	0.8	0.8	0.9	2.0	1.9	2.5
				Middle	9.0	16.9	16.9	8.2	8.2	31.3	31.2	104.5	104.5	8.4	8.4		0.9	0.9		2.7	2.4	
				Bottom	17.0	16.5	16.5	8.2	8.2	31.6	31.6	104.7	104.7	8.6	8.6		1.0	1.0		3.2	3.1	
C2	Moderate	Cloudy	12:35	Surface	1.0	17.2	17.1	8.2	8.2	30.8	31.0	104.3	104.2	10.0	10.0	10.0	1.1	1.1	1.2	2.7	2.6	3.4
				Middle	16.0	16.3	16.3	8.3	8.3	31.9	31.4	101.6	101.6	10.0	10.0		1.1	1.1		3.2	3.2	
				Bottom	31.0	16.2	16.2	8.2	8.2	31.8	31.7	101.0	101.0	9.9	9.9		1.5	1.4		4.4	4.6	
G1	Moderate	Cloudy	13:11	Surface	1.0	17.5	17.4	8.2	8.2	31.5	31.5	109.7	109.7	8.7	8.7	8.7	1.1	1.1	1.2	2.4	2.3	2.5
				Middle	4.0	16.9	16.9	8.2	8.2	31.5	31.5	108.8	108.9	8.7	8.7		1.2	1.2		2.5	2.3	
				Bottom	7.0	16.7	16.7	8.2	8.2	31.5	31.5	108.3	108.4	8.7	8.7		1.2	1.2		2.1	2.4	
G2	Moderate	Cloudy	12:56	Surface	1.1	17.6	17.6	8.2	8.2	31.2	31.3	106.9	106.9	8.5	8.5	8.5	1.1	1.1	1.2	2.0	1.7	2.5
				Middle	5.1	16.5	16.5	8.2	8.2	31.3	31.3	105.8	105.8	8.6	8.6		1.2	1.2		3.0	3.0	
				Bottom	9.1	16.2	16.2	8.2	8.2	31.4	31.4	104.2	104.2	8.5	8.5		1.3	1.3		2.4	2.8	
G3	Moderate	Cloudy	13:18	Surface	1.0	17.6	17.6	8.2	8.2	31.5	31.5	110.0	110.0	8.7	8.7	8.8	1.1	1.1	1.2	4.2	4.0	3.5
				Middle	4.1	16.8	16.8	8.2	8.2	31.5	31.5	109.9	110.0	8.8	8.8		1.2	1.2		2.9	3.2	
				Bottom	7.0	16.6	16.6	8.3	8.3	31.6	31.6	111.0	111.0	8.9	8.9		1.3	1.2		3.2	3.4	
G4	Moderate	Cloudy	13:31	Surface	1.1	18.0	18.0	8.2	8.2	29.8	29.8	108.6	108.6	8.6	8.6	8.7	1.1	1.1	1.2	2.7	2.3	2.3
				Middle	4.0	17.2	17.2	8.2	8.2	29.5	30.8	108.5	108.5	8.8	8.8		1.1	1.1		2.7	2.6	
				Bottom	7.0	16.4	16.4	8.3	8.3	31.1	30.5	107.6	107.5	8.7	8.7		1.4	1.3		2.1	2.0	
M1	Moderate	Cloudy	13:05	Surface	1.1	17.5	17.5	8.2	8.2	31.4	31.4	110.5	110.5	8.8	8.8	8.7	1.1	1.1	1.2	2.0	1.6	2.0
				Middle	3.0	16.6	16.6	8.2	8.2	31.6	31.6	107.1	107.1	8.6	8.6		1.2	1.2		1.9	2.4	
				Bottom	5.0	16.4	16.4	8.2	8.2	31.6	31.6	106.9	107.1	8.6	8.6		1.2	1.2		2.0	2.0	
M2	Moderate	Cloudy	12:51	Surface	1.0	16.7	16.7	8.2	8.2	30.3	30.9	103.5	103.6	8.3	8.3	8.4	1.2	1.2	1.2	2.1	2.1	2.2
				Middle	6.0	16.4	16.4	8.2	8.2	31.5	31.0	104.7	104.7	8.5	8.5		1.2	1.2		2.4	2.3	
				Bottom	11.1	16.2	16.2	8.2	8.2	30.5	31.5	104.7	104.7	8.5	8.4		1.3	1.3		2.1	2.2	
M3	Moderate	Cloudy	13:25	Surface	1.1	17.6	17.5	8.2	8.2	31.2	31.2	109.0	108.9	8.6	8.6	8.8	1.1	1.1	1.2	2.1	2.6	2.8
				Middle	4.0	16.8	16.8	8.2	8.2	29.2	30.2	109.9	110.0	8.8	8.9		1.2	1.2		3.4	3.1	
				Bottom	7.0	16.6	16.6	8.2	8.2	31.1	30.4	110.0	110.7	8.9	9.1		1.2	1.2		2.7	2.9	
M4	Moderate	Cloudy	12:45	Surface	1.1	16.6	16.6	8.2	8.2	30.4	30.9	102.7	102.8	9.9	9.9	9.9	1.3	1.3	1.3	2.8	2.5	3.2
				Middle	5.0	16.3	16.3	8.2	8.2	30.1	30.6	102.7	102.7	9.9	9.9		1.3	1.3		3.0	3.3	
				Bottom	9.1	16.3	16.3	8.2	8.2	31.1	31.5	102.9	103.0	8.4	8.5		1.2	1.2		3.5	3.8	
M5	Moderate	Cloudy	13:41	Surface	1.1	17.4	17.5	8.2	8.2	31.9	31.5	106.2	106.3	9.0	8.7	8.7	0.9	0.9	1.0	3.1	2.9	2.9
				Middle	6.0	16.4	16.4	8.3	8.3	31.7	31.8	106.9	106.9	8.8	8.7		0.9	0.9		3.3	2.8	
				Bottom	11.0	16.2	16.2	8.3	8.3	31.4	31.0	106.6	106.7	8.8	8.7		1.0	1.1		3.3	2.9	
M6	Moderate	Cloudy	13:36	Surface	-	-	-	-	-	-	-	-	-	-	8.6	-	-	1.2	-	-	2.8	
				Middle	2.1	16.9	16.9	8.2	8.2	31.4	30.9	106.8	107.2	8.6		8.6	1.2		1.2	3.2		2.8
				Bottom	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.



**Action and Limit Levels for Marine Water Quality on 2 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.7 NTU</u>	<u>C2: 1.9 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 3.1 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 3.1 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>C2: 5.5 mg/L</u>	<u>C2: 6.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 02 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average
C1	Moderate	Cloudy	9:22	Surface	1.1	17.3	8.2	8.2	28.5	29.6	106.7	106.7	8.6	8.6	8.6	0.9	0.9	1.0	2.2	2.4	2.8
					17.3	8.2	30.7		8.5		0.9		2.6								
					16.9	8.2	28.7		8.7		0.9		2.8								
				Middle	9.0	16.9	8.2	8.2	29.7	29.2	104.7	104.8	8.5	8.6	8.6	8.6	0.9	0.9	3.1	3.0	3.0
					16.9	8.2	29.7		8.5		0.9		3.1								
					16.4	8.2	31.0		8.5		1.1		2.7								
Bottom	17.1	16.5	8.2	8.2	30.5	30.8	104.6	104.5	8.7	8.6	8.6	8.6	1.1	1.1	3.2	3.0	3.0				
	16.5	8.2	30.5		8.7		1.1		3.2												
	17.2	8.2	31.2		9.9		1.1		2.6												
C2	Moderate	Cloudy	8:02	Surface	1.0	17.2	8.1	8.2	30.7	30.9	103.7	103.7	10.0	10.0	10.0	1.1	1.1	1.2	2.6	3.0	2.8
					17.2	8.1	30.7		10.0		1.1		3.4								
					16.3	8.3	31.1		10.0		1.1		3.0								
				Middle	16.0	16.3	8.3	8.3	31.9	31.5	101.6	101.6	10.0	10.0	10.0	10.0	1.1	1.1	2.2	2.6	2.6
					16.3	8.3	31.9		10.0		1.1		2.2								
					16.2	8.2	31.3		9.9		1.5		2.4								
Bottom	31.0	16.2	8.2	8.2	30.3	30.8	101.1	101.1	9.9	9.9	9.9	9.9	1.5	1.5	3.0	2.7	2.7				
	16.2	8.2	30.3		9.9		1.5		3.0												
	17.5	8.2	31.5		8.7		1.1		3.3												
G1	Moderate	Cloudy	8:36	Surface	1.0	17.5	8.2	8.2	31.5	31.5	110.0	110.0	8.7	8.7	8.7	1.1	1.1	1.1	3.1	3.2	2.6
					17.5	8.2	31.5		8.7		1.1		3.1								
					17.6	8.2	31.5		8.7		1.1		3.1								
				Middle	4.0	16.9	8.2	8.2	31.5	31.5	108.8	108.8	8.7	8.7	8.7	8.7	1.1	1.1	3.9	3.3	2.6
					16.9	8.2	31.5		8.7		1.1		2.7								
					16.7	8.2	31.6		8.7		1.2		1.6								
Bottom	7.1	16.7	8.2	8.2	31.5	31.6	108.1	108.1	8.7	8.7	8.7	8.7	1.2	1.2	1.2	1.4	1.4				
	16.7	8.2	31.5		8.7		1.2		1.2												
	17.6	8.2	31.2		8.5		1.1		1.5												
G2	Moderate	Cloudy	8:24	Surface	1.0	17.6	8.2	8.2	31.2	31.2	107.0	107.0	8.5	8.5	8.5	1.1	1.1	1.2	1.5	1.8	2.0
					17.6	8.2	31.2		8.5		1.1		1.5								
					16.5	8.2	30.9		8.5		1.2		2.0								
				Middle	5.0	16.5	8.2	8.2	31.2	31.0	105.7	105.7	8.6	8.5	8.5	8.5	1.3	1.3	2.2	2.7	2.0
					16.5	8.2	31.2		8.6		1.2		1.5								
					16.3	8.2	31.4		8.5		1.3		2.2								
Bottom	9.0	16.2	8.2	8.2	30.1	30.7	104.3	104.4	8.5	8.5	8.5	8.5	1.3	1.3	3.1	2.7	2.0				
	16.2	8.2	30.1		8.5		1.3		2.2												
	17.5	8.2	31.5		8.7		1.1		2.4												
G3	Moderate	Cloudy	8:42	Surface	1.0	17.5	8.2	8.2	31.5	31.5	109.9	109.9	8.7	8.7	8.7	1.1	1.1	1.2	3.2	3.3	3.3
					17.5	8.2	31.5		8.8		1.2		2.9								
					17.6	8.2	31.5		8.8		1.2		3.6								
				Middle	4.1	16.8	8.2	8.2	31.5	31.5	109.2	109.4	8.8	8.8	8.8	8.8	1.2	1.2	3.6	3.3	3.3
					16.8	8.2	31.5		8.8		1.2		3.6								
					16.6	8.2	31.6		8.9		1.2		4.3								
Bottom	7.1	16.6	8.2	8.2	31.6	31.6	110.7	110.8	8.9	8.9	8.9	8.9	1.2	1.2	4.3	4.0	4.0				
	16.6	8.2	31.6		8.9		1.2		4.3												
	17.9	8.2	30.4		8.6		1.1		2.6												
G4	Moderate	Cloudy	8:54	Surface	1.1	17.9	8.2	8.2	30.4	30.4	108.3	108.3	8.6	8.6	8.6	1.1	1.1	1.2	1.8	2.2	2.2
					17.9	8.2	30.5		8.6		1.1		1.8								
					17.1	8.2	30.4		8.7		1.2		2.6								
				Middle	4.1	17.1	8.2	8.2	28.5	29.5	108.4	108.1	8.9	8.8	8.8	8.8	1.2	1.2	1.7	2.2	2.2
					17.1	8.2	28.5		8.9		1.2		1.7								
					16.5	8.2	30.5		8.7		1.3		2.2								
Bottom	7.0	16.4	8.2	8.2	31.0	31.0	107.3	107.1	8.7	8.7	8.7	8.7	1.3	1.3	2.1	2.2	2.2				
	16.4	8.2	31.0		8.7		1.3		2.1												
	17.6	8.2	31.4		8.8		1.0		2.3												
M1	Moderate	Cloudy	8:30	Surface	1.1	17.5	8.2	8.2	31.4	31.4	110.5	110.6	8.8	8.8	8.8	1.0	1.0	1.1	1.6	2.0	2.1
					17.5	8.2	31.4		8.8		1.0		1.6								
					16.7	8.2	31.5		8.7		1.1		3.0								
				Middle	3.0	16.6	8.2	8.2	31.6	31.5	107.3	107.5	8.6	8.6	8.6	8.6	1.2	1.2	2.3	2.7	2.1
					16.6	8.2	31.6		8.6		1.2		2.3								
					16.5	8.2	31.6		8.6		1.2		1.6								
Bottom	5.0	16.4	8.2	8.2	31.6	31.6	106.8	106.8	8.6	8.6	8.6	8.6	1.2	1.2	1.8	1.7	1.7				
	16.4	8.2	31.6		8.6		1.2		1.8												
	17.7	8.2	31.4		8.3		1.3		2.0												
M2	Moderate	Cloudy	8:18	Surface	1.1	16.7	8.2	8.2	31.3	31.4	103.5	103.5	8.3	8.3	8.3	1.3	1.3	1.2	2.7	2.4	2.4
					16.7	8.2	31.3		8.3		1.3		2.7								
					16.4	8.2	31.4		8.5		1.1		2.9								
				Middle	6.1	16.4	8.2	8.2	31.4	31.4	104.5	104.6	8.5	8.5	8.5	8.5	1.2	1.1	3.6	3.3	3.3
					16.4	8.2	31.4		8.5		1.1		3.6								
					16.2	8.2	31.4		8.4		1.3		1.2								
Bottom	11.1	16.2	8.2	8.2	31.4	31.4	103.6	103.4	8.4	8.4	8.4	8.4	1.3	1.3	1.7	1.7	1.7				
	16.2	8.2	31.5		8.4		1.3		2.2												
	17.6	8.2	31.2		8.6		1.1		1.6												
M3	Moderate	Cloudy	8:48	Surface	1.0	17.6	8.2	8.2	31.1	31.2	109.7	109.4	8.7	8.7	8.7	1.0	1.1	1.1	<0.1	1.6	1.3
					17.6	8.2	31.1		8.7		1.0		<0.1								
					16.8	8.2	31.5		8.8		1.2		<0.1								
				Middle	4.0	16.8	8.2	8.2	31.4	31.4	109.3	109.5	8.8	8.8	8.8	8.8	1.2	1.2	3.5	3.2	3.2
					16.8	8.2	31.5		8.8		1.2		3.5								
					16.7	8.2	31.4		8.9		1.2		2.8								
Bottom	7.0	16.6	8.2	8.2	31.5	31.5	110.2	110.2	8.9	8.9	8.9	8.9	1.2	1.2	1.7	1.7	1.7				
	16.6	8.2	31.5		8.9		1.2		1.7												
	17.7	8.2	31.2		8.6		1.1		1.6												
M4	Moderate	Cloudy	8:12	Surface	1.1	16.6	8.2	8.2	31.9	31.4	102.2	102.4	9.8	9.9	9.9	1.3	1.3	1.3	2.3	2.6	1.6
					16.6	8.2	30.9		9.9		1.3		2.9								
					16.3	8.2	31.4		9.9		1.3		1.6								
				Middle	5.0	16.3	8.2	8.2	31.1	31.3	102.4	102.5	9.9	9.9	9.9	9.9	1.3	1.3	1.0	1.3	1.3
					16.3	8.2	31.1		9.9		1.3		1.0								
					16.3	8.2	31.4		8.6		1.3		<0.1								
Bottom	9.0	16.3	8.2	8.2	30.7	30.7	102.8	102.9	8.6	8.6	8.6	8.6	1.3	1.2	1.6	1.6	1.6				
	16.3	8.2	29.9		8.5		1.2		1.6												
	17.5	8.2	29.4		8.5		1.0		1.5												
M5	Moderate	Cloudy	9:08	Surface	1.0	17.5	8.3	8.3	29.1	29.3	105.2	105.0	8.5	8.5	8.5	0.9	0.9	1.0	2.0	1.6	1.7
					17.5	8.3	29.1		8.5		0.9		2.0								
					16.4	8.3	31.3		8.7		1.0		1.3								
				Middle	6.0	16.4	8.3	8.3	31.2	31.2	106.8	106.9	8.7	8.7	8.7	8.7	0.9	0.9	1.8	1.6	1.6
					16.4	8.3	31.2		8.7		0.9		1.8								
					16.2	8.3	31.0		8.7		1.1		1.9								
Bottom	11.0	16.2	8.3	8.3	31.1	31.1	106.4	106.5	8.9	8.8	8.8	8.8	1.1	1.1	1.4	1.7	1.7				
	16.2	8.3	31.1		8.9		1.1		1.4												
	-	-	-		-		-		-												
M6	Moderate	Cloudy	9:01	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
					-	-	-		-		-		-								
					17.3	8.2	31.1		8.7		8.0		2.1								
				Middle	2.1	17.0	8.2	8.2	31.2	31.1	106.5	106.6	8.6	8.6	8.6	8.6	8.0	8.0	3.1	2.6	2.6
					-	-	-		-		-		-								
					-	-	-		-		-		-								
Bottom																					

**Action and Limit Levels for Marine Water Quality on 2 March 2022 (Mid-Flood Tide)**

<b><u>Parameter</u></b> <b><u>(unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.3 NTU</u>	<u>CI: 1.4 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 2.9 mg/L</u>	<u>CI: 3.1 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 2.9 mg/L</u>	<u>CI: 3.1 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
<u>CI: 3.5 mg/L</u>		<u>CI: 3.8 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 04 March 2022  
 (Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	14:49	Surface	1.1	17.4	17.4	8.2	8.2	31.9	31.9	107.2	107.3	8.5	8.5	8.5	1.1	1.1	1.1	<0.1	<0.1	<0.1
				Middle	9.0	17.2	17.2	8.2	8.2	32.0	32.0	107.8	107.9	8.6	8.6	8.6	1.3	1.2	1.2	<0.1	<0.1	<0.1
				Bottom	17.1	17.1	17.1	8.2	8.2	32.3	32.3	104.0	104.0	8.3	8.3	8.3	1.0	1.0	1.0	<0.1	<0.1	<0.1
C2	Sunny	Moderate	13:13	Surface	1.0	17.2	17.2	8.3	8.3	31.7	31.6	104.4	104.4	8.4	8.4	8.4	1.2	1.2	1.2	1.2	1.3	0.7
				Middle	16.1	17.0	17.0	8.3	8.2	31.9	31.9	103.4	103.4	8.4	8.4	8.4	1.1	1.2	1.2	1.4	1.4	0.7
				Bottom	31.1	17.1	17.1	8.2	8.2	31.1	31.3	102.6	102.6	8.3	8.3	8.3	1.2	1.2	1.2	<0.1	<0.1	<0.1
G1	Sunny	Moderate	13:55	Surface	1.1	17.4	17.4	8.2	8.2	31.8	31.8	107.5	107.4	8.5	8.5	8.5	1.2	1.2	1.2	<0.1	<0.1	<0.1
				Middle	4.0	17.0	17.0	8.2	8.2	31.9	31.9	106.5	106.7	8.5	8.5	8.5	1.1	1.1	1.1	<0.1	<0.1	<0.1
				Bottom	7.0	17.0	17.0	8.2	8.2	32.1	32.1	106.2	106.2	8.5	8.5	8.5	1.2	1.1	1.1	<0.1	<0.1	<0.1
G2	Sunny	Moderate	13:41	Surface	1.1	17.4	17.4	8.2	8.2	31.8	31.8	107.8	107.9	8.5	8.5	8.5	1.3	1.2	1.2	<0.1	1.2	0.2
				Middle	5.0	17.0	17.0	8.2	8.2	32.0	32.0	107.0	107.0	8.5	8.5	8.5	1.2	1.2	1.2	<0.1	<0.1	<0.1
				Bottom	9.0	17.0	17.0	8.2	8.2	32.1	32.1	106.2	106.2	8.5	8.5	8.5	1.2	1.1	1.1	<0.1	<0.1	<0.1
G3	Sunny	Moderate	14:08	Surface	1.0	17.7	17.7	8.2	8.2	31.8	31.8	108.2	108.4	8.5	8.5	8.5	1.2	1.1	1.1	1.8	2.2	1.4
				Middle	4.0	17.0	17.0	8.3	8.3	31.9	31.9	111.4	111.6	8.9	8.9	8.9	1.2	1.2	1.2	1.8	1.5	1.4
				Bottom	7.1	16.9	16.9	8.3	8.3	32.0	32.0	110.5	110.5	8.8	8.8	8.8	1.1	1.1	1.1	1.1	1.1	1.4
G4	Sunny	Moderate	14:27	Surface	1.0	18.1	18.0	8.2	8.2	31.8	31.8	108.7	108.5	8.5	8.5	8.5	1.0	1.1	1.1	<0.1	<0.1	0.4
				Middle	4.1	17.0	17.0	8.3	8.3	31.9	31.9	109.1	109.1	8.7	8.7	8.7	1.2	1.2	1.2	1.1	1.3	0.4
				Bottom	7.0	16.9	16.9	8.3	8.3	32.0	32.0	113.0	113.1	9.0	9.0	9.0	1.1	1.1	1.1	<0.1	<0.1	<0.1
M1	Sunny	Moderate	13:48	Surface	1.1	17.2	17.2	8.2	8.2	31.9	31.9	110.3	110.4	8.8	8.8	8.8	1.0	1.1	1.1	<0.1	<0.1	0.8
				Middle	3.0	17.0	17.0	8.3	8.3	32.0	32.0	110.0	109.9	8.8	8.8	8.8	1.1	1.0	1.0	1.1	1.1	0.8
				Bottom	5.1	17.0	17.0	8.3	8.3	32.0	32.0	110.4	110.5	8.8	8.8	8.8	1.2	1.2	1.2	1.7	1.5	0.8
M2	Sunny	Moderate	13:33	Surface	1.1	17.9	17.8	8.2	8.2	31.8	31.8	107.7	107.7	8.5	8.5	8.5	1.2	1.2	1.2	<0.1	<0.1	0.4
				Middle	6.0	17.1	17.1	8.2	8.2	32.0	32.0	107.4	107.5	8.5	8.5	8.5	1.2	1.1	1.1	1.2	1.2	0.4
				Bottom	11.0	17.0	17.0	8.2	8.2	32.1	32.1	106.1	106.1	8.5	8.4	8.4	1.2	1.2	1.2	1.3	1.3	0.4
M3	Sunny	Moderate	14:17	Surface	1.1	17.7	17.8	8.2	8.2	31.8	31.8	108.2	108.6	8.5	8.5	8.5	0.9	0.9	0.9	1.0	1.1	1.4
				Middle	4.1	17.1	17.1	8.2	8.2	31.9	31.9	109.0	109.0	8.7	8.7	8.7	1.2	1.1	1.1	1.5	1.7	1.4
				Bottom	7.0	17.0	17.0	8.3	8.3	31.9	31.9	110.4	110.4	8.8	8.8	8.8	1.0	1.0	1.0	1.4	1.4	1.4
M4	Sunny	Moderate	13:25	Surface	1.1	17.1	17.1	8.2	8.2	31.8	31.9	104.1	104.2	8.3	8.3	8.3	1.0	1.0	1.0	1.5	1.5	1.5
				Middle	5.1	17.0	17.0	8.3	8.3	32.0	32.0	104.3	104.4	8.3	8.3	8.3	1.2	1.2	1.2	1.1	1.4	1.5
				Bottom	9.0	16.0	16.0	8.3	8.3	32.1	32.1	104.3	104.3	8.3	8.3	8.3	1.3	1.2	1.2	2.6	2.5	1.5
M5	Sunny	Moderate	14:41	Surface	1.1	17.1	17.1	8.2	8.2	31.8	31.8	107.3	107.3	8.5	8.5	8.5	1.2	1.2	1.2	1.9	1.8	1.7
				Middle	6.1	16.9	16.9	8.3	8.3	32.0	32.0	107.8	107.9	8.6	8.6	8.6	1.3	1.2	1.2	1.6	1.7	1.7
				Bottom	11.1	17.0	17.0	8.3	8.3	32.2	32.2	107.4	107.4	8.6	8.6	8.6	1.2	1.1	1.1	1.3	1.7	1.7
M6	Sunny	Moderate	14:35	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Middle	2.1	17.2	17.2	8.2	8.2	31.8	31.8	109.3	109.4	8.7	8.7	8.7	1.2	1.1	1.1	1.5	1.5	1.5
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 4 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.5 NTU</u>	<u>C2: 1.6 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.6 mg/L</u>	<u>C2: 1.7 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.6 mg/L</u>	<u>C2: 1.7 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 04 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	9:43	Surface	1.0	17.5	17.4	8.2	8.2	31.9	31.9	106.4	106.8	8.4	8.4	8.5	1.2	1.2	1.2	1.3	1.5	1.5
					17.4	8.2	8.2	31.9	31.9	107.1	107.7	8.5	8.5	1.2	1.2		1.6					
				Middle	9.0	17.2	17.2	8.2	8.2	32.0	32.0	107.6	107.7	8.5	8.5	8.4	1.3	1.2	1.1	1.4	1.3	
					17.2	8.2	8.2	32.0	32.0	107.7	107.7	8.6	8.5	1.0	1.2		1.1					
				Bottom	17.0	17.1	17.1	8.2	8.2	32.3	32.3	104.4	104.4	8.3	8.3	8.3	1.2	1.2	1.2	1.6	1.9	
					17.1	8.2	8.2	32.4	32.3	104.3	104.4	8.3	8.3	1.2	1.2		2.1					
C2	Sunny	Moderate	8:02	Surface	1.0	17.2	17.2	8.2	8.2	31.9	31.6	104.0	104.2	8.4	8.4	8.4	1.1	1.1	1.1	2.5	2.4	2.1
					17.2	8.2	8.2	31.4	31.6	104.3	104.2	8.4	8.4	1.1	1.1		2.2					
				Middle	16.0	17.0	17.0	8.2	8.2	31.4	31.3	103.4	103.4	8.3	8.3	8.3	1.0	1.0	1.1	1.7	1.8	
					17.0	8.3	8.2	31.3	31.3	103.4	103.4	8.3	8.3	1.0	1.0		1.9					
				Bottom	31.0	17.1	17.1	8.3	8.2	31.9	31.9	102.8	102.8	8.3	8.3	8.3	1.3	1.3	1.2	2.6	2.2	
					17.1	8.2	8.2	31.9	31.9	102.7	102.8	8.3	8.3	1.3	1.3		1.8					
G1	Sunny	Moderate	8:45	Surface	1.0	17.8	17.7	8.2	8.2	31.6	31.7	106.4	106.7	8.4	8.4	8.5	1.2	1.1	1.2	1.7	1.6	1.5
					17.5	8.2	8.2	31.7	31.7	106.9	106.7	8.4	8.4	1.1	1.1		1.5					
				Middle	4.1	17.1	17.1	8.2	8.2	31.9	31.9	107.3	107.1	8.5	8.5	8.5	1.3	1.2	1.2	1.1	1.5	
					17.0	8.2	8.2	32.0	31.9	106.9	106.7	8.5	8.5	1.2	1.2		1.9					
				Bottom	7.0	17.0	17.0	8.2	8.2	32.0	32.1	106.6	106.4	8.5	8.5	8.5	1.2	1.1	1.2	1.1	1.3	
					17.0	8.2	8.2	32.1	32.1	106.2	106.4	8.5	8.5	1.0	1.1		1.4					
G2	Sunny	Moderate	8:29	Surface	1.0	17.3	17.3	8.2	8.2	31.8	31.8	106.9	107.1	8.5	8.5	8.5	1.1	1.1	1.1	1.0	1.2	1.6
					17.3	8.2	8.2	31.9	31.8	107.3	107.1	8.5	8.5	1.0	1.1		1.4					
				Middle	5.0	17.1	17.1	8.2	8.2	32.0	32.0	107.0	107.0	8.5	8.5	8.5	1.1	1.1	1.1	1.4	1.7	
					17.0	8.2	8.2	32.0	32.0	107.0	107.0	8.5	8.5	1.1	1.1		1.9					
				Bottom	9.0	16.0	17.0	8.2	8.2	32.1	32.1	106.3	106.3	8.5	8.5	8.5	0.9	1.0	1.2	2.0	1.8	
					17.0	8.2	8.2	32.1	32.1	106.2	106.3	8.5	8.5	1.2	1.0		1.6					
G3	Sunny	Moderate	8:54	Surface	1.1	18.5	18.5	8.2	8.2	31.5	31.5	110.1	110.2	8.6	8.6	8.7	1.3	1.2	1.1	1.2	1.5	0.7
					18.6	8.2	8.2	31.5	31.5	110.3	110.2	8.6	8.6	1.1	1.2		1.8					
				Middle	4.1	17.0	17.0	8.2	8.2	31.9	31.9	110.0	110.5	8.8	8.8	8.8	0.9	1.0	1.1	1.4	1.4	
					17.0	8.3	8.2	31.9	31.9	110.9	110.5	8.9	8.8	0.9	1.0		<0.1					
				Bottom	7.1	16.9	16.9	8.3	8.3	32.0	32.0	111.4	111.2	8.9	8.9	8.9	1.0	1.1	1.2	<0.1	<0.1	
					16.9	8.3	8.3	32.0	32.0	110.9	111.2	8.9	8.9	1.2	1.1		<0.1					
G4	Sunny	Moderate	9:15	Surface	1.0	18.0	18.0	8.2	8.2	31.8	31.8	108.5	108.6	8.5	8.5	8.6	1.2	1.2	1.1	<0.1	1.0	1.3
					18.1	8.2	8.2	31.8	31.8	108.6	108.6	8.5	8.5	1.1	1.2		1.0					
				Middle	4.0	17.0	17.0	8.2	8.2	31.9	31.9	108.5	108.7	8.6	8.7	8.7	0.9	1.0	1.2	2.4	2.1	
					17.0	8.2	8.2	31.9	31.9	108.8	108.7	8.7	8.7	1.2	1.0		1.7					
				Bottom	7.0	16.9	16.9	8.3	8.3	32.0	32.0	112.0	112.4	8.9	9.0	9.0	1.1	1.1	1.2	1.2	1.3	
					16.9	8.3	8.3	32.0	32.0	112.8	112.4	9.0	9.0	1.0	1.1		1.3					
M1	Sunny	Moderate	8:37	Surface	1.0	17.3	17.3	8.2	8.2	31.9	31.9	110.0	110.0	8.7	8.7	8.7	1.1	1.1	1.2	1.8	1.9	2.1
					17.2	8.2	8.2	31.9	31.9	110.0	110.0	8.7	8.7	1.1	1.1		2.0					
				Middle	3.0	17.1	17.0	8.3	8.3	31.9	31.9	110.2	110.1	8.8	8.8	8.8	1.3	1.3	1.1	1.7	1.9	
					17.0	8.3	8.3	32.0	31.9	109.9	110.1	8.8	8.8	1.2	1.3		2.1					
				Bottom	5.0	17.0	17.0	8.3	8.3	32.0	32.0	109.7	109.9	8.8	8.8	8.8	1.3	1.2	1.2	2.3	2.4	
					17.0	8.3	8.3	32.0	32.0	110.1	109.9	8.8	8.8	1.1	1.2		2.5					
M2	Sunny	Moderate	8:21	Surface	1.0	17.8	17.8	8.2	8.2	31.8	31.8	107.3	107.3	8.4	8.4	8.5	1.2	1.2	1.1	2.1	2.0	1.8
					17.8	8.2	8.2	31.8	31.8	107.3	107.3	8.4	8.4	1.1	1.2		1.8					
				Middle	6.1	17.1	17.1	8.2	8.2	32.0	32.0	107.4	107.4	8.5	8.5	8.5	1.0	1.0	1.2	1.6	1.6	
					17.1	8.2	8.2	32.0	32.0	107.4	107.4	8.5	8.5	1.0	1.0		1.5					
				Bottom	11.0	17.0	17.0	8.2	8.2	32.1	32.1	106.4	106.4	8.5	8.5	8.5	1.0	1.0	1.2	2.3	1.9	
					17.0	8.2	8.2	32.1	32.1	106.3	106.4	8.5	8.5	1.0	1.0		1.4					
M3	Sunny	Moderate	9:04	Surface	1.1	17.8	17.8	8.2	8.2	31.8	31.8	108.0	108.1	8.5	8.5	8.6	1.1	1.2	1.2	1.5	1.5	2.4
					17.7	8.2	8.2	31.8	31.8	108.1	108.1	8.5	8.5	1.3	1.2		1.4					
				Middle	4.0	17.1	17.1	8.2	8.2	31.9	31.9	108.5	108.7	8.6	8.7	8.7	1.1	1.2	1.1	2.4	2.3	
					17.1	8.2	8.2	31.9	31.9	108.9	108.7	8.7	8.7	1.2	1.2		2.2					
				Bottom	7.1	17.0	17.0	8.3	8.3	31.9	31.9	109.5	109.9	8.7	8.8	8.8	1.2	1.2	1.2	3.2	3.6	
					17.0	8.3	8.3	31.9	31.9	110.3	109.9	8.8	8.8	1.2	1.2		3.9					
M4	Sunny	Moderate	8:13	Surface	1.0	17.2	17.2	8.2	8.2	31.8	31.8	103.9	104.0	8.3	8.3	8.3	1.2	1.2	1.1	1.3	1.6	1.5
					17.1	8.2	8.2	31.8	31.8	104.0	104.0	8.3	8.3	1.3	1.2		1.9					
				Middle	5.0	17.0	17.0	8.3	8.3	32.0	32.0	104.2	104.3	8.3	8.3	8.3	1.1	1.1	1.2	1.0	1.2	
					17.0	8.3	8.3	32.1	32.0	104.3	104.3	8.3	8.3	1.1	1.1		1.3					
				Bottom	9.1	16.0	17.0	8.3	8.3	32.1	32.1	104.3	104.3	8.3	8.3	8.3	0.9	0.9	1.2	1.6	1.8	
					17.0	8.3	8.3	32.1	32.1	104.3	104.3	8.3	8.3	1.0	0.9		1.9					
M5	Sunny	Moderate	9:31	Surface	1.0	17.2	17.2	8.2	8.2	31.8	31.8	107.1	107.2	8.5	8.5	8.6	1.1	1.1	1.1	1.5	1.6	1.9
					17.2	8.2	8.2	31.8	31.8	107.2	107.2	8.5	8.5	1.2	1.1		1.7					
				Middle	6.1	16.9	16.9	8.2	8.2	32.0	32.0	107.8	107.8	8.6	8.6	8.6	1.2	1.1	1.2	1.4	1.5	
					16.9	8.3	8.2	32.0	32.0	107.8	107.8	8.6	8.6	0.9	1.1		1.6					
				Bottom	11.0	17.0	17.0	8.2	8.2	32.2	32.2	107.5	107.5	8.6	8.6	8.6	1.1	1.1	1.2	2.3	2.6	
					17.0	8.2	8.2	32.2	32.2	107.5	107.5	8.6	8.6	1.1	1.1		2.9					
M6	Sunny	Moderate	9:24	Surface	-	-	-	-	-	-	-	-	-	-	8.6	-	-	1.1	-	-	1.3	
					17.5	8.2	8.2	31.8	31.8	108.3	108.4	8.5	8.6	-		-	8.0					
				Middle	2.0	17.3	17.4	8.2	8.2	31.8	31.8	108.4	108.4	8.6	8.6	8.6	8.0	8.0	1.1	1.2		1.3
					17.3	8.2	8.2	31.8	31.8	108.4	108.4	8.6	8.6	8.0	8.0		1.2					
				Bottom	-	-	-	-	-	-	-	-	-	-	-	8.6	-	-	1.1	-		-
					-	-	-	-	-	-	-	-	-	-	-		-	-		-		-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 4 March 2022 (Mid-Flood Tide)**

<b><u>Parameter</u></b> <b><u>(unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.5 NTU</u>	<u>CI: 1.6 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 1.7 mg/L</u>	<u>CI: 1.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 1.7 mg/L</u>	<u>CI: 1.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
<u>CI: 2.2 mg/L</u>		<u>CI: 2.4 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.



Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 07 March 2022  
 (Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Calm	15:57	Surface	1.1	17.9	17.9	8.3	8.3	31.1	31.3	110.2	110.3	8.9	9.0	9.0	1.3	1.3	1.3	<0.1	<0.1	<0.1
				Middle	9.1	17.7	17.7	8.3	8.3	31.0	31.4	109.5	109.5	9.1	9.1		1.3	1.3		<0.1	<0.1	
				Bottom	17.0	17.4	17.4	8.3	8.3	31.3	31.5	109.5	107.1	9.0	8.9		8.9	1.3		1.3	<0.1	
C2	Sunny	Calm	14:21	Surface	1.0	18.1	18.1	8.3	8.3	31.7	31.4	110.5	110.6	10.4	10.4	10.3	1.2	1.2	1.3	<0.1	<0.1	<0.1
				Middle	16.1	17.4	17.4	8.3	8.3	31.2	31.3	106.6	106.6	10.2	10.2		1.3	1.3		<0.1	<0.1	
				Bottom	31.0	17.4	17.4	8.3	8.3	31.7	31.5	106.4	106.4	10.2	10.2		10.2	1.4		1.4	<0.1	
G1	Sunny	Calm	15:10	Surface	1.0	17.9	17.9	8.3	8.3	31.0	31.3	110.0	110.0	8.7	8.8	8.7	1.2	1.3	1.3	<0.1	<0.1	<0.1
				Middle	4.1	17.7	17.7	8.3	8.3	31.1	31.3	109.0	109.0	8.7	8.7		1.3	1.3		<0.1	<0.1	
				Bottom	7.1	17.6	17.6	8.3	8.3	31.4	31.7	108.4	108.4	8.7	8.8		8.8	1.3		1.2	<0.1	
G2	Sunny	Calm	14:51	Surface	1.0	18.1	18.1	8.2	8.2	31.2	31.4	109.4	109.3	10.3	10.3	10.4	1.3	1.3	1.2	<0.1	<0.1	<0.1
				Middle	5.1	17.7	17.7	8.3	8.3	31.2	31.4	109.9	110.0	10.5	10.5		1.1	1.1		<0.1	<0.1	
				Bottom	9.0	17.6	17.6	8.3	8.3	31.7	31.4	109.7	109.7	10.5	10.5		10.5	1.3		1.2	<0.1	
G3	Sunny	Calm	15:18	Surface	1.1	18.1	18.1	8.3	8.3	31.7	31.4	110.0	110.1	8.7	8.7	8.8	1.2	1.2	1.2	<0.1	<0.1	<0.1
				Middle	4.0	17.7	17.7	8.3	8.3	31.5	31.4	109.3	109.3	9.0	8.9		1.2	1.3		<0.1	<0.1	
				Bottom	7.1	17.7	17.7	8.3	8.3	31.4	31.5	110.0	110.0	9.0	9.0		9.0	1.1		1.2	<0.1	
G4	Sunny	Calm	15:36	Surface	1.1	18.0	18.0	8.3	8.3	31.2	31.1	110.8	110.9	8.8	8.8	8.8	1.2	1.1	1.2	<0.1	<0.1	0.6
				Middle	4.1	17.7	17.7	8.3	8.3	31.0	31.2	111.6	111.7	8.8	8.8		1.3	1.2		1.2	1.3	
				Bottom	7.0	17.7	17.7	8.3	8.3	31.0	31.3	111.2	111.1	9.0	8.9		8.9	1.2		1.3	1.2	
M1	Sunny	Calm	15:01	Surface	1.0	17.9	17.9	8.2	8.2	31.1	31.4	106.7	106.8	8.6	8.6	8.7	1.4	1.2	1.3	<0.1	1.3	1.3
				Middle	3.0	17.7	17.7	8.3	8.3	31.5	31.5	108.4	108.5	8.9	8.9		1.3	1.3		1.1	1.3	
				Bottom	5.0	17.7	17.7	8.3	8.3	31.2	31.5	108.6	108.5	9.0	8.9		8.9	1.2		1.2	1.6	
M2	Sunny	Calm	14:42	Surface	1.1	17.9	17.9	8.2	8.2	31.6	31.4	108.0	108.3	10.2	10.3	10.3	1.3	1.3	1.3	2.0	1.8	1.8
				Middle	6.0	17.6	17.6	8.3	8.3	32.0	31.9	108.9	109.0	10.4	10.4		1.3	1.3		1.3	1.3	
				Bottom	11.1	17.6	17.6	8.3	8.3	31.8	31.6	107.6	107.6	10.3	10.3		10.3	1.3		1.3	2.0	
M3	Sunny	Calm	15:26	Surface	1.0	18.0	18.0	8.3	8.3	31.8	31.5	109.6	109.6	10.4	10.4	10.5	1.1	1.1	1.2	1.4	1.6	2.0
				Middle	4.0	17.7	17.7	8.3	8.3	32.0	31.9	110.8	110.9	10.6	10.6		1.3	1.3		2.2	2.3	
				Bottom	7.0	17.7	17.7	8.3	8.3	31.1	31.4	108.7	108.7	10.4	10.4		10.4	1.3		1.3	1.7	
M4	Sunny	Calm	14:33	Surface	1.1	18.1	18.1	8.2	8.2	31.4	31.5	109.8	109.9	8.6	8.6	8.7	1.1	1.2	1.2	1.9	1.6	1.6
				Middle	5.0	17.7	17.7	8.3	8.3	31.4	31.6	109.5	109.5	8.7	8.7		1.2	1.2		1.2	1.2	
				Bottom	9.0	17.6	17.6	8.3	8.3	31.7	31.6	108.7	108.7	8.8	8.9		8.9	1.2		1.2	1.1	
M5	Sunny	Calm	15:48	Surface	1.1	17.8	17.8	8.3	8.3	31.5	31.5	110.1	110.1	8.9	9.0	8.9	1.2	1.3	1.2	<0.1	<0.1	1.3
				Middle	6.1	17.7	17.7	8.3	8.3	31.3	31.4	108.8	108.8	8.9	8.9		1.2	1.2		2.3	2.4	
				Bottom	11.0	17.6	17.6	8.3	8.3	31.5	31.7	108.4	108.4	8.8	9.0		9.0	1.1		1.2	1.6	
M6	Sunny	Calm	15:43	Surface	-	-	-	-	-	-	-	-	-	-	8.9	-	-	1.3	-	-	0.6	
				Middle	2.1	17.8	17.8	8.3	8.3	31.1	31.3	110.3	110.4	8.9		8.9	1.4		1.3	<0.1		1.1
				Bottom	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 7 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.6 NTU</u>	<u>C2: 1.8 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 07 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*					
C1	Sunny	Calm	11:11	Surface	1.1	17.9	17.9	8.3	8.3	31.7	31.8	109.9	110.0	9.0	9.0	9.0	1.3	1.3	1.3	<0.1	<0.1	1.4					
					1.1	17.9	17.9	8.3	8.3	31.9	31.8	110.1	110.0	9.0	9.0	9.0	1.2	1.3	1.3	<0.1	<0.1						
					9.1	17.7	17.7	8.3	8.3	31.3	31.4	108.9	108.9	9.1	9.1	9.1	1.3	1.3	1.3	2.7	2.5						
				Middle	9.1	17.7	17.7	8.3	8.3	31.6	31.4	108.9	108.9	9.0	9.1	9.1	1.3	1.3	1.3	2.2	2.5						
					17.1	17.4	17.4	8.3	8.3	31.3	31.2	107.1	107.1	8.8	8.8	8.8	1.3	1.2	1.2	1.6	1.6						
					17.1	17.4	17.4	8.3	8.3	31.1	31.2	107.1	107.1	8.8	8.8	8.8	1.2	1.2	1.2	1.6	1.6						
				C2	Sunny	Calm	9:18	Surface	1.0	18.1	18.1	8.3	8.2	32.0	32.0	108.1	109.2	10.2	10.3	10.3	1.2		1.2	1.2	1.3	1.4	1.6
									1.0	18.1	18.1	8.2	8.2	32.0	32.0	110.3	109.2	10.4	10.3	10.3	1.1		1.2	1.2	1.4	1.4	
									16.1	17.5	17.5	8.3	8.3	31.5	31.4	106.8	106.8	10.2	10.2	10.2	1.3		1.3	1.3	2.1	1.9	
Middle	16.1	17.5	17.5					8.3	8.3	31.3	31.4	106.7	106.8	10.2	10.2	10.2	1.3	1.3	1.3	1.7	1.9						
	31.0	17.4	17.4					8.3	8.3	31.3	31.3	106.4	106.4	10.2	10.2	10.2	1.3	1.3	1.3	1.8	1.6						
	31.0	17.4	17.4					8.3	8.3	31.2	31.3	106.4	106.4	10.2	10.2	10.2	1.3	1.3	1.3	1.3	1.6						
G1	Sunny	Calm	10:11					Surface	1.1	17.9	17.9	8.2	8.2	31.1	31.5	108.6	108.8	8.6	8.8	8.8	1.4	1.3	1.3	2.6	2.7	2.5	
									1.1	17.9	17.9	8.2	8.2	31.1	31.5	108.6	108.8	8.6	8.8	8.8	1.4	1.3	1.3	2.6	2.7		
									4.0	17.7	17.7	8.3	8.3	31.3	31.5	108.9	108.9	8.8	8.9	8.9	1.4	1.3	1.3	2.9	3.2		
				Middle	4.0	17.7	17.7	8.3	8.3	31.6	31.5	108.9	108.9	9.0	8.9	8.9	1.3	1.3	1.3	3.5	3.2						
					7.0	17.6	17.6	8.3	8.3	31.9	31.9	108.5	108.6	8.9	8.8	8.8	1.3	1.3	1.3	1.6	1.6						
					7.0	17.6	17.6	8.3	8.3	31.8	31.9	108.6	108.6	8.8	8.8	8.8	1.3	1.3	1.3	1.6	1.6						
				G2	Sunny	Calm	9:47	Surface	1.1	18.0	18.1	8.2	8.2	31.0	31.0	108.3	109.0	10.2	10.3	10.3	1.2	1.2	1.2	1.6	1.8		2.1
									1.1	18.0	18.1	8.2	8.2	31.1	31.0	109.6	109.0	10.4	10.3	10.3	1.3	1.2	1.2	2.0	1.8		
									5.0	17.7	17.7	8.3	8.3	31.9	31.8	109.3	109.6	10.4	10.4	10.4	1.4	1.3	1.3	1.7	2.0		
Middle	5.0	17.7	17.7					8.3	8.3	31.8	31.8	109.8	109.6	10.5	10.4	10.4	1.3	1.3	1.3	2.3	2.0						
	9.0	17.6	17.6					8.3	8.3	31.3	31.6	109.6	109.6	10.5	10.5	10.5	1.4	1.3	1.3	2.6	2.4						
	9.0	17.6	17.6					8.3	8.3	31.9	31.6	109.6	109.6	10.5	10.5	10.5	1.3	1.3	1.3	2.2	2.4						
G3	Sunny	Calm	10:18					Surface	1.0	18.1	18.1	8.3	8.3	31.8	31.8	109.7	109.8	9.0	8.9	8.9	1.2	1.3	1.3	1.7	2.0	2.0	
									1.0	18.1	18.1	8.3	8.3	31.9	31.8	109.9	109.8	8.8	8.9	8.9	1.3	1.3	1.3	2.3	2.0		
									4.1	17.8	17.7	8.3	8.3	31.1	31.5	109.5	109.4	8.7	8.8	8.8	1.2	1.2	1.2	2.5	2.5		
				Middle	4.1	17.8	17.7	8.3	8.3	31.8	31.5	109.3	109.4	8.8	8.8	8.8	1.2	1.2	1.2	2.5	2.5						
					7.0	17.7	17.7	8.3	8.3	31.5	31.5	110.7	110.5	9.0	8.9	8.9	1.3	1.2	1.2	1.2	1.5						
					7.0	17.7	17.7	8.3	8.3	31.6	31.5	110.3	110.5	8.9	8.9	8.9	1.2	1.2	1.2	1.8	1.5						
				G4	Sunny	Calm	10:38	Surface	1.1	18.0	18.0	8.2	8.2	31.4	31.0	108.8	109.7	8.5	8.6	8.6	1.3	1.4	1.4	1.3	1.5		1.1
									1.1	18.0	18.0	8.3	8.2	30.7	31.0	110.6	109.7	8.7	8.6	8.6	1.4	1.4	1.4	1.6	1.5		
									4.1	17.7	17.7	8.3	8.3	31.6	31.7	111.4	111.4	8.8	8.8	8.8	1.3	1.3	1.3	1.2	1.2		
Middle	4.1	17.7	17.7					8.3	8.3	31.7	31.7	111.3	111.4	8.8	8.8	8.8	1.3	1.3	1.3	1.2	1.2						
	7.0	17.7	17.7					8.3	8.3	30.8	31.0	111.3	111.3	9.2	9.1	9.1	1.3	1.2	1.2	1.2	1.1						
	7.0	17.7	17.7					8.3	8.3	31.2	31.0	111.2	111.3	9.0	9.1	9.1	1.1	1.2	1.2	1.0	1.1						
M1	Sunny	Calm	9:58					Surface	1.0	17.9	17.9	8.2	8.2	30.9	31.1	106.5	106.6	8.4	8.5	8.5	1.3	1.2	1.2	1.2	1.2	0.7	
									1.0	17.9	17.9	8.2	8.2	31.4	31.1	106.6	106.6	8.5	8.5	8.5	1.1	1.2	1.2	<0.1	<0.1		
									3.1	17.7	17.7	8.2	8.2	31.4	31.4	108.1	108.2	8.7	8.7	8.7	1.3	1.2	1.2	<0.1	<0.1		
				Middle	3.1	17.7	17.7	8.2	8.2	31.5	31.4	108.3	108.2	8.7	8.7	8.7	1.2	1.2	1.2	1.2	1.2						
					5.0	17.7	17.7	8.3	8.3	31.5	31.5	108.2	108.3	8.6	8.7	8.7	1.2	1.2	1.2	1.2	1.5						
					5.0	17.7	17.7	8.3	8.3	31.5	31.5	108.3	108.3	8.7	8.7	8.7	1.3	1.2	1.2	1.8	1.5						
				M2	Sunny	Calm	9:38	Surface	1.0	17.9	17.9	8.2	8.2	31.5	31.3	107.5	107.7	10.2	10.2	10.2	1.2	1.2	1.2	1.8	1.7		2.0
									1.0	17.9	17.9	8.2	8.2	31.0	31.3	107.8	107.7	10.2	10.2	10.2	1.3	1.2	1.2	1.5	1.7		
									6.0	17.6	17.6	8.3	8.3	31.4	31.5	108.8	108.9	10.4	10.4	10.4	1.1	1.2	1.2	1.5	1.6		
Middle	6.0	17.6	17.6					8.3	8.3	31.7	31.5	109.0	108.9	10.4	10.4	10.4	1.2	1.2	1.2	1.7	1.6						
	11.0	17.6	17.6					8.3	8.3	31.5	31.3	107.7	107.7	10.3	10.3	10.3	1.1	1.2	1.2	2.8	2.8						
	11.0	17.6	17.6					8.3	8.3	31.1	31.3	107.7	107.7	10.3	10.3	10.3	1.4	1.2	1.2	2.7	2.8						
M3	Sunny	Calm	10:30					Surface	1.0	18.0	18.0	8.3	8.3	31.1	31.4	109.6	109.7	10.4	10.4	10.4	1.2	1.3	1.3	1.8	2.0	2.2	
									1.0	18.0	18.0	8.3	8.3	31.6	31.4	109.7	109.7	10.4	10.4	10.4	1.4	1.3	1.3	2.1	2.0		
									4.1	17.7	17.7	8.3	8.3	31.5	31.5	110.3	110.5	10.5	10.5	10.5	1.3	1.3	1.3	1.9	1.9		
				Middle	4.1	17.7	17.7	8.3	8.3	31.5	31.5	110.6	110.5	10.5	10.5	10.5	1.2	1.3	1.3	1.9	1.9						
					7.0	17.7	17.7	8.3	8.3	31.1	31.4	108.7	108.7	10.4	10.4	10.4	1.4	1.3	1.3	3.1	2.7						
					7.0	17.7	17.7	8.3	8.3	31.6	31.4	108.6	108.6	10.4	10.4	10.4	1.3	1.3	1.3	2.3	2.7						
				M4	Sunny	Calm	9:29	Surface	1.0	18.1	18.1	8.2	8.2	31.5	31.7	109.3	109.5	8.6	8.6	8.6	1.2	1.2	1.2	2.5	2.8		2.1
									1.0	18.1	18.1	8.2	8.2	31.8	31.7	109.6	109.5	8.6	8.6	8.6	1.2	1.2	1.2	3.1	2.8		
									5.0	17.7	17.7	8.3	8.3	31.8	31.5	109.3	109.4	8.9	8.8	8.8	1.3	1.2	1.2	2.0	1.9		
Middle	5.0	17.7	17.7					8.3	8.3	31.3	31.5	109.5	109.4	8.6	8.6	8.6	1.1	1.2	1.2	1.8	1.9						
	9.0	17.6	17.6					8.3	8.3	31.2	31.3	108.8	108.8	8.7	8.7	8.7	1.4	1.3	1.3	1.2	1.6						
	9.0	17.6	17.6					8.3	8.3	31.4	31.3	108.8	108.8	8.6	8.6	8.6	1.2	1.3	1.3	1.9	1.6						
M5	Sunny	Calm	10:56					Surface	1.1	17.8	17.8	8.3	8.3	31.2	31.4	110.0	110.1	9.1	9.0	9.0	1.3	1.3	1.3	1.4	1.6	1.9	
									1.1	17.8	17.8	8.3	8.3	31.5	31.4	110.1	110.1	8.8	8.9	8.9	1.2	1.3	1.3	1.7	1.6		
									6.1	17.7	17.7	8.3	8.3	31.7	31.6	109.0	109.0	8.9	8.9	8.9	1.3	1.2	1.2	3.2	2.9		
				Middle	6.1	17.7	17.7	8.3	8.3	31.5	31.6	108.9	109.0	8.9	8.9	8.9	1.1	1.2	1.2	2.5	2.9						
					11.1	17.7	17.6	8.3	8.3	31.3	31.3	108.4	108.4	8.7	8.7	8.7	1.3	1.2	1.2	1							

**Action and Limit Levels for Marine Water Quality on 7 March 2022 (Mid-Flood Tide)**

<b><u>Parameter</u></b> <b><u>(unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.5 NTU</u>	<u>CI: 1.6 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>CI: 1.9 mg/L</u>		<u>CI: 2.1 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 09 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average
C1	Sunny	Calm	17:07	Surface	1.1	18.1	8.2	8.2	31.4	31.6	111.0	111.7	10.6	10.7	10.8	1.2	1.3	1.3	1.7	1.6	2.0
						18.1	8.2	8.2	31.8	31.6	112.3	10.8	10.8	1.3	1.3	1.3	1.4	1.6			
						17.8	8.2	8.2	31.8	31.5	113.2	10.9	10.9	1.3	1.3	1.3	2.1	2.0			
				Middle	9.0	17.8	8.2	8.2	31.2	31.5	113.4	10.9	10.9	1.3	1.3	1.3	1.8	2.0			
						17.8	8.2	8.2	31.6	31.6	113.5	9.8	9.8	1.3	1.3	1.3	2.6	2.5			
						17.8	8.2	8.2	31.5	31.6	113.5	9.8	9.8	1.3	1.3	1.3	2.3	2.5			
C2	Sunny	Calm	15:43	Surface	1.1	18.2	8.3	8.3	31.8	31.8	110.9	111.0	10.6	10.6	10.7	1.3	1.2	1.2	1.4	1.4	2.4
						18.2	8.3	8.3	31.9	31.8	111.1	10.6	10.6	1.2	1.2	1.2	1.4	1.4			
						17.9	8.3	8.3	32.0	31.5	112.3	10.8	10.8	1.3	1.3	1.3	2.8	3.0			
				Middle	16.0	17.9	8.3	8.3	31.0	31.5	112.3	10.8	10.8	1.3	1.3	1.3	3.1	3.0			
						17.9	8.2	8.2	31.7	31.7	111.7	8.9	8.9	1.2	1.3	1.3	3.5	2.9			
						17.8	8.2	8.2	31.7	31.7	111.7	8.9	8.9	1.3	1.3	1.3	2.2	2.9			
G1	Sunny	Calm	16:24	Surface	1.1	18.7	8.3	8.3	31.8	31.8	117.0	117.1	9.1	9.1	9.2	1.4	1.3	1.3	2.2	2.5	
						18.7	8.3	8.3	31.8	31.8	117.1	9.2	9.2	1.2	1.3	1.3	2.7	2.5			
						18.7	8.3	8.3	31.8	31.8	117.6	9.2	9.2	1.2	1.3	1.3	2.1	2.3			
				Middle	4.0	18.7	8.3	8.3	31.8	31.8	117.6	9.2	9.2	1.3	1.3	1.3	2.5	2.3			
						18.7	8.3	8.3	31.8	31.8	117.9	9.2	9.2	1.3	1.3	1.3	1.8	1.9			
						18.4	8.3	8.3	31.8	31.8	119.4	9.4	9.4	1.3	1.4	1.4	1.9	1.9			
G2	Sunny	Calm	16:09	Surface	1.1	19.0	8.3	8.3	31.5	31.4	116.0	115.8	10.9	10.9	11.1	1.3	1.3	1.3	1.1	1.1	
						19.0	8.3	8.3	31.3	31.4	115.6	10.9	10.9	1.2	1.3	1.3	<0.1	1.1			
						18.3	8.3	8.3	31.5	31.8	117.4	11.2	11.3	1.2	1.3	1.3	1.8	2.0			
				Middle	5.0	18.3	8.3	8.3	32.0	31.8	119.6	11.4	11.3	1.3	1.3	1.3	2.2	2.0			
						18.3	8.3	8.3	31.6	31.7	119.9	10.3	10.9	1.4	1.3	1.3	2.4	2.4			
						18.2	8.3	8.3	31.8	31.7	120.0	11.4	10.9	1.3	1.3	1.3	2.4	2.4			
G3	Sunny	Calm	16:31	Surface	1.0	18.9	8.3	8.3	31.3	30.2	115.9	116.4	10.9	10.0	9.6	1.3	1.3	1.3	2.3	2.1	
						18.8	8.3	8.3	29.0	30.2	116.8	9.1	10.0	1.3	1.3	1.3	1.9	2.1			
						18.6	8.3	8.3	31.8	31.8	117.3	9.2	9.2	1.3	1.3	1.3	2.3	2.4			
				Middle	4.0	18.6	8.3	8.3	31.8	31.8	117.3	9.2	9.2	1.3	1.3	1.3	2.5	2.4			
						18.3	8.3	8.3	31.4	31.6	120.5	10.5	11.0	1.3	1.2	1.2	1.2	1.6			
						18.3	8.3	8.3	31.7	31.6	120.6	11.4	11.0	1.2	1.2	1.2	2.0	1.6			
G4	Sunny	Calm	16:46	Surface	1.1	18.9	8.3	8.3	32.0	31.8	116.1	116.7	10.9	11.0	11.2	1.2	1.3	1.3	2.0	1.9	
						18.9	8.3	8.3	31.6	31.8	117.3	11.0	11.0	1.3	1.3	1.3	1.8	1.9			
						18.4	8.3	8.3	31.7	31.9	118.9	11.3	11.4	1.3	1.3	1.3	1.2	1.2			
				Middle	4.1	18.4	8.3	8.3	32.0	31.9	119.7	11.4	11.4	1.3	1.3	1.3	1.2	1.2			
						18.3	8.3	8.3	31.5	31.4	119.9	11.4	11.5	1.3	1.3	1.3	2.0	1.6			
						18.3	8.3	8.3	31.4	31.4	120.6	11.5	11.5	1.4	1.3	1.3	1.1	1.6			
M1	Sunny	Calm	16:16	Surface	1.0	18.7	8.2	8.2	31.9	31.6	112.0	113.4	10.6	10.7	10.9	1.3	1.3	1.3	1.8	1.8	
						18.8	8.3	8.3	31.3	31.6	114.8	10.8	10.8	1.2	1.3	1.3	1.7	1.8			
						18.5	8.3	8.3	31.0	31.4	117.4	11.2	11.1	1.3	1.3	1.3	1.8	2.3			
				Middle	3.0	18.5	8.3	8.3	31.8	31.8	117.1	11.1	11.1	1.3	1.3	1.3	2.7	2.3			
						18.4	8.3	8.3	31.1	31.4	118.6	11.3	11.4	1.4	1.4	1.4	2.3	2.2			
						18.3	8.3	8.3	31.7	31.4	120.6	11.5	11.5	1.4	1.4	1.4	2.0	2.2			
M2	Sunny	Calm	16:01	Surface	1.1	18.8	8.3	8.3	31.5	31.4	116.8	116.9	11.0	11.0	11.0	1.2	1.3	1.3	1.6	1.7	
						18.8	8.3	8.3	31.2	31.4	117.0	11.0	11.0	1.4	1.3	1.3	1.8	1.7			
						18.3	8.3	8.3	31.2	31.4	115.8	11.0	11.0	1.3	1.3	1.3	3.4	3.5			
				Middle	6.0	18.1	8.3	8.3	31.6	31.4	115.5	11.1	11.0	1.3	1.3	1.3	3.5	3.5			
						18.1	8.3	8.3	32.0	31.4	117.6	11.3	11.3	1.3	1.3	1.3	3.1	3.1			
						18.1	8.3	8.3	31.7	31.8	117.8	11.3	11.3	1.3	1.3	1.3	3.1	3.1			
M3	Sunny	Calm	16:38	Surface	1.0	19.1	8.2	8.2	31.8	31.5	114.1	114.9	10.7	10.6	10.9	1.3	1.3	1.3	1.1	1.4	
						19.1	8.3	8.2	31.1	31.5	115.7	10.6	10.6	1.3	1.3	1.3	1.6	1.4			
						18.6	8.3	8.3	32.0	31.5	118.4	11.0	11.2	1.3	1.3	1.3	2.8	2.5			
				Middle	4.1	18.6	8.3	8.3	31.1	31.5	121.3	11.5	11.2	1.4	1.3	1.3	2.1	2.5			
						18.5	8.3	8.3	31.9	31.9	121.1	11.3	11.2	1.4	1.3	1.3	2.0	2.4			
						18.5	8.3	8.3	31.9	31.9	120.1	11.2	11.2	1.3	1.3	1.3	2.8	2.4			
M4	Sunny	Calm	15:52	Surface	1.0	18.2	8.2	8.2	31.7	31.7	111.1	111.2	8.8	8.8	8.8	1.2	1.2	1.2	1.6	1.4	
						18.2	8.2	8.2	31.7	31.7	111.2	8.8	8.8	1.2	1.2	1.2	1.2	1.4			
						17.9	8.2	8.2	31.6	31.6	111.4	8.8	8.8	1.3	1.3	1.3	1.3	1.7			
				Middle	5.0	17.9	8.3	8.2	31.6	31.6	111.7	8.9	8.9	1.3	1.3	1.3	2.0	1.7			
						17.9	8.3	8.3	31.7	31.7	113.4	9.0	9.0	1.3	1.3	1.3	3.3	3.0			
						17.9	8.3	8.3	31.7	31.7	113.4	9.0	9.0	1.3	1.3	1.3	2.7	3.0			
M5	Sunny	Calm	16:58	Surface	1.1	18.5	8.2	8.2	31.6	31.3	116.0	116.2	11.0	11.0	11.2	1.2	1.3	1.3	2.1	1.9	
						18.4	8.3	8.3	31.0	31.3	116.4	11.1	11.1	1.4	1.3	1.3	1.6	1.9			
						18.0	8.3	8.3	31.9	31.9	117.4	11.3	11.3	1.3	1.3	1.3	1.3	1.5			
				Middle	6.0	18.0	8.3	8.3	31.8	31.9	117.6	11.3	11.3	1.3	1.3	1.3	1.6	1.5			
						18.1	8.3	8.3	31.5	31.3	120.0	10.1	10.2	1.4	1.3	1.3	<0.1	<0.1			
						18.1	8.3	8.3	31.0	31.3	120.3	10.3	10.2	1.2	1.3	1.3	<0.1	<0.1			
M6	Sunny	Calm	16:53	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
						18.3	8.3	8.3	31.9	31.6	119.4	11.4	11.4	1.2	1.2	1.2	2.6	2.7			
				Middle	2.0	18.4	8.3	8.3	31.2	31.6	119.5	11.4	11.4	1.2	1.2	1.2	2.7	2.7			
						-	-	-	-	-	-	-	-	-	-	-	-	-			
						-	-	-	-	-	-	-	-	-	-	-	-	-			
Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 9 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.5 NTU</u>	<u>C2: 1.6 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.7 mg/L</u>	<u>C2: 1.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.7 mg/L</u>	<u>C2: 1.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: 3.4 mg/L</u>		<u>C2: 3.7 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 09 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*		
C1	Sunny	Calm	11:43	Surface	1.0	17.5	17.5	8.2	8.2	31.0	31.4	112.6	112.7	10.8	10.8	10.6	1.4	1.3	1.3	3.3	2.9	2.1		
					17.5	8.2	8.2	31.7	31.4	112.7	10.8	1.3	2.4											
				Middle	9.0	17.1	17.1	8.2	8.2	31.5	31.4	113.4	113.5	10.9	10.4		1.3	1.4		2.2	2.1			
					17.1	8.2	8.2	31.2	31.7	113.5	9.9	1.4	2.0											
				Bottom	17.0	17.2	17.2	8.2	8.2	31.4	31.7	113.5	113.5	9.8	9.9		9.9	1.2		1.3	1.4		1.4	
					17.2	8.2	8.2	32.0	31.7	113.4	9.9	1.3	1.3											
C2	Sunny	Calm	10:12	Surface	1.1	17.5	17.5	8.2	8.2	31.3	31.2	111.2	111.3	10.6	10.6	10.7	1.4	1.3	1.3	1.9	2.1	2.1		
					17.5	8.2	8.2	31.1	31.7	111.3	10.6	1.3	2.2											
				Middle	16.1	17.3	17.3	8.3	8.3	31.5	31.7	112.4	112.4	10.8	10.8		1.3	1.3		2.0	1.8			
					17.3	8.3	8.3	31.8	31.7	112.4	10.8	1.4	1.6											
				Bottom	31.0	17.2	17.2	8.2	8.2	31.7	31.7	111.7	111.7	8.9	8.9		8.9	1.3		1.3	3.0		2.5	
					17.2	8.3	8.2	31.7	31.7	111.7	8.9	1.2	2.0											
G1	Sunny	Calm	10:55	Surface	1.0	18.1	18.1	8.3	8.3	31.8	31.8	117.2	117.3	9.2	9.2	9.2	1.3	1.3	1.3	3.2	3.3	3.0		
					18.1	8.3	8.3	31.8	31.8	117.4	9.2	1.3	3.3											
				Middle	4.0	18.0	18.0	8.3	8.3	31.8	31.8	117.9	117.9	9.2	9.2		9.2	1.3		1.2	2.2		2.7	
					18.0	8.3	8.3	31.8	31.8	117.9	9.2	1.2	3.2											
				Bottom	6.0	17.8	17.8	8.3	8.3	31.8	31.8	119.4	119.5	9.4	9.4		9.4	1.3		1.3	3.2		3.2	
					17.8	8.3	8.3	31.9	31.8	119.5	9.4	1.4	3.1											
G2	Sunny	Calm	10:38	Surface	1.0	18.4	18.4	8.3	8.3	31.8	31.9	115.2	115.3	10.8	10.8	10.3	1.2	1.3	1.3	2.3	2.4	2.0		
					18.4	8.3	8.3	32.0	31.6	115.3	10.8	1.3	2.4											
				Middle	5.0	17.6	17.6	8.3	8.3	31.2	31.6	119.8	119.9	9.7	9.7		9.7	1.2		1.3	<0.1		1.8	
					17.6	8.3	8.3	32.0	31.6	120.0	9.7	1.4	1.8											
				Bottom	9.1	17.5	17.5	8.3	8.3	31.8	31.5	119.8	119.8	11.4	11.4		11.4	1.4		1.3	3.1		2.7	
					17.5	8.3	8.3	31.1	31.5	119.8	11.4	1.2	2.3											
G3	Sunny	Calm	11:05	Surface	1.0	18.2	18.2	8.3	8.3	31.8	31.8	117.1	117.3	9.1	9.1	9.4	1.3	1.3	1.3	1.6	1.7	1.9		
					18.2	8.3	8.3	31.8	31.8	117.4	9.1	1.3	1.8											
				Middle	4.1	17.9	17.9	8.3	8.3	31.1	31.1	117.6	117.7	9.2	9.6		9.6	1.3		1.3	1.3		1.8	
					17.9	8.3	8.3	31.1	31.1	117.8	10.0	1.3	2.2											
				Bottom	7.0	17.7	17.7	8.3	8.3	31.9	31.6	120.6	120.6	11.4	11.3		11.3	1.4		1.4	2.0		2.2	
					17.7	8.3	8.3	31.4	31.6	120.6	11.3	1.4	2.3											
G4	Sunny	Calm	11:21	Surface	1.1	18.2	18.2	8.3	8.3	31.3	31.2	117.6	117.8	11.1	11.1	11.3	1.2	1.2	1.3	1.7	2.1	2.1		
					18.1	8.3	8.3	31.1	31.2	117.9	11.1	1.2	2.5											
				Middle	4.0	17.7	17.7	8.3	8.3	31.9	31.6	119.8	119.8	11.4	11.4		11.4	1.3		1.3	2.8		2.7	
					17.7	8.3	8.3	31.2	31.6	119.7	11.4	1.3	2.5											
				Bottom	7.1	17.6	17.6	8.3	8.3	31.3	31.2	120.8	120.9	11.5	11.5		11.5	1.3		1.3	1.5		1.5	
					17.6	8.3	8.3	31.1	31.2	121.0	11.5	1.3	1.4											
M1	Sunny	Calm	10:46	Surface	1.0	18.1	18.1	8.3	8.3	31.3	31.3	115.1	115.2	10.9	10.9	11.0	1.3	1.3	1.3	1.4	1.8	1.9		
					18.1	8.3	8.3	31.3	31.3	115.2	10.9	1.3	2.1											
				Middle	3.0	17.9	17.9	8.3	8.3	31.0	31.4	117.1	117.2	11.1	11.1		11.1	1.3		1.2	1.8		2.2	
					17.9	8.3	8.3	31.7	31.4	117.2	11.1	1.2	2.5											
				Bottom	5.0	17.7	17.7	8.3	8.3	31.2	31.2	121.8	121.9	11.6	11.6		11.6	1.3		1.3	2.2		1.8	
					17.7	8.3	8.3	31.2	31.2	121.9	11.6	1.2	1.4											
M2	Sunny	Calm	10:29	Surface	1.1	18.2	18.3	8.3	8.3	31.1	31.3	117.6	117.6	11.1	11.1	11.1	1.4	1.3	1.3	2.6	2.4	2.7		
					18.3	8.3	8.3	31.6	31.3	117.5	11.1	1.3	2.2											
				Middle	6.0	17.5	17.5	8.3	8.3	31.3	31.2	115.6	115.7	11.1	11.1		11.1	1.4		1.3	2.3		2.5	
					17.5	8.3	8.3	31.1	31.2	115.7	11.1	1.2	2.6											
				Bottom	11.0	17.5	17.5	8.3	8.3	31.1	31.2	117.8	117.9	11.3	11.3		11.3	1.4		1.4	3.4		3.4	
					17.5	8.3	8.3	31.3	31.2	117.9	11.3	1.4	3.3											
M3	Sunny	Calm	11:13	Surface	1.0	18.5	18.5	8.3	8.3	31.1	31.4	116.1	116.5	10.8	10.4	10.9	1.3	1.3	1.3	1.7	2.0	2.2		
					18.5	8.3	8.3	31.7	31.7	116.8	10.0	1.2	2.3											
				Middle	4.1	17.9	17.9	8.3	8.3	31.8	31.7	122.0	122.2	11.5	11.5		11.5	1.3		1.3	1.9		1.8	
					17.9	8.3	8.3	31.7	31.7	122.4	11.4	1.3	1.7											
				Bottom	7.0	17.8	17.8	8.3	8.3	31.7	31.4	119.8	119.8	11.2	11.1		11.1	1.3		1.3	2.8		2.8	
					17.8	8.3	8.3	31.1	31.4	119.7	11.1	1.4	2.8											
M4	Sunny	Calm	10:21	Surface	1.0	17.6	17.6	8.2	8.2	31.7	31.7	111.3	111.3	8.8	8.8	8.8	1.2	1.3	1.3	1.1	1.4	1.5		
					17.6	8.2	8.2	31.7	31.7	111.3	8.8	1.3	1.7											
				Middle	5.0	17.3	17.3	8.3	8.3	31.6	31.6	111.9	112.0	8.9	8.9		8.9	1.3		1.4	1.2		1.4	
					17.3	8.3	8.3	31.6	31.6	112.0	8.9	1.4	1.5											
				Bottom	9.0	17.3	17.3	8.3	8.3	31.7	31.7	113.5	113.5	9.0	9.0		9.0	1.3		1.2	1.4		1.6	
					17.3	8.3	8.3	31.7	31.7	113.5	9.0	1.2	1.8											
M5	Sunny	Calm	11:34	Surface	1.0	17.9	17.9	8.2	8.2	31.8	31.9	117.5	117.5	11.2	11.1	10.6	1.4	1.3	1.3	2.5	2.4	2.2		
					17.9	8.2	8.2	32.0	31.9	117.4	11.1	1.3	2.2											
				Middle	6.0	17.4	17.4	8.3	8.3	31.4	31.4	117.7	117.8	10.2	10.1		10.1	1.2		1.3	2.6		2.6	
					17.4	8.3	8.3	31.4	31.4	117.9	10.1	1.3	2.5											
				Bottom	11.0	17.5	17.5	8.3	8.3	31.1	31.1	120.4	120.6	10.5	10.4		10.4	1.3		1.3	1.6		1.6	
					17.5	8.3	8.3	31.1	31.1	120.8	10.3	1.3	1.5											
M6	Sunny	Calm	11:28	Surface	-	-	-	-	-	-	-	-	-	-	11.4	-	-	1.4	-	-	1.3			
					17.7	17.7	8.3	8.3	31.1	31.2	119.5	119.5	11.4	11.4		8.0	8.0		1.4	1.3				
				Middle	2.0	17.7	17.7	8.3	8.3	31.3	31.2	119.5	119.5	11.4		11.4	8.0		8.0	1.2		-		
					17.7	8.3	8.3	31.3	31.2	119.5	11.4	8.0	1.2											
				Bottom	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-
					-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.



**Action and Limit Levels for Marine Water Quality on 9 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 1.5 NTU</u>	<u>C1: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 3.4 mg/L</u>	<u>C1: 3.7 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 3.4 mg/L</u>	<u>C1: 3.7 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C1: 1.6 mg/L</u>		<u>C1: 1.8 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 11 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Calm	10:28	Surface	1.0	18.4	18.3	8.2	8.2	31.6	31.6	119.6	121.5	11.2	11.4	11.5	1.3	1.3	1.3	1.3	1.4	1.8
				Middle	9.0	18.2		8.3		31.5		123.4		11.6			1.2			1.4		
				Bottom	17.1	17.7	8.2	31.2	121.3	11.6	1.3	1.6	2.3	2.4								
C2	Sunny	Calm	9:03	Surface	1.1	17.9	17.9	8.2	8.3	31.7	31.7	123.0	122.6	11.7	11.6	11.5	1.2	1.1	1.1	1.2	1.2	1.7
				Middle	16.0	18.0		8.3		31.6		122.2		11.6			1.1			1.6		
				Bottom	31.0	17.6	8.2	31.1	118.4	11.3	1.2	1.4	2.4	2.3								
G1	Sunny	Calm	9:45	Surface	1.1	17.6	17.6	8.2	8.2	31.8	31.7	116.2	116.1	11.1	11.1	11.1	1.2	1.2	1.2	2.1	2.3	1.3
				Middle	4.0	18.0		8.3		31.0		124.0		11.7			1.3			1.8		
				Bottom	7.1	17.8	8.3	31.9	125.8	11.9	1.3	2.2	2.2	<0.1	<0.1							
G2	Sunny	Calm	9:30	Surface	1.1	17.9	17.9	8.3	8.3	31.3	31.3	127.1	127.4	12.1	12.1	11.9	1.4	1.4	1.3	1.8	1.8	1.3
				Middle	5.1	18.1		8.3		31.2		125.6		11.9			1.4			1.8		
				Bottom	9.1	17.7	8.3	31.1	127.7	12.1	1.4	<0.1	<0.1									
G3	Sunny	Calm	9:54	Surface	1.1	17.8	17.8	8.3	8.3	31.8	31.2	127.5	127.6	12.1	12.1	12.1	1.2	1.3	1.3	2.7	2.9	2.1
				Middle	4.0	18.0		8.3		31.4		127.0		12.0			1.3			2.0		
				Bottom	7.1	17.8	8.3	32.0	128.1	12.1	1.4	3.1	3.1									
G4	Sunny	Calm	10:10	Surface	1.0	17.8	18.1	8.3	8.3	31.7	31.6	124.9	125.7	10.3	10.3	10.2	1.3	1.2	1.2	2.6	2.6	4.2
				Middle	4.0	18.1		8.3		31.6		126.5		10.4			1.2			4.6		
				Bottom	7.1	17.9	8.3	31.5	128.4	10.2	1.3	6.0	5.7									
M1	Sunny	Calm	9:37	Surface	1.0	17.8	18.1	8.2	8.2	31.3	31.3	127.8	127.9	10.5	10.4	10.4	1.3	1.3	1.3	3.1	3.2	2.1
				Middle	3.1	18.0		8.3		31.0		127.9		10.4			1.3			5.4		
				Bottom	5.0	17.9	8.3	31.3	128.1	11.2	1.2	3.1	3.2									
M2	Sunny	Calm	9:21	Surface	1.1	17.9	17.7	8.3	8.3	31.4	31.4	128.0	124.6	11.2	11.8	11.8	1.4	1.3	1.3	2.4	2.4	1.7
				Middle	6.0	18.1		8.3		31.7		124.6		11.8			1.2			1.7		
				Bottom	11.0	17.7	8.3	31.8	124.2	11.8	1.3	1.1	1.1									
M3	Sunny	Calm	10:02	Surface	1.0	17.7	18.4	8.2	8.2	31.4	31.5	124.4	120.7	11.2	11.2	10.6	1.2	1.2	1.3	1.5	1.6	1.9
				Middle	4.1	18.4		8.3		31.7		121.2		11.1			1.2			1.6		
				Bottom	7.0	18.0	8.3	31.3	128.0	10.2	1.2	2.2	2.2									
M4	Sunny	Calm	9:12	Surface	1.1	17.9	17.9	8.3	8.3	31.7	31.5	127.7	127.6	10.0	10.1	10.1	1.4	1.4	1.4	1.6	1.4	2.2
				Middle	5.1	18.0		8.3		31.3		125.7		11.9			1.2			1.2		
				Bottom	9.0	17.8	8.3	31.2	123.6	11.8	1.3	1.8	1.9									
M5	Sunny	Calm	10:21	Surface	1.0	17.8	18.2	8.3	8.3	31.5	31.7	122.6	122.7	9.7	9.7	9.7	1.3	1.3	1.3	<0.1	<0.1	1.5
				Middle	6.1	18.1		8.3		31.9		122.8		9.6			1.3			1.6		
				Bottom	11.1	17.8	8.3	31.6	123.3	11.7	1.2	2.8	2.9									
M6	Sunny	Calm	10:16	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Middle	2.1	17.8	17.8	8.3	8.3	31.4	31.5	123.5	124.5	11.7	11.8	11.8	8.0	8.0	1.2	2.0	2.0	2.0
				Bottom	-	17.8	-	8.3	-	-	125.5	-	-	11.9	-	-	8.0	-	-	-	-	-

Remarks: \*DA: Depth-Averaged  
\*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 11 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 1.4 NTU</u>	<u>C1: 1.5 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 1.6 mg/L</u>	<u>C1: 1.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 1.6 mg/L</u>	<u>C1: 1.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C1: 2.8 mg/L</u>		<u>C1: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.



**Action and Limit Levels for Marine Water Quality on 14 March 2022 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.6 NTU</u>	<u>CI: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 4.4 mg/L</u>	<u>CI: 4.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 4.4 mg/L</u>	<u>CI: 4.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>CI: 2.6 mg/L</u>	<u>CI: 2.9 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 16 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*		
C1	Cloudy	Moderate	13:09	Surface	1.1	19.5	19.5	8.2	8.2	31.9	31.7	111.5	112.3	10.2	10.3	10.2	1.3	1.2	1.3	3.0	3.0	2.2		
						19.4		8.2		31.5		113.1		10.4			1.1			2.9				
				Middle	9.1	19.1	19.1	8.2	8.2	31.1	31.5	110.4	110.2	10.2	10.2		10.1	10.2		1.2	1.2		2.1	2.0
						19.1		8.2		31.9		110.0		10.1			1.2			1.9				
				Bottom	17.0	18.4	18.4	8.2	8.2	31.2	31.2	98.6	98.3	9.2	8.6		8.6	8.6		1.5	1.5		1.7	1.7
						18.4		8.2		31.3		97.9		8.0			1.5			1.7				
C2	Cloudy	Moderate	11:39	Surface	1.0	19.2	19.2	8.2	8.2	31.3	31.6	109.9	109.9	10.2	10.2	9.8	1.2	1.2	1.2	3.0	3.1	2.4		
						19.2		8.2		32.0		109.9		10.2			1.2			3.1				
				Middle	16.0	18.5	18.5	8.2	8.2	31.4	31.5	101.1	101.0	9.5	9.5		9.5	9.5		1.2	1.1		2.6	2.7
						18.5		8.2		31.7		100.8		9.5			1.0			2.7				
				Bottom	31.0	18.2	18.2	8.2	8.2	31.6	31.8	93.5	93.2	8.8	8.8		8.8	8.8		1.5	1.4		1.4	1.5
						18.2		8.2		31.9		92.9		8.8			1.4			1.6				
G1	Cloudy	Moderate	12:21	Surface	1.1	19.3	19.3	8.2	8.2	31.9	31.6	112.4	112.6	10.4	10.4	10.5	1.1	1.2	1.2	1.3	1.3	1.7		
						19.3		8.2		31.4		112.8		10.4			1.3			1.3				
				Middle	4.0	19.1	19.1	8.2	8.2	31.7	31.6	113.7	113.8	10.5	10.5		10.5	10.5		1.0	1.1		1.7	1.8
						19.1		8.2		31.5		113.9		10.5			1.2			1.9				
				Bottom	7.0	18.8	18.8	8.2	8.2	31.1	31.3	112.7	112.7	10.5	10.5		10.5	10.5		1.4	1.4		2.0	2.0
						18.8		8.2		31.6		112.7		10.5			1.4			2.0				
G2	Cloudy	Moderate	12:06	Surface	1.0	19.7	19.7	8.3	8.3	31.1	31.5	115.1	115.5	10.5	10.6	10.6	1.3	1.2	1.2	1.8	1.9	1.7		
						19.7		8.3		31.9		115.8		10.6			1.2			2.0				
				Middle	5.0	19.3	19.3	8.3	8.3	31.2	31.4	114.8	114.8	10.6	10.6		10.6	10.6		1.1	1.1		1.6	1.7
						19.3		8.3		31.6		114.7		10.6			1.1			1.7				
				Bottom	9.0	18.7	18.7	8.3	8.3	31.3	31.2	107.7	107.5	10.0	10.0		10.0	10.0		1.3	1.2		1.5	1.5
						18.7		8.3		31.1		107.3		10.0			1.2			1.5				
G3	Cloudy	Moderate	12:28	Surface	1.0	19.6	19.7	8.2	8.2	31.2	31.4	115.4	115.3	10.6	10.6	10.6	1.3	1.3	1.3	1.3	1.4	1.7		
						19.7		8.2		31.6		115.2		10.5			1.4			1.4				
				Middle	4.0	19.1	19.1	8.2	8.2	31.5	31.7	114.6	114.7	10.6	10.6		10.6	10.6		1.2	1.2		1.4	1.5
						19.1		8.2		31.9		114.7		10.6			1.3			1.5				
				Bottom	7.1	18.7	18.7	8.2	8.2	32.0	32.0	112.3	112.2	10.5	10.4		10.4	10.4		1.2	1.2		2.0	2.2
						18.8		8.2		32.0		112.0		10.4			1.2			2.3				
G4	Cloudy	Moderate	12:45	Surface	1.0	19.3	19.3	8.2	8.2	31.3	31.2	116.3	116.6	10.7	10.7	10.7	1.4	1.3	1.2	3.6	3.6	2.5		
						19.3		8.2		31.1		116.8		10.8			1.3			3.5				
				Middle	4.0	19.2	19.2	8.2	8.2	31.7	31.8	115.9	116.0	10.7	10.7		10.7	10.7		1.2	1.2		2.0	2.1
						19.2		8.2		31.9		116.1		10.7			1.1			2.2				
				Bottom	7.0	19.0	19.0	8.2	8.2	31.3	31.2	115.1	114.7	10.6	10.6		10.6	10.6		1.2	1.2		1.8	1.7
						19.0		8.2		31.1		114.3		10.6			1.2			1.6				
M1	Cloudy	Moderate	12:14	Surface	1.1	19.4	19.4	8.2	8.2	31.8	31.4	113.8	114.0	10.5	10.5	10.5	1.2	1.2	1.3	2.2	2.1	2.8		
						19.4		8.3		31.1		114.2		10.5			1.2			2.0				
				Middle	3.1	19.2	19.2	8.3	8.3	31.4	31.5	114.0	114.0	10.5	10.5		10.5	10.5		1.2	1.3		2.2	2.3
						19.2		8.3		31.7		113.9		10.5			1.3			2.3				
				Bottom	5.1	19.0	19.0	8.3	8.2	31.6	31.3	112.2	112.0	10.4	10.4		10.4	10.4		1.4	1.3		4.0	4.1
						19.0		8.2		31.1		111.7		10.4			1.3			4.2				
M2	Cloudy	Moderate	11:57	Surface	1.0	19.7	19.7	8.2	8.2	31.4	31.2	113.4	113.7	10.4	10.4	10.4	1.2	1.2	1.3	2.9	3.0	2.4		
						19.7		8.3		31.0		114.0		10.4			1.2			3.1				
				Middle	6.1	19.2	19.1	8.3	8.3	31.8	31.6	111.9	111.3	10.4	10.3		10.3	10.3		1.2	1.3		2.2	2.2
						19.1		8.3		31.4		110.7		10.3			1.3			2.2				
				Bottom	11.0	18.5	18.5	8.2	8.2	31.0	31.3	103.5	103.1	9.7	9.7		9.7	9.7		1.3	1.3		2.0	2.0
						18.5		8.2		31.5		102.6		9.6			1.3			2.0				
M3	Cloudy	Moderate	12:36	Surface	1.1	19.4	19.4	8.2	8.2	32.0	31.7	112.8	113.3	10.4	10.4	10.3	1.2	1.2	1.2	1.9	2.0	1.7		
						19.4		8.2		31.4		113.7		10.5			1.2			2.0				
				Middle	4.0	19.0	19.0	8.2	8.2	31.5	31.3	114.9	114.9	9.8	10.2		10.2	10.2		1.1	1.1		1.7	1.8
						19.0		8.2		31.2		114.9		10.6			1.2			1.8				
				Bottom	7.0	18.8	18.8	8.2	8.2	31.5	31.6	114.7	114.7	10.6	10.6		10.6	10.6		1.3	1.3		1.6	1.5
						18.8		8.2		31.7		114.7		10.7			1.2			1.4				
M4	Cloudy	Moderate	11:48	Surface	1.0	19.4	19.4	8.2	8.2	31.5	31.7	109.6	109.7	10.1	10.1	10.0	1.2	1.2	1.2	1.3	1.4	1.9		
						19.4		8.2		31.8		109.8		10.1			1.3			1.5				
				Middle	5.0	18.9	18.9	8.2	8.2	31.1	31.5	107.5	107.3	10.0	10.0		10.0	10.0		1.1	1.1		2.0	1.9
						18.9		8.2		31.9		107.0		10.0			1.1			1.7				
				Bottom	9.0	18.3	18.3	8.2	8.2	31.5	31.4	98.2	97.6	9.2	9.2		9.2	9.2		1.4	1.3		2.3	2.4
						18.3		8.2		31.3		96.9		9.1			1.2			2.4				
M5	Cloudy	Moderate	12:59	Surface	1.1	19.1	19.1	8.2	8.2	31.1	31.4	112.3	112.4	9.1	9.1	9.4	1.1	1.1	1.2	3.2	3.1	2.5		
						19.1		8.2		31.8		112.4		9.1			1.2			3.0				
				Middle	6.0	19.0	19.0	8.2	8.2	31.9	31.8	111.3	111.2	10.3	9.8		9.8	9.8		1.4	1.2		2.3	2.5
						19.0		8.2		31.7		111.0		9.3			1.1			2.6				
				Bottom	11.1	18.8	18.8	8.2	8.2	31.5	31.3	108.8	108.8	10.1	10.1		10.1	10.1		1.3	1.3		2.0	1.9
						18.8		8.2		31.2		108.7		10.1			1.2			1.7				
M6	Cloudy	Moderate	12:54	Surface	-	-	-	-	-	-	-	-	-	-	9.8	-	-	1.3	-	-	1.8			
				Middle	2.0	19.1	19.1	8.2	8.2	31.4	31.2	112.9	113.2	10.5		9.8	9.8		9.8	1.2		1.3	1.8	1.8
						19.1		8.2		31.1		113.4		9.2			1.3			1.8				
Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Remarks:

\*DA: Depth-Averaged

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

**Action and Limit Levels for Marine Water Quality on 16 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.7 NTU</u>	<u>C2: 1.8 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 3.7 mg/L</u>	<u>C2: 4.0 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 3.7 mg/L</u>	<u>C2: 4.0 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>C2: 1.8 mg/L</u>	<u>C2: 2.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.



**Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction**  
**Water Quality Monitoring Results on 16 March 2022**

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*			
C1	Cloudy	Moderate	17:04	Surface	1.0	19.6	19.6	8.2	8.2	31.6	31.3	113.2	113.3	10.4	10.2	9.8	1.3	1.3	1.3	2.4	2.3	2.0			
					19.6	8.2	8.2	31.0	113.3	10.1	1.2	1.3	2.2												
				Middle	9.0	19.2	19.2	8.2	8.2	31.7	31.4	109.7	109.6	9.3	9.3		1.3	1.3		2.1	2.1				
					19.2	8.2	8.2	31.2	109.5	9.2	1.3	1.3	2.1												
				Bottom	17.0	18.5	18.5	8.2	8.2	31.3	31.5	96.8	96.4	9.1	8.6		8.6	1.4		1.4	1.6		1.6		
					18.5	8.2	8.2	31.8	95.9	8.2	1.4	1.4	1.5												
C2	Cloudy	Moderate	15:38	Surface	1.1	19.3	19.4	8.2	8.2	31.9	31.6	109.9	109.9	10.2	10.2	9.8	1.3	1.2	1.2	1.5	1.5	1.9			
					19.4	8.2	8.2	31.4	109.9	10.2	1.2	1.2	1.4												
				Middle	16.0	18.6	18.6	8.2	8.2	31.2	31.4	100.5	100.2	9.4	9.4		1.0	1.0		2.1	2.0				
					18.6	8.2	8.2	31.5	99.9	9.4	1.0	1.0	1.9												
				Bottom	31.1	18.4	18.4	8.2	8.2	31.6	31.3	92.5	92.4	8.7	8.7		8.7	1.3		1.3	2.2		2.3		
					18.4	8.2	8.2	31.1	92.3	8.7	8.7	8.7	1.4	1.3	2.4		2.3								
G1	Cloudy	Moderate	16:19	Surface	1.0	19.5	19.6	8.2	8.2	31.4	31.4	113.5	113.5	10.5	10.4	10.5	1.1	1.2	1.2	4.1	4.1	3.0			
					19.7	8.2	8.2	31.4	113.5	10.4	1.3	1.2	4.0												
				Middle	4.0	19.3	19.3	8.2	8.2	31.6	31.6	114.0	114.0	10.6	10.6		1.3	1.2		2.6	2.6				
					19.3	8.2	8.2	31.6	114.0	10.6	1.2	1.2	2.6												
				Bottom	7.0	19.0	19.0	8.2	8.2	31.9	31.5	112.7	112.7	10.5	10.5		10.5	1.3		1.3	2.1		2.2		
					19.0	8.2	8.2	31.1	112.6	10.5	1.3	1.3	2.3												
G2	Cloudy	Moderate	16:04	Surface	1.1	19.8	19.8	8.3	8.3	31.5	31.4	115.9	115.9	10.6	10.2	10.4	1.2	1.2	1.2	1.6	1.6	1.0			
					19.9	8.3	8.3	31.3	115.8	9.7	1.2	1.2	1.6												
				Middle	5.0	19.5	19.5	8.3	8.3	31.1	31.3	114.8	114.9	10.6	10.6		1.1	1.0		1.5	1.4				
					19.5	8.3	8.3	31.5	114.9	10.6	1.0	1.0	1.3												
				Bottom	9.0	18.8	18.8	8.3	8.2	31.9	31.8	106.8	106.6	10.0	9.9		9.9	1.2		1.3	<0.1		<0.1		
					18.8	8.2	8.2	31.6	106.4	9.9	9.9	9.9	1.3	1.3	<0.1		<0.1								
G3	Cloudy	Moderate	16:26	Surface	1.0	19.9	19.8	8.2	8.2	31.4	31.3	114.9	114.7	10.5	10.5	10.5	1.1	1.1	1.2	<0.1	<0.1	0.4			
					19.8	8.2	8.2	31.2	114.5	10.5	1.1	1.1	<0.1												
				Middle	4.1	19.2	19.2	8.2	8.2	31.4	31.5	114.9	114.9	10.6	10.6		1.0	1.1		<0.1	<0.1				
					19.2	8.2	8.2	31.6	114.9	10.6	1.2	1.1	<0.1												
				Bottom	7.1	18.9	18.8	8.2	8.2	31.8	31.6	112.4	112.4	10.5	10.5		10.5	1.4		1.3	1.2		1.3		
					18.8	8.2	8.2	31.4	112.3	10.5	1.2	1.3	1.4												
G4	Cloudy	Moderate	16:42	Surface	1.1	19.5	19.5	8.2	8.2	31.8	31.6	116.8	116.9	10.8	10.8	10.7	1.3	1.3	1.3	1.2	1.1	1.4			
					19.5	8.2	8.2	31.4	116.9	10.8	1.3	1.3	1.0												
				Middle	4.0	19.4	19.4	8.2	8.2	31.8	31.8	116.1	116.1	10.7	10.7		1.3	1.2		1.5	1.5				
					19.4	8.2	8.2	31.9	116.1	10.7	1.1	1.2	1.5												
				Bottom	7.0	19.2	19.2	8.2	8.2	32.0	31.6	114.3	114.4	10.6	10.6		10.6	1.4		1.3	1.6		1.7		
					19.2	8.2	8.2	31.3	114.4	10.6	1.3	1.3	1.7												
M1	Cloudy	Moderate	16:12	Surface	1.0	19.6	19.6	8.3	8.3	31.4	31.5	114.6	114.6	10.5	10.5	10.5	1.4	1.3	1.3	<0.1	<0.1	0.5			
					19.6	8.3	8.3	31.6	114.6	10.5	1.3	1.3	<0.1												
				Middle	3.0	19.3	19.3	8.3	8.3	31.6	31.8	113.9	113.9	10.5	10.5		1.2	1.2		<0.1	<0.1				
					19.3	8.3	8.3	32.0	113.9	10.5	1.3	1.2	<0.1												
				Bottom	5.1	19.2	19.1	8.2	8.2	31.2	31.2	111.4	111.3	10.3	10.3		10.3	1.4		1.4	1.5		1.6		
					19.1	8.2	8.2	31.3	111.1	10.3	1.4	1.4	1.6												
M2	Cloudy	Moderate	15:56	Surface	1.0	19.8	19.8	8.3	8.3	31.3	31.2	114.7	114.8	10.5	10.5	10.4	1.3	1.3	1.3	1.3	1.3	1.6			
					19.8	8.3	8.3	31.1	114.8	10.5	1.4	1.3	1.2												
				Middle	6.0	19.3	19.3	8.2	8.2	31.8	31.6	110.6	110.6	10.3	10.2		1.3	1.3		1.6	1.5				
					19.3	8.2	8.2	31.4	110.6	10.2	1.4	1.3	1.4												
				Bottom	11.0	18.7	18.7	8.2	8.2	31.7	31.5	102.6	102.6	9.6	9.6		9.6	1.3		1.3	2.1		2.1		
					18.7	8.2	8.2	31.3	102.5	9.6	9.6	9.6	1.3	1.3	2.0		2.1								
M3	Cloudy	Moderate	16:33	Surface	1.1	19.7	19.7	8.2	8.2	31.2	31.3	114.4	114.4	10.5	10.5	10.6	1.4	1.3	1.3	1.7	1.8	2.1			
					19.7	8.2	8.2	31.3	114.3	10.5	1.3	1.3	1.8												
				Middle	4.1	19.2	19.2	8.2	8.2	31.6	31.7	114.9	115.2	10.6	10.7		1.4	1.3		2.1	2.1				
					19.2	8.2	8.2	31.7	115.5	10.7	1.3	1.3	2.1												
				Bottom	7.0	19.0	19.0	8.2	8.2	31.0	31.2	114.8	114.9	10.7	10.7		10.7	1.3		1.3	2.4		2.4		
					19.0	8.2	8.2	31.5	114.9	10.7	1.3	1.3	2.4												
M4	Cloudy	Moderate	15:47	Surface	1.1	19.5	19.5	8.2	8.2	31.6	31.6	110.1	110.1	10.2	10.2	10.0	1.2	1.3	1.2	1.5	1.5	1.8			
					19.5	8.2	8.2	31.6	110.1	10.2	1.3	1.3	1.4												
				Middle	5.1	19.1	19.1	8.2	8.2	31.9	31.6	106.9	106.9	9.9	9.9		9.9	1.2		1.1	1.5		1.5		
					19.1	8.2	8.2	31.3	106.8	9.9	9.9	9.9	1.0	1.1	1.5										
				Bottom	9.1	18.5	18.5	8.2	8.2	31.1	31.4	96.7	96.6	9.1	9.1		9.1	1.3		1.2	2.2		2.3		
					18.5	8.2	8.2	31.8	96.5	9.1	9.1	9.1	1.1	1.2	2.4		2.3								
M5	Cloudy	Moderate	16:55	Surface	1.1	19.3	19.3	8.2	8.2	31.2	31.3	112.5	112.6	9.4	9.9	10.0	1.1	1.2	1.2	2.4	2.3	1.7			
					19.3	8.2	8.2	31.4	112.6	10.4	1.3	1.2	2.2												
				Middle	6.0	19.2	19.2	8.2	8.2	31.1	31.1	110.9	110.8	10.2	10.1		1.2	1.1		1.6	1.6				
					19.2	8.2	8.2	31.2	110.7	10.0	1.0	1.1	1.5												
				Bottom	11.1	19.0	19.0	8.2	8.2	31.4	31.5	108.7	108.7	9.8	9.9		9.9	1.2		1.2	1.3		1.3		
					19.0	8.2	8.2	31.6	108.7	10.1	9.9	9.9	1.2	1.2	1.3		1.3								
M6	Cloudy	Moderate	16:51	Surface	-	-	-	-	-	-	-	-	-	-	9.2	-	-	1.3	-	-	1.7				
					-	-	-	-	-	-	-	-	-	-		-	-								
				Middle	2.1	19.3	19.3	8.2	8.2	32.0	31.8	113.3	113.2	9.4		9.2	9.2		8.0	8.0		1.8	1.7		
					19.3	8.2	8.2	31.6	113.0	9.1	9.2	9.2	8.0	8.0		1.5	1.7								
				Bottom	-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-	-
					-	-	-	-	-	-	-	-	-	-		-	-		-	-		-	-	-	-

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 16 March 2022 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.6 NTU</u>	<u>CI: 1.8 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 2.8 mg/L</u>	<u>CI: 3.0 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: 2.8 mg/L</u>	<u>CI: 3.0 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>CI: 1.9 mg/L</u>	<u>CI: 2.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 18 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*			
C1	Cloudy	Moderate	12:11	Surface	1.0	19.5	19.6	8.2	8.2	31.7	31.8	102.0	102.5	8.0	8.1	8.1	1.2	1.2	1.3	<0.1	<0.1	<0.1			
					19.6	8.2		31.9		102.9		8.1		1.3			<0.1								
					19.2	8.2		31.6		101.7		8.2		1.3			<0.1								
				Middle	9.1	19.2	19.2	8.2	8.2	32.1	31.8	101.7	101.7	8.2	8.2	8.2	8.1	8.2	8.2	1.4	1.4	1.4	<0.1	<0.1	<0.1
					19.2	8.2		31.9		102.1		8.1		1.4			<0.1								
					19.2	8.2		32.1		102.1		8.3		1.4			<0.1								
C2	Cloudy	Moderate	11:30	Surface	1.0	19.8	19.8	8.2	8.2	31.5	31.7	108.8	108.8	8.3	8.5	8.3	1.4	1.4	1.4	<0.1	<0.1	<0.1			
					19.8	8.2		31.8		108.7		8.8		1.4			<0.1								
					19.2	8.2		31.5		100.8		7.9		1.6			<0.1								
				Middle	16.1	19.2	19.2	8.2	8.2	32.1	31.8	100.9	100.9	8.1	8.0	8.0	8.1	8.0	8.0	1.5	1.5	1.5	<0.1	<0.1	<0.1
					19.2	8.2		32.1		101.0		8.1		1.5			<0.1								
					19.0	8.2		31.8		97.7		7.7		1.3			<0.1								
G1	Cloudy	Moderate	11:51	Surface	1.0	19.9	19.9	8.2	8.2	30.8	31.3	103.9	104.3	9.5	9.5	8.9	1.1	1.1	1.1	<0.1	<0.1	<0.1			
					19.9	8.2		31.9		104.6		9.5		1.1			<0.1								
					19.6	8.2		30.8		105.3		8.3		1.3			<0.1								
				Middle	4.1	19.6	19.6	8.2	8.2	31.9	31.3	105.3	105.3	8.3	8.3	8.3	8.3	8.3	8.3	1.3	1.3	1.3	<0.1	<0.1	<0.1
					19.6	8.2		31.9		105.3		8.3		1.3			<0.1								
					19.4	8.2		31.8		104.6		8.4		1.7			<0.1								
G2	Cloudy	Moderate	11:43	Surface	1.1	20.0	20.0	8.2	8.2	31.6	31.7	105.9	105.9	9.6	9.6	8.9	1.2	1.2	1.2	<0.1	<0.1	<0.1			
					19.9	8.2		31.9		105.9		9.6		1.2			<0.1								
					19.3	8.2		31.6		105.3		8.3		1.4			<0.1								
				Middle	5.1	19.3	19.3	8.2	8.2	32.0	31.8	105.2	105.2	8.1	8.2	8.2	8.2	8.2	8.2	1.4	1.4	1.4	<0.1	<0.1	<0.1
					19.3	8.2		32.0		105.1		8.1		1.4			<0.1								
					19.3	8.2		31.9		104.0		8.5		1.2			<0.1								
G3	Cloudy	Moderate	11:54	Surface	1.1	20.0	20.0	8.2	8.2	30.5	31.2	105.8	105.8	8.6	8.5	8.5	1.1	1.1	1.1	<0.1	<0.1	<0.1			
					19.9	8.2		31.9		105.8		8.4		1.1			<0.1								
					19.5	8.2		30.5		105.5		8.5		1.1			<0.1								
				Middle	4.0	19.5	19.5	8.2	8.2	31.9	31.2	105.3	105.4	8.6	8.6	8.6	8.6	8.6	8.6	1.1	1.1	1.1	<0.1	<0.1	<0.1
					19.5	8.2		31.9		105.3		8.6		1.1			<0.1								
					19.4	8.2		31.6		105.5		8.4		1.1			<0.1								
G4	Cloudy	Moderate	12:01	Surface	1.0	20.0	20.0	8.2	8.2	31.7	31.8	105.7	105.8	9.6	9.6	9.6	1.1	1.2	1.2	<0.1	<0.1	<0.1			
					20.0	8.2		31.9		105.8		9.6		1.2			<0.1								
					19.7	8.2		31.7		105.9		9.7		1.2			<0.1								
				Bottom	7.1	19.4	19.4	8.2	8.2	32.0	32.0	105.9	105.9	9.7	9.7	9.7	9.7	9.7	9.7	1.2	1.2	1.2	<0.1	<0.1	<0.1
					19.4	8.2		31.9		105.1		8.0		1.2			<0.1								
					19.4	8.2		32.0		104.8		8.0		1.2			<0.1								
M1	Cloudy	Moderate	11:47	Surface	1.1	20.0	19.9	8.2	8.2	30.7	31.2	104.5	104.4	8.2	8.2	8.2	1.2	1.2	1.2	<0.1	<0.1	<0.1			
					19.9	8.2		31.8		104.3		8.2		1.2			<0.1								
					19.5	8.2		31.6		104.2		8.3		1.6			<0.1								
				Middle	3.1	19.5	19.6	8.2	8.2	32.0	31.8	104.2	104.2	8.3	8.3	8.3	8.3	8.3	8.3	1.6	1.6	1.6	<0.1	<0.1	<0.1
					19.6	8.2		32.0		104.2		8.3		1.5			<0.1								
					19.5	8.2		31.7		104.5		8.7		1.6			<0.1								
M2	Cloudy	Moderate	11:40	Surface	1.0	20.3	20.2	8.2	8.2	31.6	31.8	107.4	107.1	9.7	9.7	9.0	1.2	1.2	1.2	<0.1	<0.1	<0.1			
					20.0	8.2		31.9		106.8		9.7		1.2			<0.1								
					19.3	8.2		31.5		104.7		8.3		1.3			<0.1								
				Bottom	11.1	19.2	19.2	8.2	8.2	32.0	32.0	105.0	104.9	8.3	8.3	8.3	8.3	8.3	8.3	1.2	1.3	1.3	<0.1	<0.1	<0.1
					19.2	8.2		31.9		103.4		8.5		1.5			<0.1								
					19.2	8.2		32.0		103.5		8.2		1.6			<0.1								
M3	Cloudy	Moderate	11:57	Surface	1.1	20.3	20.3	8.2	8.2	31.7	31.8	103.6	103.7	9.4	9.4	8.8	1.8	1.7	1.7	<0.1	<0.1	<0.1			
					20.3	8.2		31.9		103.7		9.4		1.6			<0.1								
					19.6	8.2		31.5		105.7		8.1		1.2			<0.1								
				Middle	4.1	19.6	19.6	8.2	8.2	31.9	31.7	105.6	105.7	8.3	8.2	8.2	8.2	8.2	8.2	1.2	1.2	1.2	<0.1	<0.1	<0.1
					19.6	8.2		31.9		105.6		8.3		1.2			<0.1								
					19.5	8.2		31.8		106.1		8.3		1.1			<0.1								
M4	Cloudy	Moderate	11:36	Surface	1.1	19.7	19.6	8.2	8.2	31.8	31.8	105.5	105.3	8.1	8.0	8.1	1.1	1.1	1.1	1.4	1.5	<0.1			
					19.5	8.2		31.9		105.1		8.0		1.2			<0.1								
					19.2	8.2		31.8		103.4		8.2		1.2			<0.1								
				Bottom	9.0	19.2	19.2	8.2	8.2	31.9	31.9	103.4	103.4	8.2	8.2	8.2	8.2	8.2	8.2	1.1	1.1	1.1	<0.1	<0.1	<0.1
					19.2	8.2		31.9		102.9		8.4		1.2			<0.1								
					19.2	8.2		31.9		102.6		8.1		1.2			<0.1								
M5	Cloudy	Moderate	12:08	Surface	1.1	19.7	19.6	8.2	8.2	31.9	31.9	107.2	107.2	9.8	9.8	9.8	1.2	1.2	1.2	<0.1	<0.1	<0.1			
					19.6	8.2		31.9		107.2		9.8		1.2			<0.1								
					19.5	8.2		31.9		105.9		9.7		1.2			<0.1								
				Bottom	11.0	19.5	19.4	8.2	8.2	32.0	32.0	106.3	106.1	9.8	9.7	9.7	9.7	9.7	9.7	1.1	1.2	1.2	<0.1	<0.1	<0.1
					19.4	8.2		31.9		105.1		8.0		1.2			<0.1								
					19.3	8.2		32.0		104.9		8.0		1.2			<0.1								
M6	Cloudy	Moderate	12:04	Surface	-	-	-	-	-	-	-	-	-	-	8.0	-	-	-	-	-	-				
					19.5	8.2		31.9		104.8		8.0		-		-									
					19.5	8.2		31.9		105.0		8.0		1.1		<0.1									
				Middle	2.1	19.5	19.5	8.2	8.2	31.9	31.9	104.9	104.9	8.0	8.0	8.0	8.0	8.0	8.0	1.2	1.2	1.2	<0.1	<0.1	<0.1
					19.5	8.2		31.9		104.9		8.0		1.2			<0.1								
					-	-		-		-		-		-			-								
Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	-	-		-		-		-		-		-													
	-	-		-		-		-		-		-													

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 18 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.6 NTU</u>	<u>C2: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: n.a. mg/L</u>		<u>C2: n.a. mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 18 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*		
C1	Cloudy	Moderate	8:10	Surface	1.0	19.6	19.6	8.2	8.2	31.4	31.4	103.5	103.6	8.3	8.3	8.2	1.3	1.3	1.3	<0.1	<0.1	0.5		
					9.0	19.2	19.2	8.2	8.2	31.9	31.9	101.7	101.8	8.1	8.1		1.3	1.3						
				Middle	9.0	19.2	19.2	8.2	8.2	31.9	31.9	101.7	101.8	8.1	8.1	8.2	1.3	1.3		<0.1	<0.1			
					17.0	19.2	19.2	8.2	8.2	32.1	32.1	102.2	102.2	8.1	8.2		1.4	1.4						
				Bottom	17.0	19.2	19.2	8.2	8.2	32.1	32.1	102.2	102.2	8.2	8.2	8.2	1.4	1.4		<0.1	<0.1			
					17.0	19.2	19.2	8.2	8.2	32.1	32.1	102.2	102.2	8.2	8.2		1.6	1.5						
C2	Cloudy	Moderate	7:27	Surface	1.0	20.0	19.9	8.2	8.2	31.5	31.5	105.9	107.6	9.6	9.1	8.7	1.2	1.3	1.5	<0.1	<0.1	<0.1		
					1.0	19.9	19.9	8.2	8.2	31.5	31.5	109.2	107.6	8.6	8.6		1.4	1.3						
				Middle	16.1	19.2	19.2	8.2	8.2	31.8	31.8	100.7	100.7	8.2	8.2	8.2	1.7	1.7		<0.1	<0.1			
					16.1	19.2	19.2	8.2	8.2	31.8	31.8	100.7	100.7	8.2	8.2		1.6	1.7						
				Bottom	31.0	19.0	19.0	8.2	8.2	32.1	32.1	98.1	98.0	7.9	7.8	7.8	1.4	1.4		<0.1	<0.1			
					31.0	19.0	19.0	8.2	8.2	32.1	32.1	97.8	98.0	7.8	7.8		1.4	1.4						
G1	Cloudy	Moderate	7:50	Surface	1.0	20.0	20.0	8.2	8.2	31.2	31.2	105.5	105.6	9.6	9.6	8.9	1.1	1.1	1.3	<0.1	<0.1	<0.1		
					1.0	20.0	20.0	8.2	8.2	31.2	31.2	105.6	105.6	9.6	9.6		1.1	1.1						
				Middle	4.0	19.6	19.6	8.2	8.2	31.9	31.9	105.3	105.3	8.1	8.1	8.1	1.2	1.2		<0.1	<0.1			
					4.0	19.6	19.6	8.2	8.2	31.9	31.9	105.3	105.3	8.1	8.1		1.2	1.2						
				Bottom	7.0	19.4	19.4	8.2	8.2	31.9	31.9	103.8	103.8	8.3	8.3	8.3	1.7	1.7		<0.1	<0.1			
					7.0	19.4	19.4	8.2	8.2	31.9	31.9	103.8	103.8	8.3	8.3		1.7	1.7						
G2	Cloudy	Moderate	7:42	Surface	1.0	19.9	20.0	8.2	8.2	31.6	31.6	106.2	106.3	9.7	9.7	8.9	1.3	1.3	1.3	<0.1	<0.1	<0.1		
					1.0	20.0	20.0	8.2	8.2	31.6	31.6	106.4	106.3	9.7	9.7		1.2	1.3						
				Middle	5.1	19.3	19.3	8.2	8.2	31.9	31.9	104.8	104.8	8.1	8.1	8.1	1.4	1.4		<0.1	<0.1			
					5.1	19.3	19.3	8.2	8.2	31.9	31.9	104.7	104.8	8.1	8.1		1.4	1.4						
				Bottom	9.1	19.3	19.3	8.2	8.2	32.0	32.0	103.4	103.4	8.4	8.4	8.4	1.2	1.2		<0.1	<0.1			
					9.1	19.3	19.3	8.2	8.2	32.0	32.0	103.4	103.4	8.4	8.4		1.2	1.2						
G3	Cloudy	Moderate	7:53	Surface	1.0	19.0	20.0	8.2	8.2	30.3	30.3	104.8	105.2	8.4	8.3	8.5	1.3	1.2	1.2	<0.1	<0.1	<0.1		
					1.0	20.0	20.0	8.2	8.2	30.3	30.3	105.5	105.5	8.3	8.3		1.2	1.2						
				Middle	4.1	19.5	19.5	8.2	8.2	31.9	31.9	105.5	105.5	8.7	8.6	8.6	1.1	1.1		<0.1	<0.1			
					4.1	19.5	19.5	8.2	8.2	31.9	31.9	105.5	105.5	8.5	8.5		1.1	1.1						
				Bottom	7.1	19.4	19.4	8.2	8.2	31.9	31.9	105.5	105.5	8.4	8.6	8.6	1.1	1.1		<0.1	<0.1			
					7.1	19.4	19.4	8.2	8.2	31.9	31.9	105.5	105.5	8.7	8.6		1.1	1.1						
G4	Cloudy	Moderate	8:00	Surface	1.1	20.0	20.0	8.2	8.2	31.5	31.5	104.6	104.9	9.5	9.5	9.6	1.1	1.1	1.2	<0.1	<0.1	<0.1		
					1.1	20.0	20.0	8.2	8.2	31.6	31.5	105.2	104.9	9.6	9.5		1.1	1.1						
				Middle	4.2	19.6	19.6	8.2	8.2	31.9	31.9	106.0	106.0	9.7	9.7	9.7	1.3	1.3		<0.1	<0.1			
					4.2	19.7	19.6	8.2	8.2	31.9	31.9	105.9	106.0	9.7	9.7		1.3	1.3						
				Bottom	7.1	19.4	19.4	8.2	8.2	32.0	32.0	105.2	105.2	9.7	9.7	9.7	1.3	1.2		<0.1	<0.1			
					7.1	19.4	19.4	8.2	8.2	32.0	32.0	105.1	105.2	9.7	9.7		1.2	1.2						
M1	Cloudy	Moderate	7:46	Surface	1.0	19.7	19.8	8.2	8.2	31.7	31.5	104.2	104.5	9.5	8.9	8.5	1.5	1.4	1.5	<0.1	<0.1	<0.1		
					1.0	19.9	19.8	8.2	8.2	31.3	31.5	104.8	104.5	8.2	8.1		1.3	1.4						
				Middle	3.0	19.5	19.5	8.2	8.2	31.9	31.9	104.5	104.4	8.2	8.1	8.1	1.5	1.6		<0.1	<0.1			
					3.0	19.5	19.5	8.2	8.2	31.9	31.9	104.3	104.4	8.1	8.1		1.6	1.6						
				Bottom	5.1	19.5	19.5	8.2	8.2	32.0	32.0	104.6	104.6	8.3	8.5	8.5	1.6	1.6		<0.1	<0.1			
					5.1	19.5	19.5	8.2	8.2	32.0	32.0	104.5	104.6	8.6	8.5		1.6	1.6						
M2	Cloudy	Moderate	7:38	Surface	1.0	20.3	20.3	8.2	8.2	31.6	31.6	105.6	106.4	9.5	9.6	9.0	1.1	1.1	1.3	<0.1	<0.1	<0.1		
					1.0	20.3	20.3	8.2	8.2	31.6	31.6	107.1	106.4	9.7	9.6		1.2	1.1						
				Middle	6.1	19.3	19.4	8.2	8.2	32.0	32.0	105.0	105.0	8.5	8.4	8.4	1.2	1.2		<0.1	<0.1			
					6.1	19.3	19.4	8.2	8.2	32.0	32.0	104.9	105.0	8.3	8.3		1.2	1.2						
				Bottom	11.0	19.2	19.2	8.2	8.2	32.0	32.0	103.6	103.6	8.3	8.3	8.3	1.6	1.6		<0.1	<0.1			
					11.0	19.2	19.2	8.2	8.2	32.0	32.0	103.6	103.6	8.3	8.3		1.6	1.6						
M3	Cloudy	Moderate	7:56	Surface	1.1	20.3	20.3	8.1	8.1	31.2	31.1	103.3	103.3	9.3	9.3	8.8	1.7	1.9	1.4	<0.1	<0.1	<0.1		
					1.1	20.3	20.3	8.1	8.1	31.0	31.1	103.3	103.3	9.3	9.3		2.0	1.9						
				Middle	4.0	19.6	19.6	8.2	8.2	31.9	31.7	105.4	105.3	8.2	8.3	8.3	1.2	1.2		<0.1	<0.1			
					4.0	19.6	19.6	8.2	8.2	31.5	31.7	105.2	105.3	8.3	8.3		1.2	1.2						
				Bottom	7.1	19.5	19.5	8.2	8.2	31.9	31.9	106.3	106.3	8.3	8.3	8.3	1.1	1.1		<0.1	<0.1			
					7.1	19.5	19.5	8.2	8.2	31.9	31.9	106.3	106.3	8.4	8.3		1.1	1.1						
M4	Cloudy	Moderate	7:35	Surface	1.1	19.5	19.6	8.2	8.2	31.8	31.8	105.2	105.8	8.0	8.1	8.1	1.2	1.2	1.2	<0.1	<0.1	<0.1		
					1.1	19.8	19.6	8.2	8.2	31.8	31.8	106.3	105.8	8.2	8.1		1.2	1.2						
				Middle	5.0	19.2	19.2	8.2	8.2	31.9	31.9	103.6	103.7	8.1	8.2	8.2	1.2	1.2		<0.1	<0.1			
					5.0	19.2	19.2	8.2	8.2	31.9	31.9	103.8	103.7	8.3	8.2		1.2	1.2						
				Bottom	9.1	19.2	19.2	8.2	8.2	31.9	31.9	102.3	102.3	8.2	8.3	8.3	1.2	1.2		<0.1	<0.1			
					9.1	19.2	19.2	8.2	8.2	31.9	31.9	102.3	102.3	8.4	8.3		1.2	1.2						
M5	Cloudy	Moderate	8:07	Surface	1.1	19.7	19.7	8.2	8.2	31.9	31.9	105.9	106.3	9.7	9.7	9.7	1.1	1.1	1.2	<0.1	<0.1	<0.1		
					1.1	19.7	19.7	8.2	8.2	31.9	31.9	106.7	106.3	9.8	9.7		1.1	1.1						
				Middle	6.1	19.5	19.5	8.2	8.2	31.9	31.9	105.6	105.6	9.7	9.7	9.7	1.2	1.2		<0.1	<0.1			
					6.1	19.5	19.5	8.2	8.2	31.9	31.9	105.6	105.6	9.7	9.7		1.2	1.2						
				Bottom	10.9	19.4	19.4	8.2	8.2	32.0	32.0	105.1	105.1	9.7	8.9	8.9	1.2	1.2		<0.1	<0.1			
					10.9	19.4	19.4	8.2	8.2	32.0	32.0	105.1	105.1	8.2	8.9		1.2	1.2						
M6	Cloudy	Moderate	8:03	Surface	-	-	-	-	-	-	-	-	-	-	8.3	-	-	1.1	-	-	<0.1			
					2.0	19.5	19.4	8.2	8.2	31.9	31.9	105.4	105.5	8.2		8.3	8.0		8.0					
				Middle	2.0	19.4	19.4	8.2	8.2	31.9	31.9	105.6	105.6	8.3	8.3	8.3	8.0		8.0	<0.1		<0.1		
					2.0	19.4	19.4	8.2	8.2	31.9	31.9	105.6	105.6	8.3	8.3		8.0		8.0					
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	<0.1	<0.1
					-	-	-	-	-	-	-	-	-	-	-	-	-			-		-	-	

**Action and Limit Levels for Marine Water Quality on 18 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.7 NTU</u>	<u>CI: 1.8 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>CI: 1.7 mg/L</u>	<u>CI: 1.9 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 21 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Calm	14:44	Surface	1.0	20.5	8.2	8.2	32.1	32.1	106.6	106.6	8.0	8.0	7.9	1.2	1.2	1.4	1.5	1.6	1.0	
					20.5	8.2	8.2	32.1	32.1	106.6	106.6	8.0	8.0	7.9	1.3	1.2	1.4	1.6				
					20.0	8.2	8.2	32.2	32.2	103.1	103.1	7.8	7.8	7.9	1.2	1.2	1.4	1.5				
				Middle	9.1	20.0	8.2	8.2	32.2	32.2	103.0	103.1	103.1	7.8	7.8	7.8	1.3	1.2	1.4	1.5		
					20.0	8.2	8.2	32.2	32.2	102.7	102.8	7.8	7.8	7.8	1.8	1.7	1.5	<0.1	<0.1			
					19.9	19.9	8.2	8.2	32.2	32.2	102.8	102.8	102.8	7.8	7.8	7.8	1.7	1.7	1.5	<0.1		<0.1
Bottom	17.1	19.9	8.2	8.2	32.2	32.2	102.8	102.8	102.8	7.8	7.8	7.8	1.7	1.7	1.5	<0.1	<0.1					
	19.9	19.9	8.2	8.2	32.2	32.2	102.8	102.8	102.8	7.8	7.8	7.8	1.7	1.7	1.5	<0.1	<0.1					
	20.3	20.3	8.2	8.2	32.0	31.8	101.4	101.4	101.4	8.0	7.9	8.0	1.1	1.1	1.4	<0.1	<0.1					
C2	Cloudy	Calm	13:19	Surface	1.1	20.3	8.2	8.2	31.7	31.8	101.3	101.4	7.8	7.9	8.0	1.2	1.1	1.4	<0.1	<0.1	0.5	
					20.3	8.2	8.2	31.7	31.8	101.3	101.4	7.8	7.9	8.0	1.2	1.1	1.4	<0.1	<0.1			
					20.0	8.1	8.2	31.7	31.4	100.9	100.9	7.9	8.1	8.0	1.5	1.4	1.4	<0.1	<0.1			
				Middle	16.0	20.0	8.2	8.2	31.1	31.4	100.9	100.9	100.9	8.3	8.1	8.1	1.3	1.4	1.4	<0.1		<0.1
					20.0	8.2	8.2	31.1	31.4	100.9	100.9	7.9	8.1	8.0	1.3	1.4	1.4	<0.1	<0.1			
					19.9	19.9	8.2	8.2	32.1	32.1	101.8	101.8	101.8	7.7	7.7	7.7	1.6	1.6	1.4	1.7		1.5
Bottom	31.0	19.9	8.2	8.2	32.1	32.1	101.7	101.8	101.8	7.7	7.7	7.7	1.6	1.6	1.4	1.7	1.5					
	19.9	19.9	8.2	8.2	32.1	32.1	101.7	101.8	101.8	7.7	7.7	7.7	1.6	1.6	1.4	1.7	1.5					
	20.4	20.4	8.2	8.2	32.0	32.0	102.7	102.6	102.6	7.7	7.7	7.7	1.4	1.4	1.4	<0.1	<0.1					
G1	Cloudy	Calm	14:02	Surface	1.0	20.4	8.2	8.2	32.0	32.0	102.7	102.6	7.8	7.7	7.7	1.4	1.4	1.4	<0.1	<0.1	0.9	
					20.3	8.2	8.2	32.0	32.0	102.5	102.6	7.7	7.7	7.7	1.4	1.4	1.4	<0.1	<0.1			
					20.0	8.2	8.2	32.1	32.1	100.3	100.3	7.6	7.6	7.7	1.6	1.5	1.4	1.3	1.2			
				Middle	4.0	20.0	8.2	8.2	32.1	32.1	100.3	100.3	100.3	7.6	7.6	7.6	1.4	1.5	1.4	1.3		1.2
					20.0	8.2	8.2	32.1	32.1	100.3	100.3	7.6	7.6	7.6	1.4	1.5	1.4	1.3	1.2			
					19.9	19.9	8.2	8.2	32.1	32.1	98.8	98.5	98.5	7.5	7.4	7.4	1.3	1.4	1.4	1.6		1.4
Bottom	7.0	19.9	8.2	8.2	32.1	32.1	98.1	98.5	98.5	7.4	7.4	7.4	1.4	1.4	1.4	1.1	1.1					
	19.9	19.9	8.2	8.2	32.1	32.1	98.1	98.5	98.5	7.4	7.4	7.4	1.4	1.4	1.4	1.1	1.1					
	20.4	20.4	8.2	8.2	32.0	32.0	107.7	107.8	107.8	8.1	8.1	8.1	1.3	1.3	1.3	1.2	1.1					
G2	Cloudy	Calm	13:46	Surface	1.0	20.4	8.2	8.2	32.0	32.0	107.7	107.8	8.1	8.1	7.9	1.3	1.3	1.3	<0.1	<0.1	0.6	
					20.4	8.2	8.2	32.0	32.0	107.8	107.8	8.1	8.1	7.9	1.4	1.3	1.3	1.0	<0.1	<0.1		
					20.0	8.2	8.2	32.1	32.1	102.0	101.9	7.7	7.7	7.7	1.1	1.3	1.3	<0.1	<0.1			
				Middle	4.0	20.0	8.2	8.2	32.1	32.1	101.8	101.9	101.9	7.7	7.7	7.7	1.4	1.3	1.3	<0.1		<0.1
					20.0	8.2	8.2	32.1	32.1	101.8	101.9	7.7	7.7	7.7	1.4	1.3	1.3	<0.1	<0.1			
					19.9	19.9	8.2	8.2	32.1	32.1	100.9	101.0	101.0	7.6	7.6	7.6	1.4	1.4	1.4	<0.1		<0.1
Bottom	9.1	19.9	8.2	8.2	32.1	32.1	101.1	101.0	101.0	7.6	7.6	7.6	1.3	1.4	1.4	1.1	1.1					
	19.9	19.9	8.2	8.2	32.1	32.1	101.1	101.0	101.0	7.6	7.6	7.6	1.3	1.4	1.4	1.1	1.1					
	20.5	20.5	8.2	8.2	32.0	32.0	104.1	104.1	104.1	7.8	7.8	7.8	1.4	1.4	1.4	<0.1	<0.1					
G3	Cloudy	Calm	14:10	Surface	1.0	20.5	8.2	8.2	32.0	32.0	104.0	104.1	7.8	7.8	7.8	1.4	1.4	1.4	<0.1	<0.1	0.4	
					20.5	8.2	8.2	32.0	32.0	104.0	104.1	7.8	7.8	7.8	1.4	1.4	1.4	<0.1	<0.1			
					20.1	8.2	8.2	32.1	32.1	104.1	104.1	7.8	7.8	7.8	1.6	1.5	1.5	<0.1	<0.1			
				Middle	4.1	20.1	8.2	8.2	32.1	32.1	104.0	104.1	104.1	7.8	7.8	7.8	1.5	1.5	1.5	1.1		1.1
					20.1	8.2	8.2	32.1	32.1	104.0	104.1	7.8	7.8	7.8	1.5	1.5	1.5	1.1	1.1			
					20.0	8.2	8.2	32.1	32.1	102.2	102.1	7.7	7.7	7.7	1.4	1.4	1.4	<0.1	<0.1			
Bottom	7.1	19.9	8.2	8.2	32.1	32.1	102.0	102.1	102.1	7.7	7.7	7.7	1.4	1.4	1.4	1.1	1.1					
	19.9	19.9	8.2	8.2	32.1	32.1	102.0	102.1	102.1	7.7	7.7	7.7	1.4	1.4	1.4	1.1	1.1					
	20.4	20.4	8.2	8.2	32.0	32.0	102.5	102.7	102.7	7.7	7.7	7.7	1.3	1.4	1.4	1.2	1.3					
G4	Cloudy	Calm	14:25	Surface	1.1	20.4	8.2	8.2	32.0	32.0	102.5	102.7	7.7	7.7	7.7	1.3	1.4	1.4	<0.1	<0.1	0.9	
					20.4	8.2	8.2	32.0	32.0	102.9	102.7	7.8	7.7	7.7	1.4	1.4	1.4	<0.1	<0.1			
					20.1	8.2	8.2	32.0	32.0	101.2	101.1	7.6	7.6	7.6	1.5	1.4	1.4	<0.1	<0.1			
				Middle	4.0	20.1	8.2	8.2	32.0	32.0	101.2	101.1	101.1	7.6	7.6	7.6	1.4	1.4	1.4	<0.1		<0.1
					20.0	8.2	8.2	32.0	32.0	100.9	101.1	7.6	7.6	7.6	1.4	1.4	1.4	<0.1	<0.1			
					19.9	19.9	8.2	8.1	32.1	32.1	99.2	99.1	99.1	7.5	7.5	7.5	1.7	1.6	1.6	1.4		1.5
Bottom	7.1	19.9	8.2	8.1	32.1	32.1	98.9	99.1	99.1	7.5	7.5	7.5	1.6	1.6	1.6	1.5	1.5					
	19.9	19.9	8.2	8.1	32.1	32.1	98.9	99.1	99.1	7.5	7.5	7.5	1.6	1.6	1.6	1.5	1.5					
	20.3	20.4	8.2	8.2	32.0	32.0	104.9	105.0	105.0	7.9	7.9	7.9	1.3	1.3	1.3	<0.1	<0.1					
M1	Cloudy	Calm	13:53	Surface	1.1	20.3	8.2	8.2	32.0	32.0	104.9	105.0	7.9	7.9	7.8	1.3	1.3	1.4	<0.1	<0.1	0.6	
					20.4	8.2	8.2	32.0	32.0	105.1	105.0	7.9	7.9	7.8	1.3	1.3	1.4	<0.1	<0.1			
					20.1	8.2	8.2	32.0	32.0	102.6	102.7	7.8	7.8	7.8	1.4	1.5	1.4	<0.1	<0.1			
				Middle	3.0	20.0	8.2	8.2	32.0	32.0	102.7	102.7	102.7	7.8	7.8	7.8	1.6	1.5	1.5	<0.1		<0.1
					20.0	8.2	8.2	32.0	32.0	102.7	102.7	7.8	7.8	7.8	1.6	1.5	1.5	<0.1	<0.1			
					19.9	19.9	8.2	8.2	32.0	32.0	100.6	100.5	100.5	7.6	7.6	7.6	1.5	1.5	1.5	1.6		1.7
Bottom	5.0	19.9	8.2	8.2	32.0	32.0	100.4	100.5	100.5	7.6	7.6	7.6	1.5	1.5	1.5	1.8	1.7					
	19.9	19.9	8.2	8.2	32.0	32.0	100.4	100.5	100.5	7.6	7.6	7.6	1.5	1.5	1.5	1.8	1.7					
	20.4	20.4	8.2	8.2	32.0	32.0	105.7	105.8	105.8	8.0	8.0	8.0	1.3	1.3	1.3	<0.1	<0.1					
M2	Cloudy	Calm	13:38	Surface	1.0	20.4	8.2	8.2	32.0	32.0	105.7	105.8	8.0	8.0	7.8	1.3	1.3	1.4	<0.1	<0.1	0.8	
					20.4	8.2	8.2	32.0	32.0	105.8	105.8	8.0	8.0	7.8	1.3	1.3	1.4	<0.1	<0.1			
					20.0	8.2	8.2	32.0	32.0	102.1	102.0	7.7	7.7	7.7	1.3	1.4	1.4	<0.1	<0.1			
				Middle	6.1	20.0	8.2	8.2	32.0	32.0	101.8	102.0	102.0	7.7	7.7	7.7	1.4	1.4	1.4	1.1		1.1
					20.0	8.2	8.2	32.0	32.0	101.8	102.0	7.7	7.7	7.7	1.4	1.4	1.4	1.1	1.1			
					19.9	19.9	8.2	8.2	32.1	32.1	103.7	103.9	103.9	7.8	7.8	7.8	1.7	1.6	1.6	1.5		1.4



**Action and Limit Levels for Marine Water Quality on 21 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.9 NTU</u>	<u>C2: 2.1 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: 1.8 mg/L</u>		<u>C2: 2.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 21 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Calm	9:27	Surface	1.0	20.0	20.0	8.2	8.2	32.1	32.1	105.9	106.1	8.0	8.0	7.9	1.3	1.3	1.5	1.1	1.2	1.1
				Middle	9.1	19.8		8.2		8.2		32.2		32.2			103.3			103.3		
				Bottom	17.0	19.8	8.2	8.2	32.2	32.2	102.6	102.7	7.8	7.8	1.3	1.3	1.3	1.3		1.3		
C2	Cloudy	Calm	8:03	Surface	1.0	19.9	19.8	8.2	8.2	31.5	31.7	101.3	101.3	8.2	8.7	8.3	1.0	1.1	1.4	1.3	1.3	1.3
				Middle	16.0	19.8		8.2		8.2		31.8		31.6			100.9			100.9		
				Bottom	31.0	19.8	8.2	8.2	31.5	31.6	100.9	100.9	7.9	7.9	1.1	1.4	1.4	1.2		1.2	1.2	
G1	Cloudy	Calm	8:44	Surface	1.1	19.9	19.9	8.2	8.2	32.0	32.0	102.1	102.4	7.7	7.7	7.7	1.4	1.3	1.4	1.9	2.2	1.9
				Middle	4.1	19.8		8.2		8.2		32.0		32.0			100.9			101.3		
				Bottom	7.0	19.7	8.2	8.2	32.1	32.1	99.5	99.3	7.5	7.5	1.4	1.4	2.0	2.1				
G2	Cloudy	Calm	8:29	Surface	1.0	19.9	19.9	8.2	8.2	32.0	32.0	107.4	107.5	8.1	8.1	7.9	1.2	1.2	1.3	2.0	2.2	2.2
				Middle	5.1	19.8		8.2		8.2		32.1		32.1			102.3			102.2		
				Bottom	9.1	19.8	8.2	8.2	32.1	32.1	101.1	101.1	7.6	7.6	1.4	1.5	2.4	2.5				
G3	Cloudy	Calm	8:51	Surface	1.1	20.0	20.0	8.2	8.2	32.0	32.0	103.7	103.8	7.8	7.8	7.8	1.3	1.4	1.5	1.6	2.1	2.0
				Middle	4.1	19.9		8.2		8.2		32.0		32.0			104.0			104.0		
				Bottom	7.1	19.9	8.2	8.2	32.1	32.1	102.5	102.8	7.7	7.8	1.7	1.6	1.8	1.7				
G4	Cloudy	Calm	9:08	Surface	1.1	19.9	19.9	8.2	8.2	32.0	32.0	102.3	102.4	7.7	7.7	7.7	1.3	1.3	1.4	1.7	1.7	1.8
				Middle	4.1	19.8		8.2		8.2		32.0		32.0			101.7			101.5		
				Bottom	7.0	19.8	8.2	8.2	32.0	32.1	100.3	99.9	7.6	7.6	1.4	1.4	1.7	1.8				
M1	Cloudy	Calm	8:37	Surface	1.0	19.9	19.9	8.2	8.2	32.0	32.0	104.5	104.8	7.9	7.9	7.9	1.2	1.3	1.4	1.5	1.4	1.4
				Middle	3.1	19.8		8.2		8.2		32.0		32.0			103.3			103.7		
				Bottom	5.1	19.8	8.2	8.2	32.0	32.0	101.3	101.0	7.7	7.6	1.6	1.5	1.4	1.5				
M2	Cloudy	Calm	8:21	Surface	1.0	19.9	19.9	8.2	8.2	32.0	32.0	104.7	104.9	7.9	7.9	7.8	1.4	1.4	1.4	1.8	1.8	1.7
				Middle	6.0	19.8		8.2		8.2		32.0		32.0			103.0			102.7		
				Bottom	11.0	19.8	8.2	8.2	32.1	32.1	103.7	103.7	7.8	7.8	1.4	1.5	1.9	1.6				
M3	Cloudy	Calm	9:00	Surface	1.1	20.1	20.1	8.2	8.2	31.9	31.9	116.7	116.5	8.8	8.8	8.4	1.4	1.4	1.5	1.7	1.6	1.9
				Middle	4.0	19.9		8.2		8.2		32.1		32.0			106.9			106.1		
				Bottom	7.0	19.7	8.2	8.2	32.0	32.0	105.3	101.8	7.7	7.7	1.5	1.5	2.2	2.1				
M4	Cloudy	Calm	8:13	Surface	1.1	19.8	19.8	8.2	8.2	32.0	32.0	101.7	101.7	7.7	7.7	7.7	1.2	1.2	1.4	2.1	2.4	2.3
				Middle	5.0	19.8		8.2		8.2		32.1		32.1			101.8			101.9		
				Bottom	9.1	19.8	8.2	8.2	32.1	32.1	102.1	102.1	7.7	7.7	1.4	1.4	1.8	1.9				
M5	Cloudy	Calm	9:20	Surface	1.1	19.9	19.9	8.2	8.2	32.0	32.0	104.0	104.0	7.9	7.9	7.7	1.2	1.3	1.4	2.0	2.3	2.1
				Middle	6.0	19.8		8.2		8.2		32.1		32.1			101.1			101.1		
				Bottom	11.0	19.8	8.2	8.2	32.2	32.1	104.2	104.3	7.9	7.9	1.5	1.6	2.0	2.2				
M6	Cloudy	Calm	9:16	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Middle	2.0	19.8	19.8	8.2	8.2	32.0	32.0	105.1	104.9	7.9	7.9	7.9	8.0	8.0	1.6	2.2	2.4	2.4
				Bottom	-	19.8	-	-	-	-	32.0	-	-	104.6	-	-	-	-	-	-	-	-

Remarks: \*DA: Depth-Averaged  
\*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 21 March 2022 (Mid-Flood Tide)**

<b><u>Parameter</u></b> <b><u>(unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 2.0 NTU</u>	<u>C1: 2.1 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 1.4 mg/L</u>	<u>C1: 1.6 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 1.4 mg/L</u>	<u>C1: 1.6 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C1: 0.6 mg/L</u>		<u>C1: 0.7 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 23 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*			
C1	Cloudy	Moderate	15:16	Surface	1.0	19.8	19.8	8.2	8.1	31.8	31.8	100.5	100.2	7.6	7.6	7.6	1.6	1.7	1.5	<0.1	<0.1	1.1			
					19.8	8.1	8.1	31.7	31.7	99.9	99.9	7.6	7.6	7.6	1.7	1.7	<0.1	<0.1							
					19.8	8.2	8.2	32.1	32.0	102.0	101.3	7.7	7.7	7.6	1.3	1.4	1.5	1.3	1.3	1.9					
				Middle	9.1	19.8	19.8	8.1	8.2	32.0	32.0	100.5	101.3	100.5	101.3	7.6	7.7	8.1	1.5	1.4	1.5	1.3	1.3	1.9	
					19.8	8.1	8.2	32.0	32.2	103.2	103.1	7.8	7.8	7.8	1.3	1.3	1.3	1.3	1.3	1.8	1.9				
					19.7	8.2	8.2	32.2	32.2	103.0	103.1	7.8	7.8	7.8	1.3	1.3	1.5	1.5	<0.1	<0.1					
Bottom	17.1	19.7	19.7	8.2	8.2	32.2	32.2	103.0	103.1	103.0	103.1	7.8	7.8	7.7	1.5	1.5	<0.1	<0.1							
	19.8	8.2	8.2	31.6	31.6	101.4	101.7	7.7	7.7	8.5	8.1	1.5	1.5	1.5	1.5	<0.1	<0.1								
	19.7	8.2	8.2	32.0	31.9	102.9	102.9	7.8	7.8	7.8	1.2	1.2	1.2	1.2	1.0	1.1	1.2	1.1	0.9						
G1	Cloudy	Moderate	14:50	Surface	1.1	19.9	19.9	8.2	8.2	30.9	30.9	97.1	97.3	7.4	7.5	7.4	2.1	2.2	1.6	<0.1	1.0	0.8			
					19.9	8.2	8.2	30.9	30.9	97.4	97.3	7.6	7.5	7.4	2.2	2.2	1.0	1.0	<0.1	1.0					
					19.9	8.1	8.1	32.0	32.0	98.1	97.7	7.4	7.4	7.4	1.6	1.7	<0.1	<0.1	1.2	1.2					
				Middle	4.1	19.9	19.9	8.1	8.1	32.0	32.0	97.2	97.7	97.7	97.7	7.4	7.4	7.4	1.8	1.7	1.8	1.7	1.2	1.2	
					19.9	8.1	8.1	32.0	32.0	99.4	100.2	7.5	7.6	7.6	1.6	1.6	1.1	1.4	1.1	1.4					
					19.8	8.2	8.2	32.1	32.1	100.9	100.2	7.6	7.6	7.6	1.6	1.6	1.6	1.6	<0.1	<0.1					
Bottom	7.0	19.8	19.8	8.2	8.2	32.1	32.1	100.9	100.2	100.9	100.2	7.6	7.6	7.6	1.6	1.6	1.6	1.6	1.4	1.4					
	19.8	8.2	8.2	32.1	32.1	100.9	100.9	7.6	7.6	7.6	1.6	1.6	1.6	1.6	1.6	1.6	<0.1	<0.1							
	19.8	8.2	8.2	32.1	32.1	100.9	100.9	7.6	7.6	7.6	1.6	1.6	1.6	1.6	1.6	1.6	<0.1	<0.1							
G2	Cloudy	Moderate	14:39	Surface	1.0	19.8	19.8	8.2	8.2	31.7	31.7	101.7	101.4	7.7	7.7	7.7	1.5	1.5	1.5	1.1	1.2	0.4			
					19.8	8.2	8.2	31.7	31.7	101.1	101.4	7.7	7.7	7.7	1.5	1.5	1.2	1.2	<0.1	<0.1					
					19.8	8.2	8.2	32.1	32.1	103.0	102.9	7.8	7.8	7.8	1.3	1.3	1.3	1.3	<0.1	<0.1					
				Middle	5.1	19.8	19.8	8.2	8.2	32.1	32.1	102.8	102.9	102.8	102.9	7.8	7.8	7.8	1.3	1.3	1.3	1.3	1.3	<0.1	<0.1
					19.8	8.2	8.2	32.1	32.1	102.8	102.9	7.8	7.8	7.8	1.3	1.3	1.3	1.3	<0.1	<0.1					
					19.7	8.2	8.2	32.2	32.2	102.6	102.6	7.8	7.8	7.8	1.6	1.6	1.6	1.6	<0.1	<0.1					
Bottom	9.1	19.7	19.7	8.2	8.2	32.2	32.2	102.6	102.6	102.6	102.6	7.8	7.8	7.8	1.6	1.6	1.6	1.6	1.6	<0.1	<0.1				
	19.7	8.2	8.2	32.2	32.2	102.6	102.6	7.8	7.8	7.8	1.6	1.6	1.6	1.6	<0.1	<0.1									
	19.7	8.2	8.2	32.2	32.2	102.6	102.6	7.8	7.8	7.8	1.6	1.6	1.6	1.6	<0.1	<0.1									
G3	Cloudy	Moderate	14:53	Surface	1.1	19.9	19.9	8.1	8.1	30.6	30.6	91.1	92.1	7.1	7.1	7.2	145.7	78.5	11.4	<0.1	1.0	0.2			
					19.9	8.1	8.1	30.6	30.6	93.1	92.1	7.1	7.1	7.2	11.4	78.5	1.0	1.0	<0.1	<0.1					
					19.9	8.1	8.1	32.0	31.9	96.7	96.6	7.3	7.3	7.3	1.6	2.9	<0.1	<0.1	1.2	1.2					
				Middle	4.1	19.9	19.9	8.1	8.1	31.7	31.9	96.5	96.6	96.6	96.6	7.3	7.3	7.3	4.2	2.9	4.2	2.9	<0.1	<0.1	
					19.9	8.1	8.1	31.7	31.9	96.5	96.6	7.3	7.3	7.3	4.2	2.9	4.2	2.9	<0.1	<0.1					
					19.8	8.2	8.2	32.1	32.1	99.9	100.0	7.6	7.6	7.6	5.2	5.2	5.2	5.2	<0.1	<0.1					
Bottom	7.0	19.8	19.8	8.2	8.2	32.1	32.1	100.0	100.0	100.0	100.0	7.6	7.6	7.6	5.2	5.2	5.2	5.2	5.2	<0.1	<0.1				
	19.8	8.2	8.2	32.1	32.1	100.0	100.0	7.6	7.6	7.6	5.2	5.2	5.2	5.2	<0.1	<0.1									
	19.8	8.2	8.2	32.1	32.1	100.0	100.0	7.6	7.6	7.6	5.2	5.2	5.2	5.2	<0.1	<0.1									
G4	Cloudy	Moderate	15:01	Surface	1.0	19.9	19.9	8.1	8.1	31.8	31.8	99.1	99.4	7.5	7.5	7.5	4.9	4.5	4.2	1.7	1.8	1.6			
					19.9	8.1	8.1	31.9	31.8	99.6	99.4	7.5	7.5	7.5	4.2	4.5	1.8	1.8	1.8	1.8					
					19.8	8.2	8.1	32.0	32.0	100.0	99.7	7.6	7.5	7.5	1.8	1.9	1.6	1.5	1.6	1.5	1.5	1.6			
				Middle	4.0	19.8	19.8	8.1	8.1	32.0	32.0	99.4	99.7	99.7	99.7	7.5	7.5	7.5	1.9	1.9	1.9	1.9	1.9	1.5	
					19.8	8.1	8.1	32.0	32.0	99.4	99.7	7.5	7.5	7.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.5		
					19.8	8.1	8.1	32.0	32.0	99.4	99.7	7.5	7.5	7.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.5		
Bottom	7.0	19.7	19.7	8.2	8.2	32.2	32.2	101.7	101.8	101.8	101.8	7.7	7.7	7.7	1.8	1.8	1.8	1.8	1.8	1.5					
	19.7	8.2	8.2	32.2	32.2	101.8	101.8	7.7	7.7	7.7	1.7	1.8	1.7	1.8	1.7	1.8	1.7	1.8	1.5						
	19.7	8.2	8.2	32.2	32.2	101.8	101.8	7.7	7.7	7.7	1.7	1.8	1.7	1.8	1.7	1.8	1.7	1.8	1.5						
M1	Cloudy	Moderate	14:45	Surface	1.1	19.9	19.9	8.1	8.1	30.9	31.3	97.2	97.4	7.4	7.4	7.4	2.1	1.8	1.6	1.1	1.3	1.6			
					19.9	8.1	8.1	31.7	31.3	97.5	97.4	7.4	7.4	7.4	1.6	1.8	1.4	1.4	1.4	1.3	1.3				
					19.9	8.1	8.1	31.9	31.9	98.5	98.5	7.4	7.4	7.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7			
				Middle	3.1	19.9	19.9	8.1	8.1	31.9	31.9	98.5	98.5	98.5	98.5	7.4	7.4	7.4	1.7	1.7	1.7	1.7	1.7	1.7	
					19.9	8.1	8.1	31.9	31.9	98.5	98.5	7.4	7.4	7.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		
					19.9	8.1	8.1	31.9	31.9	98.5	98.5	7.4	7.4	7.4	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		
Bottom	5.0	19.7	19.7	8.2	8.2	32.1	32.1	100.8	101.1	101.1	101.1	7.6	7.6	7.6	1.8	1.8	1.8	1.8	1.8	2.4					
	19.7	8.2	8.2	32.1	32.1	101.3	101.1	7.7	7.7	7.7	1.8	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.4						
	19.7	8.2	8.2	32.2	32.2	101.3	101.1	7.7	7.7	7.7	1.8	1.8	1.8	1.8	2.0	2.0	2.0	2.0	2.4						
M2	Cloudy	Moderate	14:31	Surface	1.1	19.8	19.8	8.2	8.2	31.7	31.7	102.1	102.0	7.7	7.7	7.7	1.3	1.3	1.3	2.8	2.5	2.0			
					19.8	8.2	8.2	31.7	31.7	101.9	102.0	7.7	7.7	7.7	1.3	1.3	1.3	2.2	2.2	2.2	2.5				
					19.7	8.2	8.2	32.1	32.1	103.1	103.0	7.8	7.8	7.8	1.2	1.2	1.2	1.2	1.2	1.2	2.5	2.2			
				Middle	6.1	19.7	19.7	8.2	8.2	32.1	32.1	102.9	103.0	103.0	103.0	7.8	7.8	7.8	1.2	1.2	1.2	1.9	2.2	2.2	
					19.7	8.2	8.2	32.1	32.1	102.9	103.0	7.8	7.8	7.8	1.2	1.2	1.2	1.2	1.2	1.2	1.9	2.2	2.2		
					19.7	8.2	8.2	32.2	32.2	103.0	103.0	7.8	7.8	7.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.2	
Bottom	11.0	19.7	19.7	8.2	8.2	32.2	32.2	102.9	103.0	103.0	103.0	7.8	7.8	7.8	1.4	1.4	1.4	1.4	1.4	1.2	1.2				
	19.7	8.2	8.2	32.2	32.2	102.9	103.0	7.8	7.8	7.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.2					
	19.7	8.2	8.2	32.2	32.2	102.9	103.0	7.8	7.8	7.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.2					
M3	Cloudy	Moderate																							

**Action and Limit Levels for Marine Water Quality on 23 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 2.3 NTU</u>	<u>C2: 2.5 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: n.a. mg/L</u>	<u>C2: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: 1.9 mg/L</u>		<u>C2: 2.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 Water Quality Monitoring Results on 23 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Moderate	9:21	Surface	1.0	19.8	19.8	8.2	8.1	31.5	31.5	99.2	99.0	7.5	7.5	7.6	1.3	1.3	1.3	<0.1	1.3	1.2
				Middle	9.1	19.8	19.8	8.1	8.2	31.5	32.1	98.8	101.7	7.5	7.7	7.7	1.3	1.3	1.3	1.3	1.5	
				Bottom	17.1	19.7	19.7	8.1	8.2	32.1	32.2	101.2	103.1	7.7	7.8	7.8	1.3	1.3	1.3	1.4	1.3	
C2	Cloudy	Moderate	8:25	Surface	1.1	19.8	19.8	7.8	7.8	31.6	31.6	100.6	100.5	9.2	9.2	9.3	1.7	1.7	1.7	1.8	1.9	1.8
				Middle	16.1	19.8	19.7	7.8	8.1	31.6	31.9	100.4	102.9	9.2	9.4	9.4	1.7	1.2	1.2	1.9	2.0	
				Bottom	31.0	19.7	19.7	8.1	8.2	32.0	32.3	102.9	102.2	9.4	7.7	7.7	1.2	1.7	1.7	1.7	1.7	
G1	Cloudy	Moderate	8:57	Surface	1.0	19.9	19.9	8.1	8.1	31.4	31.4	97.0	97.4	7.3	7.5	7.4	2.1	2.0	2.0	1.6	1.8	1.4
				Middle	4.1	19.9	19.9	8.1	8.1	31.4	32.0	97.7	97.3	7.6	7.3	7.3	1.6	1.7	1.7	1.7	1.9	
				Bottom	7.0	19.8	19.8	8.1	8.1	32.0	32.1	97.1	99.6	7.3	7.5	7.5	1.6	1.7	1.7	1.1	1.1	
G2	Cloudy	Moderate	8:45	Surface	1.0	19.8	19.8	8.2	8.2	31.7	31.7	101.4	101.4	7.7	7.7	7.7	1.5	1.5	1.5	1.5	1.4	1.8
				Middle	5.1	19.8	19.8	8.2	8.2	31.8	32.0	101.4	102.8	7.7	7.7	7.8	1.5	1.3	1.3	1.4	1.4	
				Bottom	9.1	19.7	19.7	8.2	8.2	32.1	32.2	103.1	102.7	7.7	7.8	7.8	1.4	2.3	2.7	1.4	2.7	
G3	Cloudy	Moderate	9:02	Surface	1.0	19.9	19.9	8.2	8.2	30.4	30.4	98.1	98.1	7.5	7.5	7.4	1.8	1.9	1.9	1.2	1.6	1.6
				Middle	4.0	19.9	19.9	8.1	8.1	30.4	32.0	98.0	96.7	7.6	7.3	7.3	2.1	1.5	1.8	1.4	1.5	
				Bottom	7.0	19.9	19.8	8.1	8.2	32.0	32.1	96.9	99.5	7.3	7.5	7.5	2.0	1.8	1.8	1.5	1.8	
G4	Cloudy	Moderate	9:10	Surface	1.0	19.9	19.9	8.1	8.1	31.7	31.7	99.7	99.5	7.5	7.5	7.5	2.6	2.6	2.6	1.4	1.5	1.8
				Middle	4.1	19.9	19.8	8.1	8.1	31.7	32.0	99.3	99.9	7.5	7.5	7.5	1.6	1.8	1.8	1.6	3.2	
				Bottom	7.0	19.8	19.7	8.1	8.2	32.0	32.1	99.7	101.8	7.5	7.7	7.7	1.8	1.6	1.6	2.8	1.3	
M1	Cloudy	Moderate	8:54	Surface	1.1	19.9	19.9	8.2	8.2	31.9	31.6	100.6	99.7	7.6	7.5	7.6	1.6	1.5	1.5	1.2	1.2	1.7
				Middle	3.1	19.9	19.8	8.2	8.1	31.4	32.1	98.7	100.5	7.5	7.6	7.6	1.5	1.7	1.7	1.2	2.3	
				Bottom	5.0	19.8	19.8	8.1	8.2	32.1	32.1	100.1	101.1	7.6	7.6	7.6	1.7	1.6	1.6	1.9	1.8	
M2	Cloudy	Moderate	8:41	Surface	1.0	19.8	19.8	8.2	8.2	31.7	31.7	101.9	102.0	7.7	7.7	7.7	1.4	1.4	1.4	2.0	1.6	1.3
				Middle	6.1	19.7	19.7	8.2	8.2	31.7	32.1	102.0	103.1	7.7	7.8	7.8	1.4	1.1	1.1	1.2	<0.1	
				Bottom	11.0	19.7	19.7	8.2	8.2	32.1	32.2	103.2	102.9	7.8	7.8	7.8	1.1	1.4	1.5	<0.1	2.2	
M3	Cloudy	Moderate	9:04	Surface	1.1	20.0	20.0	8.1	8.1	31.4	31.2	94.7	94.7	7.2	7.2	7.2	2.0	2.3	2.3	1.4	1.8	0.8
				Middle	4.0	19.9	19.9	8.1	8.1	31.1	31.8	94.6	97.0	7.2	7.3	7.3	2.6	1.6	1.8	2.2	1.3	
				Bottom	7.0	20.0	19.8	8.1	8.1	31.7	32.1	96.0	99.9	7.3	7.5	7.5	2.1	3.0	3.0	<0.1	<0.1	
M4	Cloudy	Moderate	8:34	Surface	1.1	19.7	19.7	8.2	8.2	32.0	32.0	103.6	103.6	7.8	7.8	7.8	1.2	1.2	1.2	1.4	1.4	1.7
				Middle	5.0	19.7	19.7	8.2	8.2	32.0	32.0	103.6	103.6	7.8	7.8	7.8	1.3	1.2	1.2	<0.1	2.0	
				Bottom	9.0	19.7	19.7	8.2	8.2	32.0	32.1	103.7	103.4	7.8	7.8	7.8	1.2	2.8	2.4	1.2	2.4	
M5	Cloudy	Moderate	9:19	Surface	1.0	19.9	19.9	8.1	8.1	32.0	32.0	99.9	99.7	7.5	7.5	7.5	1.9	1.9	1.9	1.5	1.4	1.0
				Middle	6.1	19.9	19.8	8.1	8.1	32.0	32.0	99.5	99.6	7.5	7.5	7.5	1.9	1.9	1.9	1.3	1.5	
				Bottom	11.1	19.8	19.7	8.1	8.2	32.0	32.2	99.4	101.1	7.5	7.6	7.6	2.0	2.0	2.0	1.6	<0.1	
M6	Cloudy	Moderate	9:13	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5
				Middle	2.1	19.9	19.9	8.1	8.1	32.0	32.0	97.6	97.6	7.4	7.4	7.4	8.0	8.0	8.0	1.2	1.5	
				Bottom	-	19.9	-	8.1	-	32.0	-	97.6	-	7.4	-	-	8.0	-	-	1.7	-	

Remarks: \*DA: Depth-Averaged  
 \*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 23 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 1.6 NTU</u>	<u>C1: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 0.8 mg/L</u>	<u>C1: 0.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 0.8 mg/L</u>	<u>C1: 0.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C1: 1.6 mg/L</u>		<u>C1: 1.7 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.



Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 25 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Fine	Calm	11:47	Surface	1.1	19.8	19.8	8.2	8.2	31.9	31.9	99.9	99.8	7.6	7.5	7.5	1.7	1.7	1.3	<0.1	<0.1	0.8
				Middle	9.1	19.7	19.7	8.2	8.2	31.9	31.9	99.7	99.7	7.6	7.6	7.6	1.2	1.2	1.3	1.1	1.1	
				Bottom	17.1	19.7	19.7	8.2	8.2	32.0	32.0	99.5	99.5	7.5	7.5	7.5	1.0	1.0	1.3	1.2	1.2	
C2	Fine	Calm	10:45	Surface	1.0	19.8	19.8	8.2	8.2	31.0	31.0	98.4	98.5	9.0	9.0	9.0	1.8	1.8	1.3	1.0	1.1	0.7
				Middle	16.0	19.7	19.7	8.3	8.3	32.1	32.1	99.4	99.4	7.5	7.5	7.5	1.0	1.0	1.3	1.0	1.1	
				Bottom	31.0	19.7	19.7	8.2	8.2	32.0	32.0	99.1	99.1	7.5	7.5	7.5	1.0	1.0	1.3	<0.1	<0.1	
G1	Fine	Calm	11:14	Surface	1.0	19.7	19.7	8.2	8.2	31.9	31.9	99.5	99.5	7.5	7.5	7.5	1.7	1.7	1.6	1.8	1.9	1.1
				Middle	4.0	19.7	19.7	8.2	8.2	32.0	32.0	99.8	99.9	7.6	7.6	7.6	1.8	1.8	1.6	1.4	1.3	
				Bottom	7.0	19.7	19.7	8.2	8.2	32.0	32.0	100.0	99.9	7.6	7.6	7.6	1.3	1.2	1.6	<0.1	<0.1	
G2	Fine	Calm	11:03	Surface	1.1	19.7	19.7	8.2	8.2	31.9	31.9	99.7	99.6	7.6	7.5	7.5	1.7	1.7	1.6	<0.1	<0.1	0.7
				Middle	5.1	19.7	19.7	8.2	8.2	31.9	31.9	99.4	99.7	7.5	7.5	7.5	1.7	1.8	1.6	1.0	1.1	
				Bottom	9.0	19.7	19.7	8.2	8.2	32.0	32.0	100.0	100.0	7.6	7.6	7.6	1.4	1.4	1.6	1.2	1.2	
G3	Fine	Calm	11:19	Surface	1.2	19.8	19.8	8.2	8.2	31.9	31.9	99.7	99.7	7.5	7.5	7.5	1.7	1.7	1.3	1.1	1.2	0.4
				Middle	4.0	19.7	19.7	8.2	8.2	32.0	32.0	99.8	99.9	7.6	7.6	7.6	1.8	1.8	1.3	<0.1	<0.1	
				Bottom	7.0	19.7	19.7	8.2	8.2	32.0	32.0	99.9	99.9	7.6	7.5	7.5	1.1	1.1	1.3	<0.1	<0.1	
G4	Fine	Calm	11:28	Surface	1.1	19.7	19.7	8.2	8.2	31.9	31.9	99.6	99.6	7.5	7.5	7.5	1.7	1.7	1.1	<0.1	<0.1	1.0
				Middle	4.1	19.7	19.7	8.2	8.2	31.9	31.9	100.0	100.1	7.6	7.6	7.6	1.8	1.8	1.1	1.1	1.2	
				Bottom	7.1	19.7	19.7	8.2	8.2	31.9	31.9	100.2	100.2	7.6	7.6	7.6	1.6	1.6	1.1	1.9	1.8	
M1	Fine	Calm	11:08	Surface	1.1	19.7	19.7	8.2	8.2	31.9	31.9	100.0	100.0	7.6	7.6	7.6	1.8	1.8	1.2	1.2	1.3	1.6
				Middle	3.0	19.7	19.7	8.2	8.2	31.9	31.9	99.6	99.6	7.5	7.5	7.5	1.7	1.7	1.2	1.6	1.6	
				Bottom	5.1	19.7	19.7	8.2	8.2	31.9	31.9	99.9	100.0	7.6	7.6	7.6	1.8	1.8	1.2	2.2	2.1	
M2	Fine	Calm	10:57	Surface	1.0	19.8	19.9	8.2	8.2	31.8	31.8	99.8	99.7	7.5	7.5	7.5	1.7	1.6	1.1	1.6	1.7	1.0
				Middle	6.1	19.7	19.7	8.2	8.2	31.9	31.9	100.1	100.3	7.6	7.6	7.6	1.8	1.8	1.1	1.4	1.3	
				Bottom	11.0	19.7	19.7	8.2	8.2	32.0	32.0	100.1	100.0	7.6	7.6	7.6	1.4	1.2	1.1	<0.1	<0.1	
M3	Fine	Calm	11:23	Surface	1.0	19.8	19.8	8.2	8.2	31.9	31.9	99.7	99.6	7.5	7.5	7.5	1.7	1.4	1.1	1.5	1.6	0.9
				Middle	4.1	19.7	19.7	8.2	8.2	31.9	31.9	100.0	100.1	7.6	7.6	7.6	1.1	1.4	1.1	1.0	1.1	
				Bottom	7.0	19.7	19.7	8.2	8.2	32.0	32.0	99.8	99.8	7.6	7.6	7.6	1.2	1.1	1.1	<0.1	<0.1	
M4	Fine	Calm	10:51	Surface	1.1	19.8	19.8	8.2	8.2	31.8	31.8	99.4	99.4	7.5	7.5	7.5	1.7	1.7	1.1	1.8	1.7	1.4
				Middle	5.0	19.7	19.7	8.2	8.2	31.9	31.9	99.7	100.0	7.6	7.6	7.6	1.1	1.5	1.1	1.3	1.4	
				Bottom	9.0	19.7	19.7	8.2	8.2	32.0	32.0	100.3	100.1	7.6	7.6	7.6	1.5	1.4	1.1	1.2	1.2	
M5	Fine	Calm	11:38	Surface	1.1	19.8	19.8	8.2	8.2	31.8	31.8	99.7	99.7	7.5	7.5	7.5	1.7	1.7	1.1	<0.1	<0.1	0.8
				Middle	6.0	19.7	19.7	8.2	8.2	31.9	31.9	99.8	99.9	7.6	7.6	7.6	1.8	1.8	1.1	1.1	1.2	
				Bottom	11.1	19.7	19.7	8.2	8.2	32.0	32.0	99.8	99.8	7.6	7.6	7.6	1.2	1.2	1.1	1.4	1.3	
M6	Fine	Calm	11:33	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	
				Middle	2.0	19.7	19.7	8.2	8.2	31.9	31.9	100.0	100.0	7.6	7.6	7.6	8.0	8.0	1.1	1.3		1.4
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-

Remarks: \*DA: Depth-Averaged  
\*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 25 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>CI: 1.2 NTU</u>	<u>CI: 1.4 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>CI: n.a. mg/L</u>	<u>CI: n.a. mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>CI: 1.4 mg/L</u>		<u>CI: 1.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 28 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*	
C1	Cloudy	Moderate	11:18	Surface	1.0	19.7	19.8	8.2	8.2	31.6	31.7	98.7	98.7	9.0	9.0	8.1	1.6	1.6	1.4	4.5	4.7	2.9	
					19.8	8.2	8.2	31.7	31.7	98.7	98.7	9.0	9.0	8.1	1.6	1.6	1.4	4.8	4.7				
					20.0	8.2	8.2	31.9	31.9	95.3	95.5	7.2	7.2	8.1	1.4	1.3	2.7	2.6					
				Middle	9.0	20.0	20.0	8.2	8.2	31.9	31.9	95.6	95.5	95.5	7.2	7.2	8.1	1.2	1.3	1.4	1.5		1.6
					20.0	8.2	8.2	32.6	32.6	92.2	92.2	6.9	6.9	6.9	1.4	1.3	1.7	1.6					
					20.3	8.2	8.2	32.6	32.6	92.1	92.2	6.9	6.9	6.9	1.3	1.3	1.5	1.6					
Bottom	17.0	20.3	20.3	8.2	8.2	32.6	32.6	92.1	92.2	92.2	6.9	6.9	6.9	1.3	1.3	1.5	1.6						
	19.9	19.9	19.9	8.2	8.2	32.6	32.1	95.5	95.4	95.4	8.7	8.7	8.6	1.5	1.5	1.5	1.6						
	19.9	8.2	8.2	31.5	32.1	95.3	95.4	8.7	8.7	8.6	1.5	1.5	1.5	1.6									
C2	Cloudy	Moderate	9:53	Surface	1.0	19.9	19.9	8.2	8.2	32.6	31.5	98.1	95.4	8.7	8.7	8.6	1.1	1.1	1.4	2.2	2.3	2.1	
					19.9	8.2	8.2	31.5	32.1	95.3	95.4	8.7	8.7	8.6	1.1	1.1	1.4	2.3					
					20.1	8.2	8.2	31.6	31.8	94.5	94.5	8.6	8.6	8.6	1.1	1.1	2.2	2.3					
				Middle	16.1	20.1	20.1	8.2	8.2	31.9	31.8	94.4	94.5	94.5	8.6	8.6	8.6	1.1	1.1	1.4	2.4		2.3
					20.1	8.2	8.2	31.6	31.7	94.2	94.1	8.5	8.5	8.5	1.5	1.5	2.2	2.4					
					20.1	8.2	8.2	31.9	31.7	94.0	94.1	8.5	8.5	8.5	1.4	1.5	2.5	2.4					
Bottom	31.1	20.1	20.1	8.2	8.2	31.6	31.7	94.2	94.1	94.1	8.5	8.5	8.5	1.5	1.5	2.2	2.4						
	20.1	8.2	8.2	31.9	31.7	94.0	94.1	8.5	8.5	8.5	1.4	1.5	2.5	2.4									
	19.8	19.8	19.8	8.2	8.2	32.1	31.7	95.2	95.2	95.2	8.6	8.6	8.6	1.3	1.3	1.6	1.7						
G1	Cloudy	Moderate	10:37	Surface	1.1	19.8	19.8	8.2	8.2	32.1	31.7	95.2	95.2	8.6	8.6	8.6	1.3	1.3	1.4	2.6	2.5	2.6	
					19.8	8.2	8.2	31.4	31.7	95.2	95.2	8.6	8.6	8.6	1.3	1.3	1.8	1.7					
					20.0	8.2	8.2	31.5	31.9	95.4	95.6	8.7	8.7	8.7	1.2	1.4	2.6	2.5					
				Middle	4.0	20.0	20.0	8.2	8.2	32.3	31.9	95.7	95.6	95.6	8.7	8.7	8.7	1.6	1.6	1.6	3.4		3.5
					20.0	8.2	8.2	31.2	31.6	94.9	94.8	8.6	8.6	8.6	1.6	1.6	3.4	3.5					
					20.1	8.2	8.2	32.0	31.6	94.7	94.8	8.6	8.6	8.6	1.6	1.6	3.6	3.5					
Bottom	7.0	20.1	20.1	8.2	8.2	31.2	31.6	94.9	94.8	94.8	8.6	8.6	8.6	1.6	1.6	1.6	3.6	3.5					
	20.1	8.2	8.2	32.0	31.6	94.7	94.8	8.6	8.6	8.6	1.6	1.6	3.6	3.5									
	19.8	19.8	19.8	8.2	8.2	32.6	31.9	98.1	98.2	98.2	8.9	8.9	8.8	1.4	1.5	1.5	2.7	2.6					
G2	Cloudy	Moderate	10:22	Surface	1.1	19.8	19.8	8.2	8.2	32.6	31.9	98.1	98.2	8.9	8.9	8.8	1.4	1.5	1.5	2.5	2.6	2.0	
					19.8	8.2	8.2	31.2	31.2	98.3	95.3	8.6	8.6	8.6	1.4	1.4	1.9	1.9					
					20.0	8.2	8.2	32.2	32.2	95.3	95.3	8.6	8.6	8.6	1.4	1.4	1.4	1.9					
				Middle	5.1	20.0	20.0	8.2	8.2	32.1	32.2	95.0	95.3	95.3	8.6	8.6	8.6	1.4	1.4	1.5	2.5		2.6
					20.0	8.2	8.2	32.1	32.2	95.2	95.3	8.6	8.6	8.6	1.4	1.4	1.4	1.9					
					20.1	8.2	8.2	32.5	32.3	94.9	95.0	8.6	8.6	8.6	1.6	1.5	1.6	1.5					
Bottom	9.0	20.1	20.1	8.2	8.2	32.5	32.3	94.9	95.0	95.0	7.1	7.9	7.9	1.5	1.5	1.6	1.5						
	20.1	8.2	8.2	31.2	31.2	94.3	31.2	94.2	94.2	94.2	7.1	7.1	7.1	1.3	1.3	2.6	2.8						
	19.9	8.2	8.2	31.2	31.2	94.1	31.2	94.2	94.2	94.2	7.1	7.1	7.1	1.4	1.3	3.0	2.8						
G3	Cloudy	Moderate	10:45	Surface	1.0	19.8	19.8	8.2	8.2	31.2	31.2	94.3	94.2	7.1	7.1	7.1	1.3	1.3	1.3	2.3	2.5	2.3	
					19.9	8.2	8.2	31.2	31.2	94.1	94.2	7.1	7.1	7.1	1.2	1.2	1.2	2.7	2.5				
					20.0	8.2	8.2	31.6	31.6	93.7	93.7	7.1	7.1	7.1	1.2	1.2	2.7	2.5					
				Middle	4.1	20.0	20.0	8.2	8.2	31.7	31.6	93.7	93.7	93.7	7.1	7.1	7.1	1.2	1.2	1.3	2.3		2.5
					20.0	8.2	8.2	31.7	31.6	93.7	93.7	7.1	7.1	7.1	1.2	1.2	1.2	2.7	2.5				
					20.0	8.2	8.2	31.7	31.6	93.7	93.7	7.1	7.1	7.1	1.2	1.2	1.2	2.7	2.5				
Bottom	7.1	20.0	20.0	8.2	8.2	31.7	31.6	93.7	93.7	93.7	7.1	7.1	7.1	1.2	1.2	1.3	2.3	2.5					
	20.0	8.2	8.2	31.7	31.6	93.7	93.7	7.1	7.1	7.1	1.2	1.2	1.2	2.7	2.5								
	20.0	8.2	8.2	29.2	30.4	94.0	94.1	7.2	7.1	7.1	1.4	1.4	1.9	1.7									
G4	Cloudy	Moderate	10:59	Surface	1.1	19.8	19.7	8.2	8.2	31.5	31.2	95.0	94.9	8.6	8.6	8.7	1.1	1.1	1.2	2.5	2.7	2.3	
					19.7	8.2	8.2	31.0	31.2	94.8	94.9	8.6	8.6	8.6	1.1	1.1	2.9	2.7					
					20.0	8.2	8.2	32.0	32.3	95.8	95.8	8.7	8.7	8.7	1.2	1.2	2.3	2.3					
				Middle	4.1	20.0	20.0	8.2	8.2	32.0	32.3	95.7	95.8	95.8	8.7	8.7	8.7	1.2	1.2	1.2	2.3		2.3
					20.0	8.2	8.2	32.6	32.3	95.7	95.8	8.7	8.7	8.7	1.3	1.2	2.3	2.3					
					20.1	8.2	8.2	31.3	31.2	95.0	95.0	8.6	8.6	8.6	1.1	1.2	1.7	1.8					
Bottom	7.0	20.1	20.1	8.2	8.2	31.3	31.2	95.0	95.0	95.0	8.6	8.6	8.6	1.1	1.2	1.8	1.8						
	20.1	8.2	8.2	31.2	31.2	94.9	95.0	8.6	8.6	8.6	1.3	1.2	1.8	1.8									
	19.8	19.8	19.8	8.2	8.2	32.3	32.0	96.3	96.4	96.4	7.3	7.3	7.3	1.5	1.4	3.6	3.5						
M1	Cloudy	Moderate	10:30	Surface	1.1	19.8	19.8	8.2	8.2	32.3	32.0	96.3	96.4	7.3	7.3	7.3	1.5	1.4	1.4	4.0	4.1	3.7	
					19.8	8.2	8.2	31.8	32.0	96.4	96.4	7.3	7.3	7.3	1.4	1.4	3.3	3.4					
					19.9	8.2	8.2	31.9	32.2	97.2	97.3	7.3	7.3	7.3	1.3	1.3	3.8	3.6					
				Middle	3.0	19.9	19.9	8.2	8.2	32.6	32.1	97.4	97.3	97.3	7.3	7.3	7.3	1.3	1.3	3.4	3.6		
					20.0	8.2	8.2	31.6	32.1	95.8	95.5	7.2	7.2	7.2	1.5	1.5	4.2	4.1					
					20.0	8.2	8.2	32.7	32.1	95.2	95.5	7.2	7.2	7.2	1.6	1.5	4.0	4.1					
Bottom	5.0	20.0	20.0	8.2	8.2	32.7	32.1	95.2	95.5	95.5	7.2	7.2	7.2	1.6	1.5	4.0	4.1						
	20.0	8.2	8.2	31.9	31.7	98.5	98.6	9.0	9.0	9.0	1.4	1.4	3.5	3.4									
	19.7	8.2	8.2	31.4	31.7	98.6	98.6	9.0	9.0	9.0	1.4	1.4	3.3	3.4									
M2	Cloudy	Moderate	10:15	Surface	1.0	19.7	19.7	8.2	8.2	31.9	31.7	98.5	98.6	9.0	9.0	8.7	1.4	1.4	1.4	2.5	2.7	2.8	
					19.7	8.2	8.2	31.4	31.7	98.6	98.6	9.0	9.0	8.7	1.4	1.4	2.9	2.7					
					20.0	8.2	8.2	31.5	31.6	94.1	94.1	8.5	8.5	8.5	1.4	1.4	2.1	2.2					
				Middle	6.0	20.0	20.0	8.2	8.2	31.8	31.6	94.0	94.1	94.1	8.5	8.5	1.4	1.4	2.1	2.2			
					20.0	8.2	8.2	31.8	31.6	94.0	94.1	8.5	8.5	8.5	1.4	1.4	2.1	2.2					
					20.1	8.2	8.2	31.5	31.6	94.8	94.9	8.6	8.6	8.6	1.5	1.5	2.3	2.2					
Bottom	11.0	20.1	20.1	8.2	8.2	31.4	31.4	94.9	94.9	94.9	8.6	8.6	8.6	1.4	1.5	2.3	2.2						
	20.1	8.2	8.2	31.4	31.4	94.9	94.9	8.6	8.6	8.6	1.4	1.5	2.3	2.2									
	19.9	19.9	19.9	8.2	8.2	32.0	31.6	92.1	92.2	92.2	7.0	7.0	7.0	1.6	1.6	2.3	2.2						
M3	Cloudy	Moderate	10:52	Surface	1.0	19.9	19.9	8.2	8.2	32.0	31.6	92.1	92.2	7.0	7.0	7.0	1.6	1.6	1.6	2.1	2.2	1.7	
					19.9	8.2	8.2																

**Action and Limit Levels for Marine Water Quality on 28 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.8 NTU</u>	<u>C2: 1.9 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.9 mg/L</u>	<u>C2: 2.1 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 1.9 mg/L</u>	<u>C2: 2.1 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: 2.8 mg/L</u>		<u>C2: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

**Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction**  
**Water Quality Monitoring Results on 28 March 2022**

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	
C1	Cloudy	Moderate	15:09	Surface	1.1	20.0	20.0	8.2	8.2	31.8	31.5	97.8	98.1	8.9	8.9	8.8	1.6	1.6	1.4	2.4	2.4	1.6			
						20.0		8.2		31.3		98.3		8.9			1.6			2.3					
				Middle	9.0	20.2	20.2	8.2	8.2	31.3	31.4	95.8	95.7	8.7	8.7	8.7	8.7	1.4		1.4	1.4		1.4	1.4	1.4
						20.2		8.2		31.5		95.5		8.7		1.4		1.3							
				Bottom	17.0	20.4	20.4	8.2	8.2	32.6	32.6	92.4	92.3	6.9	6.9	6.9	6.9	1.3		1.3	1.2		1.2	1.2	1.2
						20.4		8.2		32.6		92.2		6.9		1.3		1.2							
C2	Cloudy	Moderate	13:45	Surface	1.1	20.1	20.1	8.2	8.2	31.9	32.1	95.4	95.4	8.7	8.7	8.6	1.6	1.6	1.4	3.3	3.2	2.8			
						20.1		8.2		32.3		95.4		8.7			1.7			3.1					
				Middle	16.1	20.2	20.2	8.2	8.2	31.0	31.2	94.6	94.6	8.6	8.6	8.6	8.6	1.2		1.2	2.7		2.9	2.7	2.9
						20.2		8.2		31.4		94.6		8.6		1.2		3.1							
				Bottom	31.0	20.2	20.2	8.2	8.2	31.2	31.6	94.2	94.2	8.5	8.5	8.5	8.5	1.4		1.4	2.4		2.3	2.2	2.3
						20.2		8.2		32.0		94.2		8.5		1.4		2.2							
G1	Cloudy	Moderate	14:25	Surface	1.0	20.0	20.1	8.2	8.2	32.0	32.0	94.6	94.7	8.6	8.6	8.6	1.4	1.4	1.4	2.4	2.3	3.1			
						20.1		8.2		32.0		94.8		8.6			1.3			2.2					
				Middle	4.1	20.1	20.1	8.2	8.2	32.3	31.8	95.2	95.2	8.6	8.6	8.6	8.6	1.4		1.4	3.2		3.0	2.8	3.0
						20.1		8.2		31.2		95.2		8.6		1.4		2.8							
				Bottom	7.0	20.1	20.1	8.2	8.2	31.1	31.2	95.2	95.0	8.6	8.6	8.6	8.6	1.2		1.4	3.7		3.9	4.0	4.0
						20.1		8.2		31.4		94.7		8.6		1.6		4.0							
G2	Cloudy	Moderate	14:09	Surface	1.1	20.0	20.0	8.2	8.2	31.1	31.6	98.2	98.2	8.9	8.9	8.8	1.3	1.2	1.4	3.0	2.8	2.2			
						20.0		8.2		32.2		98.1		8.9			1.2			2.6					
				Middle	5.0	20.2	20.2	8.2	8.2	31.1	31.3	95.3	95.2	8.6	8.6	8.6	8.6	1.5		1.5	2.4		2.5	2.6	2.5
						20.2		8.2		31.5		95.1		8.6		1.5		2.6							
				Bottom	9.0	20.2	20.2	8.2	8.2	31.4	31.6	95.0	95.0	8.6	8.6	8.6	8.6	1.5		1.6	1.4		1.3	1.2	1.3
						20.2		8.2		31.8		95.0		8.6		1.6		1.2							
G3	Cloudy	Moderate	14:32	Surface	1.0	20.1	20.1	8.2	8.2	31.1	31.2	94.0	94.1	7.1	7.1	7.1	1.4	1.3	1.3	1.8	1.6	2.7			
						20.1		8.2		31.2		94.2		7.1			1.3			1.5					
				Middle	4.1	20.1	20.1	8.2	8.2	31.7	31.7	93.9	93.9	7.1	7.1	7.1	7.1	1.2		1.2	2.5		2.7	2.9	2.7
						20.1		8.2		31.7		93.8		7.1		1.3		2.9							
				Bottom	7.1	20.1	20.1	8.2	8.2	31.7	31.7	93.9	94.1	7.1	7.1	7.1	7.1	1.3		1.2	3.9		3.7	3.5	3.7
						20.1		8.2		31.8		94.2		7.1		1.2		3.5							
G4	Cloudy	Moderate	14:47	Surface	1.0	20.0	20.0	8.2	8.2	31.3	31.4	95.7	95.5	8.7	8.7	8.7	1.0	1.0	1.2	4.1	4.0	3.2			
						20.0		8.2		31.5		95.2		8.7			1.0			3.8					
				Middle	4.0	20.1	20.1	8.2	8.2	31.5	32.0	95.7	95.8	8.7	8.7	8.7	8.7	1.2		1.4	3.1		3.3	3.5	3.3
						20.1		8.2		32.6		95.8		8.7		1.7		3.5							
				Bottom	7.1	20.1	20.1	8.2	8.2	31.8	32.2	95.2	95.1	8.6	8.6	8.6	8.6	1.0		1.0	2.2		2.4	2.6	2.4
						20.1		8.2		32.6		95.0		8.6		1.1		2.6							
M1	Cloudy	Moderate	14:17	Surface	1.0	20.1	20.1	8.2	8.2	31.7	32.2	96.0	96.1	7.2	7.2	7.3	1.4	1.4	1.4	3.0	2.9	2.3			
						20.1		8.2		32.6		96.1		7.3			1.4			2.7					
				Middle	3.1	20.1	20.1	8.2	8.2	32.1	32.2	96.9	97.1	7.3	7.3	7.3	7.3	1.3		1.3	2.2		2.4	2.5	2.4
						20.1		8.2		32.2		97.2		7.3		1.3		2.5							
				Bottom	5.0	20.1	20.1	8.2	8.2	32.2	32.2	95.8	95.9	7.2	7.2	7.2	7.2	1.5		1.5	1.6		1.7	1.8	1.7
						20.1		8.2		32.2		95.9		7.2		1.5		1.8							
M2	Cloudy	Moderate	14:01	Surface	1.1	20.0	20.0	8.2	8.2	31.9	31.9	99.1	98.7	9.0	9.0	8.8	1.3	1.4	1.3	4.0	3.8	3.3			
						20.0		8.2		32.0		98.3		8.9			1.4			3.6					
				Middle	6.0	20.2	20.2	8.2	8.2	31.5	31.5	94.4	94.3	8.6	8.5	8.5	8.5	1.3		1.4	3.5		3.3	3.1	3.3
						20.2		8.2		31.4		94.1		8.5		1.4		3.1							
				Bottom	11.0	20.2	20.2	8.2	8.2	31.7	31.5	94.8	94.8	8.6	8.6	8.6	8.6	1.1		1.0	2.6		2.8	2.9	2.8
						20.2		8.2		31.7		94.8		8.6		1.0		2.9							
M3	Cloudy	Moderate	14:40	Surface	1.1	20.1	20.1	8.2	8.2	32.3	32.3	92.3	92.3	7.0	7.0	7.1	1.2	1.2	1.3	1.5	1.4	1.8			
						20.1		8.2		32.3		92.2		7.1			1.2			1.3					
				Middle	4.0	20.1	20.1	8.2	8.2	32.6	32.5	92.8	92.8	7.2	7.1	7.1	7.1	1.2		1.2	1.6		1.7	1.8	1.7
						20.1		8.2		32.4		92.8		7.0		1.2		1.8							
				Bottom	7.0	20.1	20.1	8.2	8.2	32.5	31.9	93.4	93.4	7.2	7.2	7.2	7.2	1.5		1.5	2.3		2.2	2.1	2.2
						20.1		8.2		31.3		93.4		7.1		1.5		2.1							
M4	Cloudy	Moderate	13:53	Surface	1.1	20.1	20.1	8.2	8.2	32.5	31.8	95.8	95.6	8.7	8.7	8.6	1.3	1.3	1.1	1.5	1.5	1.1			
						20.1		8.2		31.2		95.4		8.7			1.3			1.4					
				Middle	5.0	20.2	20.2	8.2	8.2	31.8	31.4	94.4	94.4	8.6	8.5	8.5	8.5	1.0		1.0	1.4		1.4	1.4	1.4
						20.2		8.2		31.1		94.3		8.5		1.0		1.4							
				Bottom	9.1	20.2	20.2	8.2	8.2	32.0	31.7	94.1	94.1	8.5	8.5	8.5	8.5	1.1		1.1	<0.1		1.0	1.0	1.0
						20.2		8.2		31.5		94.0		8.5		1.0		1.0							
M5	Cloudy	Moderate	15:00	Surface	1.0	20.0	20.0	8.2	8.2	31.1	31.5	97.7	97.6	8.9	8.9	8.8	1.4	1.3	1.5	1.2	1.2	1.5			
						20.0		8.2		31.8		97.4		8.9			1.2			1.1					
				Middle	6.0	20.1	20.1	8.2	8.2	32.2	32.3	95.8	95.5	8.7	8.7	8.7	8.7	1.3		1.3	1.4		1.5	1.6	1.5
						20.1		8.2		32.3		95.1		8.6		1.4		1.6							
				Bottom	11.1	20.2	20.2	8.2	8.2	31.6	31.6	94.4	94.4	8.6	8.6	8.6	8.6	1.8		1.8	1.9		1.8	1.7	1.8
						20.2		8.2		31.7		94.4		8.6		1.7		1.7							
M6	Cloudy	Moderate	14:56	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	1.2				
						-		-		-		-		-		-			-			-	-		
				Middle	2.0	20.1	20.1	8.2	8.2	31.3	29.2	96.5	96.5	7.4	7.5	7.5	7.5		8.0	8.0		1.1	1.2	1.1	1.2
						20.1		8.2		27.2		96.4		7.6		8.0			1.3						
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-	-	-
						-		-		-		-		-		-			-			-	-		

Remarks:

\*DA: Depth-Averaged

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

**Action and Limit Levels for Marine Water Quality on 28 March 2022 (Mid-Flood Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 1.6 NTU</u>	<u>C1: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 2.8 mg/L</u>	<u>C1: 3.1 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 2.8 mg/L</u>	<u>C1: 3.1 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C1: 1.4 mg/L</u>		<u>C1: 1.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 30 March 2022

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	DA*	Value	Average	DA*	Value	Average	DA*		
C1	Fine	Moderate	12:21	Surface	1.0	20.2	20.2	8.1	8.1	31.4	32.0	93.3	93.6	8.4	8.4	8.4	1.2	1.3	1.3	1.8	1.9	2.4		
						20.2		8.1		31.6	31.6	93.9	93.5	8.5	8.4	8.4	1.4	1.4	1.3	1.9	2.4			
						20.2	20.2	8.1	8.1	31.6	31.6	93.6	93.5	8.4	8.4	8.4	1.3	1.4	1.3	2.5	2.4			
				Middle	9.0	20.2	20.2	8.1	8.1	31.6	31.6	93.3	93.5	8.3	8.4	8.4	1.4	1.4	1.3	1.4	1.4	2.2	2.4	
						20.2		8.1		31.8	31.6	94.8	94.3	8.4	8.4	8.4	1.4	1.3	1.3	1.4	1.3	3.0	3.1	
						20.2	20.2	8.1	8.1	31.4	31.6	93.8	94.3	8.4	8.4	8.4	1.2	1.3	1.3	1.2	1.3	3.2	3.1	
C2	Fine	Moderate	11:28	Surface	1.0	20.3	20.3	8.1	8.1	32.2	32.2	93.8	94.2	8.4	8.4	8.4	1.3	1.3	1.3	3.7	3.6	2.8		
						20.3		8.1		32.1	31.8	94.6	93.9	8.3	8.5	8.5	1.2	1.3	1.3	3.4	2.6			
						20.2	20.2	8.1	8.1	32.0	31.8	93.5	93.9	8.5	8.4	8.5	1.2	1.3	1.3	2.5	2.6			
				Middle	15.9	20.2	20.2	8.1	8.1	31.7	31.9	94.2	94.0	8.4	8.5	8.5	1.3	1.3	1.3	1.3	1.3	2.6	2.6	
						20.2		8.1		31.6	31.9	94.0	94.0	8.5	8.5	8.5	1.3	1.3	1.3	1.3	1.3	2.4	2.3	
						20.2	20.2	8.1	8.1	32.3	31.9	93.9	94.0	8.5	8.5	8.5	1.4	1.3	1.3	1.4	1.3	2.2	2.3	
G1	Fine	Moderate	11:54	Surface	1.1	20.2	20.2	8.1	8.1	32.7	32.2	94.7	94.1	8.4	8.3	8.3	1.3	1.3	1.3	2.8	2.7	2.3		
						20.2		8.1		31.7	32.2	93.5	93.7	8.3	8.4	8.4	1.3	1.2	1.2	2.6	2.3			
						20.2	20.2	8.1	8.1	32.7	32.2	93.7	93.7	8.4	8.4	8.4	1.2	1.2	1.2	2.4	2.3			
				Middle	4.1	20.2	20.2	8.1	8.1	31.8	31.8	93.7	93.7	8.3	8.3	8.3	1.2	1.2	1.2	1.2	1.2	2.2	2.3	
						20.2		8.1		31.8	31.8	94.3	94.1	8.4	8.5	8.4	1.4	1.4	1.4	1.4	1.4	1.9	1.8	
						20.2	20.2	8.1	8.1	31.5	31.8	93.8	94.1	8.4	8.4	8.4	1.3	1.4	1.4	1.3	1.4	1.7	1.8	
G2	Fine	Moderate	11:44	Surface	1.1	20.2	20.2	8.1	8.1	31.6	31.6	93.8	94.3	8.5	8.4	8.4	1.3	1.3	1.3	1.9	1.8	2.4		
						20.2		8.1		31.5	31.7	94.7	94.2	8.3	8.4	8.4	1.2	1.4	1.4	1.6	2.4			
						20.1	20.1	8.1	8.1	31.9	31.7	94.4	94.2	8.4	8.4	8.4	1.4	1.4	1.4	1.4	1.4	2.4	2.4	
				Middle	5.1	20.2	20.1	8.1	8.1	31.6	31.7	93.9	94.2	8.4	8.4	8.4	1.3	1.4	1.4	1.3	1.4	2.3	2.4	
						20.1		8.1		32.4	31.6	94.9	94.2	8.3	8.4	8.4	1.3	1.3	1.3	1.3	1.3	3.0	2.4	
						20.1	20.1	8.1	8.1	31.8	32.1	94.7	94.8	8.5	8.4	8.4	1.4	1.3	1.3	1.4	1.3	2.9	3.0	
G3	Fine	Moderate	11:58	Surface	1.0	20.2	20.2	8.1	8.1	32.3	31.9	94.5	94.1	8.5	8.4	8.4	1.3	1.3	1.3	1.6	1.7	2.0		
						20.2		8.1		31.4	31.9	93.6	94.1	8.3	8.4	8.4	1.2	1.3	1.3	1.8	1.7			
						20.2	20.2	8.1	8.1	31.5	31.7	94.3	94.5	8.3	8.4	8.4	1.3	1.3	1.3	1.9	1.8			
				Middle	3.0	20.2	20.2	8.1	8.1	32.0	31.7	94.7	94.5	8.4	8.4	8.4	1.4	1.3	1.3	1.4	1.3	1.7	1.8	
						20.2		8.1		31.8	31.7	93.5	94.2	8.5	8.4	8.4	1.3	1.3	1.3	1.4	1.3	2.4	2.5	
						20.2	20.2	8.1	8.1	32.7	32.2	94.8	94.2	8.3	8.4	8.4	1.3	1.3	1.3	1.3	1.3	2.5	2.5	
G4	Fine	Moderate	12:07	Surface	1.1	20.2	20.2	8.1	8.1	31.8	31.8	94.0	94.2	8.5	8.4	8.4	1.4	1.3	1.3	2.3	2.2	2.9		
						20.2		8.1		31.8	31.8	94.4	94.2	8.4	8.4	8.4	1.2	1.3	1.3	2.1	2.2			
						20.2	20.2	8.1	8.1	32.6	32.2	94.3	94.6	8.4	8.4	8.4	1.3	1.3	1.3	2.6	2.7			
				Middle	4.1	20.2	20.2	8.1	8.1	31.9	32.2	94.8	94.6	8.4	8.4	8.4	1.3	1.3	1.3	1.3	1.3	2.8	2.7	
						20.2		8.1		31.9	32.2	94.8	94.6	8.4	8.4	8.4	1.3	1.3	1.3	1.3	1.3	2.8	2.7	
						20.2	20.2	8.1	8.1	31.9	32.2	93.3	93.8	8.4	8.4	8.4	1.2	1.2	1.2	4.0	3.9			
M1	Fine	Moderate	11:49	Surface	1.1	20.2	20.2	8.1	8.1	32.1	32.3	94.3	94.4	8.3	8.4	8.4	1.3	1.3	1.3	4.8	4.7	4.1		
						20.2		8.1		32.4	31.5	94.4	94.2	8.5	8.4	8.4	1.3	1.2	1.2	4.5	4.2			
						20.2	20.2	8.1	8.1	31.6	31.5	94.2	94.2	8.4	8.4	8.4	1.2	1.2	1.2	4.0	4.2			
				Middle	3.1	20.2	20.1	8.1	8.1	31.6	31.5	94.2	94.2	8.4	8.4	8.4	1.2	1.2	1.2	4.3	4.2			
						20.1		8.1		32.4	31.9	93.5	93.7	8.5	8.4	8.4	1.4	1.3	1.3	3.4	3.4			
						20.1	20.1	8.1	8.1	31.4	31.9	93.8	93.7	8.4	8.4	8.4	1.3	1.3	1.3	3.3	3.4			
M2	Fine	Moderate	11:39	Surface	1.0	20.2	20.2	8.1	8.1	31.5	31.6	94.9	94.2	8.4	8.4	8.4	1.3	1.3	1.3	3.4	3.4	3.7		
						20.2		8.1		31.7	31.6	93.5	94.2	8.5	8.4	8.4	1.3	1.3	1.3	3.3	3.4			
						20.1	20.1	8.1	8.1	32.4	32.2	94.5	94.0	8.4	8.4	8.4	1.4	1.3	1.3	3.8	3.7			
				Middle	6.1	20.1	20.1	8.1	8.1	32.0	32.2	93.4	94.0	8.5	8.4	8.4	1.3	1.3	1.3	3.5	3.7			
						20.1		8.1		31.7	32.2	94.6	94.0	8.5	8.4	8.4	1.3	1.3	1.3	4.3	3.7			
						20.1	20.1	8.1	8.1	31.3	31.5	93.5	94.1	8.5	8.5	8.5	1.4	1.3	1.3	4.0	4.2			
M3	Fine	Moderate	12:02	Surface	1.0	20.2	20.2	8.1	8.1	31.4	31.4	94.7	94.5	8.4	8.4	8.4	1.3	1.3	1.3	4.2	4.0	3.4		
						20.1		8.1		31.4	31.4	94.3	94.5	8.5	8.4	8.4	1.3	1.3	1.3	3.7	4.0			
						20.2	20.2	8.1	8.1	32.0	31.9	94.4	94.4	8.3	8.4	8.4	1.3	1.3	1.3	3.2	3.4			
				Middle	4.0	20.2	20.2	8.1	8.1	31.7	31.9	94.4	94.4	8.4	8.4	8.4	1.3	1.3	1.3	3.6	3.4			
						20.2		8.1		31.7	31.9	94.4	94.4	8.4	8.4	8.4	1.3	1.3	1.3	3.6	3.4			
						20.2	20.2	8.1	8.1	31.7	31.6	93.3	93.5	8.5	8.5	8.5	1.3	1.3	1.3	2.8	3.0			
M4	Fine	Moderate	11:33	Surface	1.1	20.2	20.2	8.1	8.1	31.7	31.6	94.6	94.3	8.4	8.5	8.5	1.2	1.3	1.3	3.5	3.7	3.1		
						20.2		8.1		31.5	31.6	94.0	94.3	8.5	8.5	8.5	1.4	1.3	1.3	3.8	3.7			
						20.2	20.2	8.1	8.1	32.0	32.0	94.8	94.1	8.3	8.4	8.4	1.3	1.3	1.3	3.2	3.0			
				Middle	5.1	20.2	20.2	8.1	8.1	32.0	32.0	94.4	94.1	8.4	8.4	8.4	1.3	1.3	1.3	3.2	3.0			
						20.2		8.1		32.0	32.0	93.4	94.1	8.4	8.4	8.4	1.3	1.3	1.3	2.8	3.0			
						20.2	20.1	8.1	8.1	31.5	31.5	93.5	93.5	8.4	8.4	8.4	1.4	1.3	1.3	2.6	2.7			
M5	Fine	Moderate	12:15	Surface	1.1	20.1	20.2	8.1	8.1	32.0	32.1	93.5	94.1	8.5	8.4	8.4	1.4	1.3	1.3	3.4	3.6	4.1		
						20.2		8.1		32.3	32.1	94.8	94.1	8.4	8.4	8.4	1.3	1.3	1.3	3.7	4.3			
						20.1	20.1	8.1	8.1	31.5	31.9	93.3	94.0	8.4	8.4	8.4	1.3	1.3	1.3	4.4	4.3			
				Middle	6.0	20.1	20.1	8.1	8.1	32.3	31.9	94.6	94.0	8.3	8.4	8.4	1.3	1.3	1.3	4.1	4.3			
						20.1		8.1		32.3	31.9	94.6	94.0	8.3	8.4	8.4	1.3	1.3	1.3	4.1	4.3			
						20.2	20																	

**Action and Limit Levels for Marine Water Quality on 30 March 2022 (Mid-Ebb Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C2: 1.6 NTU</u>	<u>C2: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 4.3 mg/L</u>	<u>C2: 4.6 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C2: 4.3 mg/L</u>	<u>C2: 4.6 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
<u>C2: 2.8 mg/L</u>		<u>C2: 3.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.



Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 30 March 2022

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		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	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Fine	Moderate	16:26	Surface	1.1	20.1	20.2	8.1	8.1	31.6	32.0	93.9	93.6	8.5	8.4	8.4	1.4	1.3	1.3	3.2	3.3	2.8		
					20.2	8.1		32.4		93.3		8.3		1.2			3.4							
				Middle	9.0	20.2	8.1	8.1	31.8	31.6	93.9	94.4	8.4	8.4	1.4	1.3	2.6	2.6						
					20.2	8.1	31.4	94.9	8.5		1.2		2.6											
				Bottom	17.0	20.1	20.2	8.1	8.1	32.7	32.2	94.0	93.9	8.4	8.4	1.4	1.3	2.5		2.6				
					20.2	8.1	31.7	93.8	8.4	1.3		2.6												
C2	Fine	Moderate	15:33	Surface	0.9	20.3	20.3	8.1	8.1	32.0	32.2	93.2	93.8	8.4	8.5	8.5	1.4	1.3	1.3	3.9	4.0	3.1		
					20.3	8.1		32.3		94.4		8.5		1.3			4.1							
				Middle	16.0	20.2	20.2	8.1	8.1	32.3	32.3	93.9	94.1	8.4	8.4	1.2	1.3	2.8		3.0				
					20.2	8.1	32.3	94.2	8.5	1.4		3.1												
				Bottom	31.0	20.2	20.2	8.1	8.1	32.6	32.3	93.8	94.1	8.4	8.4	1.3	1.3	2.4		2.4				
					20.2	8.1	32.1	94.4	8.3	1.3		2.3												
G1	Fine	Moderate	15:58	Surface	1.0	20.2	20.2	8.1	8.1	32.7	32.2	93.5	93.6	8.5	8.5	8.5	1.3	1.3	1.3	1.4	1.7	2.2		
					20.2	8.1		31.7		93.7		8.4		1.3			1.9							
				Middle	4.1	20.2	20.2	8.1	8.1	31.9	31.8	93.8	93.7	8.4	8.5	1.4	1.3	2.1		2.3				
					20.2	8.1	31.7	93.5	8.5	1.2		2.4												
				Bottom	7.0	20.2	20.2	8.1	8.1	31.9	32.0	94.0	94.2	8.4	8.4	1.4	1.4	2.6		2.8				
					20.2	8.1	32.2	94.3	8.5	1.4		2.9												
G2	Fine	Moderate	15:48	Surface	1.0	20.2	20.2	8.1	8.1	32.5	32.2	93.8	93.9	8.5	8.4	8.4	1.4	1.4	1.3	3.0	3.2	2.8		
					20.2	8.1		31.9		93.9		8.4		1.4			3.3							
				Middle	5.0	20.2	20.2	8.1	8.1	31.6	31.8	94.8	94.3	8.3	8.4	1.4	1.3	2.6		2.7				
					20.2	8.1	32.1	93.7	8.4	1.2		2.8												
				Bottom	9.0	20.1	20.1	8.1	8.1	32.2	31.8	94.8	94.7	8.3	8.3	1.3	1.3	2.4		2.6				
					20.1	8.1	31.4	94.6	8.3	1.2		2.8												
G3	Fine	Moderate	16:03	Surface	1.1	20.2	20.2	8.1	8.1	31.5	31.9	94.9	94.7	8.5	8.5	8.5	1.4	1.3	1.3	4.0	4.1	3.5		
					20.2	8.1		32.2		94.4		8.4		1.2			4.1							
				Middle	4.0	20.2	20.2	8.1	8.1	32.2	32.2	94.1	93.9	8.5	8.5	1.4	1.3	3.6		3.6				
					20.2	8.1	32.1	93.6	8.5	1.3		3.5												
				Bottom	7.0	20.2	20.2	8.1	8.1	32.2	32.3	94.6	94.1	8.4	8.4	1.3	1.3	3.1		3.0				
					20.2	8.1	32.3	93.5	8.4	1.3		2.8												
G4	Fine	Moderate	16:13	Surface	1.0	20.1	20.1	8.1	8.1	32.0	32.0	93.3	93.9	8.4	8.3	8.3	1.2	1.3	1.3	2.2	2.3	2.9		
					20.1	8.1		32.0		94.6		8.4		1.3			2.6							
				Middle	4.1	20.2	20.2	8.1	8.1	32.6	32.0	94.6	94.7	8.4	8.3	1.4	1.3	3.0		2.8				
					20.2	8.1	31.4	94.8	8.3	1.4		3.0												
				Bottom	7.0	20.2	20.2	8.1	8.1	31.4	31.6	94.7	94.6	8.4	8.4	1.2	1.3	3.6		3.7				
					20.2	8.1	31.8	94.4	8.4	1.3		3.8												
M1	Fine	Moderate	15:53	Surface	1.0	20.2	20.2	8.1	8.1	31.5	31.4	94.8	94.0	8.5	8.5	8.4	1.3	1.3	1.3	2.6	2.8	3.3		
					20.2	8.1		31.3		93.2		8.4		1.3			2.9							
				Middle	3.1	20.2	20.2	8.1	8.1	32.5	32.5	93.2	93.5	8.3	8.4	1.4	1.3	3.0		3.1				
					20.2	8.1	32.6	93.7	8.5	1.2		3.2												
				Bottom	4.0	20.1	20.1	8.1	8.1	32.0	32.2	94.3	94.0	8.3	8.3	1.3	1.3	3.9		4.0				
					20.2	8.1	32.4	93.7	8.3	1.3		4.1												
M2	Fine	Moderate	15:43	Surface	1.0	20.2	20.2	8.1	8.1	32.2	32.3	94.5	93.9	8.4	8.4	8.4	1.4	1.4	1.3	3.1	3.3	3.9		
					20.2	8.1		32.4		93.2		8.4		1.4			3.5							
				Middle	6.0	20.1	20.1	8.1	8.1	31.7	31.9	93.7	93.5	8.4	8.4	1.4	1.3	3.8		4.0				
					20.1	8.1	32.1	93.3	8.3	1.2		4.1												
				Bottom	11.0	20.1	20.1	8.1	8.1	31.6	31.5	94.0	93.8	8.5	8.5	1.3	1.3	4.2		4.4				
					20.1	8.1	31.4	93.5	8.4	1.3		4.6												
M3	Fine	Moderate	16:08	Surface	1.0	20.2	20.2	8.1	8.1	32.3	32.1	94.1	94.2	8.4	8.4	8.4	1.4	1.4	1.3	4.4	4.5	4.1		
					20.2	8.1		31.9		94.3		8.5		1.4			4.6							
				Middle	3.9	20.2	20.2	8.1	8.1	31.5	31.7	94.3	94.2	8.4	8.4	1.3	1.3	4.1		4.3				
					20.2	8.1	31.9	94.1	8.4	1.3		4.4												
				Bottom	7.0	20.2	20.1	8.1	8.1	32.0	32.1	93.4	93.9	8.5	8.5	1.3	1.3	3.5		3.4				
					20.1	8.1	32.3	94.4	8.4	1.3		3.3												
M4	Fine	Moderate	15:38	Surface	1.0	20.2	20.2	8.1	8.1	31.8	31.8	93.4	93.9	8.4	8.4	8.4	1.4	1.4	1.3	4.6	4.4	4.1		
					20.2	8.1		31.8		94.4		8.4		1.3			4.1							
				Middle	5.0	20.2	20.2	8.1	8.1	32.5	32.4	93.7	94.2	8.3	8.4	1.3	1.3	3.5		3.7				
					20.2	8.1	32.2	94.6	8.5	1.4		3.8												
				Bottom	9.1	20.1	20.1	8.1	8.1	31.8	31.7	94.0	93.8	8.4	8.4	1.4	1.3	4.3		4.2				
					20.1	8.1	31.7	93.6	8.4	1.3		4.1												
M5	Fine	Moderate	16:21	Surface	1.1	20.2	20.2	8.1	8.1	31.5	31.8	94.9	94.5	8.4	8.4	8.4	1.4	1.4	1.4	2.9	2.9	4.4		
					20.2	8.1		32.1		94.1		8.5		1.4			2.8							
				Middle	6.1	20.2	20.2	8.1	8.1	32.6	32.4	94.6	94.8	8.5	8.4	1.3	1.4	5.0		4.9				
					20.1	8.1	32.1	94.9	8.4	1.4		4.7												
				Bottom	11.0	20.2	20.2	8.1	8.1	32.2	32.1	93.2	93.9	8.4	8.4	1.3	1.3	5.6		5.5				
					20.2	8.1	32.0	94.6	8.5	1.3		5.4												
M6	Fine	Moderate	16:17	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	-	4.3			
				Middle	2.0	20.2	20.2	8.1	8.1	32.1	31.9	94.3	94.0	8.3	8.4	8.0	8.0		4.5	4.3				
					20.2	8.1	31.7	93.7	8.4	8.0		4.1												
Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

Remarks: \*DA: Depth-Averaged  
\*\*Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

**Action and Limit Levels for Marine Water Quality on 30 March 2022 (Mid-Flood Tide)**

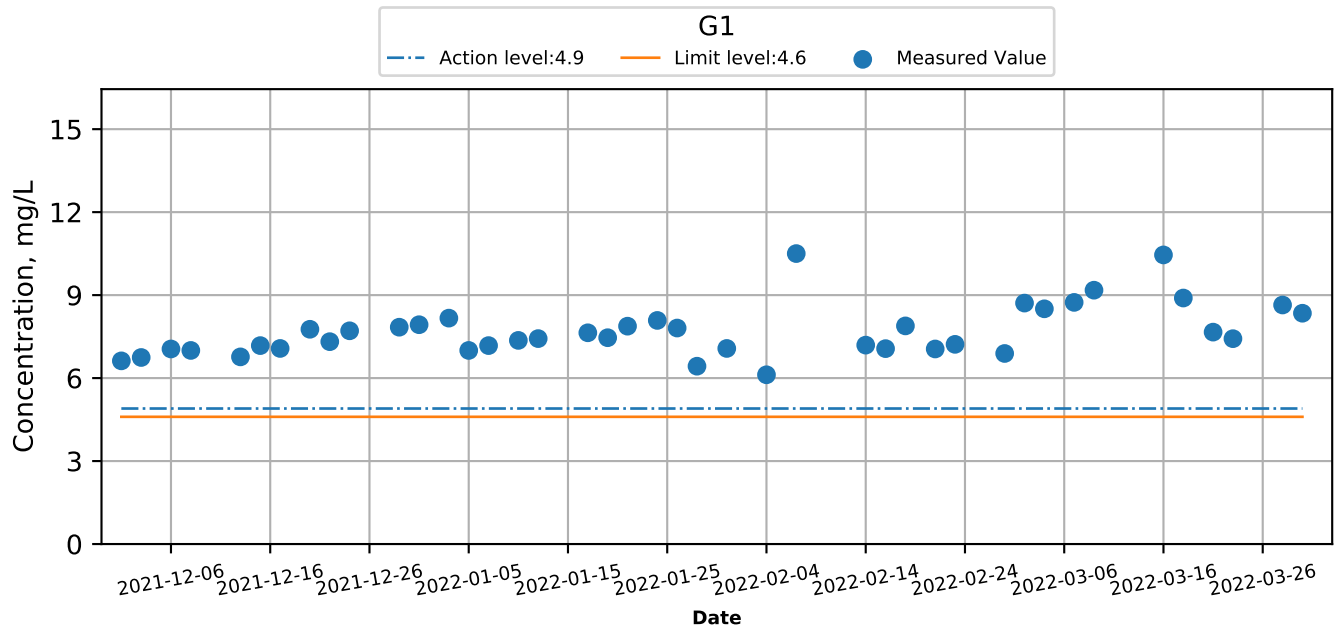
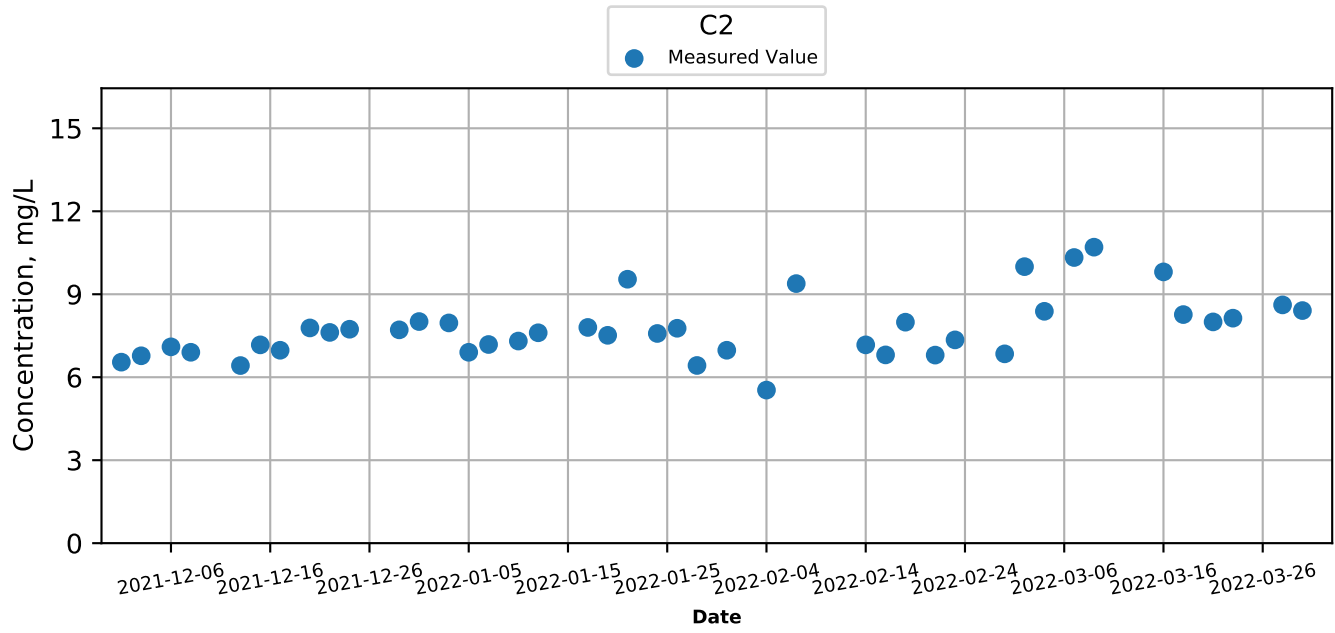
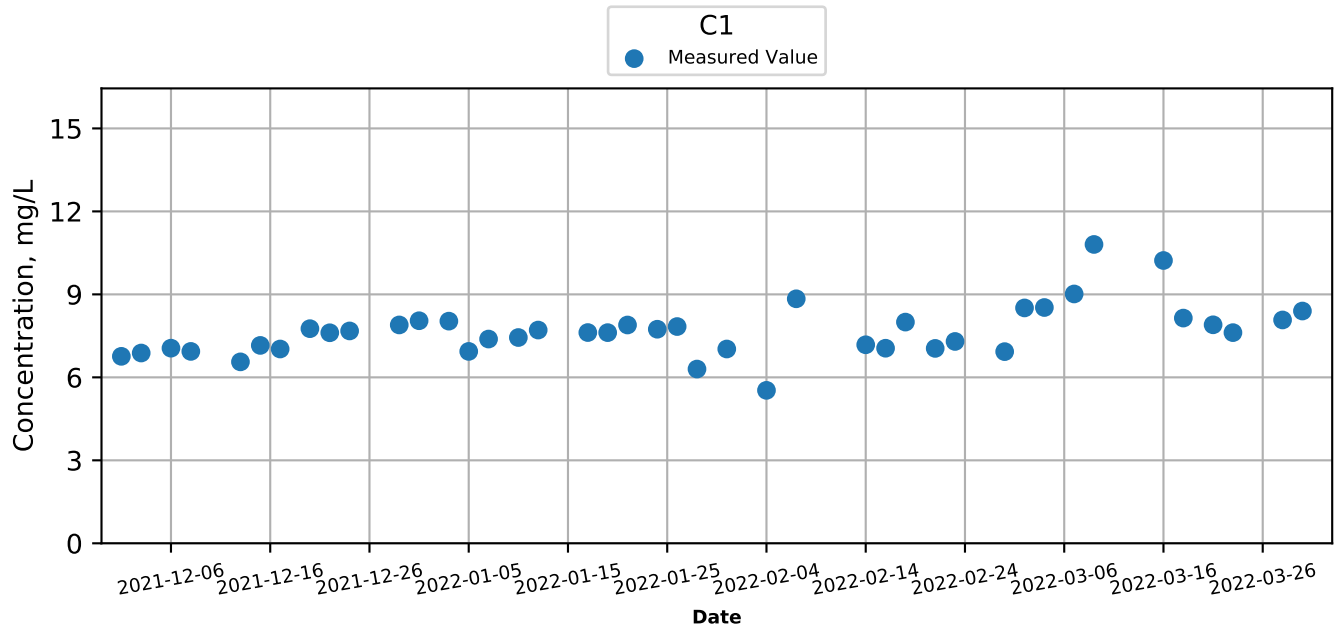
<b><u>Parameter</u></b> <b><u>(unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		<u>C1: 1.6 NTU</u>	<u>C1: 1.7 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 4.0 mg/L</u>	<u>C1: 4.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		<u>C1: 4.0 mg/L</u>	<u>C1: 4.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
or 120% of upstream control station's SS at the same tide of the same day		or 130% of upstream control station's SS at the same tide of the same day	
	<u>C1: 3.1 mg/L</u>	<u>C1: 3.3 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

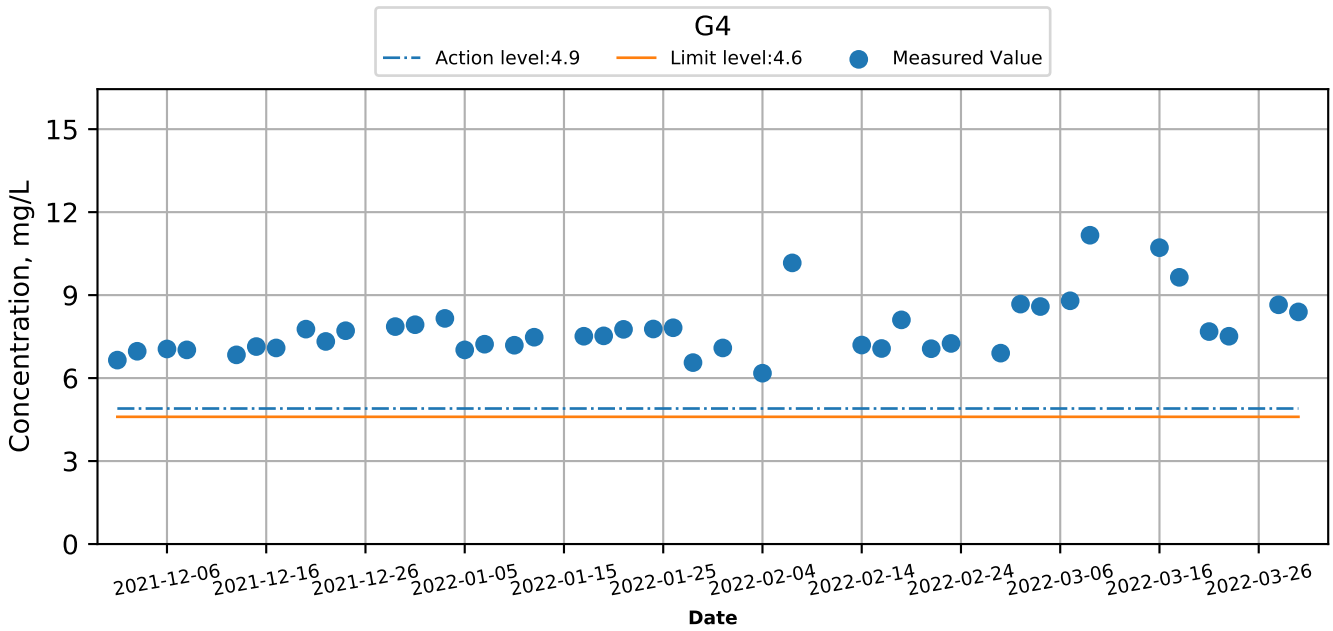
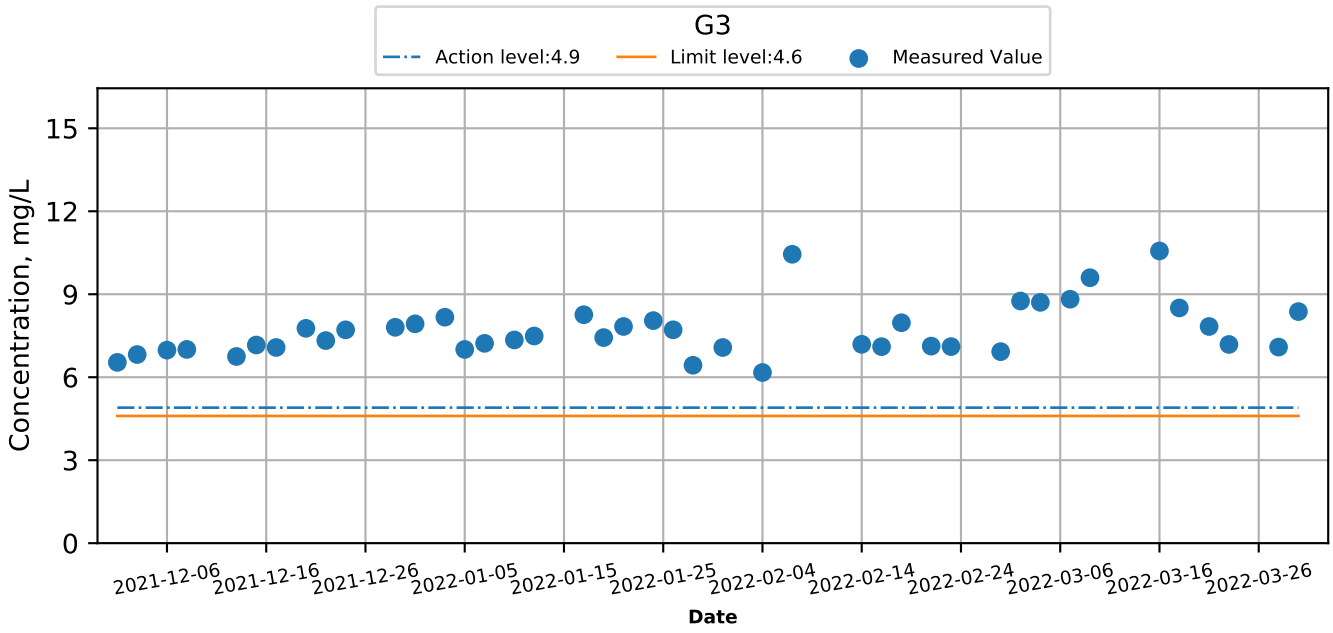
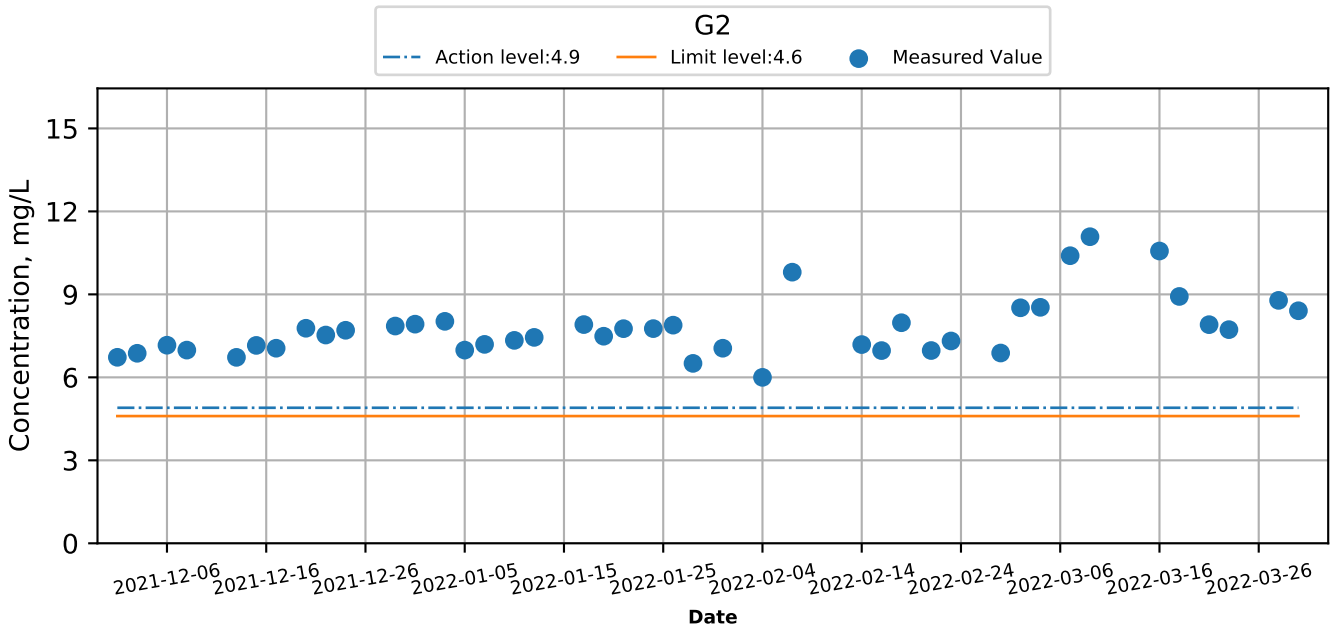
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



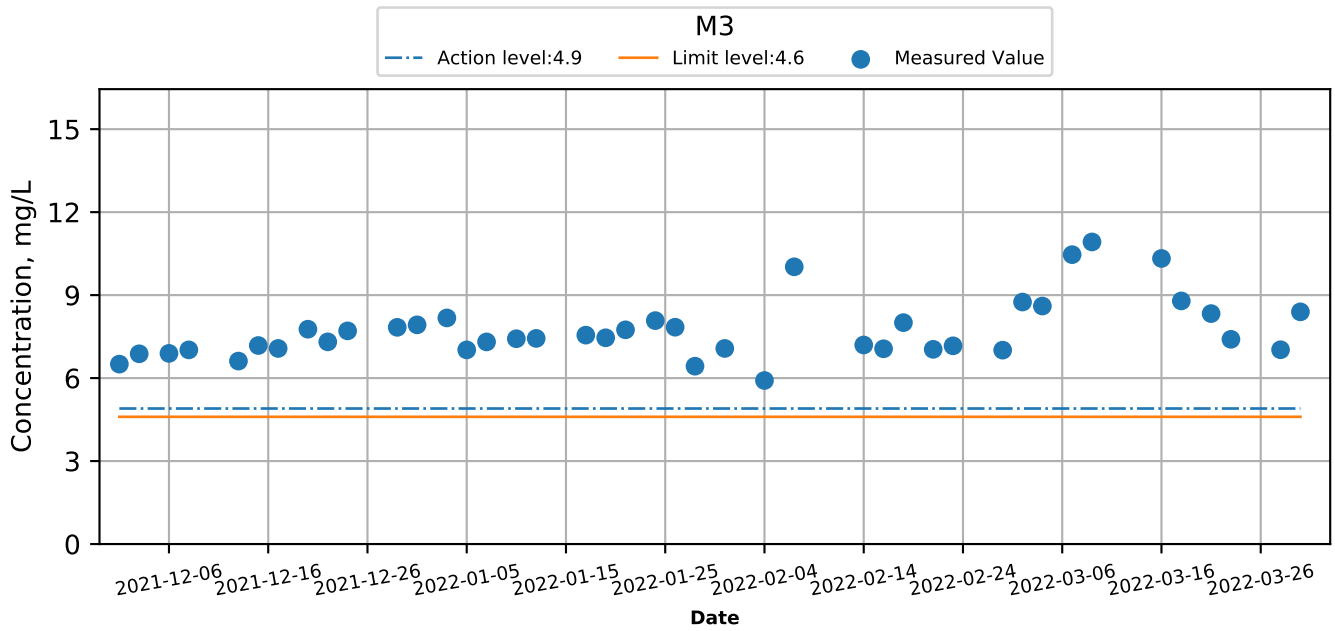
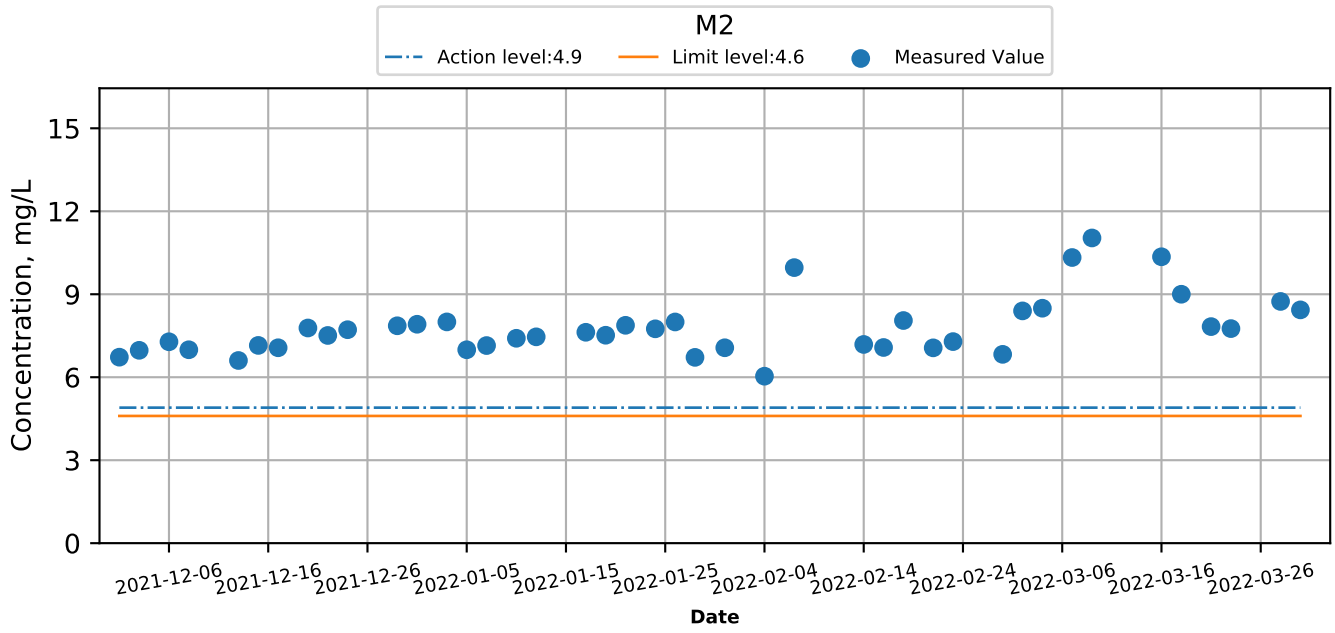
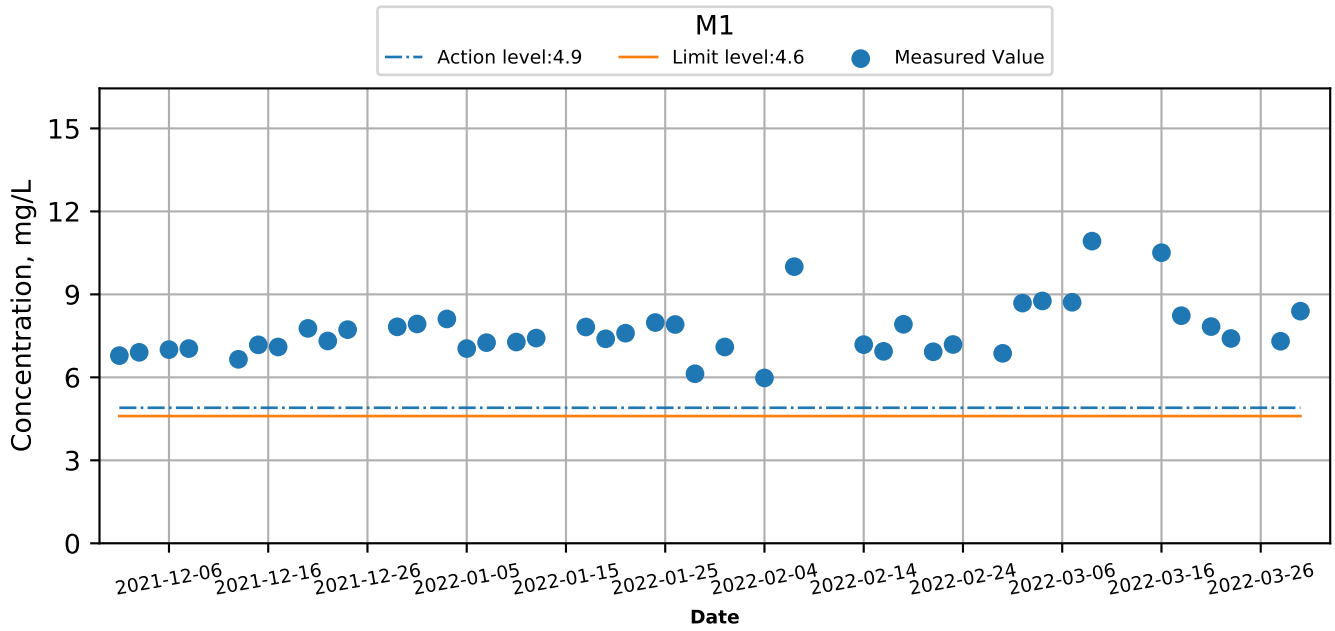
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



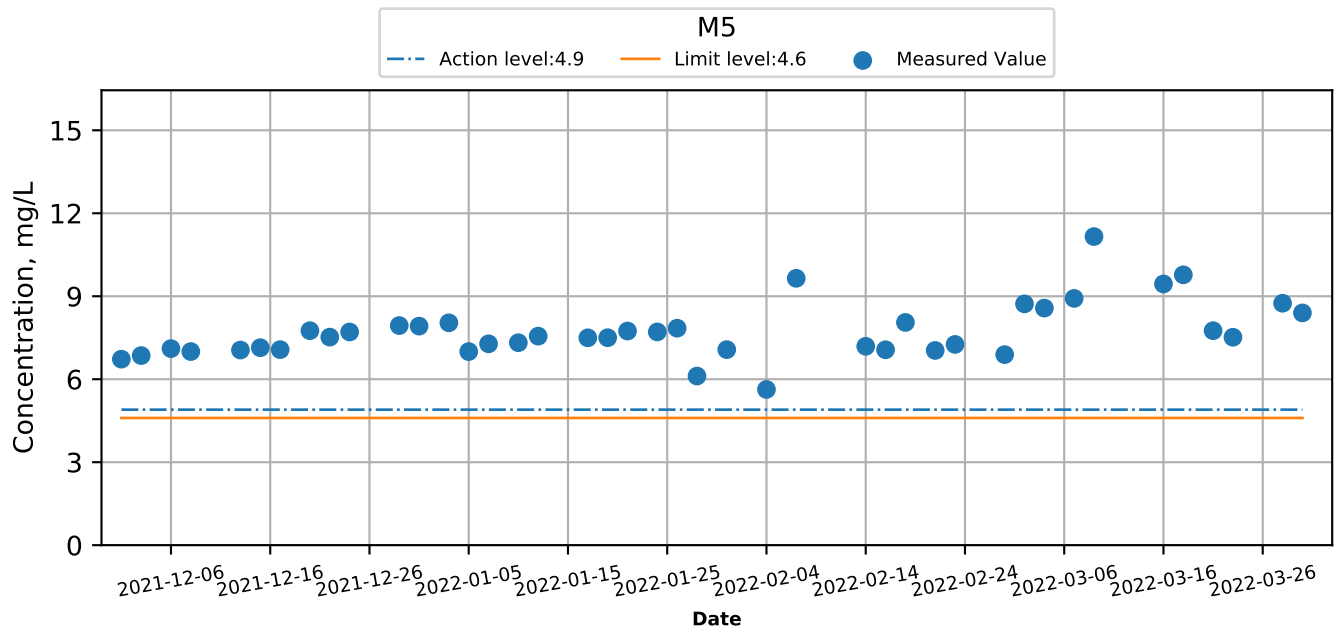
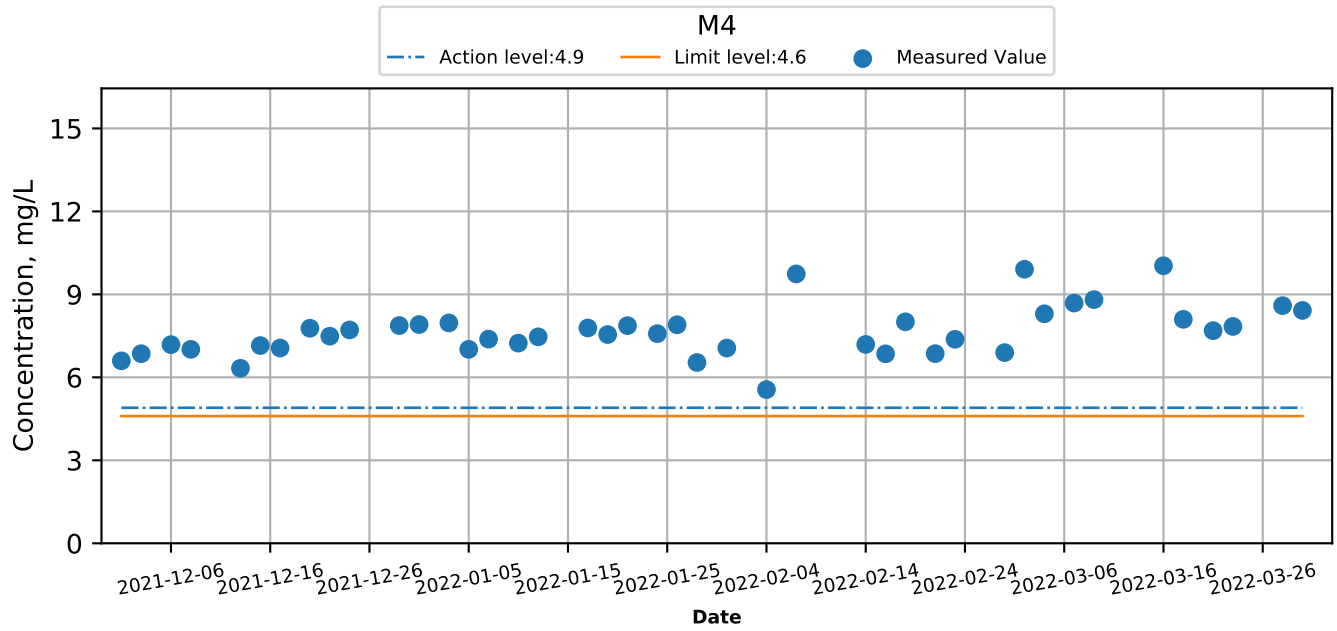
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



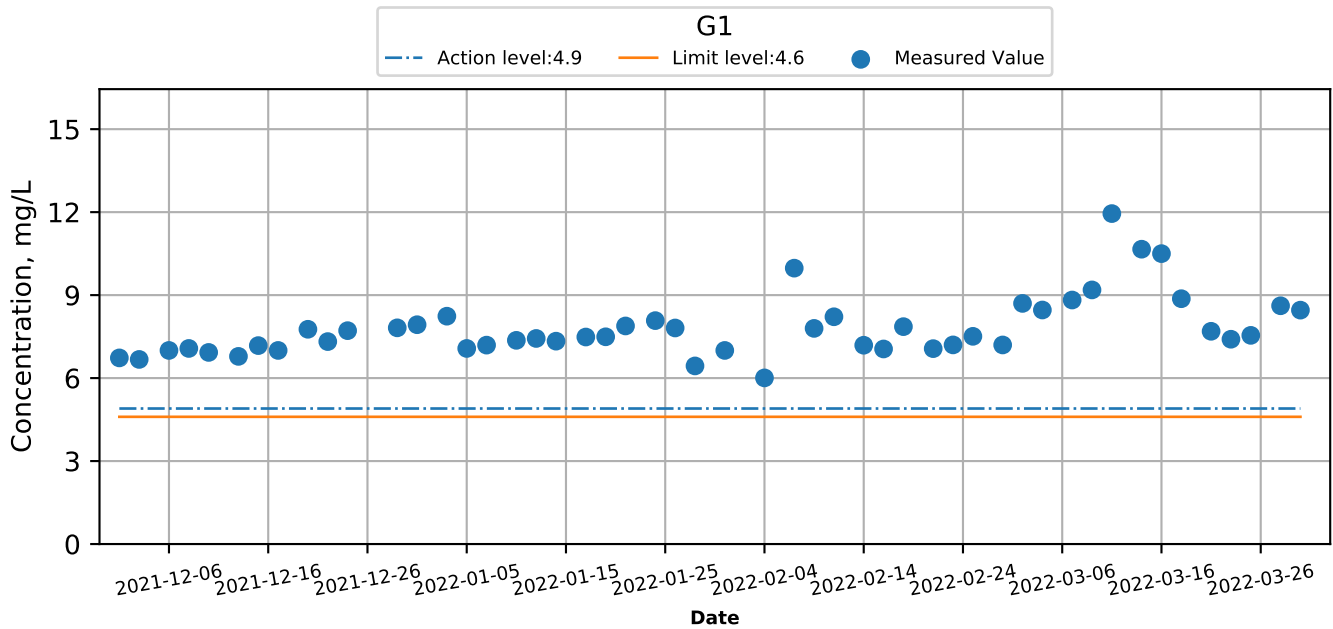
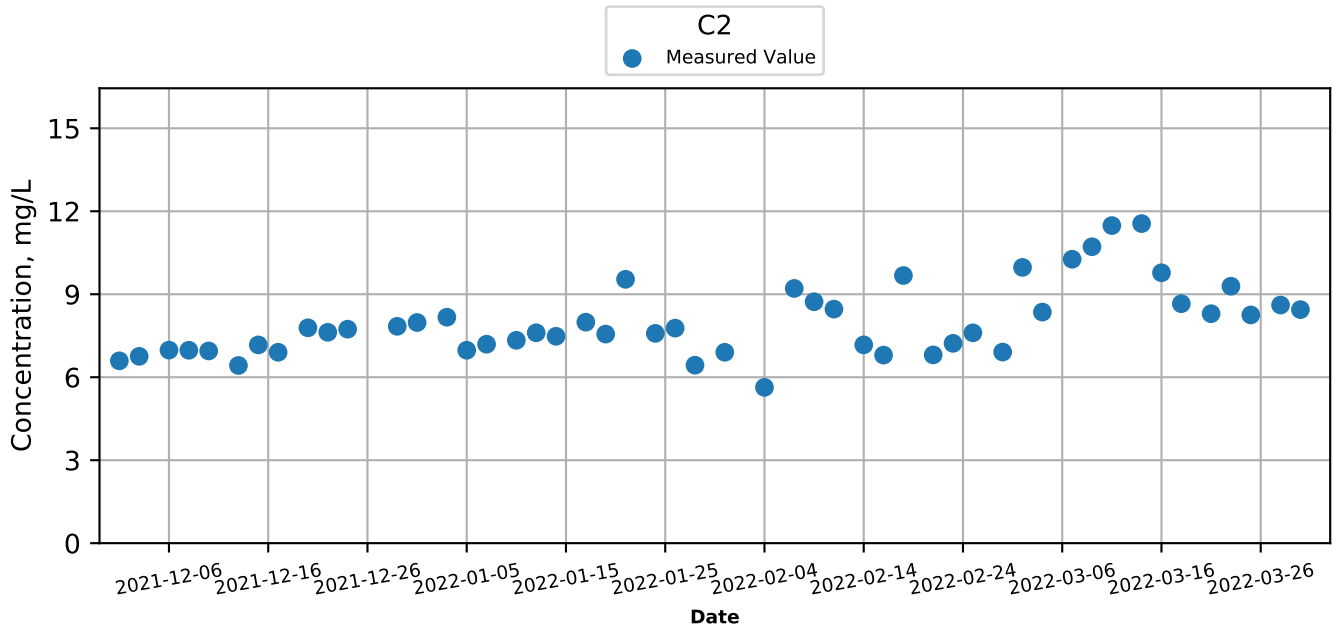
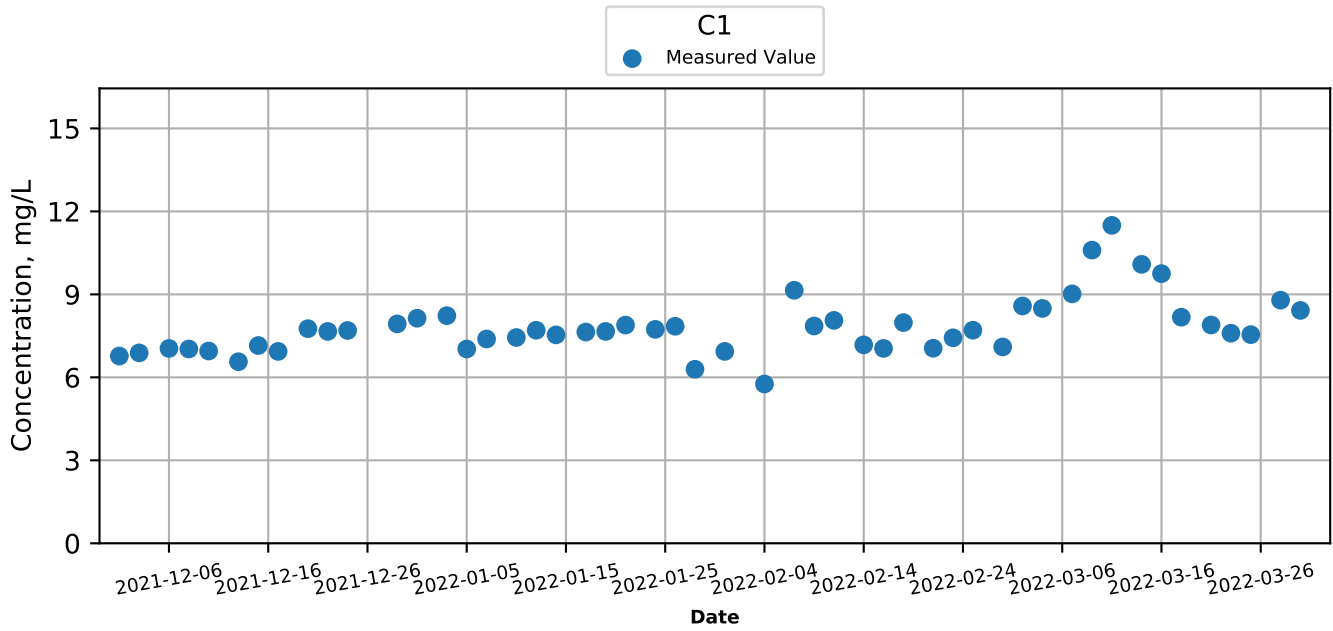
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



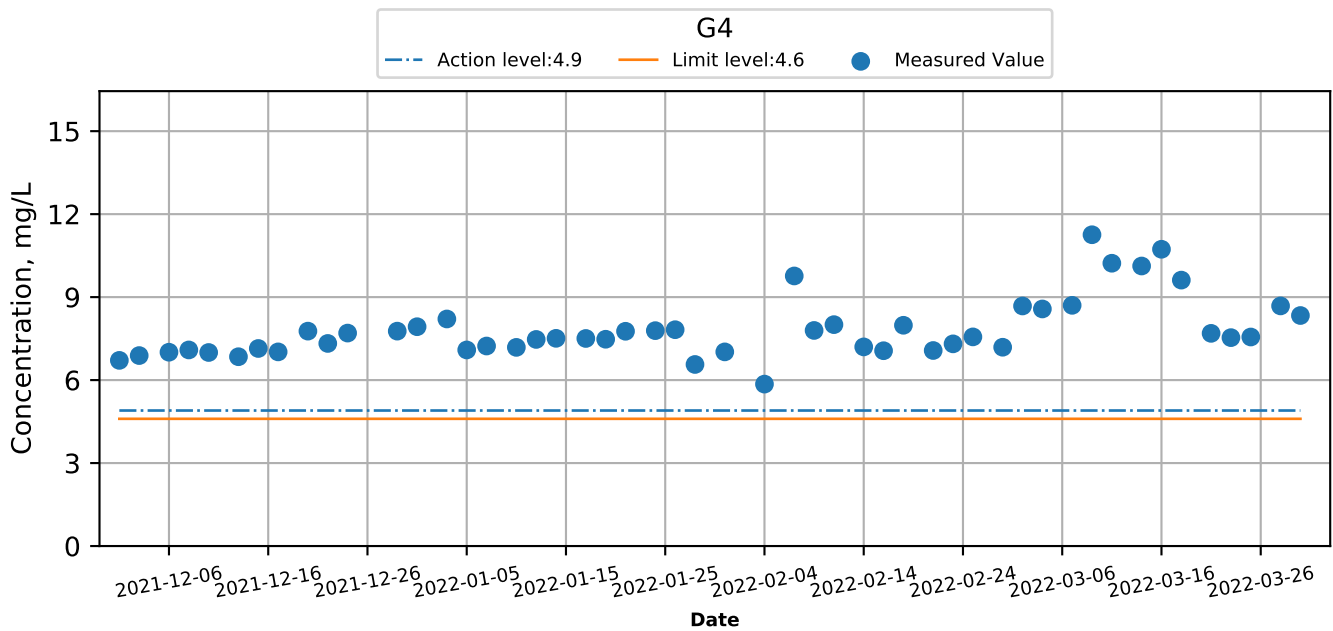
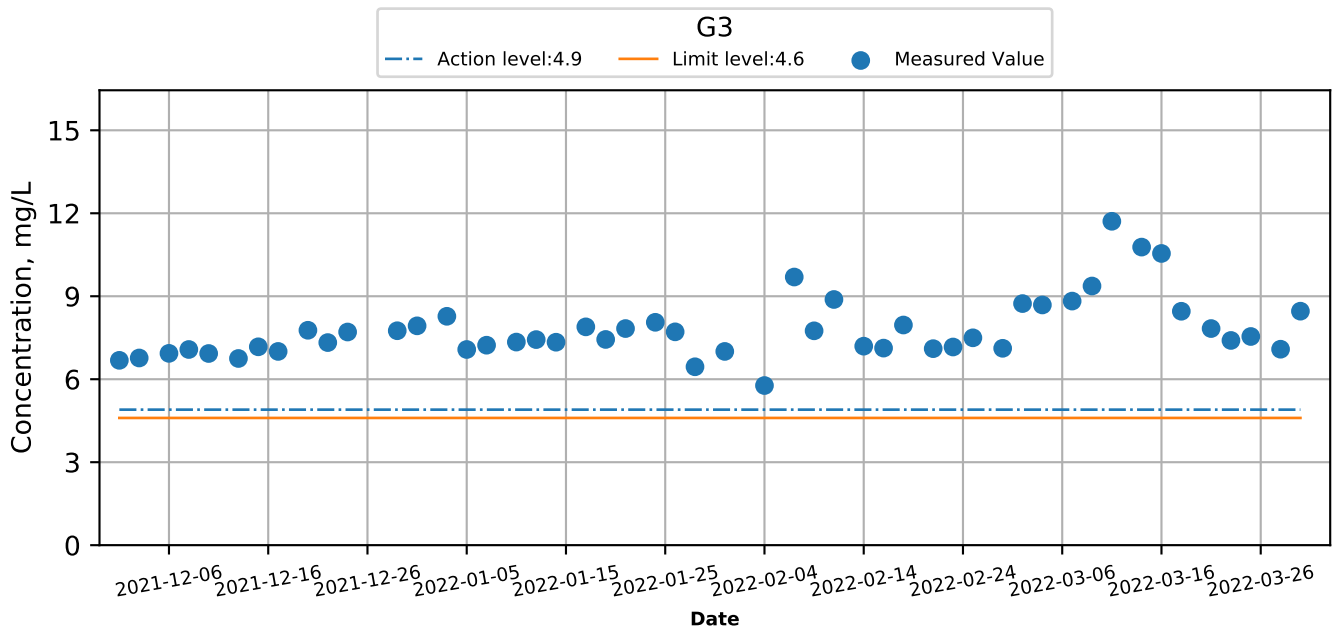
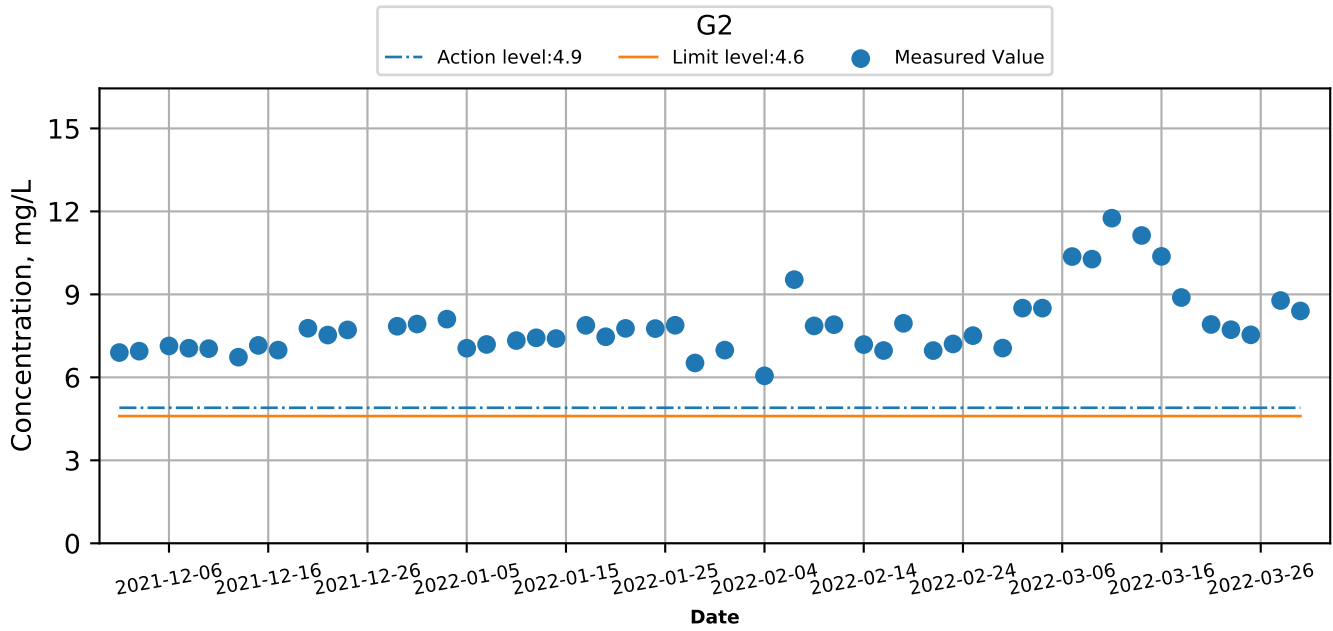
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

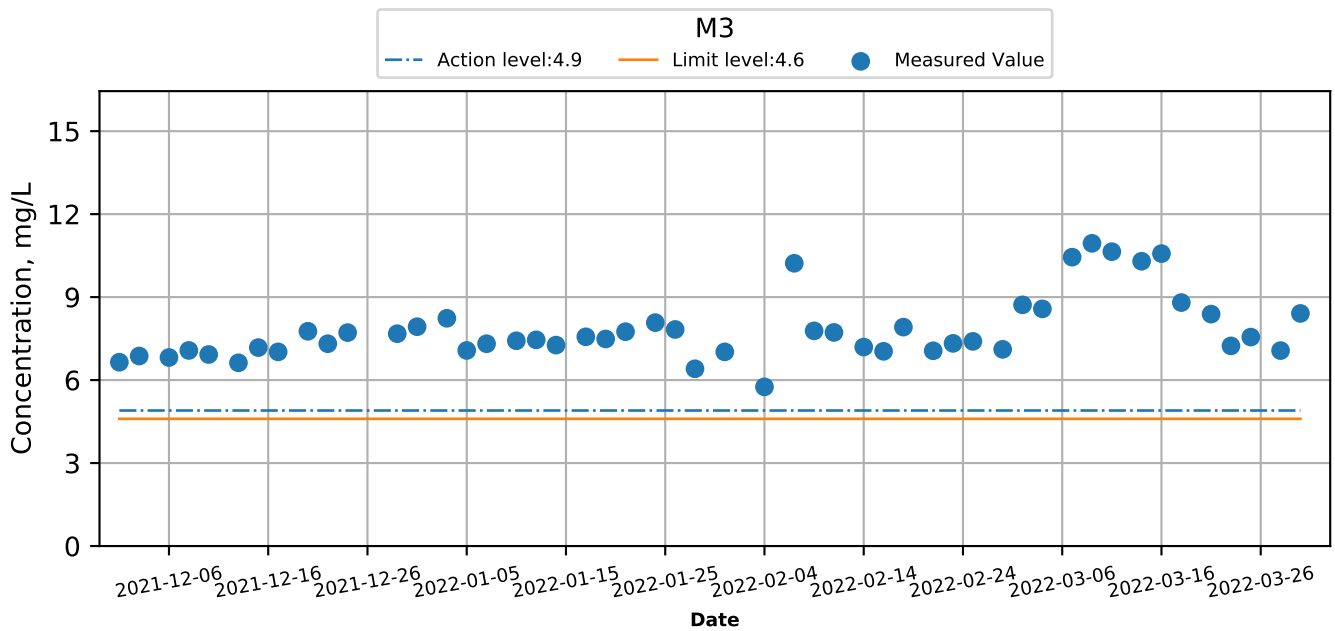
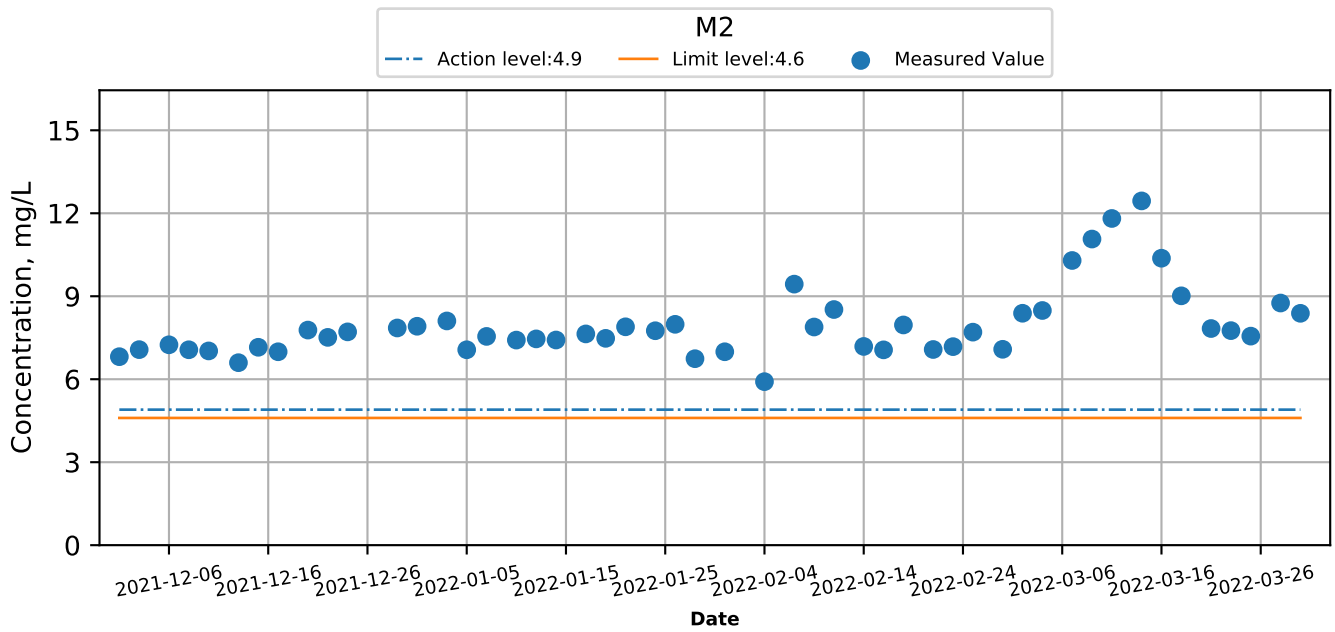
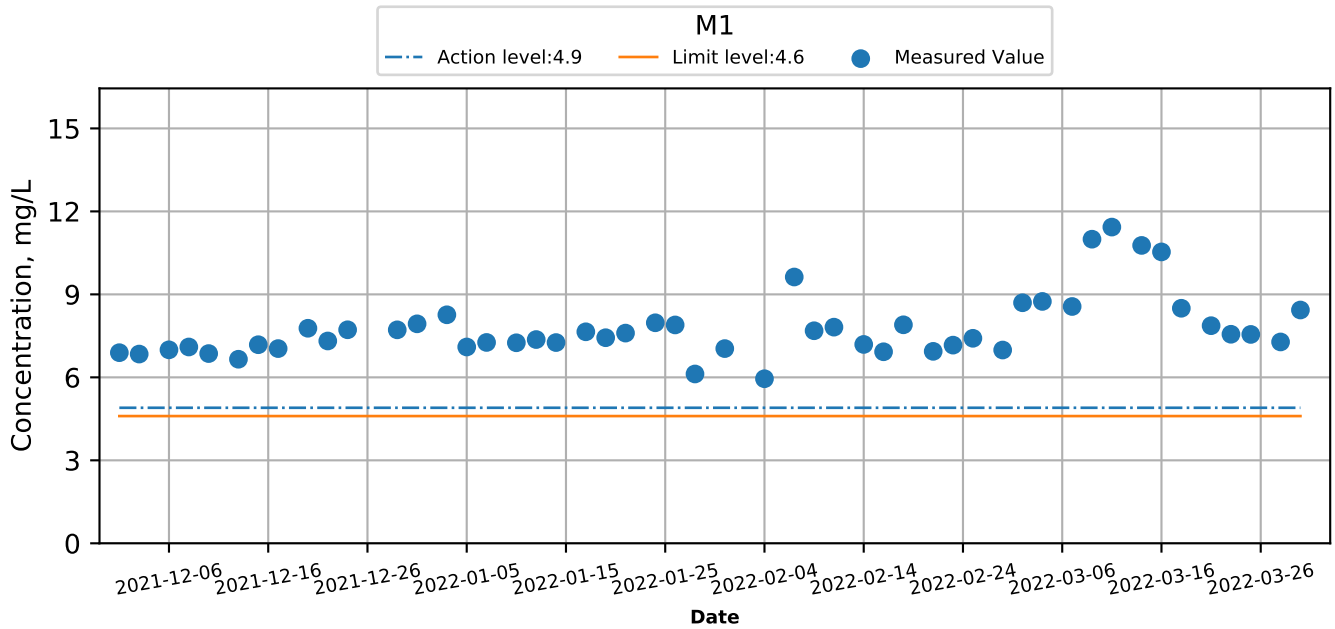
## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood





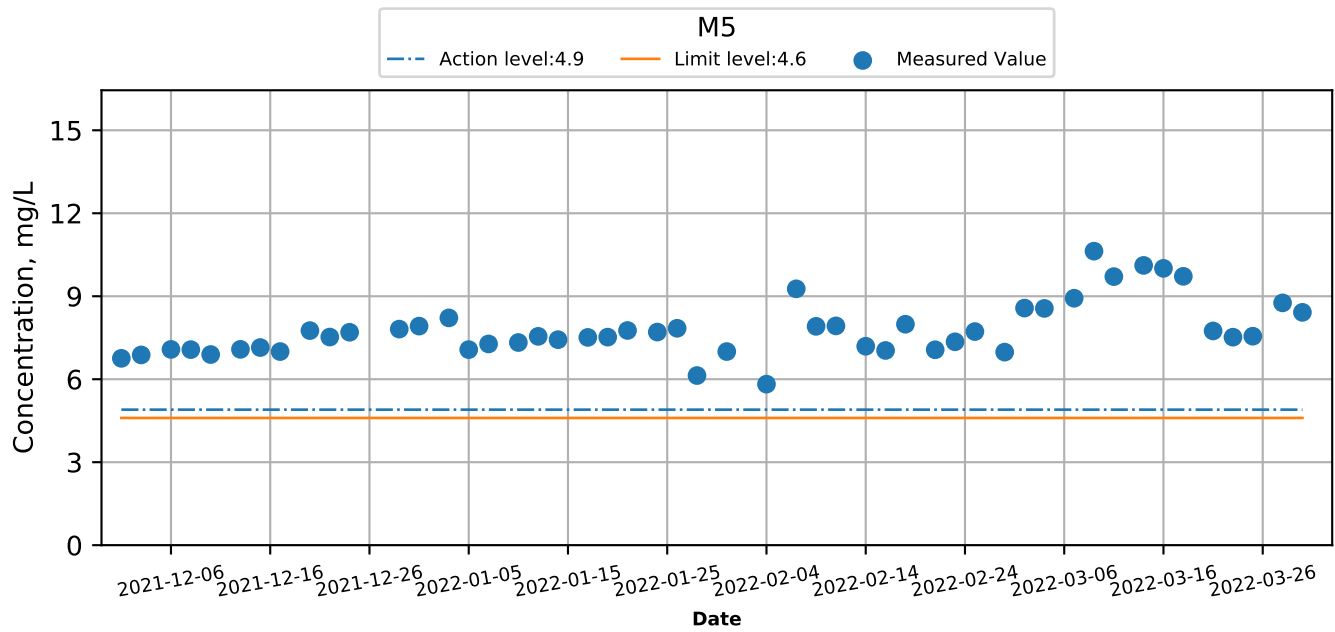
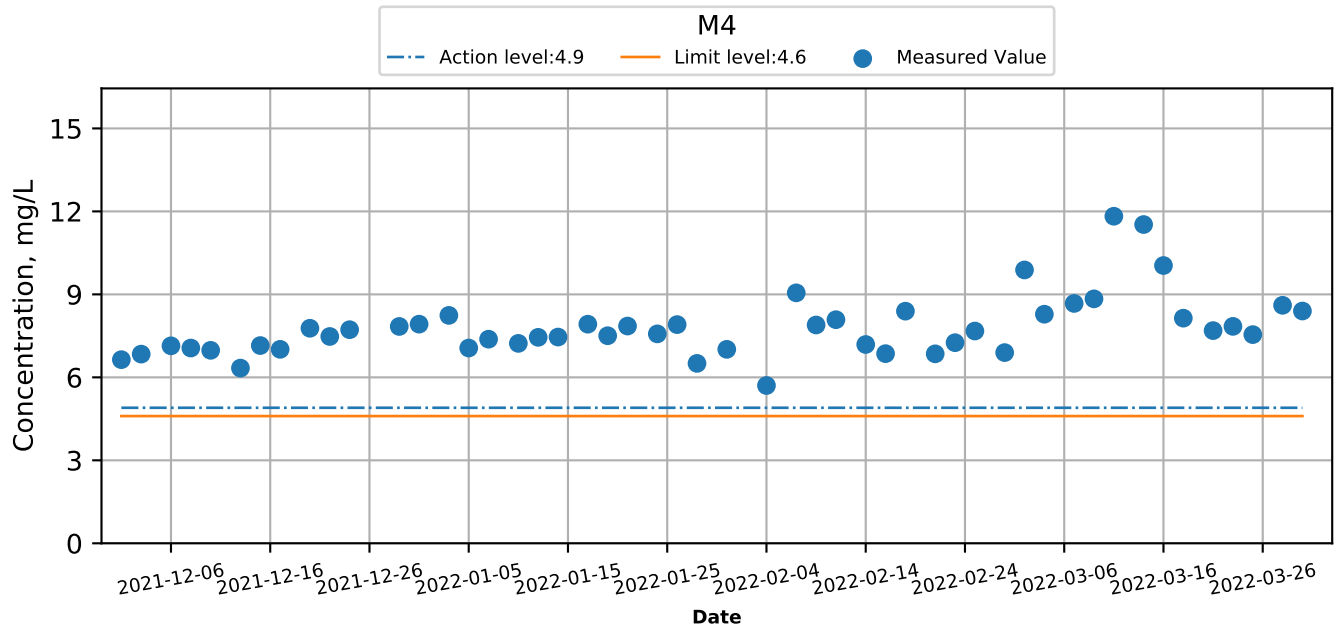
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



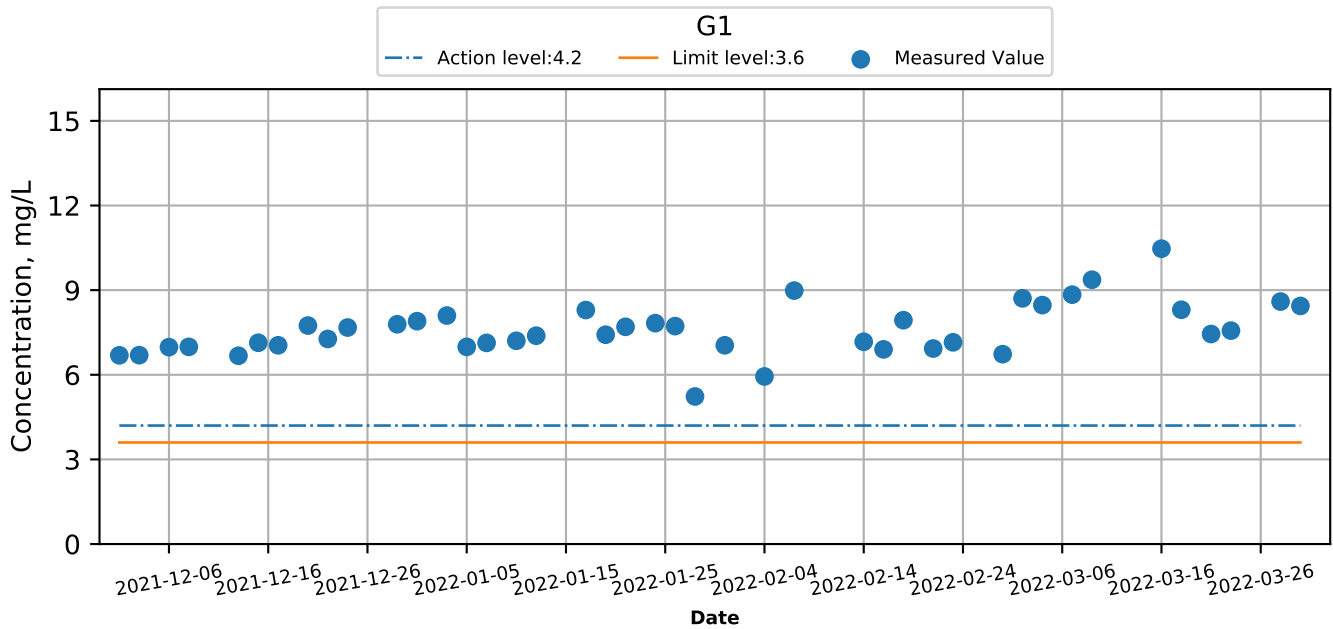
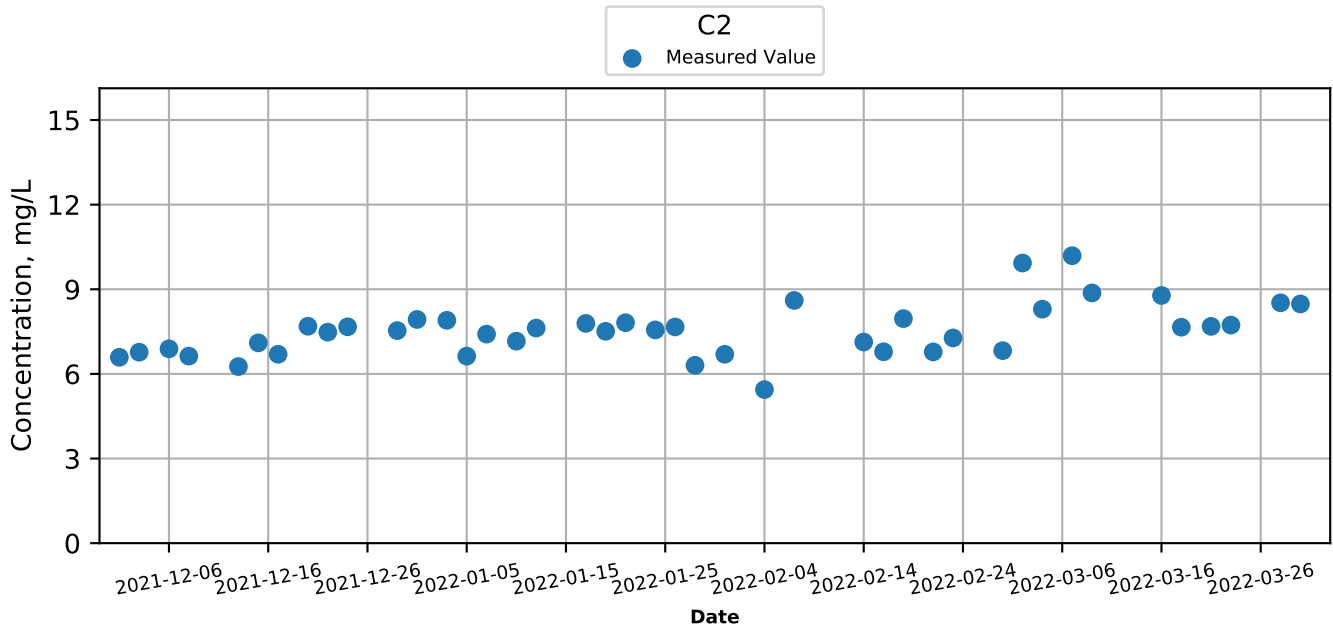
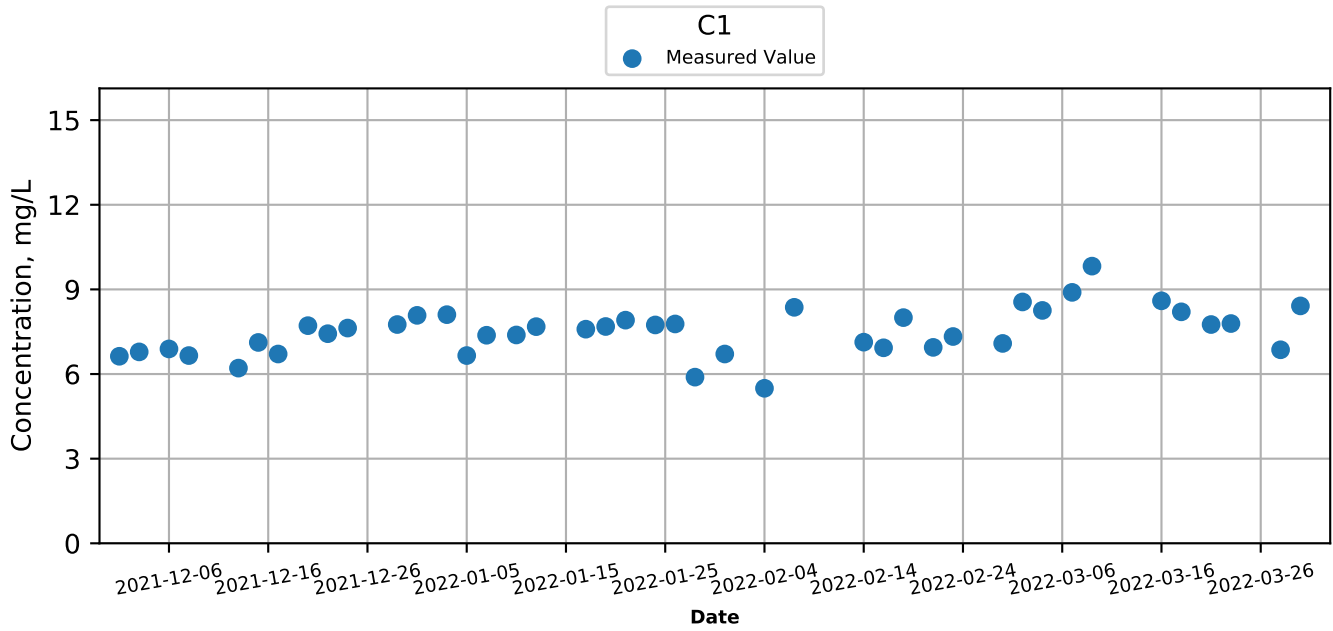
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



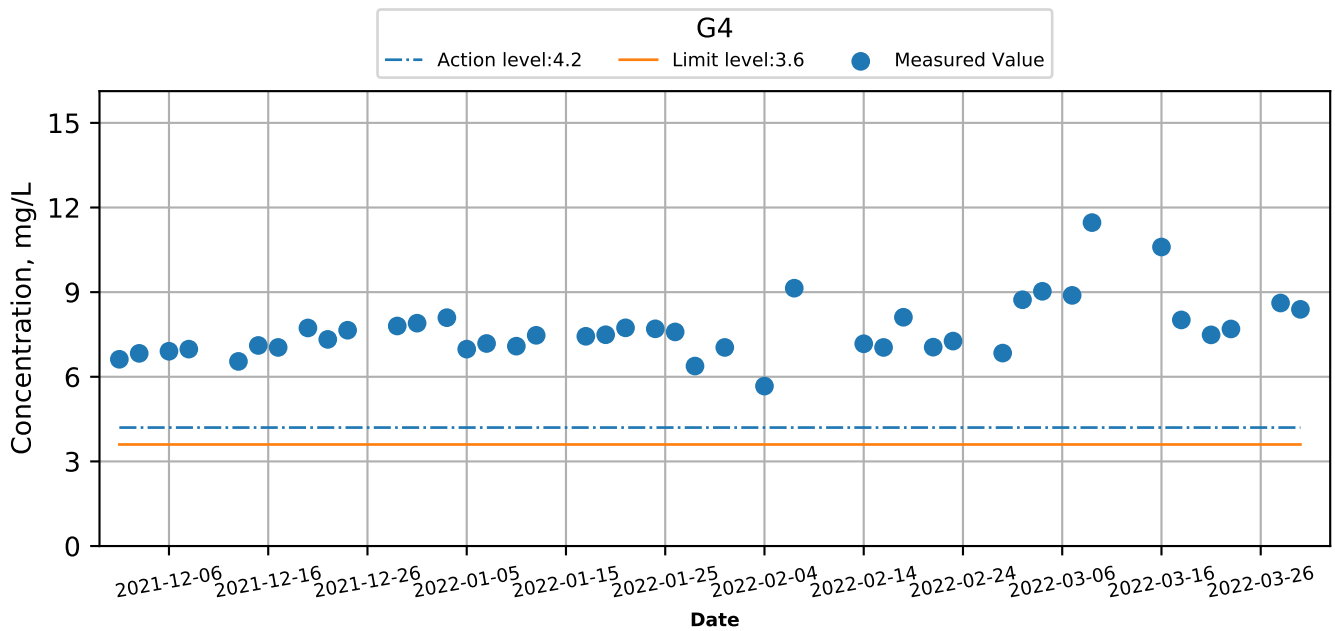
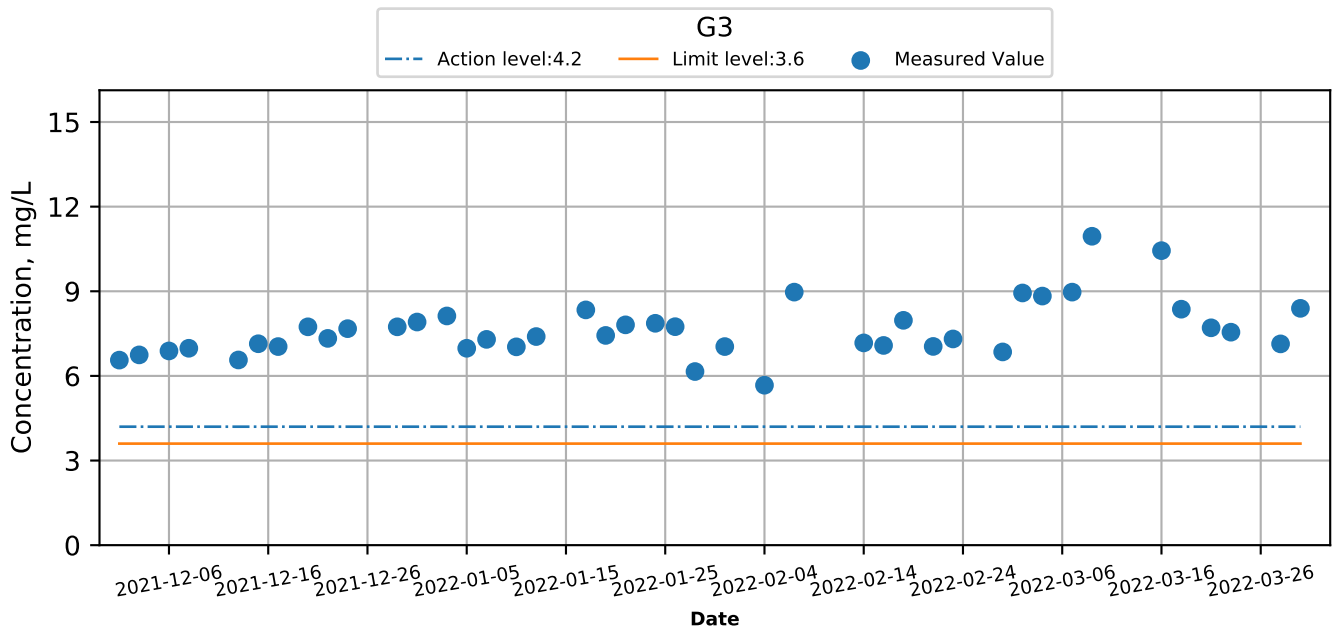
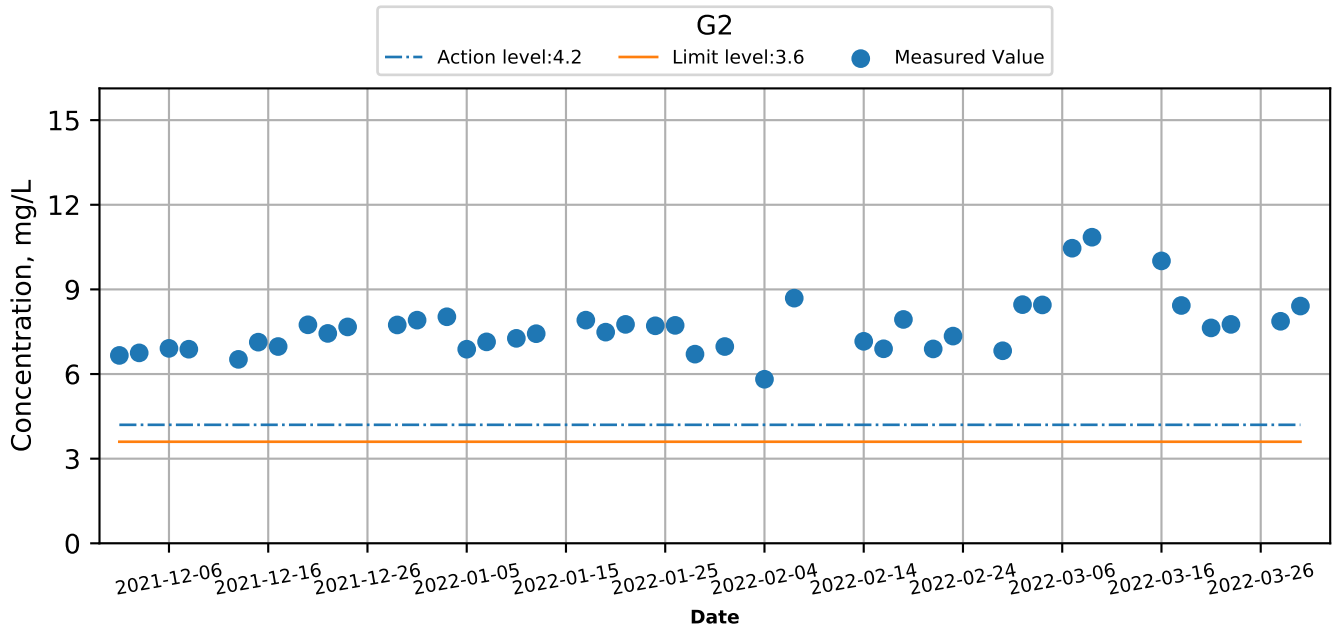
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



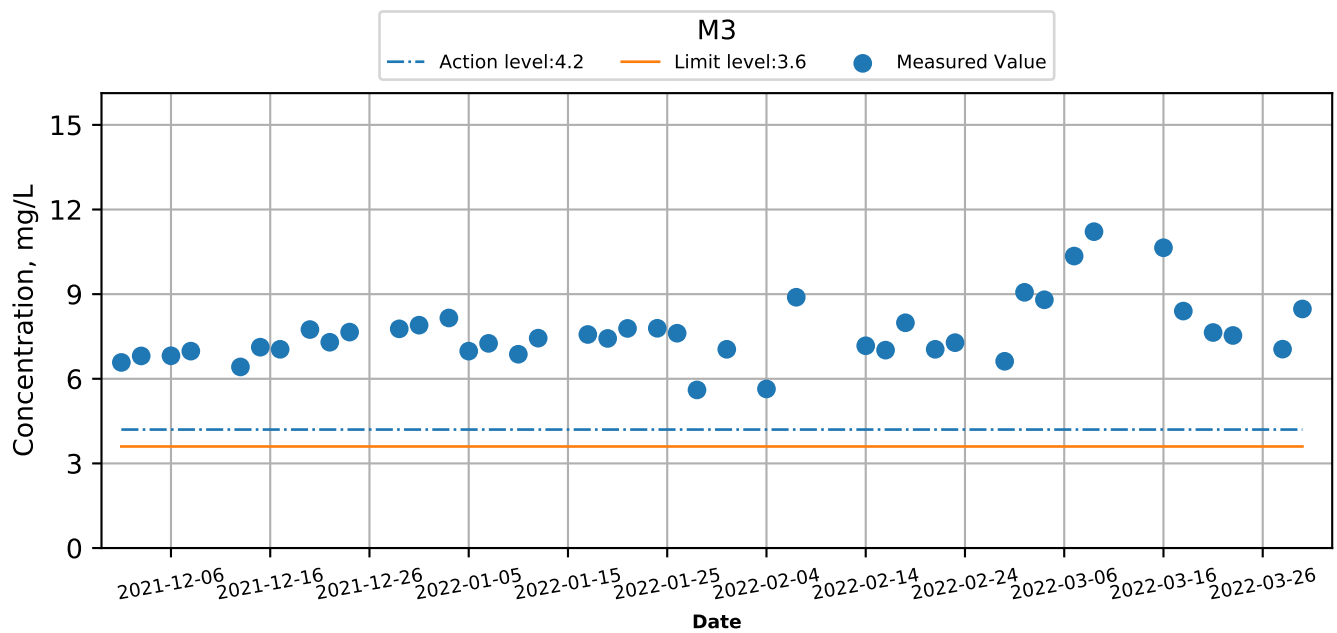
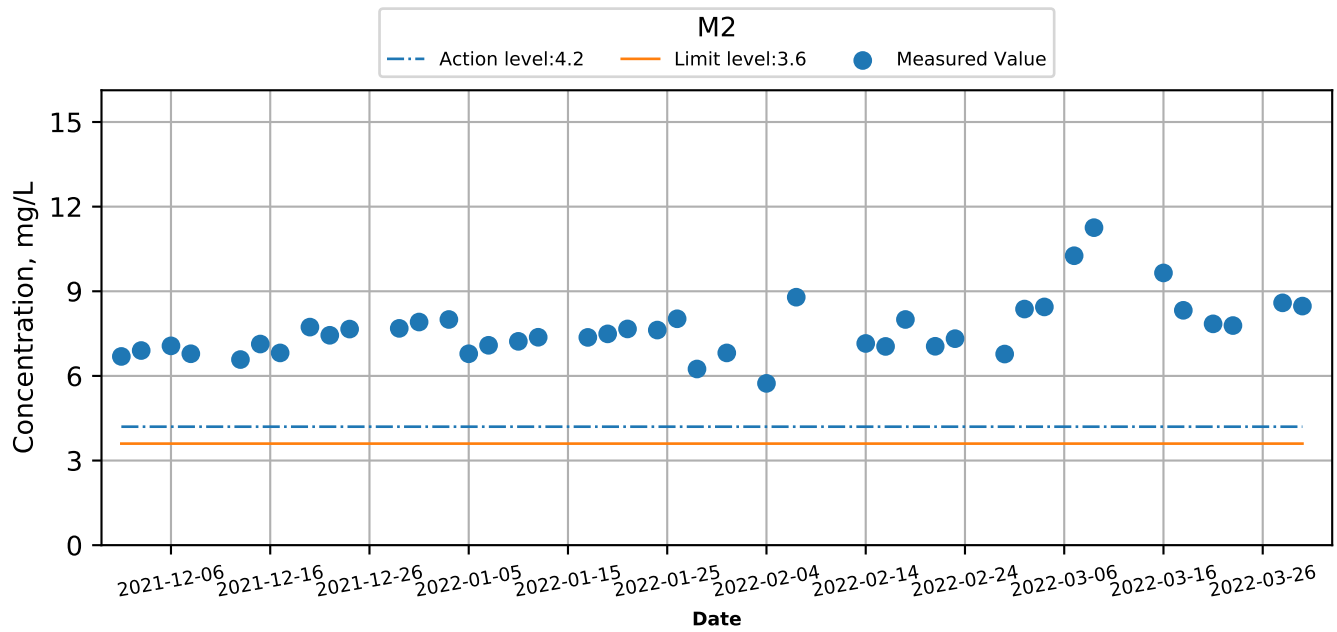
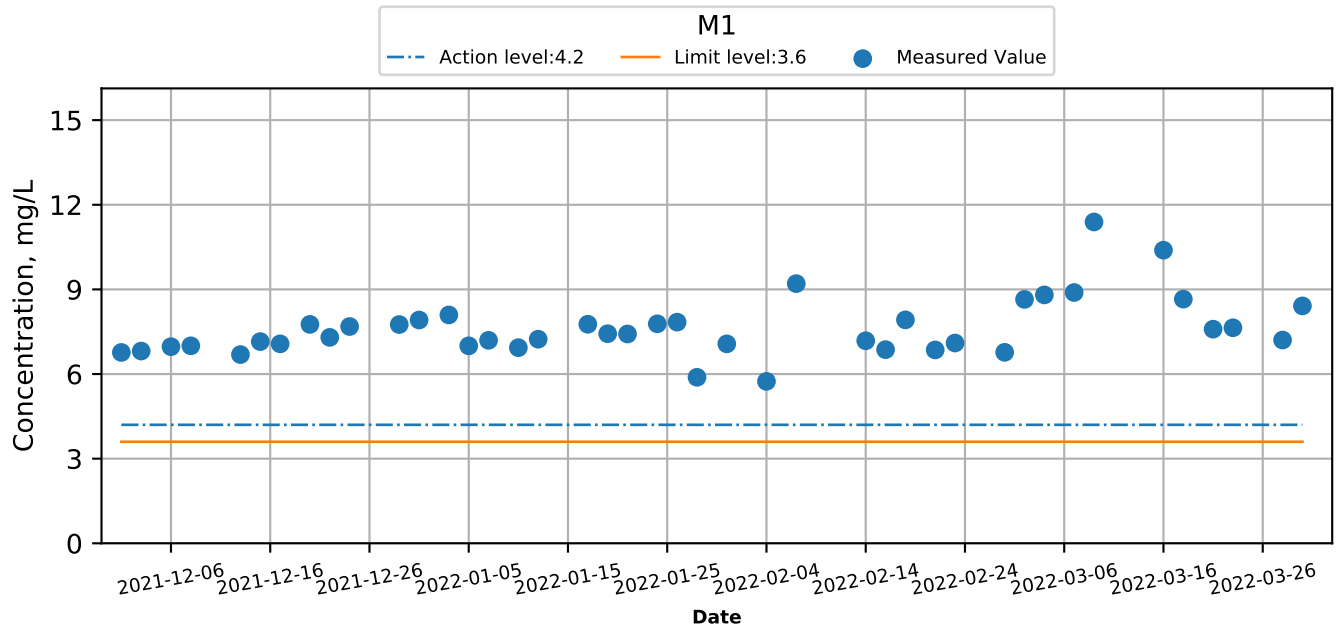
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



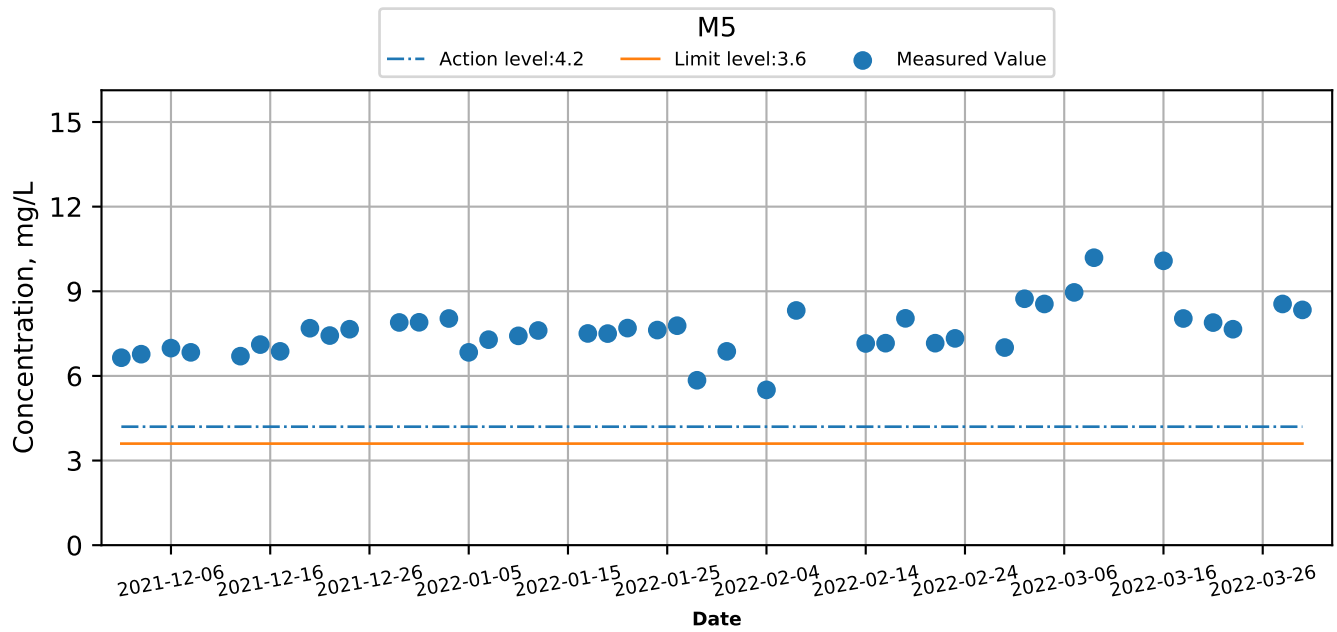
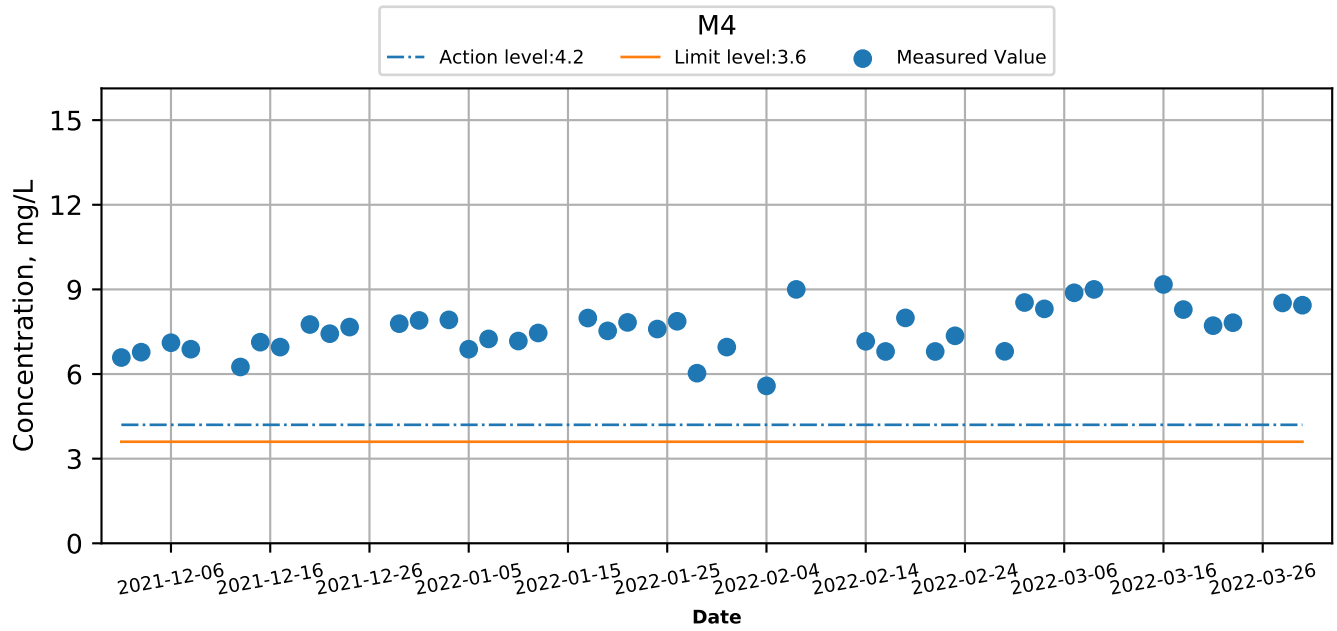
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



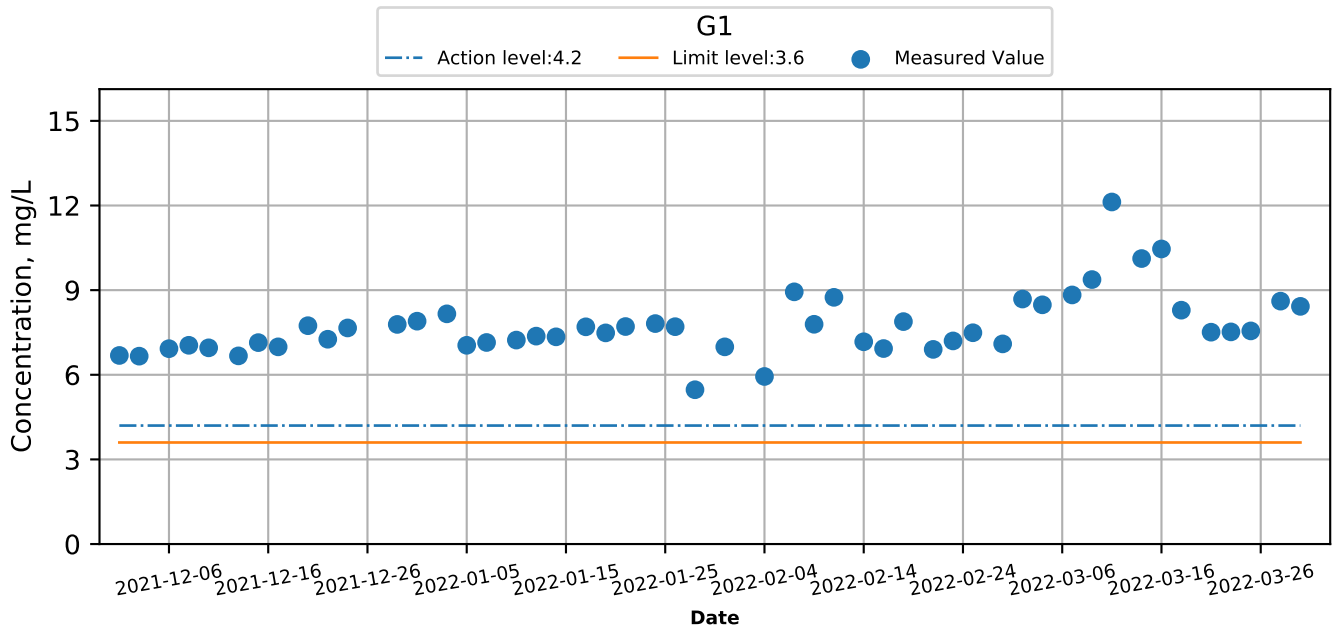
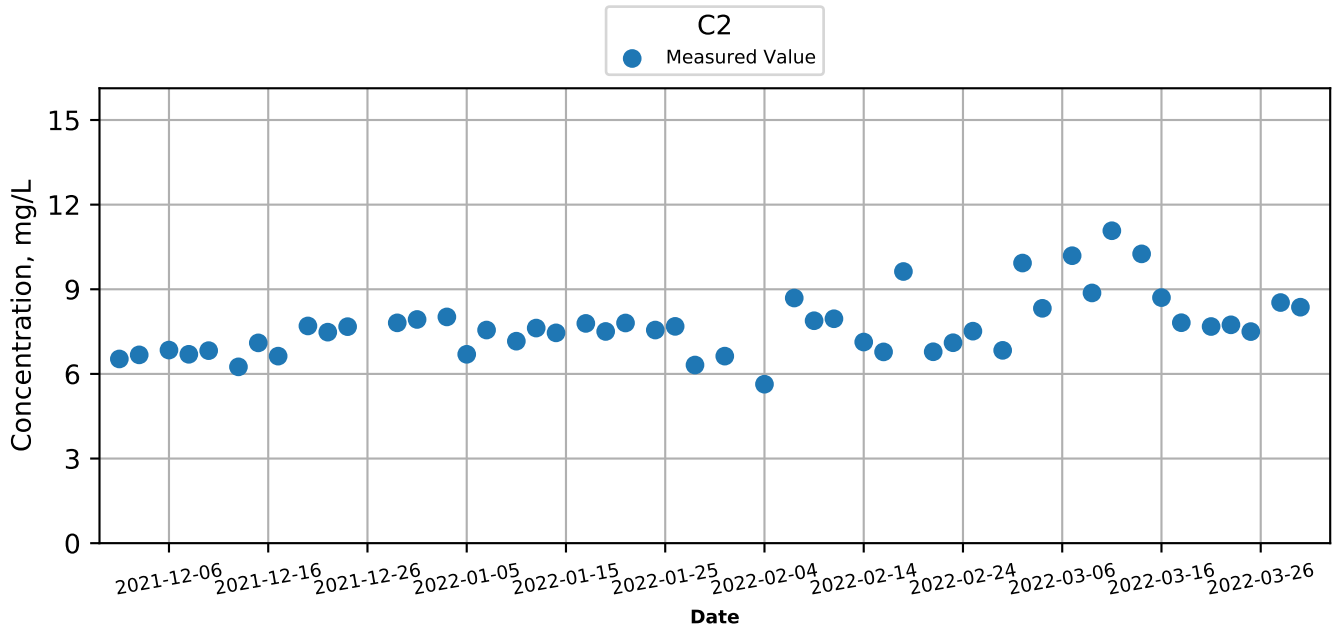
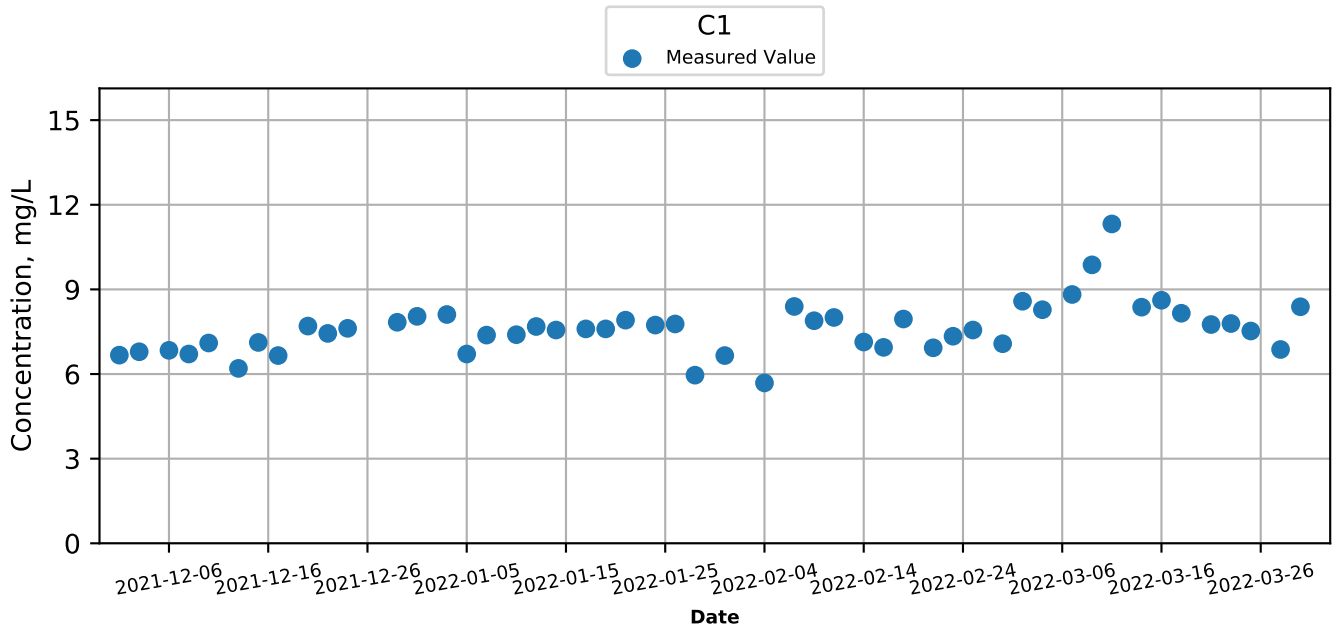
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



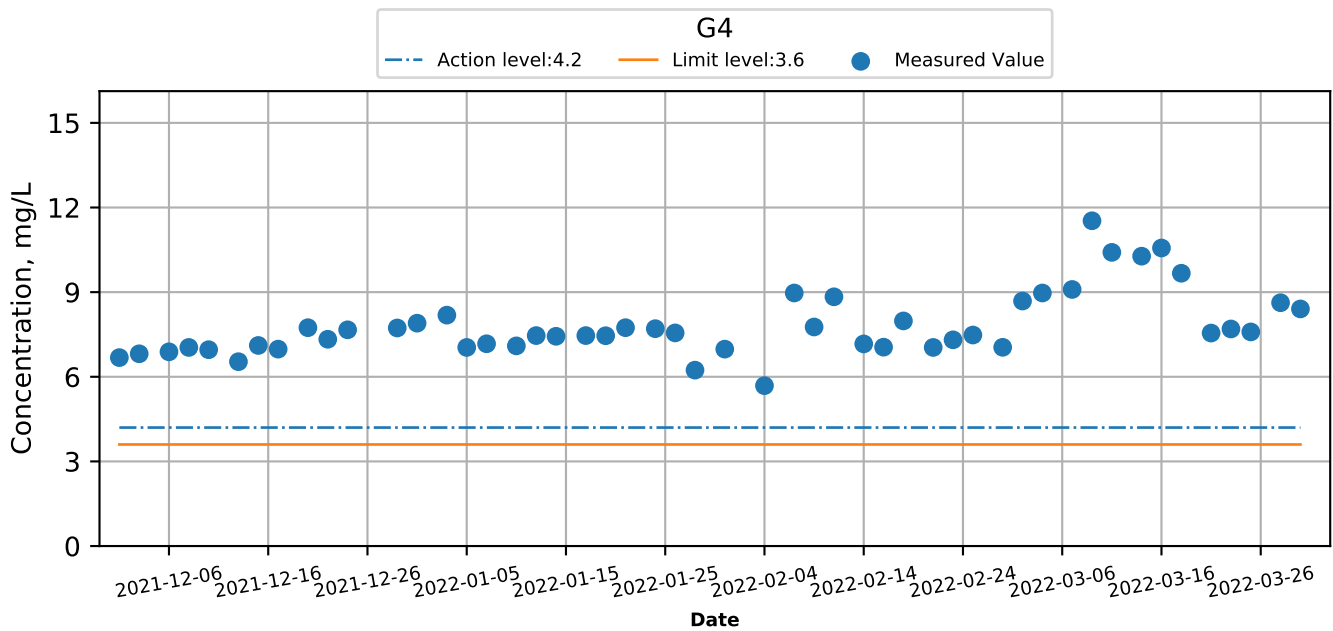
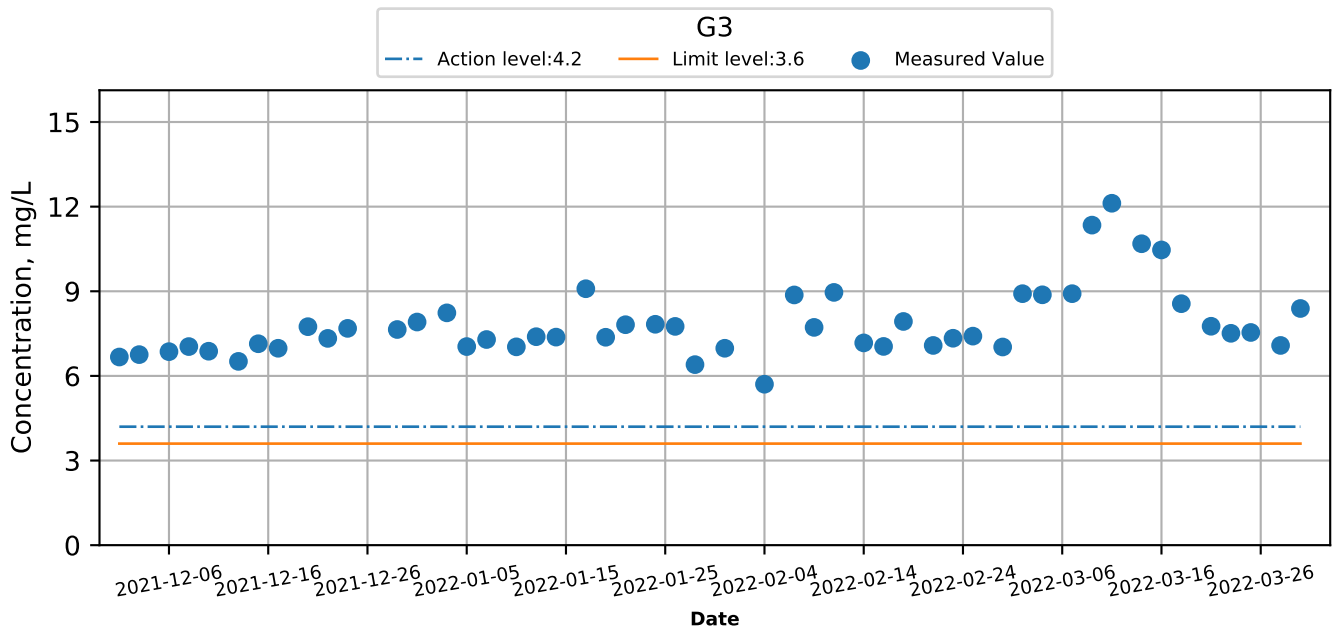
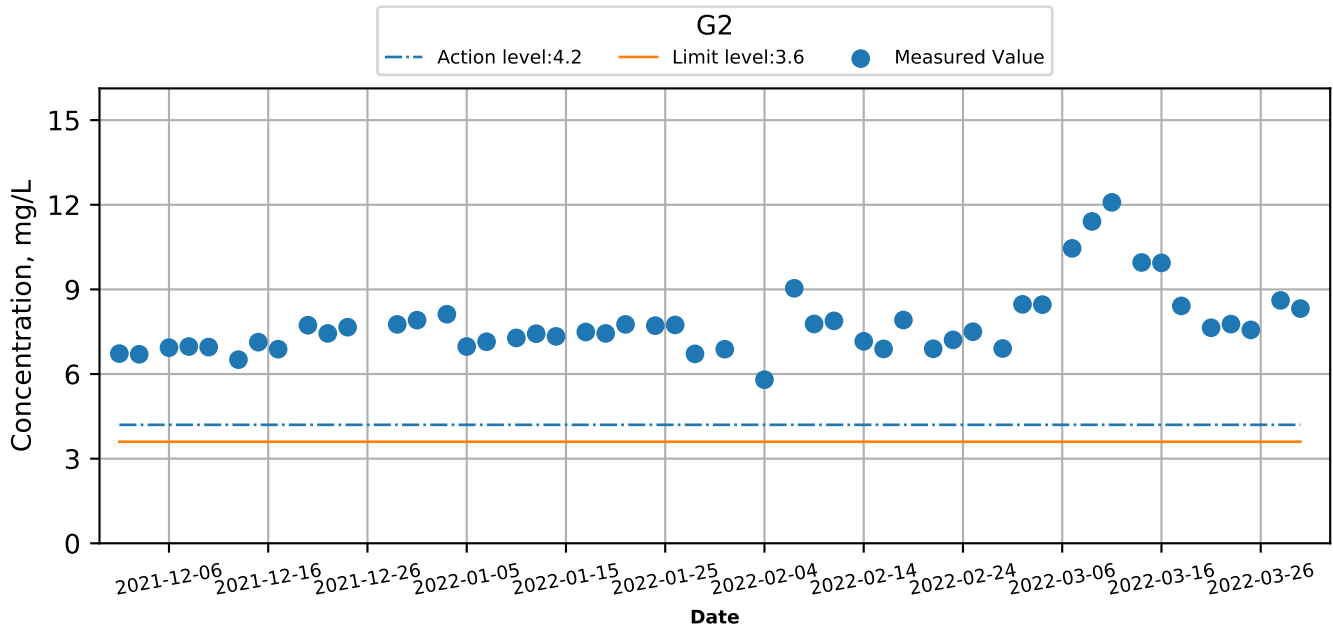
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

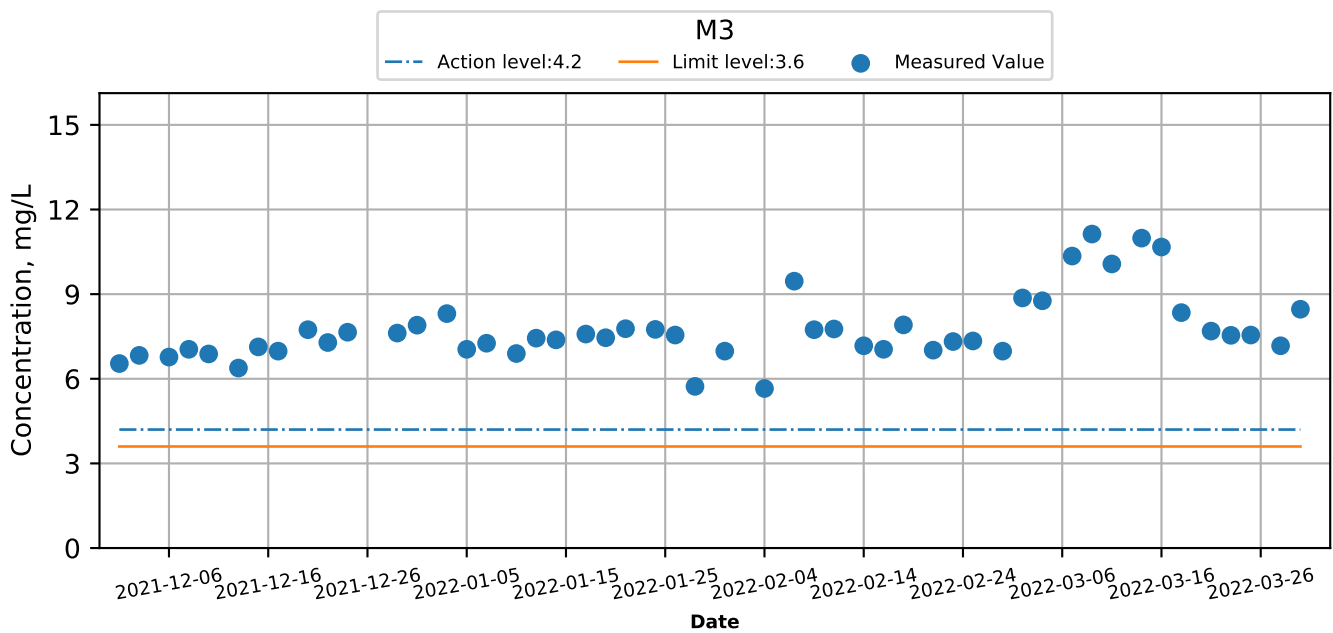
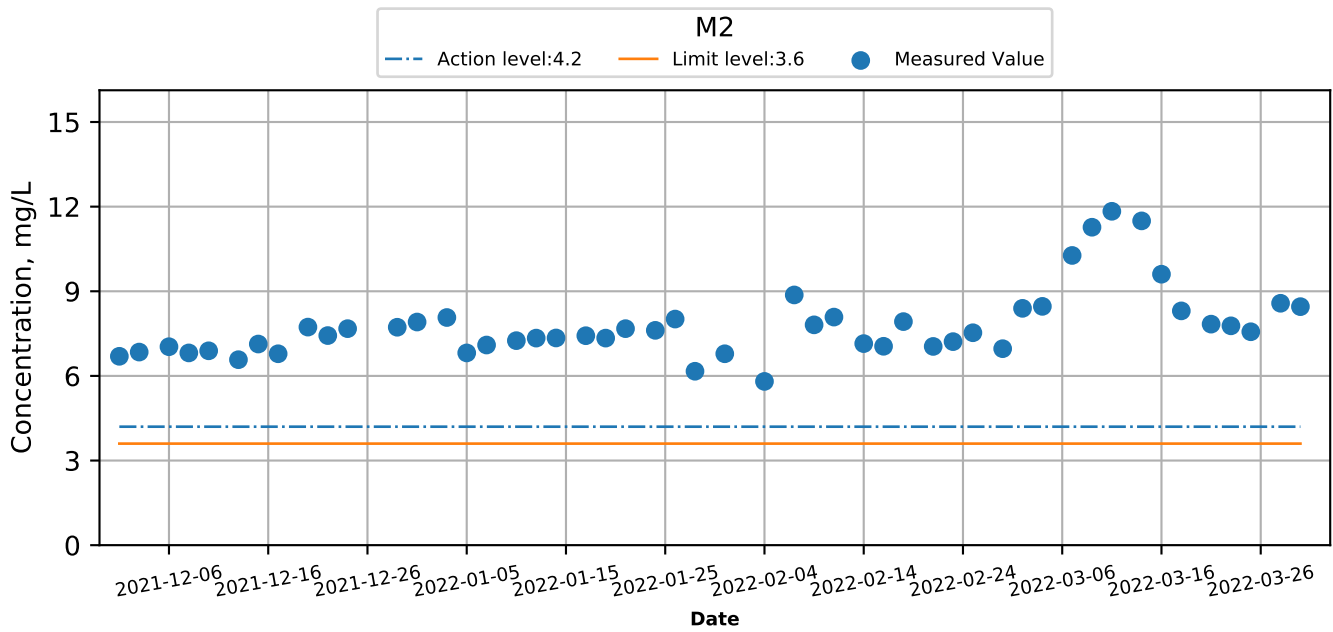
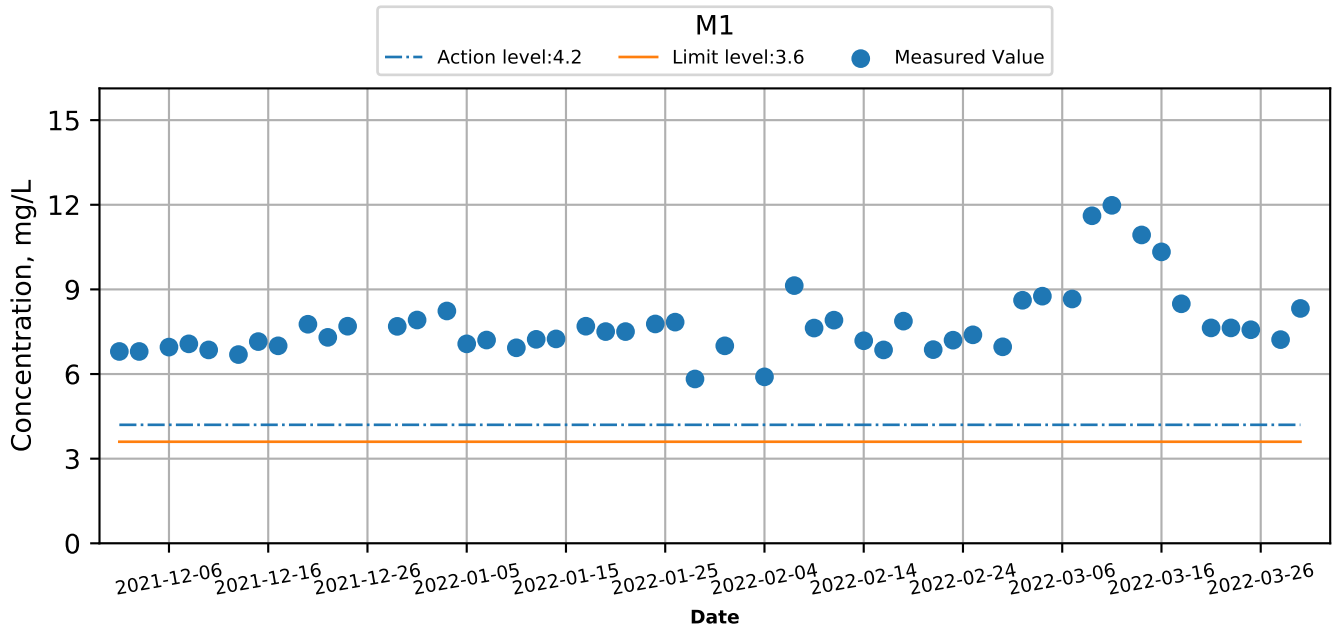
## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood





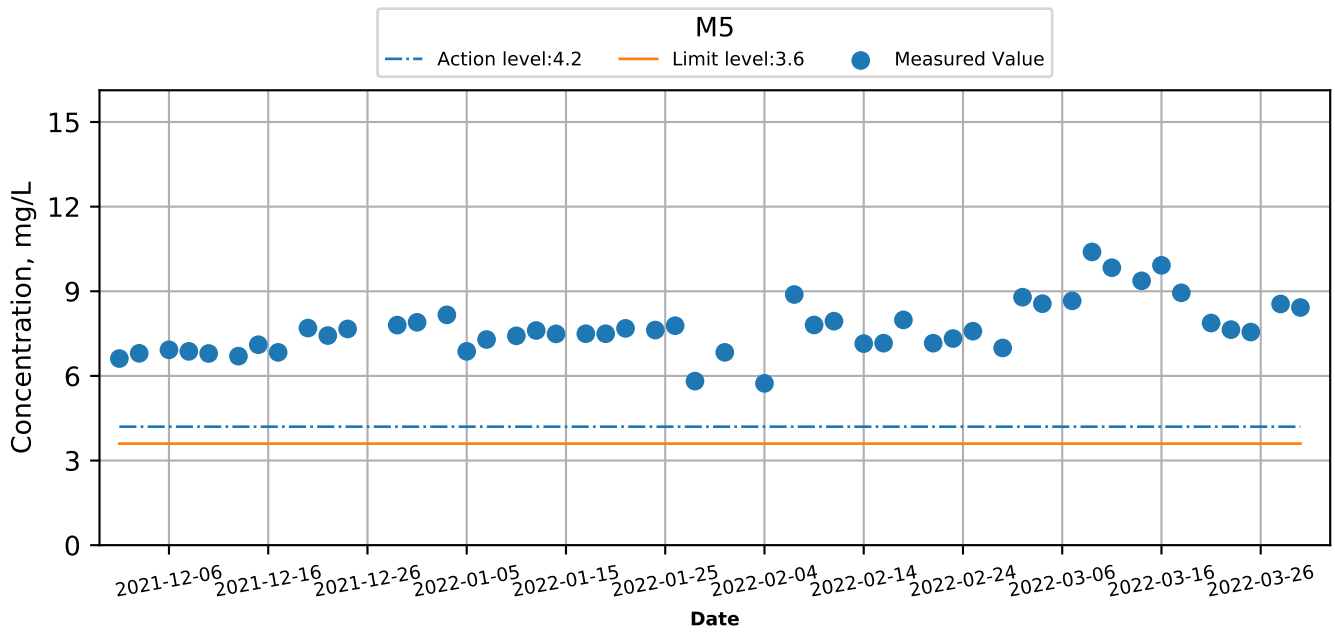
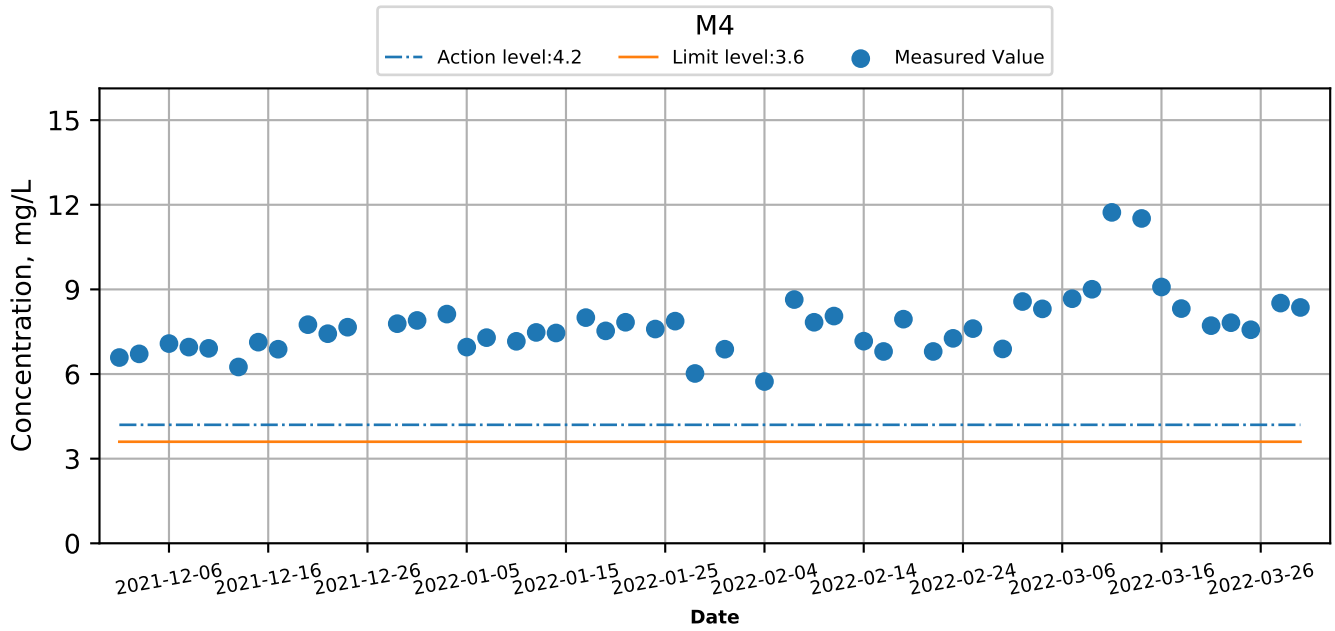
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



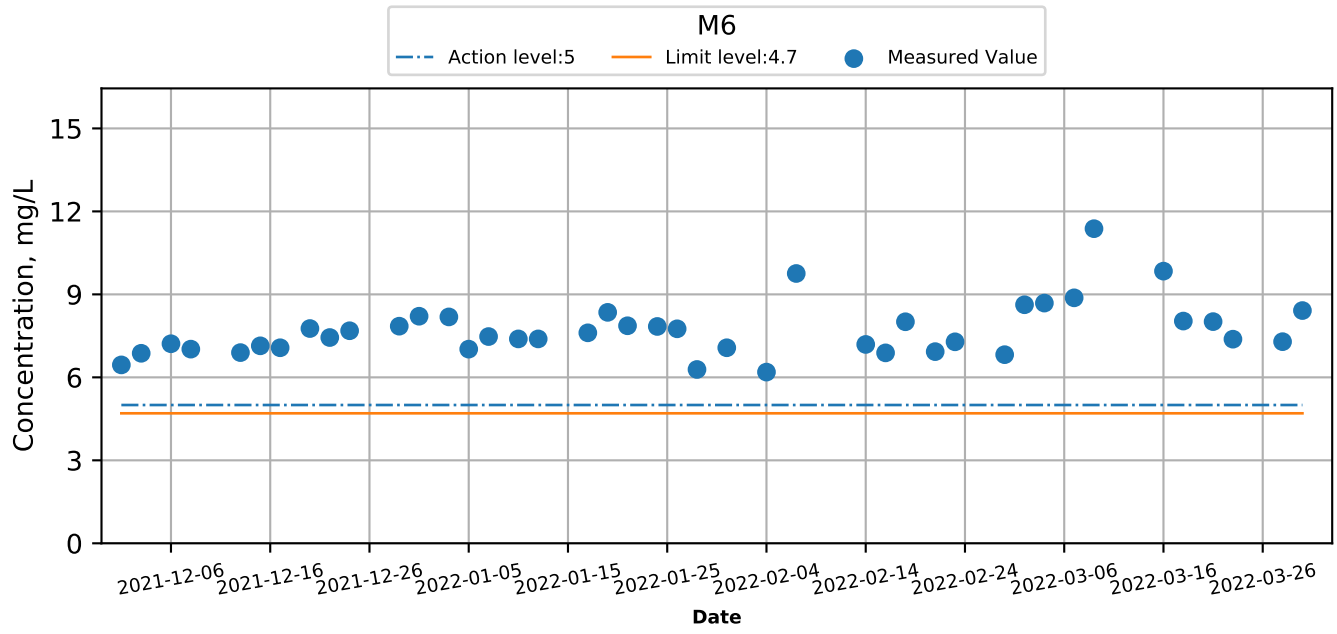
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



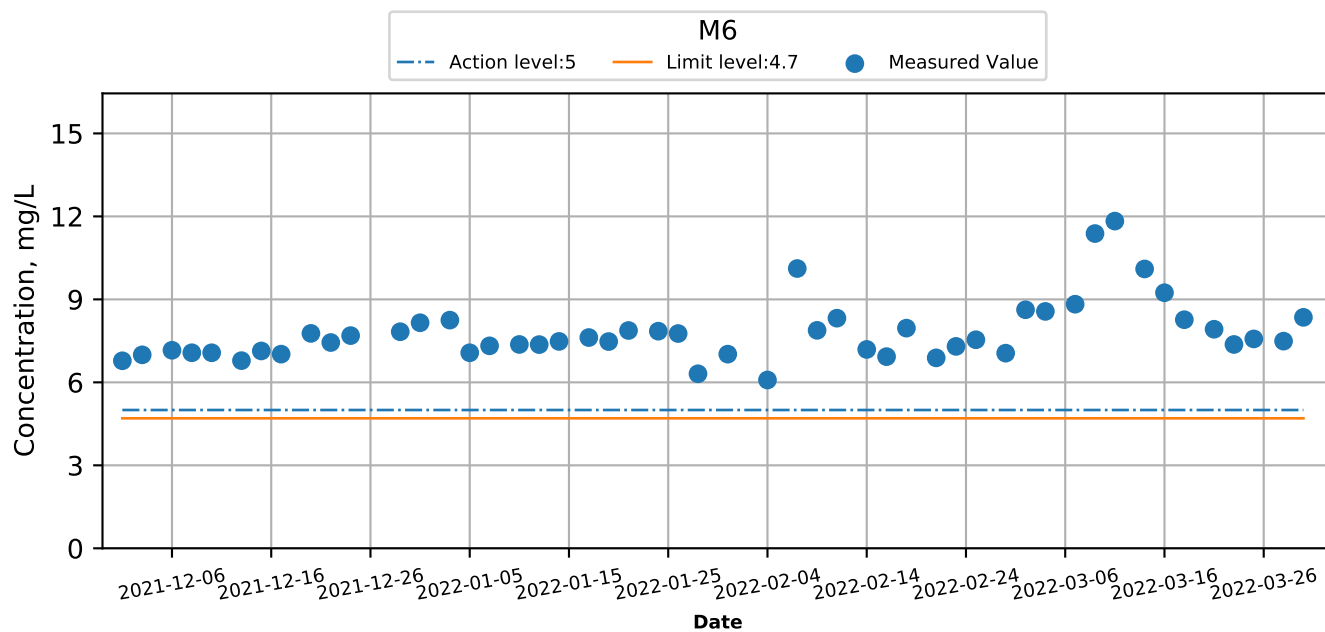
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Ebb



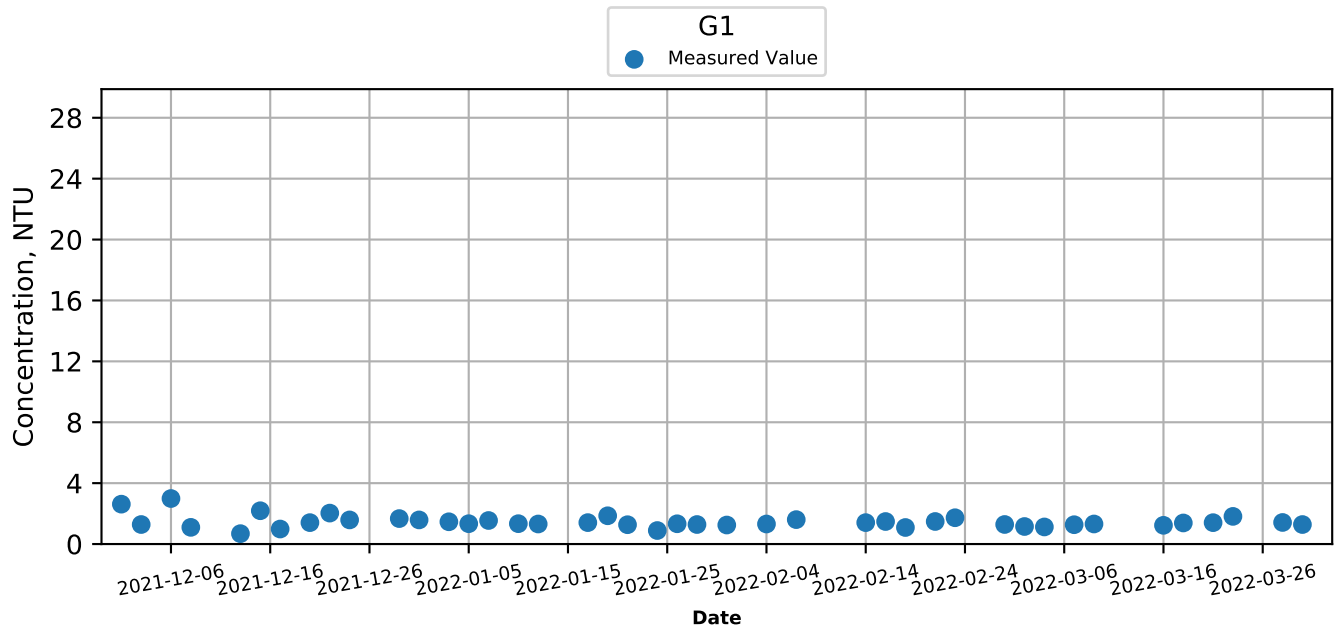
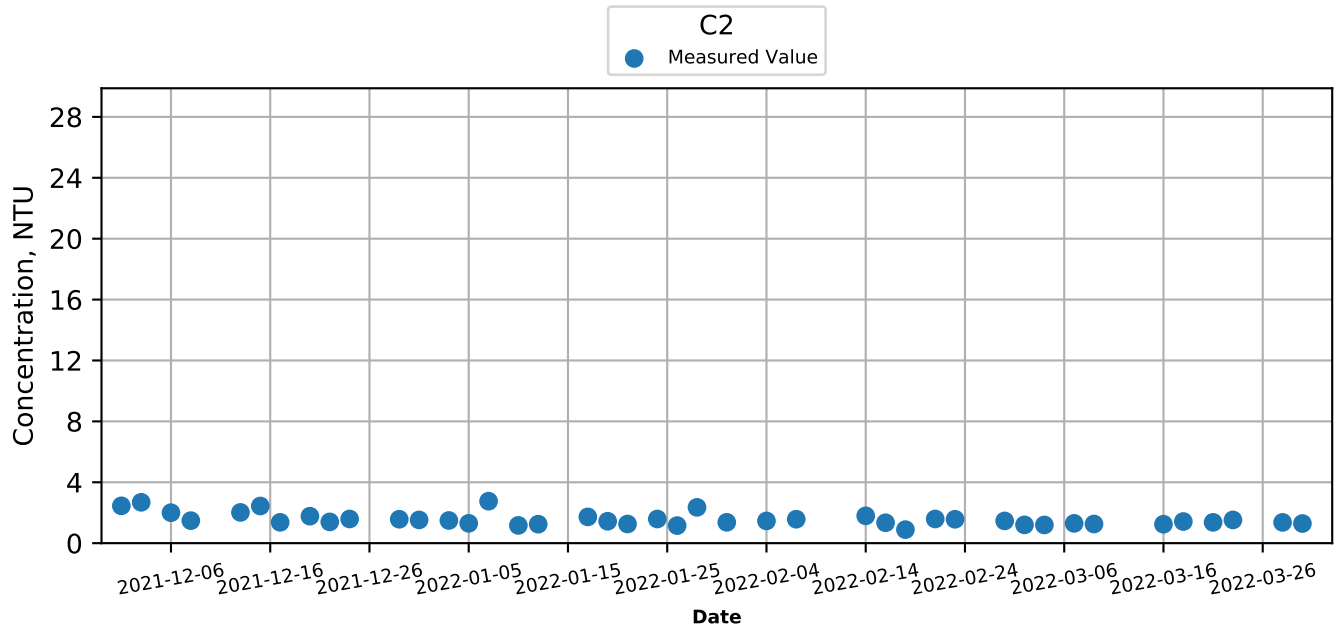
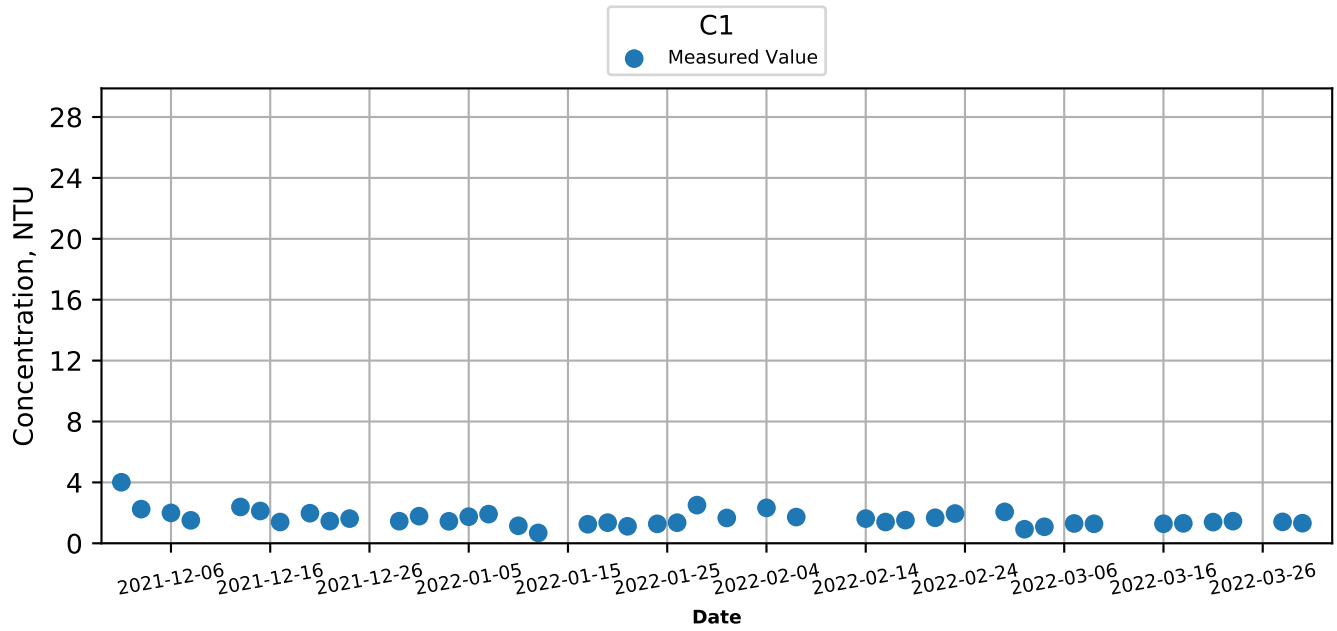
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Flood



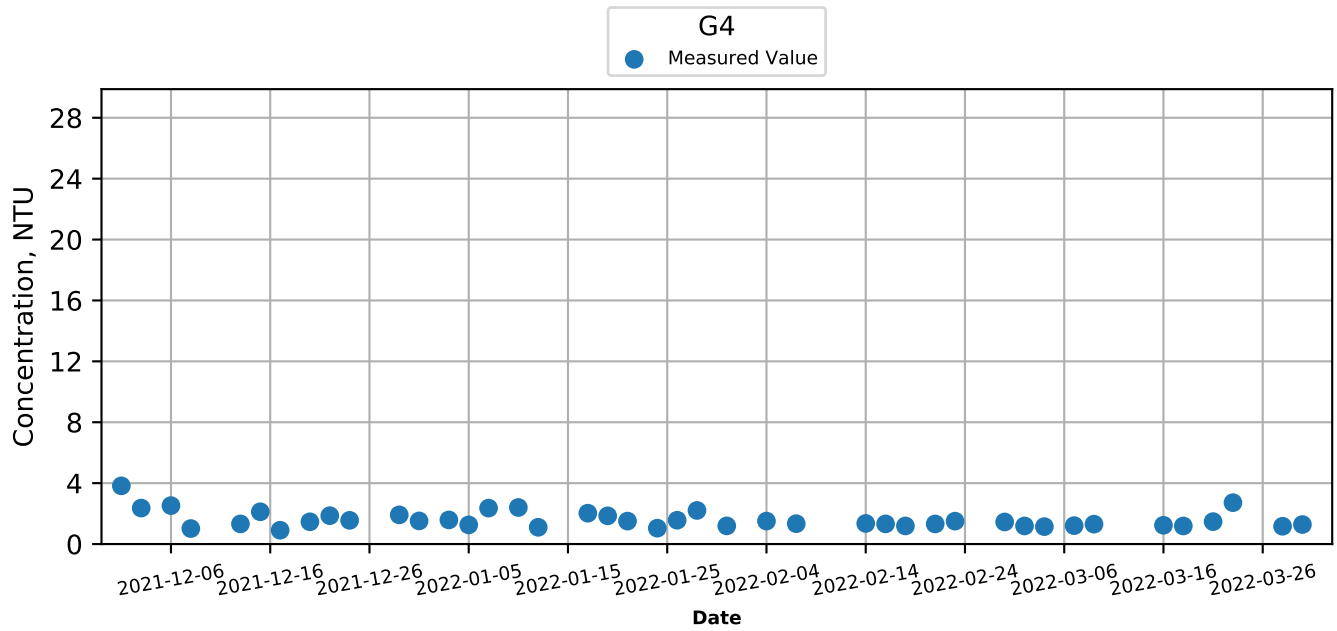
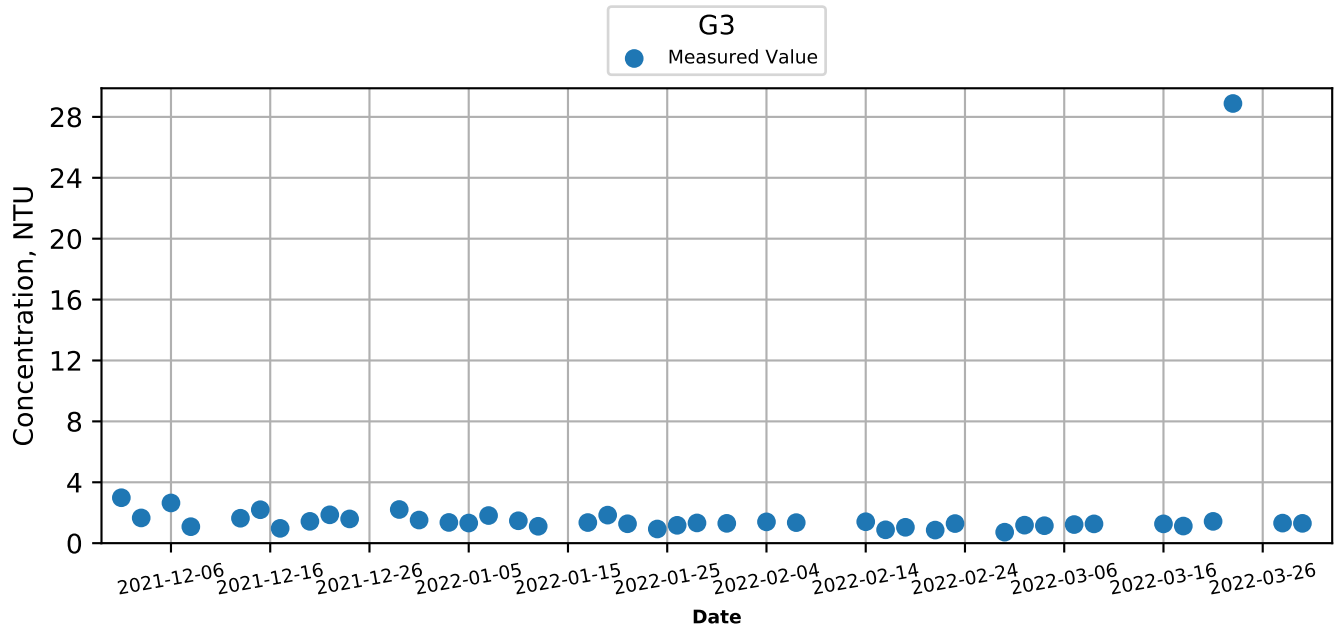
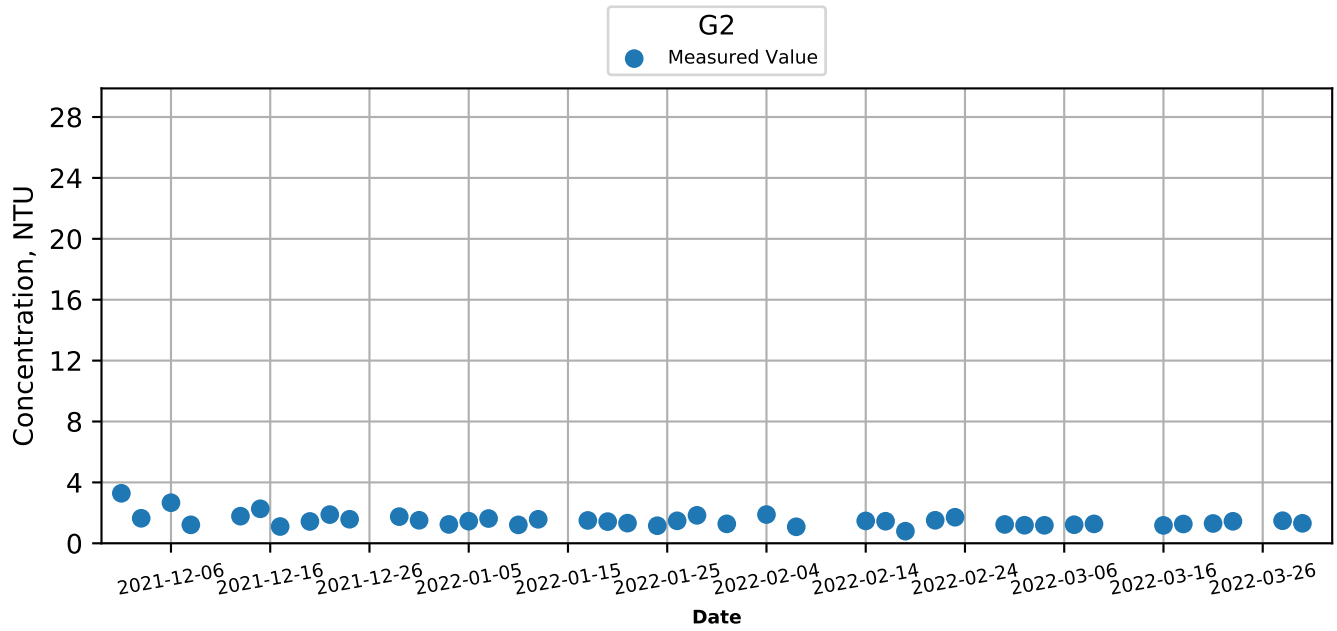
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



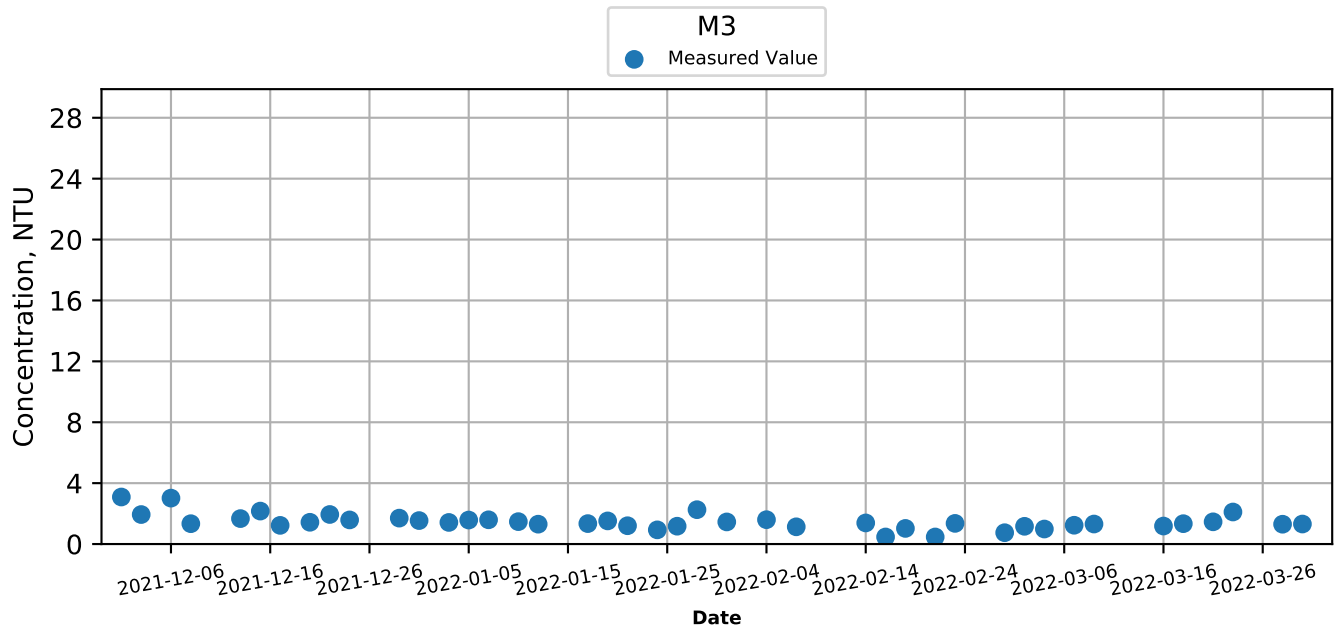
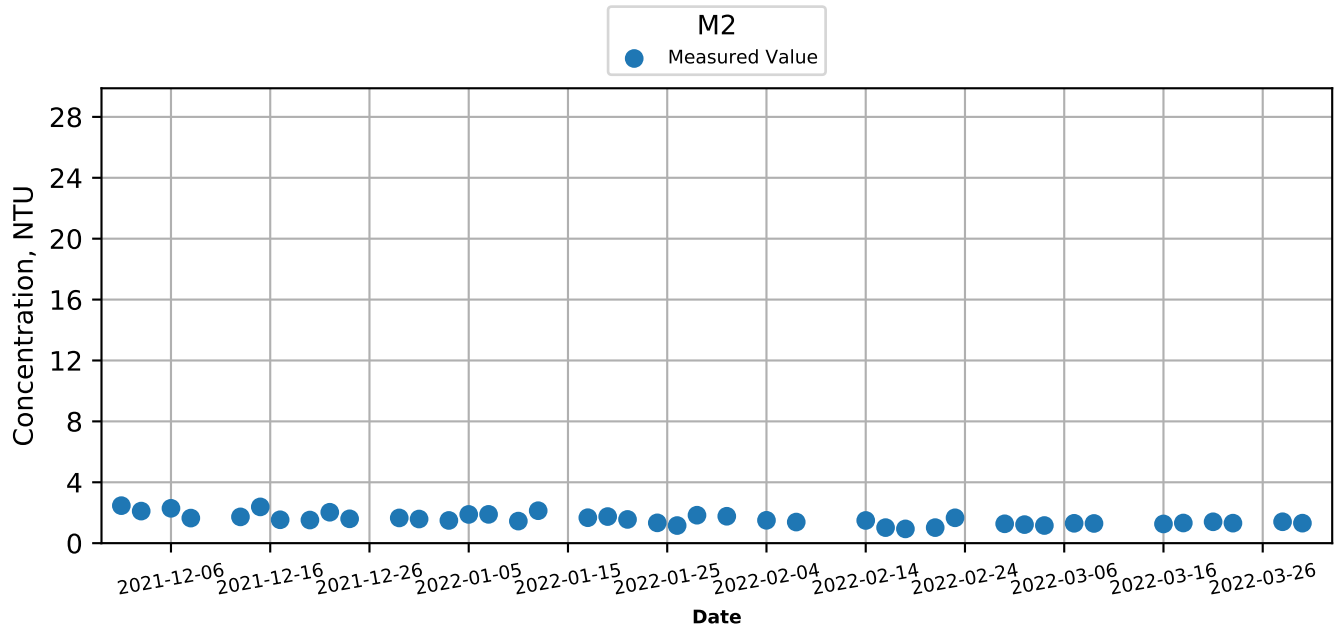
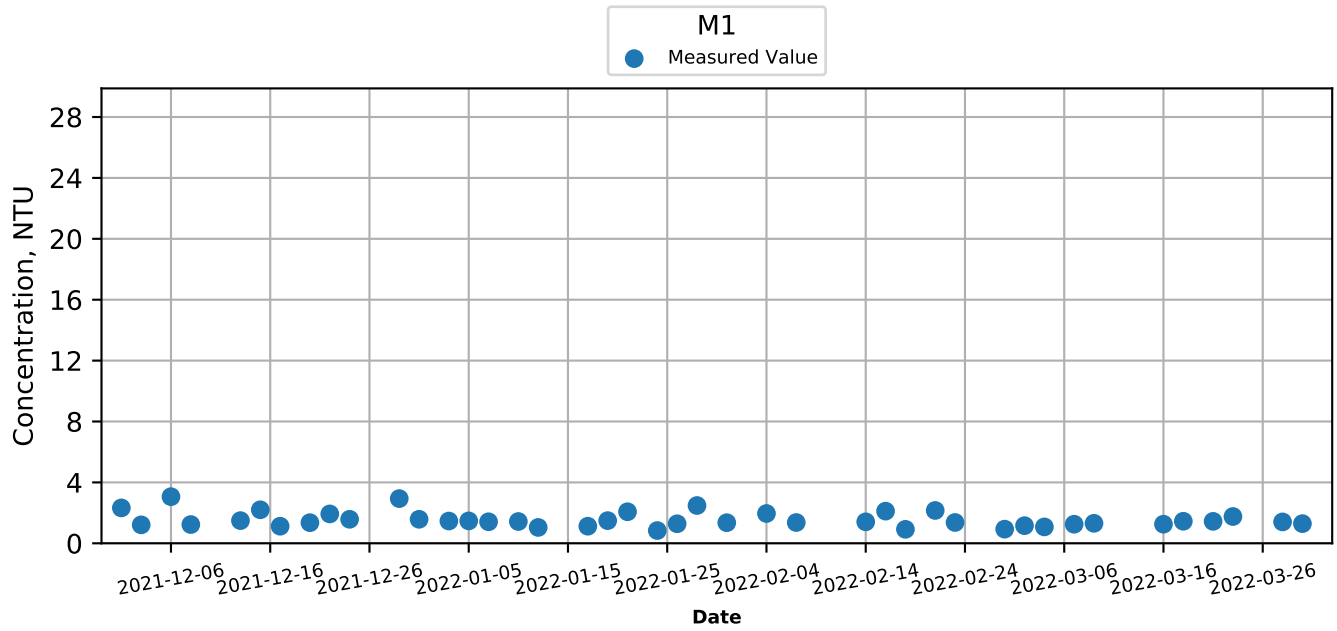
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



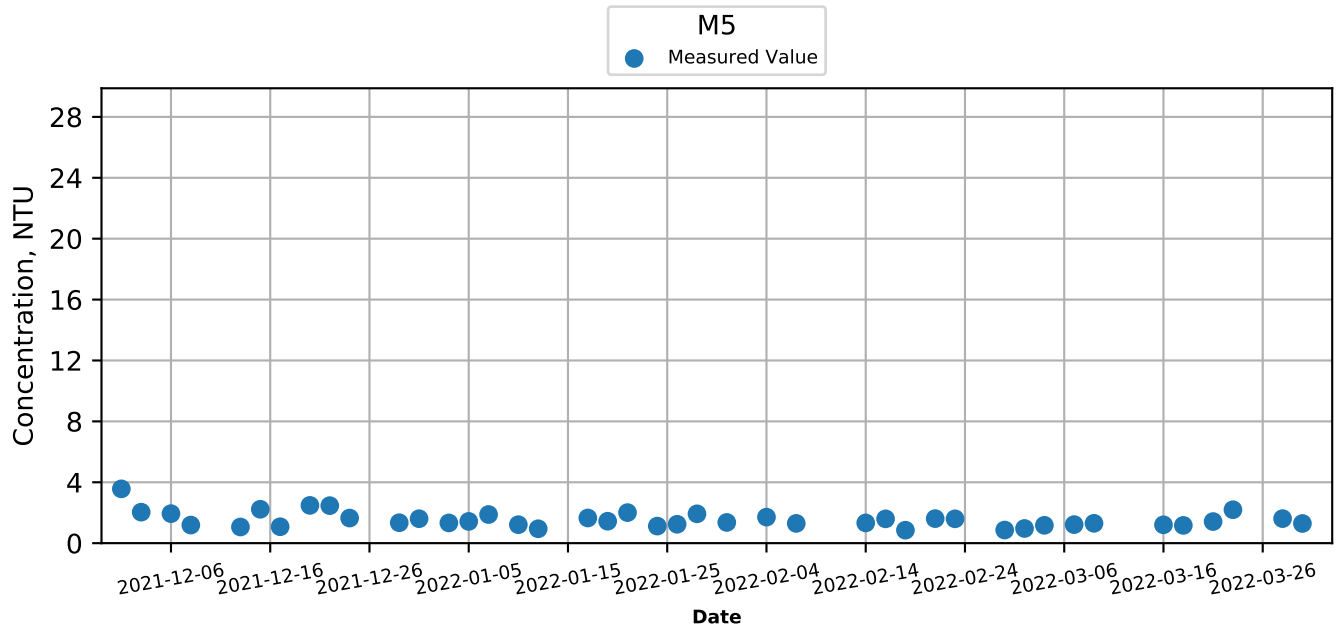
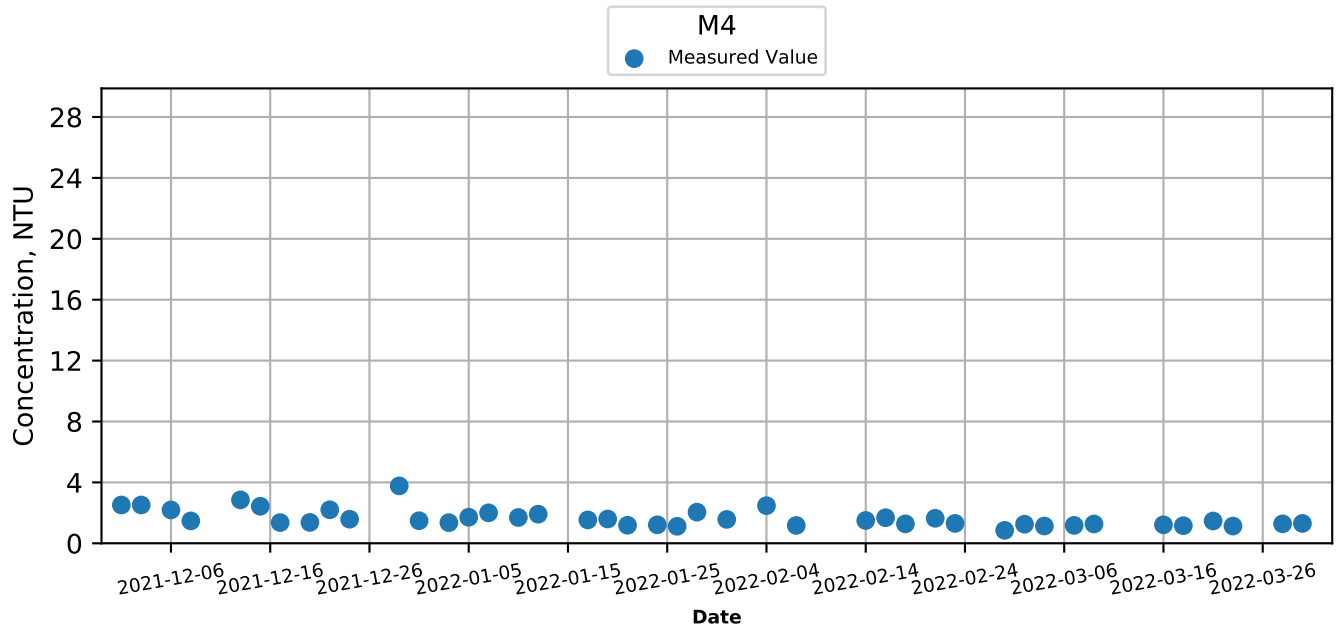
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## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

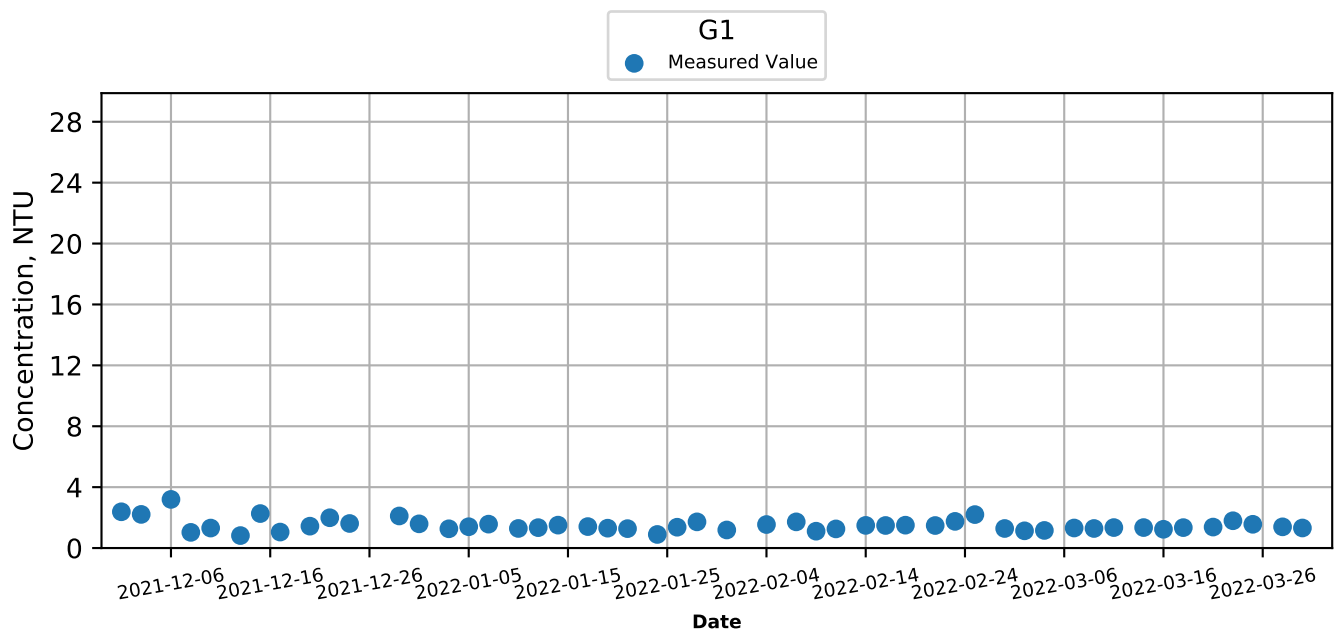
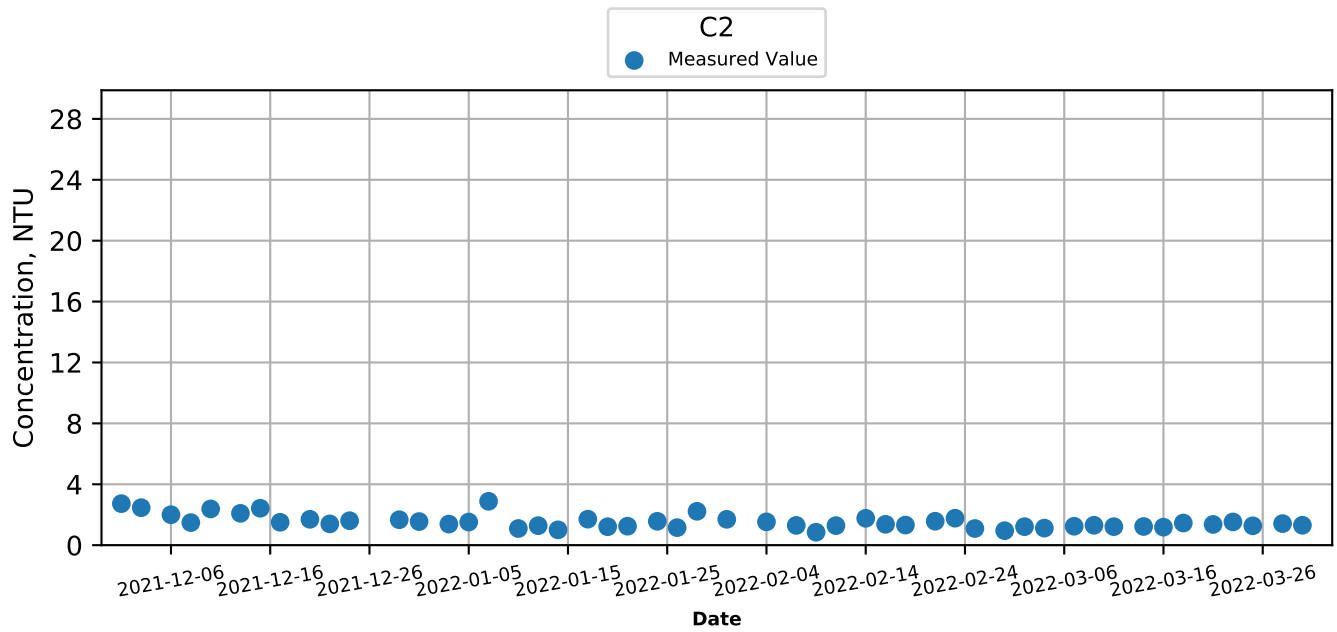
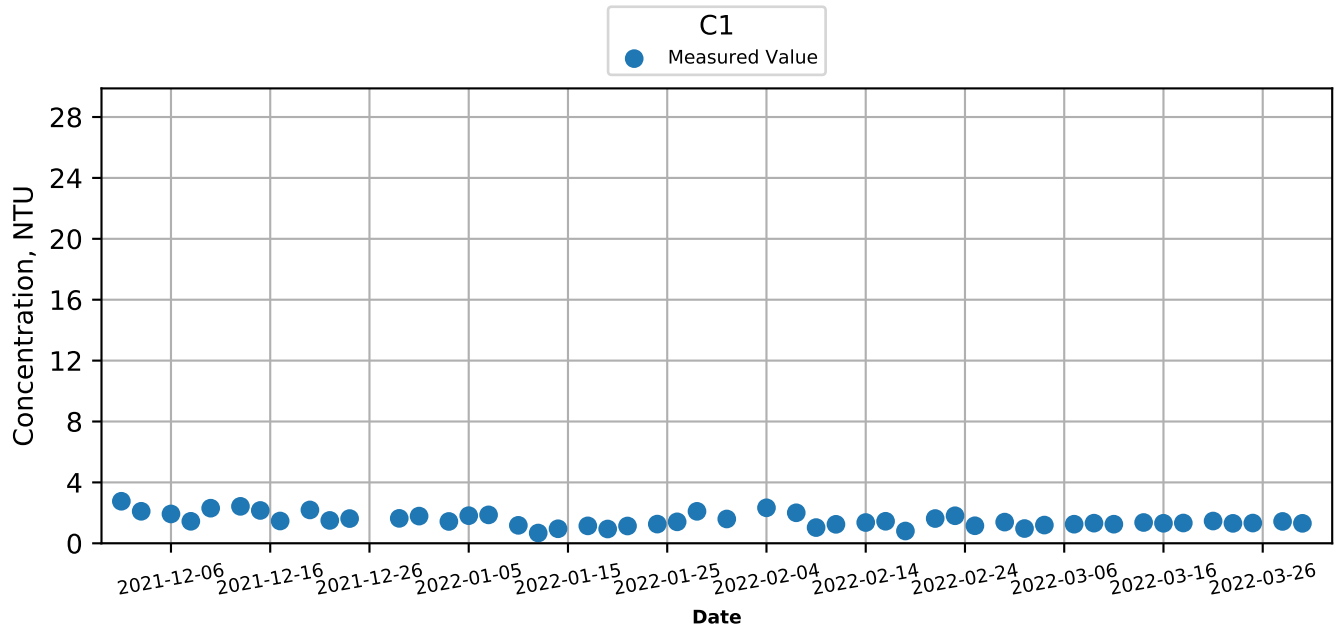
## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb





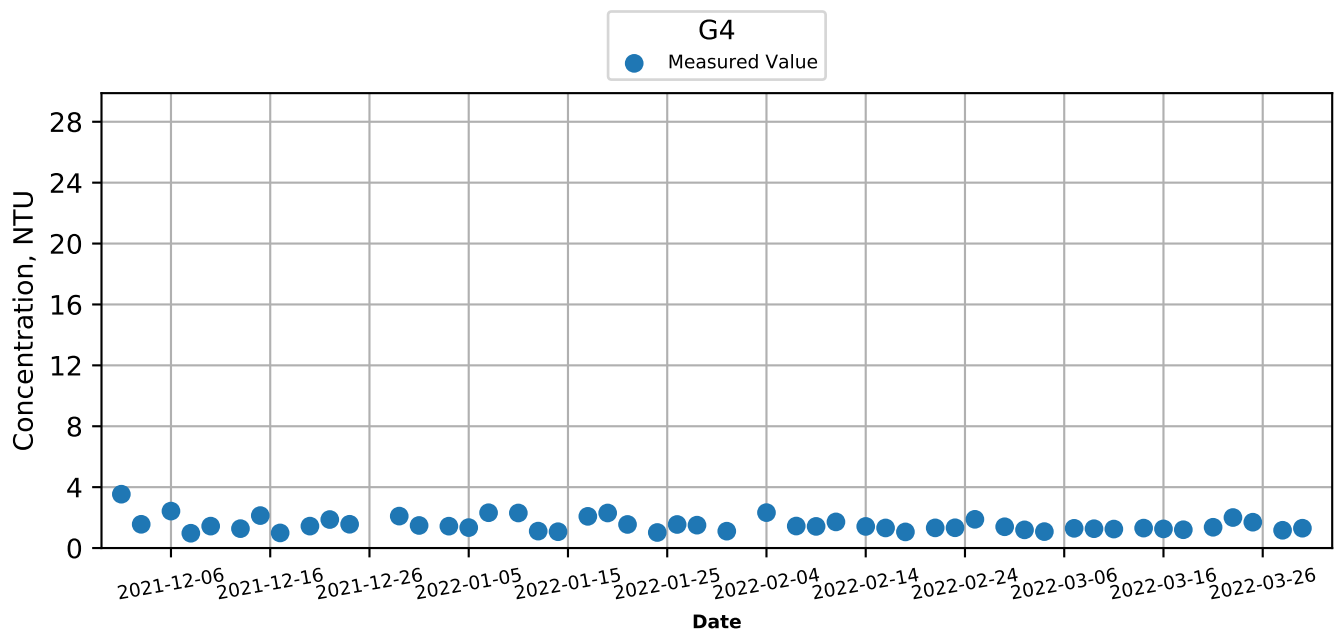
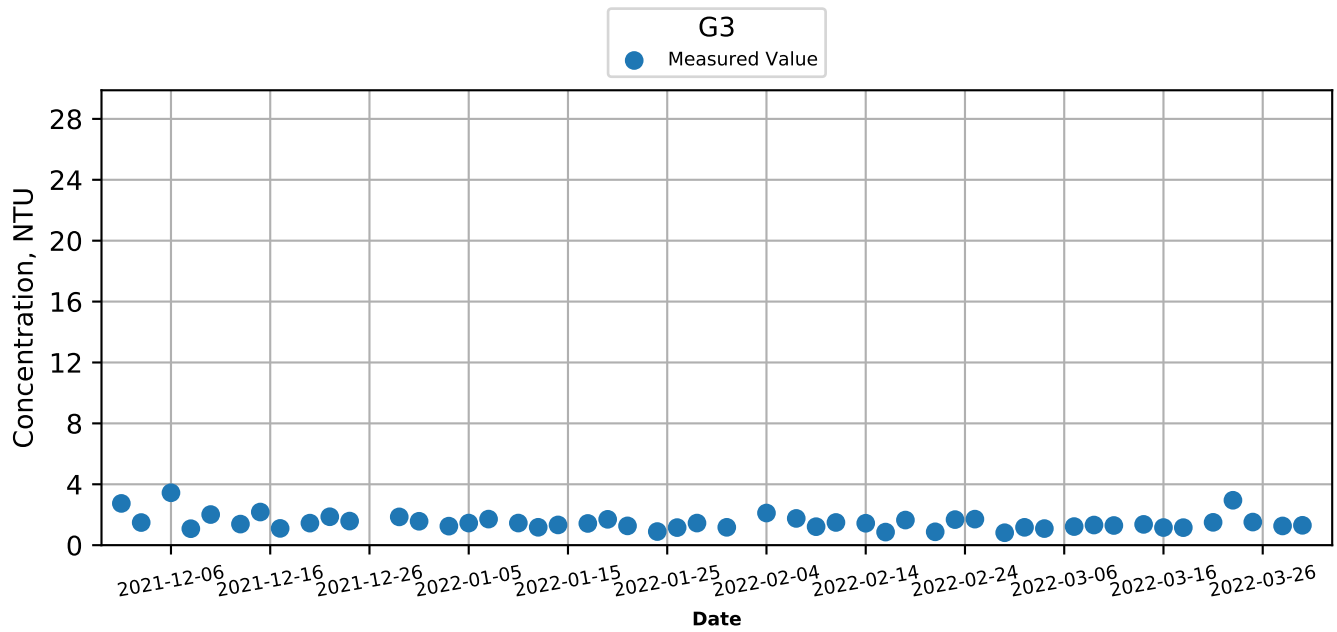
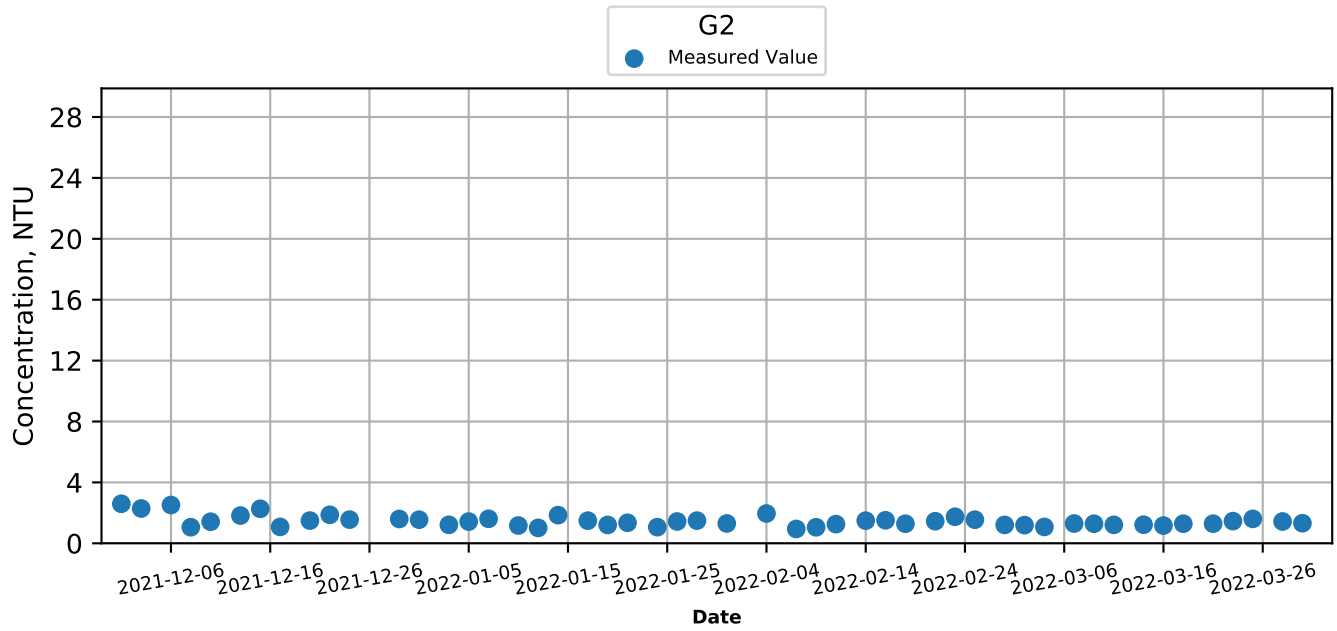
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



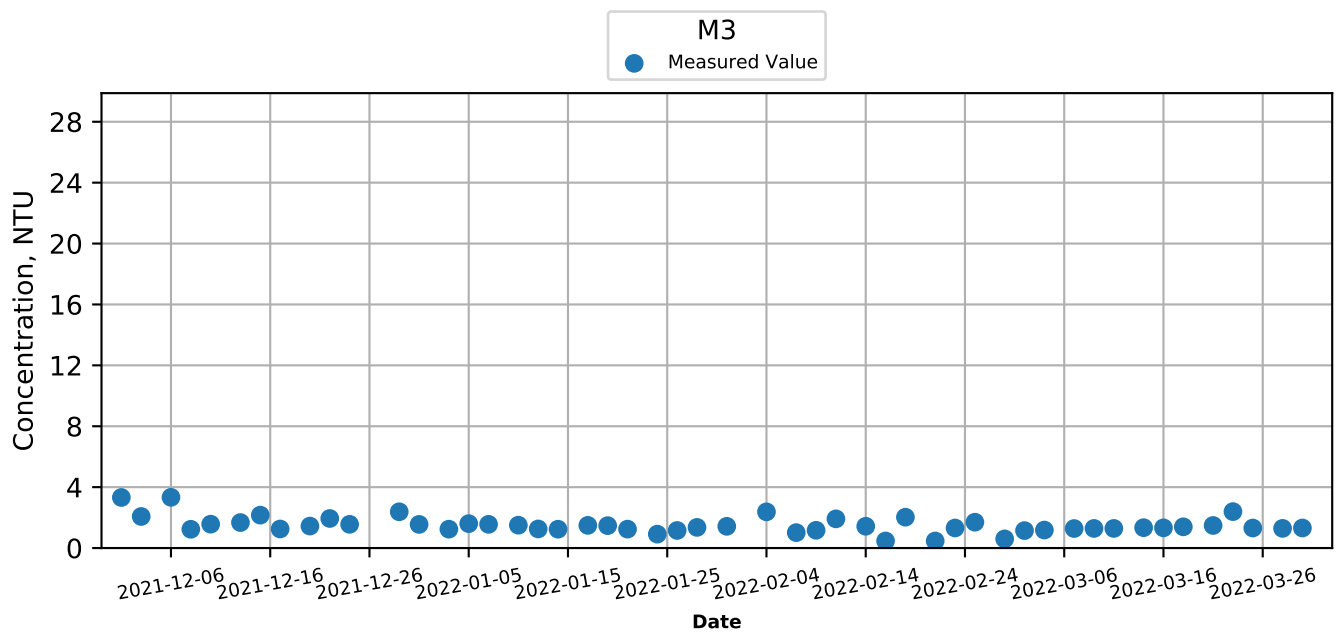
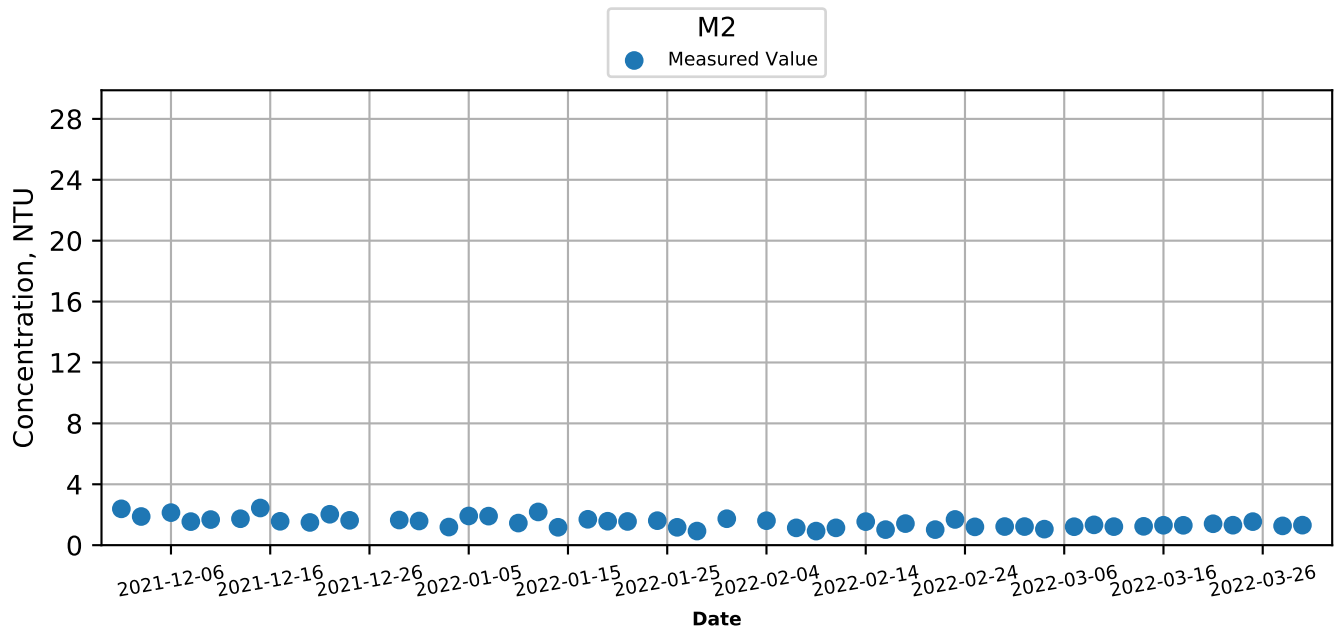
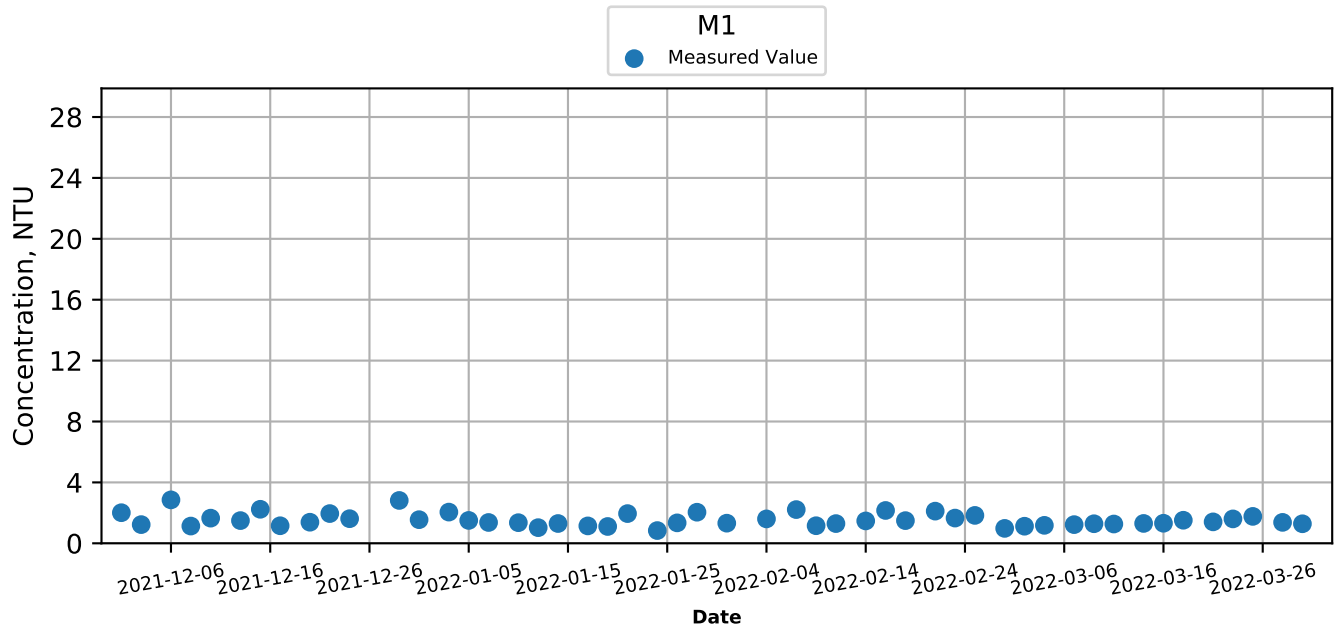
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



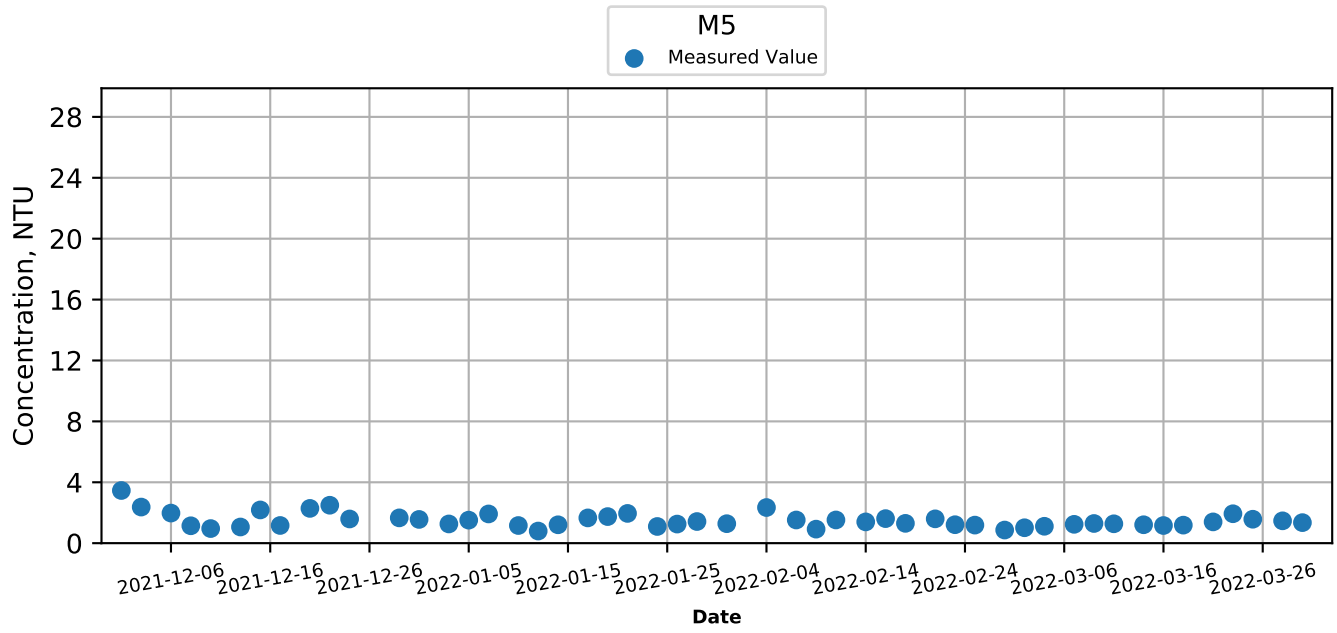
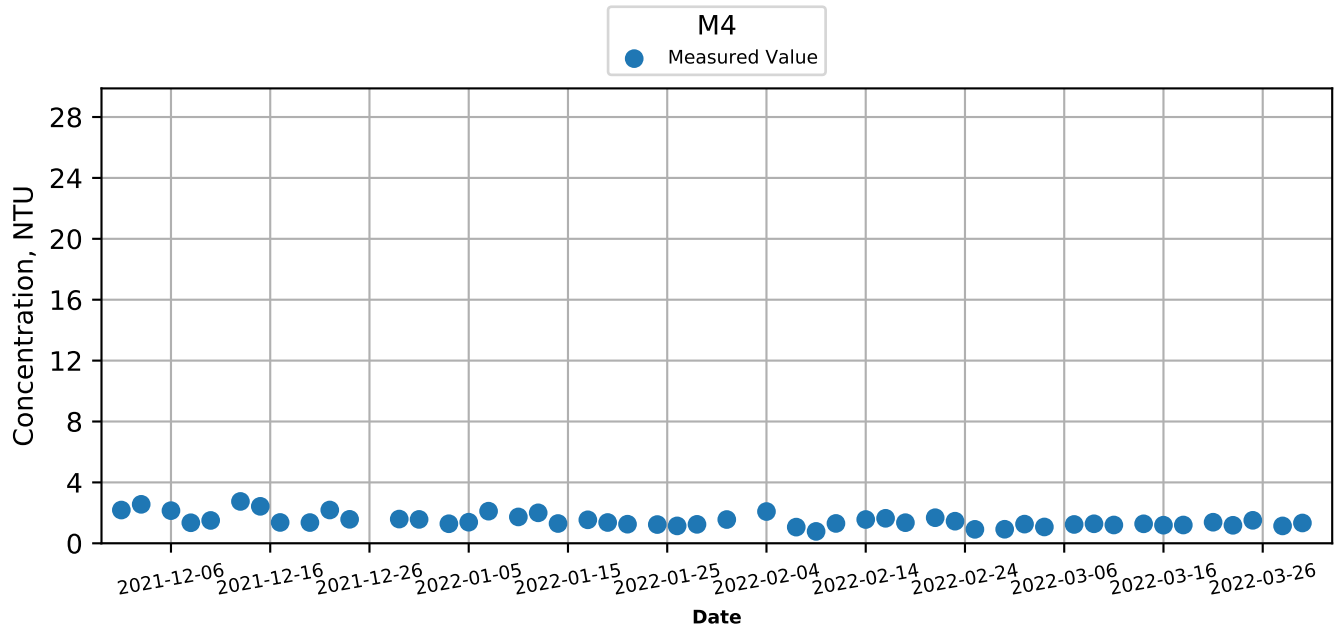
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## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



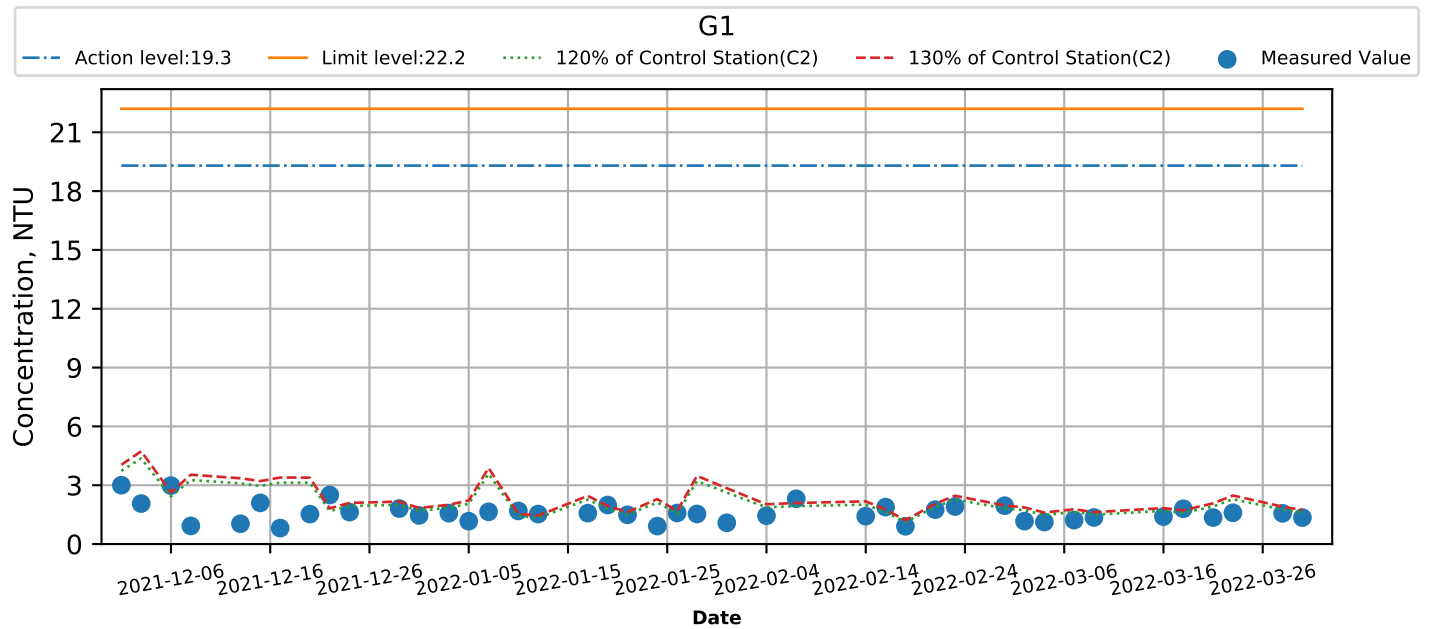
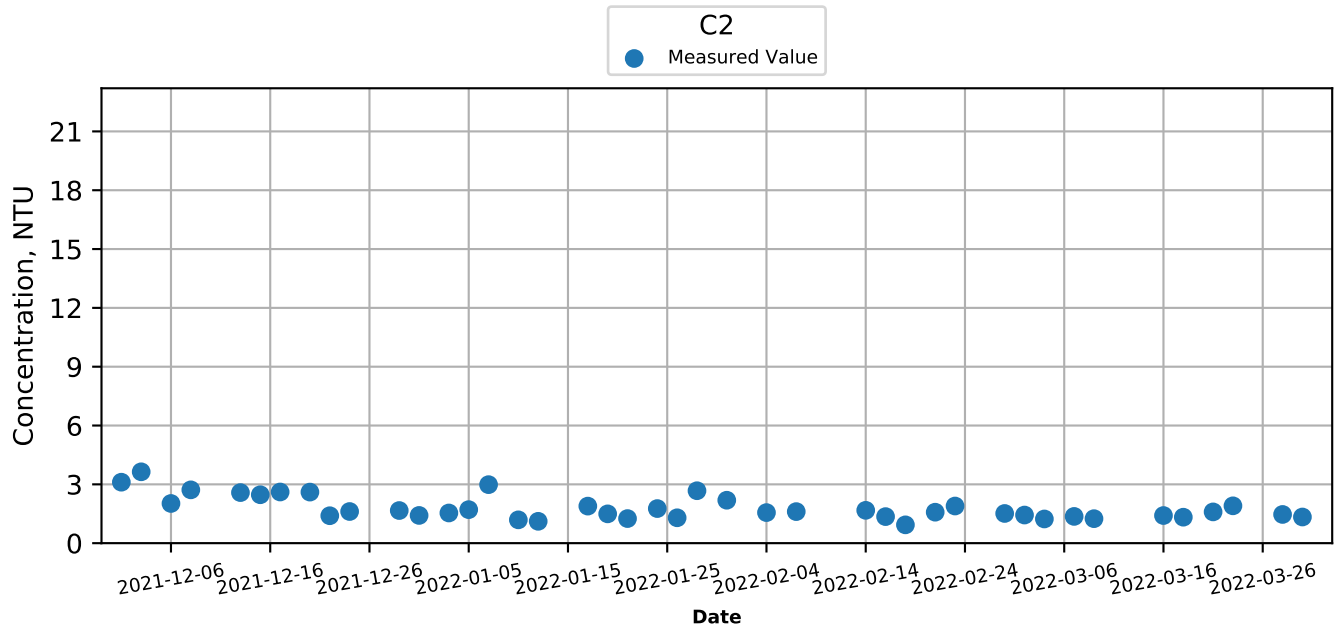
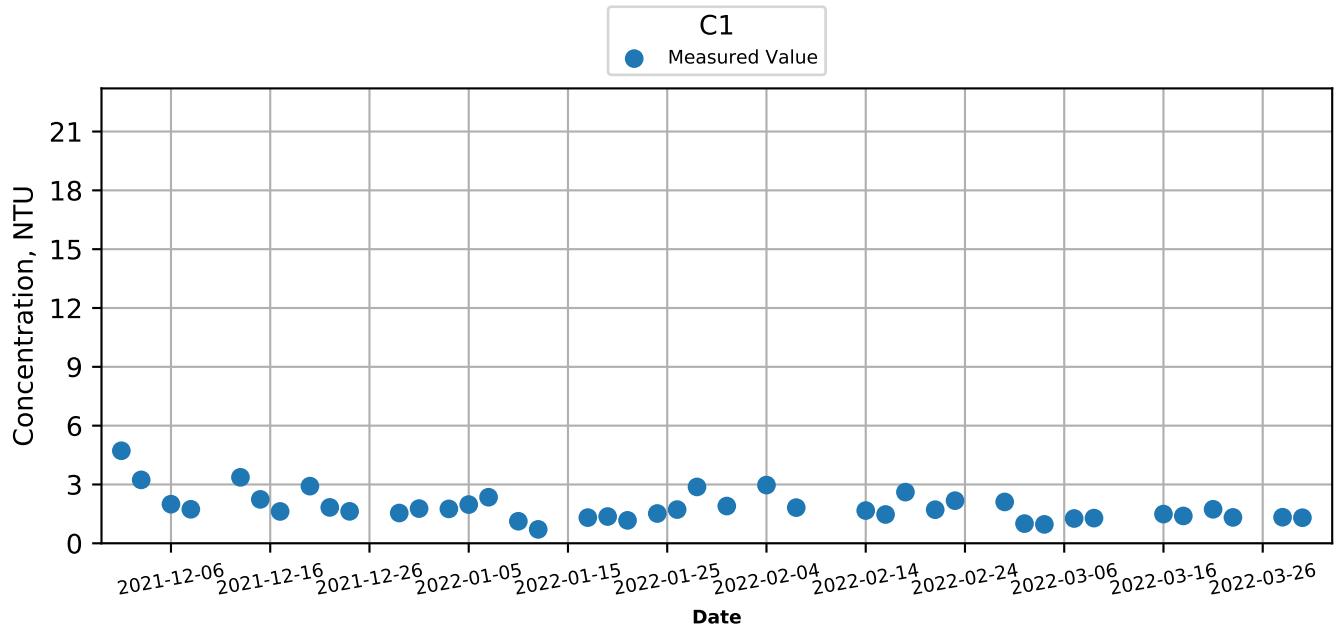
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



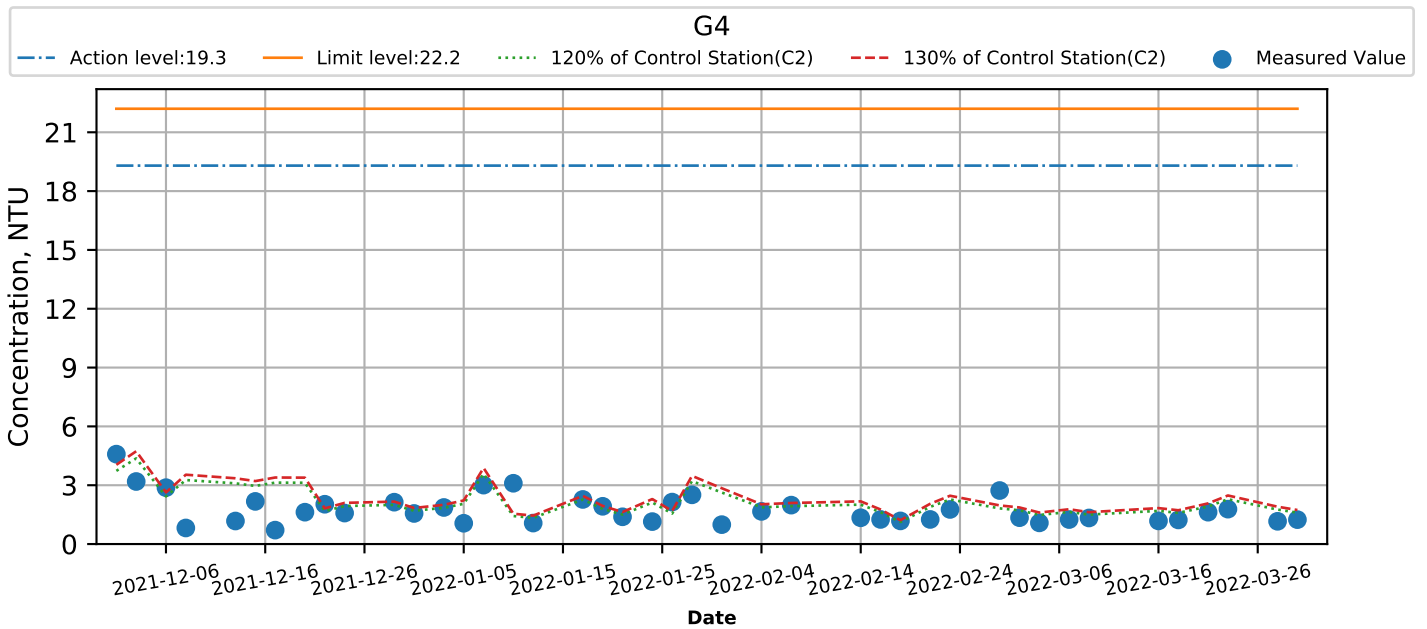
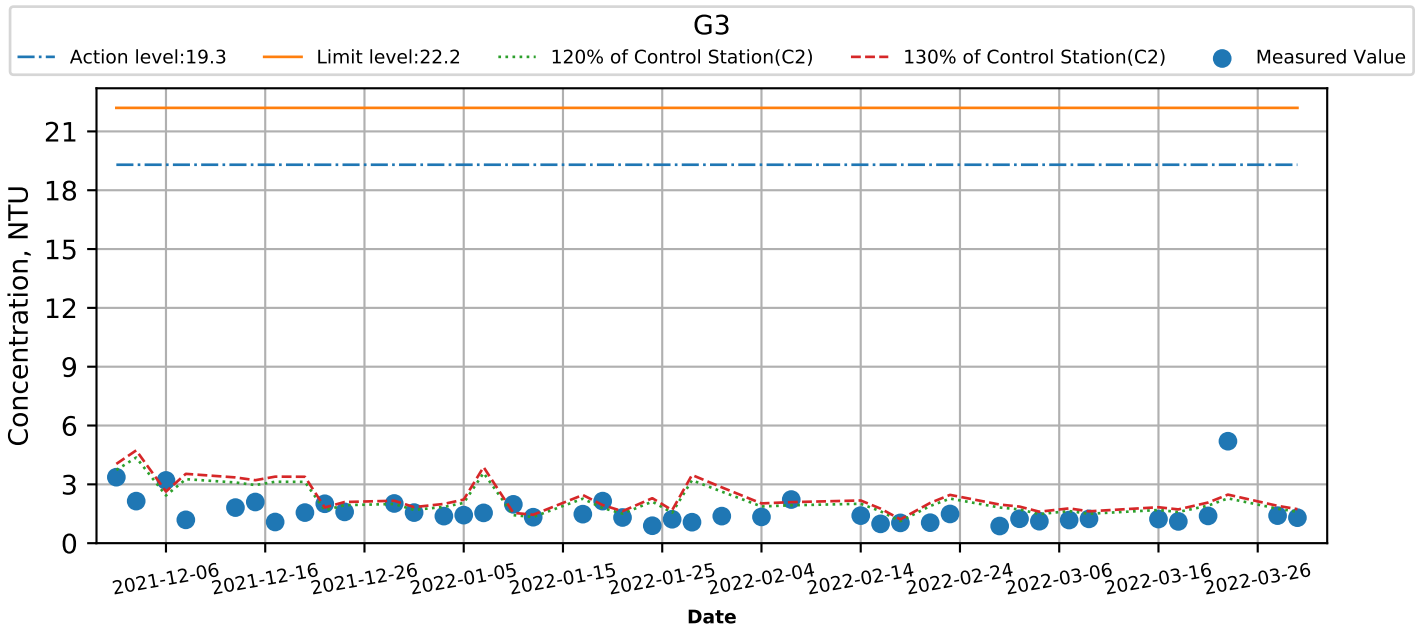
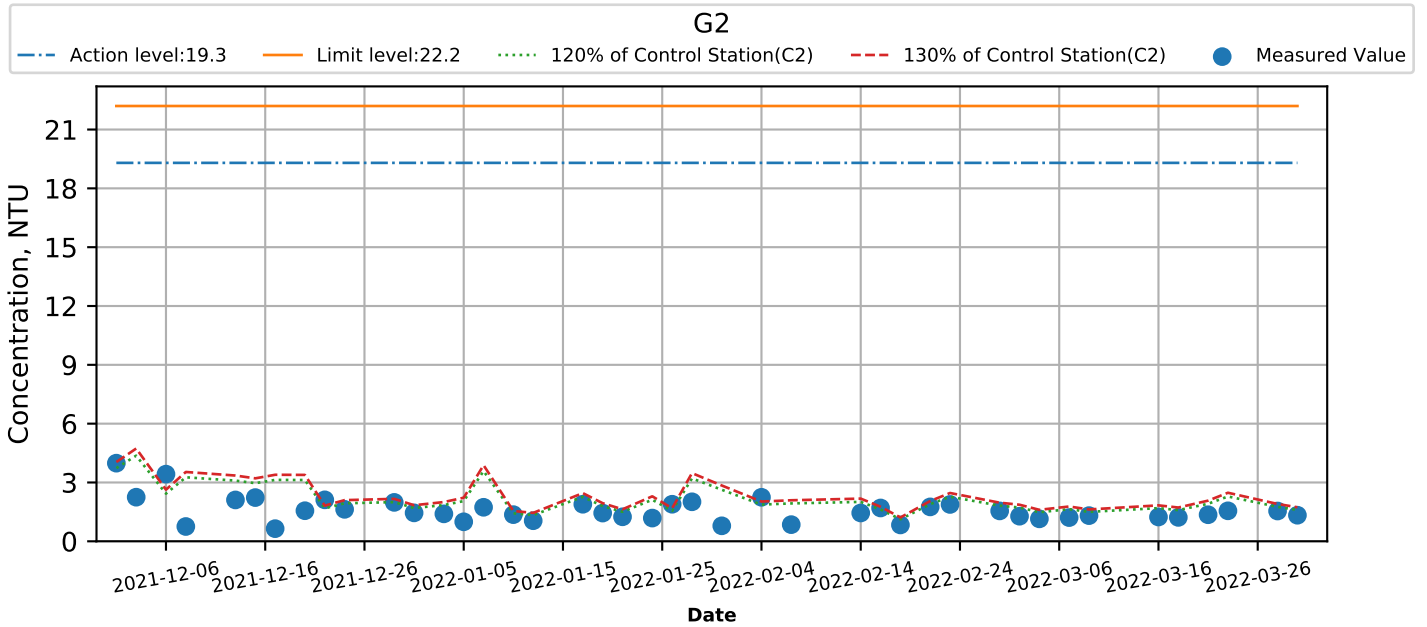
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



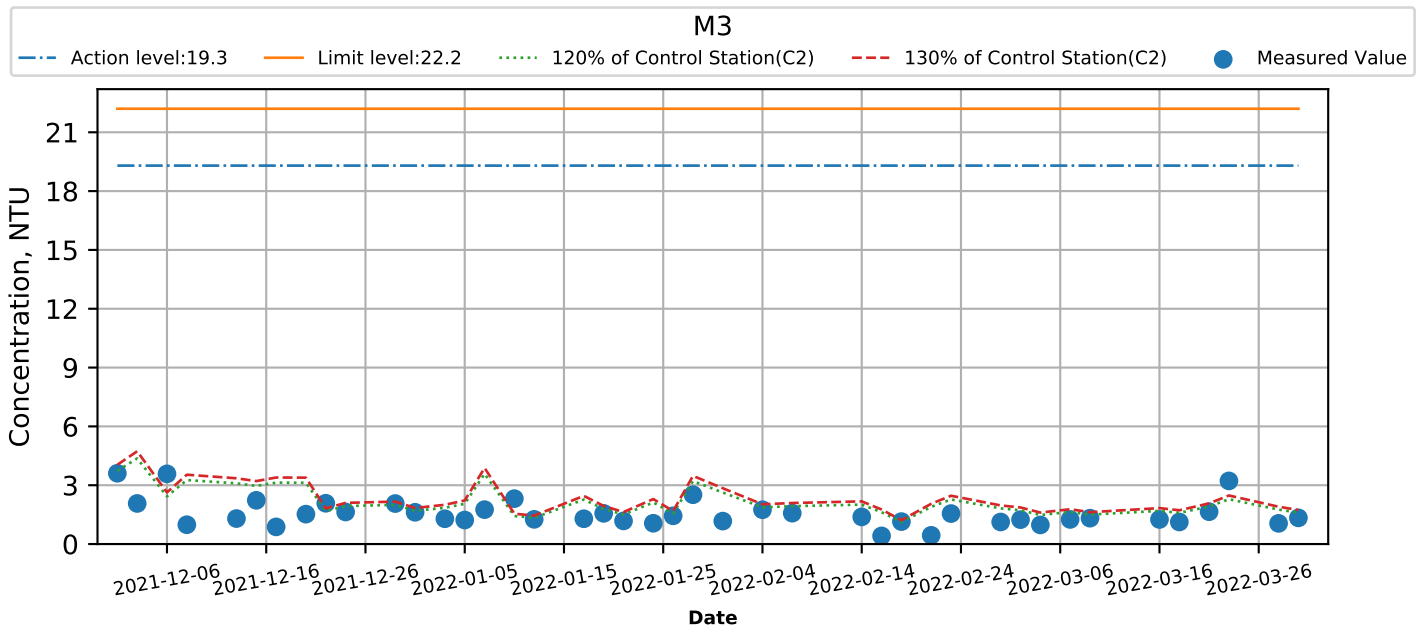
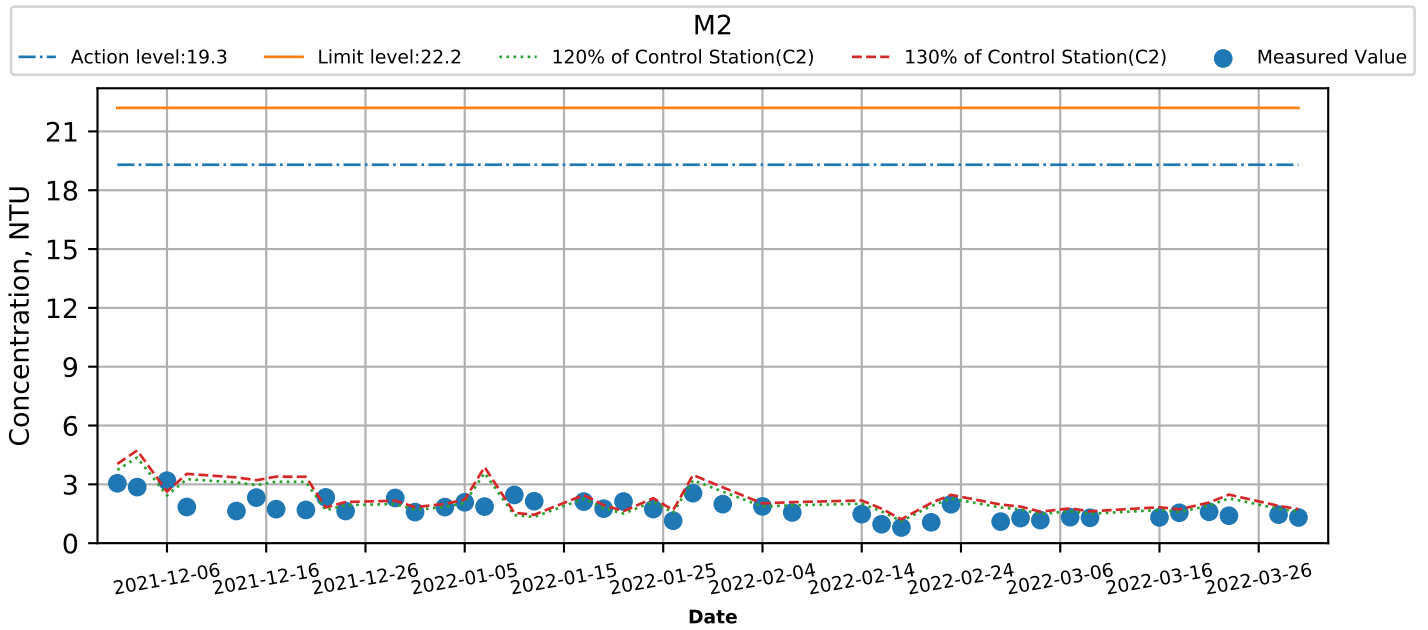
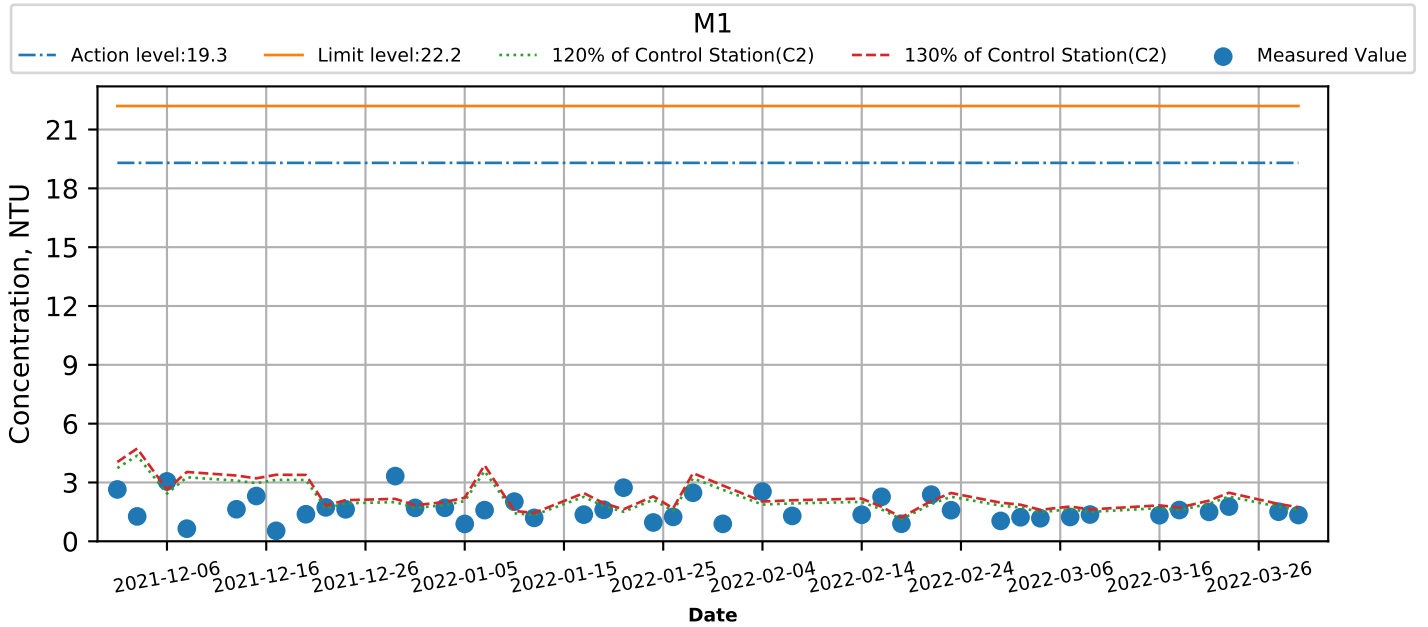
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



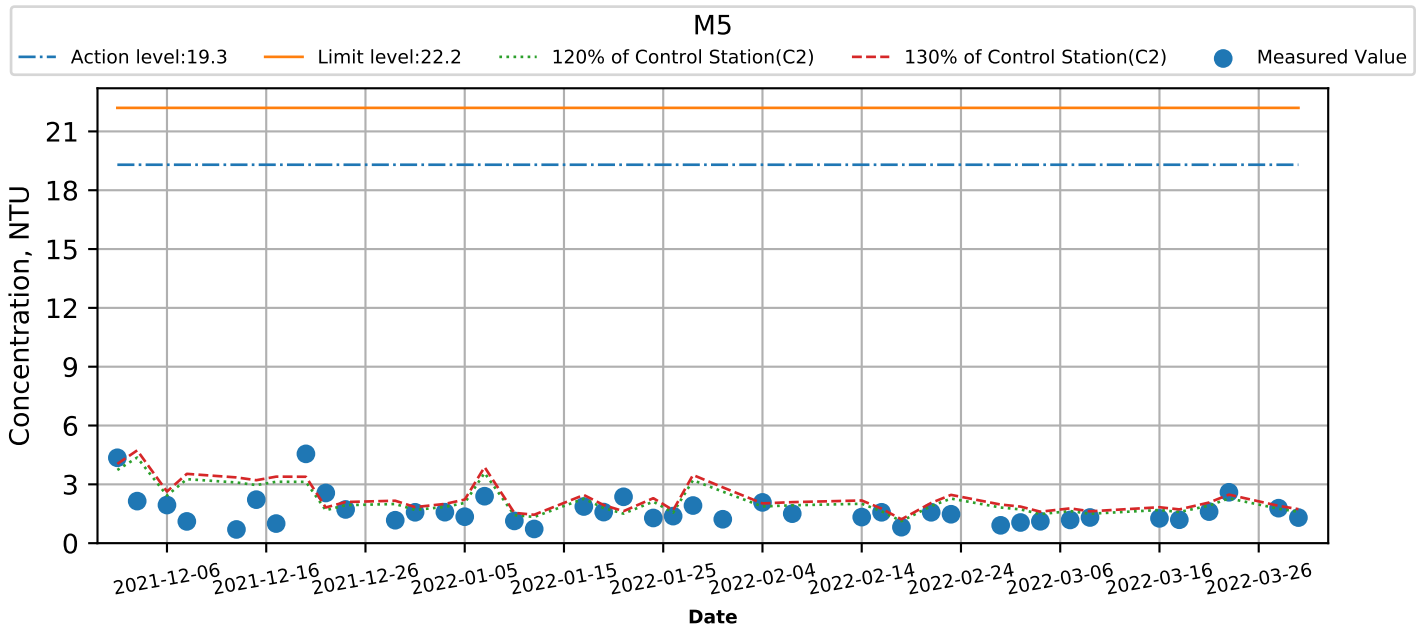
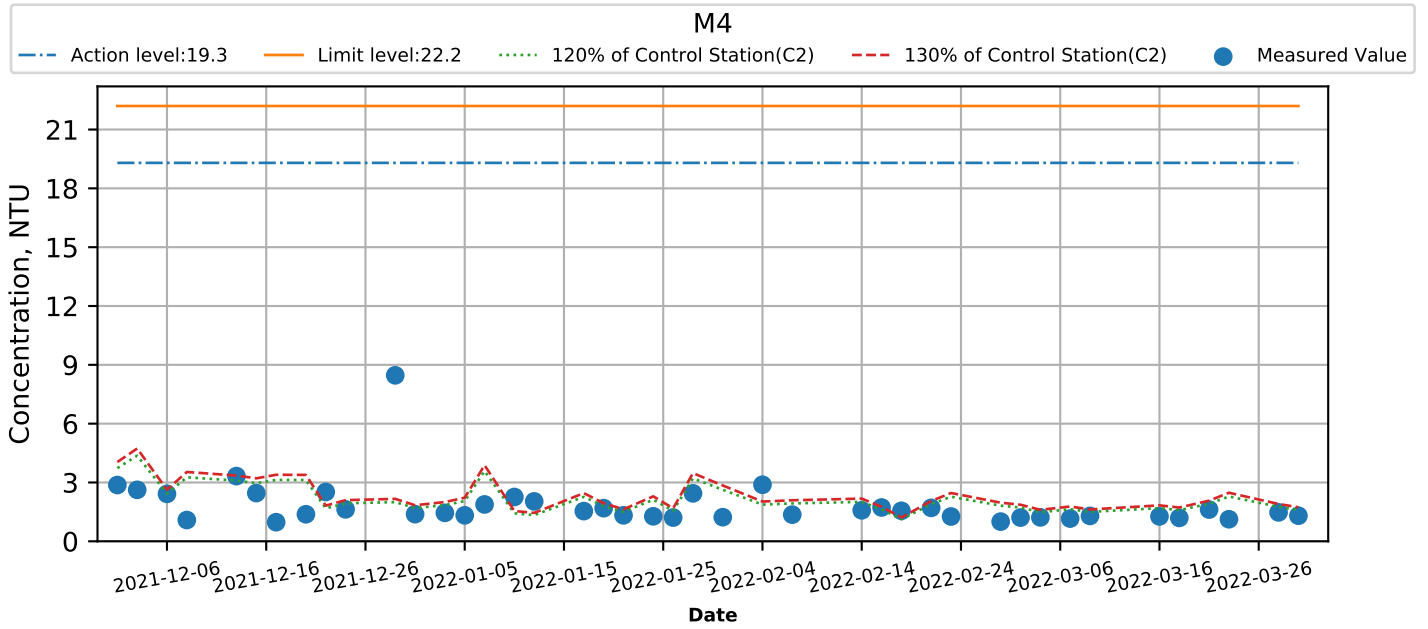
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

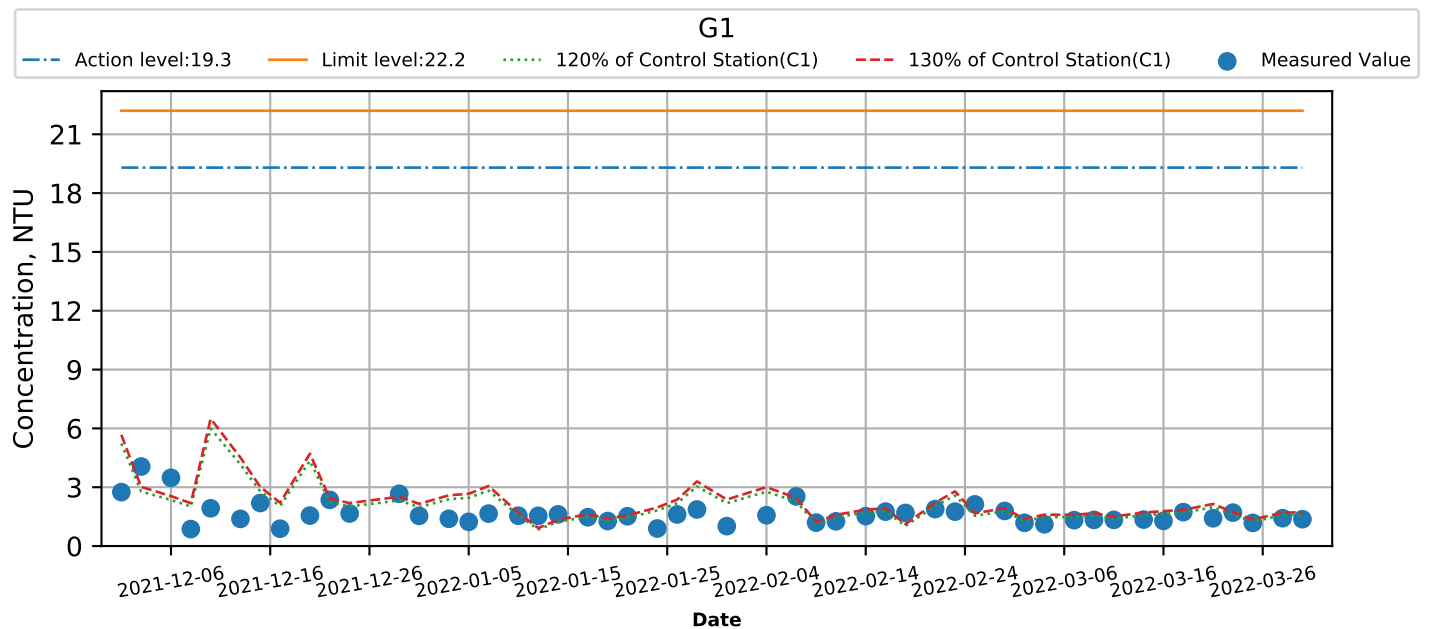
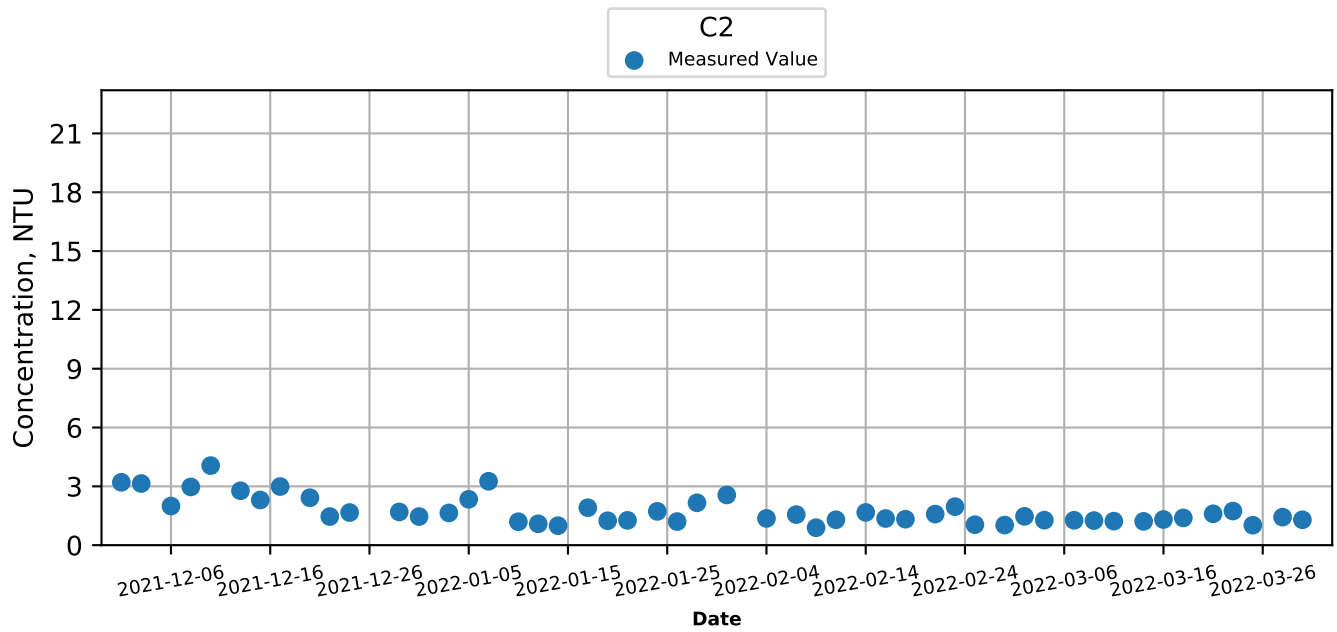
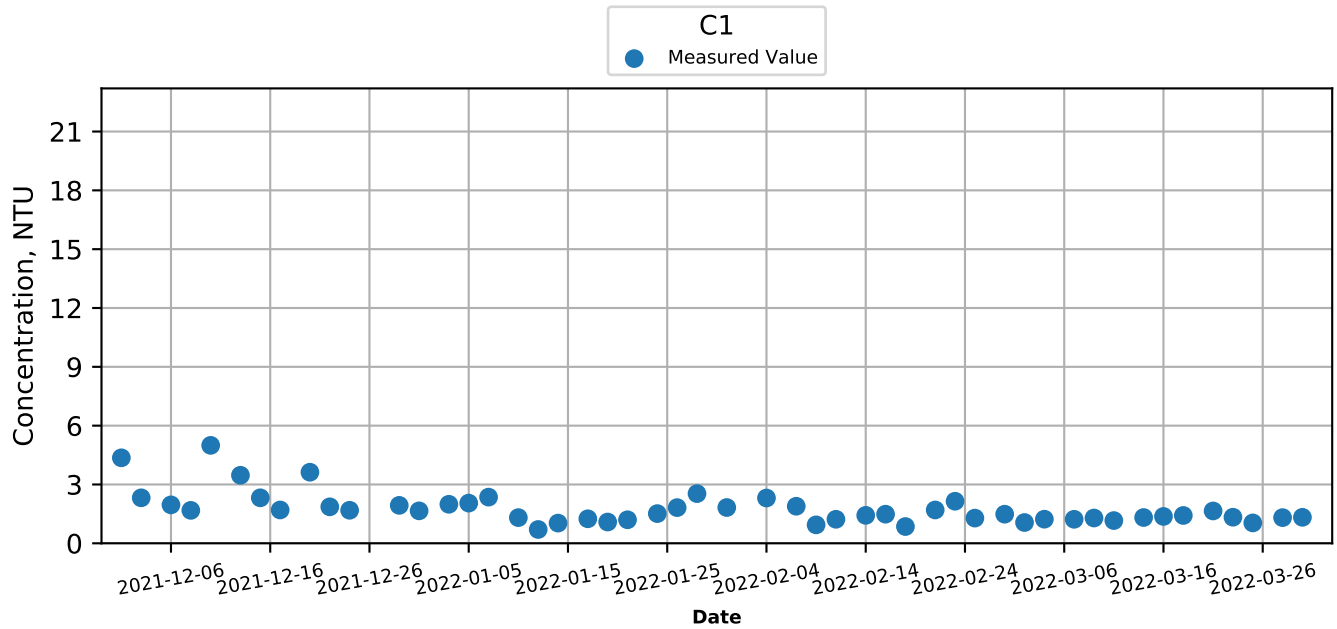
## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb





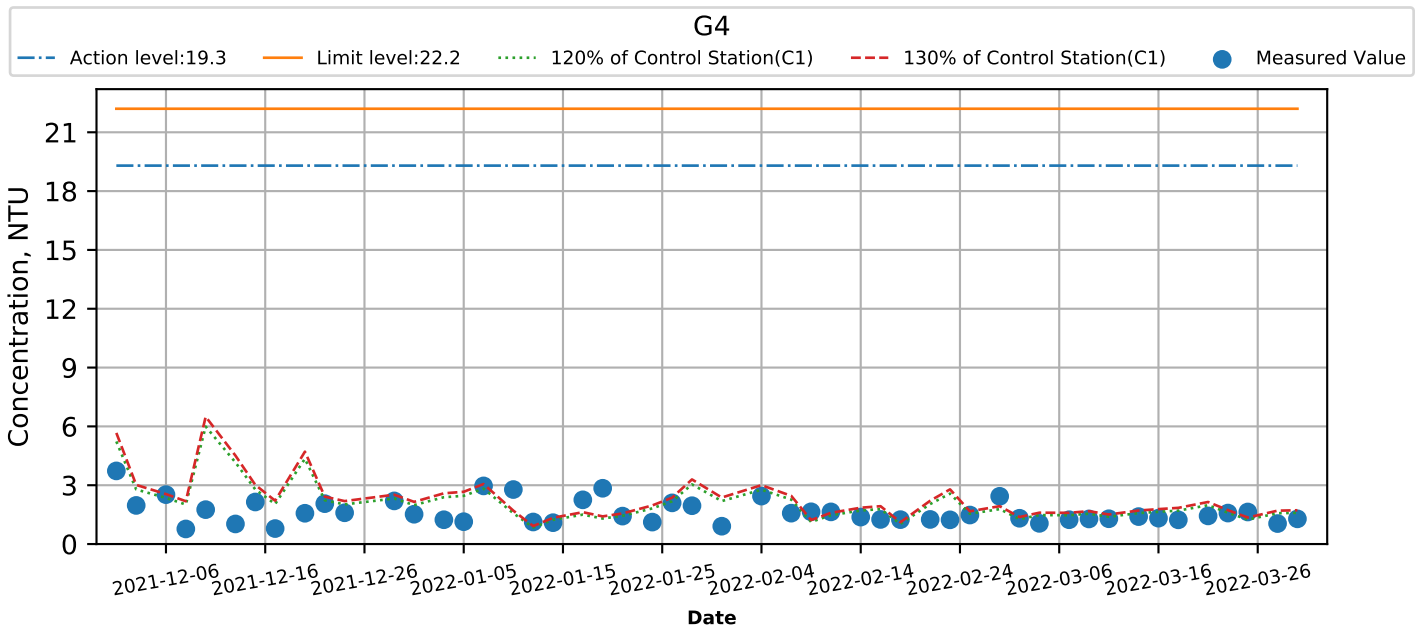
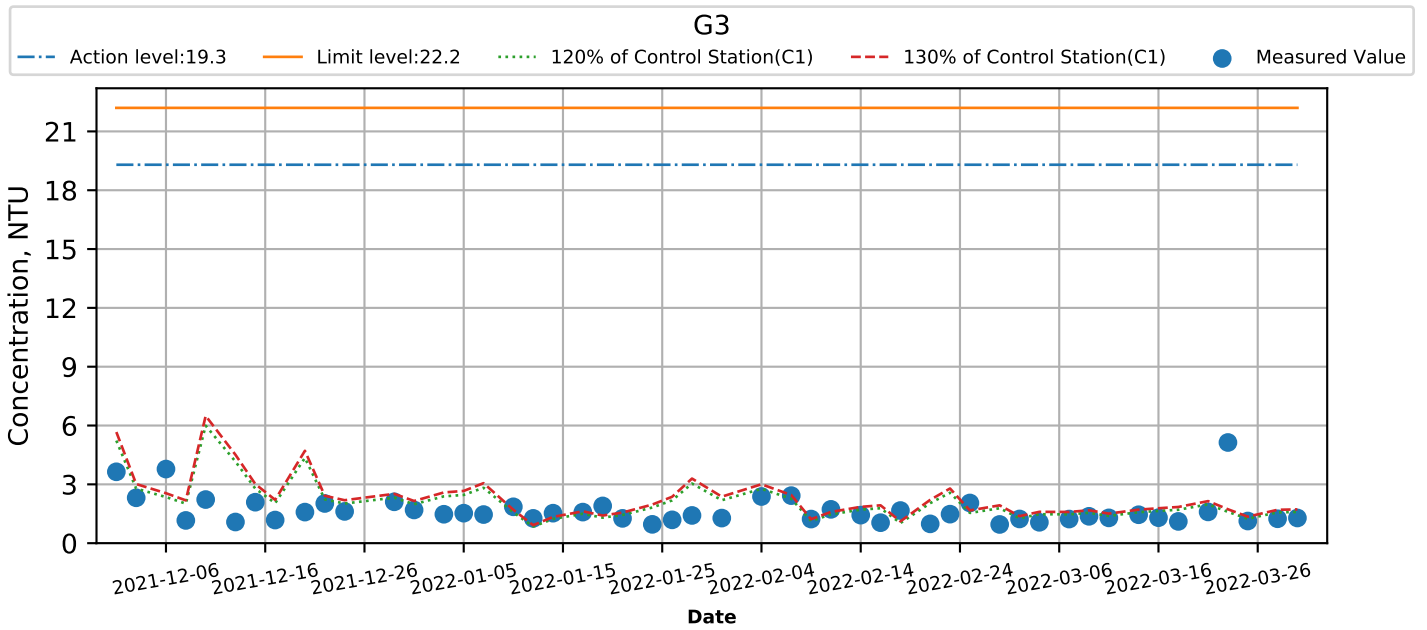
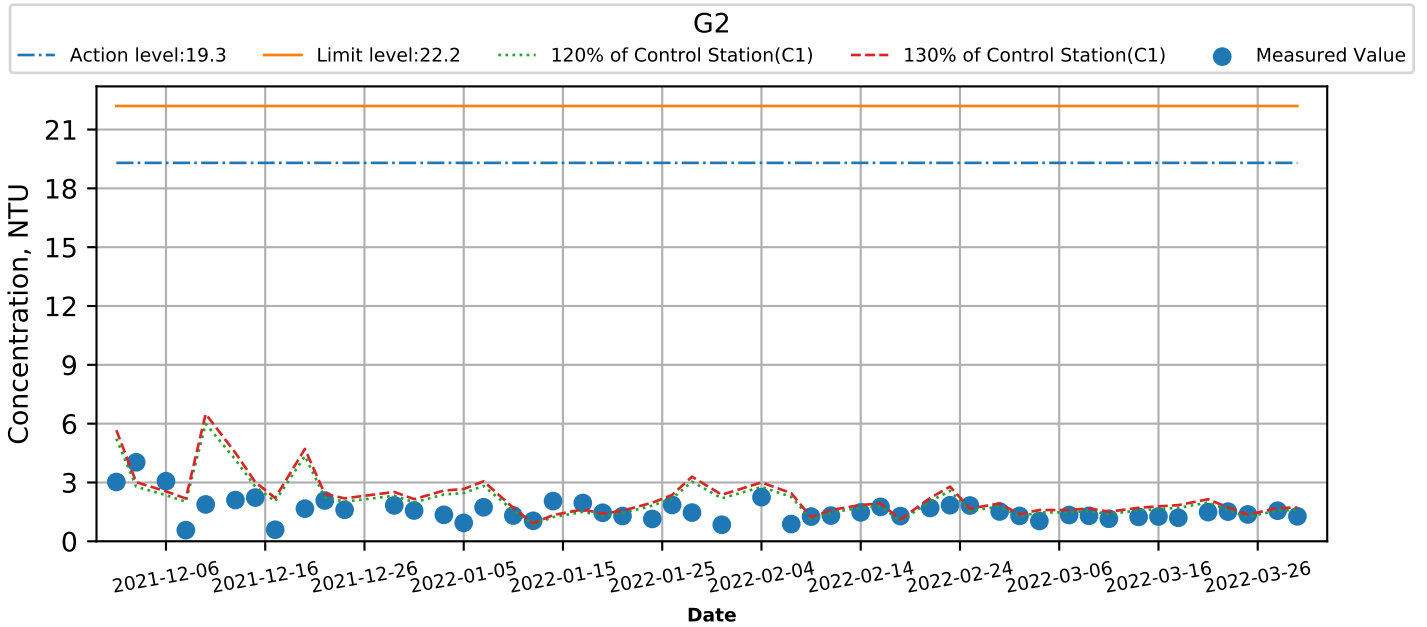
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



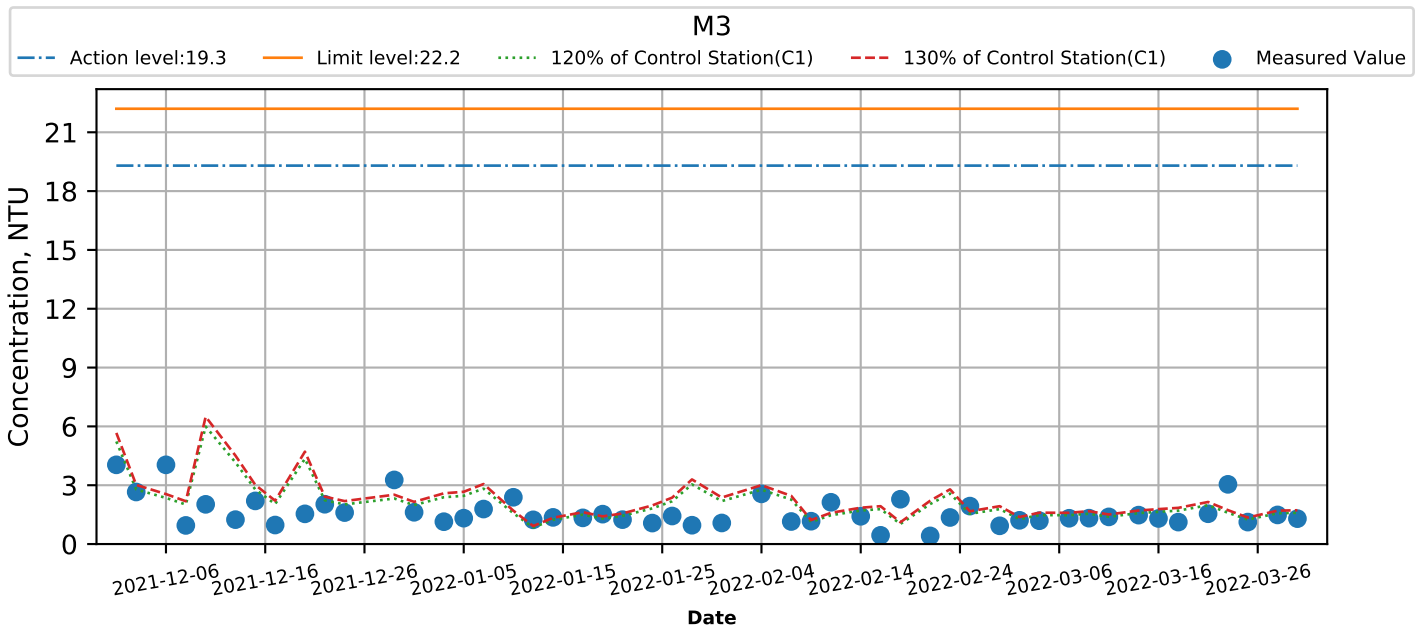
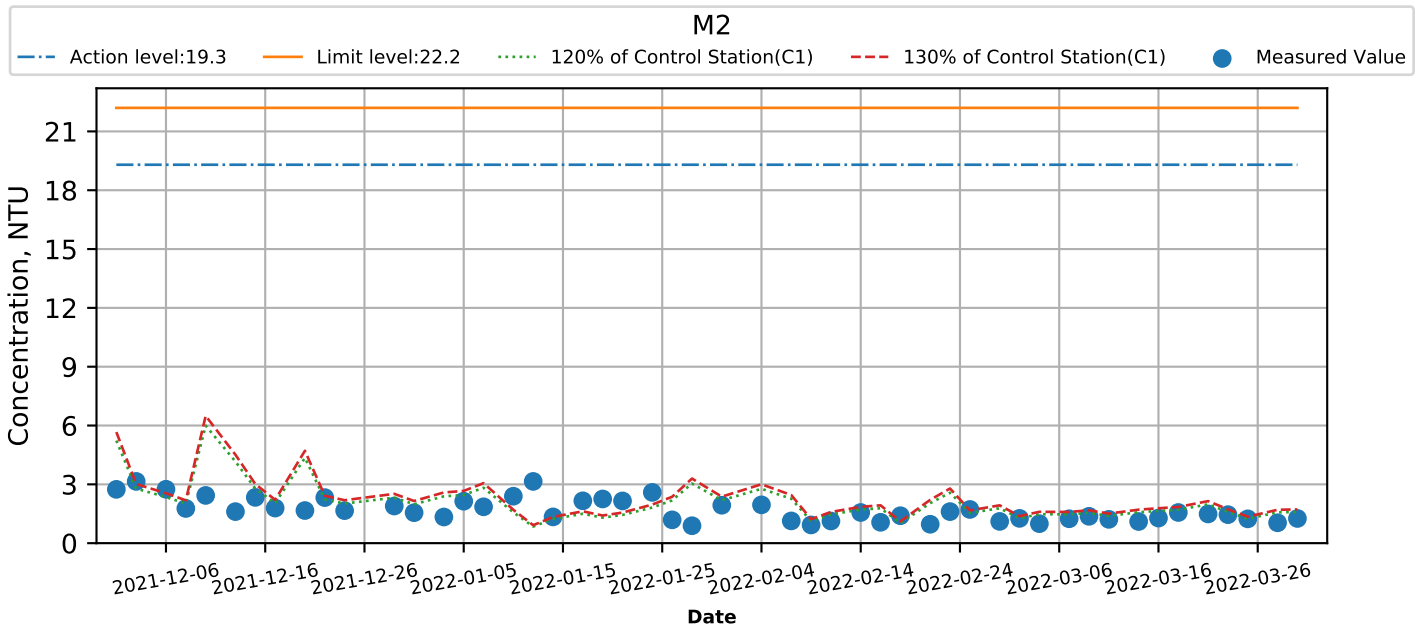
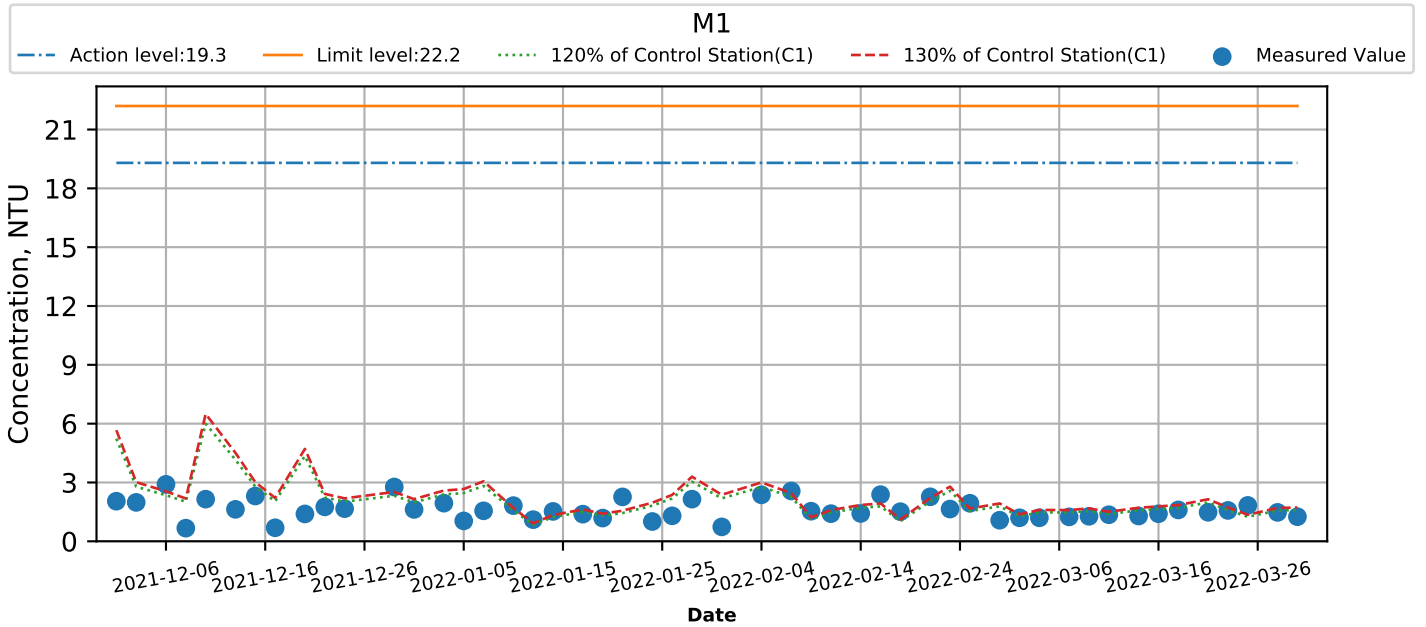
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



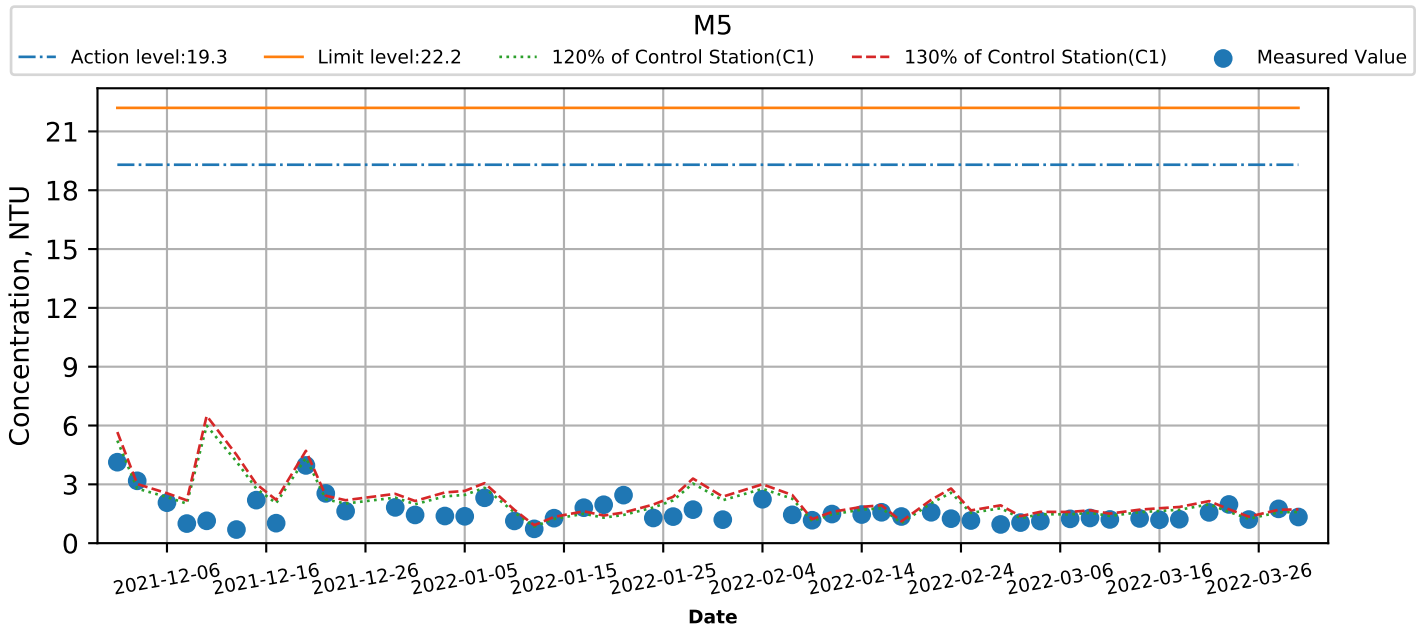
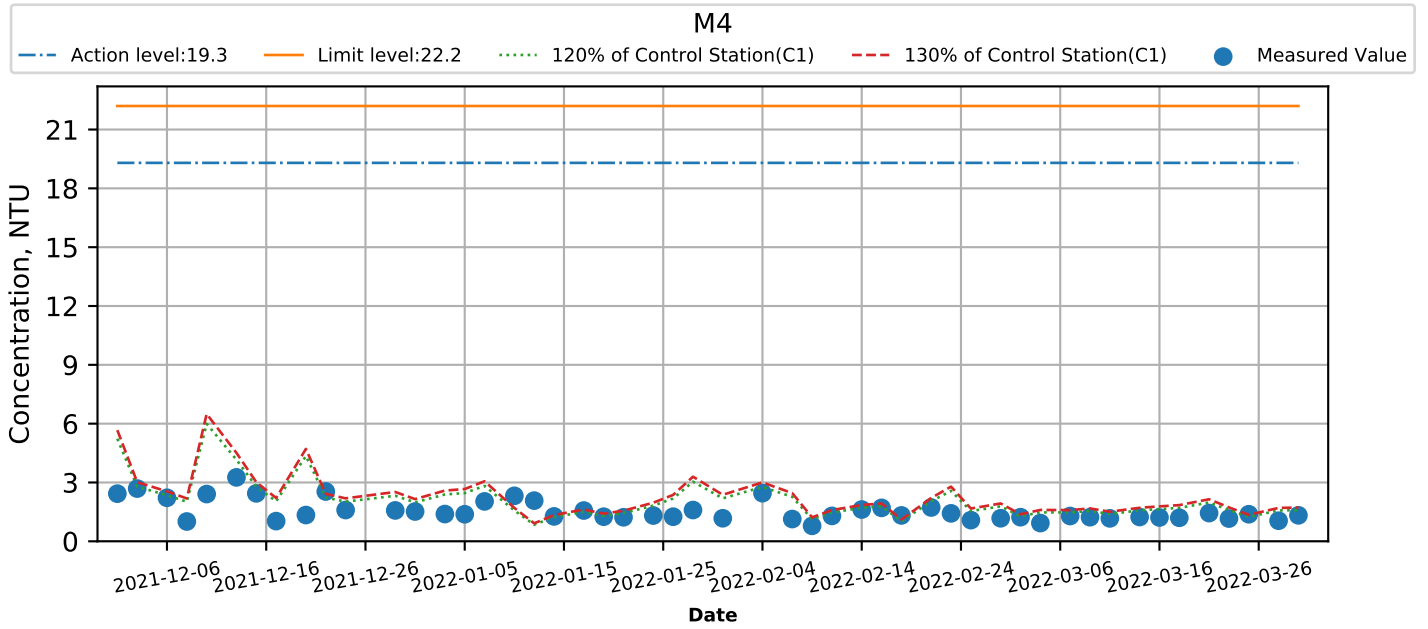
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



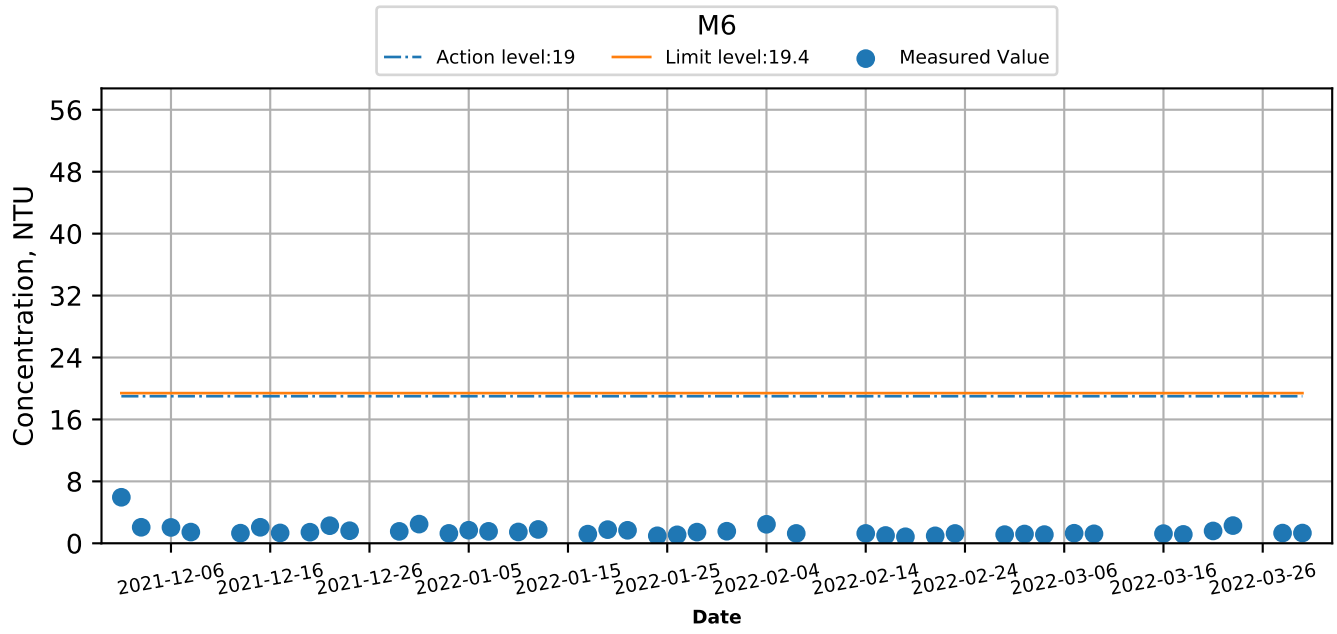
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



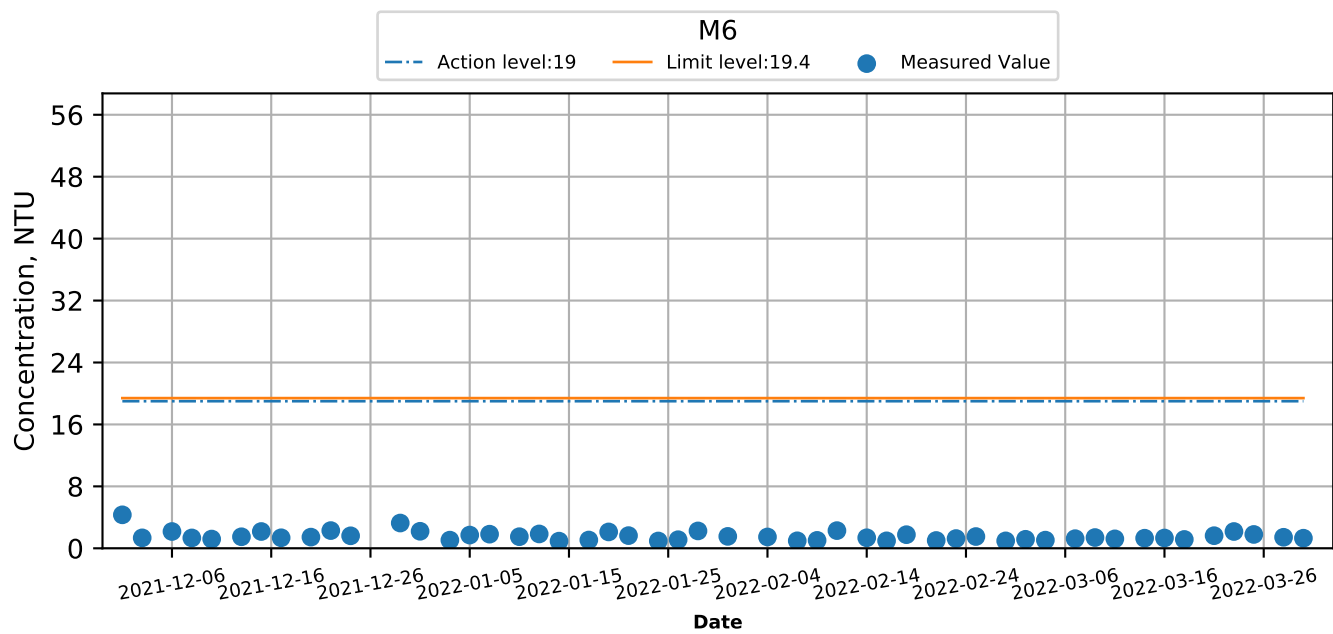
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Intake level) at Monitoring Stations during Mid-Ebb



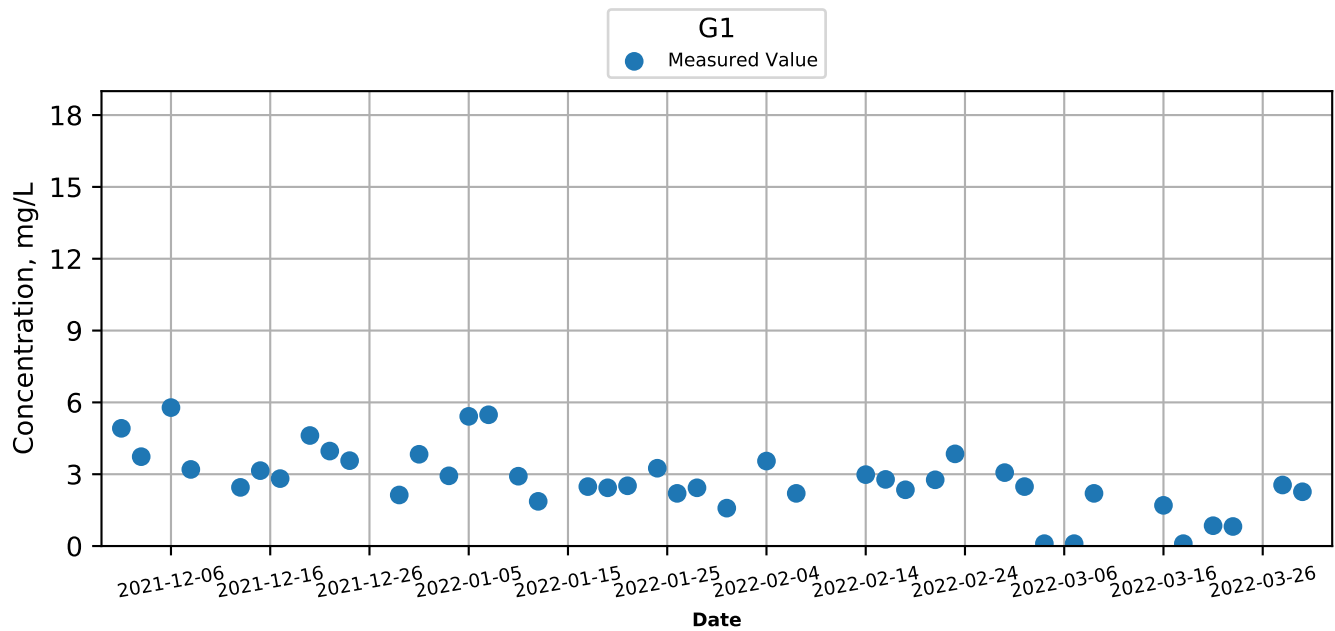
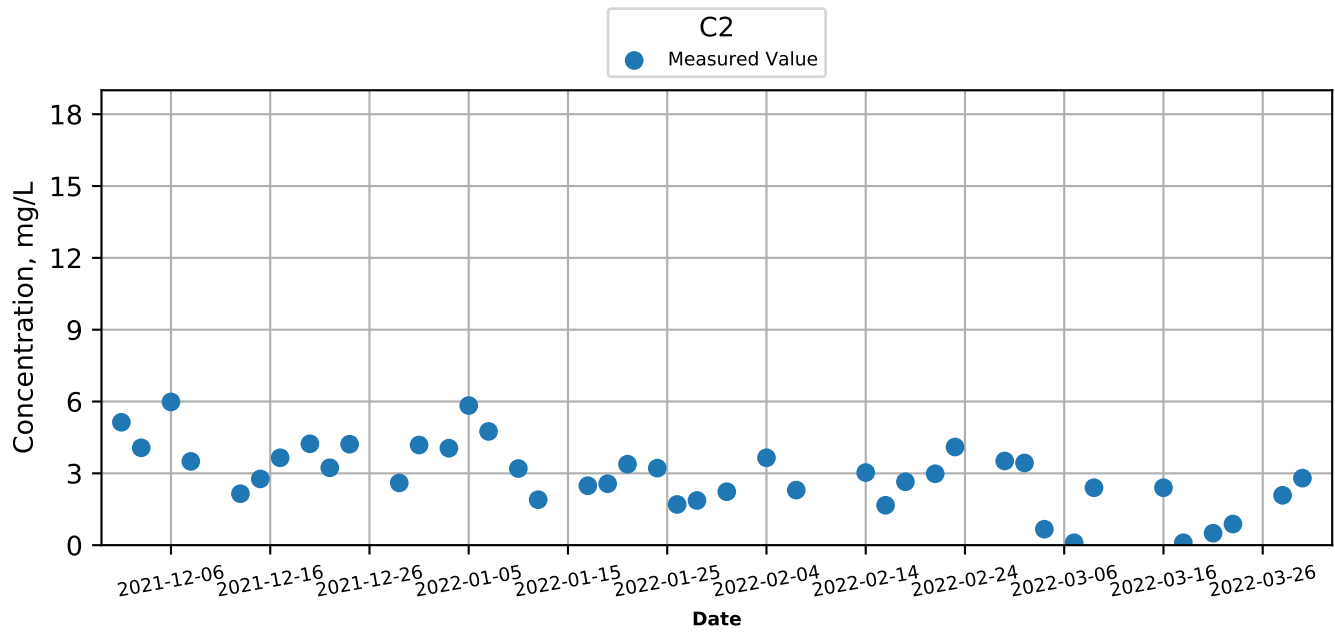
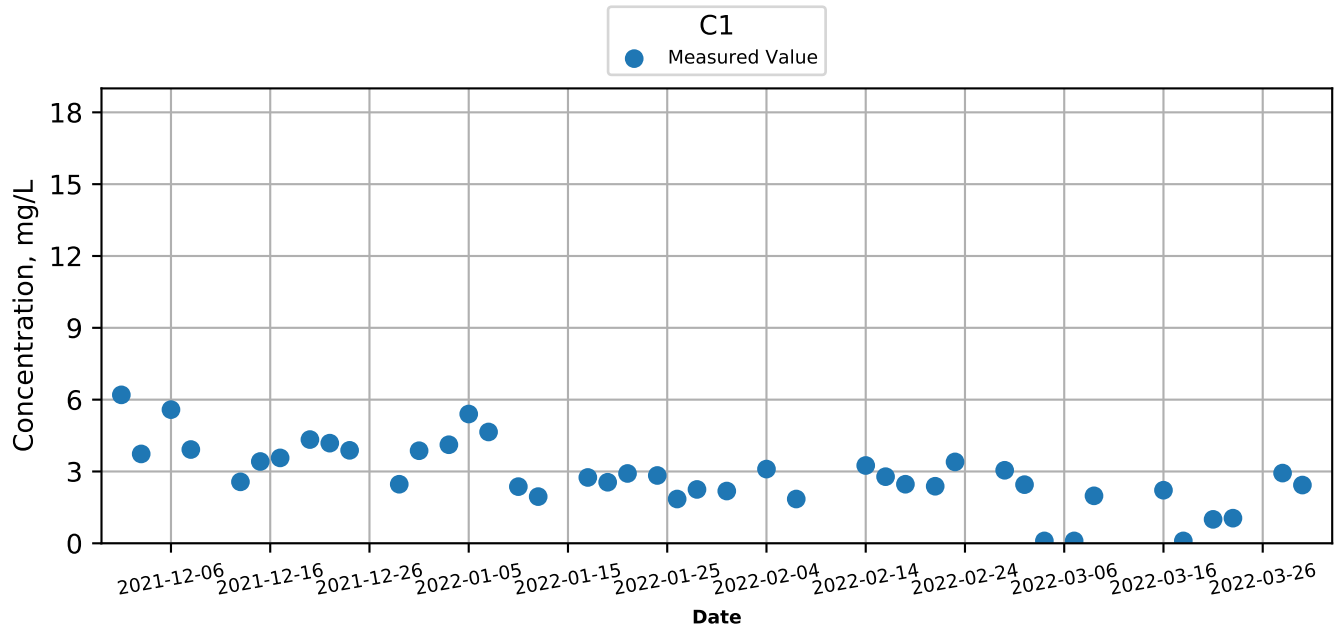
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Turbidity (Intake level) at Monitoring Stations during Mid-Flood



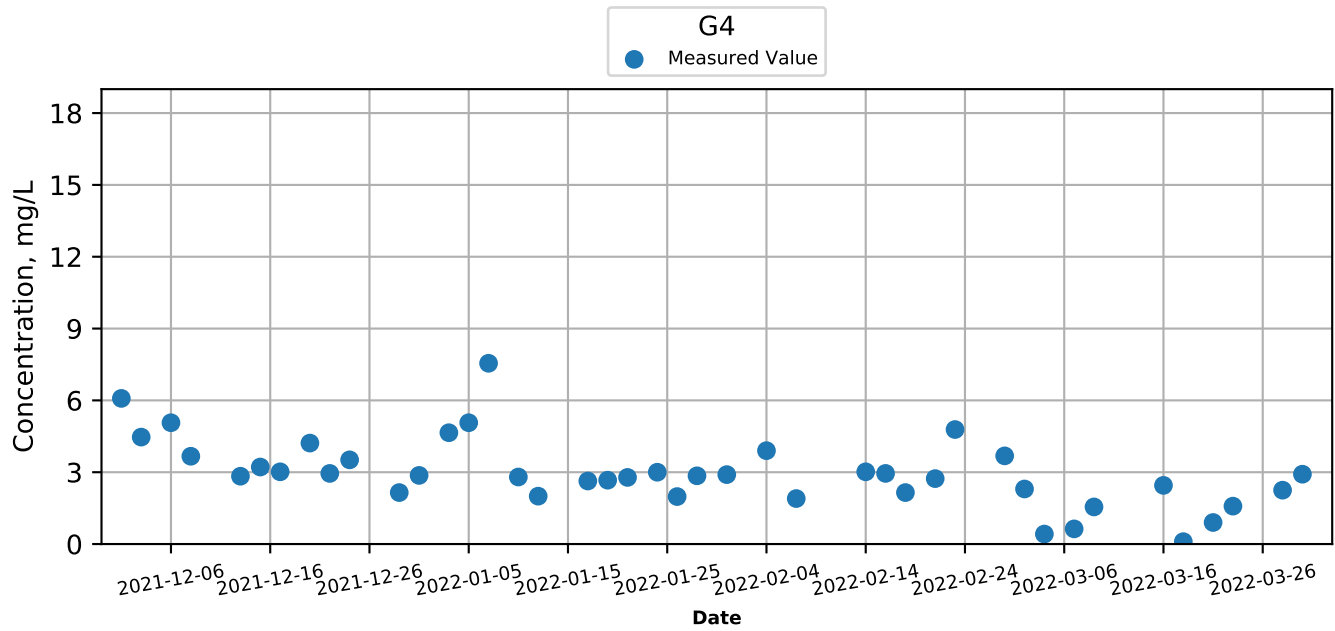
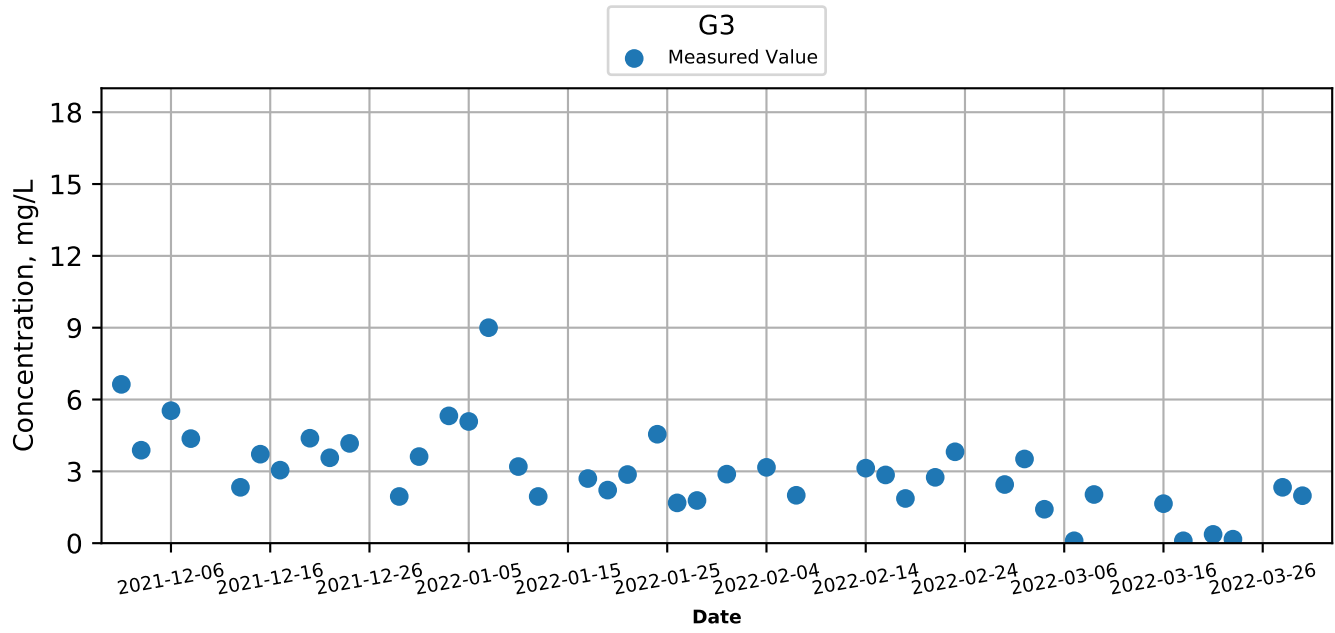
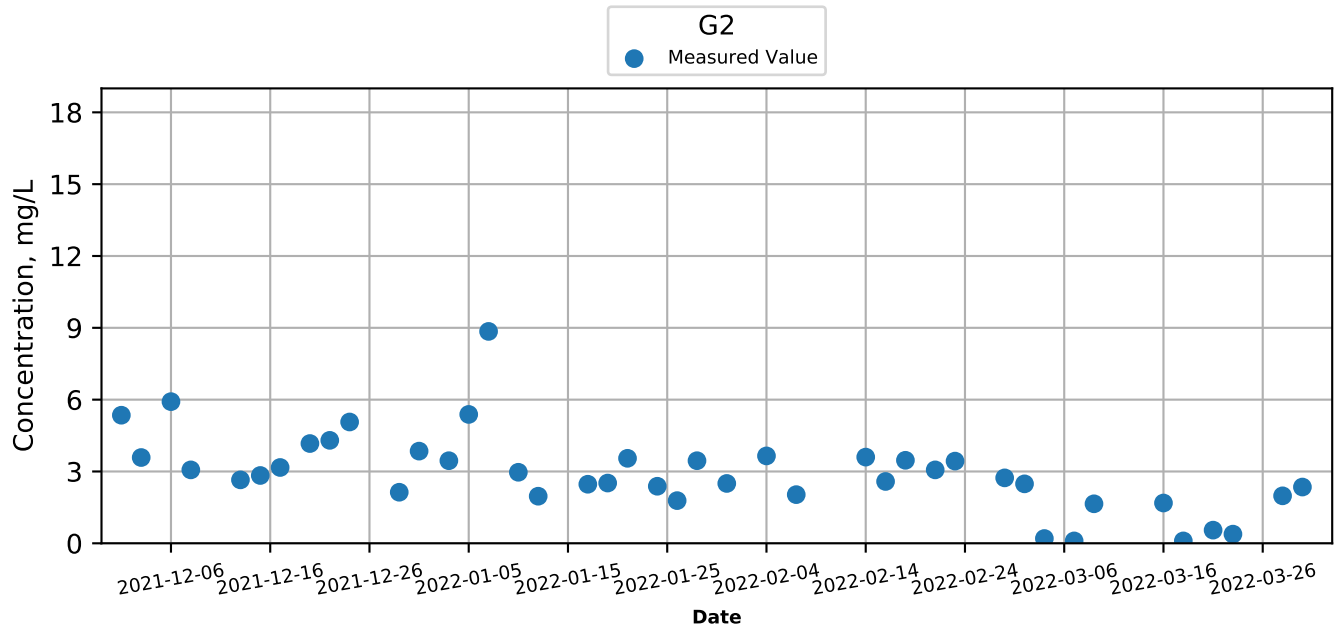
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

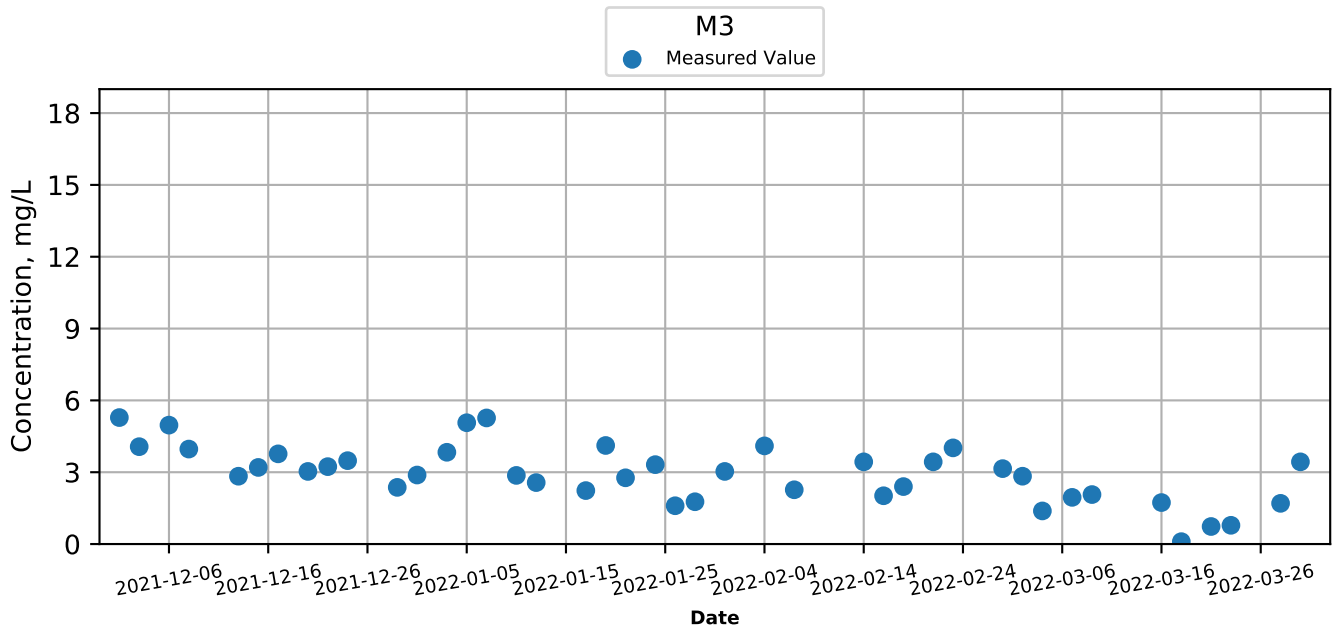
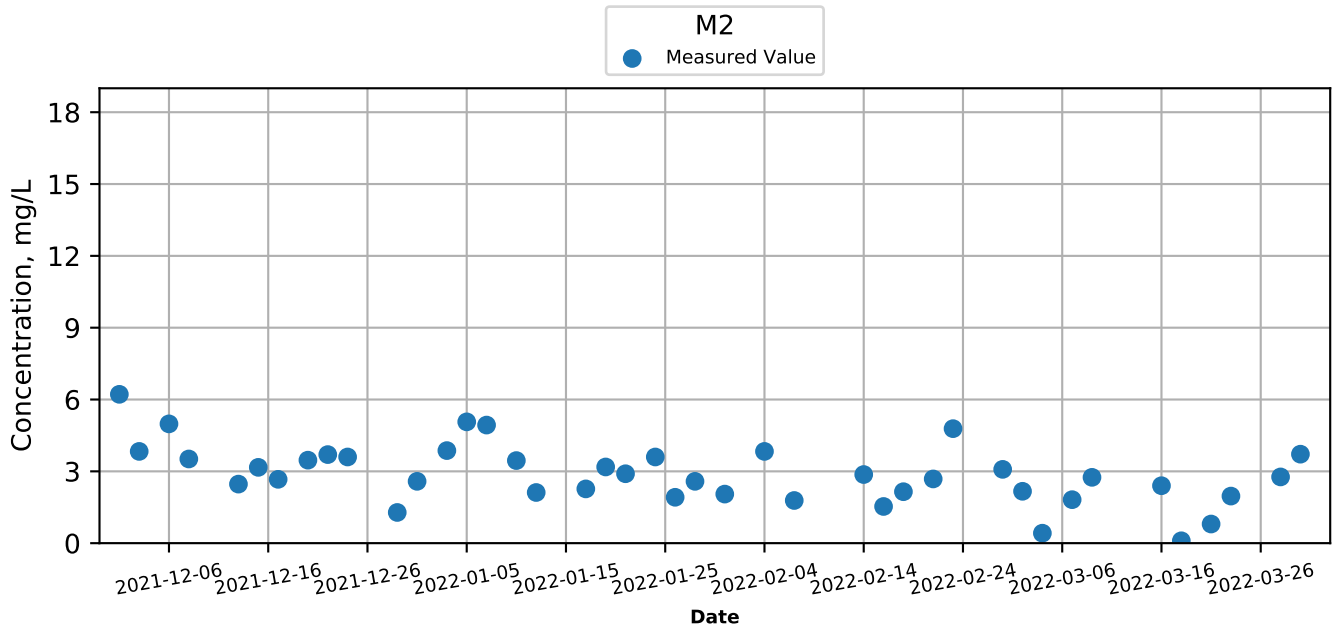
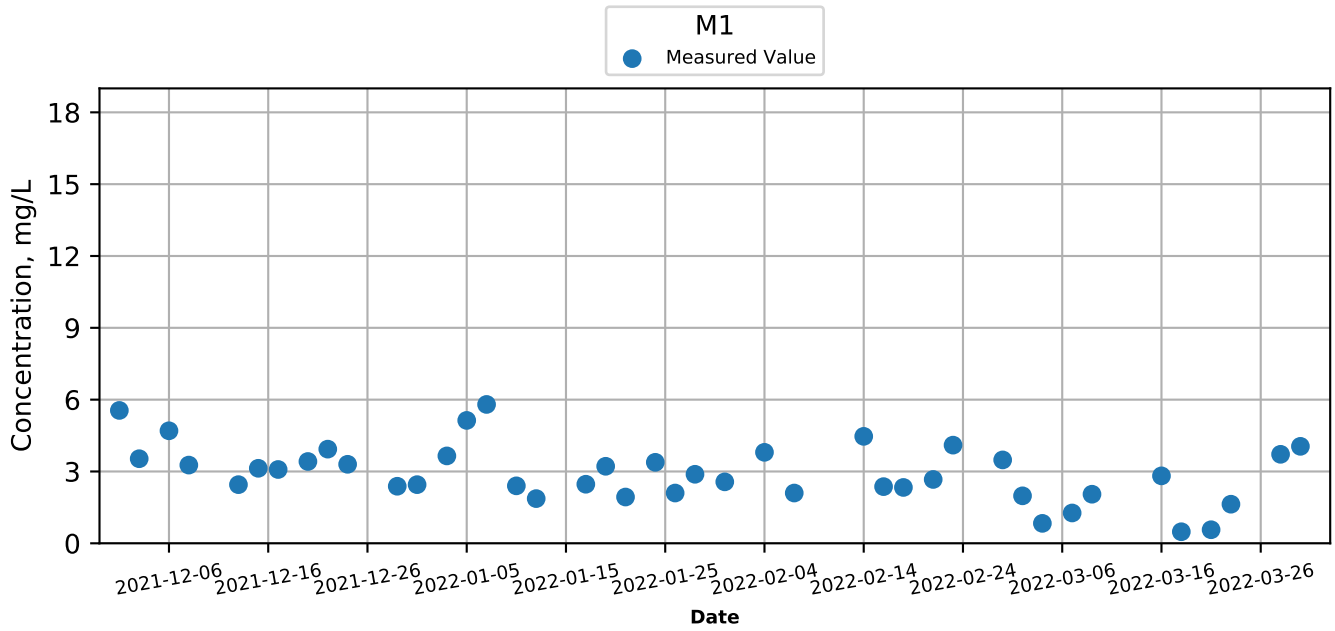
## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb





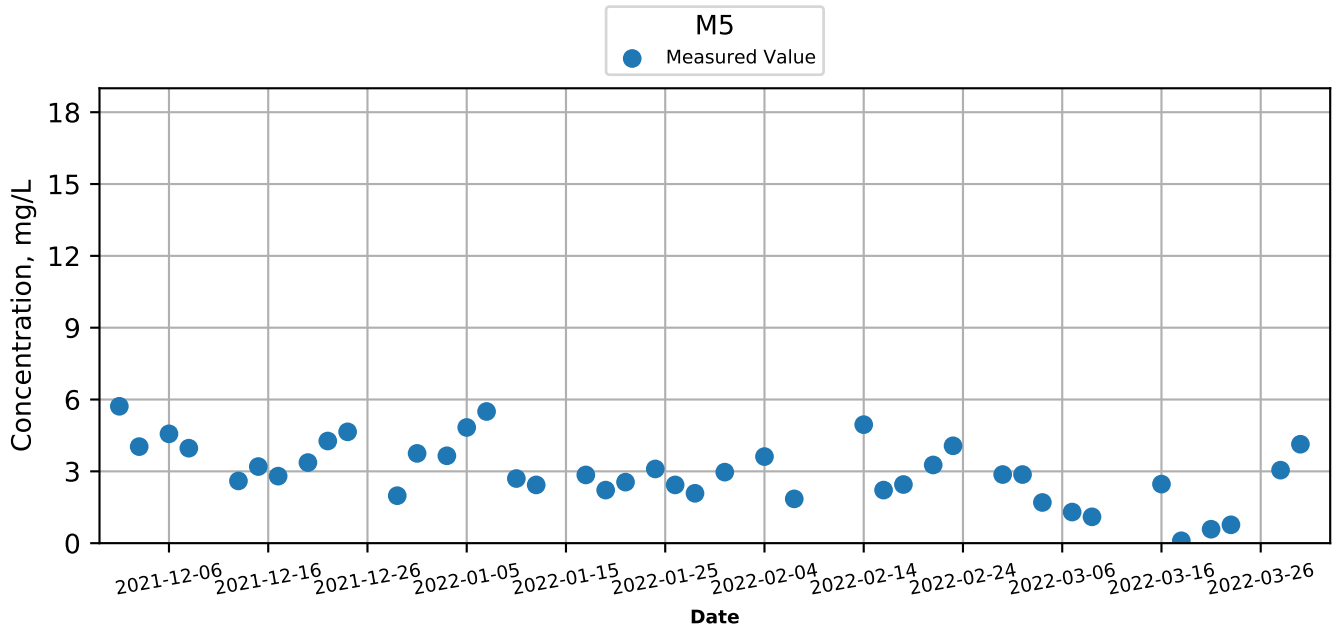
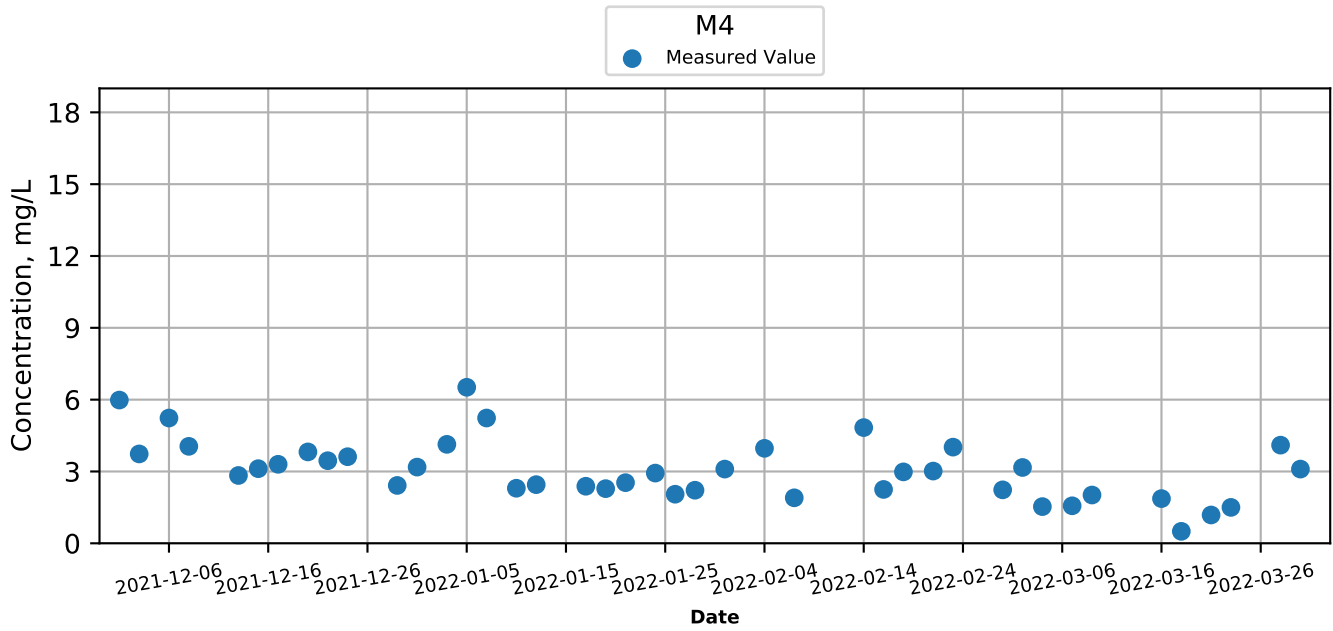
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



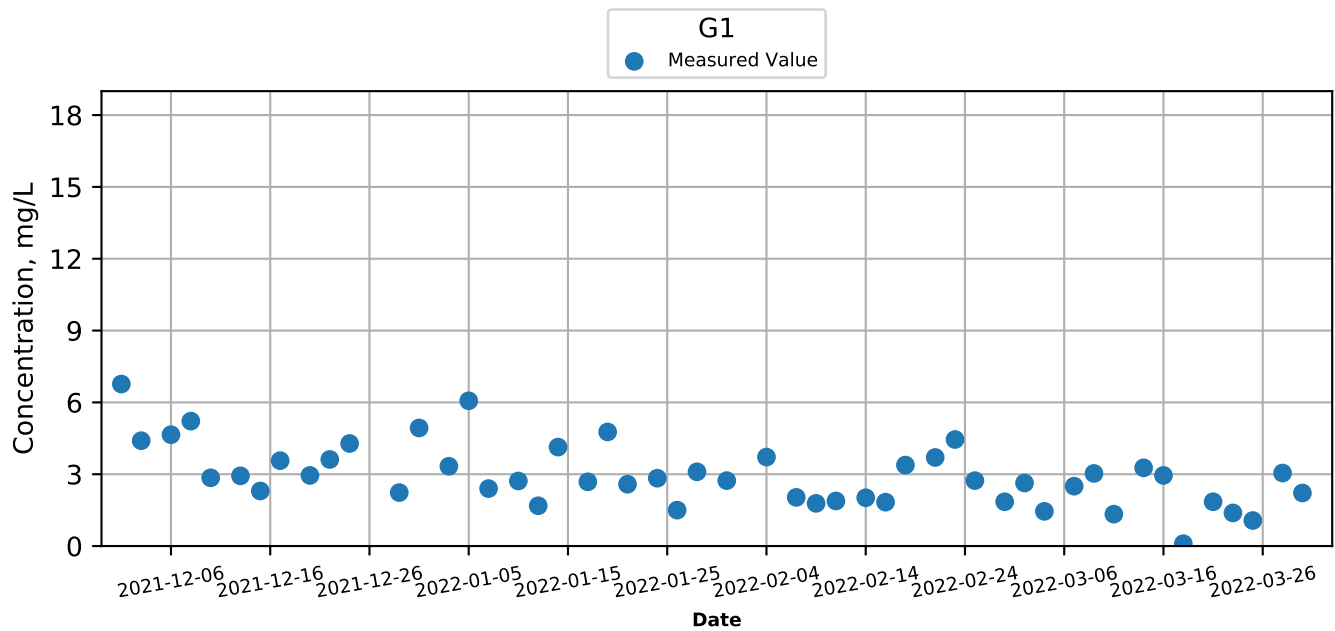
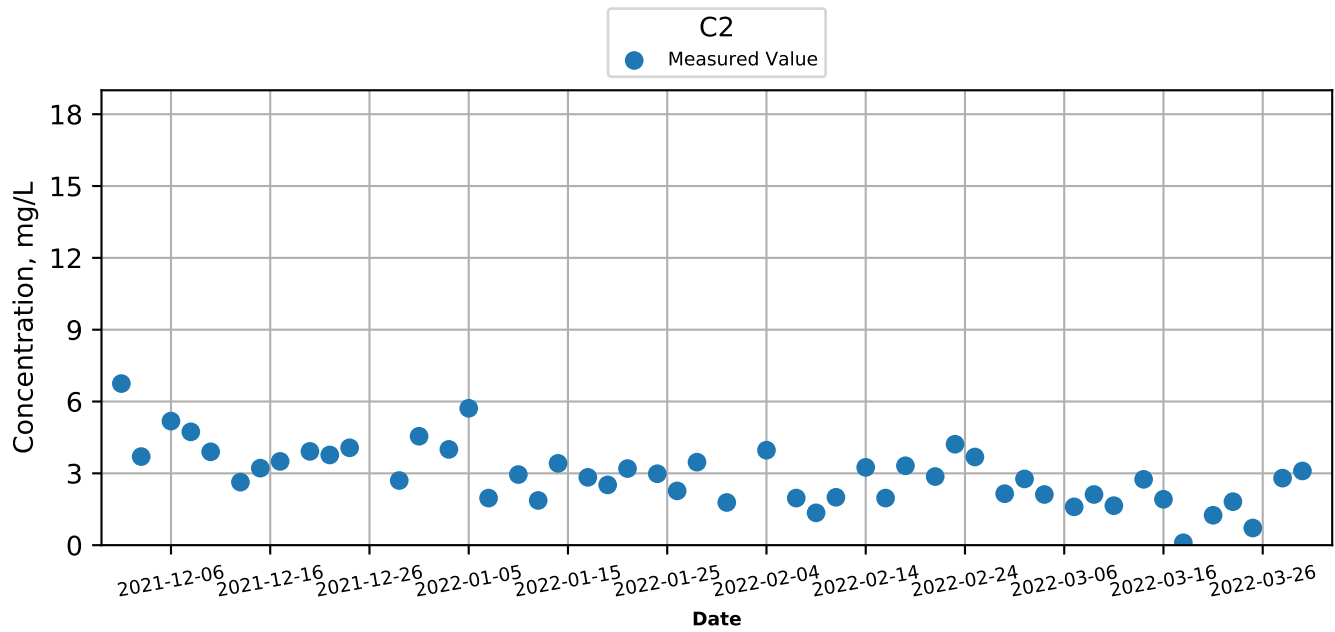
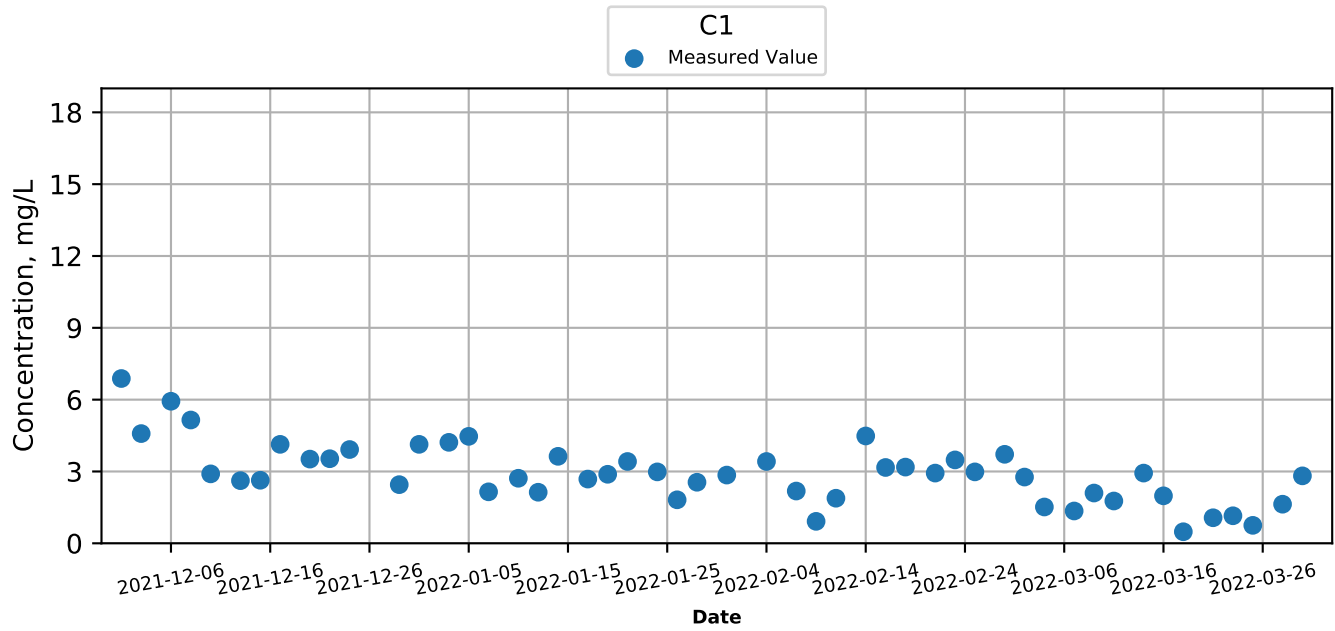
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## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



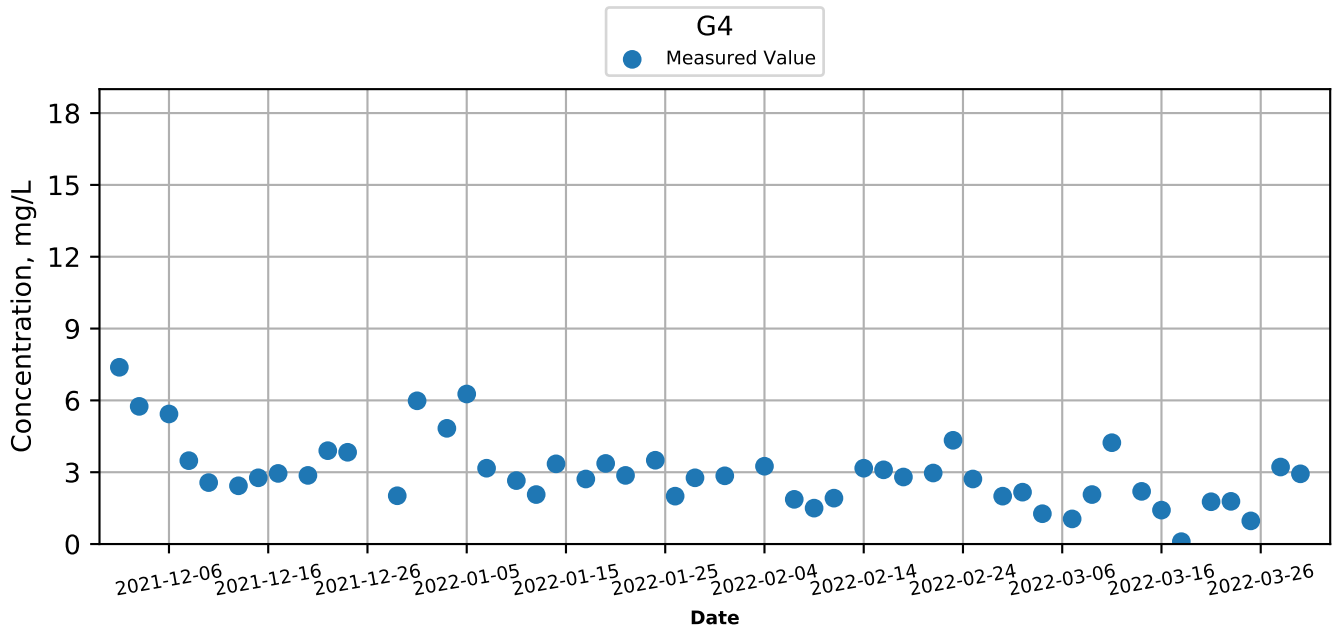
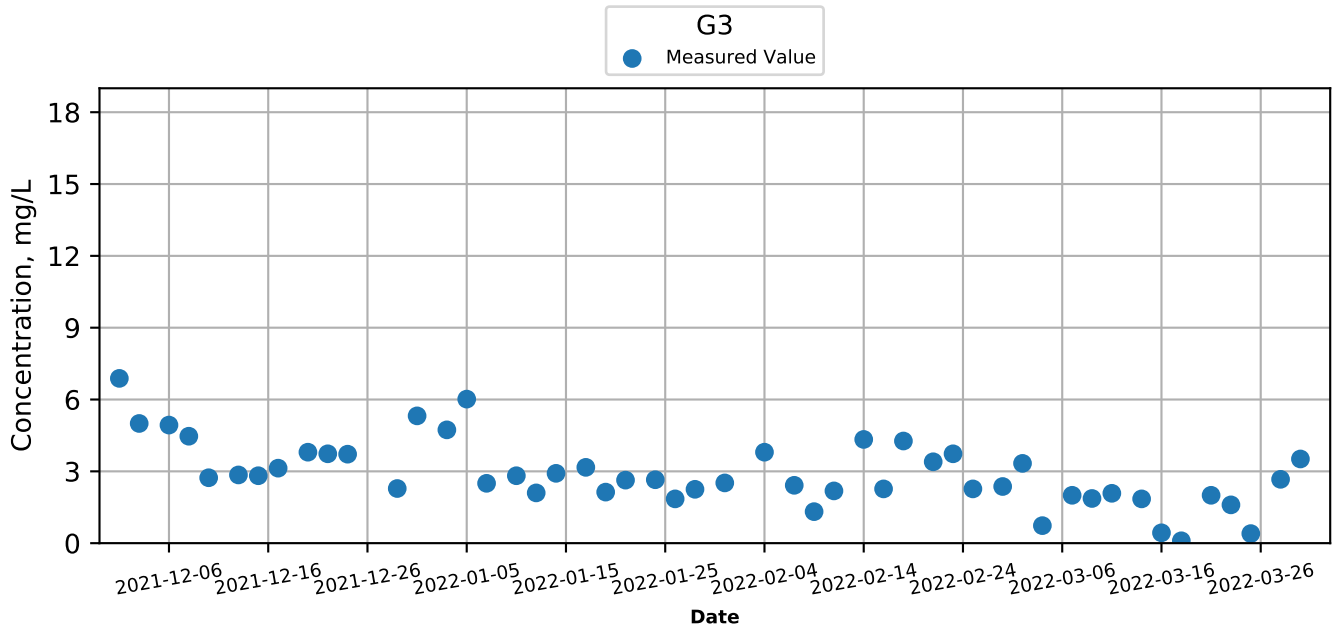
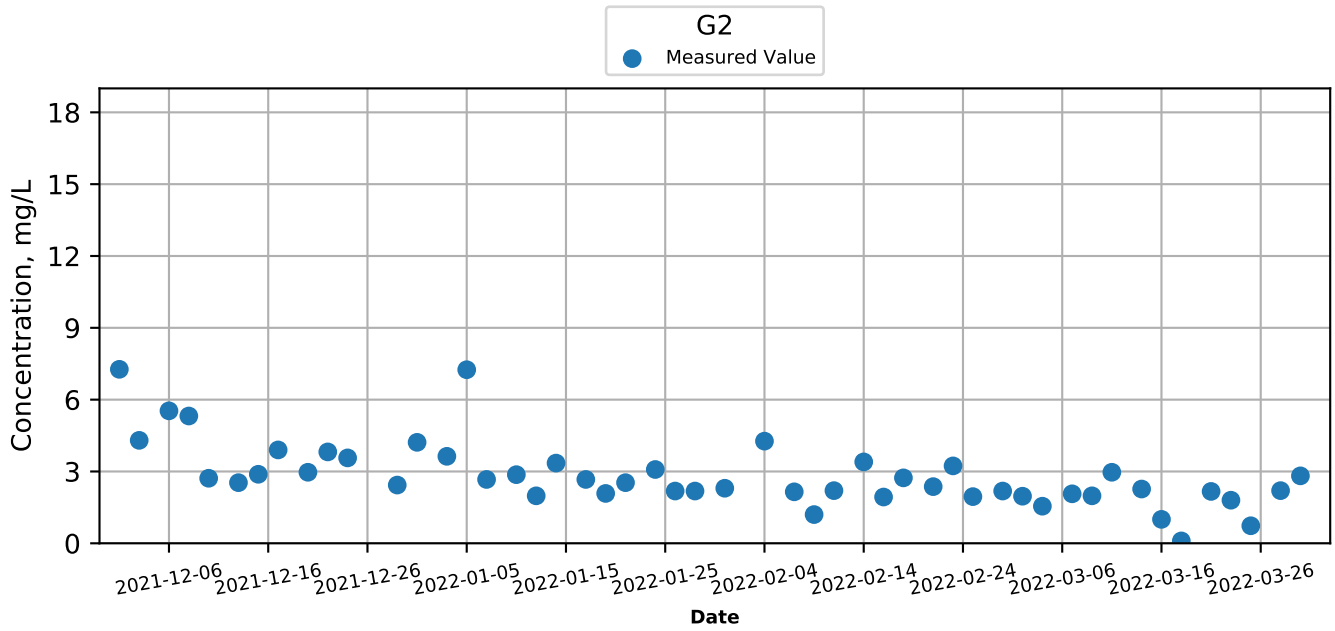
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



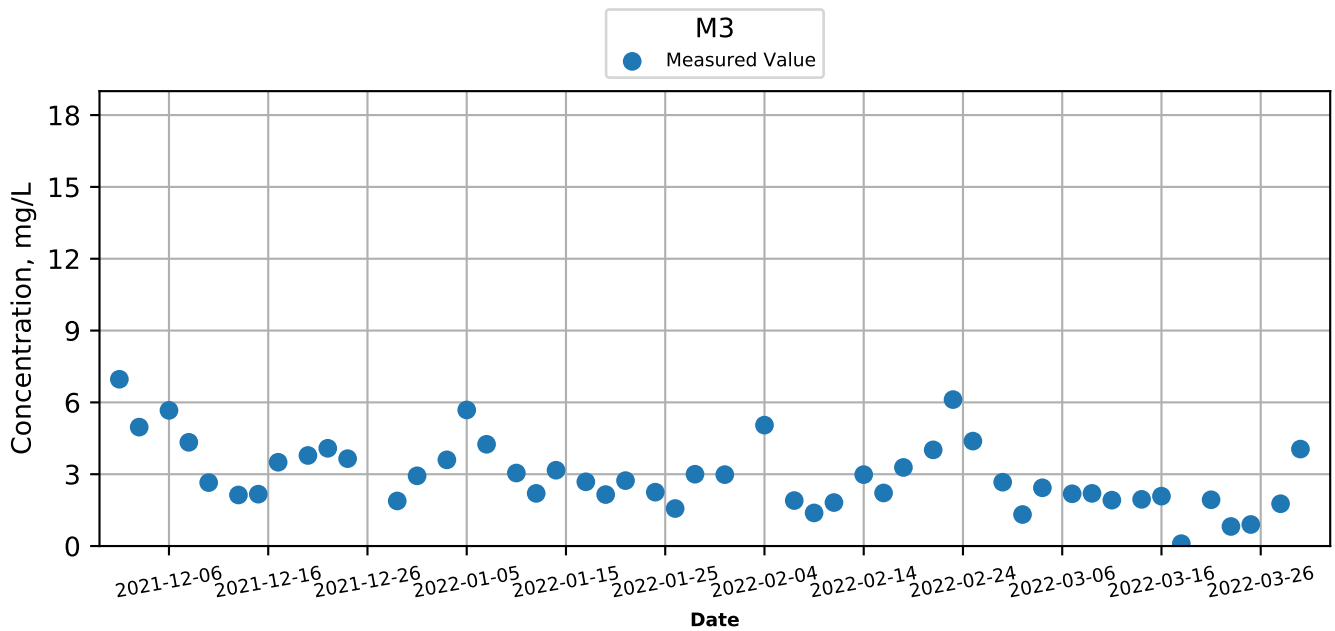
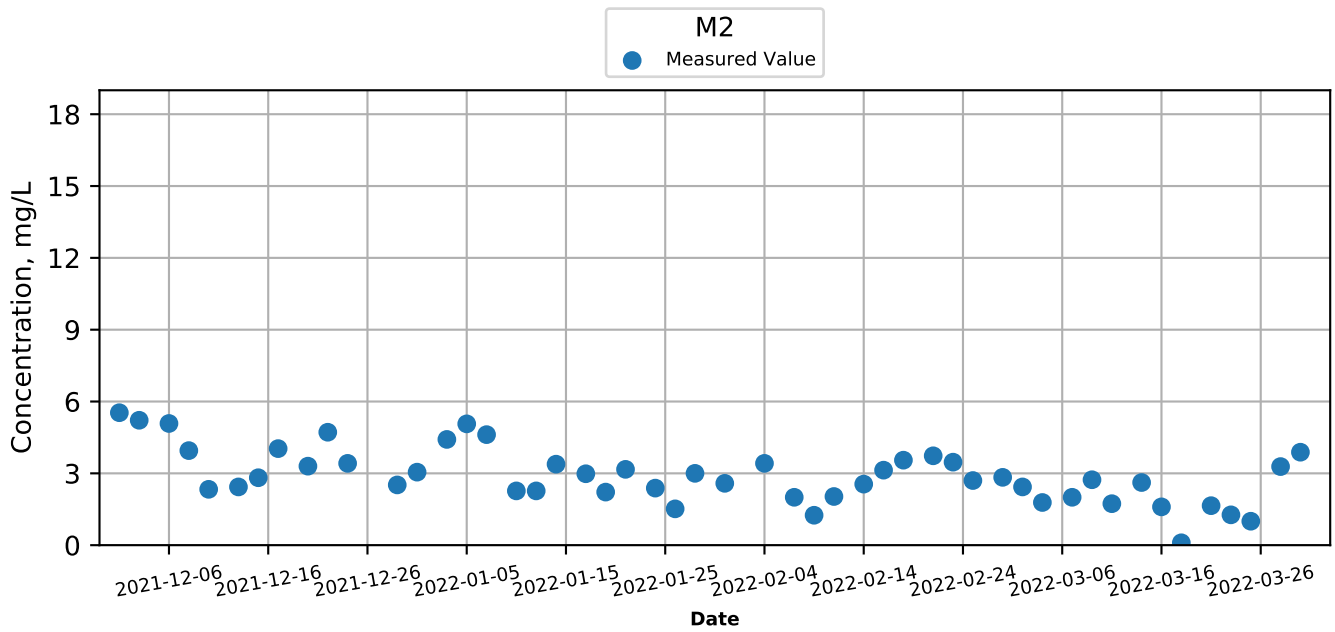
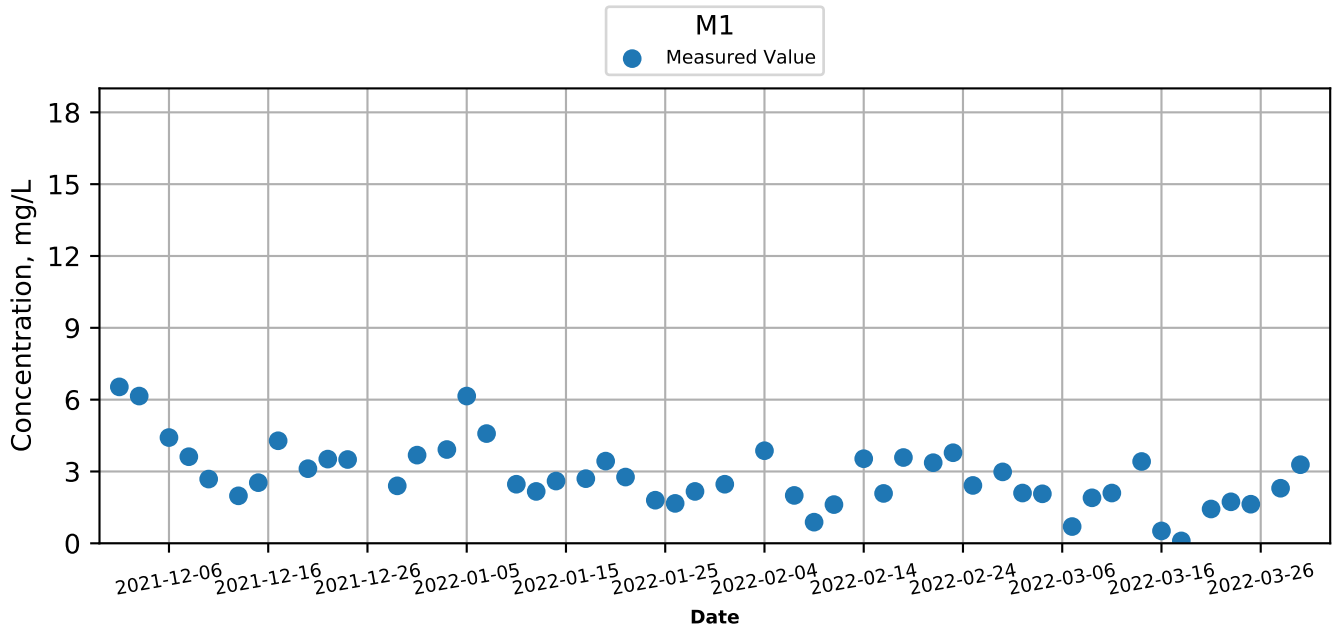
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



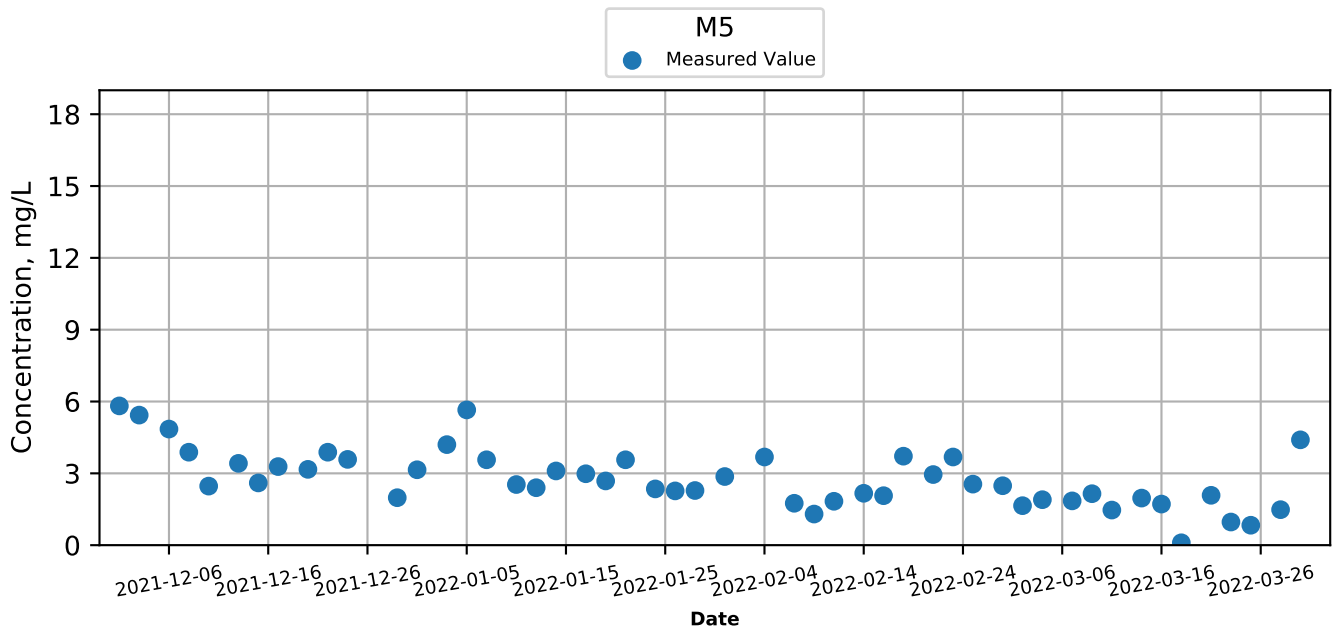
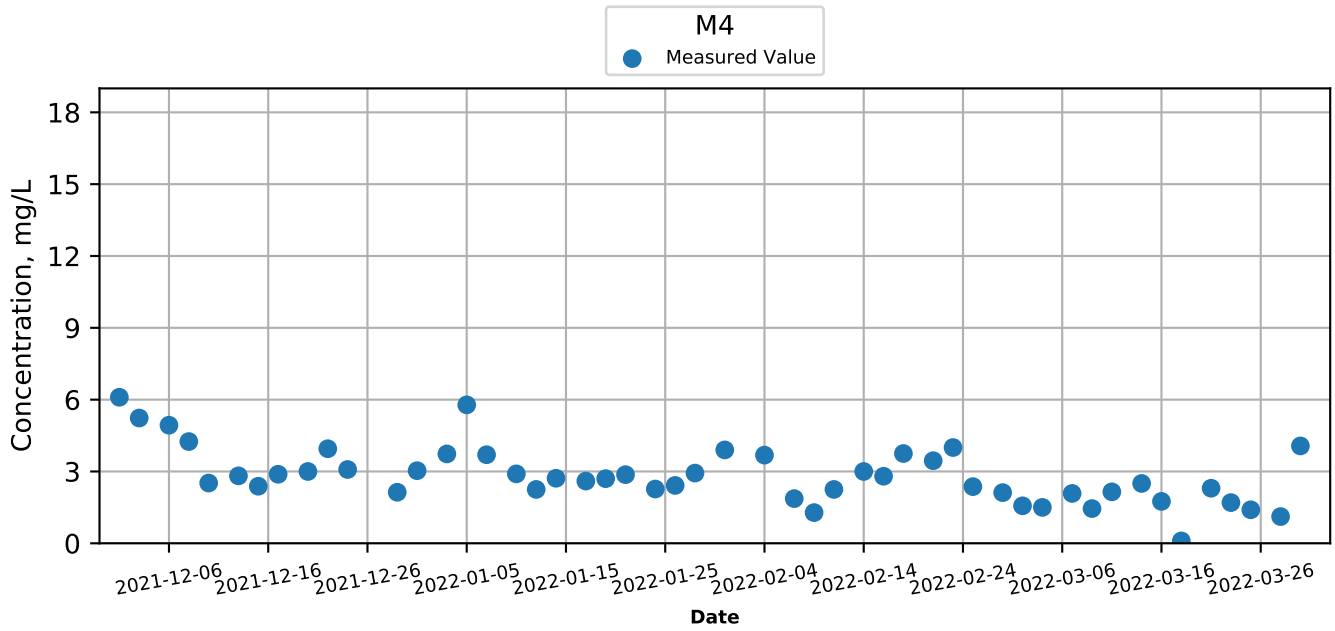
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



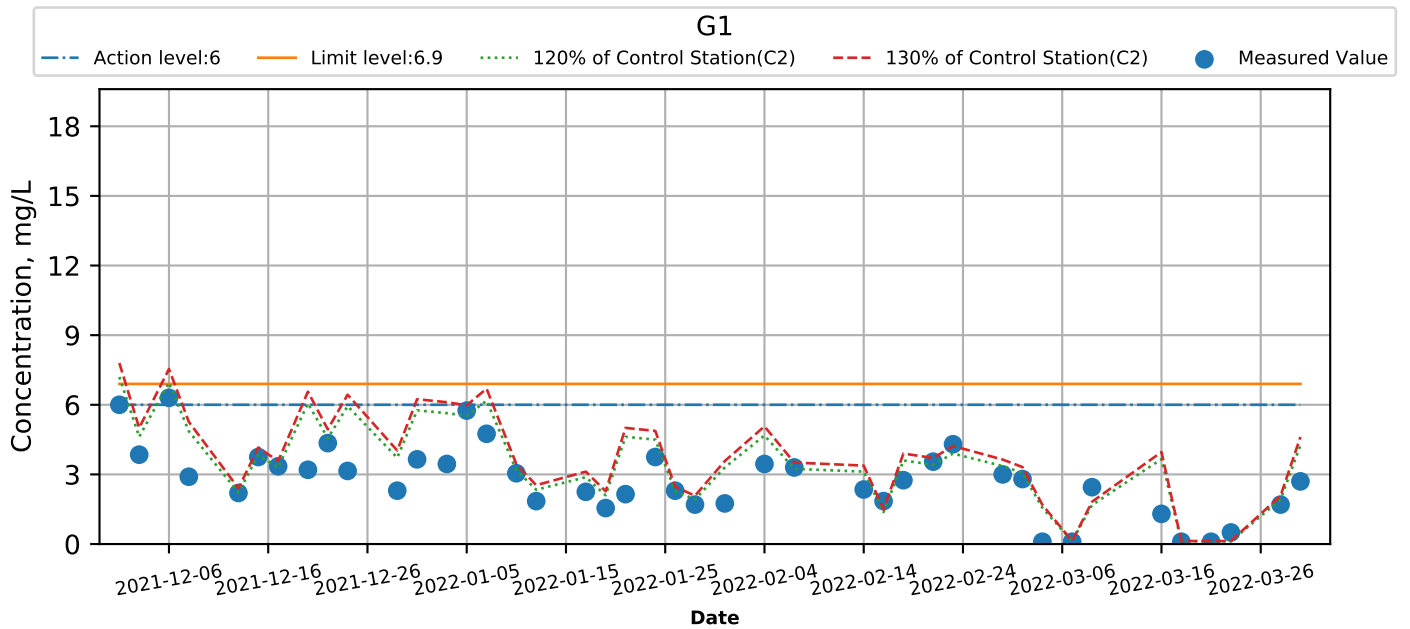
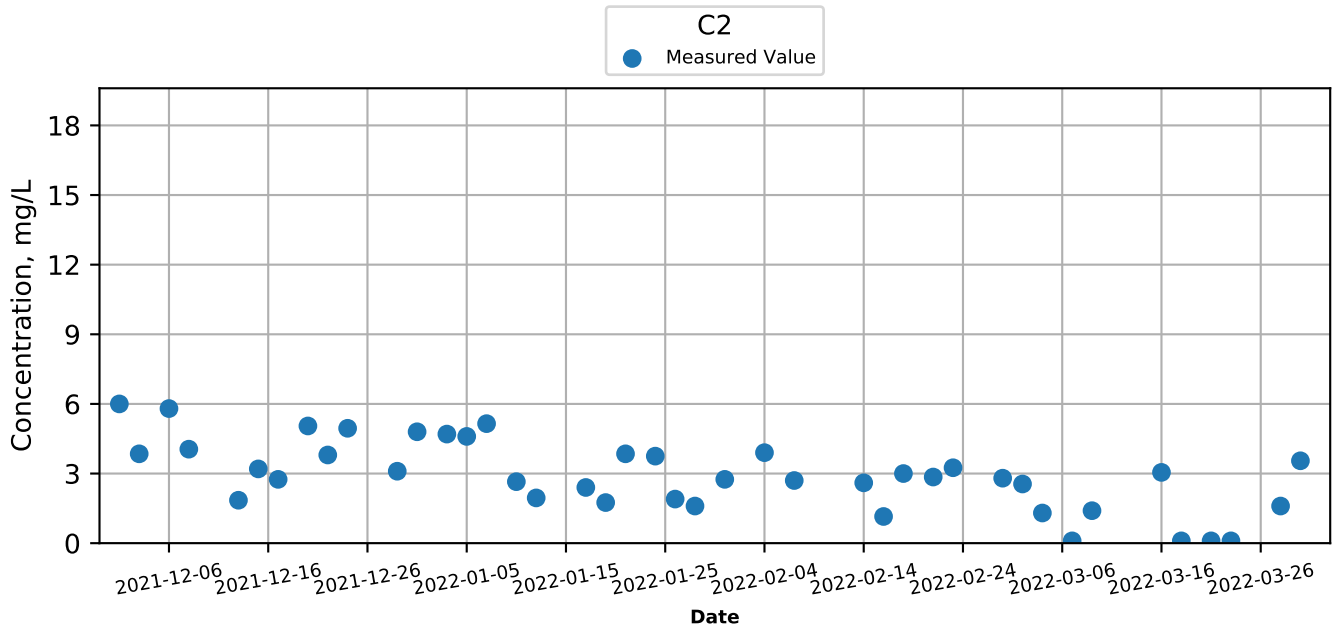
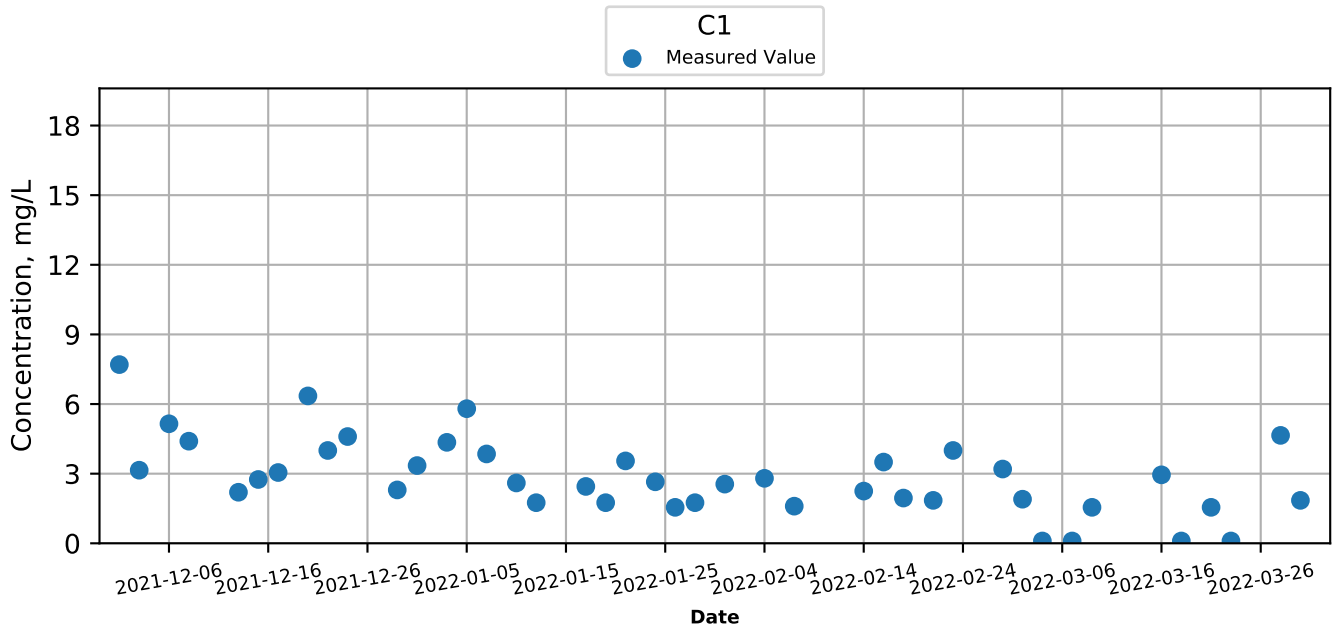
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## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



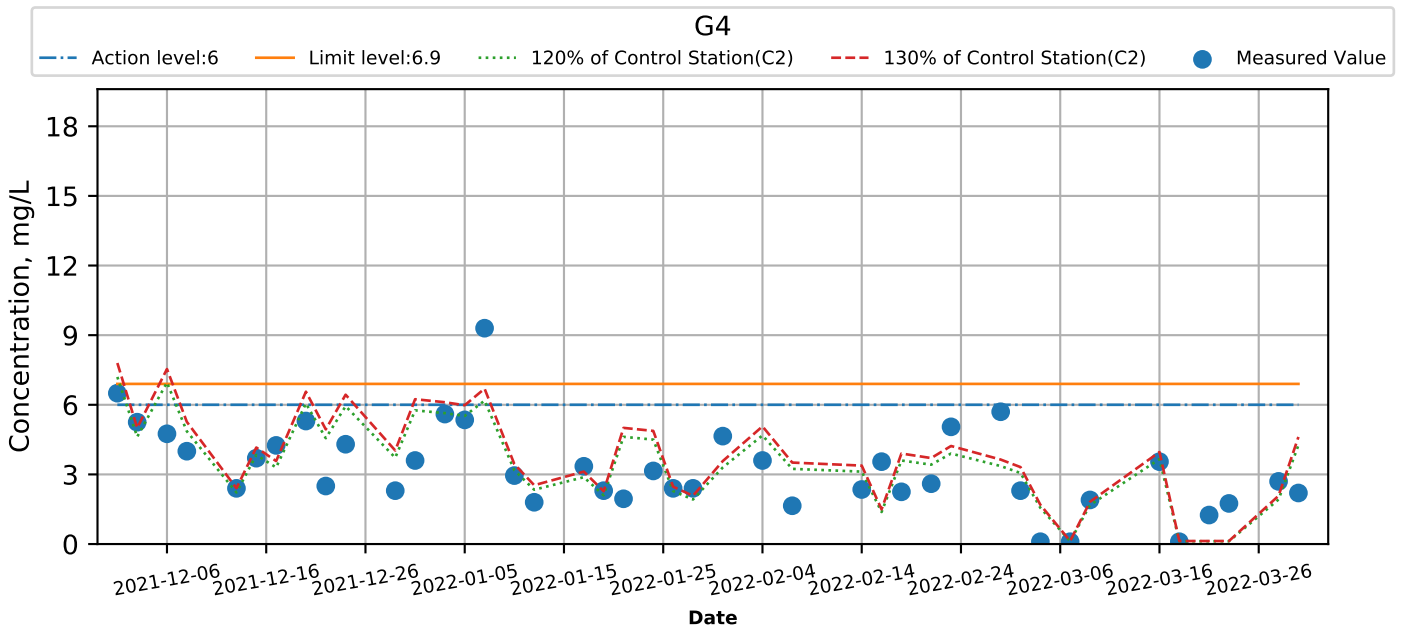
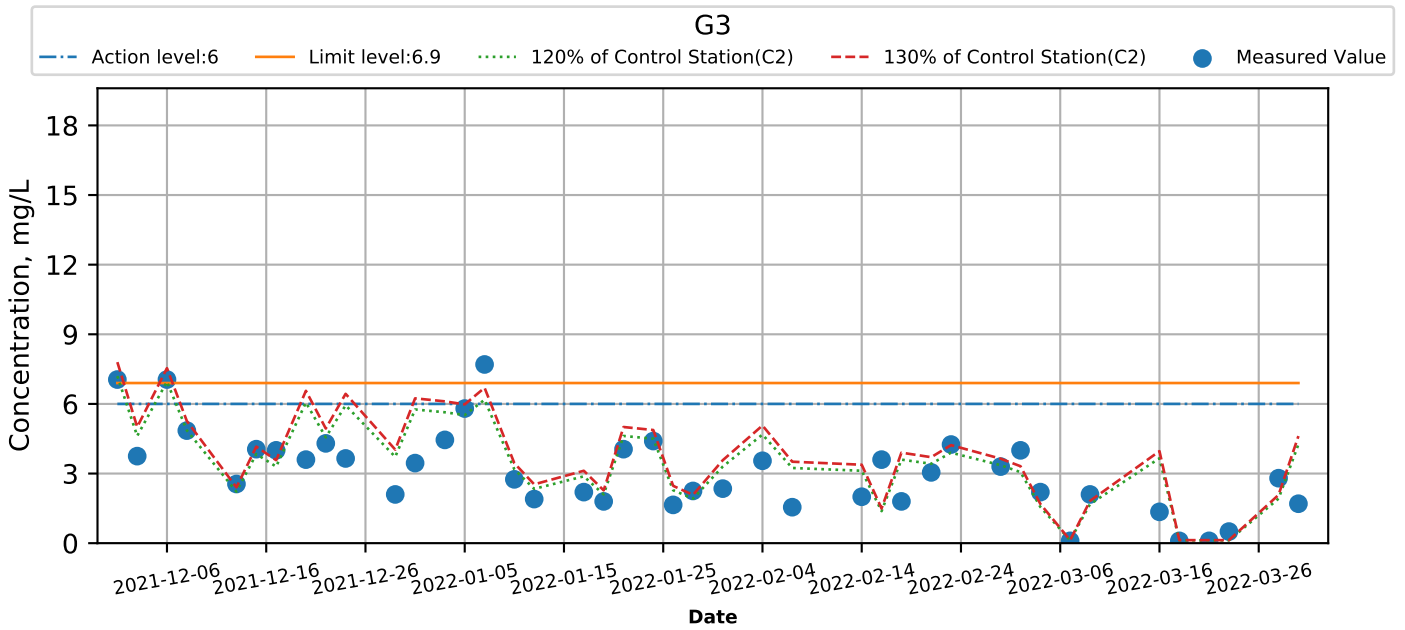
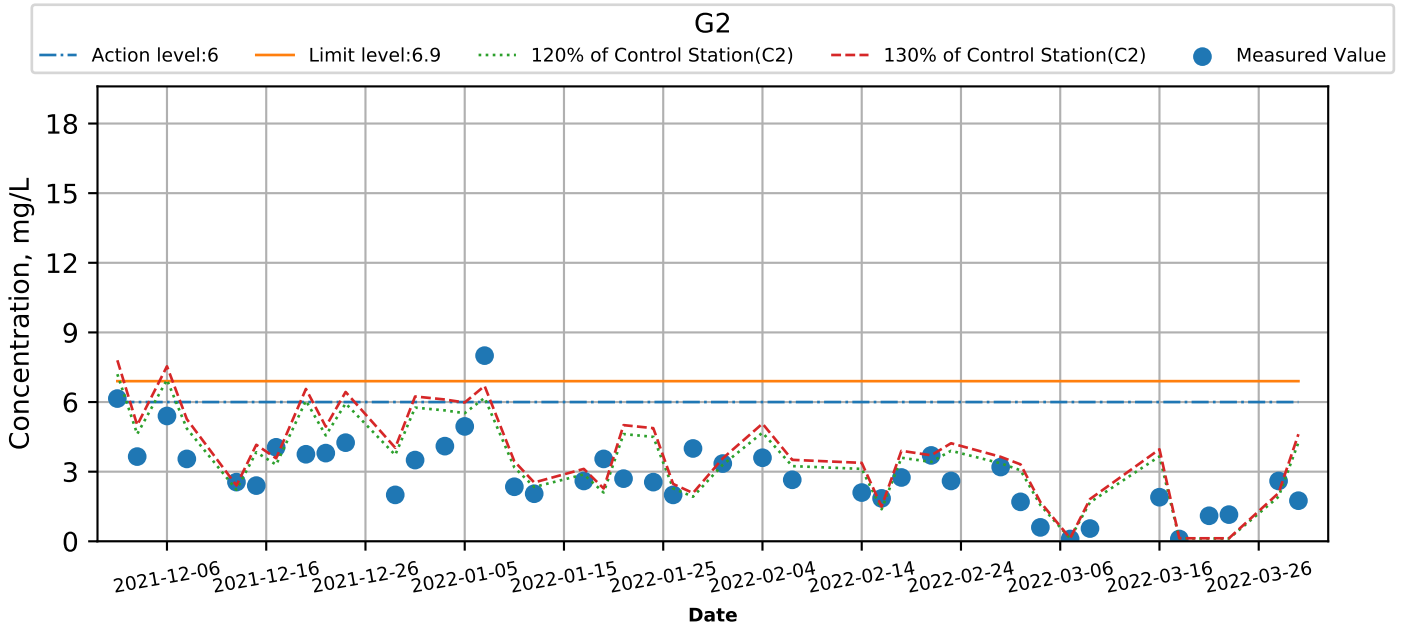
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

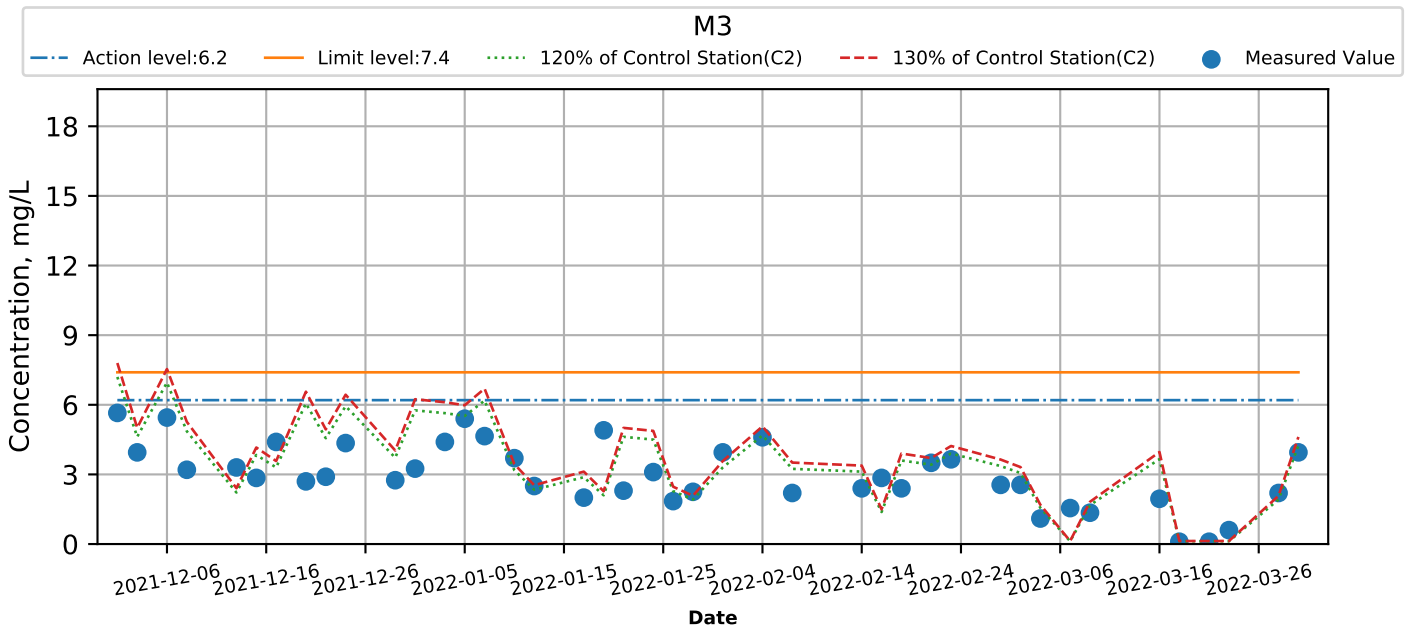
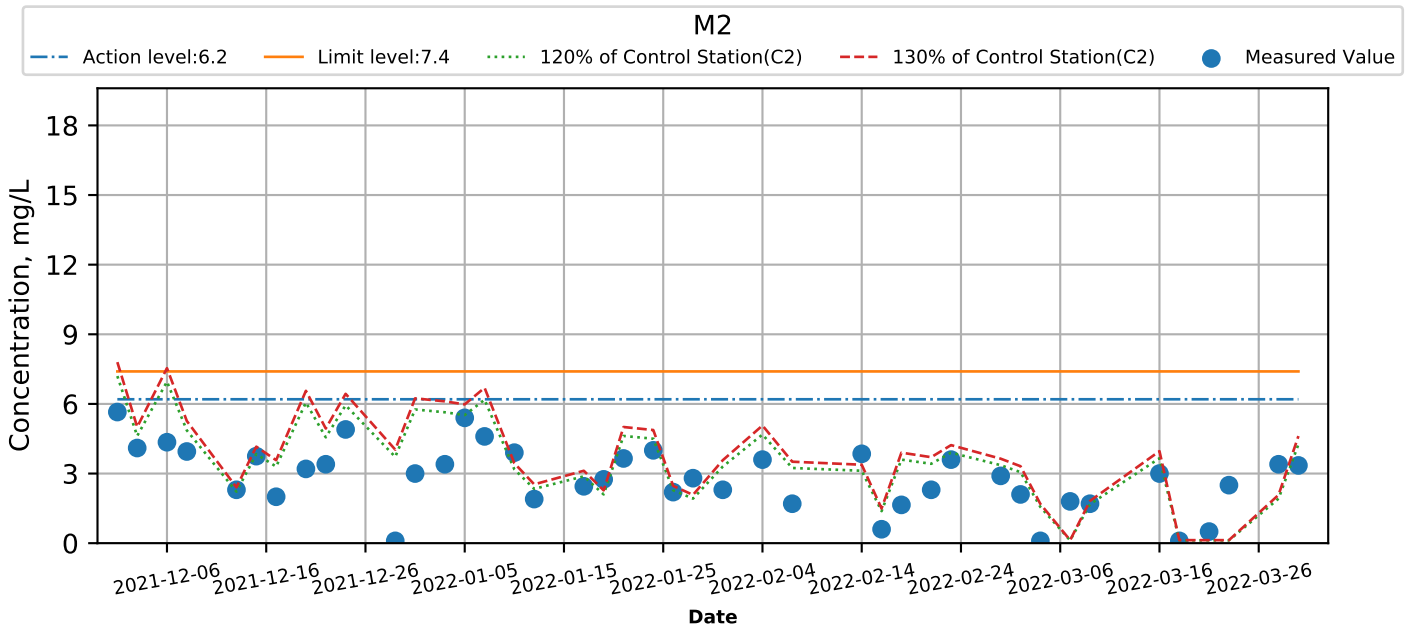
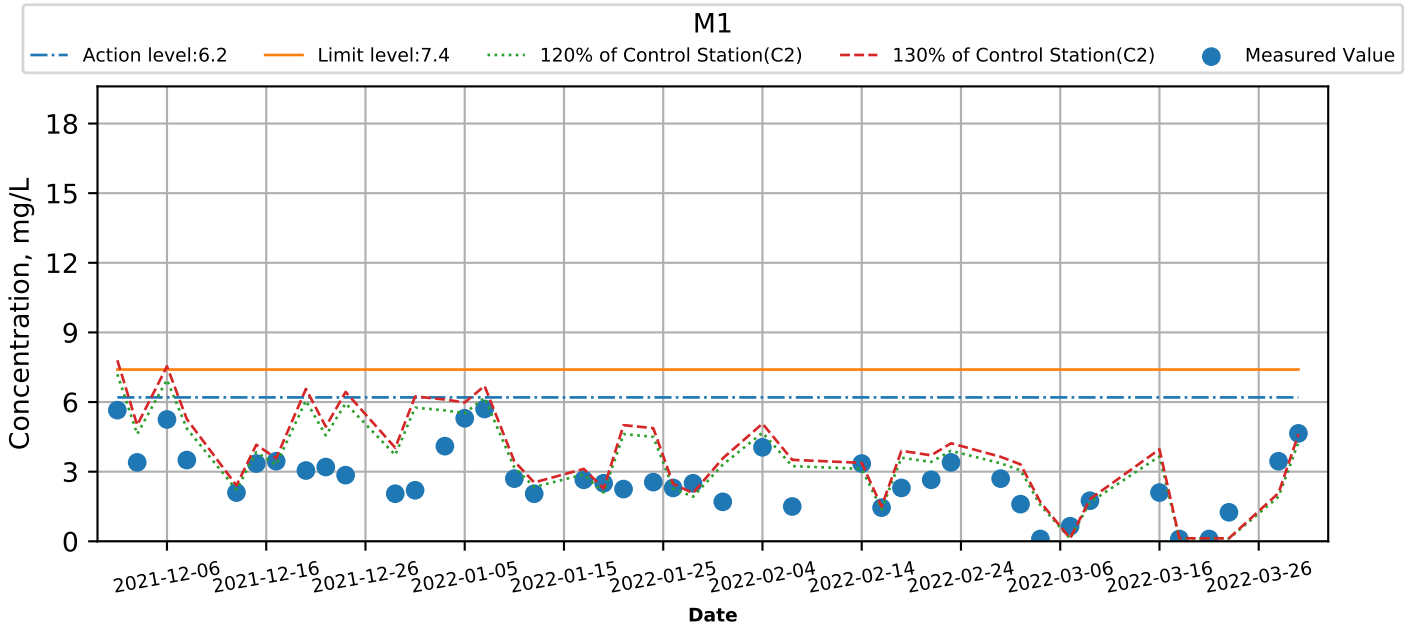
## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb





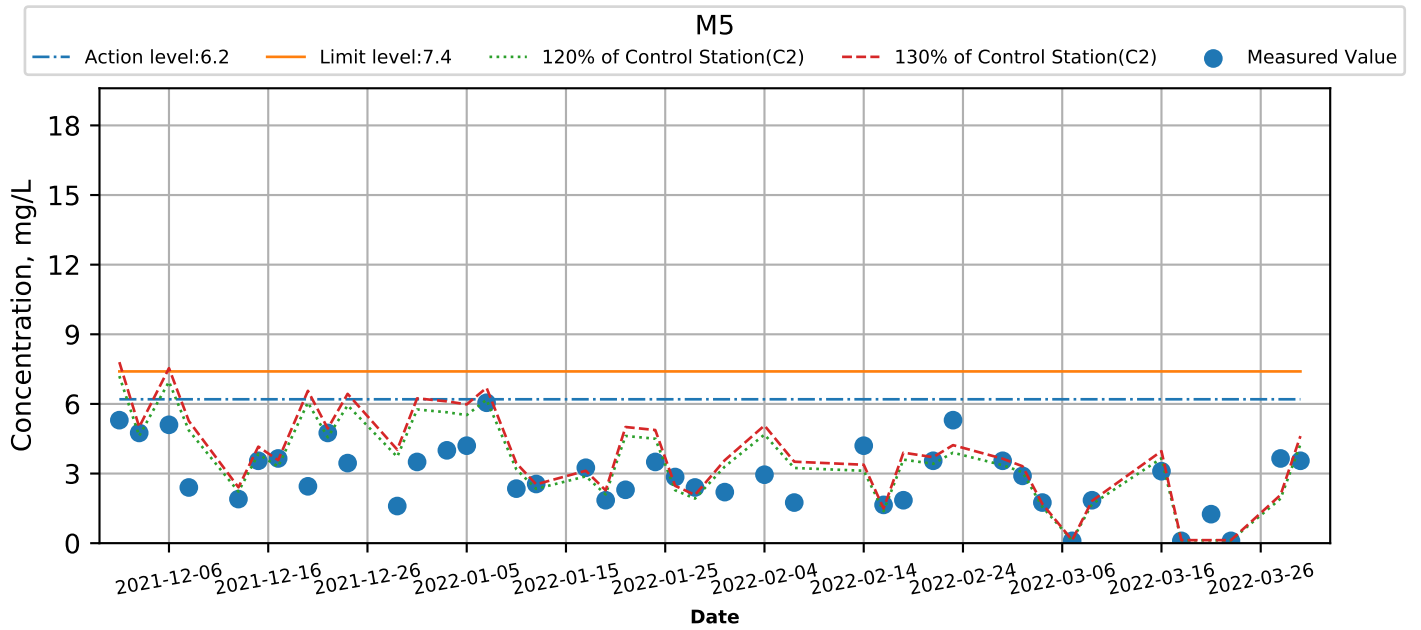
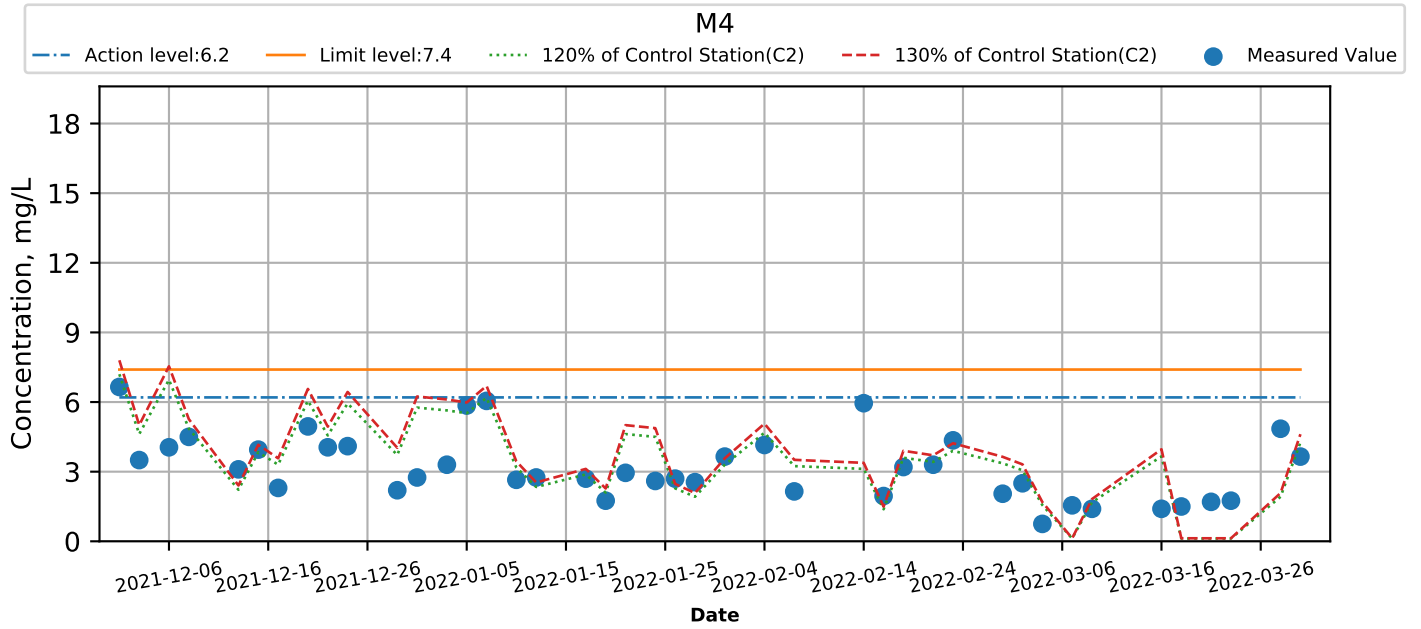
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



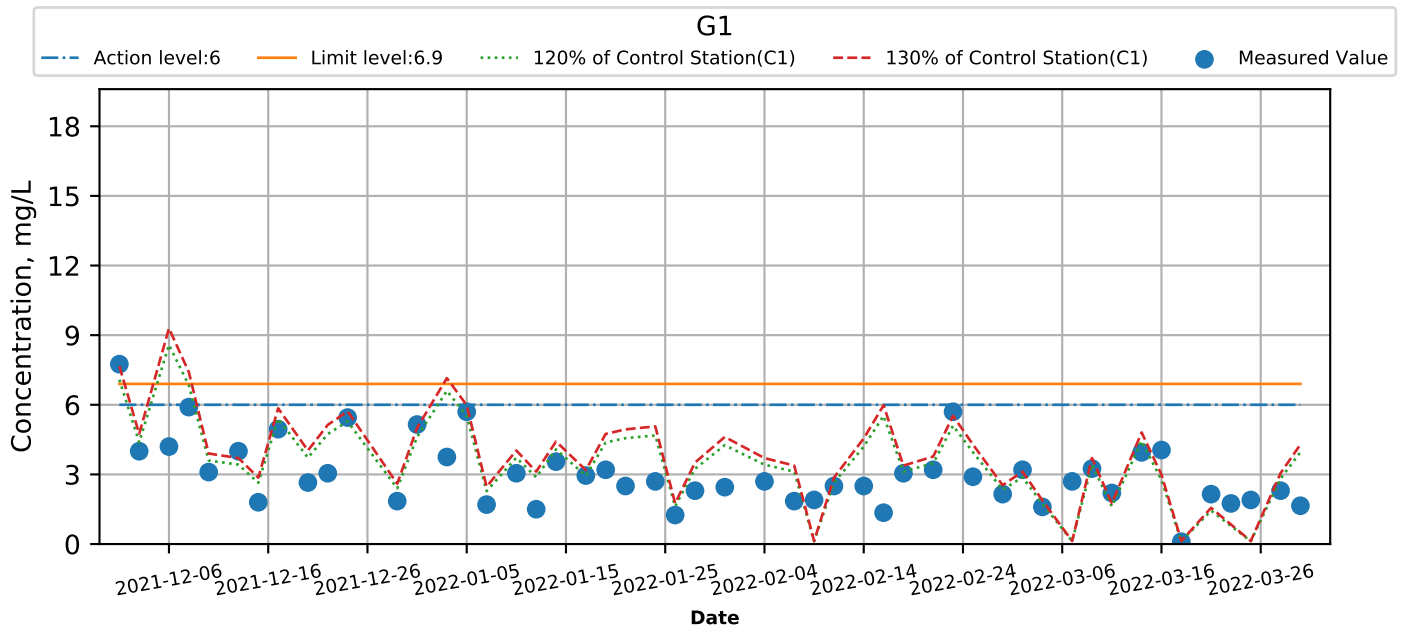
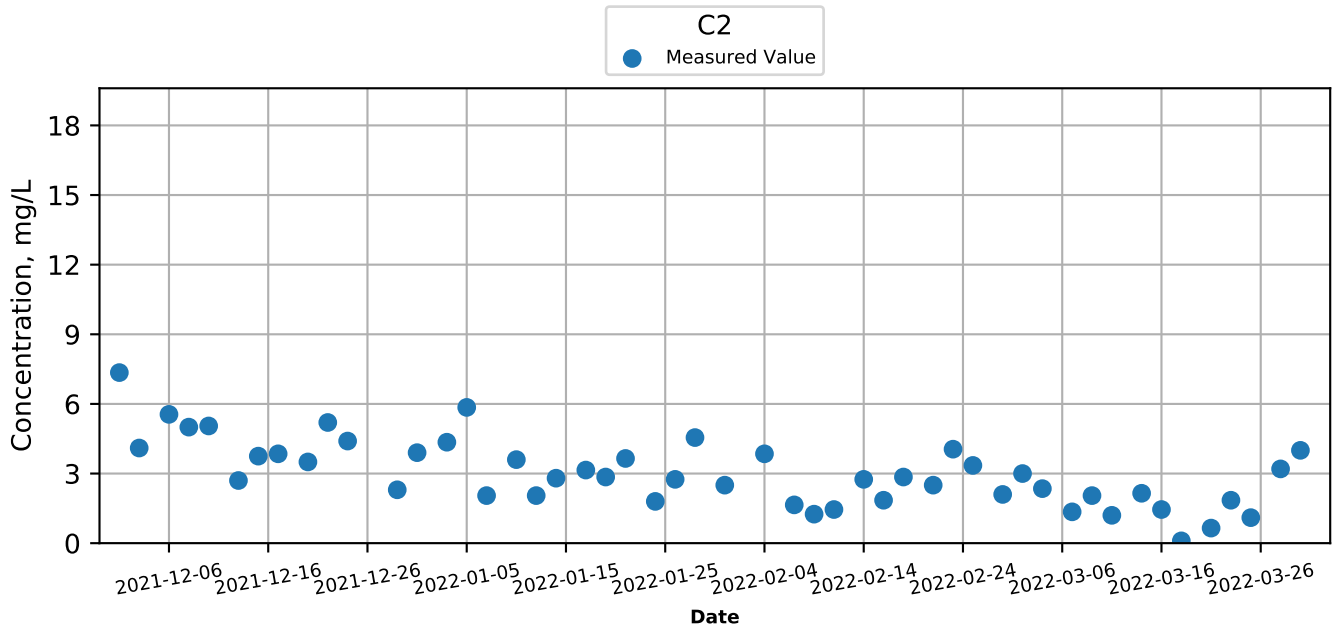
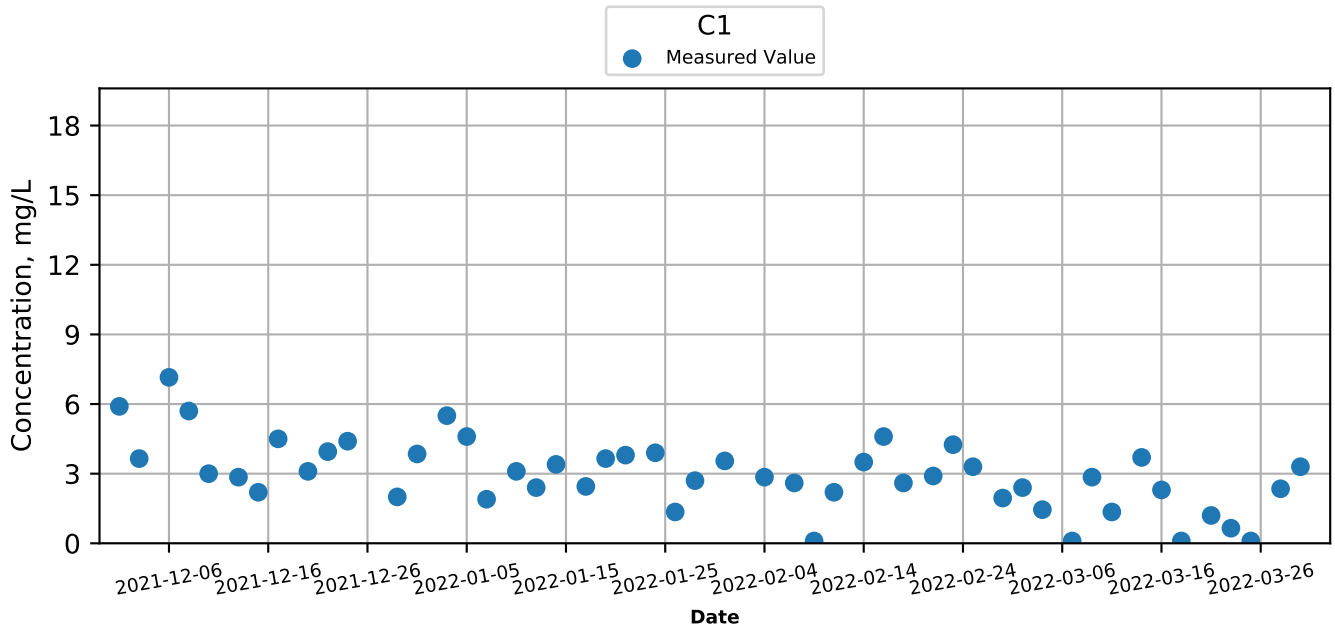
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



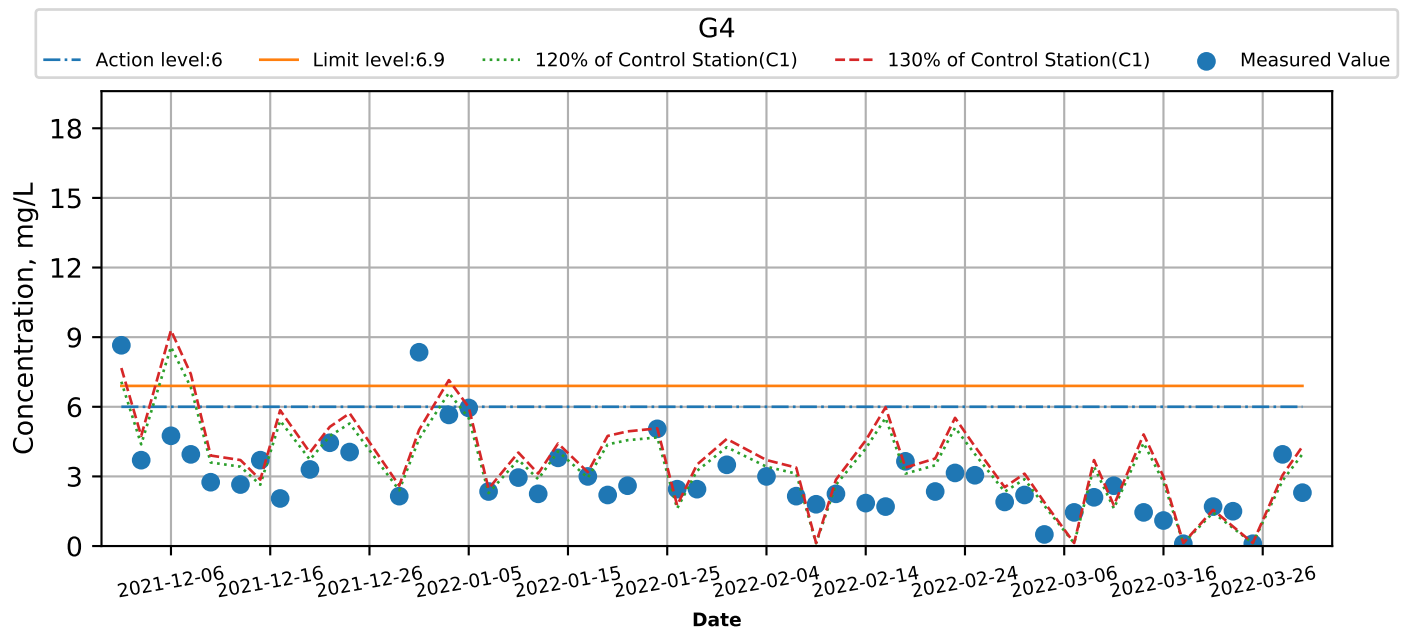
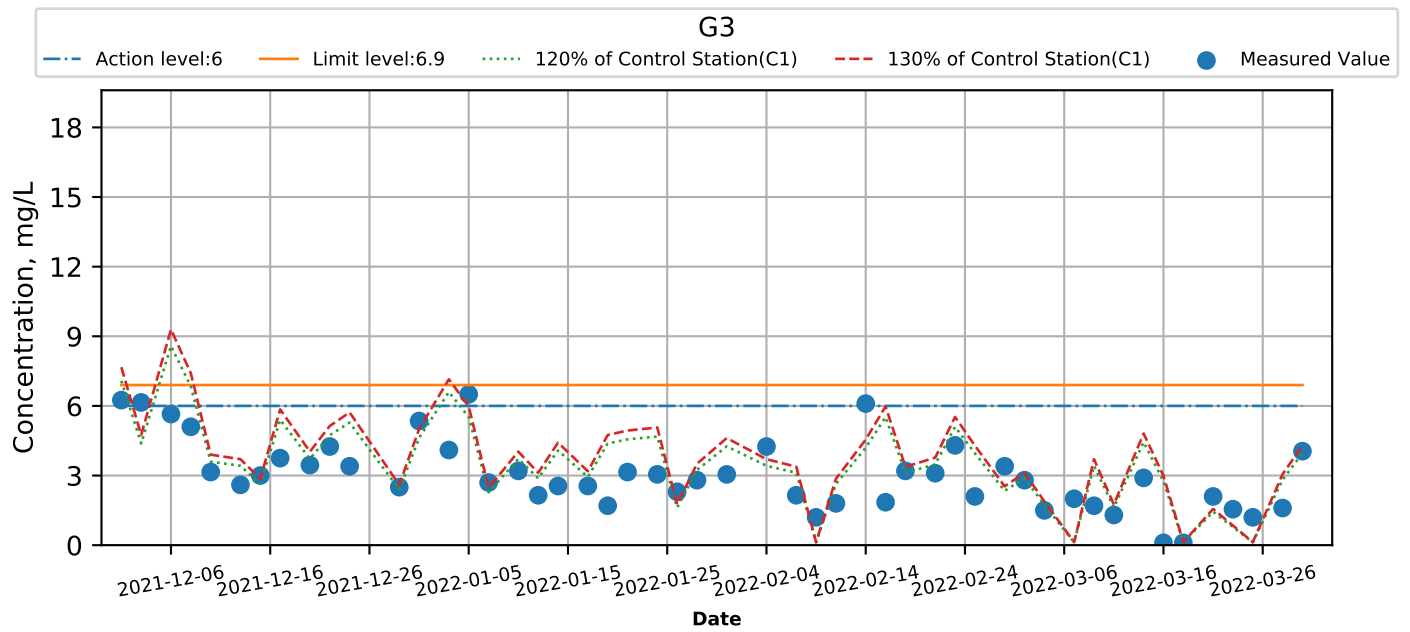
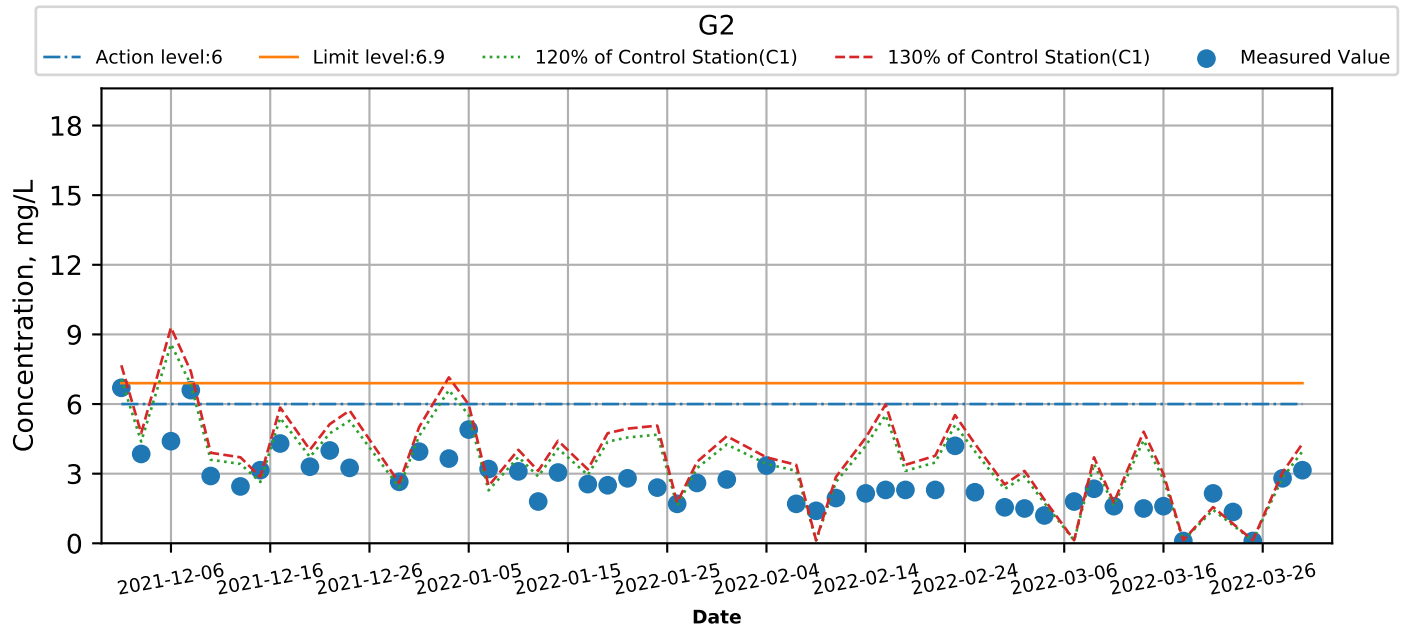
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



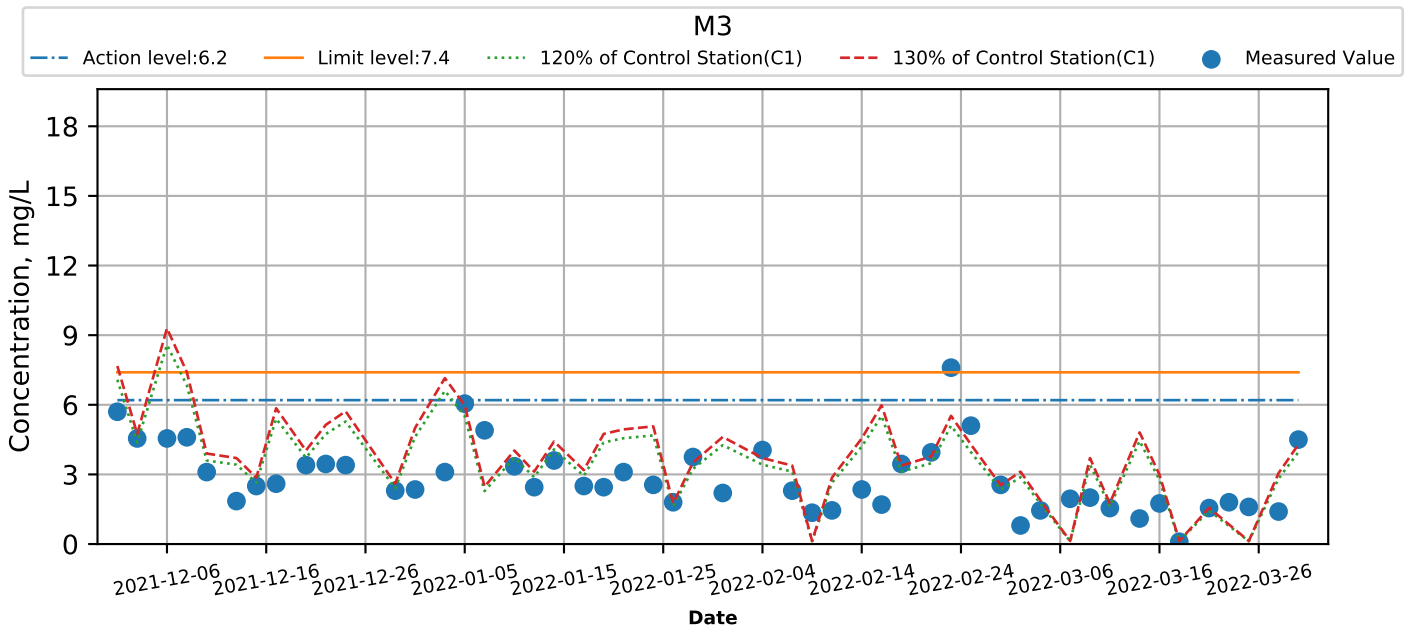
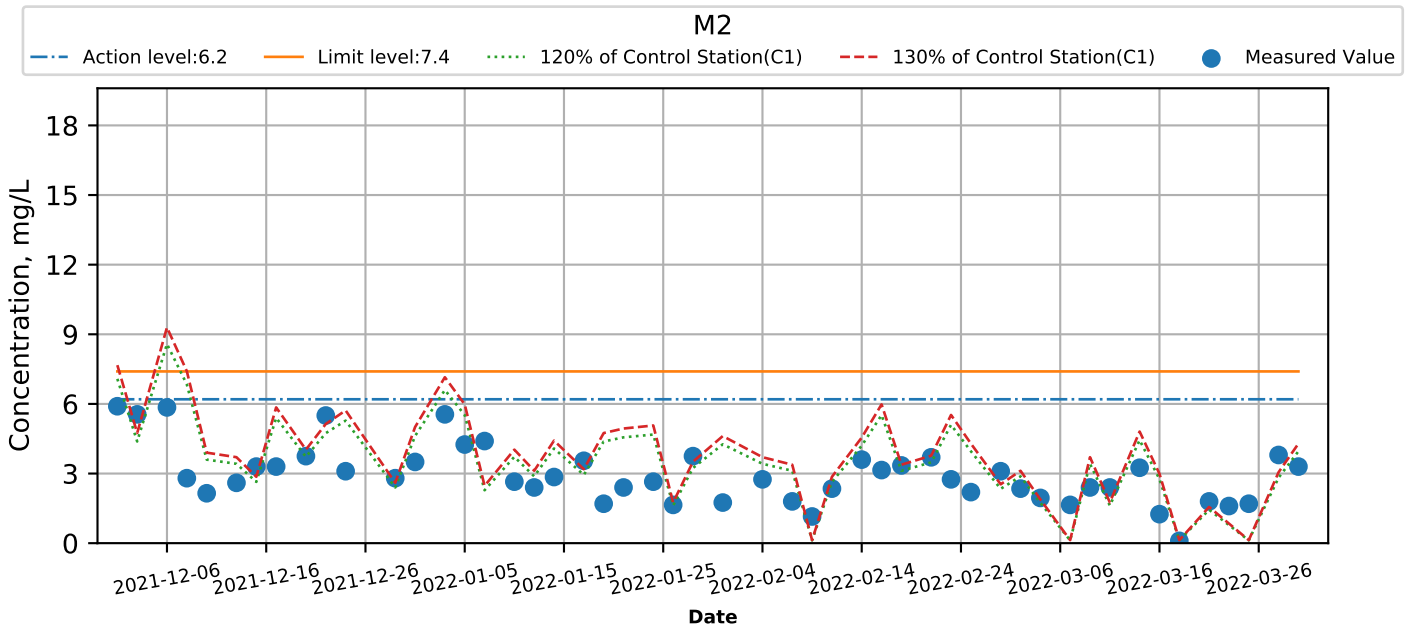
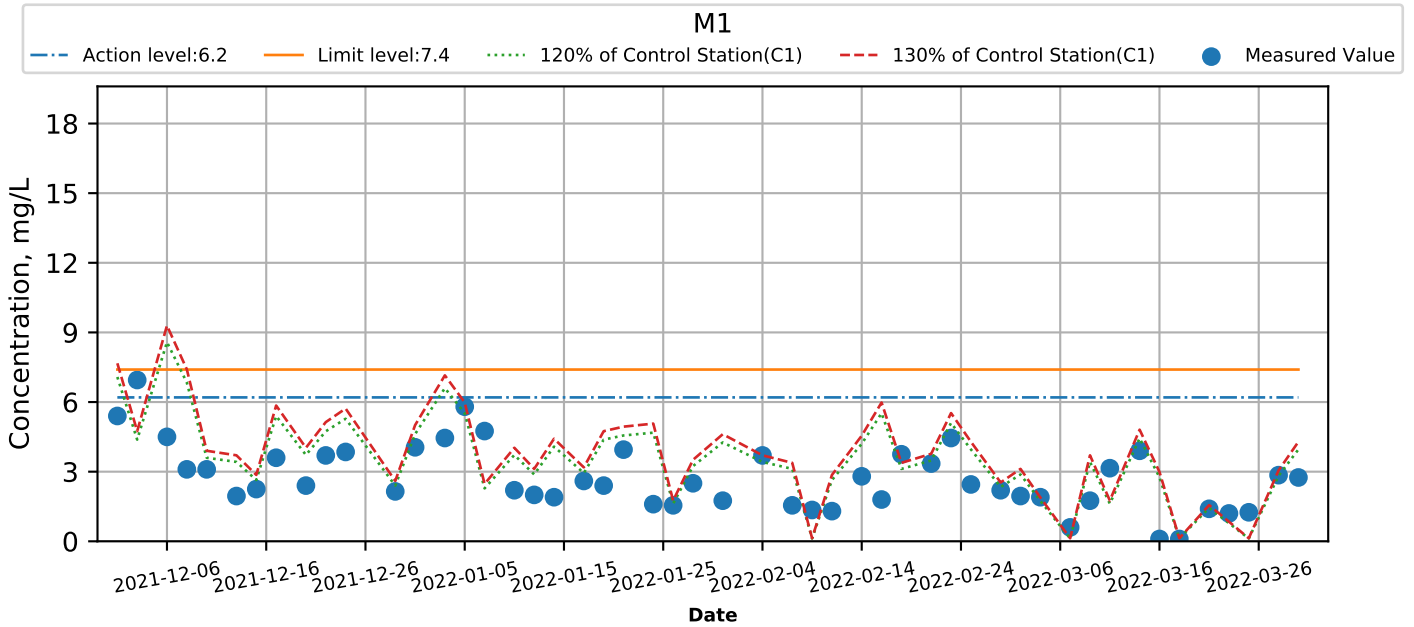
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



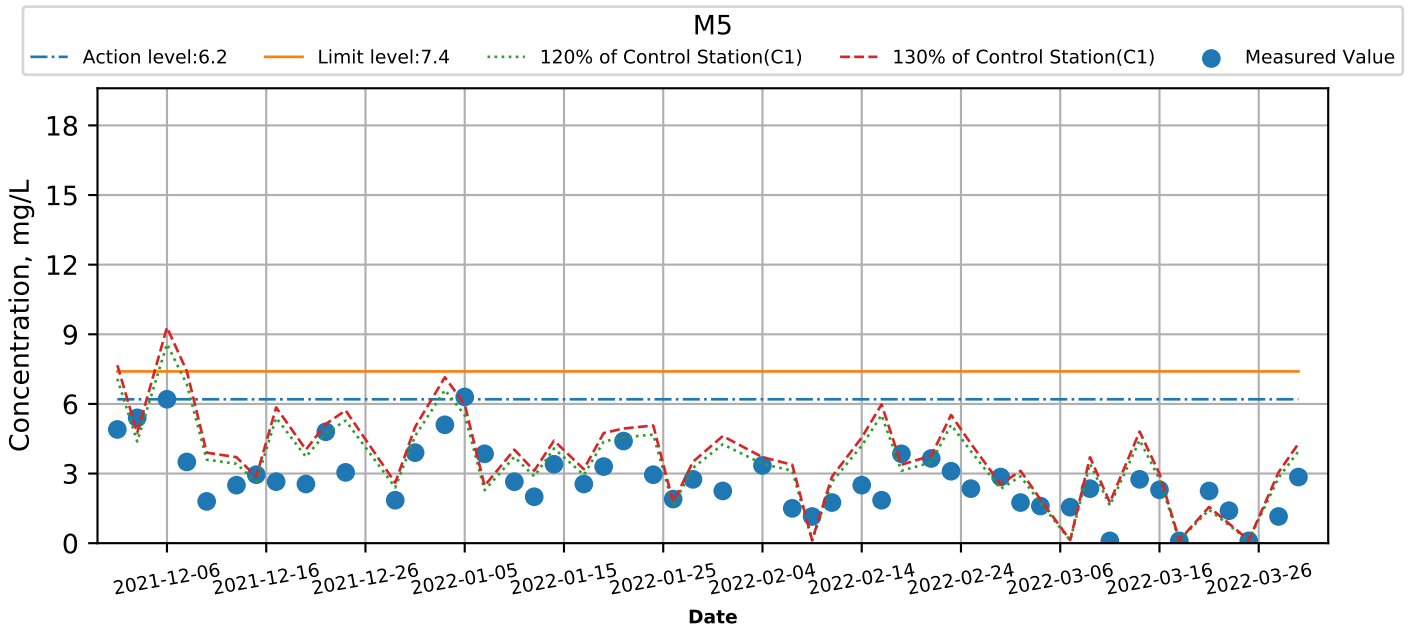
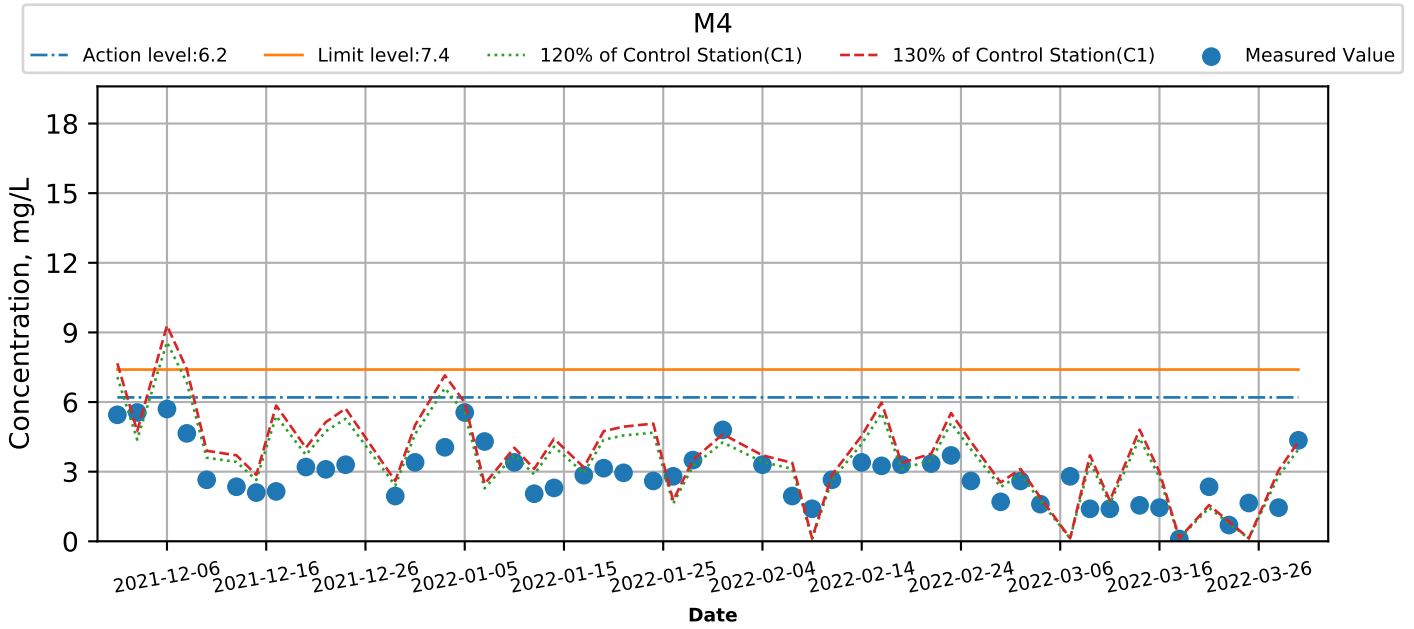
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



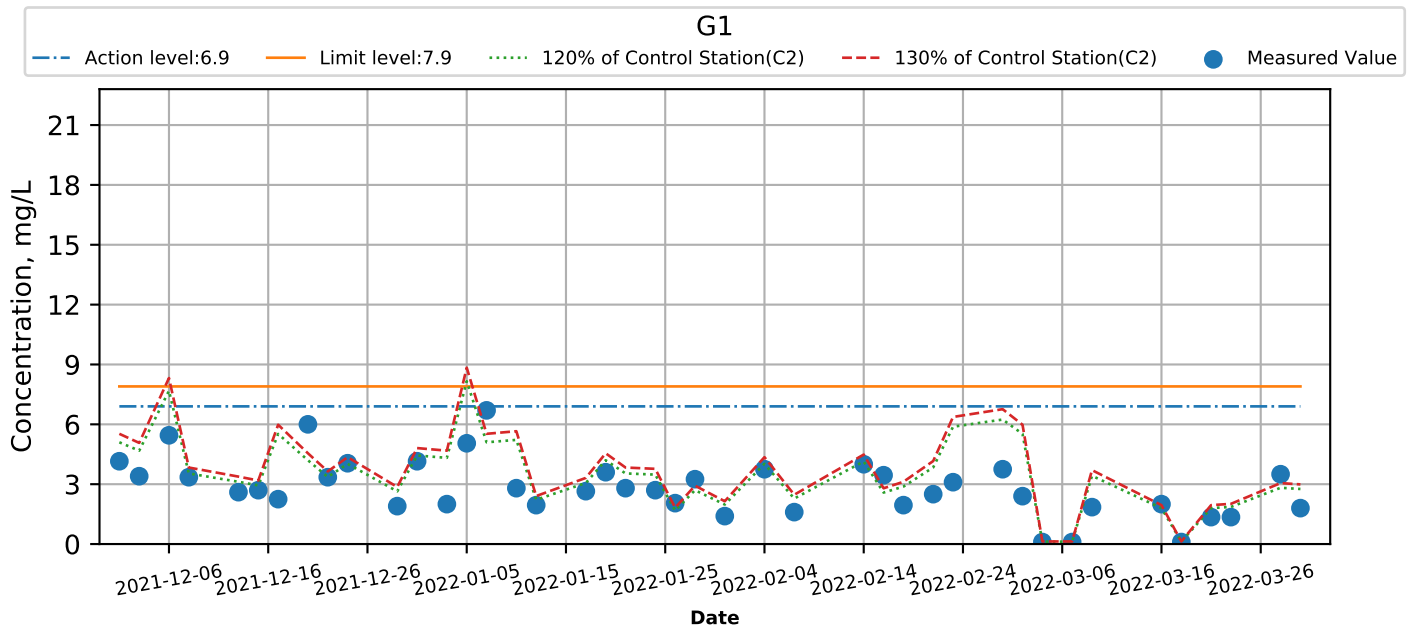
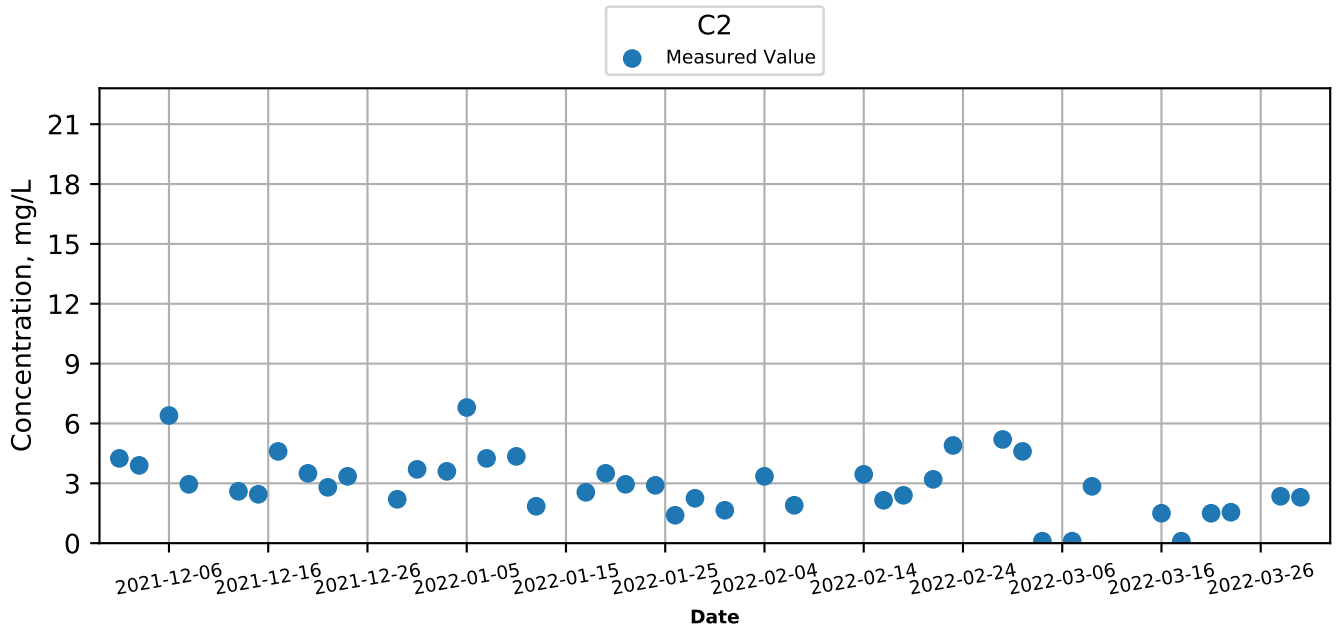
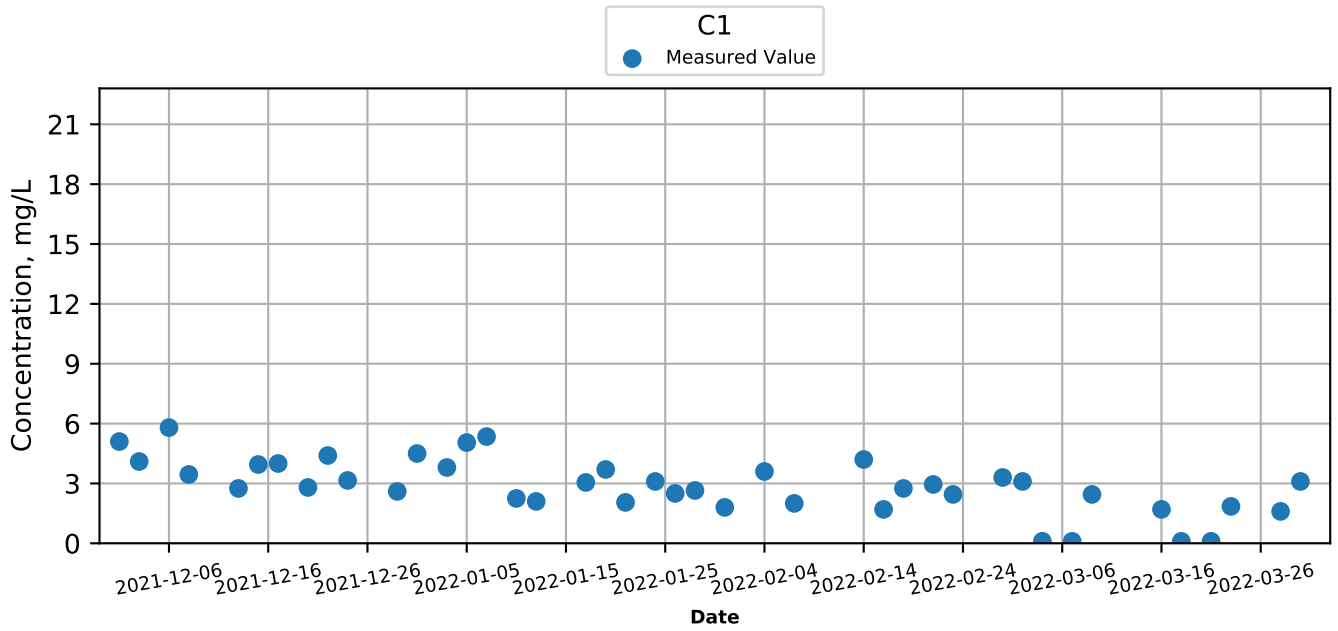
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



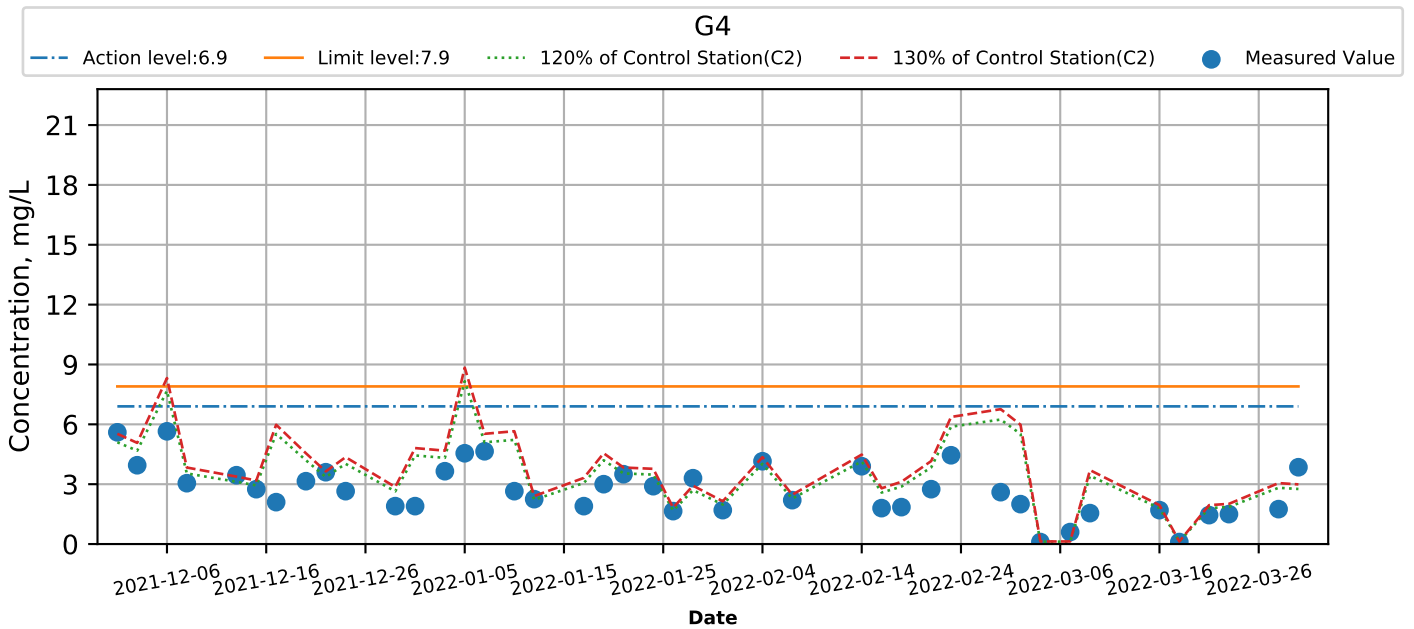
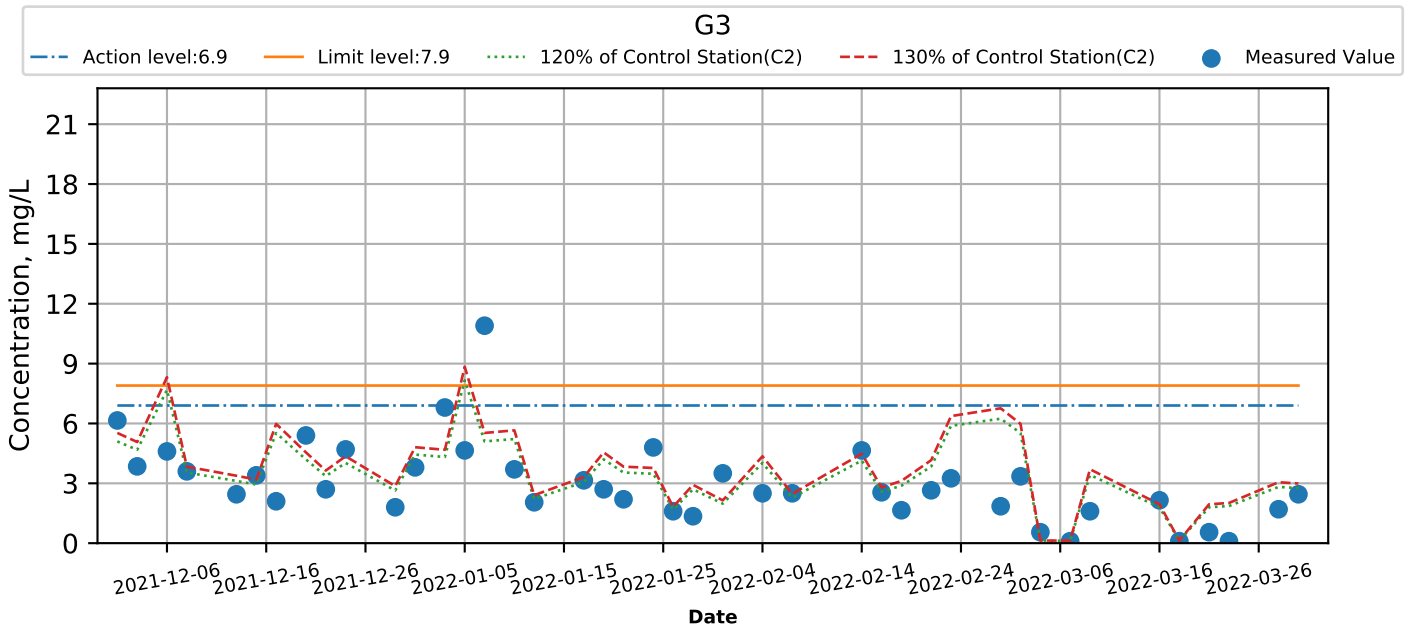
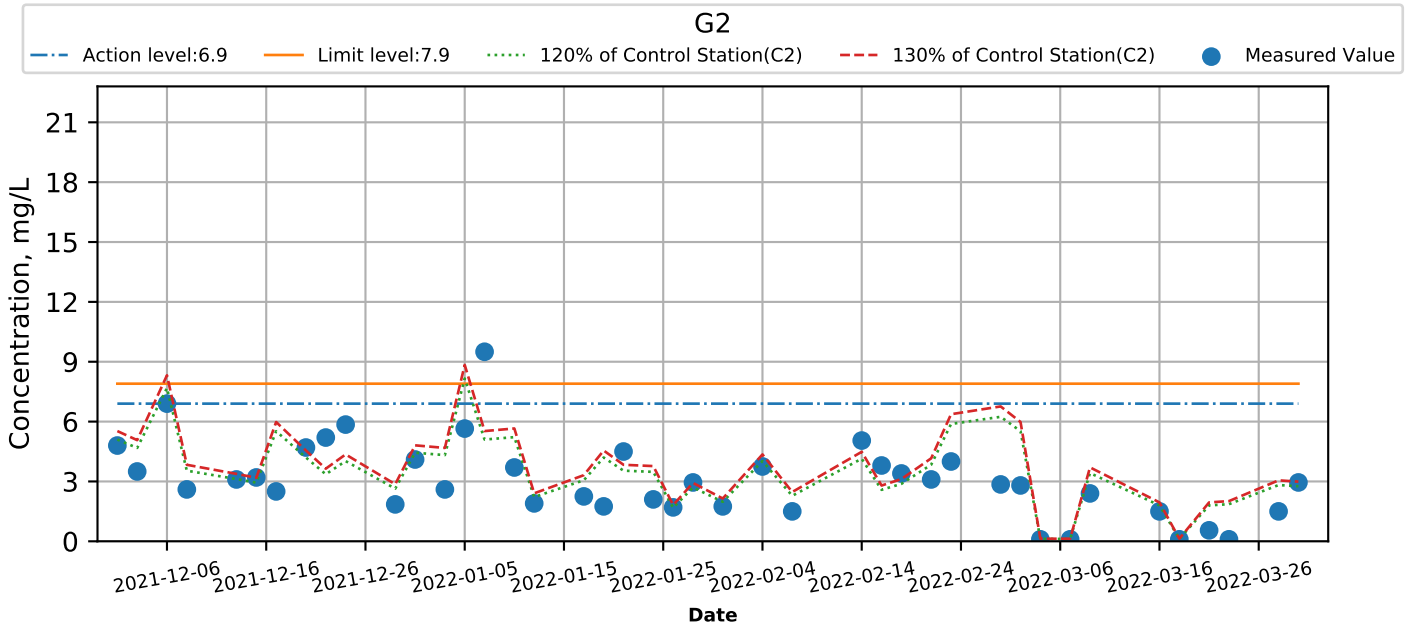
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

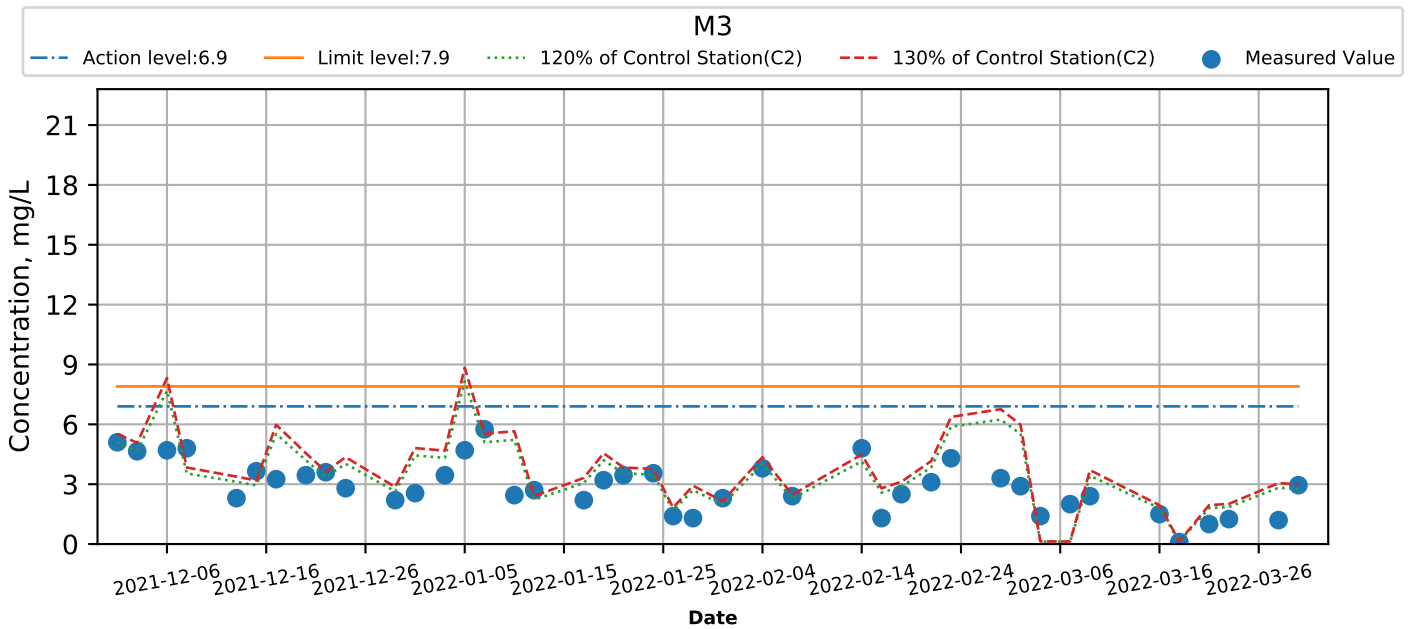
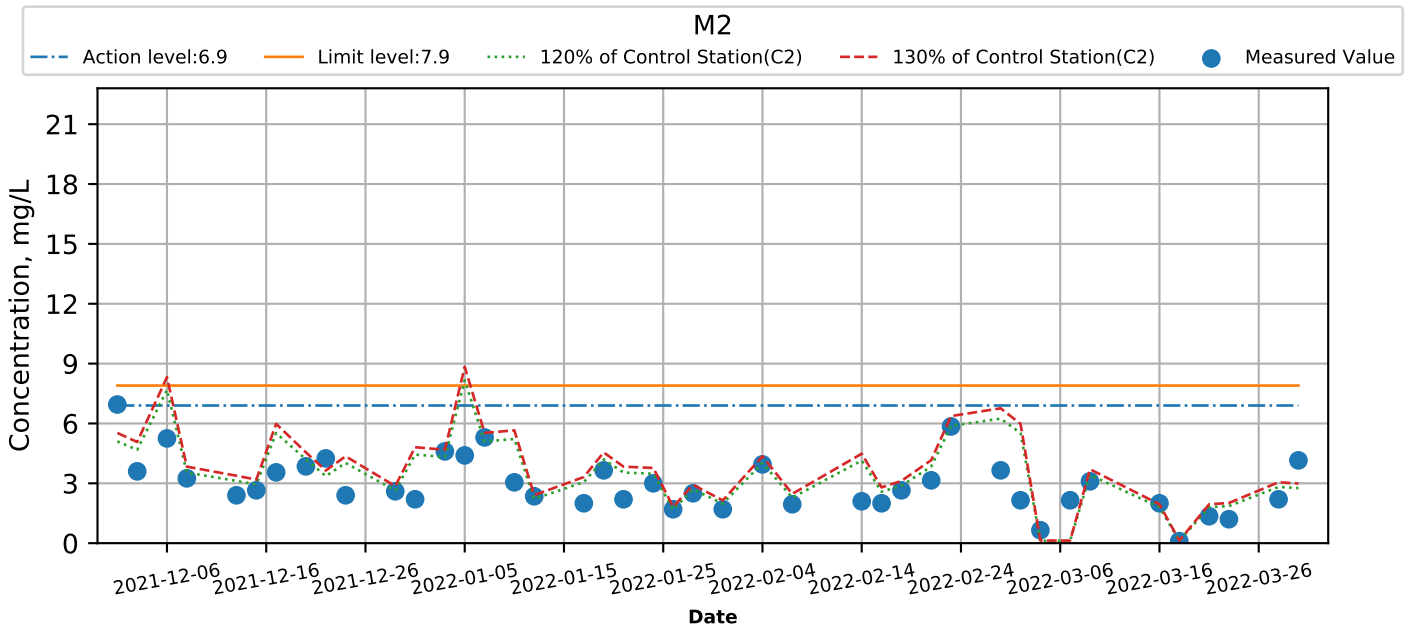
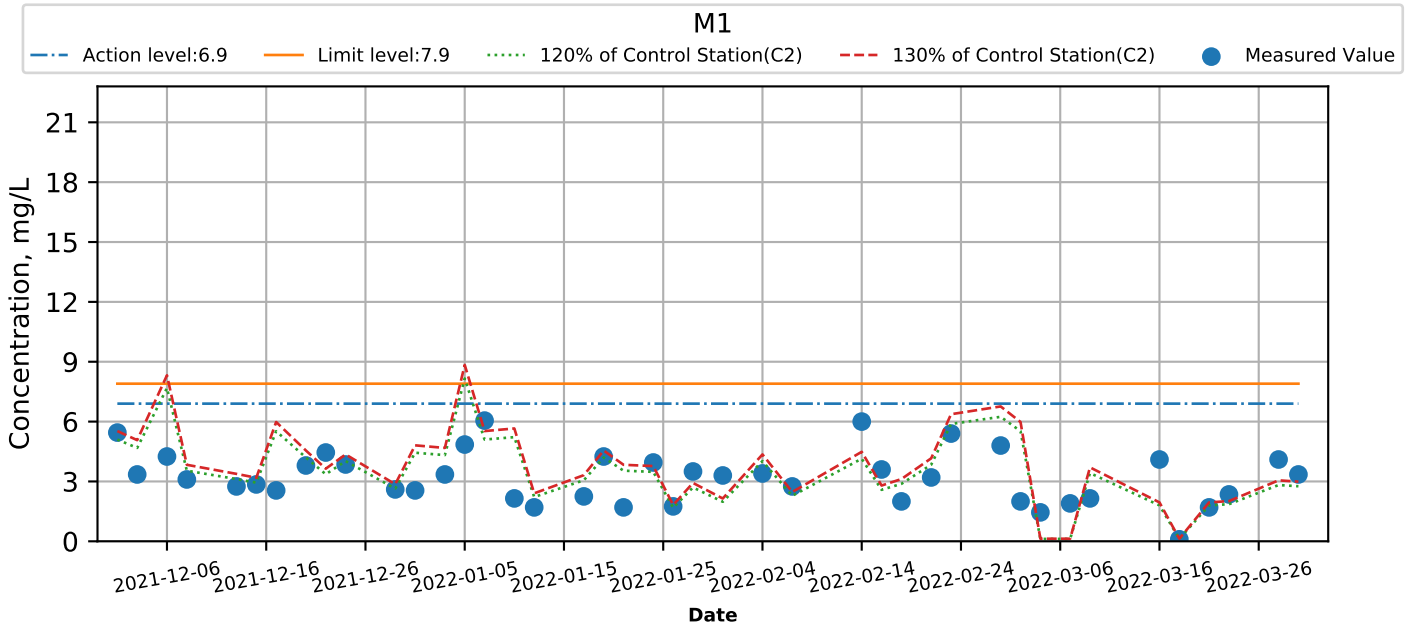
## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb





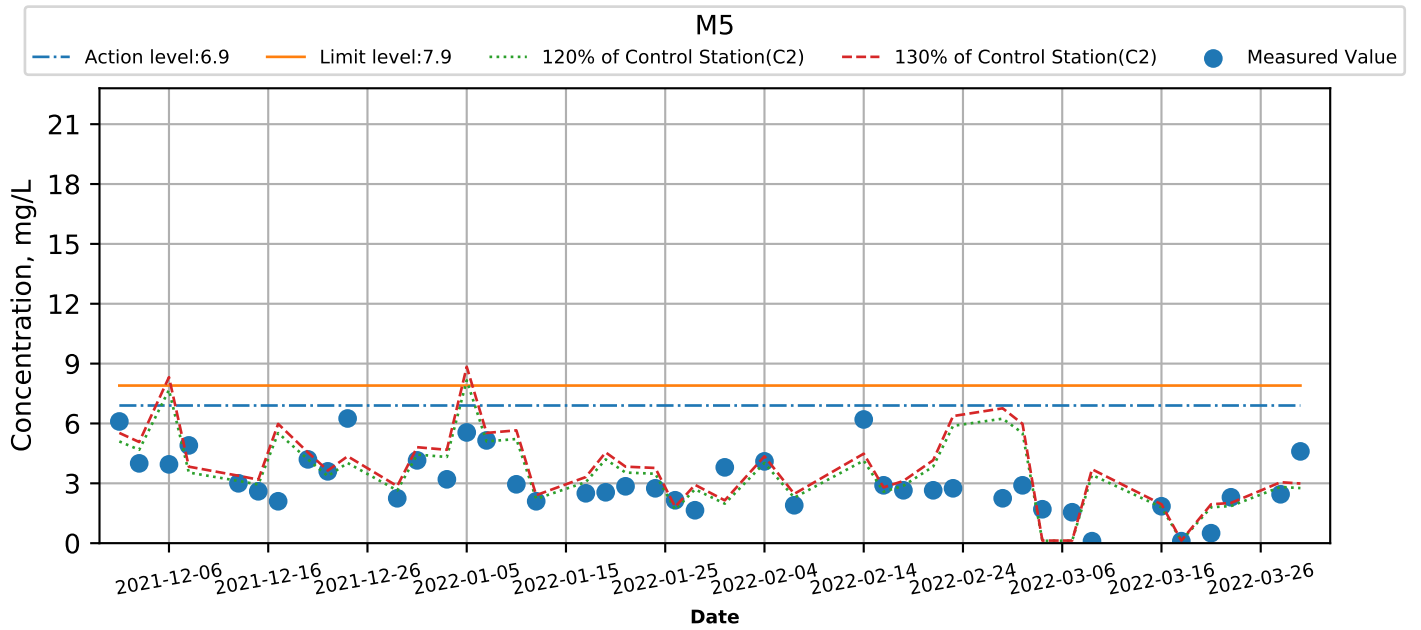
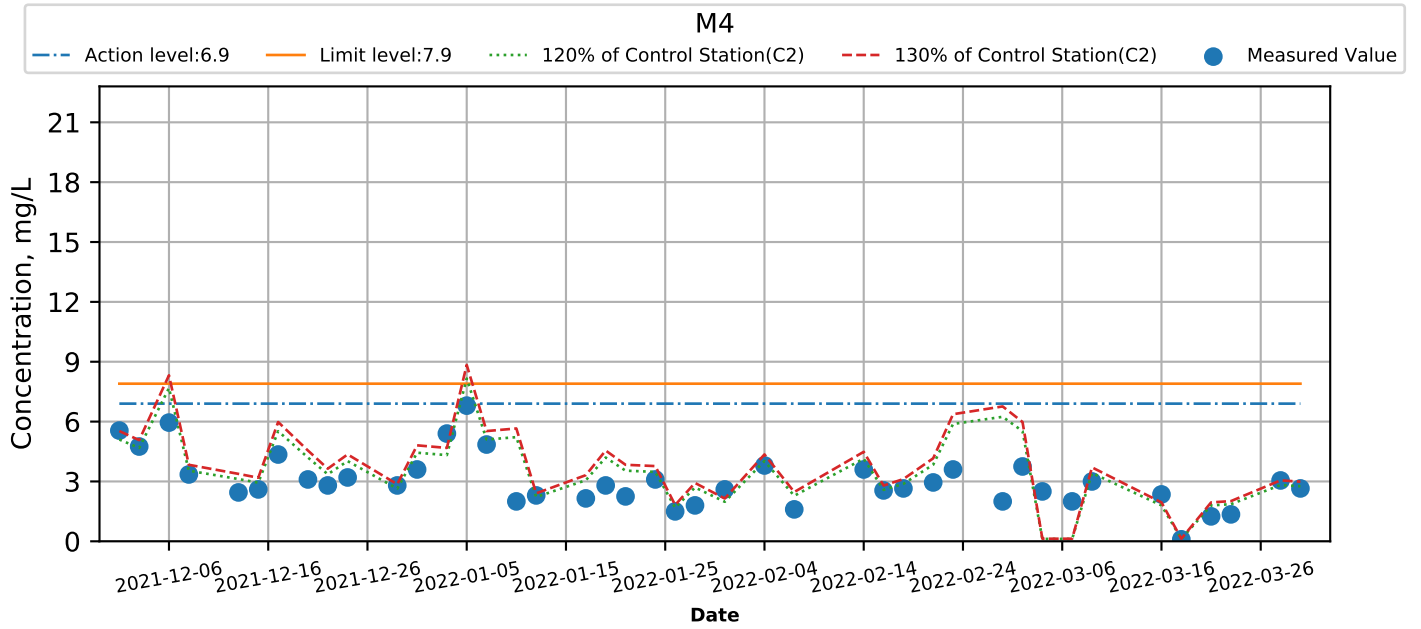
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



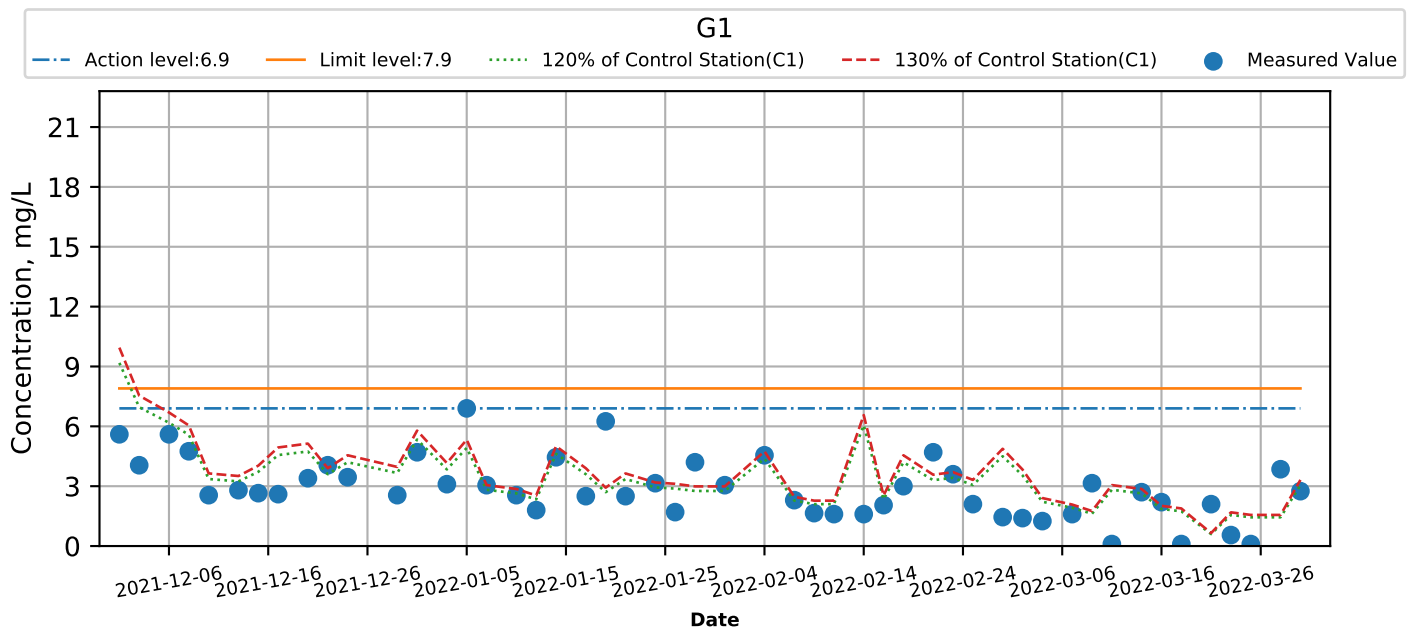
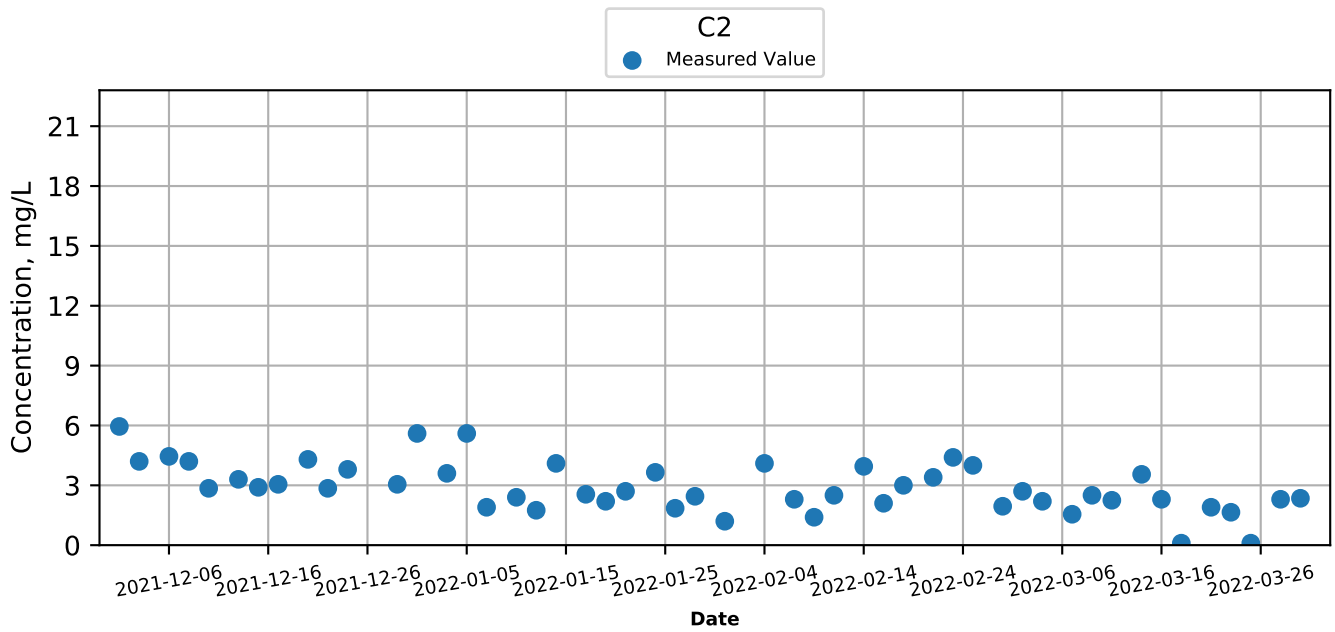
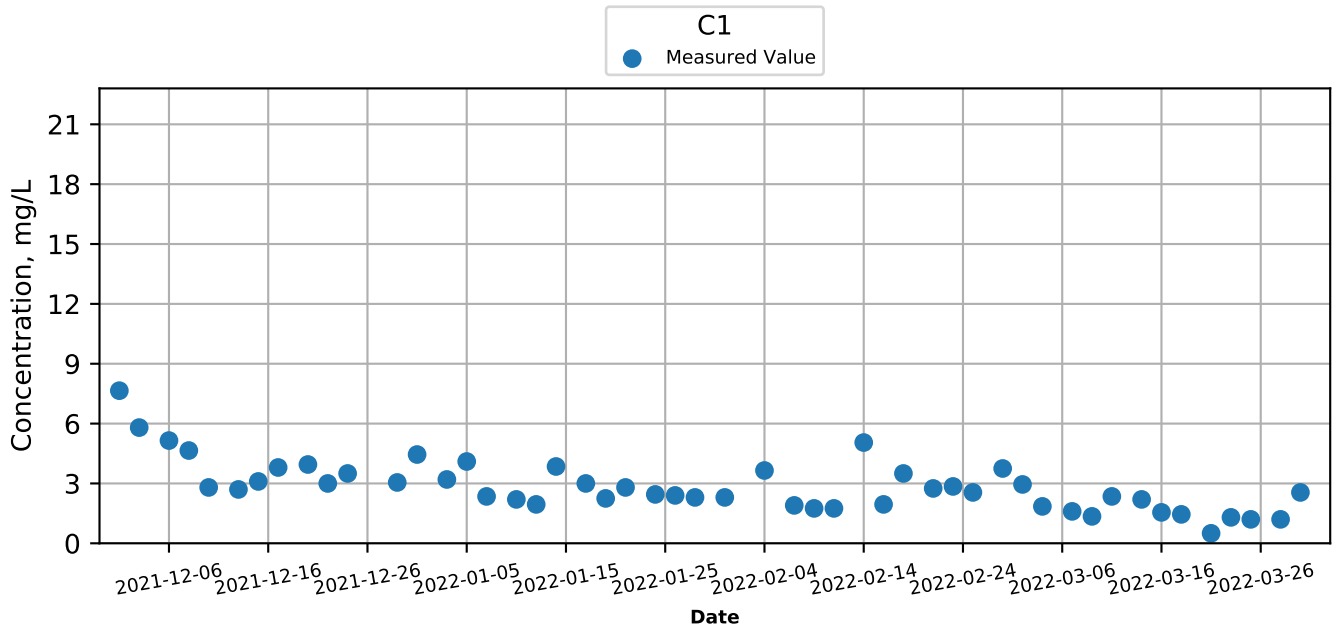
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



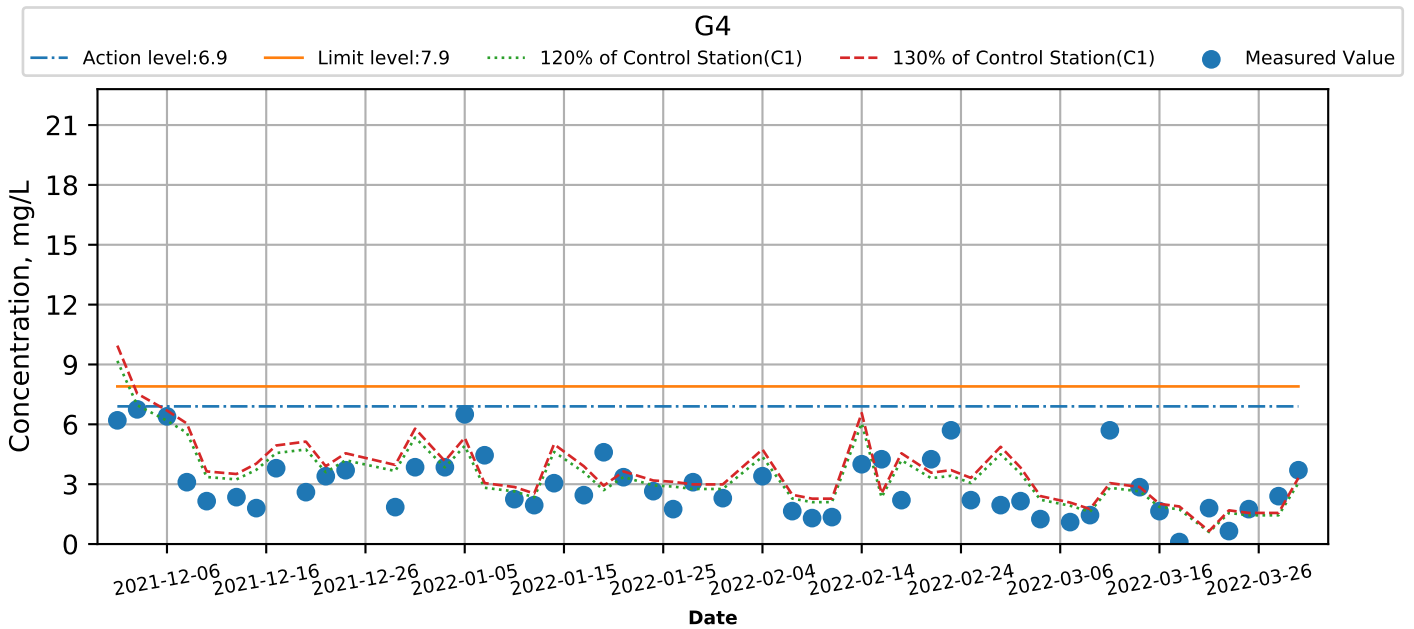
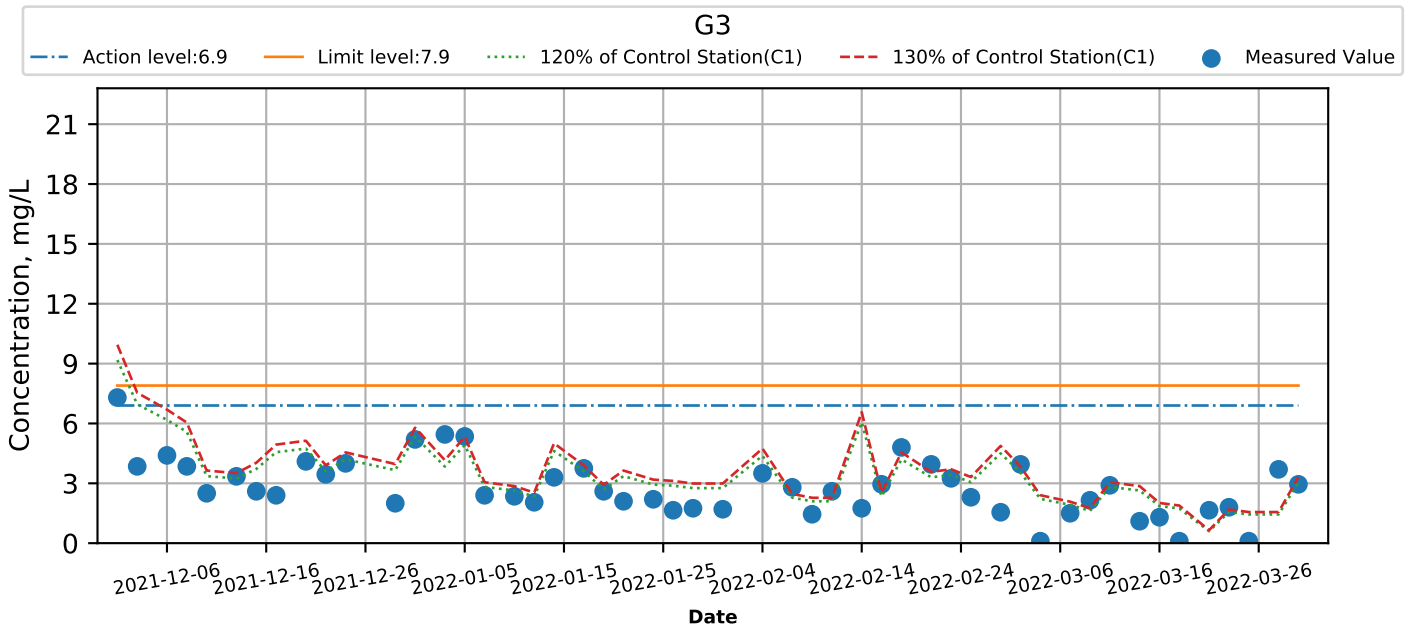
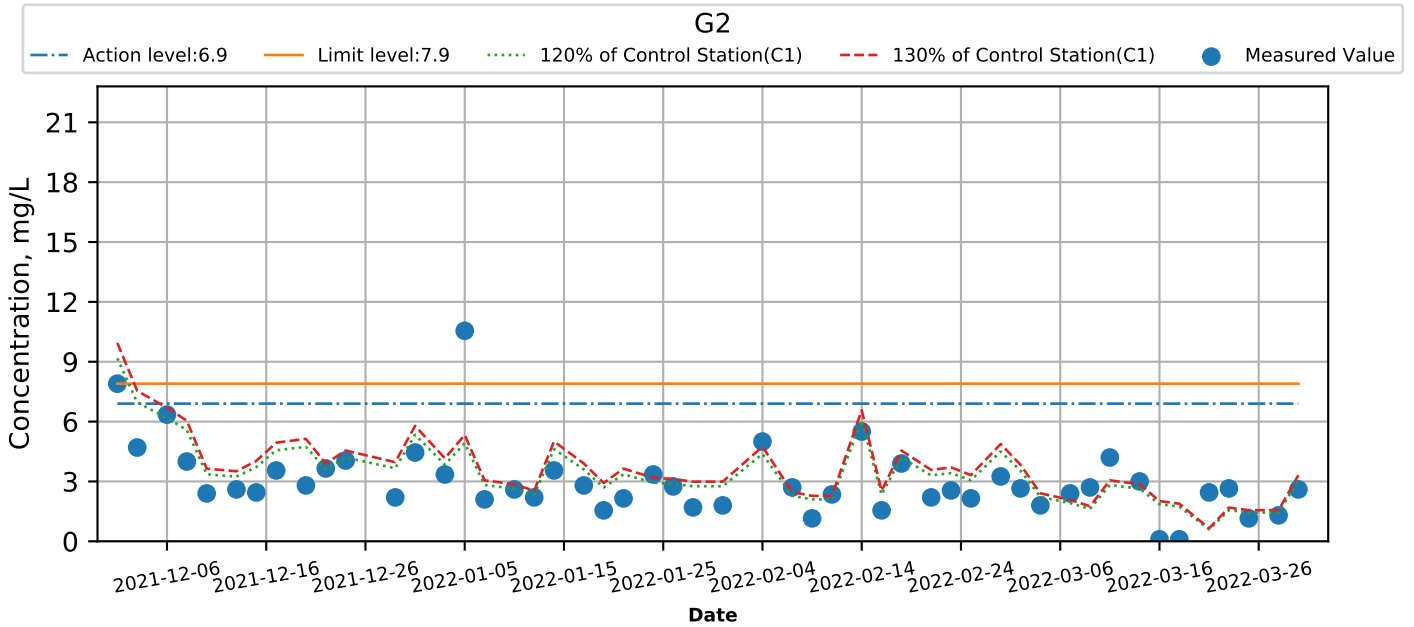
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



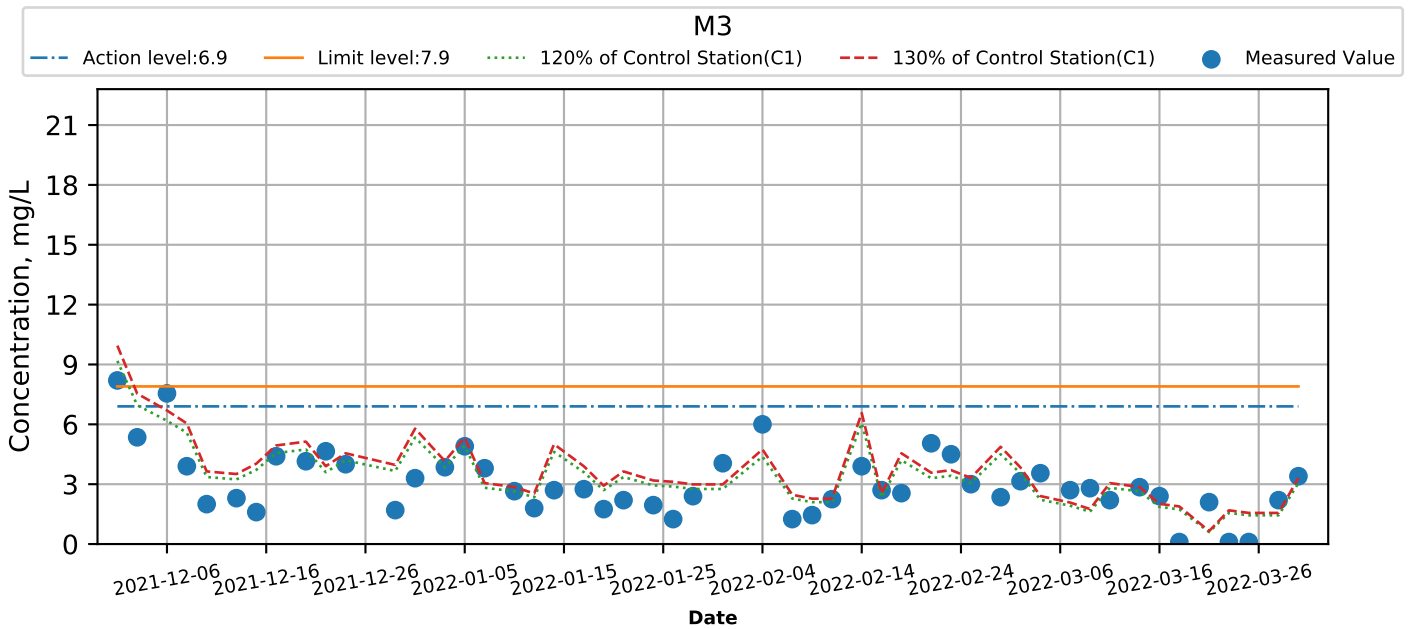
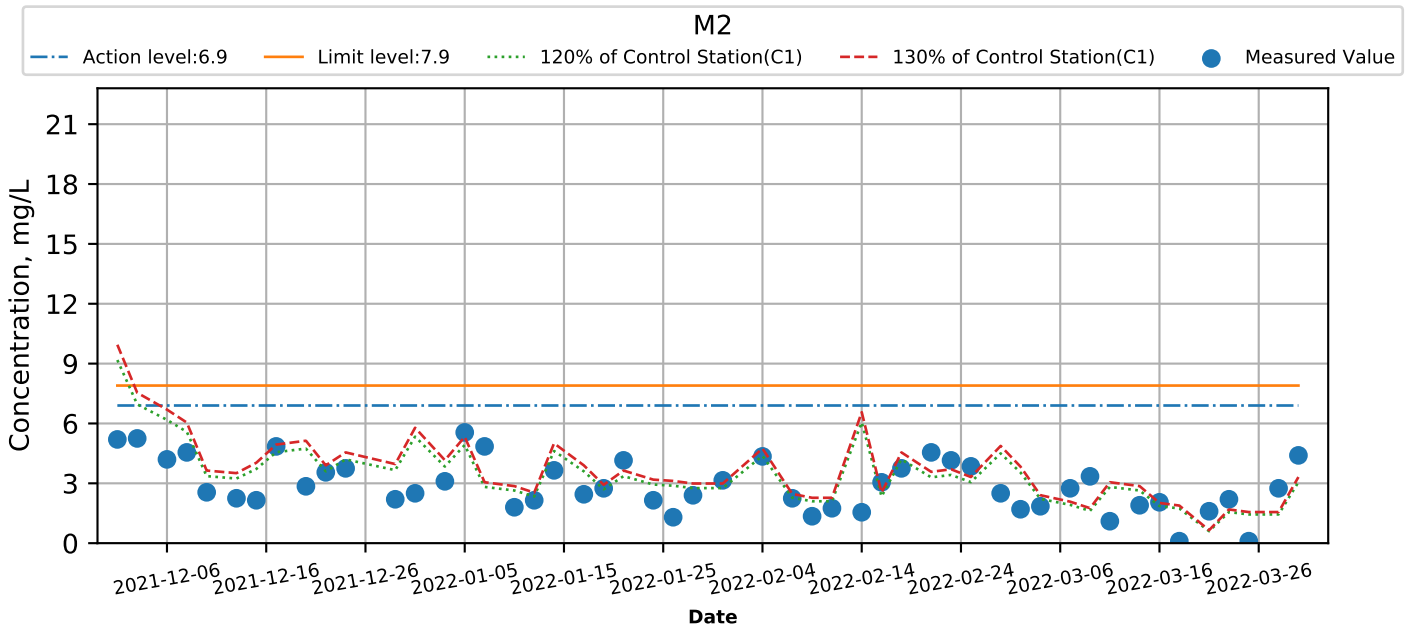
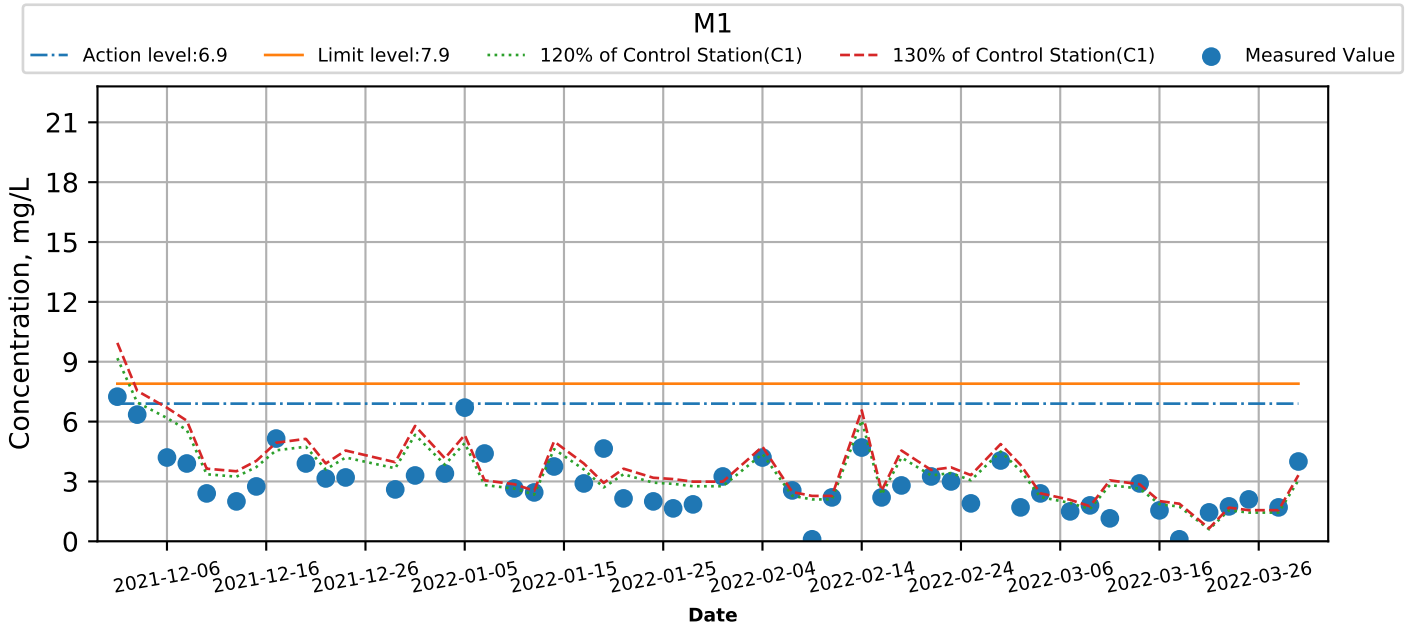
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



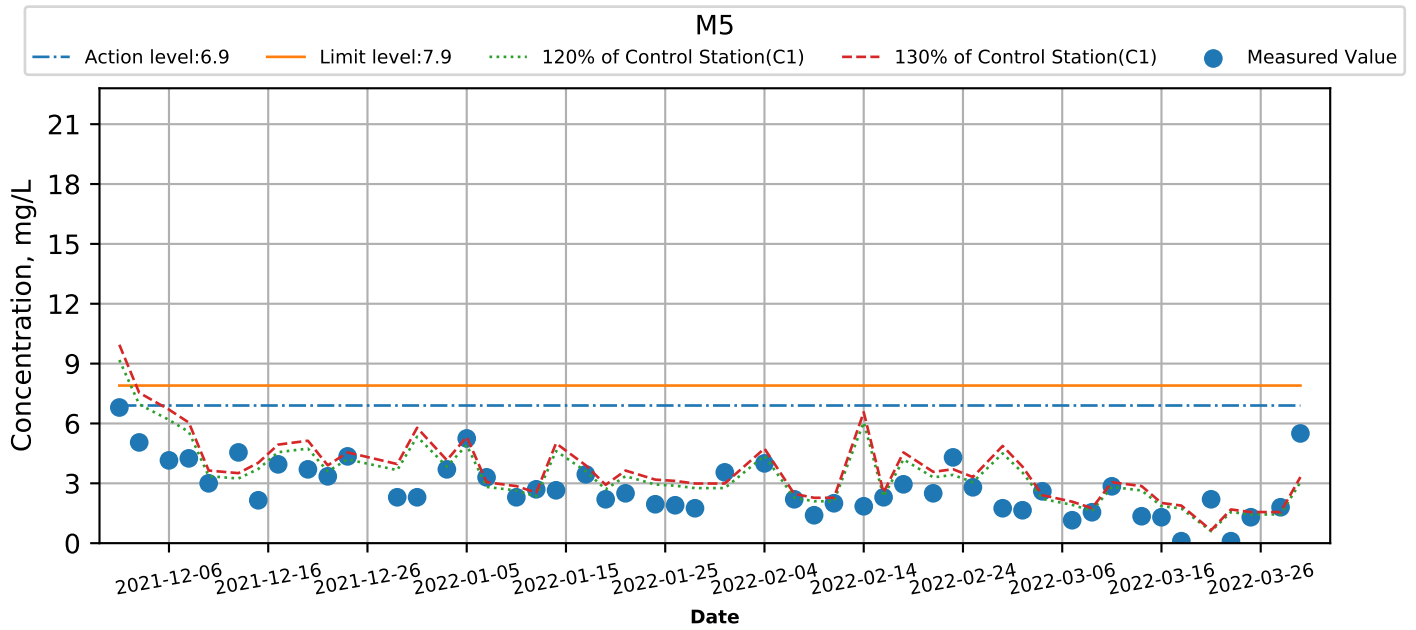
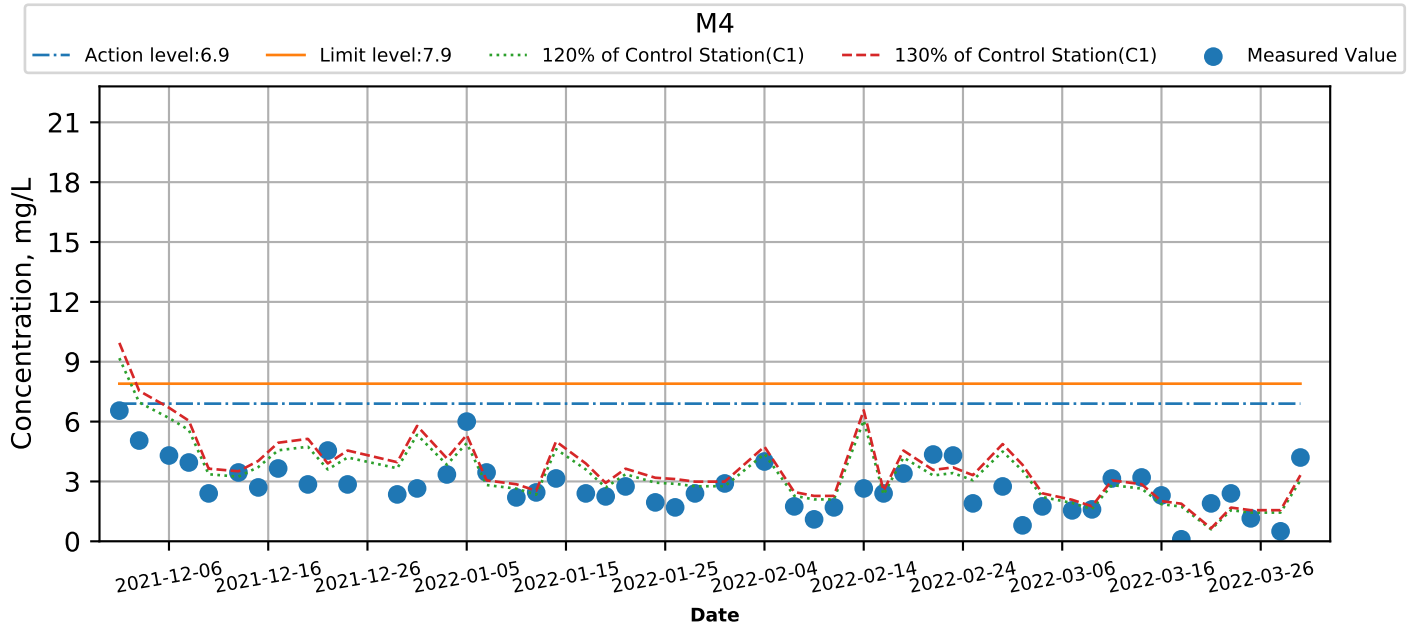
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



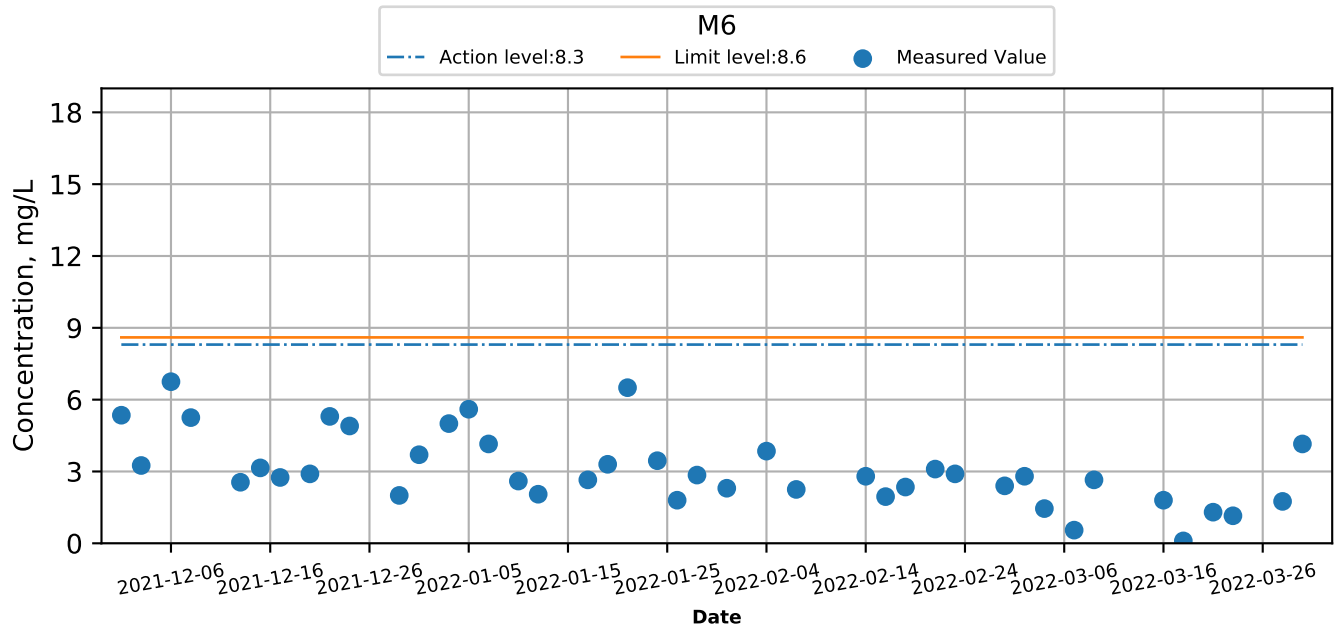
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



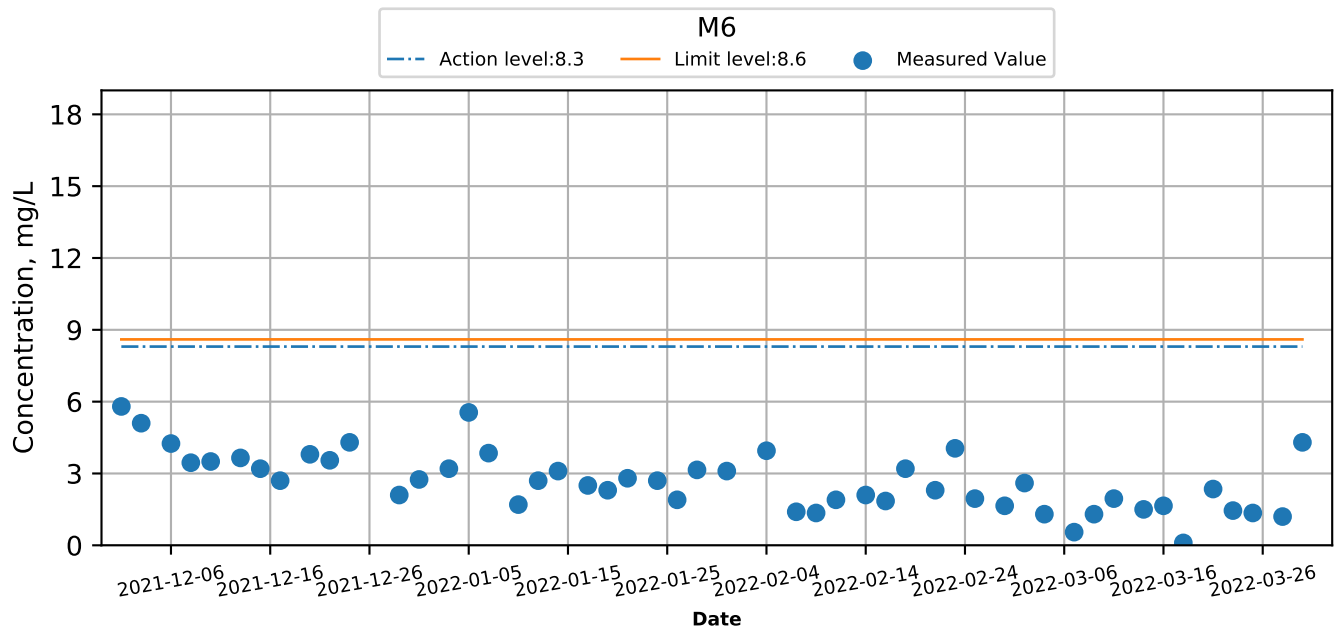
# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Intake level) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Dec-2021 to Mar-2022)

## Suspended Solids (Intake level) at Monitoring Stations during Mid-Flood





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**APPENDIX J  
QUALITY CONTROL REPORTS FOR  
LABORATORY ANALYSIS**

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## QUALITY ASSURANCE & QUALITY CONTROL

ALS Hong Kong is staffed with qualified chemists who conduct analytical testing using well documented procedures based on the universally recognised methodologies of USEPA, APHA, ASTM.

All laboratory procedures are regulated by comprehensive QA / QC programmes established to monitor and control every aspect of the operation. A minimum of 10% of all samples analysed by ALS Technichem are part of the Quality Assurance protocol.

The laboratory is HOKLAS accredited (Reg. No. 066) for a large range of chemical and biological tests covering environmental and food analyses.

Our QA/QC procedures are designed to ensure reliable analytical results to our clients.

### 1. INSTRUMENT CALIBRATION

All equipment and instruments meet the requirements and specifications of the documented test procedures.

#### 1.1 Daily Performance Checks

The performance checks are carried out once in every 24 hour operating period for most capital instruments, such as:

- Liquid Chromatography – Mass Spectrometry/Mass Spectrometry
- Gas Chromatography – Mass Selective Detector
- Gas Chromatography – Flame Ionization Detector
- Gas Chromatography – Electron Capture Detector
- Inductively Coupled Plasma – Mass Spectrometer
- Inductively Coupled Plasma – Atomic Emission Spectrometer
- Flow Injection Mercury Analyzer
- Automatic Discret Analyzer
- Flow Injection Analyzer
- Electronic Balance

Should the instrument fail the daily check repeatedly then the appropriate maintenance is undertaken to rectify the problem prior to sample analysis.

#### 1.2 Calibration

A minimum 5 point calibration covering the working range of the samples to be analysed is run with each group of samples. Laboratory Blanks are run at a frequency of 1 in every 20 samples or 1 between each analytical lot of samples, which ever is the more frequent.

A mid-range calibration standard is analysed regularly during the operating period to ensure consistency.

#### 1.3 Calibration Check

A calibration standard is analysed regularly during the operating period to ensure consistency.

### 2. QUALITY CONTROL (QC) SAMPLES

QC samples comprise those which monitor and control the laboratory performance namely Laboratory Control Sample (LCS), Duplicate Control Sample (DCS), Method Blanks and those which are used for data assessment and the evaluation of matrix effects by using Surrogates, Matrix Spike (MS), Matrix Spike Duplicate (MSD) and Sample Duplicates.

Field contamination is monitored by the analysis of Trip Blanks (VOCs) and Equipment Rinsate Samples.

The organics laboratory processes field samples in QC lots of 20 according to the analysis required. These 20 samples may consist of a number of sample batches independently submitted to the laboratory.

The inorganics laboratory lots samples in groups of 20 to 50 depending on the analyte to be determined. Quality control samples such as Laboratory Blanks and Quality Control Sample, and/or Certified Reference Materials (CRM) are run at a frequency of 1 in 20 per 'lot' of samples. Sample Duplicates and Matrix Spikes are run at a frequency of 1 in 20 or 1 per batch, whichever is more frequent.

#### 2.1 Laboratory Control Sample (LCS) & Duplicate Control Sample (DCS) - (Organics only)

(a) Accuracy - the closeness of agreement between an observed value and a reference value.

The observed value is the average of the LCS and the DCS values. The reference value is the spike value. The accuracy is expressed as the % Recovery and is calculated as follows:

$$\% \text{ Recovery} = (\text{Observed Value} / \text{Spiked Value}) \times 100$$

(b) Precision - the agreement among a set of replicate results.

Precision is expressed as the Relative Percent Difference (RPD) between the LCS and DCS detected levels, against the average of these levels.

The RPD is calculated as follows:

$$\text{RPD} = [(\text{Results 1} - \text{Result 2}) / \text{Average}] \times 100$$



## QUALITY ASSURANCE & QUALITY CONTROL

The accuracy and precision data are evaluated against laboratory established control limits. (If laboratory control limits have not been established for a particular method, control limits as specified in USEPA SW 846 may be utilised).

QC results falling outside the control limits are automatically flagged.

The acceptance criterion used is that 80 percent of the precision and accuracy values must fall within the control limits. If this criterion is not met, corrective action must be taken. This may include repeat sample analysis.

### **2.2 Laboratory / Reagent Blank**

For the laboratory blank to be acceptable, the concentration in the blank of any analyte of concern should not be higher than  $\frac{1}{2}$  of reporting limit (LOR) for that analyte.

Blank correction may be performed if the blank result is found to be greater than LOR and it is attributed to the analytical method and/or reagents involved.

### **2.3 Surrogates (Organics Only)**

Surrogate results are reported as percent recovery. Since surrogate spike recoveries indicate the presence of sample specific interferences, USEPA documented recovery limits are used as a guidance only.

The surrogate standards are used for semivolatile and volatile analyses. The semivolatile analysis includes SVOC, pesticide and PCB tests. The volatile analysis includes VOC and BTEX.

### **2.4 Matrix Spike (MS) / Matrix Spike Duplicate (MSD)**

MS and MSD results are used for data assessment and evaluation of method precision and bias in a given matrix.

### **2.5 Sample Duplicate**

The duplicate results are used for evaluation of laboratory precision in a given matrix.

The RPD values of the duplicates are used as the rejection or acceptance criteria.

Generally, water samples are repeated if the RPD is greater than 20 percent and there is sufficient sample for reanalysis.

The RPD for soils should be within 25 percent, however, this may be dependent upon sample homogeneity.

**QUALITY ASSURANCE & QUALITY CONTROL**

**TABLE 1: QC TERMS, DEFINITIONS, PURPOSE FOR MONITORING & FREQUENCY**

QC TERM	DEFINITION	TO MONITOR	FREQUENCY
Work Order	A set of samples received from a customer for analysis.	-	-
QC Lot	A set of 20 samples analysed under the same analytical conditions. A QC Lot may consist of samples from a number of work orders.	-	-
Analytical Lot	A group of samples prepared at the same time for a given analyte.	-	-
Control Limits	Upper and lower limits based on statistical analysis of laboratory historical performance data.	Laboratory precision and bias.	-
<b>Laboratory Quality Control Samples</b>			
Method Blank ( <i>BLK</i> )	An analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation.	Contamination introduced in the laboratory.	1 per QC lot of 20 samples
Sample Duplicate ( <i>DUP</i> )	An intra-laboratory split sample randomly selected from the sample batch.	Method precision in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike ( <i>MS</i> )	A split sample spiked with the target analytes prior to sample preparation and analysis.	Method bias in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike Duplicate ( <i>MSD</i> )	An split sample spiked as per the MS.	<i>Ditto</i>	<i>ditto</i>
Laboratory Control Sample ( <i>LCS</i> )	A known, interference free matrix spiked with target analytes.	Laboratory preparation technique.	1 per QC lot of 20 samples
Duplicate Control Sample ( <i>DCS</i> )	As per the SCS.	Preparation technique reproducibility (precision).	<i>Ditto</i>
Certified Reference Material ( <i>CRM</i> )	A certified reference material containing target analytes with known concentrations and associated uncertainties and	Monitoring overall performance of each step during analysis, including sample preparation. For Inorganic analysis.	1 per QC Lot, per analytical method.
Surrogate Spike ( <i>organic testing only</i> )	Compounds similar in composition and behaviour to the target analytes but not commonly found in samples.	Matrix interference on a per sample basis.	Surrogates are added to all samples for selected organic analyses.
<b>Filed Quality Control Samples</b>			
Equipment Rinsate	A sample of reagent water used by client in field to rinse the sampling equipment between the decontamination and sampling steps	Equipment decontamination.	as directed by client.
Trip Blank ( <i>usually VOC testing</i> )	A sample of analyte free media is taken from the laboratory to the sampling site and returned to the laboratory unopened.	Contamination from shipping and field handling. Most applicable to volatile analysis.	as directed by client.



**QUALITY ASSURANCE & QUALITY CONTROL**

**TABLE 2: LABORATORY QUALITY CONTROL SCHEDULES**

**ORGANICS –**

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	•	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Surrogate ( <i>organics only</i> )	√	√	√
Matrix Spike Duplicate (MSD)	•	•	√

**INORGANICS -**

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	√	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Matrix Spike Duplicate (MSD)	•	•	√

- √ Analysis performed in the schedule.
- Analysis not performed in the schedule.

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**APPENDIX K  
SUMMARY OF EXCEEDANCE**

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**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel –**  
**Design and Construction**

**Appendix K – Summary of Exceedance**

**Reporting Period: March 2022**

**(A) Exceedance Report for Air Quality**

No limit level exceedance for air quality monitoring of 24-hr TSP was recorded in the reporting month.  
 No action level exceedance for air quality monitoring of 24-hr TSP was recorded in the reporting month.  
 No exceedance for air quality monitoring of 1-hr TSP was recorded in the reporting month.

**(B) Exceedance Report for Construction Noise**

**Action Level for Construction Noise**

Three (3) action level exceedances were recorded due to the documented complaints received in this reporting month.

**Limit Level for Construction Noise**

One (1) limit level exceedance for daytime construction noise monitoring was recorded in the reporting month.

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong								
Date	Time	Weather	Unit: dB (A) (30-min)					
			Measured Noise Level			Baseline Level	Limit Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>	L <sub>eq</sub>
10-Mar-22	10:00	Sunny	76	73.5	77.8	65.5	75	76

No exceedance for evening-time construction noise monitoring was recorded in the reporting month.

No exceedances for nighttime construction noise monitoring was recorded in the reporting month.

**Exceedance recorded during daytime**

(NIL in the reporting month)

**Exceedance recorded during night-time**

(NIL in the reporting month)

**(C) Exceedance Report for Water Quality**

Fourteen (14) Action Level and sixty-four (64) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.

No action and limit level exceedance was recorded for post-reclamation marine water quality monitoring.

Refer to the attached notifications and investigation report for details.  
 Since October 2019, groundwater monitoring had been suspended.

**(D) Exceedance Report for Ecology**

(NIL in the reporting month)

**(E) Exceedance Report for Cultural Heritage**

(NIL in the reporting month)

**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel –**  
**Design and Construction**

**Appendix K – Summary of Exceedance**  
**(F) Exceedance Report for Landfill Gas**  
(NIL in the reporting month)



Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel

**- Notification & Investigation of Exceedances**

NOE No. 220310\_noise (CM1) Exceedance Level: Limit

Time of Measurement: 12:46 -13:50

Date of Noise Monitoring: 10 March 2022

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Construction Noise**

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	13:16	76.0	65.5	<u>76</u>	When one documented complaint is received.	75	Limit
		13:50	77.0	65.5	<u>77</u>			

**Investigation Summary**

(a) Statement of exceedance(s)

Construction noise level(s) measured at CM1 exceed the construction noise (day time) limit level.


(b) Cause of exceedance(s) / Remarks

The exceedance is considered related to the Project works:

- According to our field observation, a breaker was being operated at Portion IVC with only acoustic sheets adopted as mitigation measure. (See attached photo - WhatsApp Image 2022-03-10 at 13.41.20.jpeg) As acoustic sheets itself are without much noise absorption property, noise cannot be mitigated to a desirable level especially when the noise source is significant.
- Some percussive / breaking noise from LTI was also observed during monitoring.

**Part B – Conclusion:** The exceedance of day time noise limit level is related to the Project, as noise barriers/enclosures were not implemented properly when operating breaker.

**Part C – Recommendation:** Proper implementation of noise barriers/enclosures is required.

ETL Signature: 

Date: 10 March 2022

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 - Notification of Exceedance

Date of Water Quality Monitoring: 02 March 2022

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	2.6	G3	13:18	6.0	6.9	3.1	3.3	<b>4.0</b>
Mid-Flood	C1	surface	2.4	G1	8:36	6.0	6.9	2.9	3.1	<b><u>3.2</u></b>
Mid-Flood	C1	bottom	3.0	G3	8:42	6.9	7.9	3.5	3.8	<b>4.0</b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**04 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	1.3	G3	14:08	6.0	6.9	1.6	1.7	<b><i>2.2</i></b>
Mid-Ebb	C2	surface	1.3	M5	14:41	6.2	7.4	1.6	1.7	<b><u>1.8</u></b>
Mid-Flood	C1	surface	1.5	M1	8:37	6.2	7.4	1.7	1.9	<b>1.9</b>
Mid-Flood	C1	surface	1.5	M2	8:21	6.2	7.4	1.7	1.9	<b><u>2.0</u></b>
Mid-Flood	C1	bottom	1.9	M1	8:37	6.9	7.9	2.2	2.4	<b>2.4</b>
Mid-Flood	C1	bottom	1.9	M3	9:04	6.9	7.9	2.2	2.4	<b><u>3.6</u></b>
Mid-Flood	C1	bottom	1.9	M5	9:31	6.9	7.9	2.2	2.4	<b><u>2.6</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic***)

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 - **Notification of Exceedance**

Date of Water Quality Monitoring: **07 March 2022**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	1.6	G2	9:47	6.9	7.9	1.9	2.1	<b><u>2.4</u></b>
Mid-Flood	C1	bottom	1.6	M2	9:38	6.9	7.9	1.9	2.1	<b><u>2.8</u></b>
Mid-Flood	C1	bottom	1.6	M3	10:30	6.9	7.9	1.9	2.1	<b><u>2.7</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

Date of Water Quality Monitoring:

**09 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	1.4	G1	16:24	6.0	6.9	1.7	1.8	<b><u>2.5</u></b>
Mid-Ebb	C2	surface	1.4	G3	16:31	6.0	6.9	1.7	1.8	<b><u>2.1</u></b>
Mid-Ebb	C2	surface	1.4	G4	16:46	6.0	6.9	1.7	1.8	<b><u>1.9</u></b>
Mid-Ebb	C2	surface	1.4	M1	16:16	6.2	7.4	1.7	1.8	<b>1.8</b>
Mid-Ebb	C2	surface	1.4	M5	16:58	6.2	7.4	1.7	1.8	<b><u>1.9</u></b>
Mid-Flood	C1	bottom	1.4	G1	10:55	6.9	7.9	1.6	1.8	<b><u>3.2</u></b>
Mid-Flood	C1	bottom	1.4	G2	10:38	6.9	7.9	1.6	1.8	<b><u>2.7</u></b>
Mid-Flood	C1	bottom	1.4	G3	11:05	6.9	7.9	1.6	1.8	<b><u>2.2</u></b>
Mid-Flood	C1	bottom	1.4	M1	10:46	6.9	7.9	1.6	1.8	<b>1.8</b>
Mid-Flood	C1	bottom	1.4	M2	10:29	6.9	7.9	1.6	1.8	<b><u>3.4</u></b>
Mid-Flood	C1	bottom	1.4	M3	11:13	6.9	7.9	1.6	1.8	<b><u>2.8</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**11 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	1.4	G1	9:45	6.0	6.9	1.6	1.8	<b><u>2.2</u></b>
Mid-Flood	C1	surface	1.4	G4	10:10	6.0	6.9	1.6	1.8	<b><u>2.6</u></b>
Mid-Flood	C1	surface	1.4	M1	9:37	6.2	7.4	1.6	1.8	<b><u>3.2</u></b>
Mid-Flood	C1	surface	1.4	M2	9:21	6.2	7.4	1.6	1.8	<b><u>2.4</u></b>
Mid-Flood	C1	bottom	2.4	G2	9:30	6.9	7.9	2.8	3.1	<b><u>4.2</u></b>
Mid-Flood	C1	bottom	2.4	G3	9:54	6.9	7.9	2.8	3.1	<b><u>2.9</u></b>
Mid-Flood	C1	bottom	2.4	G4	10:10	6.9	7.9	2.8	3.1	<b><u>5.7</u></b>
Mid-Flood	C1	bottom	2.4	M4	9:12	6.9	7.9	2.8	3.1	<b><u>3.2</u></b>
Mid-Flood	C1	bottom	2.4	M5	10:21	6.9	7.9	2.8	3.1	<b><u>2.9</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring: 14 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	2.2	G1	9:45	6.9	7.9	2.6	2.9	<b>2.7</b>
Mid-Flood	C1	bottom	2.2	G2	9:30	6.9	7.9	2.6	2.9	<b><u>3.0</u></b>
Mid-Flood	C1	bottom	2.2	G4	10:12	6.9	7.9	2.6	2.9	<b>2.9</b>
Mid-Flood	C1	bottom	2.2	M1	9:37	6.9	7.9	2.6	2.9	<b>2.9</b>
Mid-Flood	C1	bottom	2.2	M3	10:03	6.9	7.9	2.6	2.9	<b>2.9</b>
Mid-Flood	C1	bottom	2.2	M4	9:12	6.9	7.9	2.6	2.9	<b><u>3.2</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring: 16 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	bottom	1.5	G1	12:21	6.9	7.9	1.8	2.0	<b>2.0</b>
Mid-Ebb	C2	bottom	1.5	G3	12:28	6.9	7.9	1.8	2.0	<b><u>2.2</u></b>
Mid-Ebb	C2	bottom	1.5	M1	12:14	6.9	7.9	1.8	2.0	<b><u>4.1</u></b>
Mid-Ebb	C2	bottom	1.5	M2	11:57	6.9	7.9	1.8	2.0	<b>2.0</b>
Mid-Ebb	C2	bottom	1.5	M4	11:48	6.9	7.9	1.8	2.0	<b><u>2.4</u></b>
Mid-Ebb	C2	bottom	1.5	M5	12:59	6.9	7.9	1.8	2.0	<b>1.9</b>
Mid-Flood	C1	surface	2.3	G1	16:19	6.0	6.9	2.8	3.0	<b><u>4.1</u></b>
Mid-Flood	C1	bottom	1.6	G1	16:19	6.9	7.9	1.9	2.0	<b><u>2.2</u></b>
Mid-Flood	C1	bottom	1.6	M2	15:56	6.9	7.9	1.9	2.0	<b><u>2.1</u></b>
Mid-Flood	C1	bottom	1.6	M3	16:33	6.9	7.9	1.9	2.0	<b><u>2.4</u></b>
Mid-Flood	C1	bottom	1.6	M4	15:47	6.9	7.9	1.9	2.0	<b><u>2.3</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)



**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 18 March 2022

**Part A – Exceedance Summary Tables**

**Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.3	G1	11:51	1.6	1.7	<b><u>1.8</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

Date of Water Quality Monitoring:

**21 March 2022**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	1.2	G1	8:44	6.0	6.9	1.4	1.6	<b><u>2.2</u></b>
Mid-Flood	C1	surface	1.2	G2	8:29	6.0	6.9	1.4	1.6	<b><u>2.2</u></b>
Mid-Flood	C1	surface	1.2	G3	8:51	6.0	6.9	1.4	1.6	<b><u>2.1</u></b>
Mid-Flood	C1	surface	1.2	G4	9:08	6.0	6.9	1.4	1.6	<b><u>1.7</u></b>
Mid-Flood	C1	surface	1.2	M2	8:21	6.2	7.4	1.4	1.6	<b><u>1.8</u></b>
Mid-Flood	C1	surface	1.2	M3	9:00	6.2	7.4	1.4	1.6	<b><u>1.6</u></b>
Mid-Flood	C1	surface	1.2	M4	8:13	6.2	7.4	1.4	1.6	<b><u>2.4</u></b>
Mid-Flood	C1	surface	1.2	M5	9:20	6.2	7.4	1.4	1.6	<b><u>2.3</u></b>
Mid-Flood	C1	bottom	0.5	G1	8:44	6.9	7.9	0.6	0.7	<b><u>2.1</u></b>
Mid-Flood	C1	bottom	0.5	G2	8:29	6.9	7.9	0.6	0.7	<b><u>2.5</u></b>
Mid-Flood	C1	bottom	0.5	G3	8:51	6.9	7.9	0.6	0.7	<b><u>1.7</u></b>
Mid-Flood	C1	bottom	0.5	G4	9:08	6.9	7.9	0.6	0.7	<b><u>1.8</u></b>
Mid-Flood	C1	bottom	0.5	M1	8:37	6.9	7.9	0.6	0.7	<b><u>1.5</u></b>
Mid-Flood	C1	bottom	0.5	M2	8:21	6.9	7.9	0.6	0.7	<b><u>1.6</u></b>
Mid-Flood	C1	bottom	0.5	M3	9:00	6.9	7.9	0.6	0.7	<b><u>2.1</u></b>
Mid-Flood	C1	bottom	0.5	M4	8:13	6.9	7.9	0.6	0.7	<b><u>1.9</u></b>
Mid-Flood	C1	bottom	0.5	M5	9:20	6.9	7.9	0.6	0.7	<b><u>2.2</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 23 March 2022

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Dissolved Oxygen (DO) / Turbidity (TURB) / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	bottom	1.6	M1	14:45	6.9	7.9	1.9	2.0	<b><u>2.4</u></b>
Mid-Ebb	C2	bottom	1.6	M5	15:09	6.9	7.9	1.9	2.0	<b><u>2.3</u></b>
Mid-Flood	C1	surface	0.7	G1	8:57	6.0	6.9	0.8	0.8	<b><u>1.8</u></b>
Mid-Flood	C1	surface	0.7	G2	8:45	6.0	6.9	0.8	0.8	<b><u>1.4</u></b>
Mid-Flood	C1	surface	0.7	G3	9:02	6.0	6.9	0.8	0.8	<b><u>1.6</u></b>
Mid-Flood	C1	surface	0.7	G4	9:10	6.0	6.9	0.8	0.8	<b><u>1.5</u></b>
Mid-Flood	C1	surface	0.7	M1	8:54	6.2	7.4	0.8	0.8	<b><u>1.2</u></b>
Mid-Flood	C1	surface	0.7	M2	8:41	6.2	7.4	0.8	0.8	<b><u>1.6</u></b>
Mid-Flood	C1	surface	0.7	M3	9:04	6.2	7.4	0.8	0.8	<b><u>1.8</u></b>
Mid-Flood	C1	surface	0.7	M5	9:19	6.2	7.4	0.8	0.8	<b><u>1.4</u></b>
Mid-Flood	C1	bottom	1.3	G2	8:45	6.9	7.9	1.6	1.7	<b><u>2.7</u></b>
Mid-Flood	C1	bottom	1.3	G3	9:02	6.9	7.9	1.6	1.7	<b><u>1.8</u></b>
Mid-Flood	C1	bottom	1.3	M1	8:54	6.9	7.9	1.6	1.7	<b><u>1.8</u></b>
Mid-Flood	C1	bottom	1.3	M2	8:41	6.9	7.9	1.6	1.7	<b><u>2.2</u></b>
Mid-Flood	C1	bottom	1.3	M4	8:34	6.9	7.9	1.6	1.7	<b><u>2.4</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

Date of Water Quality Monitoring: 23 March 2022

Part A – Exceedance Summary Tables

Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.9	G3	14:53	2.3	2.5	<b><u>5.2</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.9	M3	14:58	2.3	2.5	<b><u>3.2</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.9	M5	15:09	2.3	2.5	<b><u>2.6</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.3	G1	8:57	1.6	1.7	<b>1.7</b>
Bottom	19.3	22.2	Mid-flood	C1	1.3	G3	9:02	1.6	1.7	<b><u>5.1</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.3	M3	9:04	1.6	1.7	<b><u>3.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.3	M5	9:19	1.6	1.7	<b><u>2.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 25 March 2022

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Dissolved Oxygen (DO) / Turbidity (TURB) / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	1.2	G4	11:28	6.9	7.9	1.4	1.6	<b>1.8</b>
Mid-Flood	C1	bottom	1.2	M1	11:08	6.9	7.9	1.4	1.6	<b><u>2.1</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 25 March 2022

**Part A – Exceedance Summary Tables**

**Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-flood	C1	1.0	G2	11:03	1.2	1.4	<b>1.4</b>
Bottom	19.3	22.2	Mid-flood	C1	1.0	G4	11:28	1.2	1.4	<b><u>1.6</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.0	M1	11:08	1.2	1.4	<b><u>1.8</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.0	M4	10:51	1.2	1.4	<b>1.4</b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**28 March 2022**

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	1.6	G2	10:22	6.0	6.9	1.9	2.1	<b><u>2.6</u></b>
Mid-Ebb	C2	surface	1.6	G3	10:45	6.0	6.9	1.9	2.1	<b><u>2.8</u></b>
Mid-Ebb	C2	surface	1.6	G4	10:59	6.0	6.9	1.9	2.1	<b><u>2.7</u></b>
Mid-Ebb	C2	surface	1.6	M1	10:30	6.2	7.4	1.9	2.1	<b><u>3.5</u></b>
Mid-Ebb	C2	surface	1.6	M2	10:15	6.2	7.4	1.9	2.1	<b><u>3.4</u></b>
Mid-Ebb	C2	surface	1.6	M3	10:52	6.2	7.4	1.9	2.1	<b><u>2.2</u></b>
Mid-Ebb	C2	surface	1.6	M4	10:07	6.2	7.4	1.9	2.1	<b><u>4.9</u></b>
Mid-Ebb	C2	surface	1.6	M5	11:11	6.2	7.4	1.9	2.1	<b><u>3.7</u></b>
Mid-Ebb	C2	bottom	2.4	G1	10:37	6.9	7.9	2.8	3.1	<b><u>3.5</u></b>
Mid-Ebb	C2	bottom	2.4	M1	10:30	6.9	7.9	2.8	3.1	<b><u>4.1</u></b>
Mid-Ebb	C2	bottom	2.4	M4	10:07	6.9	7.9	2.8	3.1	<b><u>3.1</u></b>
Mid-Flood	C1	surface	2.4	G4	14:47	6.0	6.9	2.8	3.1	<b><u>4.0</u></b>
Mid-Flood	C1	surface	2.4	M1	14:17	6.2	7.4	2.8	3.1	<b><u>2.9</u></b>
Mid-Flood	C1	surface	2.4	M2	14:01	6.2	7.4	2.8	3.1	<b><u>3.8</u></b>
Mid-Flood	C1	bottom	1.2	G1	14:25	6.9	7.9	1.4	1.6	<b><u>3.9</u></b>
Mid-Flood	C1	bottom	1.2	G3	14:32	6.9	7.9	1.4	1.6	<b><u>3.7</u></b>
Mid-Flood	C1	bottom	1.2	G4	14:47	6.9	7.9	1.4	1.6	<b><u>2.4</u></b>
Mid-Flood	C1	bottom	1.2	M1	14:17	6.9	7.9	1.4	1.6	<b><u>1.7</u></b>
Mid-Flood	C1	bottom	1.2	M2	14:01	6.9	7.9	1.4	1.6	<b><u>2.8</u></b>

Date of Water Quality Monitoring:

28 March 2022

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	1.2	M3	14:40	6.9	7.9	1.4	1.6	<b><u>2.2</u></b>
Mid-Flood	C1	bottom	1.2	M5	15:00	6.9	7.9	1.4	1.6	<b><u>1.8</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)



Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
 - Notification of Exceedance

Date of Water Quality Monitoring: 28 March 2022

Part A – Exceedance Summary Tables

Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-flood	C1	1.3	M5	15:00	1.6	1.7	<b><u>1.8</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)  
**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

Date of Water Quality Monitoring:

**30 March 2022**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / ~~Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	3.6	M1	11:49	6.2	7.4	4.3	4.6	<b><u>4.7</u></b>
Mid-Ebb	C2	bottom	2.3	G2	11:44	6.9	7.9	2.8	3.0	<b>3.0</b>
Mid-Ebb	C2	bottom	2.3	G4	12:07	6.9	7.9	2.8	3.0	<b><u>3.9</u></b>
Mid-Ebb	C2	bottom	2.3	M1	11:49	6.9	7.9	2.8	3.0	<b><u>3.4</u></b>
Mid-Ebb	C2	bottom	2.3	M2	11:39	6.9	7.9	2.8	3.0	<b><u>4.2</u></b>
Mid-Ebb	C2	bottom	2.3	M3	12:02	6.9	7.9	2.8	3.0	<b>3.0</b>
Mid-Ebb	C2	bottom	2.3	M5	12:15	6.9	7.9	2.8	3.0	<b><u>4.6</u></b>
Mid-Flood	C1	surface	3.3	G3	16:03	6.0	6.9	4.0	4.3	<b>4.1</b>
Mid-Flood	C1	surface	3.3	M3	16:08	6.2	7.4	4.0	4.3	<b><u>4.5</u></b>
Mid-Flood	C1	surface	3.3	M4	15:38	6.2	7.4	4.0	4.3	<b><u>4.4</u></b>
Mid-Flood	C1	bottom	2.6	G4	16:13	6.9	7.9	3.1	3.3	<b><u>3.7</u></b>
Mid-Flood	C1	bottom	2.6	M1	15:53	6.9	7.9	3.1	3.3	<b><u>4.0</u></b>
Mid-Flood	C1	bottom	2.6	M2	15:43	6.9	7.9	3.1	3.3	<b><u>4.4</u></b>
Mid-Flood	C1	bottom	2.6	M3	16:08	6.9	7.9	3.1	3.3	<b><u>3.4</u></b>
Mid-Flood	C1	bottom	2.6	M4	15:38	6.9	7.9	3.1	3.3	<b><u>4.2</u></b>
Mid-Flood	C1	bottom	2.6	M5	16:21	6.9	7.9	3.1	3.3	<b><u>5.5</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel  
Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances**

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**Part A Details of Investigation**

For the reporting month, exceedances for suspended solids and turbidity have been recorded continuously at various monitoring stations. During site inspection, the water outside the site boundary seemed to be clear and clean (Photo 1 to 4)

During regular water quality monitoring, the sea appears to be clear in general (Photo 5 to 6). However, it is observed that natural occurring algal bloom happened in mid-March 2022 which may contribute to the exceedance (Photo 7 to 8).

Sediment tanks were free from silt and sediments and the drainage system remained well-maintained. No sand plumes were observed during the site inspection.

No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring is required.

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel  
Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances**

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**Part B Photo Record**



Photo 1 (Recorded on 9 March 2022)



Photo 2 (Recorded on 9 March 2022)



Photo 3 (Recorded on 30 March 2022)



Photo 4 (Recorded on 30 March 2022)

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel  
Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances**



Photo 5 (Recorded on 25 March 2022)



Photo 6 (Recorded on 25 March 2022)



Photo 7 (Recorded on 14 March 2022)



Photo 8 (Recorded on 14 March 2022)

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel  
Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances**

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**Part C – Recommendations**

Since rainy season is approaching, the Contractors are reminded to carry out precautionary measures, such as clear the drainage and ensure proper embankment had been placed around the site, to prevent accidental discharge of muddy water. Dive inspection shall be conducted regularly to ensure the condition of silt curtain. Good site practises such as provision of perimeter cut-off drains to direct off-site water, regular removal of silt and sediment from sediment tanks and covering open stockpiles shall be conducted as far as possible.



Reviewed by: (Environmental Team Leader:(Dr. HF Chan)

Date: 12<sup>th</sup> April 2022

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**APPENDIX L  
SITE AUDIT SUMMARY**

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**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Monthly EM&A Report**

**Appendix L - Site Audit Summary**

Contract No. — NE2015/01  
Tseung Kwan O - Lam Tin Tunnel — Main Tunnel and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
--	--	--	--
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
The Contractor is reminded to spray water regularly to suppress dust emission.	9-Mar-22	✓	9-Mar-22: The Contractor order street sprinkler to water Slope A later on the day.
NRMM label on roller has been worn out and the prints are illegible.	16-Mar-22	✓	16-Mar-22: The NRMM label has been replaced
Water spraying should be provided when transferring materials to stockpiles.	16-Mar-22	✓	16-Mar-22: Water spraying has been provided
<i>Waste/Chemical Management</i>			
Chemical shall be placed within drip tray and suitable storage shall be provided to minimize potential damage or contamination of construction material/soil	2-Mar-22	✓	3-Mar-22: The chemical was removed
Inert and non-inert waste shall be separated for proper disposal.	16-Mar-22	✓	24-Mar-22: Skips for inert and non-inert waste was provided and no mixing of the waste is observed.
Hole on drip tray shall be sealed.	16-Mar-22	✓	24-Mar-22: The drip tray is replaced.
Drip tray shall be provided to chemicals / Chemicals shall be removed.	30-Mar-22	✓	30-Mar-22: The chemicals are removed later on that day.
Accumulated waste shall be disposed as soon as possible.	30-Mar-22	✓	30-Mar-22: The accumulated waste are removed later on that day.
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor



Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Monthly EM&A Report

Appendix L - Site Audit Summary

Contract No. — NE2015/02  
 Tseung Kwan O - Lam Tin Tunnel — Road P2 and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
--	--	--	--
<i>Waste/Chemical Management</i>			
The Contractor is reminded to remove the accumulated waste	3-Mar-22	✓	3-Mar-22: The Contractor removed the accumulated waste later in the day.
The Contractor is reminded to provide drip tray for chemical. In addition, it is suggested that to relocate the chemical away from the seafront as far as possible.	31-Mar-22	✓	1-Apr-22: The Contractor has relocated the chemical and provide drip tray to the chemical.
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor

Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Monthly EM&A Report

**Appendix L - Site Audit Summary**

Contract No. — NE2017/02  
 Tseung Kwan O - Lam Tin Tunnel — Road P2/D4 and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
--	--	--	--
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
--	--	--	--
<i>Waste/Chemical Management</i>			
--	--	--	--
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor

Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Monthly EM&A Report

Appendix L - Site Audit Summary

Contract No. — NE2017/06

Tseung Kwan O - Lam Tin Tunnel — Traffic Control and Surveillance System (TCSS) and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
--	--	--	--
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
--	--	--	--
<i>Waste/Chemical Management</i>			
--	--	--	--
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor

Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Monthly EM&A Report

**Appendix L - Site Audit Summary**

Contract No. — NE2017/01

Tseung Kwan O - Lam Tin Tunnel — Tseung Kwan O Interchange and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
--	--	--	--
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
--	--	--	--
<i>Waste/Chemical Management</i>			
--	--	--	--
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor

Agreement No. CE 59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Monthly EM&A Report

**Appendix L - Site Audit Summary**

Contract No. — NE2017/07

Tseung Kwan O - Lam Tin Tunnel — Cross Bay Link Main Bridge and Associated Works

Items	Date	Status*	Follow up Action
<i>Water Quality</i>			
--	--	--	--
<i>Ecology</i>			
--	--	--	--
<i>Noise</i>			
--	--	--	--
<i>Landscape and Visual</i>			
--	--	--	--
<i>Air Quality</i>			
--	--	--	--
<i>Waste/Chemical Management</i>			
--	--	--	--
<i>Impact on Cultural Heritage</i>			
--	--	--	--
<i>Permit/Licenses</i>			
--	--	--	--

- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
- ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
- # Follow up action will be reported in next reporting month
- \* Non-compliance of mitigation measure
- Non-compliance but improved by the contractor

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**APPENDIX M**  
**EVENT AND ACTION PLANS**

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### Event and Action Plan for Air Quality (Dust)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of complaint and propose remedial measures;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
Action level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and ER;</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	8. If exceedance stops, cease additional monitoring.			
Limit level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform Contractor ,IEC, ER, and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>
Limit level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> </ol>



EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	5. Carry out analysis of Contractor’s working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor’s remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	3. Supervise the implementation of remedial measures.	4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

### Event and Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC;</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.			

**Event and Action Plan for Marine Water Quality**

Event	Action			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> <li>• If exceedance is found to be caused by the reclamation activities, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>• Inform IEC and contractor;</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>• Discuss mitigation measures with IEC and Contractor;</li> <li>• Repeat measurement on next day of exceedance.</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IEC on the proposed mitigation measures;</li> <li>• Make agreement on the mitigation proposal.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the ER and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> <li>• Check all plant and equipment;</li> <li>• Amend working methods if appropriate;</li> <li>• Discuss with ET and IEC and propose mitigation measures to IEC and ER;</li> <li>• Implement the agree mitigation measures.</li> </ul>
Action level being exceeded by two or more consecutive	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IEC on the proposed mitigation measures;</li> <li>• Make agreement on the mitigation proposal;</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the Engineer and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> </ul>

Event	Action			
	ET	IEC	ER	CONTRACTOR
sampling days at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings;</li> <li>• Inform IEC and contractor;</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IEC and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Prepare to increase the monitoring frequency to daily;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>• Repeat measurement on next day of exceedance.</li> </ul>	<ul style="list-style-type: none"> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days;</li> <li>• Implement the agreed mitigation measures.</li> </ul>
Limit level being exceeded by one sampling day at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>• Request Contractor to critically review the working methods;</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the ER and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> </ul>

Event	Action			
	ET	IEC	ER	CONTRACTOR
	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>• Inform IEC, contractor, AFCD and EPD</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IEC, ER and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Increase the monitoring frequency to daily until no exceedance of Limit level;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Make agreement on the mitigation measures to be implemented;</li> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IEC and ER and submit proposal of mitigation measures to IEC and ER within 3 working days of notification;</li> <li>• Implement the agreed mitigation measures.</li> </ul>
Limit level being exceeded by two or more consecutive sampling days at	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IC(E), ET and Contractor on the proposed mitigation measures;</li> <li>• Request Contractor to critically review the working methods;</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the ER and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> </ul>

Event	Action			
	ET	IEC	ER	CONTRACTOR
water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings;</li> <li>• Inform IC(E), AFCD, contractor and EPD;</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IC(E), ER and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Make agreement on the mitigation measures to be implemented;</li> <li>• Assess the effectiveness of the implemented mitigation measures;</li> <li>• Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IC(E) and ER and submit proposal of mitigation measures to IC(E) and ER within 3 working days of notification;</li> <li>• Implement the agreed mitigation measures;</li> <li>• As directed by the Engineer, to slow down or to stop all or part of the construction activities.</li> </ul>

**Limit Levels and Action Plan for Landfill Gas**

Parameter	Limit Level	Action
Oxygen	<19%	<ul style="list-style-type: none"> <li>• Ventilate to restore oxygen to &gt;19%</li> </ul>
	<18%	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel/prohibit entry</li> <li>• Increase ventilation to restore oxygen to &gt;19%</li> </ul>
Methane	>10% LEL (i.e. > 0.5% by volume)	<ul style="list-style-type: none"> <li>• Prohibit hot works</li> <li>• Ventilate to restore methane to &lt;10% LEL</li> </ul>
	>20% LEL (i.e. > 1% by volume)	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel / prohibit entry</li> <li>• Increase ventilation to restore methane to &lt;10% LEL</li> </ul>
Carbon Dioxide	>0.5%	<ul style="list-style-type: none"> <li>• Ventilate to restore carbon dioxide to &lt; 0.5%</li> </ul>
	>1.5%	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel / prohibit entry</li> <li>• Increase ventilation to restore carbon dioxide to &lt; 0.5%</li> </ul>



**Event and Action Plan for Coral Post-Translocation Monitoring**

<b>Event</b>	<b>Action</b>			
	<b>ET Leader</b>	<b>IEC</b>	<b>ER</b>	<b>Contractor</b>
<b>Action Level Exceedance</b>	1. Check monitoring data; 2. Inform the IEC, ER and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.
<b>Limit Level Exceedance</b>	Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, suspend construction works until an effective solution is identified.	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.

### Mitigation Measures for Vibration Monitoring

Level	Contingency Action
Alert Level	<ul style="list-style-type: none"> <li>● The Engineer shall be informed immediately.</li> <li>● The Contractor shall submit an investigation report to describe works being undertaken. To review the instrument responses and to study the cause of undue response.</li> <li>● The Contractor shall review and increase the instrumentation monitoring and reporting frequency, if applicable.</li> <li>● The Contractor shall submit a detailed plan of action describing the measures to be taken should the concerned instrument reach the action level to the Engineer for approval.</li> </ul>
Alarm Level	<ul style="list-style-type: none"> <li>● The Engineer shall be informed immediately.</li> <li>● The active construction works may require to be suspended subject to the Engineer's review of monitoring data.</li> <li>● The Contractor shall immediately implement the measures as defined in the detailed plan of action to prevent further ground movement and groundwater drawdown etc.</li> <li>● The Contractor shall prepare a detailed investigation report to study the cause of the exceedance</li> <li>● The Contractor shall propose a contingency plan for the Engineer's approval in the event that alarm value is reached or exceeded</li> <li>● The Contractor shall develop an emergency plan for the Engineer's approval in the event the applied contingency measures cannot control the situation.</li> <li>● The Contractor shall meet the Engineer to discuss the instrument response and review the effectiveness of the implemented measures.</li> <li>● The Contractor shall carry out design review of the works</li> </ul>

Action Level	<ul style="list-style-type: none"><li>● Consideration shall be given to suspend all active construction works and the Engineer shall be informed immediately</li><li>● The Contractor shall immediately implement the measures defined in the contingency plan</li><li>● The Contractor shall implement the measures defined in the emergency plan in the event that the applied contingency measures are found inadequate</li><li>● The Contractor shall provide a complete report to examine the construction method and review the response of the instruments with full history of the monitoring data and construction activities and necessary design update</li><li>● To resume the suspended activities, the Contractor shall demonstrate to the Engineer's satisfaction that it is safe to do so with approval from the Engineer.</li></ul>
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**APPENDIX N  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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## App N1 - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES

**Table I - Recommended Mitigation Measures stipulated in EM&A Manual for the Project**

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
<b>Air Quality</b>						
S3.8.1	Watering eight times a day on active works areas, exposed areas and paved haul roads	To minimize the dust impact	Contractor	All Active Work Sites	Construction phase	APCO
S3.8.1	Enclosing the unloading process at barging point by a 3-sided screen with top tipping hall / mixing area in Work Area A, provision of water spraying and flexible dust curtains	To minimize the dust impact	Contractor	Barging Points	Construction phase	APCO
S3.8.7	Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	To minimize the dust impact	Contractor	All Construction Work Sites	Construction phase	APCO and Air Pollution Control (Construction Dust) Regulation
S3.8.7	<ul style="list-style-type: none"> <li>Use of frequent watering for particularly dusty construction areas and areas close to ASRs..</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Imposition of speed controls for vehicles on site haul roads.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.</li> </ul>					
/	<p>Emission from Vehicles and Plants</p> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul>	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	APCO

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
/	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	APCO
<b>Noise Impact (Construction Phase)</b>						
S4.8	<ul style="list-style-type: none"> <li>Use of quiet PME. Use of movable noise barriers for Excavator, Lorry, Dump Truck, Mobile Crane, Compactor, Concrete Mixer Truck, Concrete Lorry Mixer, Breaker, Mobile Crusher, Backhoe, Vibratory Poker, Saw, Asphalt Paver, Vibratory Roller, Vibrolance, Hydraulic Vibratory Lance and Piling (Vibration Hammer). Use of full enclosure for Air Compressor, Compressor, Bar Bender, Generator, Drilling Rig, Chisel, Large Diameter Bore Piling, Grout Mixer &amp; Pump and Concrete Pump.</li> </ul>	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO
Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, SilentUp and etc.) or Full Enclosure for PME according to the approved Noise Mitigation Plan	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO
S4.9	<b>Good Site Practice</b> <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li>Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO
S4.9						
S4.9						
S4.9						
S4.9						
S4.9						
S4.9						
S4.9	Scheduling of Construction Works during School Examination Period	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work site near school	Construction phase	EIAO-TM, NCO
<b>Water Quality Impact (Construction Phase)</b>						
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m <sup>3</sup> , with fine content of 25% or less	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.1	Non-dredged method by constructing steel cellular caisson structure with stone column shall be adopted for construction of seawall foundation. During the stone column installation (also including the installation of steel cellular caisson), silt curtain shall be employed around the active stone column installation points.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.2	Formation of seawall enclosing the reclamation for Road P2 (notwithstanding an opening of about 50m for marine access) shall be completed prior to the filling activities. The seawall opening of about 50m wide for marine access shall be selected at a location as indicatively shown in Appendix 5.10. No more than 3 filling barge trips per day shall be made with a maximum daily rate of 3,000m <sup>3</sup> (i.e. 1,000 m <sup>3</sup> per trip) for the filling operation at the reclamation area for Road P2. All filling works shall be carried out behind the seawall with the use of single silt curtain at the marine access.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
Silt Curtain Deployment Plan	<ul style="list-style-type: none"> <li>Silt curtains should be deployed properly to surround the works area.</li> </ul>	Control potential impacts from marine works	Contractor	NE/2015/01	Construction stage	EIAO
Silt Curtain Deployment Plan	<ul style="list-style-type: none"> <li>Maintenance of silt curtain should be provided.</li> </ul>					
Silt Curtain Deployment Plan	<ul style="list-style-type: none"> <li>Sufficient stock of silt curtain should be provided on site.</li> </ul>					
S5.8.3	Other good site practices should be undertaken during filling operations include:	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)
S5.8.3	<ul style="list-style-type: none"> <li>all marine works should adopt the environmental friendly construction methods as far as practically possible including the use of cofferdams to cover the construction area to separate the construction works from the sea;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>floating single silt curtain shall be employed for all marine works;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>loading of barges and hoppers should be controlled to prevent splashing of filling material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; and</li> </ul>					
S5.8.3	<ul style="list-style-type: none"> <li>before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.</li> </ul>					
S5.8.4	Site specific mitigation plan for reclamation areas using public fill materials should be submitted for EPD agreement before commencement of construction phase with due consideration of good site practices.	Control potential impacts from filling activities and marine based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
ERR S5.6.1	<p>To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> <li>- Before carrying out any dredging and underwater filling works, a temporary barrier shall first be constructed to a height above the high water mark to completely enclose the works site (without any opening at the barrier wall)</li> <li>- The temporary barrier fully enclosing the dredging and underwater filling works site shall not be removed before completion of all dredging and underwater filling works.</li> <li>- Water quality sampling and testing shall be carried out to demonstrate that the water quality inside the enclosed barrier is comparable to the ambient or baseline levels prior to the removal of the fully enclosed barrier.</li> <li>- Silt curtains shall be deployed for the installation and removal of the temporary barrier and at the double water gates marine access opening during its operation.</li> </ul>	Control potential impacts from dredging and filling works for Reclamation for Road P2	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
ERR S5.6.1						
ERR S5.6.1						
ERR S5.6.1						
ERR S5.6.1						
S5.8.5	It is important that appropriate measures are implemented to control runoff and drainage and prevent high loading of SS from entering the marine environment. Proper site management is essential to minimise surface water runoff, soil erosion and sewage effluents.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.6	Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, TM-DSS
S5.8.7	Construction site runoff and drainage should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). Good housekeeping and stormwater best management practices, as detailed in below, should be implemented to ensure that all construction runoff complies with WPCO standards and no unacceptable impact on the WSRs arises due to construction of the TKO-LT Tunnel. All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the corresponding WCZ under the TM-DSS.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, TM-DSS
S5.8.8	<p>Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:</p> <ul style="list-style-type: none"> <li>• use of sediment traps; and</li> <li>• adequate maintenance of drainage systems to prevent flooding and overflow.</li> </ul>	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.8						
S5.8.8						
S5.8.9	Construction site should be provided with adequately designed perimeter channel and pretreatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO



EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S5.8.10	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.11	Sedimentation tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m <sup>3</sup> capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.12	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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.13	Measures should be taken to minimize 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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.14	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.15	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed 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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.16	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.17	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.18	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and located wheel washing bay should be provided at every site exit, and washwater should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheelwash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

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S5.8.19	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 ensure that these facilities are functioning properly at all times.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.20	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There shall be no direct discharge of effluent from the site into the sea.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.21	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.23	Minimum distances of 100m shall be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes during construction and operational phases	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, TMDSS
S5.8.24	Under normal circumstances, groundwater pumped out of wells, etc. for the lowering of ground water level in basement or foundation construction, and groundwater seepage pumped out of tunnels or caverns under construction should be discharged into storm drains after the removal of silt in silt removal facilities.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.25 - S5.8.27 & Table 5.18	Grouting would be adopted as measure to reduce the groundwater inflow into the tunnel. During the tunnel excavation, the inflow rate of groundwater into the tunnel will be measured during the excavation. The groundwater levels above the tunnel will also be monitored by piezometers. If the inflow rate exceeds the pre-determined groundwater control criteria or the groundwater drawdown exceeds the required limit, pre-excavation grouting will be required to reduce the groundwater inflow. No significant change of groundwater levels would therefore be expected. Any chemicals/ foaming agents which would be entrained to the groundwater should be biodegradable and non-toxic throughout the tunnel construction. Potential groundwater quality impact would be minimal as the used material is non-toxic and biodegradable. No adverse groundwater quality would therefore be expected. Prescriptive measures in the form of an Action Plan with pre-emptive and reactive to preserve the groundwater levels at all times during the tunnel construction are set out in Table 5.18.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, Buildings Ordinance
S5.8.28	Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phas	ProPECC PN 1/94, EIAOTM, WPCO

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S5.8.29 - S5.8.31	Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum. To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an online standby pump of adequate capacity and with automatic alternating devices. Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.32	All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them 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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.33	Bentonite slurries used in diaphragm wall and borepile construction should be reconditioned and reused wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.34	If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.35	Water used in water testing to check leakage of structures and pipes should be reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.36	Sterilization is commonly accomplished by chlorination. Specific advice from EPD should be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water should be reused wherever practicable.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.37	Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.38	Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.39	Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater should be tinkered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.40	Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, should be discharged into foul sewer via grease traps capable of providing at least 20 minutes retention during peak flow.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.41	Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptor with peak storm bypass.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

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S5.8.42	Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor. Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.43	Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.44	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.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO
S5.8.45	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors 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.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.46	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes" published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO
S5.8.46	<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>					
S5.8.46	<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; and</li> </ul>					
S5.8.46	<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>					
S5.8.47	Collection and removal of floating refuse should be performed at regular intervals on a daily basis. The contractor should be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Control potential impacts from floating refuse and debris	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO,

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
<b>Ecological Impact</b>						
S6.8.4	<b>Measures to Minimize Disturbance</b>					
S6.8.4	<ul style="list-style-type: none"> <li>Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible.</li> </ul>	Minimize noise, human and traffic disturbance to terrestrial habitat and wildlife; and reduce dust generation	Design Team / Contractor	Land-based works are	Construction Phase	N/A
S6.8.4	<ul style="list-style-type: none"> <li>Hoarding or fencing should be erected around the works area boundaries during the construction phase. The hoarding would screen adjacent habitats from construction phase activities, reduce noise disturbance to these habitats and also to restrict access to habitats adjacent to works areas by site workers;</li> </ul>					
S6.8.4	<ul style="list-style-type: none"> <li>Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities</li> </ul>					
S6.8.5	<b>Standard Good Site Practice</b>					
S6.8.5	<ul style="list-style-type: none"> <li>Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats.</li> </ul>	Reduce disturbance to surrounding habitats	Contractor	Land-based works are	Construction Phase	N/A
S6.8.5	<ul style="list-style-type: none"> <li>Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works.</li> </ul>					
S6.8.5	<ul style="list-style-type: none"> <li>Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner.</li> </ul>					
S6.8.5	<ul style="list-style-type: none"> <li>General drainage arrangements should include sediment and oil traps to collect and control construction site run-off.</li> </ul>					
S6.8.5	<ul style="list-style-type: none"> <li>Open burning on works sites is illegal, and should be strictly prohibited.</li> </ul>					
S6.8.5	<ul style="list-style-type: none"> <li>Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.</li> </ul>					
S6.8.6	<b>Measure to Minimize Groundwater Inflow</b>					
S6.8.6	<ul style="list-style-type: none"> <li>The drained tunnel construction method with groundwater inflow control measures would generally be adopted.</li> </ul>	Minimize groundwater inflow	Contractor	Tunnel	Construction Phase	N/A
S6.8.6	<ul style="list-style-type: none"> <li>During the tunnel excavation, pre-excavation grouting could be adopted to reduce the groundwater inflow and ensure that the tunnel would meet the long term water tightness requirements.</li> </ul>					

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S6.8.8	<b>Measure to Minimize Impact on Corals</b>	Minimize loss of coral	Design team, contractor, project operator	Within reclamation areas and pier footprint	Prior construction	N/A
S6.8.8	<u>Coral translocation</u>					
S6.8.8	<ul style="list-style-type: none"> <li>It is recommended to translocate the affected coral colonies, except the locally common <i>Oulastrea crispata</i>, within the reclamation area and bridge footprint to the other suitable locations as far as practicable.</li> </ul>					
S6.8.8	<ul style="list-style-type: none"> <li>The coral translocation should be conducted during the winter months (November-March) in order to avoid disturbance during their spawning period (i.e. July to October).</li> </ul>					
S6.8.8	<ul style="list-style-type: none"> <li>A detailed coral translocation plan with a description on the methodology for pretranslocation coral survey, translocation methodology, identification/proposal of coral recipient site, monitoring methodology for posttranslocation should be prepared during the detailed design stage.</li> </ul>					
S6.8.8	<ul style="list-style-type: none"> <li>The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCDD) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCDD prior to commencement of coral translocation.</li> </ul>					
S6.8.8	<u>Post translocation Monitoring</u>					
S6.8.8	<ul style="list-style-type: none"> <li>A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities</li> </ul>					
S6.8.8	<ul style="list-style-type: none"> <li>Information gathered during each posttranslocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey.</li> </ul>					
S6.8.9 S6.8.10	<b>Measure to Control Water Quality Impact</b> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> <li>Diverting of the site runoff to silt trap facilities before discharging into storm drain;</li> <li>Proper waste and dumping management; and</li> <li>Standard good-site practice for land-based construction.</li> </ul>	Control water quality impact, especially on suspended solid level; minimize the contamination of wastewater discharge, accidental chemical spillage and construction site runoff to the receiving water bodies	Design Team, contractor	Marine and landbased works area	Construction phase	WQO
S6.8.11	<b>Compensation for Vegetation Loss</b> <ul style="list-style-type: none"> <li>Felling of mature trees should be compensated by planting of standard or heavy standard trees within or in vicinity of the affected area as far as practicable. Such compensatory planting for trees should be provided with at least a 1:1 ratio. In addition, vegetation at the temporarily affected area should be reinstated with species similar to the existing condition.</li> </ul>	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A

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<b>Fisheries Impact</b>						
S7.7.3	<b>Measure to Control Water Quality Impact</b> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> </ul>	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO
<b>Waste Management (Construction Phase)</b>						
S8.6.3	<b>Good Site Practices and Waste Reduction Measures</b> <ul style="list-style-type: none"> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</li> <li>Training of site personnel in site cleanliness, proper waste management and chemical handling procedures;</li> <li>Provision of sufficient waste disposal points and regular collection of waste;</li> <li>Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> </ul>	To reduce waste management impacts	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.4	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce;</li> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and</li> <li>Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.5	<b>Good Site Practices and Waste Reduction Measures (con't)</b>  The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor.	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.6	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>C&amp;D materials would be reused in the project and other local concurrent projects as far as possible.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005

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S8.6.7	<b>Storage, Collection and Transportation of Waste</b> Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include: <ul style="list-style-type: none"> <li>Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> <li>Maintain and clean storage areas routinely;</li> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> <li>Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>	To minimize potential adverse environmental impacts arising from waste storage	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.7						
S8.6.7						
S8.6.7						
S8.6.7						
S8.6.8/ Waste Management Plan	<b>Storage, Collection and Transportation of Waste (con't)</b> <ul style="list-style-type: none"> <li>Remove waste in timely manner;</li> <li>Waste collectors should only collect wastes prescribed by their permits;</li> <li>Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;</li> <li>Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);</li> <li>Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and</li> <li>Maintain records of quantities of waste generated, recycled and disposed.</li> </ul>	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.9/ Waste Management Plan	<b>Storage, Collection and Transportation of Waste (con't)</b> <ul style="list-style-type: none"> <li>Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction &amp; Demolition Materials, to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) should be proposed.</li> </ul>	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010
S8.6.11 - S8.6.13/ Waste Management Plan						
S8.6.11 - S8.6.13/ Waste Management Plan						
S8.6.11 - S8.6.13/ Waste Management Plan						
S8.6.11 - S8.6.13/ Waste Management Plan	<b>Sorting of C&amp;D Materials</b> <ul style="list-style-type: none"> <li>Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.</li> <li>Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.</li> <li>The C&amp;D materials should at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled in the reclamation as far as practicable before delivery to PFRFs. While opportunities for reusing the non-inert portion should be investigated before disposal of at designated landfills</li> </ul>	To minimize potential adverse environmental	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010
S8.6.11 - S8.6.13/ Waste Management Plan						ETWB TCW No. 33/2002
S8.6.11 - S8.6.13/ Waste Management Plan						ETWB TCW No. 19/2005
S8.6.11 - S8.6.13/ Waste Management Plan						



EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S8.6.17 – S8.6.20	<b>Sediments (con't)</b>					
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during boring, excavation, transportation and disposal of sediments or cement stabilization of sediment.</li> </ul>					
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>A treatment area should be confined for carrying out the cement stabilization mixing and temporary stockpile. 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).</li> </ul>					
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>In order to minimise the potential odour / dust emissions during boring, excavation and transportation of the sediment, the excavated sediments should be kept wet during excavation/boring and should be properly covered when placed on barges/trucks. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> </ul>	To determine the best handling and treatment of sediment	Contractor	All works areas with sediments concern	Construction Phase	ETWB TCW No. 19/2005
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>In order to minimise the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.</li> </ul>					
	<b>Sediments (con't)</b>					
S8.6.24 - S8.6.28/ Waste Management Plan	<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 the MFC. The excavated sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002.</li> </ul>					
S8.6.24 - S8.6.28/ Waste Management Plan	<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 by tarpaulin 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 stockpiling areas should be completely paved or covered by linings 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>	To ensure handling of sediments are in accordance to statutory requirements	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance
S8.6.24 - S8.6.28/ Waste Management Plan	<ul style="list-style-type: none"> <li>In order to minimise the potential odour / dust emissions during boring and transportation of the sediment, the excavated sediments should be kept wet during excavation/boring and should be properly covered when placed on barges. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.</li> </ul>					
S8.6.24 - S8.6.28/ Waste Management Plan	<ul style="list-style-type: none"> <li>The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.</li> </ul>					

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?																							
S8.6.24 - S8.6.28/ Waste Management Plan	<ul style="list-style-type: none"> <li>In order to minimise the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.</li> </ul>	To ensure handling of sediments are in accordance to statutory requirements	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance																							
S8.6.24 - S8.6.28/ Waste Management Plan	<ul style="list-style-type: none"> <li>Another possible arrangement for Type 3 disposal is by geosynthetic containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal.</li> </ul>						S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	To ensure proper management of chemical waste	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Waste Disposal (Chemical Waste) (General) Regulation	S8.6.27/ Waste Management Plan	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</li> </ul>	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)	<b>Impact on Cultural Heritage (Construction Phase)</b>							S9.6.4	<p><b>Dust and visual impacts</b></p> <ul style="list-style-type: none"> <li>Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided;</li> <li>The open yard in front of the temple should be kept as usual for annual Tin Hau festival;</li> <li>Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.</li> </ul>
S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	To ensure proper management of chemical waste	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Waste Disposal (Chemical Waste) (General) Regulation																							
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EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S9.6.4	<p><b>Indirect vibration impact</b></p> <ul style="list-style-type: none"> <li>Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings;</li> <li>Monitoring of vibration should be carried out during construction phase.</li> <li>Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well.</li> <li>A proposal with details for the mitigation measures and monitoring of impacts on built heritage shall be submitted to AMO for comments before commencement of work.</li> </ul>	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
Built Heritage Mitigation Plan	<ul style="list-style-type: none"> <li>Established Alert, Alarm and Action Level for the monitoring parameters.</li> <li>To increase the instrumentation monitoring and reporting frequency.</li> <li>To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.</li> </ul>	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
<b>Landscape and Visual Impact (Construction Phase)</b>						
Table 10.8.1/ Landscape Mitigation Plan	CM1 - Construction area and contractor's temporary works areas to be minimised to avoid impacts on adjacent landscape.	Avoid impact on adjacent landscape areas	CEDD (via Contractor)	General	Construction planning and during construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM2 - Reduction of construction period to practical minimum.	Minimise duration of impact	CEDD (via Contractor)	N/A	Construction planning	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM3 - Topsoil, where the soil material meets acceptable criteria and where practical, to be stripped and stored for re-use in the construction of the soft landscape works. The Contract Specification shall include storage and reuse of topsoil as appropriate.	To allow re-use of topsoil	CEDD (via Contractor)	General	Site clearance	As per the Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM4 - Existing trees at boundary of site and retained trees within site boundary to be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification, under which the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection measures will be detailed at Tree Removal Application stage).	To minimize tree loss	CEDD (via Contractor)	As per approved Tree Removal Application(s)	Site clearance and throughout construction period	ETWB TC 3/2006 and as per tree protection measures in Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM5 - Trees unavoidably affected by the works shall be transplanted where practicable. Where possible, trees should be transplanted direct to permanent locations rather than temporary holding nurseries. A detailed tree transplanting specification shall be provided in the Contract Specification and sufficient time for preparation shall be allowed in the construction programme.	To maximize preservation of existing trees	CEDD (via Contractor)	As per approved Tree Removal Application(s)	Site clearance	ETWB TC 3/2006 and as per tree protection measures in Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM6 - Advance screen planting of fast growing tree and shrub species to noise barriers and hoardings. Trees shall be capable of reaching a height >10m within 10 years.	To maximize screening of the works	CEDD (via Contractor)	At Lam Tin Interchange and edge of Road P2 landscape deck, TKO	Beginning of construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM7 - Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material	To reduce visual intrusion	CEDD (via Contractor)	General	Throughout construction period	As per Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM8 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	To reduce visual intrusion	CEDD (via Contractor)	General	Throughout construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM9 - Screening of works areas with hoardings with appropriate colours compatible with the surrounding area	Reduction of visual intrusion	CEDD (via Contractor)	Project site Boundary	Excretion of site hoarding	N/A

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
Table 10.8.1/ Landscape Mitigation Plan	CM10 - Avoidance of excessive height and bulk of site buildings and structure	Reduction of visual intrusion and integration with environment	CEDD (via Contractor)	Built structures	Design and construction stage	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM11 - Limitation of run-off into freshwater streams, ponds and sea areas	Avoidance of contamination of water courses and water bodies	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	N/A
Table 10.8.1	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline character	Minimise loss of Junk Bay and integration with existing coastline	CEDD (via Contractor)	Temporary reclamation for barging points at TKO and Lam Tin and permanent reclamation for TKO Interchange slip roads and Road P2	Construction planning and reclamation stages	N/A
<b>Landfill Gas Hazard (Design and Construction Phase)</b>						
S11.5.9	A Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be present on site throughout the groundworks phase. The Safety Officer should be provided with an intrinsically safe portable instrument, which is appropriately calibrated and able to measure the following gases in the ranges indicated below: Methane 0-100% LEL and 0100% v/v Carbon dioxide 0-100% Oxygen 0-21%	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note
S11.5.10 S11.5.25	<b>Safety Measures</b>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>For staff who work in, or have responsibility for "at risk" area, such as all excavation workers, supervisors and engineers working within the Consultation Zone, should receive appropriate training on working in areas susceptible to landfill gas, fire and explosion hazards.</li> <li>An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>No worker should be allowed to work alone at any time in or near to any excavation. At least one other worker should be available to assist with a rescue if needed.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Smoking, naked flames and all other sources of ignition should be prohibited within 15m of any excavation or ground-level confined space. "No smoking" and "No naked flame" notices should be posted prominently on the construction site and, if necessary, special areas should be designed for smoking.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Welding, flame-cutting or other hot works may only be carried out in trenches or confined spaces when controlled by a "permit to work" procedure, properly authorized by the Safety Officer (or, in the case of small developments, other appropriately qualified person).</li> </ul>					

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>The permit to work procedure should set down clearly the requirements for continuous monitoring for methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person, in attendance outside the 'confined area', who should be responsible for reviewing the gas measurements as they are made, and who should have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.</li> </ul>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Where there are any temporary site offices, or any other buildings located within the Sai Tso Wan Landfill Consultation Zone which have enclosed spaces with the capacity to accumulate landfill gas, then they should either be located in an area which has been proven to be free of landfill gas (by survey using portable gas detectors); or be raised clear of the ground by a minimum of 500mm. This aims to create a clear void under the structure which is ventilated by natural air movement such that emission of gas from the ground are mixed and diluted by air.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Any electrical equipment, such as motors and extension cords, should be intrinsically safe. During piping assembly or conduiting construction, all valves/seals should be closed immediately after installation. As construction progresses, all valves/seals should be closed to prevent the migration of gases through the pipeline/conduit. All piping /conduiting should be capped at the end of each working day.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Fire drills should be organized at not less than six monthly intervals.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>All personnel who work on the site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of excavations. Safety notices (in Chinese and English) should be posted at prominent position around the site warning danger of the potential hazards.</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Service runs within the Consultation Zone should be designated as "special routes"; utilities companies should be informed of this and precautionary measures should be implemented. Precautionary measures should include ensuring that staff members are aware of the potential hazards of working in confined spaces such as manholes and service chambers, and that appropriate monitoring procedures are in place to prevent hazards due to asphyxiating atmospheres in confined spaces. Detailed guidance on entry into confined spaces is given in Code of Practice on Safety and Health at Work in Confined Spaces (Labour Department, Hong Kong).</li> </ul>					
S11.5.10 S11.5.25	<ul style="list-style-type: none"> <li>Periodically during ground-works construction within the 250m Consultation Zone, the works area should be monitored for methane, carbon dioxide and oxygen using appropriately calibrated portable gas detection equipment. The monitoring frequency and areas to be monitored should be set down prior to commencement of ground-works either by the Safety Officer or an approved and appropriately qualified person.</li> </ul>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
	<b>Monitoring</b>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>Routine monitoring should be carried out in all excavations, manholes, chambers, relocation of monitoring wells and any other confined spaces that may have been created. All measurements in excavations should be made with the extended monitoring tube located not more than 10 mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters into the area.</li> </ul>					

EIA Ref. / EP Submission	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	What requirements or standards for the measures to achieve?
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>For excavations <b>deeper than 1m</b>, measurements should be carried out:</li> </ul>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>at the ground surface before excavation commences;-</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>immediately before any worker enters the excavation;</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>at the beginning of each working day for the entire period the excavation remains open; and</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>periodically throughout the working day whilst workers are in the excavation.</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>For excavations <b>between 300mm and 1m deep</b>, measurements should be carried out:</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>directly after the excavation has been completed; and</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>periodically whilst the excavation remains open.</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person.</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or other appropriately qualified person.</li> </ul>					
S11.5.26 - S11.5.31	<ul style="list-style-type: none"> <li>The exact frequency of monitoring should be determined prior to the commencement of works, but should be at least once per day, and be carried out by a suitably qualified or qualified person before starting the work of the day. Measurements shall be recorded and kept as a record of safe working conditions with copies of the site diary and submitted to the Engineer for approval. The Contractor may elect to carry out monitoring via an automated monitoring system.</li> </ul>					
S11.5.26 - S11.5.31						
S11.5.32	The hazards from landfill gas during the construction stage within the Sai Tso Wan Landfill Consultation Zone should be minimized by suitable precautionary measures recommended in Chapter 8 of the Landfill Gas Hazard Assessment Guidance Note.	construction stage within the Sai Tso Wan	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note
		Protect the workers from landfill gas hazards				

**Table II - Observation / Reminder / Non-compliance made during Site Audit**

- Key:
- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
  - ✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
  - # Follow up action will be reported in next reporting month
  - \* Non-compliance of mitigation measure
  - Non-compliance but improved by the contractor

EIA Ref	Recommended Mitigation Measures	Contract No.	Work Sites	Details of Reminder/Observation	Recorded Date	Status
<b>Water Quality Impact</b>						
--	--	--	--	--	--	--
<b>Ecological Impact</b>						
--	--	--	--	--	--	--
<b>Construction Noise Impact</b>						
--	--	--	--	--	--	--
<b>Landscape and Visual Impact</b>						
--	--	--	--	--	--	--
<b>Air Quality Impact</b>						
--	Watering eight times a day on active works areas, exposed areas and paved haul roads	NE2015/01	Slope A	The Contractor is reminded to spray water regularly to suppress dust emission.	9-Mar-22	✓
--	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	NE2015/01	TKO Bridge Area	NRMM label on roller has been worn out and the prints are illegible.	16-Mar-22	✓
S3.8.7	· Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.	NE2015/01	TKO Bridge Area	Water spraying should be provided when transferring materials to stockpiles.	16-Mar-22	✓
<b>Fisheries Impact</b>						
--	--	--	--	--	--	--
<b>Waste Management</b>						
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	NE2015/01	Road V01	Chemical shall be placed within drip tray and suitable storage shall be provided to minimize potential damage or contamination of construction material/soil	2-Mar-22	✓
S8.6.11 - S8.6.13/ Waste	· Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.	NE2015/01	TKO Bridge Area	Inert and non-inert waste shall be separated for proper disposal.	16-Mar-22	✓
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	NE2015/01	TKO Bridge Area	Hole on drip tray shall be sealed.	16-Mar-22	✓
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	NE2015/01	ADB Front Area	Drip tray shall be provided to chemicals / Chemicals shall be removed.	30-Mar-22	✓
S8.6.3	· Remove waste in timely manner;	NE2015/01	ADB Front Area	Accumulated waste shall be disposed as soon as possible.	30-Mar-22	✓
S8.6.3	· Remove waste in timely manner;	NE2015/02	Portion IX	The Contractor is reminded to remove the accumulate waste	3-Mar-22	✓
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	NE2015/02	Portion IX	The Contractor is reminded to provide drip tray for chemical. In addition, it is suggested that to relocate the chemical away from the seafront as far as possible.	31-Mar-22	✓
<b>Landfill Gas Hazards</b>						
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**APPENDIX O  
SUMMARIES OF ENVIRONMENTAL  
COMPLAINT, WARNING, SUMMON  
AND NOTIFICATION OF SUCCESSFUL  
PROSECUTION**

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**Table O1 - Cumulative Complaint Log for Tseung Kwan O - Lam Tin Tunnel**

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
595	14-Mar-22	27-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise nuisance on Sunday morning (Tseung Kwan O side)	Y	See Complaint #594	Draft CIR submitted
594	14-Mar-22	13-Mar-22 / Marine Works Area	Anonymous	Noise	Construction noise nuisance on Sunday morning (Tseung Kwan O side)	Y	The investigation result showed that the complaint should be considered as project-related in terms of construction noise. The details shall be referred to CIR-N163.	Draft CIR submitted
593	14-Mar-22	14-Mar-22 / Marine Works Area	Anonymous	Water	Suspected water pollution at Tseung Kwan O Bay	N	The complaint is considered non-project-related. The so-called "pollutant" was in fact natural occurring algal bloom. The details shall be referred to CIR-W19.	Draft CIR submitted
592	1-Mar-22	19-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise at night-time during a weekday	Y	See Complaint #590.	Closed
591	28-Feb-22	26-Feb-22 / Portion VII or IX	Resident of Ocean Shores	Noise	Noise nuisance by excavator during daytime	Y	No clear judgement has been made as it is difficult to identify which excavator the complainant is referring to. The details shall be referred to CIR-N162.	Draft CIR submitted
590	22-Feb-22	17-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise at night-time during a weekday	Y	The investigation results show that no construction works was carried out during the time period of complaint. The complaint is considered as non-project-related. The details shall be referred to CIR-N160.	Closed
589	14-Feb-22	11-Feb-22 / Portion III	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Feb 2021)	Y	The complaint is considered to be project-related as PME was operated during the time of complaint and no other nearby know noise source. The details shall be referred to CIR-N161.	Draft CIR submitted
588	31-Jan-22	30-Jan-22 / Along Tong Yin Street between the Capri and the Ocean Shores	Anonymous	Noise	Construction Noise at morning during holiday (Tseung Kwan O side)	Y	See Complaint #587	Closed
587	28-Jan-22	23-Jan-22 / Portion III	Anonymous	Noise	Construction Noise at morning during holiday (Tseung Kwan O side)	Y	The investigation results reveals the complaint is project-related. However, no PME was used on Sunday morning. The Contractor is reminded to follow valid CNP and the details can be referred to CIR-N159	Closed
586	6-Jan-22	6-Jan-2021 / Non-specific	Anonymous	Noise	Construction noise nuisance at normal hours (Yau Tong side, Jan 2021)	Y	Investigation ongoing.	On-going
585	2-Jan-22	2-Jan-2021 / Non-specific	Resident of Yau Lai Estate	Noise	Construction Noise at morning during holiday (Yau Tong side)	Y	See Complaint #584	Draft CIR submitted
584	30-Dec-21	30-Dec-21 / Portion III of NE2015/01	Resident of Yau Lai Estate	Noise	Construction Noise at morning during holiday (Yau Tong side)	Y	The complaint is considered as project-related. The monitoring result has been reviewed and no exceedance was recorded. The details shall be referred to CIR-N158.	Draft CIR submitted
583	28-Dec-21	18-Dec-21 / Portion I of NE2017/07	Anonymous	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considered as project-related. The barges were used for installing pair segment between 1900 and 2000. Afterwards, only the lights were turned on for safeguarding throughout the rest of the night. The details shall be referred to CIR-N157	Closed
582	22-Dec-21	22-Dec-21 / Portion IVC	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	Investigation ongoing.	On-going
581	22-Dec-21	15-Dec-21 / Portion IX of NE2015/02	Anonymous	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	See Complaint #578	Closed
580	17-Dec-21	15-Dec-21 / non-specific (Yau Tong side)	Anonymous	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	Investigation ongoing.	On-going
579	17-Dec-21	17-Dec-21 / Portion IX of NE2015/02	Resident of Ocean Shores	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considered as project-related. Various construction activities were conducted during the time of complaint. Acoustic box was used for the breaker. No non-compliance was found. The details shall be referred to CIR-N157.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
578	16-Dec-21	15-Dec-21 / Marine Works Area	Resident of Ocean Shores	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considered as project-related. Amour rocking unloading was conducted during the time of complaint. No non-compliance was found. The details shall be referred to CIR-N157.	Closed
577	10-Dec-21	10-Dec-21 / Cha Kwo Ling Road	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	Investigation ongoing.	On-going
576	16-Nov-21	15-Nov-21 / Portion IX of C2	Resident of Ocean Shores	Noise	High frequency noise nuisance during evening-time	N	It is believed that the complainant confused high- and low-frequency in the original complaint. See complaint #574 for more details.	Closed
575	17-Nov-21	Sep-21 / Cha Kwo Ling Road	Anonymous	Noise	Noise nuisance during Restricted Hours (September 2021)	Y	The complaint is considered as project-related as construction was undergoing at the time of complaint. The Contractor held a valid CNP and no non-compliance was found. Other potential noise source also exists and details shall be referred to CIR-N155	Closed
574	9-Nov-21	8-Nov-21 / Portion IX of C2	Resident of Ocean Shores	Noise	Low frequency noise nuisance during evening-time	N	The complaint is considered as non-project related as other potential low-frequency noise source exists. The details shall be referred to CIR-N154.	Closed
573C	16-Nov-21	7-Nov-2021 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early November 2021	Y	See Complaint #573A	Closed
573B	5-Nov-21	31-Oct-21 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early November 2021	Y	See Complaint #573A	Closed
573A	5-Nov-21	17-Oct-21 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early November 2021	Y	The complaint is considered project-related as construction was undergoing during the time of complaint. The Contractor held a valid CNP and no non-compliance was found. The details can be referred to CIR-N153.	Closed
572	5-Nov-21	4-Nov-21 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance near Ocean Shores	N	See Complaint #571	Closed
571	26-Oct-21	25-Oct-21 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance near Ocean Shores	N	Preliminary results from noise monitoring showed no limit level of exceedance and no non-compliance regarding construction schedule was found. The details shall be referred to CIR-N152.	Closed
570	18-Oct-21	18-Oct-21 / Non-specific	Anonymous	Noise	Noise nuisance on holiday during daytime	Y	No clear judgement was made as other potential noise source existed. Nonetheless, the Contractor held a valid CNP and no non-compliance was found. The details shall be referred to CIR-N151.	Closed
569	8-Oct-21	8-Oct-21 / Tsueng Kwan O Bay	DSD	Water	Deterioration of Marine Water Quality in Tsueng Kwan O Bay under Adverse Weather	N	The complaint is considered as non-project related as the general condition of the sea is muddy during the date of incident. The details can be referred to CIR-W18.	Closed
568	4-Oct-21	29-Sep-21 / Marine Works Area	Pedestrian	Odour / Water	Odour Nuisance near Tsueng Kwan O Bay (Sep 2021)	N	The complaint is considered as non-project-related. Measures such as adopting low-sulphur content diesel as far as possible is recommended. The details can be referred to CIR-O9.	Closed
567	29-Sep-21	14-Sep-2021 / Marine Works Area (C6)	Anonymous	Noise	Construction Works during Restricted Hours (Sep 2021)	Y	The complaint is considered as project-related and no non-compliance was recorded. The monitoring result of evening noise at Tsueng Kwan O throughout September 2021 was reviewed and no limit level exceedance was found. The details shall be referred to CIR-N150.	Closed
566	17-Sep-21	16-Sep-21 / Portion IVC (C1)	Resident of Yau Lai Estate	Noise	Construction Noise nuisance from Portion IVC of NE/2015/01	Y	See Complaint #563	Closed
565	10-Sep-21	9-Sep-21 / Portion III	EPD	Air	Air pollution from construction dust	N	See complaint #564	Closed
564	10-Sep-21	6-Sep-21 / Portion I	Anonymous	Air	Air pollution from construction dust	N	Exceedance of 24hr TSP were recorded and evidence of air-quality-related environmental deficiencies were identified during site inspections. The complaint is considered project-related and details shall be referred to CIR-A22.	Closed
563	2-Sep-21	2-Sep-21 / Portion III	Resident living in Cha Kwo Ling	Noise	Construction noise during evening time (Sep 2021)	Y	The complaint is considered as project-related. Monitoring results indicate the construction noise are close to the limit level. The details shall be referred to CIR-N149.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
562	19-Aug-21	15-Aug-21 / Lei Yu Mun Road	Anonymous	Noise	Construction noise nuisance near Lei Yu Mun Road on Sunday	Y	The complaint is considered as project-related as the construction works were carried out during the time of complaint. No monitoring was conducted on Public Holiday. The details shall be referred to CIR-N148.	Closed
561	6-Aug-21	6-Aug-2021 / Non-specific	Resident living in Tiu Keng Ling	Noise	Construction Noise Nuisance on Weekday during Daytime (Aug 2021)	Y	The complaint was considered as project-related. No non-compliance and limit level of daytime construction noise was recorded during late July 2021 and early August 2021. The details of complaint shall be referred to CIR-N147.	Closed
560	31-Jul-21	31-Jul-2021 / Portion VIII	Resident from Ocean Shores	Noise	Construction Noise Nuisance on Saturday near Ocean Shores (Jul 2021)	Y	The complaint is considered as project-related. Results of construction noise is reviewed and no limit level exceedance was recorded. No non-compliance was found. The details shall be referred to CIR-N146.	Closed
559	3-Aug-21	Jan 2021 - Jun 2021 / Marine Works Area	Resident from Ocean Shores	Noise	Noise Nuisance near Ocean Shores (Jan - Jun 2021)	Y	The complaint included a long-period of time and the current noise mitigation measures were reviewed. No limit level of construction noise was recorded throughout Jan 21 - Jun 21, Despite the complaint is considered as project-related, no non-compliance was recorded. The details shall be referred to the CIR-N145.	Closed
558	11-Jul-21	11-Jul-2021 / Marine Works Area	Anonymous	Working Hours	Operation of Marine Construction Works during Restricted Hours (Jul - 2021)	N	The barge shown in the photo provided by the Complainant was not belong to the Project. The complaint was non-valid and thus the complaint is considered as non-project-related. The details shall be referred to CIR-O8.	Closed
557	20-Jul-21	19-Jul-2021 / Eastern Harbour Crossing	Resident from Bik Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Jul)	Y	The complaint is considered as project-related. Construction works were undergoing at the time of complaint and PMEs were operating. No non-compliance was recorded. The details shall be referred to CIR-N144.	Closed
556	27-Jun-21	27-Jun-2021 / Marine Works Area	Anonymous	Working Hours	Operation of Marine Construction Works during Restricted Hours	Y	Tug boat and crane barge were used for relocating barge and airlifting materials. The Contractors held valid and approved CNP. No non-compliance was recorded. The details shall referred to CIR-N143.	Closed
555	29-Jun-21	29-Jun-21 / Marine Works Area	Anonymous	Water	Suspected Muddy Water at the Marine Works Area	N	No direct evidence point towards C2 was the source of muddy water. The details of complaint shall be referred to CIR-W17.	Closed
554	29-Jun-21	25-Jun-21 / Marine Works Area	Anonymous	Light / Working Hours	Construction works during restricted hours and light nuisance	N	No construction was undergoing during the time of complaint. The light shown in photo was used as safeguarding purpose. Details shall be referred to CIR-O7.	Closed
553	27-May-21	26-May-21 / C3	Anonymous	Air	Air quality impact nuisance nearby Po Yap Road (C3 - Apr & May 2021)	N	See Complaint #551	Closed
552	18-May-21	17-May-21 / C1	Anonymous	Noise	Noise Nuisance from Construction Works (C1 - May)	Y	The complaint is considered as project-related. Construction activities were undergoing during the time of complaint and deficiencies of noise mitigation measures can be observed. The details shall be referred to CIR-N142.	Closed
551	21-May-21	23-Apr-21 / C3	Resident from Ocean Shores	Air	Air quality impact nuisance nearby Po Yap Road (C3 - Apr & May 2021)	N	The contractor had applied mitigation measures such as regular watering and covering stockpile of dusty materials. The complaint is considered as project-related and details shall be referred to CIR-A21	Closed
550	21-May-21	4-May-21 / C2 & C3	Resident from Ocean Shores	Noise	Noise nuisance at early morning (C2&C3 May 2021)	N	The complaint is considered as non-project-related as both contractor and RE confirmed that no construction was carried out on or before 8 a.m. on the date of incident. The details shall be referred to CIR-N139	Closed
549	26-Apr-21	21-Apr-21 / C1	Mr. Chan from Hong Nga Court	Noise	Noise nuisance at morning (C1-Late Apr)	Y	See Complaint #547	Closed
548	26-Apr-21	23-Apr-21 / C1	Mrs. Ho from Lung Pak House	Noise	Noise nuisance at morning (C1-Late Apr)	Y	See Complaint #547	Closed
547	26-Apr-21	25-Apr-21 / C1	Mr. Lau from Yung Lai House	Noise	Noise nuisance at morning (C1-Late Apr)	Y	The complaint is considered as project-related. Construction works were undergoing at the time of complaint and PMEs were operating. No non-compliance was recorded. The details shall be referred to CIR-N141.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
546	19-Apr-21	4&11-Mar-21 / Marine Works Area	Anonymous	Noise	Noise nuisance on holiday mornings (C6 - Apr)	Y	The complaint is considered as project-related and rebar fixing and framework erection was undergoing. No PME was operating during the time of complaint. A valid CNP is held by the Contractor and no non-compliance was identified. The details shall be referred to CIR-N140.	Closed
545	19-Apr-21	22-Mar-21 / Portion IX	Mr. Lai (Sai Kung District Council Member)	Noise	Noise nuisance on holiday mornings (C2 - Mar)	N	See Complaint #538	Closed
544	19-Apr-21	11-Mar-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Mar)	Y	See Complaint #521	Closed
543	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
542	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
541	19-Apr-21	7-Apr-21 / Portion III	Resident of Ping Tin Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
540	19-Apr-21	14-Apr-21 / Portion III	Mr. Wang (Kwun Tong District Council Member)	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
539	16-Apr-21	22-Mar-21 / Portion IX	Resident of Ocean Shores	Noise	Suspected Construction Works during evening-time (C2 - Mar)	N	See Complaint #534	Closed
538	16-Apr-21	Non-specific / Works area near Ocean Shores	Resident of Ocean Shores	Noise	Noise nuisance on holiday mornings (C2 - Mar)	N	No works was conducted during the time of complaint. The complaint is considered as non-project-related. Details shall be referred to CIR-N138.	Closed
537	15-Apr-21	14/4/2021 / Works area near Park Central	Resident of Park Central	Noise	Noise Nuisance due to Breaking Works (C3- Apr)	Y	Breaking works was conducted during the time of complaint. No limit level for noise monitoring was triggered. The complaint is considered as project-related. Details shall be referred to CIR-N137.	Closed
536	14-Apr-21	7/4/2021 / Portion IX	Resident of Ocean Shores	Noise	Suspected low-frequency noise nuisance at Portion IX (Apr 2021)	N	The complaint is considered as non-project-related as no PME was turned on during the time of complaint. Details shall be referred to CIR-N136.	Closed
535	14-Apr-21	7/4/2021 / C1	Resident of Lam Tin District	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	See Complaint #534	Closed
534	8-Apr-21	3/4/2021 / C1	Resident of Yau Lai Estate	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	The complaint is considered as project-related as there was construction works conducted at Kwun Tong Bypass. The details shall be referred to CIR-N135.	Closed
533	26-Mar-21	15-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
533A	2-Mar-21	2-Mar-2021 / Portion IVC or III	Anonymous	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
532	16-Mar-21	10-Mar-2021 / Zone C	Mr. Lui (Sai Kong District Council Member)	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
531	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
530	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
529	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	The complaint is considered as project-related and no non-compliance was found. The noise origin was believed to be the breaking works conducting at Po Yap Road. The concerned breaking works was completed on 13 Mar 2021. The details shall be referred to CIR-N134.	Closed
528	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive Noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
527	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive Noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
526	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
525	9-Mar-21	5-Mar-2021 / Portion IX	Anonymous	Noise	Noise nuisance during daytime (C2 - Mar 2021)	Y	See Complaint #522	Closed
524	9-Mar-21	9-Mar-2021 / Portion IVC or III	Mr. Wong from District Councillors	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
523	9-Mar-21	9-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
523A	5-Mar-21	5-Mar-2021 / Portion III or IVC	Anonymous	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
522	4-Mar-21	3-Mar-2021 / Portion IX	Resident of Ocean Shore	Noise	Noise nuisance during daytime (C2 - Mar 2021)	Y	The complaint case was considered as project-related. The Contractor is reminded to close the gap of noise barrier and repair damaged noise barriers. The details shall be referred to CIR-N132.	Closed
521	4-Mar-21	3-Mar-2021 / Portion IVC or III	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	The complaint is considered as project-related. No limit level of construction noise was recorded during March 2021 and the details shall be referred to CIR-N133.	Closed
521A	1-Mar-21	2-Mar-2021 / Portion IVC or III	Resident of Ping Tin Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
520	1-Mar-21	1-Mar-2021 / Portion IVC or III	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #518	Closed
520A	1-Mar-21	Non-specific	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
519	24-Feb-21	21-Feb-2021 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance on morning (Feb 2021)	N	No PME was operating on-site at the time of complaint and the complaint is considered as non-project-related. The details shall be referred to CIR-N131	Closed
518	19-Feb-21	12-13 & 18 Feb 2021 / Non-specific	Resident of Yau Lei Estate & Hong Pak Court	Noise	Percussive noise nuisance at morning (C1)	Y	Investigation result shows that the percussive noise nuisance was generated from Portion IVC. The construction work started after 0700 and no limit level of daytime noise exceedance was recorded. The details shall be referred to CIR-N130	Closed
518A	1-Mar-20	27 Feb 2021 / Non-specific	Non-specific	Noise	Percussive noise nuisance at morning (C1)	Y	See complaint #518	Closed
518B	1-Mar-20	25 Feb 2021 / Non-specific	Resident of Hong Pak Court	Noise	Percussive noise nuisance at morning (C1)	Y	See complaint #518	Closed
517	8-Feb-21	8/2/2021 / Non-specific	Resident of Ocean Shores	Noise	Noise Nuisance from Excavator	Y	No clear judgement was made as the complainant's information is too vague and it is hard to pinpoint the excavator mentioned in the complaint was in fact the one located at the project site. The details shall be referred to CIR-N129.	Closed
516	26-Jan-21	21-Feb-2021 / Non-specific	Resident of Ocean Shores	Noise / Operating Hours	Continuous Noise Nuisance during Nighttime (Jan 2021)	N	No PME was operating on-site on the date of complaint. The details shall be referred to CIR-N128	Closed
515	23-Jan-21	12-13 & 18 Feb 2021 / Non-specific	Resident of Yau Lei Estate & Hong Pak Court	Noise		N	See complaint #504	Closed
514	22-Jan-21	8/2/2021 / Non-specific	Resident of Ocean Shores	Noise		Y	See complaint #511	Closed
513	22-Jan-21	15-Jan-2021 / Zone D	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	See Complaint #508	Closed
512	22-Jan-21	20-Jan-2021 / Zone D				N		

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
511	20-Jan-21	6/1/2021 & 15/1/2021 / Portion IX of C2	Resident of Ocean Shores	Noise	Continuous Noise Nuisance during Nighttime (Jan 2021)	Y	The complaint is considered as project-related as barge was operating in during time of complaint. The details shall be referred to CIR-N128	Closed
510	19-Jan-21	Non-specific / Portion IX of C2	Resident of Ocean Shores	Noise		N	See complaint #505	Closed
509	15-Jan-21	15/1/2021 / Portion IX of C2	Resident of Ocean Shores	Noise		N	See complaint #505	Closed
508	13-Jan-21	5/1/2020 / Storage Area of C3	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	The Complaint was found project-related. The dust origin was from the stockpile at Zone A of C3. The Contractor had sprayed water regularly to suppress the dust emission and improvement had been observed over Jan 2021. Details shall be referred to CIR-A20.	Closed
507	13-Jan-21	5/1/2020 / Storage Area of C3	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	The Complaint was found project-related. The dust origin was from the stockpile at Zone A of C3. The Contractor had sprayed water regularly to suppress the dust emission and improvement had been observed over Jan 2021. Details shall be referred to CIR-A20.	Closed
506	7-Jan-21	6-Jan-2020 / Portion IX	Resident of Ocean Shores	Noise	Continuous Noise Nuisance during Nighttime (Jan 2021)	Y	See Complaint #500	Closed
505	4-Jan-21	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		N	No clear judgement was made. Other than the construction site, other source for low-frequency noise was also identified. Details shall be referred to CIR-N128	Closed
504	4-Jan-21	1-Jan-2020/C1	Resident of Yau Lai Est.	Noise	Suspected noise nuisance from work site	N	The complaint was considered non-project-related as there was no PME working on site. The details shall be referred to CIR-N127.	Closed
503	30-Dec-20	21-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise	Noise nuisance at nighttime on a weekday	Y	See complaint #500	Closed
502	28-Dec-20	22&23-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
501B	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
501A	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		N	No direct evidence show that the Contractor operated barges at the time of complaint. Therefore the complaint was considered as non-project-related. The details shall be referred to CIR-N126.	Closed
501	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y	The Contractor operated PME(s) at evening-/night- time without an approved valid CNP. The complaint is considered as project-related. The details shall be referred to CIR-N126.	Closed
500	22-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
499	21-Dec-20	20/12/2020 / marine works area	Resident of Ocean Shores	Operating hours / Noise	Horning noise nuisance on Sunday	N	The complaint is considered as non-project-related as no barge was working under the TKOLTT project at the time of complaint. The details shall be referred to CIR-O6.	Closed
498	18-Dec-20	17-Dec-2020 / Marine Works Area	Resident of Ocean Shores	Noise	Low frequency noise & occasional piling noise nuisance during night-time	Y	The complaint is considered as project-related as the noise nuisance was coming from water pumps that working 24/7. Details shall be referring to CIR-N125.	Closed
497	9-Dec-20	Days on/before 9/12/2020 / Portion IVC	Resident of Yau Lai Estate	Air & Noise	Dust & Noise Nuisance near Lam Tin Interchange (December)	Y	See Complaint #494	Closed
496	3-Dec-20	Days before 3-Dec-20 / Lam Tin Tunnel	Resident of Hong Pak Court	Noise	Dust & Noise Nuisance near Lam Tin Interchange (December)	Y	See Complaint #494	Closed
495	16-Dec-20	12-Dec-2020 / Po Yap Road	Resident of Park Central	Noise	Night time machanical noise nuisance	Y	The complaint is considered as project-related as the noise nuisance was coming from water pumps that working 24/7. Details shall be referring to N124.	Closed

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494	5-Dec-20	Early Dec 2020 / Portion III	Resident of Lung Pak House / Staff from Elderly Hooose nearby	Noise	Noise Nuisance near Lam Tin Interchange (December)	Y	The complaint is considered as project-related and no non-compliance in CNMP had been recorded. The contractor is reminded to ensure the effectiveness of noise mitigation measures by various measures including repairing damaged noise barrier. The details shall be referred to CIR-C40.	Closed
493	8-Dec-20	25-Nov-2020 & 2-Dec-2020 / Works area nearby Park Central	Resident of Park Central	Noise	Percussive noise nuisance from at early morning	N	The complaint is considered as non-project-related. No operating PME(s) under TKO-LTT project at the time of complaint was known to emit percussive noise at the time of complaint. The details shall be referred to CIR-N123.	Closed
492	18-Nov-20	18-Nov-2020 / Portion VIII (C2)	Resident of Ocean Shores	Noise	Construction Noise nuisance at Morning	Y	Preliminary result reveals that pre-boring and breaking works had been conducted at the time of complaint. The details shall be referred to CIR-N122.	Closed
491	18-Nov-20	16-Nov-2020 / C1	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Restricted Hour)	Y	See Complaint #490.	Closed
490	13 & 16 Nov 20	5-12 & 14-Nov-2020 / C1	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Restricted Hour)	Y	The complaint is considered as project-related. The origin of noise nuisance was believed to be construction works at Tunnel S1 and S2. No non-compliance was found and the details shall be referred to CIR-N121	Closed
489	13-Nov-20	13-Nov-2020 / C1	Resident of Yau Lai Estate	Air & Noise	Dust and Noise Nuisance in Portion IVC	Y	The complaint was found project-related. The contractor had adopted various noise mitigation measures such as rock splitting method and erection of semi-enclosure to further reduce the noise impact to its surrounding. The details shall be referred to CIR-C39.	Closed
488	13-Nov-20	10-Nov-2020 / C2	Resident of Ocean Shores	Air	Dust emission from construction works	N	The complaint was found project-related. The Contractor is recommended to spray water more frequently to suppress the dust nuisance. The details shall be referred to CIR-A19.	Closed
487	11-Nov-20	5-Nov-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Complaint #468	Closed
486	11-Nov-20	6-Nov-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Complaint #468	Closed
485	7-Nov-20	7-Nov-20	Resident of Park Central	Noise	Percussive noise nearby Park Central	Y	The complaint is considered non-project-related as no PME that know to emit percussive noise was operating during the time of complaint. The details shall be referred to CIR-N120.	Closed
484	7-Nov-20	7-Nov-20 / Portion IV	Resident of Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	See complaint #481	Closed
483	6-Nov-20	6-Nov-20	Resident of Ocean Shores	Noise	Low-frequency noise at night (Oct&Nov 2020)	N	The low-frequency noise was found coming from the water pumps that works 24/7 and other source may also contribute to the noise nuisance. The Contractor had followed the approved CNP. The complaint is considered project-related and shall be referred to CIR-N119	Closed
482	30-Oct-20	29-Oct-2020 / C2	Non-specific	Air	Dust emission from construction works	N	Despite the contractor had sprinkle water regularly, the haul road was found dry during site audit session. The Contractor is reminded to sprinkle water more frequently and cover stockpiles of dusty material to reduce dust emission. The details shall be referred to CIR-A19	Closed
481	3-Nov-20	2-Nov-2020 / Portion IV	Resident of Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	The complaint is considered project-related as no other possible noise origin is known to emit such kind of noise at the surrounding. The Contractor had been reminded to apply lubricants and tighten the screws to reduce noise level. The details shall be referred to CIR-N118	Closed
480	3-Nov-20	3-Nov-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Complaint #469	Closed
479	3-Nov-20	2-Nov-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #469	Closed

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478	3-Nov-20	30-Oct-2020 / Portion IVC	Mr. Wong from District Councilors	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #469	Closed
477	30-Oct-20	15-Oct-2020 / Portion IVC	Non-specific	Air	Air & Noise Nuisance near Lam Tin Interchange (October)	N	See Complaint #469	Closed
476	29-Oct-20	29-Oct-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #468	Closed
475	28-Oct-20	Not specific / Lam Tin interchange	Non-specified (near Yau Lai Estate)	Noise	Air & Noise Nuisance near Lam Tin Interchange (October)	Y	See Complaint #469	Closed
474	23-Oct-20	23-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Low-frequency noise at night (Oct-Nov 2020)	N	The low-frequency noise was found coming from the water pumps that works 24/7 and other source may also contribute to the noise nuisance. The Contractor had followed the approved CNP. The complaint is considered project-related and shall be referred to CIR-N119	Closed
473	21-Oct-20	19-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Noise Nuisance near Portion IX	Y	See complaint #459	Closed
472	20-Oct-20	20-Oct-20 / Portion IV	Resident from Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	Preliminary results show the noise source was from the backhoe at Portion IV. The Contractor had applied mitigation measures such as adding lubricant to mounting parts to alleviate the problem. The details shall be referred to CIR-N118	Closed
471	6-Oct-20	6-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Noise nuisance at morning (Oct 2020)	Y	See complaint #459	Closed
470	10-Oct-20	3-10 Oct 20 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #468	Closed
469	10-Oct-20	9-10 Oct 20 / Lam Tin Interchange	DC Member (Mr. Wang)	Noise	Air & Noise Nuisance near Lam Tin Interchange (October)	Y	The complaint is considered as project-related and no non-compliance in CNMP had been recorded. The contractor had adopted mitigation measures such as deploying noise absorbing materials among construction site and spraying water near dust generating activities. The details shall be referred to CIR-C38.	Closed
468	5-Oct-20	Mondays - Saturdays / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See complaint #468A	Closed
468A	5-Oct-20	Mondays - Saturdays / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	The complaint was considered project-related. Mitigation measures such as deploying noise barrier and attempts on blocking direct line of sight from NSR was observed. The details shall be referred to CIR-N117.	Closed
467	23-Sep-20	19-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Daytime noise nuisance (mid-September)	Y	See complaint #459	Closed
466	22-Sep-20	20-Sep-2020 / Portion IX		Noise / Working Hours	Noise nuisance on Sunday	Y	Investigation result shows none of the contract under TKOLTT conducted works on Sunday. The details shall be referred to CIR-O5	Closed
465	20-Sep-20	20-Sep-.2020 / Portion IX		Noise / Working Hours	Noise nuisance on Sunday	Y		Closed
464	17-Sep-20	August 2020 / Portion IX	Resident of Ocean Shores	Noise	Continuous Noise Nuisance over Aug 2020	Y	The investigation shows no non-compliance and action level for noise is triggered. The details shall be referred to CIR-N113	Closed
463	15-Sep-20	15-Sep-2020 / Non-specific	Anonymous	Noise	Percussive noise nuisance at early morning	Y	The complaint is considered non-project-related. The investigation pointed out the Contractor had maintain wastewater treatment facilities properly and no action or limit level of surface SS was triggered after the incident. The muddy water was coming from DSD desilting compound. Details shall be referred to CIR-W16	Closed
462	8-Sep-20	10-Sep-2020 / Portion IX	Anonymous	Noise	Suspected muddy water discharge	N		Closed
461	5-Sep-20	5-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Squeaky noise on a Saturday Morning	Y	The squeaky noise believed was coming from operating barges at C6. No non compliance was found. Details shall be referred to CIR-N115	Closed



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460	8-Sep-20	8-Sep-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise nuisance near East Harbour Cross Tunnel	Y	See complaint #456	Closed
459	4-Sep-20	1-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Noise nuisance at morning (Early Sep 2020)	Y	The complainant had repeatedly complaint about the continuous noise nuisance from September to October 2020. The complaint is considered as project-related. The result of noise monitoring had been reviewed and no limit level of exceedance was found. The details of complaint shall be referred to CIR-N114.	Closed
458	28-Aug-20	Early August 20 / Lam Tin Tunnel	Resident from Yau Lai Estate	Noise	Long-term noise nuisance since early August	Y	See complaint #456	Closed
457	27-Aug-20	24&25-Aug-20 / Portion IX	Resident from Ocean Shores	Noise	Noise nuisance at morning (Late August 2020)	Y	See complaint #456	Closed
456	18-Aug-20	18-Aug-20 / Portion IVC	Resident from Yau Lai Estate	Noise	Noise nuisance near East Harbour Cross Tunnel	Y	Investigation showed the nuisance was generated by breaking works. The contractor had promised to complete the semi-enclosure by October 2020. The details shall be referred to CIR-N112	Closed
455	18-Aug-20	Dates on/before 1-Aug-20 / Lam Tin Tunnel	Resident from Yau Lai Estate	Noise	Noise nuisance from tunnel works	Y	Breaking had been conducted during the time of complaint. The details shall be referred to CIR-N111	Closed
454	11-Aug-20	2-Aug-20 / Sea outside Ocean Shores	Resident from Ocean Shores	Operation Hours	Working on restricted hours and public holiday	N	The working barge was believed to be working under the Cross Bay Link project. None of the barges working on the time of complaint belongs to TKOLTT project. Despite works had been conducted, no PME was turned on during the time of complaint. The details shall be referred to CIR-O4.	Closed
453	3-Aug-20	3-Aug-20 / Western Marine Works Area	Resident from Ocean Shores	Water	Suspected muddy water and worn out silt curtain	N	The suspected muddy water was due to the strong tidal movement under typhoon influence. The silt curtain was not deployed properly when the typhoon was landed. Details shall be referred to CIR-W15	Closed
452	1-Aug-20	31-Jul-20 / Marine Works Area	Resident from Ocean Shores	Noise	Squeaky noise during nighttime	Y	The noise was originated from the wires that used for tightening the barge. The Contractor had not fasten the wire completely as strong wave and wind action may tear up the wire and made the barge stranded. The details shall be referred to CIR-N110.	Closed
451	28-Jul-20	28-Jul-20 / Portion IX	Resident from Ocean Shores	Noise	Breaking noise on the morning	Y	Breaking had been conducted during the time of complaint. The details shall be referred to CIR-N109	Closed
450	23-Jul-20 24-Jul-20	23&24-Jul-20 / Works area nearby Ocean Shores	Residents from Ocean Shores	Noise	Noise nuisance on weekdays	Y	The noise nuisance was originated from high-noise level works such as breaking and drilling. The details shall be referred to CIR-N108	Closed
449	16-Jul-20	12-Jul-20 / Lam Tin Tunnel	Resident of Hong Pak Court	Noise	Noise Nuisance Suspected from Tunnel (C1)	Y	Breaking work was conducted near the underground of Hong Pak Court. No non-conformance of CNP was identified, contractor is reminded to strictly follow the conditions of CNP and the time period of CNP. The details shall be referred to CIR-N110.	Closed
448	4-Jul-20	4-Jul-20 noon / Marine works area nearby Ocean Shores	Resident of Ocean Shores	Air	Dark Smoke Emission from Barge	N	The dark smoke was originated from the barge. It is common that dark smoke will be released when the barge's engine was starting. The details shall be referred to CIR-A18.	Closed
447C	10-Jul-20	28-Jun-2020 / TKO South open sea	Anonymous	Water	Suspected oil leakage at the TKO south open sea	N	The suspected oil leakage was believed to be an algae bloom over the whole bay area. The noise nuisance from speeding was considered not project related. The details shall be referred to CIR-C37	Closed
447B	10-Jul-20	29-Jun-2020 / TKO south open sea & flyover towards TKO Chinese Permanent Cemetery		Water / Noise	Suspected muddy water spillage and noise nuisance due to speeding	N		
447A	10-Jul-20	24-Jun-2020 / Non-specific		Noise	Long-term noise nuisance and insufficient noise mitigation measures	Y		
446	12-Jun-20	31-May-2020 / Area nearby Yau Lai Est	Resident of Yau Lai Estate	Noise	Noise nuisance at Morning nearby East Harbour Crossing	Y	See complaint 442.	Closed

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445	11-Jun-20	11-Jun-20 / Park Central	Resident of Park Central	Air	Pungent smell suspected coming from the work sites	N	See complaint 443B.	Closed
444	6-Jun-20	6-Jun-20 / Portion IX	Residents of Ocean Shores	Water	Flooding within work site and suspected muddy water spillage after downpour	N	The flooding is a normal phenomenon as the site boundary have been embarked. The suspected muddy water is wide-spread among the open sea at TKO south and no exceedance of SS were recorded after the incident. The complaint is considered non-project-related and details shall be referred to CIR-W14.	Closed
443B	6-May-20	Non-specific	Anonymous	Air/Noise	Odour nuisance nearby TKO MTR Station	N	The preliminary result showed no direct relationship between the nuisance and the construction works. The details shall be referred to CIR-A17.	Closed
443A					Noise nuisance at Night and Air Quality Impact from Works	Y	The complaint is considered non-project-related. There is no direct evidence showing the project site is the origin of the nuisance. The details shall be referred to CIR-C36	Closed
442	22-May-20	22-May-20 / LT Tunnel	Resident from Hong Pak Court	Noise	Noise nuisance from Tunnel Works	Y	The noise is believed to be breakin inside the tunnel. The CNP was compiled with and contractor is reminded to review breaking schedule to less sensitive hour. The details shall refer to CIR-N105.	Closed
441	8&9-Apr-20	9-Apr-20 / TKO surcharge area	Residents of Ocean Shores	Air/Noise	Noise Nuisance on early morning and Air Quality Works from Excavation Works	Y	The work schedule of C2 had been reviewed. The "beeping" noise is originated from C2 due to safety issue (for mobilization of materials with crane). The noise nuisance is believed to be coming from the vibration hammer. The Contractor had water the exposed area regular to reduce dust impact to the surrounding. The details shall be referred to CIR-C35	Closed
440	13&17-May-20	13-May-2020/Surcharge Area of TKO	Residents of Ocean Shores	Noise	Noise generation in early mornings of early May	Y	The work schedule of C2, C3 & C6 had been reviewed. The noise source is believed to be generated from C2 due to sheet-piling. The details shall be referred to CIR-N104.	Closed
439	7-Apr-20 & 24-Apr-20	April 2020 / Works area near Park Central (non-specific)	Residents of Park Central	Odour	Continuous diesel fuel odour nuisance near Park Central	N	No direct evidence proved that the odour source was originated from the work sites of TKOLTT. The details shall be referred to CIR-A16.	Closed
438	18-Apr-20	18-Apr-20 / Marine Works Area at TKO	Residents of Ocean Shores	Noise/ Light	Blasting, High Frequency Noise and Light in Tseung Kwan O	Y	The complaint was valid in regard of noise. Blasting had been carried out during the midnight and the Contractor is reminded to strictl follow requirements of CNP. The light source was originated from the construction vessels due to safety reason and guard watching. Details shall be referred to CIR-C34.	Closed
437	27-Mar-20	27-Mar-2020 / Surcharge Area (C2)	Resident of Ocean Shores	Noise	Low Frequency Noise during Midnight	Y	The noise source was the malfunctioned dewatering pumps. The details shall be referred to CIR-N103	Closed
436	26-Mar-20	26-Mar-20/ Portion IVC	District Council Member (Mr. Wong)	Noise	Noise nuisance, vibration and spectedly insufficient mitigation measures in Lam Tin	Y	See complaint #431-433.	Closed
435	23-Mar-20	23-Mar-20/ Lam Tin Tunnel	Resident of Cha Kwo Ling Village	Noise	Groundborne Noise from Blasting in the Evening	Y	Blasting was conducted at the time of complaint. The vibration monitoring conducted near Tin Hau Temple was considered the vibration level was acceptable. The details shall be referred to CIR-N102.	Closed
434	23-Mar-20	20-Mar-20/ Lam Tin	District Council Member (Mr. Wong)	Noise	Noise nuisance from Construction Works during Holiday	Y	See compliant #427.	Closed
433	20-Mar-20	20-Mar-20/ Lam Tin	Resident of Hong Pak Court	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	The time period and PMEs of major works conducted during daytime of the complaints, no non-compliance in CNMP and during site audits has been recorded. The Contractor is recommended to provide alternative noise mitigation measures such as acoustic box for noisy PMEs and regularly repair materials of the noise mitigation measures.	Closed
432	18-Mar-20	18-Mar-20 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y		

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431	14-Mar-20	14-Mar-20 / Portion IVC	Residents of Yau Lai Estate	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	Details shall be referred to CIR-N101.	
430	17-Mar-20	17-Mar-20 / Surcharge Area / C2	Anonymous	Water	Muddy Water at the Surcharge Area	N	The "muddy water" was created by the tug boat's screw propeller. The Contractor claimed the propeller stirred up seabed sediment and generated "muddy water". The details shall be referred to CIR-W13.	Closed
429	10-Mar-20	10-Mar-20 / Site Nearby Park Central	Resident of Park Central	Noise	Noise nuisance in early morning (Mar 2020)	Y	No construction works had been conducted at the time of complaint for C3 and the major works area in C2 was at least 300m away from the complainant. It is believed that the major noise source was coming from ASD's work site. The details shall be referred to CIR-N100	Closed
428	4-Mar-20	Not Specified / Tseung Kwan O	Mr. Lui, Sai Kung District Council	Odour / Noise	Odour and low frequency noise nuisance from construction site	Y	Only minor works had been conducted at the time of complaint. No direct evidence showed that the odour source was originated from C3. The suspected nuisance source is believed to be ASD's works area. The details shall be referred to CIR-C33	Closed
427	1-Mar-20	1-Mar-20 / Portion IVC	Resident of Yung Kai House	Noise	Noise nuisance from Construction Works during Holiday	Y	No construction works were conducted at the concerned locations and no direct evidence showing the complaint is project-related. The details shall be referred to CIR-N99	Closed
426	19-Feb-20	11-Feb-20 / Works area outside TKL Sports Centre	Anonymous	Noise	Noise nuisance from breaking works	Y	Refer to complaint #423 and #424.	Closed
425	18-Feb-20	29-Jan-2020 / Marine works Area	Mr. Chan from Ocean Shore		Noise nuisance from barge in morning	Y	No works had been conducted in the time period of complaint. The noise is believed to be non-project-related. The details shall be referred to CIR-N95.	Closed
424	11-Feb-20	8 and 11-Feb-2020 / Site near TKL Station	Resident of Park Central		Noise nuisance from breaking works	Y	The complaint was valid and the contractor had been operating only 1 breaker at a time. The contractor is suggested to further increase the mitigation measures to reduce impact to the surrounding neighborhood. The details shall be referred to CIR-N97	Closed
423	3-Feb-20	03-Feb-2020 / Site Near TKL Station				Y		
422	3-Feb-20	2-Feb-20 / Lam Tin Interchange	Resident of Cheuk Lai House, Yau Lai Estate		Noise nuisance suspected to be related to works involving metal hammering on Site near EHC	Y	No construction activities were conducted at the concerned locations during the period of complaint. The Contractor is reminded to keep conducting good site practice and strictly follows the requirements of approved CNP. The details shall be referred to CIR-N98	Closed
421	21-Jan-20	21-Jan-20 / Portion IX	Ocean Shores Residents	Noise	Noise nuisance due to Blasting at midnight	Y	Blasting was conducted around 1:30am due to the vicinity of the Railway protection zone of MTR. The Contractor is reminded to keep the blast door closed during blasting to minimize noise impacts and re-schedule blasting to less sensitive hours as far as practicable. The details shall be referred to CIR-N96.	Closed
420	7-Jan-20	7-Jan-20 / Portion IX	Ocean Shores Residents		Irritating loud noise nuisance from Portion IX (C2)	Y	See complaint #417	Closed
419	7-Jan-20	Sundays before 7-Jan-20 / Tunnel Works	Resident of Hong Pak Court		Noise nuisance from Tunnel Works	Y	See Complaint #416.	Closed
418	7-Jan-20	5-6-Jan-20 / C1 Marine Works Area	Ocean Shores Residents		High-frequency noise during night-time	Y	The high frequency noise was believe to be noise emitted from the marine works area of C1. The details shall be referred to CIR-N94.	Closed
417	3-Jan-20	2-Jan-20 / Portion IX	Former District Member (Mr. Chan)		Annoying noise emission and inefficient noise mitigation measures	Y	The noise source is believed to come from a breaker and mitigation was insufficient. The Contractor was requested to strictly follow the Noise Mitigation Plan. The details shall be referred to CIR-N93.	Closed
416	29-Dec-19	29-Dec-19 / Non-specific	Resident of Hong Pak Court	Noise	Groundborne Noise from Works area	Y	Project-related with valid CNP. Contractor is reminded to reduce noise emission and prevent breaking and noisy activities during restricted hours. The details shall be referred to CIR-N92.	Closed
415	27-Dec-19	25-Dec-19 / Lam Tin Interchange (Portion IVC)	Resident of Yau Estate	Noise	Noise nuisance from Portion IVC	Y	Non project-related due to maintenance works of East Cross-harbor Tunnel. The details shall be referred to CIR-N91.	Closed

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414	24-Dec-19	22-Dec-19 / Lam Tin Interchange (Portion IVC)	Resident of Yau Estate	Noise	Piling noise nuisance near Lam Tin Interchange	Y	Project-related with valid CNP. Contractor is reminded to reduce noise emission and prevent breaking and noisy activities during restricted hours. The details shall be referred to CIR-N91.	Closed
413	24-Dec-19	24-Dec-19 / Portion IX of Contract 2	Resident of Capri & Ocean Shores	Noise	Loud and continuous noise emission from Portion IX	Y	No breaking activity was conducted by the C3. It was believed that C2 was the major noise source and the mitigation measures were insufficient. The details shall be referred to CIR-C32.	Closed
412	19-Dec-19	14-Dec-19 / marine works area	Resident of Ocean Shores	Noise	Noise nuisance from the marine works area	Y	The major construction work was driven by pin piles. The noise emitted due to the construction activities is considered to be reduced to an acceptable level as no NSR falls under the ambit of 300m study area of the work site. Details should be referred to CIR-N90.	Closed
411	2-Dec-19	30-Nov-19 / Construction Sites Outside TKL Sports Center	Resident of Park Central	Air / Noise	Non-effective noise mitigation measures and related dust and noise nuisance	Y	The construction noise created by breaking works are considered non-project related due to the large separation distance between noise source and the Complainant's Location. Major dust emission from the works area next to C3 was recorded. The Contractor is reminded to provide regular watering to dusty works. Details should be referred to CIR-C31.	Closed
410	28-Nov-19	25-Nov-19 / Portion 4C	Anonymous	Noise	Noise nuisance from Lam Tin Works Area and operation hours	Y	Refer to Complaint #408	Closed
409	27-Nov-19	20&27-Nov-19 / Construction Sites near Po Yap Road & Chui Ling Road	Resident of Park Central	Air / Noise	Dust emission due to excavation works and noise nuisance from Piling works	Y	Although noise barrier had been erected and around the breakers, the direct line of sight to the NSRs at Park Central could not be totally blocked. The Contractor is recommended to provide cantilevered noise barrier with noise absorbing materials to minimise noise impact as far as practicable. Details should be referred to CIR-C31.	Closed
408	25-Nov-19	Non-specific (Nov-19) / Portion 4C	Resident of Yau Lai Estate	Noise	Serious Noise Nuisance from Lam Tin Works Area	Y	Despite the Contractor had applied different noise mitigation measures (e.g. semi enclosure and noise barrier). Environmental deficiency was observed during site audit session. The Contractor is recommended to apply alternative noise mitigation measures to improve the situation. The details shall be refer to CIR-N89.	Closed
407	12-Nov-19	Non-specific (Nov-19) / LT Construction Site	Non-specified(Complainant has previously made complaints on LTI)	Operation Hours	Inquiries on operating hours & Noise Nuisance	N	The time of complaint falls under day-time. According to the Contractor and RE, the general starting time of construction works are 08:15 on normal week days. The Contractor had avoid conduct noisy works on morning to minimize noise impacts for the nearby residents. The details shall be refer to CIR-O3	Closed
406	5-Nov-19	5-Nov-19 / Tunnel near TKO	District Council Member (Mr. Chan)	Noise	Noise nuisance from Blasting activities during night-time	Y	No blasting was carried out on that night. The construction activities were conducted inside the tunnel with the blast door closed. The CNP that the Contractor held remained valid during the time of complaint. The details shall be refer to CIR-N88	Closed
405	29-Oct-19	17-Oct-2019 / Marine Works area near Ocean Shore	District Council Member (Mr. Chan)	Noise	Daytime times noise nuisance	Y	The complaint details does not tally up with the information provided with the Contractor and RE. Referring to the Contractor, there was construction works was starting at 09:00. Noise mitigation measures, such as acoustic mats, were applied to minimize noise impact. The details shall be refer to CIR-N87	Closed
404	15-Oct-19	12-Oct-19 / Marine Works area near Ocean Shore	Residents of Ocean Shores	Noise / Working Hours	Noise nuisance due to operation of barge on Saturday early morning	Y	The time of complaint falls within daytime and the major works conducted are dredging and reclamation. The contractor did not require any extra mitigation measures. The contractor had applied sound-proofing mat on the engine floor of the barges and is recommended to strictly follow the requirements of noise mitigation plan. The details shall be refer to CIR-N86	Closed
403	15-Oct-19	Oct-19 (Not Specified) / C2 Construction Site	Residents of Ocean Shores	Noise / Working Hours	Operation of marine construction works during late hours	Y	The major construction works is trimming works for the rock mount during the time period of complaint. Mitigation measures provided by the Contractor included provision of noise insulating mats to the engine floor of the barges and shorten the work hours by ending construction works on or before 21:00 since early Oct 2019. Details shall be referred to CIR-N85.	Closed

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402	10-Oct-19	09-Oct-2019/ Site near TKO CPC	Residents of Ocean Shores	Noise	Noise nuisance of construction works at marine work area during early morning	Y	No construction activity at both the Cavern near the BCMCP Bridge and Platform 1B, including the barge, in particular during the complaint period between 2am and 3am on 9 Oct 2019. Since no works had conducted during the time of complaint, no mitigation measures are required. The details shall be referred to CIR-N84.	Closed
401	5-Oct-19	05-Oct-2019 / C2 Portion IX	District Council Member (Mr. Chan)	Noise	High noise level from works area during daytime	Y	The time period of complaint falls under day-time and therefore the Contractor is required to carry out mitigation measures according to the latest CNMP only. The construction activities had been reviewed and no non-compliance was identified. No Limit Level of Exceedance at daytime was recorded during October 2019. For mitigation measures, the Contractor had set up sound-proofing mats and SlientUp to reduce noise impact. The details shall be refer to CIR-N83.	Closed
400	16-Sep-19	10-Sep-19 / TKO Marine Works Area	District Council Member (Mr. Chan)	Water	Muddy water discharge and deficiency in water quality mitigation measures	N	With accordance to the Contractor and RE, the silt curtains were deployed regarding to SCDP ver. 8 since 10-Sep-19, site inspection on 12-Sep-19 also showed the silt curtains were deployed properly. Despite there are chances of accidental muddy water discharge due to the removal of cofferdam on 13-Sep-19, local silt curtain had been place in order to minimize the unavoidable impact by related loading and unloading of fill materials. No muddy water had been observed outside the silt curtain area. Nevertheless, the Contractor is recommend to expand the coverage of the local silt curtain in order to well-confine the muddy water released from the grab. On top of that, the Contractor shall always follow the SCDP to ensure the minimization of impacts. Details should be referred to CIR-C30.	Closed
399	16-Sep-19	16-Sep-19 (Not Specified) / LT Interchange Potion III	Resident of Bik Lai House, Yau Lai Estate	Noise	Noise emission from the tunnel entrance (Potion III)	Y	No construction works was carried out during the time of complaint. Details should be referred to CIR-N82.	Closed
398	16-Sep-19	13-Sep-19 / Works Area of LT-TKO Tunnel outside Tiu King Leng MTR Station	Anonymous	Air / Water	Dark smoke emission and muddy water discharge from the marine work vessels near shore	N	No dark smoke emission was observed during the site inspection conducted in the week of the complaint. The Contractor has applied an air filtering tank to clean the exhaust from the barge before emission. Details should be referred to CIR-C30.	Closed
397	6-Sep-19	30 Aug-19 / Works area near Ocean Shores	Resident of Ocean Shores	Noise / Working hours	Noise emitted from Barge during Evening times	Y	The unloading works had been reviewed and no limit level of exceedance were recorded during August to early September. Since the period of complaint falls under evening times, no mitigation measures were required by the CNP. Details should be referred to CIR-N81.	Closed
396	6-Sep-19	30 Aug-19 / Works area near Ocean Shores	Resident	Noise	Noise nuisance from LT-TKO Tunnel	Y	The major works conducted were shortcreting, mucking out, maintaining, drilling and unloading. No limit level of exceedance in the restricted hours (19:00-23:00) between late August and early September were recorded. The Contractor is recommended to keep following noise mitigation plan to minimize noise nuisance. Details should be referred to CIR-N80.	Closed
395	6-Sep-19	31 Aug-19 / Works area near Ocean Shores	District Council Member (Mr. Chan)	Noise	Noise Nuisance during evening and night times	Y		Closed
394	6-Sep-19	Not specified (Sep-19) / Works area near Ocean Shores	Anonymous	Noise / Operating Hours	Noise nuisance during Evening & occasionally in Night time	Y		Closed
393	30-Aug-19	30 Aug-19 / Marine works Area	District Council Member (Mr. Chan)	Water	Alleged muddy water discharge	N	High rainfall was recorded during period of complaint, therefore muddy water discharge at outfall from upstream and some surface runoff within the site is expected. However, no major silt curtain deficiency was observed during on-site observation and no leakage of muddy water from the marine works area was observed. Details should be referred to CIR-W12.	Closed
392	29-Aug-19	20-27 Aug-19/ Portion 4C	Resident of Bik Lai House, Yau Lai Estate	Noise	Noise nuisance from the operation of heavy machineries and missing of noise mitigation measures at Portion 4C	Y	A noise insulating cover was erected before the period of complaint, however, due to restricted site condition in the relocated breaking works area, the erection of the cover could not be carried out. Nevertheless, movable noise barriers and local semi-enclosure was adopted for breaking works. Details should be referred to CIR-N79.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
391	26-Aug-19	10-Jul-19 / Construction site near Ocean shore	District Council Member (Mr. Chan)	Noise	Operation of construction works during late hours	Y	1 derrick barge was operated during the period of complaint with valid CNP. Regular maintenance and checking should be conducted for all operating barges. Details should be referred to CIR-N78.	Closed
390	26-Aug-19	31-Jul-19 / Construction site near Ocean shore	District Council Member (Mr. Chan)	Noise	Intermittent noise emitted from collision during night-time	Y	The noise source is suspected to be the collision between cofferdam and its broken part as the cofferdam was found damaged next morning. No construction was conducted at night time of 31 July. The contractor is recommended to maintain and check cofferdam regularly. Details should be referred to CIR-N77.	Closed
389	29-Jul-19	17 to 24-Jul-19 / Marine Construction Site near O King Road	Resident of Ocean Shore	Noise	Noise nuisance from the barge operating in reclamation works area near O King Road during evening times.	Y	1 derrick barge was operated during the period of complaint with valid CNP. Regular maintenance should be provided for all operating barges. Details shall refer to CIR-N76.	Closed
388	12-Jul-19	8-Jul-19 / Construction Site near Ocean Shores	District Council Member (Mr. Chan)	Noise	Noise nuisance and inadequate noise barrier at the construction site near Ocean shore	Y	Although Contractor has adopted a noise mitigation measure of drill rigs at Portion IV near Ocean Shore such as noise barrier with sound insulating fabric, the existing noise barrier in Portion IX and some in Portion IV are not adequate in screening the direct line of sight to Ocean Shore. Details should be referred to CIR-N75.	Closed
387	12-Jul-19	8 to 12-Jul-19 / Portion 4C of C1 Construction Site	Resident of Bik Lai House	Noise	Breaking noise emitted from the operation of 2 PME at Portion 4C during weekday daytime.	Y	Two breakers were operated intermittently at the Portion 4C of C1 construction site during the period of complaint between 07:00 to 19:00. As observed during the site inspection/noise monitoring, movable noise barrier could not completely screen off the direct line-of-sight from PMEs to Yau Lai Estate. Contractor has adopted mitigation measure to minimize the noise impact from breakers including using a noise barrier with noise insulating fabric, adopted a less noisy hydraulic spitting method for breaking works and has been developing a semi-enclosure noise barrier to replace the existing movable noise barrier. Details should be referred to CIR-N74.	Closed
386	10-Jul-19	9 to 10-Jul-19 / Not Specific	District Council Member (Mr. Chan)	Noise	Noise nuisance and disturbance from the TKOLT tunnel construction site involves intermittent noise emitted from collision during night-time.	Y	No construction works was carried out during the time of complaint. Details should be referred to CIR-N73.	Closed
385	4-Jul-19	Late Jun-19 to 4-Jul-19 / Reclamation Area	Resident of Ocean Shore	Noise	The reclamation works continued into the evening during weekdays and works were also operated on Sunday.	Y	See Complaint no 384.	Closed
384	3-Jul-19	3-Jul-19 / Near Ocean Shore	District Council	Noise	The construction site was constantly emitting metallic percussion noise in the early morning.	Y	The concerned metallic percussion noise source was suspected from the collision between the detached sheet pile and the adjacent sheet pile of the broken cofferdam. The detached sheet pile was fixed by re-sealing it to the adjacent sheet pile. Details should be referred to CIR-N72.	Closed
383	29-Jun-19	Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate, Yung Lai House	Noise	Noise nuisance from construction works during weekday daytime and evening times. Noise barriers was found missing in certain parts of the construction areas.	Y	Some noise mitigation measures were observed during the site inspection including idle equipment were turned off and noise barrier has been erected close to noisy PMEs in the right direction facing Yau Lai Estate. However, the above mitigation measures were not applied to whole construction site such as noise barriers were not placed close enough to the noisy PMEs due to the uneven surface and other inconvenience. Details should be referred to CIR-N71.	Closed
382 (N08/RE/000110 19-19)	17-Jun-19	6-Jun-19 / Cofferdam area	District Council	Air	Dark smoke nuisance from the tug boat inside the cofferdam area.	N	During site audit, no violation of the Air Pollution Control (Smoke) Regulation from the construction site was observed by the ET. Air filter has been replaced on derrick barge to reduce the dark smoke emission upon the receipt of the complaint. The Contractor is recommended to replace the air filters regularly. Details should be referred to CIR-A15.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
381 (N08/RE/000150 98-19)	11-Jun-19	1-Jun-19 / Near cofferdam	District Council	Water	Muddy water discharge from construction site near the cofferdam area on 4 June 19	N	High volume of upstream muddy water was collected due high rainfall according to reports and observation. As a result, the muddy water from upstream was discharged into the Junk Bay via various outfalls in Junk Bay, as observed during the rainstorm events. No sand plume within the cofferdam area and no muddy water discharge at the designated discharge point within the Site was identified during the site inspection and water quality monitoring. Details should be referred to CIR-W11.	Closed
380	11-Jun-19	6-Jun-19 / Near Tong Yin Street	Resident of Ocean Shore	Air	Odour nuisance from construction site near Tong Yin Street	N	No oil leakage from mobile crane was observed during the site inspection in June 2019. According to the testing reports, all ULSD fuel applied in the PMEs during the construction period contains sulphur content lower than 0.005% by weight, which complied with the Air Pollution Control (Fuel Restriction) Regulations. Details should be referred to CIR-A14.	Closed
379	11-Jun-19	4-Jun-19 / Near cofferdam area	General Public	Water	Discharge of mud water into Junk Bay from TKOLT construction site	N	See Complaint no 381.	Closed
378	11-Jun-19	13-Apr-19 / Near cofferdam area	General Public	Air	Dark smoke nuisance from construction site involves derrick barge operation near cofferdam area (daytime)	N	No violation of the Air Pollution Control (Smoke) Regulation was recorded from the construction site was observed. The contractor was recommended to install carbon filter at smoke exhaust of the barge as a more effective mitigation measures. Details should be referred to CIR-C27.	Closed
377	11-Jun-19	2-Jun-19 / Lam Tin Interchange	General Public	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	Only drilling works inside the tunnel was conducted during daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
376	11-Jun-19	9-Jun-19 / Near Yau Lai Estate	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance near Yau Lai Estate involves vehicle movement (roller) during morning to 15:00 in holiday.	Y	No works involving roller was involved. Only drilling works inside the tunnel and dismantling of crusher shelter was conducted during Sunday daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
375	11-Jun-19	9-Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	See Complaint no. 376.	Closed
374	4-Jun-19	3-Jun-19 / Near Ping Tin Estate	Resident of Ping Sin House in Ping Tin Estate	Noise	Vibration from the construction of Lam Tin Interchange in evening time at around 20:00	Y	Groundborne noise is considered as the major factor contributing to the noise nuisance. The reverse circulation drilling works may have emitted groundborne noise, however, only 1 unit was used in Portion II. Therefore, blasting is considered as the major cause for the vibration. Details should be referred to CIR-N69.	Closed
373	4-Jun-19	2-Jun-19 / Near ocean Shore	Resident of Ocean Shore	Noise	Complaint about the noise nuisance from the construction site near Ocean Shore and the construction site operation in day time holiday.	Y	No construction activity was conducted at the time of complaint as confirmed by Engineer. Therefore, the noise nuisance was not due to the construction site. Details should be referred to CIR-N68.	Closed
372	4-Jun-19	1-Jun-19 / Near ocean Shore	Resident of Ocean Shore	Others	Complaint about the construction site operation in the early morning on Saturday.	N	See Complaint no. 373.	Closed
371	30-May-19	30-May-19 / Near Ocean Shore	Resident of Ocean Shore	Noise	Noise nuisance from construction site near Ocean Shore during night time.	Y	See Complaint no. 373.	Closed
370 (N08/RE/000150 98-19)	29-May-19	19 & 26-May-19 / Near Ocean Shore	Resident of Ocean Shore	Noise	Noise nuisance about dredging mud and loudspeaker in the construction site near Ocean Shore during daytime holiday.	Y	Noise barriers/ Noise absorptive materials have been used to mitigate the noise generated from the construction works. Only walkie-talkies were used for communication in the construction site. Details should be referred to CIR-N67.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
369	13-May-19	Not specific / Lam Tin interchange	Resident of Yau Lai Estate	Noise	Noise nuisance from the blasting work inside tunnel which involves explosion noise impact during midnight	Y	Contractor has adopted a mitigation measure for reduce the blasting noise impact from the tunnel such as blasting doors and did not conduct blasting works during mid-night blasting since mid-May 2019. Details should be referred to CIR-N66.	Closed
368	19-May-19	19-May-19 / Near cofferdam area	General Public	Noise	Noise nuisance from barge with in cofferdam area in daytime holiday	Y	See Investigation / Mitigation Action for complaint no. 361.	Closed
367	5-May-19	5-May-19 / Lam Tin Tunnel - TKO entrance	Resident near Lam Tin Tunnel - TKO entrance	Noise & Air	Noise and air nuisance from construction near Lam Tin Tunnel - TKO entrance	Y	The major works during the period of complaint is scaling by breaker on day time holiday (Sunday). The works is compiled with CNP and no air quality action and noise limit level exceedance during the monitoring. Regarding the existing air quality mitigation measures, the water spray for the breaker was insufficient and the dust emission during unloading of dusty materials was observed. As the review of exiting noise mitigation measure, a broken noise SilentMat was found on the hammer of breaker. According to the above observation, Contractor has adopted serval improvement such as conduct a sufficient water spray during breaking and unloading materials, replaced the noise SilentMat of the breaker and placed the noise barrier between PME and NSRs. Details should be referred to CIR-C29.	Closed
366	4-May-19	4-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime.	Y	Regarding the observation during site inspection, the hammer of the breaker was surrounded by a broken noise absorption material and a noise barrier of a driller was placed in the incorrect direction of NSRs. Contractor has improved the above mitigation measures including replaced the noise absorption materials and relocated the noise barrier to facing the NSRs. Details should be referred to CIR-N65.	Closed
365	1-May-19	1-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime.	Y	See investigation / mitigation actions for Complaint No.366	Closed
364	1-May-19	1-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime	Y	See investigation / mitigation actions for Complaint No.366	Closed
363	30-Apr-19	6th – 22th April -19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime and evening time	Y	See investigation / mitigation actions for Complaint No.366	Closed
362 (N08/RE/000133 96-19)	8-May-19	7-May-2019 / Junk Bay	District Council	Noise	Noise nuisance from marine works in the Junk Bay in the night-time (06:45)	Y	No marine works in the Junk Bay was conducted as confirmed by RE. No CCTV footage was recorded during the time of complaint. It was suggested that Contractor should conduct 24 hours CCTV monitoring. Details should be referred to CIR-N64.	Closed
361	7-May-19	28 Apr 2019 / Cofferdam Area	General Public	Noise	Noise nuisance from construction site at cofferdam area in holiday	Y	The reclamation works involves barges during the time of complaints has been compiled with the CNP. As review of existing mitigation measure, the sound proofing canvases for the barges were hanged up. Details should be referred to CIR-N63.	Closed
360	2-May-19	27-04-2019/ Construction in Tong Tin Street	General Public	Noise	The complaint about the noise nuisance from cofferdam area during daytime and evening-time.	Y	The light source was found from the lighting of derrick barge within the cofferdam area and the noise source was found from the barge during filling works. Contractor has adopted The sound proofing canvases for the derrick barge was hanged up but no light mitigation measure. Details should be referred to CIR-C28.	Closed
359	30-Apr-19	30-04-2019/ Near Ocean Shore	Resident of Ocean Shore	Noise	The complaint about the noise nuisance involve percussion noise near Ocean Shore during daytime.	Y	See compliant #355.	Closed
358	30-Apr-19	27-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance during evening time.	Y	See compliant #355.	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
357	23-Apr-19	20-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance near cofferdam area during daytime.	Y	See compliant #355.	Closed
356	23-Apr-19	19-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance near cofferdam area during holiday.	Y	See compliant #355.	Closed
355	17-Apr-19	17-04-2019/ Near cofferdam area	General Public	Noise & light	The complaint about the noise nuisance and light pollution near cofferdam area during evening-time.	Y	The light source was found from the lighting of derrick barge within the cofferdam area and the noise source was found from the barge during filling works. Contractor has adopted The sound proofing canvases for the derrick barge was hanged up but no light mitigation measure. Details should be referred to CIR-C28.	Closed
354	30-Apr-19	20 Apr 2019 / Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Others	The construction site near O King Road is operated in holiday during day-time and weekday during night-time.	N	The marine reclamation works at the Portion IX in C2 construction site was the major construction activity during the period of complaints. The concerned reclamation works is compiled with the relevant CNP. Details should be referred to CIR-O2.	Closed
		19 Apr 2019 / Cofferdam Area						
		15 Apr 2019 / Cofferdam Area						
		07 Apr 2019 / Cofferdam Area						
		31 Mar 2019 / Cofferdam Area						
353	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Air	According to the complainant, large amount of smoke and exhaust was seen emitting from barges working within the cofferdam	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
352	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained about the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y	The major works during the time of complaints was a crawler crane unloading H piles to the Portion V of C2 construction site. Noise barriers were erected between the crane and NSRs to reduce noise impact. Details should be referred to CIR-N62.	Closed
351	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y		
350	8-Apr-19	07 Apr 2019 / Cofferdam Area in TKO	-	Air & Others	The complainant complained the dark smoke generation and the construction works from the cofferdam area in Tiu Keng Leng during holiday.	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
349	7-Apr-19	07-04-2019/Cofferdam Area	Resident of Ocean Shore	Air	Dark smoke generation from the cofferdam area in Tiu Keng Leng during day-time.	N		Closed
348	2-Apr-19	02 Apr 2019 / LTT-TKO	-	Others	The complainant complained the LTT construction site was working during holiday.	N		Closed
347	1-Apr-19	01 Apr 2019 / Cofferdam Area	Resident of Ocean Shore	Noise	Percussive noise from the cofferdam area in Tiu Keng Leng during day-time.	Y		Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
346	31-Mar-19	31st March 2019 / Construction of Road P2	District Council	Others	Complaint about the construction site operation of Road P2 in day time holiday	N	A tug boat and a derrick barge were operated for the marine reclamation work within the cofferdam area during the time of complaint. As the review of relevant CNP, no violation was observed. Details should be referred to CIR-O1.	Closed
345	26-Mar-19	26th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
344	28-Mar-19	26th March 2019 / Construction of Road P2	District Council	Noise	Complaint letter received regarding noise nuisance and dark smoke generation from the marine barges	Y	See Investigation / Mitigation Action for complaint no. 378.	Closed
343	25-Mar-19	25th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance sound like a breaking works in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
342	25-Mar-19	24th March 2019 / Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction of Lam Tin Interchange in day time holiday (Sunday). The noise monitoring was conducted in Hong Nga Court by staff after the complaint and the noise level is result in acceptable level, but the complainant replied that the noise monitoring is meaningless and the noise nuisance is not acceptable for her.	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
341	24-Mar-19	24th March 2019 / Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complaint about the noise nuisance from Lam Tin Tunnel construction works in day time.	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
340	24-Mar-19	24th March 2019 / Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction site day time holiday (Sunday).	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
339	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the construction noise nuisance involving percussive noise in early morning (07:00)	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
338	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Ocean Shore	Noise	Construction noise	Y	See Investigation / Mitigation Action for complaint no. 323.	Closed
337	20-Mar-19	19th March 2019 / Construction of Road D4 and Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complaint about the noise nuisance from the construction vehicle near Park Central in night time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
336	20-Mar-19	20th March 2019 / Construction of Road P2	Resident of Park Central	Noise & Pest	Complaint about the noise and pest nuisance from the construction site near Park Central in evening time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed

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335	19-Mar-19	19th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise nuisance from reclamation works near the TKO-LTT reclamation site during the evening time (19:00-23:00).	Y	See Complaint #323.	Closed
334	19-Mar-19	19th March 2019 / Construction of Road P2	District Council	Noise	Construction noise nuisance from the TKO-LTT reclamation site during evening time (after 19:00).	Y	See Complaint #323.	Closed
333	19-Mar-19	18th - 19th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise nuisance from construction noise in evening time (around 20:30).	Y	See Complaint #323.	Closed
332	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance during day time, evening time and night time.	Y	The construction activities in the complaint dates are complied with CNP. No noise limited level exceedance was recorded. During the site inspection, no noise barriers were erected between noisy PMEs and NSRs at LTI. Regarding the observation in the inspection, Contractor has adopted an improvement such as placed the noise barriers between the PMEs and NSPs to reduce noise nuisance. Details should be referred to CIR-N61.	Closed
331	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance in night time and the past few days. (Before 07:00)	Y		Closed
330	17-Mar-19	17th March 2019 / Construction of Lam Tin Interchange	General Public	Noise	Complaint about the noise nuisance from in night time holiday.	Y		Closed
329	15-Mar-19	15th March 2019 / Construction of Road D4	Resident of Park Central	Noise & Air	Complaint about the noise from the construction works and the odour nuisance involves engine oil from construction machine	Y	The construction activities in the complaint dates are complied with the CNMP. No noise and air quality limit level exceedance were recorded. Contractor had implemented the mitigation measures for the noise and odour nuisances including acoustic mat was erected between the PME and NSR, ultra-low sulphur diesel was applied as fuel oil in PME and general refuses were disposed properly. Details should be referred to CIR-C26.	Closed
328	14-Mar-19	9th March 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complaint about the noise nuisance involve drilling work in the day time (08:00).	Y	A formation works was conducted in 7 am to 7pm on 9 Mar 2019. No noise limit level exceedance was recorded in the nearest noise monitoring result. However, there was no any adoption of mitigation measure to minimize the noise nuisance from the site. As response the received complaint, the contractor should place the noise barrier between the PMEs and NSR. Details should be referred to CIR-N58.	Closed
327	13-Mar-19	13th March 2019 / Construction of Lam Tin Interchange	Resident of Bik Lai House	Noise	Noise nuisance suspected from the construction works involving chiseling during evening time (22:07).	Y	A handing processed rock at Lam Tin Interchange was conducted on the complaint date in 7 pm to 11 pm involving dump truck and excavator which construction activities was compiled with the CNP. No noise limit level exceedance was record in the evening time monitoring. However, the noise barrier was not placed in the direction of the Yau Lai Estate during breaking works, the contractor had implemented a mitigation measure such as placed the noise barrier to reduce noise level from the breaker but the noise barrier was far from the concerned breaker. Details should be referred to CIR-N59.	Closed
326	13-Mar-19	13th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time (16:30)	Y	See Investigation / Mitigation Action for complaint no. 322.	Closed
325	9-Mar-19	9th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involve machine and percussive noise in night time (02:00 -03:00).	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed

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324	7-Mar-19	7th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance involving chiseling noise from the construction site near Hong Pak Court during day time and evening time in the past few months.	Y	Only drilling works were conducted inside the tunnel in early morning and daytime under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed
323 (EPD-N08/RE/000065 23-19)	4-Mar-19	4th March 2019/ Cofferdam Area	Resident of Ocean Shore	Noise	Construction noise (Evening time)	Y	Only 1 derrick barge and a tug boat was used in the evening time under valid CNP. No Limit Level Exceedances were recorded at Station CM6(A) during evening time. Acoustic mat should be used to screen the engine of the barge to reduce the noise nuisance from the reclamation works. Lubricants should be applied to the barge to reduce the noise emission during barge movement.	Closed
322	13-Mar-19	1st March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Noise nuisance suspected from a yellow excavator near Ocean Shores in day time (15:44).	Y	No noise limit level exceedance was recorded and the number of operating PME's complied with the CNMP. The sound proofing canvases were not always adopted as a mitigation measure to screen the noise emitted from the engine of the barge. Contractor should adopt the aforementioned mitigation measures as far as practicable. The contractor was also recommended to enhance the mitigation measure including frequently checking the noise barriers/sound proofing canvases, frequent checking and repair the gaps or broken acoustic sheets and continue to strictly follow the requirements in the approved CNMP.	Closed
321	28-Feb-19	28th February 2019 / Construction of Lam Tin Interchange	Management Section of Yau Lai Estate	Noise	Construction noise (Night time)	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N55.	Closed
320	22-Feb-19	22nd February 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance involving percussive noise in early morning (Day time). Complainant said the construction should be operated after 08:00.	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
319	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involving percussive noise in night time	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
318	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involving percussive noise from the construction in night time	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
317	25-Feb-19	23th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complained about the odour nuisance of petroleum smell	N	See Investigation/ Mitigation Action on Complaint no.294. Details should be referred to CIR-A12.	Closed
316	18-Feb-19	18th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complaint about the dark smoke and odour nuisances	N	See Investigation/ Mitigation Action on Complaint no.294. Details should be referred to CIR-A12.	Closed
315	17-Feb-19	15th February 2019 / Construction of Lam Tin Interchange, Road P2 and Tseung Kwan O Interchange	General Public	Noise	Complained about construction noise (Daytime)	Y	The metal wire used for anchoring the barge inside the cofferdam area are the source for the noise nuisance. Ropes were used to replace metal wire to reduce noise nuisance from metal collision while mooring boats. Details should be referred to CIR-N54.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
314	17-Feb-19	16th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air	Dust nuisance suspected from the construction works and absence of water spraying near Lam Tin Interchange in daytime.	N	No Air Quality action level or limit level exceedance during the monitoring conducted by ETL. Contractor had implemented mitigation measure to reduce and prevent dust emission including conducted water sprays and covered the cement bags. Details should be referred to CIR-A13.	Closed
313	17-Feb-19	17th February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Construction noise nuisance from the drilling and breaking works at Branch Tunnel in the morning (Day time)	Y	Breaking and drilling works were conducted during the time of complaint. The breakers were often seen wrapped with acoustic mat, however, they are easily damaged during the breaking works. Noise barrier are more effective in reducing the noise nuisance than the acoustic mat, but the erection of noise barrier are not often adopted properly to screen the noise from the NSR due to the additional works involved and the landform on site. Groundborne noise could also be a factor contributing to noise nuisance. Details should be referred to CIR-N53.	Closed
312	16-Feb-19	16th February 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the explosion noise (Daytime)	Y	No exceedances were recorded and recommendation were made to further enhance the mitigation measures, such as regularly and reviewing the noise control activities that are being carried out on site regularly to ensure compliance with statutory requirement, provide training for the workers to prevent unnecessary noise disturbance and frequently check and maintain the absorptive lining adhered on blasting doors on a regular basis.	Closed
311	15-Feb-19	15th February 2019 / Construction of Lam Tin Interchange	Public	Noise	Complained about the explosion noise (Daytime)	Y	See Investigation / Mitigation Action for complaint no. 312.	Closed
310	14-Feb-19	14th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Construction noise nuisance about the rock handling work at LTI (Daytime)	Y	Dump truck and excavator was used to transfer crushed rocks from the crusher with valid CNP. Additional noise barrier was added at the site boundary near Shun Lai house, Yau Lai Estate to reduce the direct-line of sight from the NSRs to the site. Details should be referred to the CIR-N51.	Closed
309	13-Feb-19	13th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Construction noise nuisance about the rock handling work at LTI (evening time)	Y		Closed
308	13-Feb-19	1th - 13th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Management Section of Kwong Tin Estate	Noise	Complaint about construction noise (Night time)	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed
307	13-Feb-19	13th February 2019 / Construction at Tsung Kwan O (C1)	Resident of Ocean Shore	Noise	The complaint about the noise nuisance in day time	Y	Noise nuisance was originated from the beeping noise emitted during vehicle reversing of the loader. The total length of beeping noise should be less than 5 mins. The reverse alarm system is a necessary safety measure that cannot be revoked. Details should be referred to CIR-N50.	Closed
306	13-Feb-19	13th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise in night time	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed
305	12-Feb-19	12th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise in night time.	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed
304	8-Feb-19	8th February 2019 / Construction of Road P2 and Associated Works	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time	Y	There were two construction activities in the site including dredging and trimming in day time on 8 Feb 2019. Details should be referred to CIR-N49.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
303	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Ping Tin Estate	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time, evening time and night time.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP;	Closed
302	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Pak Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time	Y	<input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and <input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
301	31 Jan 2019	27th - 31th January 2019 / Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Noise nuisance suspected from the	Y	See Investigation/ Mitigation Action on Complaint no.290. Details should be referred to CIR-N45.	Closed
300	30 Jan 2019	30th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the construction works involving mobile crane	Y	See investigation / Mitigation Action for complaint no. 296. Details should be referred to CIR-N47.	Closed
299	30 Jan 2019	27th - 29th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the construction works involving mobile crane and also suspected from elevation platform	Y	See investigation / Mitigation Action for complaint no. 296. Details should be referred to CIR-N47.	Closed
298	30 Jan 2019	Not specific / Near Po Shun Road	Resident of Park Central	Noise & Air Quality	The dust generation and noise nuisance from the construction site near Po Shun Road	Y	There were several construction activities in the site including the removal of steel mould & scaffolding of bridge deck, erection of scaffolding for staircase and construction of Pour 1 of main deck (GL4-5) during time of complaint. Details should be referred to CIR-C25.	Closed
297	30 Jan 2019	27 <sup>th</sup> - 30th January 2019 / Construction works at TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction involving chiselling works	Y	See Investigation/ Mitigation Action on Complaint no.290. Details should be referred to CIR-N45.	Closed
296	29 Jan 2019	27th - 29th January 2019 / Construction Site of Footbridge near Tiu Keng Leng Sport Centre.	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the mobile crane at the Footbridge near Park Central Block 6	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance; <input type="checkbox"/> Frequent checking and repair the operating PME; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP; <input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
295	29 Jan 2019	29th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complaint about the noise nuisance from the steel cable wire for anchoring between barge and pier	Y	There was a salvage works for the sunken barge (CS306) in a whole day on 27 Jan, 12 am to 3 pm on 28 Jan and 11:40 am on 29 Jan 2019. Details should be referred to CIR-N46.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
294	29 Jan 2019	29th January 2019 / Construction of Road P2	Resident in O King Road	Air Quality	Complaint about the dark smoke and odour nuisances from barge.	Y	The sulphur content percentage of the adopted diesel fuel was lower than 0.05% which is compiled with the Hong Kong Air Pollution Control (Marine Light Diesel) Regulation, therefore the odour problem should be minimised. Smoke filtering tanks were adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell. The situation has improved after the filter has been replaced. Details should be referred to CIR-A12.	Closed
293 (EPD-K15/RE/000032 91-19)	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Cha Kwo Ling Tsuen	Noise & Air Quality	Complained about construction noise & dust (Day & Night time)	Y	See investigation / Mitigation Action for complaint no. 270. Details should be referred to CIR-C29.	Closed
292	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from breaking work.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures:	Closed
291	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from breaking work.	Y	<input type="checkbox"/> To arrange a signaller instead of mobile crane reversing signal for minimize the beeping noise disturbance; <input type="checkbox"/> Frequent checking and repair the operating PME; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP;	Closed
290	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the construction noise from Tunnel Works	Y	<input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
289 (EPD-N08/RE/000008 59-19)	24 Jan 2019	Early December 2018 -24-Jan-2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from Tunnel Works	Y	See Investigation/ Mitigation Action on Complaint no.288. Details should be referred to CIR-N44.	Closed
288	18 Jan 2019	18th January 2019 (Non-specific)/ Construction of Road P2	Public	Noise	Complained about the construction noise from Tunnel Works	Y	No major construction works at the concerned night time. There was only salvage operation carried out in 11 pm to 12 pm on 17 Jan 2019. No violation of CNP nor Noise Control Ordinance is found in this regard. Details should be referred to CIR-N44.	Closed
287	17 Jan 2019	17th January 2019 / Construction of Lam Tin Interchange	Resident of Yung Lai House	Noise	Complained about the construction noise from Kam Tin Interchange.	Y	Project-related. The following recommendations are made to further enhance the mitigation measures: <input type="checkbox"/> To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement. <input type="checkbox"/> Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. <input type="checkbox"/> To provide training for the workers to prevent unnecessary noise disturbance. <input type="checkbox"/> To provide cantilever barrier to screen the construction noise from the NSRS	Closed
286	17 Jan 2019	17th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near the Park Central in day time	N	See Investigation/ Mitigation Action on Complaint no. 285. The concerned air compressor has been removed on 16 <sup>th</sup> Jan 2019. Details should be referred to CIR-N41.	Closed
285	17 Jan 2019	17th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan with generator near Tiu Keng Leng Sport Centre and Park Central.	N	The concerned air compressor was removed from the construction site since 16 January 2019 afternoon, but the high frequency noise nuisance complaints were received on 17 January 2019. According to the CM8(A) noise monitoring record by environmental team, the other noise source from construction site are beeping noise of the reverse alarm system of the plant. Therefore, the high frequency noise nuisance is considered project related after 16 January 2019. Details should be referred to CIR-N41.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
284	16 Jan 2019	16th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
283	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
282	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
281	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Chui Ling Road roundabout and Tiu Keng Leng Sport Centre in day time.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
280	14 Jan 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Chui Ling Road roundabout and Tiu Keng Leng Sport Centre in day time.	N	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
279	14 Jan 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Tiu Keng Leng Sport Centre in day time Saturday and Holiday (Sunday).	N	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
278	12 Jan 2019	12th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site between Tiu Keng Leng Sport Centre and Park Central in day time	Y	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
277	12 Jan 2019	12th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise from breaking activities.	N	See investigation/ Mitigation Action on Complaint no. 264. Details should be referred to N39.	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
276	11 - 12 January 2019	11th - 12th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier <input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP. <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer <input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP. Details can be referred to CIR-N40.	Closed
275	11 Jan 2019	11th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from a crane near footbridge between Tiu Keng Leng Sport Centre and Park Central	Y	See Investigation/ Mitigation Action on Complaint no. 272.	Closed
274 (EPD-N08/RE/000012 34-19)	11 Jan 2019	11th January 2019 / Construction of Road D4	Public	Noise	Complaint about the high frequency machine noise nuisance from the construction site of footbridge between Tiu Keng Leng Sport Centre and park Central.	Y	No high-frequency noise was detected near the complaint location, however, the noise similar to description was detected within the renovation works inside Park Central. Details should be referred to complaint no. 272 and CIR-N41.	Closed
273	10 Jan 2019	10th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier <input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP. <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer <input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
272	8 Jan 2019	8th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the high frequency machine noise nuisance from the construction site near Park Central in day time.	Y	High frequency noise emitted from an air compressor was suspected. Noise barrier was seen erected. Noise barrier using material with higher absorption coefficient such as mineral wool is recommended. Details should be referred to CIR-N41.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
271	8 Jan 2019	8th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	<p>The complaints are considered as project-related.</p> <p>The following recommendations were made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP.</li> <li><input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer</li> <li><input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
270 (EPD-K15/RE/000006 91-19)	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Cha Kwo Ling Tsuen	Noise & Air Quality	Complained about construction noise & dust (Day & Night-time)	Y	<p>Regular noise monitoring results for day time and night time show full compliance of the noise criteria. Air quality monitoring result in all stations show that no adverse air quality impact has been brought about to the nearby sensitive receivers during the time of complain. During Site audit, damaged acoustic material on the breaker was observed. Watering was provided at during rock breaking to avoid dust generation. The Contractor was reminded to deploy noise barrier to screen the line-of-sight from sensitive receiver.</p>	Closed
269	7 Jan 2019	7th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the night time construction noise near Park Central.	Y	<p>No noticeable high frequency noise was detected from the air compressor and noise barrier was seen erected in the line-of-sight from the NSR to the Air compressor. Refer to CIR-41 for details.</p>	Closed
268	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise at Lam Tin Interchange.	Y	<p>No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken Silent Mat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver;</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP;</li> <li><input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and</li> <li><input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
267	7 Jan 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	<p>Refer to Investigation/ Mitigation Action on Complaint no. 264. Details should be referred to N39.</p>	Closed
266	7 Jan 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	<p>No exceedances were recorded at the nearest monitoring station, however, the approved location for noise monitoring was located at the podium of Ocean Shores. Due to inaccessibility to private unit, it is not possible to perform monitoring at higher floor. ET will keep approaching Ocean Shore Management Office for impact noise monitoring at higher floor. The recommendations for Contractor is as follows:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> only well-maintained plant on-site and plant should be serviced regularly during the construction program;</li> <li><input type="checkbox"/> Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers;</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
							Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	
265	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure: Yrequent checking and repair the gaps or broken acoustic sheets; Yreplace any broken Silent Mat for wrapping the breaker head; Yto adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; YThe deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver; Yto continue to strictly follow the requirements in the relevant CNP; Yto conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and YEngineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
264	2nd January 2019	2nd January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	No noise limit level exceedance was recorded at the noise monitoring stations near ocean shores. The contractor has applied lubricants to the joint of the excavators to dampen the noise emitted from the PMEs. The contractor is recommended to use noise barriers to screen the PMEs from the NSRs as per the Noise mitigation plan.	Closed
263 (EPD-)	1st January 2019	31st December 2018 / Coastal near TKO cemetery	General Public	Water	Complained concerning oil leakage/ on the sea surface near the sunken barge at C2 site.	N	Oil leakage happened due to the derrick lighter was submerged to the sea within the cofferdam. As the oil leakage was found outside the cofferdam during site inspection, there was a gap in the cofferdam. The oil leakage was cleaned up and the floating oil absorber has been used to surround the cofferdam by Contractor. The Contractor are reminded to 1) regular check if the site vessels and cofferdam are in good-condition; 2) To regular monitor the operation of any activities in the cofferdam area; 3) To implement the proposed site vessels safety and the emergency responses including clearance measures. Details of the investigation should be referred to CIR-W10.	Closed
262	30 Dec 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
261	26 Dec 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
260	26 Dec 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
259	26 Dec 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
258							There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The complaint is considered project related.	
258								
258							Mitigation measures:	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
258	18 Dec 2018	18 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Engineering Section of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	Cable wire for anchoring between barge and pier has been replaced by rope between 27 Dec and 2 Jan to reduce noise impact. In addition, other good site practices recommended in the "Implementation Schedule of Proposed Mitigation Measures" of EM&A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following:	Closed
258							ÿ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;	
258							ÿ Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers;	
258							ÿ Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	
257	18 Dec 2018	18 <sup>th</sup> December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The Contractor has replaced the cable wire for anchoring between barge and pier with ropes between 27 Dec and 2 Jan to reduce noise impact.	Closed
256	17 Dec 2018	15 <sup>th</sup> December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking and piling activities	N	No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP) The following recommendations were made for the Contractor to enhance the mitigation measures: ÿ To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance; ÿ Noise barriers should be designed and erected around the noise sources to block the direct line-of-sight from the NSR as per the CNMP; To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
254	16 Dec 2018	16 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	ÿ The night-time works were only conducted inside the tunnels with valid CNP. The noise nuisances are not considered as air-borne in nature, but ground-borne noise. 2.17 In order to confirm the possible ground-borne nature of the noise nuisances for complaints summarized in this report, CEDD has engaged the environmental team to conduct ad hoc ground-borne noise monitoring with the coordination of the Engineer. The findings will be provided in a separate report for the ad hoc monitoring.	Closed
253	15 Dec 2018	15 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Refer to the investigation for complaint no. 254	Closed
252	30 Nov 2018	30 <sup>th</sup> November 2018/ Construction of Road D4	Resident of Park Central	Noise & Air	Complained about the construction noise and dust resuspension in Road D4.	Y	The number of PMEs operated on site and on-time percentage from 19 to 30 November complied with the CNMP, thus, no violation was identified. Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded. <b>Mitigation Measures</b> ÿ A more effective acoustic barrier was erected between the drill rig and Park Central. ÿ Frequent water spraying along the Po Yap Road for eight times a day, Stockpile are covered with impervious material to avoid dust resuspension	Closed
251							The complaint lodged on 25 <sup>th</sup> November 2018 is considered as non-project related, as no works was conducted on that day.	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
251	28 Nov 2018	27 <sup>th</sup> November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	The complaint on 27th November 2018 is considered project related. The contractor is reminded to 1) frequently check and repair operating PME if any loosen or worn parts of the	Closed
251							equipment to reduce excessive noise disturbance; 2) Ensure no further use of PA system for marine works.	
250	26 Nov 2018	26 <sup>th</sup> November 2018/ Public sea in TKO	Resident of Ocean Shore	Noise	Complained about the noise nuisance from the operation of derrick barge on Sunday.	Y	Refer to the investigation for complaint no. 251	Closed
249	25 Nov 2018	20 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from the Excavators in LTI on Sunday morning.	Y	Refer to the investigation for complaint no. 251	Closed
248	20 Nov 2018	20 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance during transfer of material in evening time at LTI	Y	Regular noise monitoring results for restricted and non-restricted hours show full compliance of the noise criteria (night-time noise exceedance is considered non-project related). The contractor is reminded to adopt cantilever noise barriers at Lam Tin Interchange to screen noise effectively by screening the line-of-sight from sensitive receivers	Closed
247	20 Nov 2018	19 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from rock dropping during evening time	Y	Refer to the investigation for complaint no. 248	Closed
246	19 Nov 2018	19 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from dump truck in evening time	Y	Refer to the investigation for complaint no. 248	Closed
245	8 Nov 2018	8 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about construction noise during night time from LTI	Y	Refer to the investigation for complaint no. 248	Closed
243	8 Nov 2018	8 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise during evening time from LTI.	Y	Refer to the investigation for complaint no. 248	Closed
242	7 Nov 2018	7 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise and dust nuisance.	Y	Refer to the investigation for complaint no. 248	Closed
241	6 Nov 2018	6 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed
240	6 Nov 2018	6 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed

**Appendix O - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions****Table O2 - Summary of Cumulative Complaint Log for Tseung Kwan O - Lam Tin Tunnel**

<b>Reporting Month/Year</b>	<b>Number of Complaints in Reporting Month</b>	<b>Number of Summons in Reporting Month</b>	<b>Number of Prosecutions in Reporting Month</b>
2016	11	0	0
2017	99	1	0
2018	150	0	1
2019	156	0	0
2020	88	0	0
2021	85	0	0
Jan-22	4	0	0
Feb-22	3	0	0
Mar-22	4	0	0
<b>Total</b>	<b>600</b>	<b>1</b>	<b>1</b>

**Table O3 - Cumulative Log for Notifications of Summons**

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this Reporting Month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	The Summon was issued on 22 Dec 2017 First hearing on 29/3/2018	Noise nuisance during nighttime (C1 - Apr 2021)	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--

**Table O4 - Cumulative Log for Successful Prosecutions**

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this reporting month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	Successful prosecution to the subcontractor on 27 June 2018	1	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--

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**APPENDIX P  
WASTE GENERATION IN THE  
REPORTING MONTH**

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## Monthly Summary Waste Flow Table for Feb 2022

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a. Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	17.360	6.604	0.000	0.000	17.360	0.000	0.000	0.000	0.000	0.000	1.607
February	9.396	2.818	0.000	0.000	9.396	0.000	0.000	0.000	0.000	0.000	0.556
March	13.004	5.109	0.000	0.000	13.004	0.000	0.000	0.000	0.000	0.000	1.199
April											
May											
June											
Sub-total	39.760	14.531	0.000	0.000	39.760	0.000	0.000	0.000	0.000	0.000	3.362
July											
August											
September											
October											
November											
December											
Total	39.760	14.531	0.000	0.000	39.760	0.000	0.000	0.000	0.000	0.000	3.362

Total inert C&amp;D waste generated = c+d+e

Total inert C&amp;D waste recycled = c+d

% of recycled inert C&amp;D waste = Total C&amp;D waste recycled / Total C&amp;D waste generated



Notes: (1) The performance target are given in PS Clause 6(14)

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m<sup>3</sup>. (PS Clause 1.105(4) refers)

(5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.

(6) Conversion factors for reporting purpose:

in-situ: rock = 2.5 tonnes/m<sup>3</sup>; soil = 2.0 tonnes/m<sup>3</sup>

(7) excavated: rock = 2.0 tonnes/m<sup>3</sup>; soil = 1.8 tonnes/m<sup>3</sup>; broken concrete and bitumen = 2.4 tonnes/m<sup>3</sup>, soil and rock = 1.9 tonnes/m<sup>3</sup>

(8) C&D Waste = 0.9 tonnes/m<sup>3</sup>; bentonite slurry = 2.8 tonnes/m<sup>3</sup>

Diesel density: 0.8kg/l

Numbers are rounded off to the nearest three decimal places

The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"

**Monthly Summary Waste Flow Table for 2022 Year**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]
Jan	0.19505	0.00000	0.00000	0.00000	0.19505	0.00000	30.87000	0.00000	0.00000	0.00000	0.19012
Feb	0.40030	0.00000	0.00000	0.00000	0.40030	0.00000	34.60000	0.00000	0.00000	0.00000	0.12334
Mar	0.26404	0.00000	0.00000	0.00000	0.26404	0.00000	66.80000	0.00000	0.00000	0.00000	0.29312
Apr	0.00000										
May	0.00000										
June	0.00000										
<b>SUB-TOTAL</b>	<b>0.85938</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.85938</b>	<b>0.00000</b>	<b>132.27000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.60658</b>
Jul	0.00000										
Aug	0.00000										
Sep	0.00000										
Oct	0.00000										
Nov	0.00000										
Dec	0.00000										
<b>TOTAL</b>	<b>0.85938</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.85938</b>	<b>0.00000</b>	<b>132.27000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.60658</b>

Note: Conversion to 1000m<sup>3</sup> for general refuse is weight in 1000kg multiply by 0.002  
 Conversion to 1000m<sup>3</sup> for Inert C&D is weight in 1000kg multiply by 0.0005  
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material  
 Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material



### Monthly Summary of Waste Flow Table for 2022

Name of Person completing the Record: Steve Wong

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
		(see Note 1)						(see Note 2)		
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m <sup>3</sup> )	
Jan	0.175	0	0	0	0.1716	0	0	0	0	0.0085
Feb	0.1881	0	0	0	0.1170	0	0	0	0	0.0711
Mar	0.3261	0	0	0	0.3220	0	0	0	0	0.00413
Apr	0.0000	0	0	0	0.0000	0	0	0	0	0
May	0.0000	0	0	0	0.0000	0	0	0	0	0
Jun	0.0000	0	0	0	0.0000	0	0	0	0	0
<b>Sub-total</b>	<b>0.6892</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.6106</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0837</b>
Jul	0.0000	0	0	0	0.0000	0	0	0	0	0
Aug	0.0000	0	0	0	0.0000	0	0	0	0	0
Sep	0.0000	0	0	0	0.0000	0	0	0	0	0
Oct	0.0000	0	0	0	0.0000	0	0	0	0	0
Nov	0.0000	0	0	0	0.0000	0	0	0	0	0
Dec	0.0000	0	0	0	0.0000	0	0	0	0	0
<b>Total</b>	<b>0.6892</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.6106</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0837</b>

Notes:

- (1) Broken concrete for recycling into aggregates.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (3) Use the conversion factor: 1 full load of 24t / 30t dumping truck being equivalent to 6.5m<sup>3</sup> / 8.125 m<sup>3</sup> by volume.



Name of Department: Civil Engineering & Development Department

Contract No.: NE/2017/06

**Monthly Summary Waste Flow Table For 2022**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. General Refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0.6	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr											
May											
Jun											
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.6</b>	<b>0</b>	<b>0</b>	<b>0</b>
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

- Notes:
- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
  - (3) Each dump truck carries 6m<sup>3</sup> of general refuse.
  - (4) The commencement date of the Contract is 9 November 2018. The current reporting period is from 1 March 2022 to 31 March 2022.

Monthly Summary Waste Flow Table for 2022

Name of Department: Civil Engineering and Development Department

Contract No.: NE/2017/01

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.0018	0.0000	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	0.0512
Feb	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0167
Mar	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0297
Apr											
May											
Jun											
Sub-total	0.0018	0.0000	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	0.0976
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.0018	0.0000	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	0.0976

- Notes:
1. Assume the density of soil fill is 2 ton/m<sup>3</sup>.
  2. Assume the density of rock and broken concrete is 2.5 ton/m<sup>3</sup>.
  3. Assume the density of mixed rock and soil is 1.9 ton/m<sup>3</sup>.
  4. Assume the density of slurry and bentonite is 2.8 ton/m<sup>3</sup>.
  5. The slurry and bentonite are disposed at Tseung Kwan O Area 137 Fill Bank.
  6. Assume the density of C&D waste is 0.9 ton/m<sup>3</sup>.
  7. The non-inert C&D wastes are disposed at NENT.

## Monthly Summary Waste Flow Table for 2022 (year)

Name of Person completing the record: Sedo Sze (EO)

Project : Cross Bay Link, TKO, Main Bridge and Associated Works

Contract No.: NE/2017/07

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m <sup>3</sup> )
Jan	0.162	0.000	0.000	0.000	0.162	0.000	0.000	0.171	0.000	0.000	0.768
Feb	0.066	0.000	0.000	0.000	0.066	0.000	0.000	0.210	0.000	0.000	0.513
Mar	0.306	0.000	0.000	0.000	0.306	0.000	0.000	0.163	0.000	0.000	0.750
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.534	0.000	0.000	0.000	0.534	0.000	0.000	0.544	0.000	0.000	2.032
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.534	0.000	0.000	0.000	0.534	0.000	0.000	0.544	0.000	0.000	2.032

Note:

1. For non-inert portion of C&D material, assume the density of 1 m<sup>3</sup> general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m<sup>3</sup> per each full-filled dump truck.
3. All values are round off to the third decimal places.

**Table O3 - Cumulative Log for Notifications of Summons**

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this Reporting Month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	The Summon was issued on 22 Dec 2017 First hearing on 29/3/2018	Noise nuisance during nighttime (C1 - Apr 2021)	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--

**Table O4 - Cumulative Log for Successful Prosecutions**

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this reporting month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	Successful prosecution to the subcontractor on 27 June 2018	1	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--



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**APPENDIX Q  
TENTATIVE CONSTRUCTION  
PROGRAMME**

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**High Level 3 Months Look Ahead Programme**

Activities	Apr-22	May-22	Jun-22
<b>Lam Tin Interchange</b>			
EHC2 U-Trough			
EHC2 Noise Enclosure			
EHC7 U-Trough			
Site Formation - Area 1G1 & 1G2 &5			
Site Formation - Area 2			
Site Formation - Slope Stabilisation			
Site Formation - Retaining Wall			
Administration Building			
West Ventilation Building			
Bridge Construction			
Emergency Stormwater storage tank + Stormwater pumping station			
Sewage Pumping Station			
S01_2, EHC1 & 4 Construction			
CKLR Underground Utilities			
Underpass S01			
Landscape Deck & Noise Cover			
LTI Drainage			
Road EHC4 site formation works			
<b>Tunnel</b>			
Main Tunnel Lining Works			
Branch Tunnel Lining Works			
S02_2 Excavation & Lining			
Tunnel E&M Works			
<b>TKO Interchange</b>			
Bridge Construction			
East Ventilation Building			
TKO - Underground Utilities / Drainage Works			
TKO - Slope Stabilisation Works			

Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act	Duration	December 2021				January 2022				February 2022				March 2022										
											12	19	26	02	09	16	23	30	06	13	20	27	06	13									
<b>NE/2015/02 Tseung Kwan O - Lam Tin Tunnel-Road P2 and Associated Works (Dec 2021)</b>																																	
<b>Target Key Date and Section Completion of the Works (Revised Contract Key Date)</b>																																	
P2-Cal.A	A10520	Section 2_All Works within Portion II	0.0	0.0	12-Mar-22	12-Mar-22	-281.5	0%	0.0																								
<b>Target Key Date and Section Completion of the Works (Possible Contract Key Date)</b>																																	
P2-Cal.A	A10820	Section 2_All Works within Portion II	0.0	0.0	12-Mar-22	12-Mar-22	-246.0	0%	0.0																								
<b>Interface Issue</b>																																	
P2-Cal.C	K10419-57	Watermain connection C2/C3 by C2 (PMI341)	0.0	0.0	05-Feb-22	05-Feb-22	450.0	0%	0.0																								
P2-Cal.A	K10419-55	Handover to WSD for final watermain connection	0.0	0.0	09-Feb-22	09-Feb-22	536.0	0%	0.0																								
<b>Area Handover Date</b>																																	
P2-Cal.A	A10640	Area B	0.0	0.0	31-Dec-21	31-Dec-21	0.0	0%	0.0																								
<b>Compensation Event (CE)</b>																																	
P2-Cal.C	B53950	CE no. 377: Relocation of Cross Road Trench at U-Trough at Portion VIII	0.0	0.0	20-Dec-21	20-Dec-21		100%	0.0																								
<b>Early Warning (EW)</b>																																	
P2-Cal.C	B54230	EW no. 237 Unexpected long lead time for the production and delivery of gasket material for VE panel system	0.0	0.0	20-Dec-21	20-Dec-21	485.0	0%	0.0																								
P2-Cal.C	B54280	EW no. 238 Re-division of Roof Slab R8 and R9	0.0	0.0	20-Dec-21	20-Dec-21	485.0	0%	0.0																								
P2-Cal.C	B54290	EW no. 239 Aggregate Supply Deficiency Before CNY 2022	0.0	0.0	20-Dec-21	20-Dec-21	485.0	0%	0.0																								
P2-Cal.C	B54300	EW no. 240 Concrete Wave Wall in Connection with Existing Planter at TKO Waterfront Promenade	0.0	0.0	20-Dec-21	20-Dec-21		100%	0.0																								
<b>Preliminaries, Submission, Contractor's Design Submission and Approval</b>																																	
<b>Procurement of Major Material</b>																																	
<b>Civil/Structural</b>																																	
P2-Cal.A	S14998	Offsite Fabrication of Steel Works for the Sign Gantry (FADS35 and FVMS)	90.0	58.0	08-Sep-21	16-Feb-22	-339.0	35.56%	-72.0																								
P2-Cal.A	S14998-10	Offsite Fabrication of sign board for FADS35 (by CSD)	161.0	113.0	02-Nov-21	11-Apr-22	-386.0	29.81%	0.0																								
<b>Architectural</b>																																	
P2-Cal.A	S15142-03	Delivery of VE Panel and Precast Concrete Panel (1st batch)	7.0	7.0	20-Dec-21	26-Dec-21	-404.5	0%	0.0																								
P2-Cal.C	S15142-13	Delivery of VE Panel and Precast Concrete Panel (2nd-6th batches)	18.0	18.0	28-Dec-21	18-Jan-22	-328.5	0%	7.0																								
P2-Cal.C	S15142-23	Delivery of Remaining VE Panel and Precast Concrete Panels	122.0	122.0	19-Jan-22	21-Jun-22	-328.5	0%	-97.0																								
<b>E&amp;M</b>																																	
P2-Cal.A	S15144	Procurement and Delivery of MVAC Plant	100.0	39.0	20-Oct-21	27-Jan-22	-372.0	61%	0.0																								
P2-Cal.A	S15150	Procurement and Delivery of EL Equipment	135.0	44.0	20-Sep-21	01-Feb-22	-393.0	67.41%	0.0																								
<b>Section 2 of the Works (All Works Within Portion II)</b>																																	
<b>Roadworks</b>																																	
<b>Adjacent to site office (SMH SR06 &amp; SR07)</b>																																	
P2-Cal.C	LC12174-10	Construction of SMH-SR07 (Manhole Walls and top slab)	12.0	5.0	18-Oct-21	24-Dec-21	-262.5	58.33%	-47.0																								
P2-Cal.C	LC12204	Backfilling to formation level	21.0	21.0	28-Dec-21	21-Jan-22	-262.5	0%	0.0																								
P2-Cal.C	LC12194	Construction of catchpit and u-channel	14.0	14.0	22-Jan-22	10-Feb-22	-262.5	0%	0.0																								
P2-Cal.C	LC12214	Construction of Road Kerb, Cycle Track and Footpath	26.0	26.0	11-Feb-22	12-Mar-22	-262.5	0%	0.0																								
<b>Section 3 of the Works All Works within Portion IV, V, VI, VII, VIII, and IX</b>																																	
<b>Existing Land Section</b>																																	

■ Actual Work      ◆ B  
■ Remaining Work      ◆ M  
■ Critical Remaining Work

**NE/2015/02 Tseung Kwan O - Lam Tin Tunnel-Road P2 and Associated Works**

3 Months Rolling Programme Update  
 (Data Date : 20 Dec 2021)

Date	Revision	Chec...	Approved
20-De...			



Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	Gantt Chart											
										12	19	26	02	09	16	23	30	06	13	20	27
P2-Cal.C	LC16330	Construction of Bay 2 Wall up to +1.2mPD	14.0	13.0	19-Nov-21 A	06-Jan-22	-349.0	7.14%	-25.0	Construction of Bay 2 Wall up to +1.2mPD											
P2-Cal.C	LC16320-10	Apply Waterproofing behind Bay 1 from -0.5 to 3.0mPD	6.0	17.0	13-Dec-21 A	11-Jan-22	-314.0	0%	-17.0	Apply Waterproofing behind Bay 1 from -0.5 to 3.0mPD											
P2-Cal.C	LC16380	Waterproofing and Backfilling from -1.7mPD to -1.2mPD for Bay 2	7.0	7.0	07-Jan-22	14-Jan-22	-344.0	0%	0.0	Waterproofing and Backfilling from -1.7mPD to -1.2mPD for Bay 2											
P2-Cal.C	LC16320-15	Concrete infill behind Bay 1 Wall up to 3.0mPD	3.0	3.0	12-Jan-22	14-Jan-22	-314.0	0%	-3.0	Concrete infill behind Bay 1 Wall up to 3.0mPD											
P2-Cal.C	LC16390	Removal of 2nd Layer ELS @ +1.6mPD for Bay 2	2.0	2.0	15-Jan-22	17-Jan-22	-344.0	0%	0.0	Removal of 2nd Layer ELS @ +1.6mPD for Bay 2											
P2-Cal.C	LC16320-20	Removal of 1st layer Struts @ +4.0 at Bay 1	3.0	3.0	15-Jan-22	18-Jan-22	-314.0	0%	0.0	Removal of 1st layer Struts @ +4.0 at Bay 1											
P2-Cal.C	LC16430	Construction of Bay 2 Wall up to +3.5mPD	9.0	9.0	18-Jan-22	27-Jan-22	-344.0	0%	0.0	Construction of Bay 2 Wall up to +3.5mPD											
P2-Cal.C	LC16440-10	Waterproofing and Backfilling from +0.6mPD to +3.5mPD for Bay 2	8.0	8.0	28-Jan-22	09-Feb-22	-332.0	0%	0.0	Waterproofing and Backfilling from +0.6mPD to +3.5mPD for Bay 2											
P2-Cal.C	LC16440-20	Removal of 1st Layer ELS @ +4.00mPD for Bay 2	3.0	3.0	10-Feb-22	12-Feb-22	-332.0	0%	0.0	Removal of 1st Layer ELS @ +4.00mPD for Bay 2											
P2-Cal.C	LC16320-30	Construction of Bay 1 Wall up to 6.0 mPD	14.0	14.0	28-Jan-22	16-Feb-22	-322.0	0%	-5.0	Construction of Bay 1 Wall up to 6.0 mPD											
P2-Cal.C	LC16485-00	Erection of falsework Upper Walls (up to 7.2mPD) and Grid beams at Bay 2	7.0	7.0	14-Feb-22	21-Feb-22	-332.0	0%	6.0	Erection of falsework Upper Walls (up to 7.2mPD)											
P2-Cal.C	LC16485-00-00-10	Install soffit formworks for Grid Beams at Bay 2	6.0	6.0	22-Feb-22	28-Feb-22	-332.0	0%	-6.0	Install soffit formworks for Grid Beams											
P2-Cal.C	LC16485-00-01	Grid beams and upper walls construction at Bay 2 (6 nos)	14.0	14.0	01-Mar-22	16-Mar-22	-332.0	0%	-2.0	Grid beams and upper walls construction at Bay 2											
P2-Cal.C	LC16530	Backfilling to Formation Level and Removal of Sheet Piles	15.0	15.0	17-Mar-22	02-Apr-22	-294.5	0%	0.0	Backfilling to Formation Level and Removal of Sheet Piles											
<b>SR2 CH170 - 250</b>			9.0	9.0	18-Nov-21 A	31-Dec-21	-195.5		-27.0												
<b>Structure SR2 CH 170 - 250 (U Trough A)</b>			9.0	9.0	18-Nov-21 A	31-Dec-21	-195.5		-27.0												
P2-Cal.C	LC17395	Construction of wall stem 2nd pour (top level) at CH170 - 182.5	9.0	9.0	18-Nov-21 A	31-Dec-21	-195.5	0%	-27.0	Construction of wall stem 2nd pour (top level) at CH170 - 182.5											
<b>Portion IV &amp; VII</b>			60.0	60.0	09-Mar-22	24-May-22	-286.5		0.0												
<b>Construction of DN2100 stormwater at Portion IV &amp; VII</b>			60.0	60.0	09-Mar-22	24-May-22	-286.5		0.0												
<b>Drainage works</b>			60.0	60.0	09-Mar-22	24-May-22	-286.5		0.0												
<b>Inspection 2100 Drainage Pipe</b>			60.0	60.0	09-Mar-22	24-May-22	-286.5		0.0												
P2-Cal.C	LC17718	Extend the Manhole from +3.5mPD to Proposed Cover Level (After Completion of Roof Slab of Underpass)	60.0	60.0	09-Mar-22	24-May-22	-286.5	0%	0.0	Extend the Manhole from +3.5mPD to Proposed Cover Level (After Completion of Roof Slab of Underpass)											
<b>TKO Town Centre South Reinstatement (PS Cl. 1.45)</b>			107.0	79.0	17-Nov-21 A	28-Mar-22	-259.5		0.0												
P2-Cal.C	LC17722	Reinstatement of existing footpath	30.0	2.0	17-Nov-21 A	21-Dec-21	-259.5	93.33%	0.0	Reinstatement of existing footpath											
P2-Cal.C	LC17724	Gate Installation for separation of existing site office to public	7.0	7.0	22-Dec-21	31-Dec-21	-259.5	0%	0.0	Gate Installation for separation of existing site office to public											
P2-Cal.C	LC17726	Cycle Track and Footpath Kerb Installation	35.0	35.0	03-Jan-22	15-Feb-22	-259.5	0%	0.0	Cycle Track and Footpath Kerb Installation											
P2-Cal.C	LC17728	Cycle Track and Footpath Paving	35.0	35.0	16-Feb-22	28-Mar-22	-259.5	0%	0.0	Cycle Track and Footpath Paving											
<b>New Reclaimed Section</b>			252.0	124.0	20-Jul-21 A	26-May-22	361.0		-14.0												
<b>Marine Works</b>			132.0	79.0	19-Oct-21 A	28-Mar-22	-253.5		-54.0												
<b>Concrete Coping</b>			132.0	79.0	19-Oct-21 A	28-Mar-22	-253.5		-54.0												
<b>Eastern Seawall</b>			132.0	79.0	19-Oct-21 A	28-Mar-22	-253.5		-54.0												
P2-Cal.C	MC13455	Coping Area 2 (CH71-160) 1st pour up to 5.3mPD approx. (93m)	78.0	26.0	19-Oct-21 A	21-Jan-22	-330.0	66.67%	-1.0	Coping Area 2 (CH71-160) 1st pour up to 5.3mPD approx. (93m)											
P2-Cal.C	MC13435	Coping Area 2 (CH160-189) 1st pour up to 5.3mPD approx. (29m)	78.0	42.0	19-Oct-21 A	12-Feb-22	-330.0	46.15%	-17.0	Coping Area 2 (CH160-189) 1st pour up to 5.3mPD approx. (29m)											
P2-Cal.C	MC13455-10	Coping Area 2 (CH71-160) 2nd and 3rd pour up to 7.8mPD approx. (93m)	51.0	51.0	22-Jan-22	25-Mar-22	-251.5	0%	-51.0	Coping Area 2 (CH71-160) 2nd and 3rd pour up to 7.8mPD approx. (93m)											
P2-Cal.C	MC13445	Coping Area 2 2 (CH160-189) 2nd pour up to 7.8mPD approx. (29m)	37.0	37.0	14-Feb-22	28-Mar-22	-253.5	0%	-37.0	Coping Area 2 2 (CH160-189) 2nd pour up to 7.8mPD approx. (29m)											
<b>Land Works</b>			252.0	124.0	20-Jul-21 A	26-May-22	361.0		-14.0												
<b>Road P2 Underpass (CH105-CH318)</b>			252.0	124.0	20-Jul-21 A	26-May-22	361.0		-14.0												
<b>Underpass</b>			252.0	124.0	20-Jul-21 A	26-May-22	361.0		-14.0												

■ Actual Work      ■ Remaining Work      ■ Critical Remaining Work  
◆ B      ◆ M

**NE/2015/02 Tseung Kwan O - Lam Tin  
Tunnel-Road P2  
and Associated Works**

**3 Months Rolling Programme Update  
(Data Date : 20 Dec 2021)**

Date	Revision	Chec...	Approved
20-De...			

Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021											
										December	12	19	26	02	09	16	23	30	06	13	20
<b>Underpass P2 CH 105 - 318</b>																					
<b>Foundation (On Top Surcharge)</b>																					
P2-Cal.C	LC17823-1	Installation of Sokceted H-pile (6 nos) for Electrical Plant Room Drilling to FL - 3d/nos	15.0	15.0	12-Feb-22	01-Mar-22	-321.0	0%	0.0	Installation of Sokceted H-pile (6 nos)											
P2-Cal.C	LC17825-1	Installation of Sokceted H-pile (6 nos) for Electrical Plant Room Grouting - 2d/nos	12.0	12.0	21-Feb-22	05-Mar-22	-321.0	0%	0.0	Installation of Sokceted H-pile (6 nos)											
<b>3rd Wall &amp; Top Slab (Team 1 to 6)</b>																					
P2-Cal.C	LC18348-26	Construction of Roof Slab No. 1	11.0	0.0	09-Dec-21	20-Dec-21		100%	2.0	Construction of Roof Slab No. 1											
P2-Cal.C	LC18348-09-01	Construction of Roof Slab No. 11a (under NCE390 and PMI351)(ready to cast since 19 Nov 21)	11.0	2.0	20-Nov-21	21-Dec-21	483.0	81.82%	-16.0	Construction of Roof Slab No. 11a (under NCE390 and PMI351)(ready to cast since 19 Nov 21)											
P2-Cal.C	LC18348-18	Construction of Roof Slab No. 7 (ready to cast since 9 Dec 21 but affected by shortage of concrete supply)	11.0	7.0	25-Nov-21	29-Dec-21	-328.5	36.36%	-17.0	Construction of Roof Slab No. 7 (ready to cast since 9 Dec 21 but affected by shortage of concrete supply)											
P2-Cal.C	LC18348-14	Construction of Roof Slab No. 9a (under NCE390)	11.0	11.0	08-Dec-21	04-Jan-22	-327.5	0%	-10.0	Construction of Roof Slab No. 9a (under NCE390)											
P2-Cal.C	LC18348-16	Construction of Roof Slab No. 8	11.0	12.0	07-Dec-21	05-Jan-22	-328.5	0%	-12.0	Construction of Roof Slab No. 8											
P2-Cal.C	LC18363	Removal of Falseworks for Roof Slabs (No. 1- No. 3)	24.0	38.0	17-Dec-21	08-Feb-22	-323.0	0%	-16.0	Removal of Falseworks for Roof Slabs (No. 1- No. 3)											
P2-Cal.C	LC18360-10	Installation of waterproofing and backfilling above Underpass Roof Slab (No. 7 -12)	40.0	40.0	13-Jan-22	03-Mar-22	-328.5	0%	0.0	Installation of waterproofing and backfilling above Underpass Roof Slab (No. 7 -12)											
P2-Cal.C	LC18360-01	Installation of waterproofing and backfilling above Underpass Roof Slab (Roof No. 1-3)	24.0	24.0	14-Feb-22	12-Mar-22	-312.5	0%	0.0	Installation of waterproofing and backfilling above Underpass Roof Slab (Roof No. 1-3)											
P2-Cal.C	LC18362	Removal of Falseworks for Roof Slabs (No. 6 to No. 12)	60.0	60.0	11-Jan-22	24-Mar-22	-342.0	0%	-26.0	Removal of Falseworks for Roof Slabs (No. 6 to No. 12)											
<b>Remaining Works</b>																					
P2-Cal.C	LC28720	Access via UP Roof 7-12 to complete remaining 2100 dia. storm drain manholes (4 nos, SMH9106 - 9109)	56.0	56.0	21-Feb-22	30-Apr-22	-328.5	0%	0.0	Access via UP Roof 7-12 to complete remaining 2100 dia. storm drain manholes (4 nos, SMH9106 - 9109)											
<b>Fixed Foam Room/Sump Pit Room/Stormwater Plant Room</b>																					
<b>Fixed Foam Room/Sump Pit Room/Stormwater Plant Room (Up to -5.0mPD) (Team 7 &amp; 6)</b>																					
P2-Cal.C	LC18518	Removal of 2nd water/strut @ -4.0mPD (3 nos at Bay 5 and 6B4 side)	5.0	4.0	20-Dec-21	23-Dec-21	-345.0	20%	-4.0	Removal of 2nd water/strut @ -4.0mPD (3 nos at Bay 5 and 6B4 side)											
P2-Cal.C	LC18524	Construction of slab (MS1+6B5) at -5.0mPD	16.0	8.0	14-Dec-21	30-Dec-21	-349.0	50%	3.0	Construction of slab (MS1+6B5) at -5.0mPD											
P2-Cal.C	LC18524-10	Remove formworks and mass infill behind slab 6B5 up to -6.3mPD	2.0	2.0	31-Dec-21	03-Jan-22	-349.0	0%	0.0	Remove formworks and mass infill behind slab 6B5 up to -6.3mPD											
P2-Cal.C	LC18520	Removal of 2nd water/strut @ -4.0mPD (remaining on external room wall portion)	4.0	4.0	04-Jan-22	07-Jan-22	-349.0	0%	0.0	Removal of 2nd water/strut @ -4.0mPD (remaining on external room wall portion)											
P2-Cal.C	LC18520-01	Removal of 2nd water/strut @ -4.0mPD (Main Tunnel portion)	2.0	2.0	08-Jan-22	10-Jan-22	-343.0	0%	1.0	Removal of 2nd water/strut @ -4.0mPD (Main Tunnel portion)											
P2-Cal.C	LC18528	Construction of stormwater plant room 3rd wall up to -0.5mPD (W3) at 6B4 portion	10.0	10.0	31-Dec-21	12-Jan-22	-349.0	0%	-10.0	Construction of stormwater plant room 3rd wall up to -0.5mPD (W3) at 6B4 portion											
P2-Cal.C	LC18546	Construction of 1st pour Walls at Bay 5 up to -0.5mPD	11.0	11.0	31-Dec-21	13-Jan-22	-347.0	0%	-11.0	Construction of 1st pour Walls at Bay 5 up to -0.5mPD											
P2-Cal.C	LC18546-10	Waterproofing and concrete infill at 1st pour west wall at Bay 5	6.0	6.0	14-Jan-22	20-Jan-22	-346.0	0%	-6.0	Waterproofing and concrete infill at 1st pour west wall at Bay 5											
P2-Cal.C	LC18525	Construction of west side foam room walls up to -0.5mPD	13.0	13.0	07-Jan-22	21-Jan-22	-347.0	0%	-1.0	Construction of west side foam room walls up to -0.5mPD											
P2-Cal.C	LC18528-10	Waterproofing and concrete infill at stormwater plant room 3rd wall (W3) at 6B4 portion	9.0	9.0	13-Jan-22	22-Jan-22	-348.0	0%	-9.0	Waterproofing and concrete infill at stormwater plant room 3rd wall (W3) at 6B4 portion											
P2-Cal.C	LC18530	Construction of stormwater plant room 3rd walls up to -0.5mPD (W3) at 6B5 portion	14.0	14.0	08-Jan-22	24-Jan-22	-349.0	0%	-2.0	Construction of stormwater plant room 3rd walls up to -0.5mPD (W3) at 6B5 portion											
P2-Cal.C	LC18548	Construction of Central Wall (W5) (1st pour to -0.5mPD)	15.0	15.0	11-Jan-22	27-Jan-22	-343.0	0%	-1.0	Construction of Central Wall (W5) (1st pour to -0.5mPD)											
P2-Cal.C	LC18535	Clearance and installation of waterproofing works behind stormwater plant room 3rd wall to -0.5mPD	6.0	6.0	25-Jan-22	31-Jan-22	-349.0	0%	2.0	Clearance and installation of waterproofing works behind stormwater plant room 3rd wall to -0.5mPD											
P2-Cal.C	LC18525-10	Waterproofing and concrete infill for west side foam room walls up to -0.5mPD	8.0	8.0	22-Jan-22	31-Jan-22	-347.0	0%	-8.0	Waterproofing and concrete infill for west side foam room walls up to -0.5mPD											
P2-Cal.C	LC18540	Concrete infill at stormwater plant room 3rd wall (W3) at 6B5 portion	2.0	2.0	04-Feb-22	05-Feb-22	-349.0	0%	0.0	Concrete infill at stormwater plant room 3rd wall (W3) at 6B5 portion											
P2-Cal.C	LC18545	Removal of 1st layer strut @ +0.5mPD (Main Tunnel portions)	3.0	3.0	08-Feb-22	10-Feb-22	-349.0	0%	0.0	Removal of 1st layer strut @ +0.5mPD (Main Tunnel portions)											
P2-Cal.C	LC18545-10	Removal of 1st layer of struts at fixed foam room side	1.0	1.0	11-Feb-22	11-Feb-22	-349.0	0%	-1.0	Removal of 1st layer of struts at fixed foam room side											
P2-Cal.C	LC18545-00	Removal of 1st layer of water and struts at Stormwater Plant Room	4.0	4.0	12-Feb-22	16-Feb-22	-346.0	0%	0.0	Removal of 1st layer of water and struts at Stormwater Plant Room											
P2-Cal.C	LC18545-01	Removal of Temporary Steel Working Platform	7.0	7.0	12-Feb-22	19-Feb-22	-349.0	0%	3.0	Removal of Temporary Steel Working Platform											
P2-Cal.C	LC18548-01	Central Wall RC fixing and formwork shuttering (W5)	10.0	10.0	11-Feb-22	22-Feb-22	-348.0	0%	0.0	Central Wall RC fixing and formwork shuttering (W5)											

■ Actual Work      ◆ B  
■ Remaining Work      ◆ M  
■ Critical Remaining Work

NE/2015/02 Tseung Kwan O - Lam Tin  
 Tunnel-Road P2  
 and Associated Works

3 Months Rolling Programme Update  
 (Data Date : 20 Dec 2021)

Date	Revision	Chec...	Approved
20-De...			

Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021																	
										December 2021			January 2022			February 2022			March 2022								
										12	19	26	02	09	16	23	30	06	13	20	27	03	10	17	24		
P2-Cal.C	LC18565-01	Erection of falsework and soffit formwork for roof slabs no. 4a, 4 and 5	11.0	11.0	11-Feb-22	23-Feb-22	-349.0	0%	1.0																		
P2-Cal.C	LC18550	Falsework & roof soffit formwork for west side foam room	13.0	13.0	12-Feb-22	26-Feb-22	-331.0	0%	0.0																		
P2-Cal.C	LC18562-01	West side fix foam room wall RC fixing and formwork shuttering (W5)	10.0	10.0	17-Feb-22	28-Feb-22	-332.0	0%	0.0																		
P2-Cal.C	LC18560	Erection of falsework and soffit formwork for roof slabs no. 6	12.0	12.0	17-Feb-22	02-Mar-22	-334.0	0%	0.0																		
P2-Cal.C	LC18545-12	4th walls (upper walls) for Stormwater Plant Room RC fixing and formwork shuttering (W4B)	10.0	10.0	21-Feb-22	03-Mar-22	-349.0	0%	0.0																		
P2-Cal.C	LC18545-13	Falsework & roof soffit formwork for stormwater plant room	10.0	10.0	21-Feb-22	03-Mar-22	-349.0	0%	0.0																		
P2-Cal.C	LC18565-04	Construction of Main Tunnel Roof Slab no. 5 (cast with upper walls)	10.0	10.0	24-Feb-22	07-Mar-22	-349.0	0%	0.0																		
P2-Cal.C	LC18565-03	Construction of Main Tunnel Roof Slab no. 4a (cast with upper walls)	10.0	10.0	25-Feb-22	08-Mar-22	-349.0	0%	1.0																		
P2-Cal.C	LC18560-01	Construction of Main Tunnel Roof Slab no. 4 (cast with upper walls)	11.0	11.0	28-Feb-22	11-Mar-22	-349.0	0%	0.0																		
P2-Cal.C	LC18562	Construction of upper walls and roof slab of fixed foam room & sump pit room (RFF)	13.0	13.0	01-Mar-22	15-Mar-22	-332.0	0%	0.0																		
P2-Cal.C	LC18545-21	Stormwater Plant Room Top Slab @ +5.5mPD and upper walls (TS2)	10.0	10.0	04-Mar-22	15-Mar-22	-349.0	0%	-1.0																		
P2-Cal.C	LC18560-11	Construction of Main Tunnel Roof Slab no. 6 (cast with upper walls)	11.0	11.0	03-Mar-22	15-Mar-22	-334.0	0%	0.0																		
P2-Cal.C	LC18575	Backfilling works and waterproofing (4th -0.5mPD to +5.5mPD)	8.0	8.0	16-Mar-22	24-Mar-22	-270.5	0%	0.0																		
P2-Cal.C	LC18570	Installation of waterproofing works to 4th wall and roof	12.0	12.0	16-Mar-22	29-Mar-22	-274.5	0%	0.0																		
P2-Cal.C	LC18590-01	Construction of LV Switch Room / FS Pump Room	31.0	31.0	16-Mar-22	25-Apr-22	-347.0	0%	3.0																		
P2-Cal.C	LC18600	Construction of Electrical Plant Room	43.0	43.0	07-Mar-22	29-Apr-22	-321.0	0%	-13.0																		
P2-Cal.C	LC18580-00	Construction of insitu Concrete Profile Barrier (CH105 - 318) (NCE193 et al)	10.0	114.0	20-Jul-21 A	14-May-22	-333.0	0%	-232.0																		
<b>Footpath, Cycle Track, Road and Drainage Works P2 CH 105 - 318</b>			157.0	82.0	20-Sep-21 A	31-Mar-22	-286.5		-9.0																		
P2-Cal.C	LC18435	Site clearance and vacate site containers and rockfill to 4.8mPD approx at Portion V	45.0	5.0	20-Sep-21 A	24-Dec-21	-307.5	88.89%	-35.0																		
P2-Cal.C	LC18455	Concrete Wall on Coping near DSD Desilting Compound (PMI 343)	34.0	22.0	20-Nov-21 A	17-Jan-22	-227.5	35.29%	-13.0																		
P2-Cal.C	LC18450	Civil provisions for CLP (Portion V)	29.0	29.0	28-Dec-21	31-Jan-22	-307.5	0%	-24.0																		
P2-Cal.C	LC18437	300 DI watermain (alongside P2 CH270 to CH318)	10.0	10.0	04-Feb-22	15-Feb-22	-248.5	0%	5.0																		
P2-Cal.C	LC18455-05	Drainage Outfall	75.0	45.0	15-Nov-21 A	16-Feb-22	-250.5	40%	0.0																		
P2-Cal.C	LC18458	300 DI watermain (cycle track alongside S200 CH941 to P2 CH218)	18.0	18.0	31-Jan-22	23-Feb-22	-255.5	0%	0.0																		
P2-Cal.C	LC18459	Preparation and backfill with rockfill to drainage level (4.0 mPD approx)	26.0	26.0	22-Jan-22	24-Feb-22	-330.0	0%	-14.0																		
P2-Cal.C	LC18453-10	Drainage between SMH9801 to SMH9804 in Portion V	30.0	30.0	04-Feb-22	10-Mar-22	-307.5	0%	-30.0																		
P2-Cal.C	LC18460	Construct drainages (cycle track alongside S200 CH941 to P2 CH218) (3 nos)	30.0	30.0	14-Feb-22	19-Mar-22	-330.0	0%	0.0																		
P2-Cal.C	LC18453	1200mm dia. pipe between SMH9085 to outfall in Portion V	18.0	18.0	11-Mar-22	31-Mar-22	-307.5	0%	12.0																		
<b>E&amp;M Works</b>			127.0	124.0	16-Dec-21 A	26-May-22	-335.0		-14.0																		
<b>Underpass</b>			86.0	86.0	09-Feb-22	26-May-22	-335.0		-14.0																		
<b>Electrical Installation</b>			28.0	28.0	09-Feb-22	12-Mar-22	-323.0		0.0																		
P2-Cal.C	LC19420	Support Installation and Cable Containment Installation for all System (Bay 1 - Bay 4)	28.0	28.0	09-Feb-22	12-Mar-22	-323.0	0%	0.0																		
<b>Ventilation Installation</b>			60.0	60.0	11-Mar-22	26-May-22	-335.0		0.0																		
P2-Cal.C	LC19436	Jet Fan Installation, AQMS Installation and internal T&C	60.0	60.0	11-Mar-22	26-May-22	-335.0	0%	0.0																		
<b>Stormwater Plant Room</b>			69.0	66.0	16-Dec-21 A	12-Mar-22	-278.0		-4.0																		
<b>CLP Switch Room/ Electrical Plant Room Installation</b>			69.0	66.0	16-Dec-21 A	12-Mar-22	-278.0		-4.0																		
P2-Cal.C	LC19458	Electrical Installation in CLP Transformer Room including self T&C and Submission of WR1	12.0	9.0	16-Dec-21 A	31-Dec-21	-278.0	25%	0.0																		
P2-Cal.C	LC19462	Handover to CLP	54.0	54.0	06-Jan-22	12-Mar-22	-278.0	0%	0.0																		

■ Actual Work      ◆ B  
■ Remaining Work      ◆ M  
■ Critical Remaining Work

**NE/2015/02 Tseung Kwan O - Lam Tin  
Tunnel-Road P2  
and Associated Works**

**3 Months Rolling Programme Update  
(Data Date : 20 Dec 2021)**

Date	Revision	Chec...	Approved
20-De...			





Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Finish	Total Float	Activity % Complete	Variance - Act. Duration	Gantt Chart												
									December 2021	19	26	02	09	16	23	30	06	13	20	27	03
P2-Cal.C	LC23360	Construction of Steel Work DS22 and Civil Provision of TCSS on DS22	6.0	6.0	04-Feb-22	10-Feb-22	-277.0	0%	0.0	Construction of Steel Work DS22 and Civil Provision of TCSS on DS22											
P2-Cal.C	LC23350-012	Drainage works (S200 CH755 - CH707) (affected by PM1360)	22.0	22.0	13-Jan-22	10-Feb-22	-349.0	0%	0.0	Drainage works (S200 CH755 - CH707) (affected by PM1360)											
P2-Cal.C	LC23350-011	Installation of Precast Concrete Profile Barrier for S200 CH707-CH674	25.0	25.0	13-Jan-22	14-Feb-22	-243.5	0%	0.0	Installation of Precast Concrete Profile Barrier for S200 CH707-CH674											
P2-Cal.C	LC23370	Installation of Directional Sign DS22	6.0	6.0	11-Feb-22	17-Feb-22	-277.0	0%	0.0	Installation of Directional Sign DS22											
P2-Cal.C	LC23410	Construction of Civil Provision for CCTV on High Mast	6.0	6.0	18-Feb-22	24-Feb-22	-202.5	0%	0.0	Construction of Civil Provision for CCTV on High Mast											
P2-Cal.C	LC23410-01	Construction of Civil Provision of Controller Cabinet and Earthing Provision	15.0	15.0	16-Feb-22	04-Mar-22	-259.5	0%	0.0	Construction of Civil Provision of Controller Cabinet and Earthing Provision											
P2-Cal.C	LC23355-10	Drainage works ((S300 CH403 - S300 CH355 and S400 CH158 - S300 CH326)	26.0	26.0	04-Feb-22	05-Mar-22	-345.0	0%	0.0	Drainage works ((S300 CH403 - S300 CH355 and S400 CH158 - S300 CH326)											
P2-Cal.C	LC23350-013	Backfill from drainage level up to road formation (6.3mPD to 9.9mPD between S200 CH755 - CH707) (3 Bays x 7x1layer/d)	21.0	21.0	11-Feb-22	07-Mar-22	-332.0	0%	0.0	Backfill from drainage level up to road formation (6.3mPD to 9.9mPD between S200 CH755 - CH707) (3 Bays x 7x1layer/d)											
P2-Cal.C	LC23350-013-01	Construction of Insitu Concrete Profile Barrier for S200 CH707 - CH755 (NCE193 & NCE219)	24.0	24.0	08-Mar-22	04-Apr-22	-332.0	0%	0.0	Construction of Insitu Concrete Profile Barrier for S200 CH707 - CH755 (NCE193 & NCE219)											
P2-Cal.C	LC23350-02	Road Furniture (S200 CH755 - S200 CH674/S400 CH158/S100 CH280/S300 CH403)	50.0	50.0	05-Mar-22	07-May-22	-259.5	0%	0.0	Road Furniture (S200 CH755 - S200 CH674/S400 CH158/S100 CH280/S300 CH403)											
P2-Cal.C	LC23355-20	Backfill from drainage to formation level (S300 CH403 - S300 CH355 and S400 CH158 - S300 CH326) (6 Bays x 9 x1layer/d)	54.0	54.0	07-Mar-22	14-May-22	-345.0	0%	0.0	Backfill from drainage to formation level (S300 CH403 - S300 CH355 and S400 CH158 - S300 CH326) (6 Bays x 9 x1layer/d)											
<b>U-Trough C Structures</b>			124.0	84.0	13-Nov-21 A	02-Apr-22	-264.5		-4.0												
<b>"U-Trough C Type 1, 2, 3 &amp; 4" from CT01 CH117.156 - CH366</b>			124.0	84.0	13-Nov-21 A	02-Apr-22	-264.5		-4.0												
<b>ELS &amp; Structure "U-Trough C Type 1, 2, 3 &amp; 4" from CT01 CH117.156 - CH366</b>			73.0	33.0	13-Nov-21 A	29-Jan-22	-263.5		1.0												
<b>Base Slab (Team 29)</b>			28.0	17.0	07-Dec-21 A	11-Jan-22	-326.0		-4.0												
P2-Cal.C	LC23580	Construction of Cycle Track Bay 11 Base Slab CT01 CH251 to CH238	12.0	5.0	07-Dec-21 A	24-Dec-21	-326.0	58.33%	-4.0	Construction of Cycle Track Bay 11 Base Slab CT01 CH251 to CH238											
P2-Cal.C	LC23590	Construction of Cycle Track Bay 12 Base Slab CT01 CH238 to CH226	12.0	12.0	28-Dec-21	11-Jan-22	-326.0	0%	0.0	Construction of Cycle Track Bay 12 Base Slab CT01 CH238 to CH226											
<b>1st Wall (Team 30)</b>			73.0	33.0	13-Nov-21 A	29-Jan-22	-263.5		1.0												
P2-Cal.C	LC23775	Construction of Cycle Track Bay 9 Wall (West) CT01 CH270 - CH260	12.0	4.0	13-Nov-21 A	23-Dec-21	-315.0	66.67%	-23.0	Construction of Cycle Track Bay 9 Wall (West) CT01 CH270 - CH260											
P2-Cal.C	LC23860	Construction of Cycle Track Bay 18 Wall CT01 CH165 to CH153	14.0	7.0	29-Nov-21 A	29-Dec-21	-317.0	50%	-11.0	Construction of Cycle Track Bay 18 Wall CT01 CH165 to CH153											
P2-Cal.C	LC23870	Construction of Cycle Track Bay 19 Wall CT01 CH153 to CH141	14.0	7.0	29-Nov-21 A	29-Dec-21	-317.0	50%	-11.0	Construction of Cycle Track Bay 19 Wall CT01 CH153 to CH141											
P2-Cal.C	LC23770	Construction of Cycle Track Bay 9 Wall (East) CT01 CH270 to CH 260	21.0	15.0	13-Nov-21 A	08-Jan-22	-330.0	28.57%	-25.0	Construction of Cycle Track Bay 9 Wall (East) CT01 CH270 to CH 260											
P2-Cal.C	LC23810	Construction of Cycle Track Bay 13 Wall CT01 CH226 to CH213	12.0	12.0	23-Dec-21	08-Jan-22	-317.0	0%	0.0	Construction of Cycle Track Bay 13 Wall CT01 CH226 to CH213											
P2-Cal.C	LC23880	Construction of Cycle Track Bay 20 Wall CT01 CH141 to CH129	14.0	14.0	30-Dec-21	15-Jan-22	-307.5	0%	0.0	Construction of Cycle Track Bay 20 Wall CT01 CH141 to CH129											
P2-Cal.C	LC23890	Construction of Cycle Track Bay 21 Wall CT01 CH129 to CH117	14.0	14.0	30-Dec-21	15-Jan-22	-307.5	0%	0.0	Construction of Cycle Track Bay 21 Wall CT01 CH129 to CH117											
P2-Cal.C	LC23780	Construction of Cycle Track Bay 10 Wall (East) CT01 CH260 to CH251	12.0	12.0	08-Jan-22	21-Jan-22	-330.0	0%	4.0	Construction of Cycle Track Bay 10 Wall (East) CT01 CH260 to CH251											
P2-Cal.C	LC23785	Construction of Cycle Track Bay 10 Wall (West) CT01 CH260 to CH251	12.0	12.0	08-Jan-22	21-Jan-22	-330.0	0%	0.0	Construction of Cycle Track Bay 10 Wall (West) CT01 CH260 to CH251											
P2-Cal.C	LC23790	Construction of Cycle Track Bay 11 Wall (East) CT01 CH251 to CH238	12.0	12.0	12-Jan-22	25-Jan-22	-259.5	0%	4.0	Construction of Cycle Track Bay 11 Wall (East) CT01 CH251 to CH238											
P2-Cal.C	LC23795	Construction of Cycle Track Bay 11 Wall (West) CT01 CH251 to CH238	12.0	12.0	12-Jan-22	25-Jan-22	-330.0	0%	4.0	Construction of Cycle Track Bay 11 Wall (West) CT01 CH251 to CH238											
P2-Cal.C	LC23800	Construction of Cycle Track Bay 12 Wall CT01 CH238 to CH226	12.0	12.0	17-Jan-22	29-Jan-22	-330.0	0%	0.0	Construction of Cycle Track Bay 12 Wall CT01 CH238 to CH226											
<b>Footpath, Cycle Track, Road and Drainage Works CT01 CH117.156 - CH366</b>			58.0	58.0	22-Jan-22	02-Apr-22	-264.5		0.0												
P2-Cal.C	LC24112	Rockfill / General backfill for Bay 9, 10 (1056m³ approx)	16.0	16.0	22-Jan-22	12-Feb-22	-328.5	0%	0.0	Rockfill / General backfill for Bay 9, 10 (1056m³ approx)											
P2-Cal.C	LC24113-10	Rockfill between Bay 15 and 21 to drainage level	6.0	6.0	14-Feb-22	19-Feb-22	-328.5	0%	0.0	Rockfill between Bay 15 and 21 to drainage level											
P2-Cal.C	LC24113	Rockfill for Bay 11 - 15 to formation (5mPD to 8mPD approx)	14.0	14.0	14-Feb-22	01-Mar-22	-300.5	0%	0.0	Rockfill for Bay 11 - 15 to formation (5mPD to 8mPD approx)											
P2-Cal.C	LC24115-01	Civil Provisions for Waterproof MCCB and Public Lighting Pillar Box to Power Supply (PM1196 and 248)	20.0	20.0	14-Feb-22	08-Mar-22	-288.0	0%	0.0	Civil Provisions for Waterproof MCCB and Public Lighting Pillar Box to Power Supply (PM1196 and 248)											
P2-Cal.C	LC24115-04	BS Road lighting ducts and TCSS power ducts and drawpits for C1 at CH270 to CH366 (PM1248)	20.0	20.0	14-Feb-22	08-Mar-22	-242.5	0%	0.0	BS Road lighting ducts and TCSS power ducts and drawpits for C1 at CH270 to CH366 (PM1248)											
P2-Cal.C	LC24115-02	Installation of MCCB Board in Pillar Box (By others) (PM1196 and 248)	10.0	10.0	09-Mar-22	19-Mar-22	-288.0	0%	0.0	Installation of MCCB Board in Pillar Box (By others) (PM1196 and 248)											
P2-Cal.C	LC24115-03	TCSS cross road ductings, TCSS drawpits (PM1 248)	10.0	10.0	09-Mar-22	19-Mar-22	-252.5	0%	0.0	TCSS cross road ductings, TCSS drawpits (PM1 248)											

■ Actual Work      ◆ B  
■ Remaining Work      ◆ M  
■ Critical Remaining Work

**NE/2015/02 Tseung Kwan O - Lam Tin  
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**3 Months Rolling Programme Update  
(Data Date : 20 Dec 2021)**

Date	Revision	Chec...	Approved
20-De...			

Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur.	Start	Finish	Total Float	Activity % Complete	Variance - vs. Duration	2021														
										December 2021			January 2022			February 2022			March 2022					
										12	19	26	02	09	16	23	30	06	13	20	27	06	13	
P2-Cal.C	LC24114	Drainages and manholes between Bay 15 and Bay 21 (4 nos)	36.0	36.0	21-Feb-22	02-Apr-22	-328.5	0%	0.0															
<b>Associated Works</b>																								
P2-Cal.C	LC25550	Installation of Watermains DN250 for C1 (remaining sections)	3.0	3.0	04-Jan-22	06-Jan-22	-247.0	0%	0.0															
P2-Cal.C	LC25550-02	Testing of DN250 Watermain (between P2 CH821 to C3 connections)	22.0	22.0	07-Jan-22	04-Feb-22	-247.0	0%	0.0															
P2-Cal.C	LC25550-04	Works area ready for connection of watermain by C2 (PMI341)	0.0	0.0	05-Feb-22		-247.0	0%	0.0															
P2-Cal.A	LC25570	Submission of WW0542	14.0	14.0	23-Jan-22	05-Feb-22	-303.0	0%	0.0															
P2-Cal.C	LC25550-05	DN250 watermain C2/C3 connection by C2	1.0	1.0	05-Feb-22	05-Feb-22	-247.0	0%	0.0															
P2-Cal.C	LC25550-06	Testing for whole pipeline C1/C2/C3 before final connection	3.0	3.0	07-Feb-22	09-Feb-22	446.0	0%	0.0															
P2-Cal.C	LC25550-01	Installation of Watermains DN300 for CBL	8.0	8.0	31-Jan-22	11-Feb-22	-245.5	0%	0.0															
P2-Cal.C	LC25210-05	VE Panels for Internal wall of U-trough structure SR2 CH200 - 250 and P2 CH430-500 (VE and PC Panel)	30.0	30.0	05-Jan-22	11-Feb-22	-218.5	0%	-4.0															
P2-Cal.C	LC25210-04	VE Panels for Internal wall of S200 CH821 to CH941	24.0	24.0	19-Jan-22	18-Feb-22	-218.5	0%	2.0															
P2-Cal.C	LC25550-10	Internal Testing for Watermains DN300 for CBL	24.0	24.0	24-Feb-22	23-Mar-22	-255.5	0%	0.0															
P2-Cal.C	LC25210-00-10	VE and PC Panels Installation for Internal wall of underpass structure CH941 - CH997	36.0	36.0	02-Mar-22	13-Apr-22	-328.5	0%	-36.0															
<b>Section 5 of the Works - Landscaping Works</b>																								
<b>Landscape Softwork</b>																								
P2-Cal.C	LC25380	Landscape Softworks for U-Trough C	81.0	81.0	08-Mar-22	17-Jun-22	-292.5	0%	0.0															

- Actual Work
- Remaining Work
- Critical Remaining Work

- B
- M

NE/2015/02 Tseung Kwan O - Lam Tin  
Tunnel-Road P2  
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3 Months Rolling Programme Update  
(Data Date : 20 Dec 2021)

Date	Revision	Chec...	Approved
20-De...			

### High Level 3 Months Look Ahead Programme

Activities	April -22	May -22	June-22
Trial pit			
Underground utilities detection			
Temporary traffic arrangement Setup			
Road construction			
Asphalt Paving			
Pier, Staircase and lift shaft construction			
Bridge Construction			

Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Qtr 1, 2022												
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
NE/2017/06	NE/2017/06 TKO-LTT TCSS_3MRP	77	51	0%	01-Mar-22 A	29-May-22	531													
NE/2017/06.CW	Contract Award / Commencement of Works	0	0	0%			0													
NE/2017/06.AD	Access Date	0	0	0%	31-Mar-22	31-Mar-22	-21													
NE/2017/06.AD.000	General	0	0	0%	31-Mar-22	31-Mar-22	-21													
NE/2017/06.AD.000.AD	Access Date	0	0	0%	31-Mar-22	31-Mar-22	-21													
DWP10672	Portion 1B of the Site	0	0	0%	31-Mar-22*		-339													
DWP10674	Portion 1C of the Site	0	0	0%	31-Mar-22*		-393													
DWP10676	Portion 2A of the Site	0	0	0%	31-Mar-22*		-321													
DWP10680	Portion 3A of the Site	0	0	0%	31-Mar-22*		-356													
DWP10688	Portion 5B of the Site	0	0	0%	31-Mar-22*		-21													
NE/2017/06.KD	Key Date and Stages / Sections of the Achievement	0	0	0%			0													
NE/2017/06.MD	Cost Centre Milestone Dates	58	36	0%	08-Mar-22 A	14-May-22	543													
NE/2017/06.MD.1	General	58	36	0%	08-Mar-22 A	14-May-22	543													
NE/2017/06.MD.1.1	CC B - Central System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.2	CC B1 - Central System - CBL	0	0	0%			0													
NE/2017/06.MD.1.3	CC C - Traffic Control Devices - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.4	CC C1 - Traffic Control Devices - CBL	0	0	0%			0													
NE/2017/06.MD.1.5	CC D - Communication System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.6	CC D1 - Communication System - CBL	0	0	0%			0													
NE/2017/06.MD.1.7	CC E - CCTV System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.8	CC E1 - CCTV System - CBL	0	0	0%			0													
NE/2017/06.MD.1.9	CC F - Building PABX System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.11	CC G - ET System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.10	CC H - PA System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.12	CC I - Radio System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.13	CC J - Detection System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.15	CC J1 - Detection System - CBL	0	0	0%			0													
NE/2017/06.MD.1.14	CC K - Manual Fallback System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.16	CC L - Operation Facilities - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.17	CC M - Power Distribution System - TKOLTT	0	0	0%	08-Mar-22 A	08-Mar-22 A	0													
NE/2017/06.MD.1.18	CC M1 - Power Distribution System - CBL	0	0	0%			0													
NE/2017/06.MD.1.19	CC N - Speed Enforcement System - TKOLTT	0	0	0%	30-Apr-22	30-Apr-22	-307													
DWP9952	Complete Site Commissioning Test	0	0	0%		30-Apr-22	-307													
NE/2017/06.MD.1.20	CC N1 - Speed Enforcement System - CBL	0	0	0%			0													
NE/2017/06.MD.1.21	CC O - Government Optical Fibre System - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.22	CC O1 - Government Optical Fibre System - CBL	0	0	0%			0													
NE/2017/06.MD.1.23	CC P - Training and Documentation - TKOLTT	42	42	0%	02-Apr-22	14-May-22	634													
DWP10220	Acceptance of all Training Manuals	0	0	0%		02-Apr-22	-163													
DWP10450	Acceptance of Operation and Maintenance Manuals	0	0	0%		14-May-22	634													
NE/2017/06.MD.1.24	CC P1 - Training and Documentation - CBL	0	0	0%			0													
NE/2017/06.MD.1.25	CC Q - Comprehensive Maintenance Services and DLP - TKOLTT	0	0	0%			0													
NE/2017/06.MD.1.26	CC Q1 - Comprehensive Maintenance Services and DLP - CBL	0	0	0%			0													
NE/2017/06.1	Preliminary	0	0	0%			0													
NE/2017/06.DS	Design Stage	66	48	0%	10-Mar-22 A	25-May-22	42													
NE/2017/06.DS.PSP	Prepare / Submission of PSP for TKO-LTT TCSS and CBL TCSS	0	0	0%			0													
NE/2017/06.DS.FSP	Prepare / Submission of FSP for TKO-LTT TCSS and CBL TCSS	0	0	0%			0													
NE/2017/06.DS.FDS	Preparation of Functional Design Specification (FDS)	0	0	0%			0													
NE/2017/06.DS.SWD	Software Development (except GUI) for TKO-LTT TCSS and CBL TCSS	0	0	0%			0													
NE/2017/06.DS.GUI	GUI Development for TKO-LTT TCSS and CBL TCSS	0	0	0%			0													
NE/2017/06.DS.FAT	Preparation / Submission of FAT Procedures	0	0	0%			0													
NE/2017/06.DS.SCT	Preparation / Submission of SCT Procedures	66	48	0%	10-Mar-22 A	25-May-22	42													
NE/2017/06.DS.SCT.1	Central System	56	56	0%	31-Mar-22	25-May-22	49													
DWP8260	Preparation & Submission of Central System SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	49													
DWP8270	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	28-Apr-22	25-May-22	49													
NE/2017/06.DS.SCT.2	Traffic Control Devices	28	28	0%	22-Apr-22	20-May-22	-408													
DWP8310	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	22-Apr-22	20-May-22	-408													
NE/2017/06.DS.SCT.3	Communication System	28	28	0%	10-Mar-22 A	27-Apr-22	-358													
DWP8370	Approval of SCT Procedure	28	28	75%	10-Mar-22 A	27-Apr-22	-358													
NE/2017/06.DS.SCT.4	CCTV System	56	56	0%	31-Mar-22	25-May-22	-428													
DWP8380	Preparation & Submission of CCTV System SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	-428													
DWP8390	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	28-Apr-22	25-May-22	-428													
NE/2017/06.DS.SCT.5	Building PABX System	14	14	0%	28-Apr-22	11-May-22	-386													
DWP8440	Resubmission of SCT Procedure	14	14	0%	28-Apr-22	11-May-22	-386													
NE/2017/06.DS.SCT.6	Emergency Telephone System	14	14	0%	28-Apr-22	11-May-22	-386													
DWP8480	Resubmission of SCT Procedure	14	14	0%	28-Apr-22	11-May-22	-386													
NE/2017/06.DS.SCT.7	Public Address System	56	56	0%	31-Mar-22	25-May-22	-407													
DWP8500	Preparation & Submission of Public Address System SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	-407													
DWP8510	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	28-Apr-22	25-May-22	-407													
NE/2017/06.DS.SCT.8	Radio System	28	28	0%	10-Mar-22 A	27-Apr-22	-321													
DWP8560	Resubmission of SCT Procedure	14	0	21.43%	10-Mar-22 A	25-Mar-22 A														
DWP8570	Approval of SCT Procedure	28	28	17.86%	26-Mar-22 A	27-Apr-22	-321													
NE/2017/06.DS.SCT.9	Detection System	56	56	0%	31-Mar-22	25-May-22	-414													
DWP8580	Preparation & Submission of Detection System SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	-414													
DWP8590	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	28-Apr-22	25-May-22	-414													
NE/2017/06.DS.SCT.10	Manual Fallback System	56	56	0%	31-Mar-22	25-May-22	-386													
DWP8620	Preparation & Submission of Manual Fallback System SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	-386													
DWP8630	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	28-Apr-22	25-May-22	-386													
NE/2017/06.DS.SCT.11	Operation Facilities	56	56	0%	31-Mar-22	25-May-22	-414													
DWP8660	Preparation & Submission of Operation Facilities SCT Procedure	28	28	0%	31-Mar-22	27-Apr-22	-414													





Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Qtr 1, 2022			Qtr 2, 2022			Qtr 3, 2022				
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
DWP4710	Cables Installation, Testing and Termination at TCSS Cabinet	10	10	0%	19-Apr-22	29-Apr-22	-320											
DWP4720	Cabinet Installation, Testing and Termination at SEC Cabinet	10	10	0%	14-Apr-22	23-Apr-22	-314											
DWP4730	Fibre Cable Termination	7	7	0%	29-Apr-22	06-May-22	-320											
<b>NE/2017/06.CST.S1A1B.1B.12 Site Commissioning Test of TCD and fibre Cable</b>																		
DWP4740	SCT for Power Distribution Equipment	7	7	0%	29-Apr-22	06-May-22	-313											
DWP4760	SCT for ET inside Tunnel	7	7	0%	06-Apr-22	13-Apr-22	-289											
DWP4770	SCT for PA Equipment	7	7	0%	19-Apr-22	25-Apr-22	-302											
DWP4780	SCT for CCTV	7	7	0%	29-Apr-22	06-May-22	-313											
DWP4790	SCT for VD	7	7	0%	29-Apr-22	06-May-22	-313											
DWP4800	SCT for OHVD	7	7	0%	29-Apr-22	06-May-22	-313											
DWP4810	SCT For SEC	7	7	0%	24-Apr-22	30-Apr-22	-307											
DWP4820	SCT for Weighbridge	7	7	0%	24-Apr-22	30-Apr-22	-307											
DWP4830	Fibre Cable Test (End to End)	7	7	0%	06-May-22	13-May-22	-320											
<b>NE/2017/06.CST.S1A1B.1C Stage 1C Works (EVb and WVb within Portion 1C)</b>																		
DWP4880	Laying Cables (fibre backbone, power)	10	10	0%	14-Apr-22	24-Apr-22	-341											
DWP4890	Test of Cables (signal and power)	3	3	0%	17-May-22	20-May-22	-341											
DWP4900	Local Cables Installation, Testing and Termination	7	7	0%	20-May-22	27-May-22	-341											
<b>NE/2017/06.CST.S1A1B.1C.5 Site Commissioning Test of Fibre Cable</b>																		
<b>NE/2017/06.CST.S1A1B.1C.2 West Ventilation Building</b>																		
DWP4910	Installation of Equipment Rack	8	8	0%	10-Apr-22	17-Apr-22	-311											
DWP4920	Installation of Communication Node Equipment	10	10	0%	17-Apr-22	27-Apr-22	-311											
DWP4930	Installation of PABX Equipment	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP4950	Installation of ET Equipment	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP4960	Installation of Radio Equipment (Incl. Antenna and Feeder)	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP4970	Installation of Operation Facilities Equipment	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP4975	Installation of TCS Computer Equipment	50	50	0%	10-Apr-22	29-May-22	-393											
<b>NE/2017/06.CST.S1A1B.1C.1 Sub-systems Site Commissioning Test</b>																		
<b>NE/2017/06.CST.S1A1B.1C.3 East Ventilation Building</b>																		
DWP5100	Installation of PABX Equipment	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP5120	Installation of ET Equipment	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP5130	Installation of Radio Equipment (Incl. Antenna and Feeder)	10	10	0%	10-Apr-22	19-Apr-22	-303											
DWP5140	Installation of Operation Facilities Equipment	14	14	0%	10-Apr-22	23-Apr-22	-307											
<b>NE/2017/06.CST.S1A1B.1C.4 Sub-systems Site Commissioning Test-1</b>																		
<b>NE/2017/06.CST.S1A1B.2A Stage 2A Works (Within Portion 2A)</b>																		
DWP5790	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	31-Mar-22	01-Apr-22	678											
<b>NE/2017/06.CST.S1A1B.2A.1 Laying Cables (Fibre, Signal and Power)</b>																		
<b>NE/2017/06.CST.S1A1B.2A.1.1 Installation of Cable Containment</b>																		
DWP5680	Cable Containment on Gantry	8	8	0%	06-Apr-22	14-Apr-22	-316											
<b>NE/2017/06.CST.S1A1B.2A.1.2 Laying Cables</b>																		
DWP5670	Fibre, Signal and Power Cables along Roadside	8	8	0%	14-Apr-22	22-Apr-22	-316											
<b>NE/2017/06.CST.S1A1B.2A.2 Installation of Traffic Control Field Equipment</b>																		
DWP5940	MLCS	5	5	0%	06-Apr-22	11-Apr-22	-304											
DWP5950	Roadside VMS	5	5	0%	11-Apr-22	16-Apr-22	-304											
DWP5960	Tunnel Closed Sign	5	5	0%	16-Apr-22	21-Apr-22	-304											
<b>NE/2017/06.CST.S1A1B.2A.2.1 FVMS - FVMS/201A</b>																		
DWP5920	Assembly of FVMS at Nearby Area	4	4	0%	06-Apr-22	10-Apr-22	-293											
DWP5930	Erect the FVMS on Gantry	3	3	0%	10-Apr-22	13-Apr-22	-293											
<b>NE/2017/06.CST.S1A1B.2A.3 Installation of CCTV</b>																		
DWP5690	Assembly and erect CCTV Highmast for CCTV-TV/108/A	7	7	0%	06-Apr-22	13-Apr-22	-316											
DWP5700	CCTV-TV /108/A	3	3	0%	13-Apr-22	16-Apr-22	-316											
DWP5860	Assembly and erect CCTV Highmast for CCTV-TV/247/C	3	3	0%	16-Apr-22	20-Apr-22	-316											
DWP5870	CCTV-TV /247/C	3	3	0%	20-Apr-22	23-Apr-22	-316											
DWP5880	Mounting Bracket for CCTV in Underpass	7	7	0%	23-Apr-22	30-Apr-22	-316											
DWP5890	CCTV Camera	7	7	0%	30-Apr-22	07-May-22	-316											
<b>NE/2017/06.CST.S1A1B.2A.4 Installation of Vehicle Detectors</b>																		
DWP5720	VD Detector on Gantry	14	14	0%	06-Apr-22	20-Apr-22	-300											
DWP5900	Erect Poles for OHVD	7	7	0%	06-Apr-22	13-Apr-22	-300											
DWP5910	OHVD	7	7	0%	13-Apr-22	20-Apr-22	-300											
<b>NE/2017/06.CST.S1A1B.2A.5 Installation of Control Cabinet</b>																		
DWP7830	Installation of Control Cabinet	14	14	0%	07-Apr-22	20-Apr-22	-321											
<b>NE/2017/06.CST.S1A1B.2A.6 Local Cables Installation, Testing and Termination</b>																		
DWP5725	Local Cables Installation, Testing and Termination	14	14	0%	22-Apr-22	06-May-22	-316											
DWP5730	Cables Installation, Testing and Termination at TCSS Cabinet	3	3	0%	21-Apr-22	24-Apr-22	-304											
DWP5740	Fibre Cable Termination	10	10	0%	21-Apr-22	30-Apr-22	-321											
<b>NE/2017/06.CST.S1A1B.2A.7 Site Commissioning Test of TCD and Fibre Cable</b>																		
DWP5750	SCT for Power Distribution Equipment	3	3	0%	24-Apr-22	27-Apr-22	-304											
DWP5760	SCT for FVMS, MLCS, VMS and TCS	3	3	0%	06-May-22	09-May-22	-316											
DWP5770	SCT for CCTV	3	3	0%	07-May-22	10-May-22	-316											
DWP5780	SCT for VD	3	3	0%	06-May-22	09-May-22	-316											
DWP5840	SCT for OHVD	3	3	0%	06-May-22	09-May-22	-316											
DWP5850	Fibre Cable Test (End to End)	14	14	0%	01-May-22	14-May-22	-321											
<b>NE/2017/06.CST.S1A1B.2B Stage 2B Works (Within Portion 2B)</b>																		
DWP5270	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	31-Mar-22	01-Apr-22	678											
<b>NE/2017/06.CST.S1A1B.2B.1 Laying Cables (Fibre, Signal and Power)</b>																		
DWP2315	Laying Cables (Fibre, Signal and Power)	24	24	0%	09-Apr-22	03-May-22	646											
<b>NE/2017/06.CST.S1A1B.2B.1.1 Installation of Cable Containment</b>																		
DWP5320	Cable Containment on Gantry	8	8	0%	09-Apr-22	17-Apr-22	-320											
<b>NE/2017/06.CST.S1A1B.2B.1.2 Laying Cables</b>																		
DWP5310	Fibre, Signal and Power Cables along Roadside	14	14	0%	18-Apr-22	03-May-22	-268											

■ Actual Level of Effort    ■ Remaining Work    ■ Critical Remaining Work  
■ Actual Work    ■ Milestone



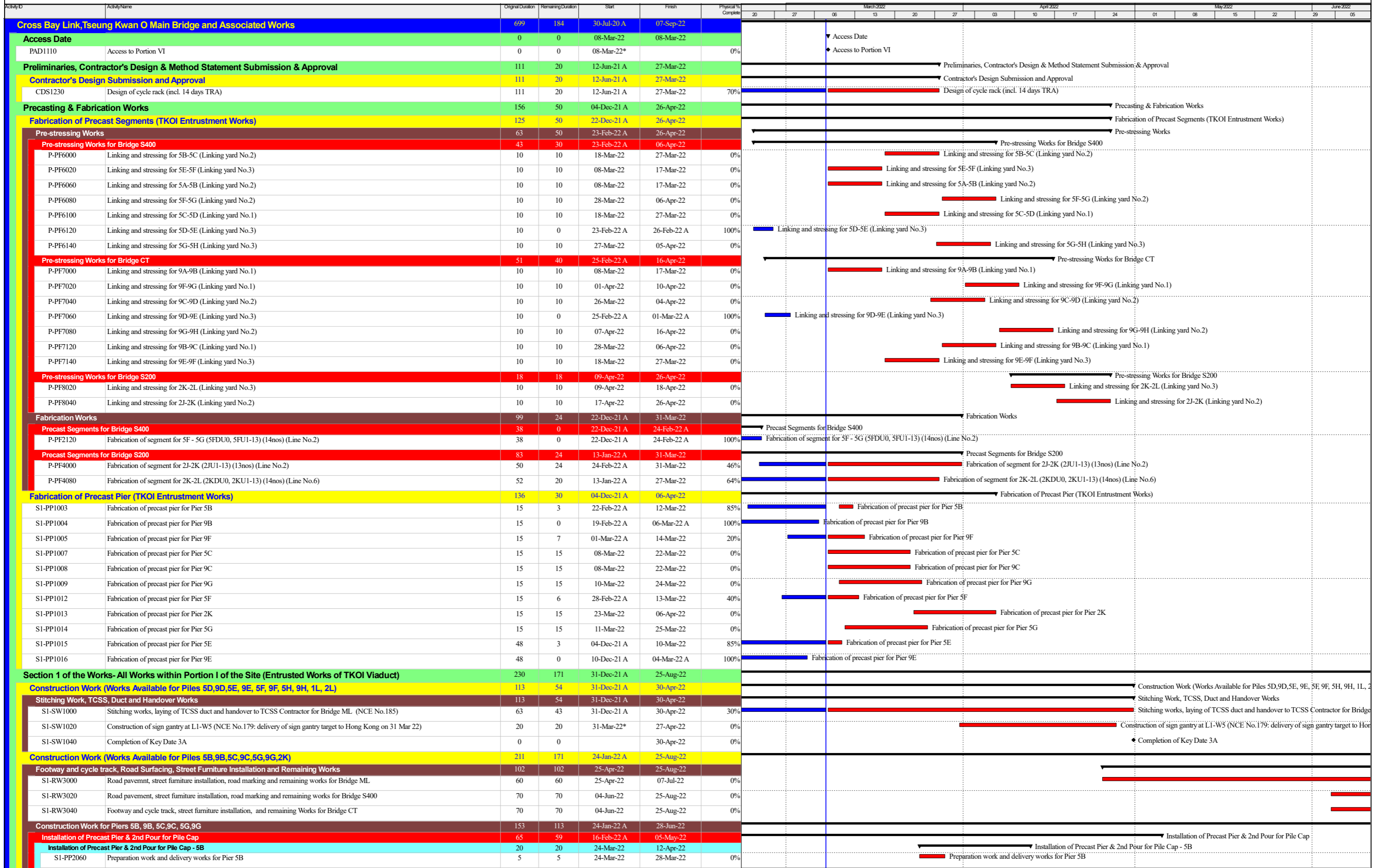
Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Classic Schedule Layout										
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		
<b>NE/2017/06.CST.S1A1B.2B.2 Installation of Leaky Cable and Radio Equipment</b>																		
DWP5350	Leaky Cable inside Underpass	14	14	0%	09-Apr-22	23-Apr-22	-310											
<b>NE/2017/06.CST.S1A1B.2B.3 Installation of CCTV</b>																		
DWP5330	Assembly and Erect CCTV Highmast for CCTV-TV/145/C	7	7	0%	09-Apr-22	16-Apr-22	-303											
DWP5340	CCTV-TV /145/C	7	7	0%	16-Apr-22	23-Apr-22	-303											
<b>NE/2017/06.CST.S1A1B.2B.4 Installation of Vehicle Detectors</b>																		
DWP5360	VD Detector	7	7	0%	09-Apr-22	16-Apr-22	-307											
<b>NE/2017/06.CST.S1A1B.2B.5 Installation of Control Cabinet</b>																		
DWP7850	Installation of Control Cabinet	14	14	0%	09-Apr-22	23-Apr-22	-310											
<b>NE/2017/06.CST.S1A1B.2B.6 Local Cables Installation, Testing and Termination</b>																		
DWP5370	Cables Installation, Testing and Termination at TCSS Cabinet	7	7	0%	04-May-22	10-May-22	-320											
DWP5380	Fibre Cable Termination	7	7	0%	04-May-22	10-May-22	-320											
<b>NE/2017/06.CST.S1A1B.2B.7 Site Commissioning Test of TCD and Fibre Cable</b>																		
DWP5390	SCT for Power Distribution Equipment	3	3	0%	11-May-22	13-May-22	-320											
DWP5400	SCT for Radio	10	10	0%	23-Apr-22	03-May-22	-310											
DWP5410	SCT for CCTV	3	3	0%	11-May-22	13-May-22	-320											
DWP5420	SCT for VD	14	14	0%	16-Apr-22	30-Apr-22	-307											
DWP5430	Fibre Cable Test (End to End)	3	3	0%	11-May-22	13-May-22	-320											
<b>NE/2017/06.CST.S1A1B.3 Stage 3 Works (Within Portion 3A)</b>																		
DWP5440	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	31-Mar-22	01-Apr-22	678											
<b>NE/2017/06.CST.S1A1B.3.1 Laying Cables (fibre, signal and power)</b>																		
DWP5480	Fibre, Signal and Power Cables along Roadside	7	7	0%	03-May-22	10-May-22	-352											
<b>NE/2017/06.CST.S1A1B.3.2 Installation of Traffic Control Field Equipment</b>																		
DWP6020	Assembly and erect CCTV Highmast for CCTV-TV/246/C	6	6	0%	10-Apr-22	15-Apr-22	-304											
DWP6030	CCTV-TV /246/C	5	5	0%	15-Apr-22	20-Apr-22	-304											
<b>NE/2017/06.CST.S1A1B.3.5 Installation of Control Cabinet</b>																		
DWP5515	Local Cables Installation, Testing and Termination	14	14	0%	15-May-22	29-May-22	-356											
DWP5530	Fibre Cable Termination	7	7	0%	22-Apr-22	29-Apr-22	-320											
<b>NE/2017/06.CST.S1A1B.3.7 Site Commissioning Test of TCD and Fibre Cable</b>																		
DWP5570	Fibre Cable Test (End to End)	14	14	0%	29-Apr-22	13-May-22	-320											
<b>NE/2017/06.CST.S1A1B.4A Stage 4A Works (Bridges within Portion 4A)</b>																		
DWP5970	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	31-Mar-22	01-Apr-22	678											
<b>NE/2017/06.CST.S1A1B.4A.1 Laying Cables (fibre, signal and power)</b>																		
DWP6130	Laying Cables on Gantries	7	6	28.57%	29-Mar-22 A	22-Apr-22	-324											
DWP6140	Fibre, Signal and Power Cables along Roadside	21	19	4.76%	30-Mar-22 A	28-Apr-22	-330											
<b>NE/2017/06.CST.S1A1B.4A.2 Installation of Traffic Control Field Equipment</b>																		
DWP5665	Roadside VMS	5	5	0%	11-Apr-22	16-Apr-22	-295											
<b>NE/2017/06.CST.S1A1B.4A.3 Installation of CCTV</b>																		
DWP6040	Assembly and erect CCTV Highmast for CCTV-TV/201/A	7	7	0%	09-Apr-22	16-Apr-22	-325											
DWP6050	CCTV-TV /201/A	5	5	0%	16-Apr-22	21-Apr-22	-325											
DWP6060	Assembly and erect CCTV Highmast for CCTV-TV/202/A	7	7	0%	21-Apr-22	28-Apr-22	-325											
DWP6070	CCTV-TV /202/A	5	5	0%	28-Apr-22	03-May-22	-325											
DWP6080	Assembly and erect CCTV Highmast for CCTV-TV/245/C	7	7	0%	03-May-22	10-May-22	-325											
DWP6090	CCTV-TV /245/C	5	5	0%	10-May-22	15-May-22	-325											
<b>NE/2017/06.CST.S1A1B.4A.4 Installation of Vehicle Detectors</b>																		
DWP6100	Erect VD Pole for VD/202/A	7	7	0%	09-Apr-22	16-Apr-22	-303											
DWP6110	VD/202/A	7	7	0%	16-Apr-22	23-Apr-22	-303											
<b>NE/2017/06.CST.S1A1B.4A.5 Installation of Control Cabinet</b>																		
DWP7860	Installation of Control Cabinet	14	14	0%	09-Apr-22	23-Apr-22	-324											
<b>NE/2017/06.CST.S1A1B.4A.6 Local Cables Installation, Testing and Termination</b>																		
DWP5600	Cables Installation, Testing and Termination at TCSS Cabinet	21	21	0%	28-Apr-22	19-May-22	-330											
DWP5610	Fibre Cable Termination	14	14	0%	23-Apr-22	07-May-22	-324											
<b>NE/2017/06.CST.S1A1B.4A.7 Site Commissioning Test of TCD and Fibre Cable</b>																		
DWP5620	SCT for Power Distribution Equipment	4	4	0%	19-May-22	23-May-22	-330											
DWP5625	SCT for VLS and VMS	3	3	0%	19-May-22	22-May-22	-329											
DWP5640	SCT for CCTV	3	3	0%	19-May-22	22-May-22	-329											
DWP5645	SCT for VD	3	3	0%	19-May-22	22-May-22	-329											
DWP5650	Fibre Cable Test (End to End)	10	10	0%	07-May-22	17-May-22	-324											
<b>NE/2017/06.CST.S1A1B.4B Stage 4B Works (Bridges within Portion 4B)</b>																		
DWP6220	Handover of Holding-down Bolts for Pole Foundation to Civil	3	3	0%	31-Mar-22	02-Apr-22	676											
DWP6270	Laying Cables (Fibre, Signal and Power) along Roadside	7	7	0%	05-Apr-22	12-Apr-22	-299											
<b>NE/2017/06.CST.S1A1B.4B.4 Installation of Vehicle Detectors</b>																		
DWP6200	Erect VD Pole for VD/105/A	3	3	0%	05-Apr-22	08-Apr-22	-299											
DWP6210	VD/105/A	7	7	0%	08-Apr-22	15-Apr-22	-299											
<b>NE/2017/06.CST.S1A1B.4B.1 Installation of Control Cabinet</b>																		
DWP7870	Installation of Control Cabinet	1	1	0%	05-Apr-22	06-Apr-22	-297											
<b>NE/2017/06.CST.S1A1B.4B.6 Local Cables Installation, Testing and Termination</b>																		
DWP6145	Local Cables Installation (fibre, signal and power) along Roadside	3	3	0%	12-Apr-22	15-Apr-22	-299											
DWP6150	Cables Installation, Testing and Termination at TCSS Cabinet	3	3	0%	15-Apr-22	18-Apr-22	-299											
DWP6160	Fibre Cable Termination	7	7	0%	06-Apr-22	13-Apr-22	-297											
<b>NE/2017/06.CST.S1A1B.4B.7 Site Commissioning Test of TCD and Fibre Cable</b>																		
DWP6170	SCT for Power Distribution Equipment	3	3	0%	18-Apr-22	21-Apr-22	-298											
DWP6180	SCT for VD	4	4	0%	18-Apr-22	22-Apr-22	-299											
DWP6190	Fibre Cable Test (End to End)	7	7	0%	13-Apr-22	20-Apr-22	-297											
<b>NE/2017/06.SATT SAT for TKO-LTT TCSS</b>																		
		0	0	0%			0											

NE/2017/06 TKO-LTT TCSS_3MRP		Classic Schedule Layout						08-Apr-22 09:49								
Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Qtr 1, 2022			Qtr 2, 2022			Qtr 3, 2022		
								Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
NE/2017/06.OPTT	Operability Period Test for the TKO-LTT TCSS	0	0	0%			0									
NE/2017/06.DLPT	DLP for the TKO-LTT TCSS	0	0	0%			0									
NE/2017/06.DOC1	Documentation Submission for TKO-LTT TCSS	45	45	0%	31-Mar-22	14-May-22	634									
DWP10780	System Description	6	6	0%	31-Mar-22	05-Apr-22	674									
DWP10790	Operation Manual	5	5	0%	31-Mar-22	04-Apr-22	-165									
DWP10800	System Administration Manual	11	11	0%	31-Mar-22	11-Apr-22	668									
DWP10820	Equipment Maintenance Manual	45	45	0%	31-Mar-22	14-May-22	634									
NE/2017/06.TRT	Training for TKO-LTT TCSS	0	0	0%			0									
NE/2017/06.EMC	Equipment Manufacturing and Delivery for CBL TCSS	0	0	0%			0									
NE/2017/06.CSC1	Construction Stage for CBL TCSS	48	48	0%	31-Mar-22	25-May-22	534									
NE/2017/06.CSC1.S2A2B	Works for Section 2A and Section 2B	48	48	0%	31-Mar-22	25-May-22	534									
NE/2017/06.CSC1.S2A2B.5A	Stage 5 Works (Within Portion 5A)	1	1	0%	18-May-22	19-May-22	540									
DWP6630	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	18-May-22	19-May-22	630									
NE/2017/06.CSC1.S2A2B.5A.1	Laying Cables (fibre, signal and power)	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5A.2	Installation of Traffic Control Field Equipment	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5A.3	Installation of CCTV	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5A.4	Installation of Control Cabinet	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5A.5	Local Cables Installation, Testing and Termination	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5A.6	Site Commissioning Test of TCD and Fibre Cable	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B	Stage 5 Works (Within Portion 5B)	48	48	0%	31-Mar-22	25-May-22	534									
DWP6830	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	31-Mar-22	01-Apr-22	678									
DWP6840	Portion 5B Access Date	0	0	0%	31-Mar-22	31-Mar-22	-21									
DWP6850	Inspection of Civil Provisions and Submit Inspection Report	28	28	0%	31-Mar-22	27-Apr-22	-21									
DWP6860	Rectification of Civil provisions Defects by others	28	28	0%	28-Apr-22	25-May-22	-21									
NE/2017/06.CSC1.S2A2B.5B.1	Laying Cables (fibre, signal and power)	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.2	Installation of Traffic Control Field Equipment	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.3	Installation of CCTV	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.4	Installation of Detection System Equipment	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.8	Installation of Enforcement Equipment	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.7	Installation of Control Cabinet	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.5	Local Cables Installation, Testing and Termination	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5B.6	Site Commissioning Test of TCD and Fibre Cable	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C	Stage 5 Works (Within Portion 5C)	1	1	0%	18-May-22	19-May-22	540									
DWP7130	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	18-May-22	19-May-22	630									
NE/2017/06.CSC1.S2A2B.5C.1	Laying Cables (fibre, signal and power)	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C.2	Installation of Traffic Control Field Equipment	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C.3	Installation of CCTV	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C.7	Installation of Control Cabinet	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C.5	Local Cables Installation, Testing and Termination	0	0	0%			0									
NE/2017/06.CSC1.S2A2B.5C.6	Site Commissioning Test of TCD and Fibre Cable	0	0	0%			0									
NE/2017/06.SATC	SAT for CBL TCSS	0	0	0%			0									
NE/2017/06.OPTC	Operability Period Test For the CBL TCSS	0	0	0%			0									
NE/2017/06.DLPC	DLP for the CBL TCSS	0	0	0%			0									
NE/2017/06.DOC	Documentation Submission for CBL TCSS	0	0	0%			0									
NE/2017/06.TRC	Training for CBL TCSS	0	0	0%			0									



Activity ID	Activity Name	Original Duration	Start	Finish	2022				
					Mar	Apr	May	Jun	Jul
<b>Tseung Kwan O Interchange and Associated Works 202204-env</b>									
<b>Construction Work</b>									
<b>Bridge Parapet &amp; Utility Trough</b>									
CON-15451	Installation of Movement Joint for Bridge S200	21	18-Aug-21 A	14-Apr-22					
<b>Bridge Furniture &amp; Road Work</b>									
CON-15560	Road Pavement and Road Marking for Bridge ML	58	10-Jul-21 A	14-Apr-22					
CON-15629	Install Precast Cover for Bridge S100	40	20-Oct-21 A	14-Apr-22					
CON-15650	Road Pavement and Road Marking for Bridge S100	49	29-Oct-21 A	14-Apr-22					
CON-15590	Road Pavement and Road Marking for Bridge S300	43	05-Nov-21 A	14-Apr-22					
CON-15620	Road Pavement and Road Marking for Bridge S200	43	05-Nov-21 A	14-Apr-22					
<b>Outstanding Works</b>									
CON-16090	Outstanding Works	72	15-Feb-22 A	16-May-22					

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works



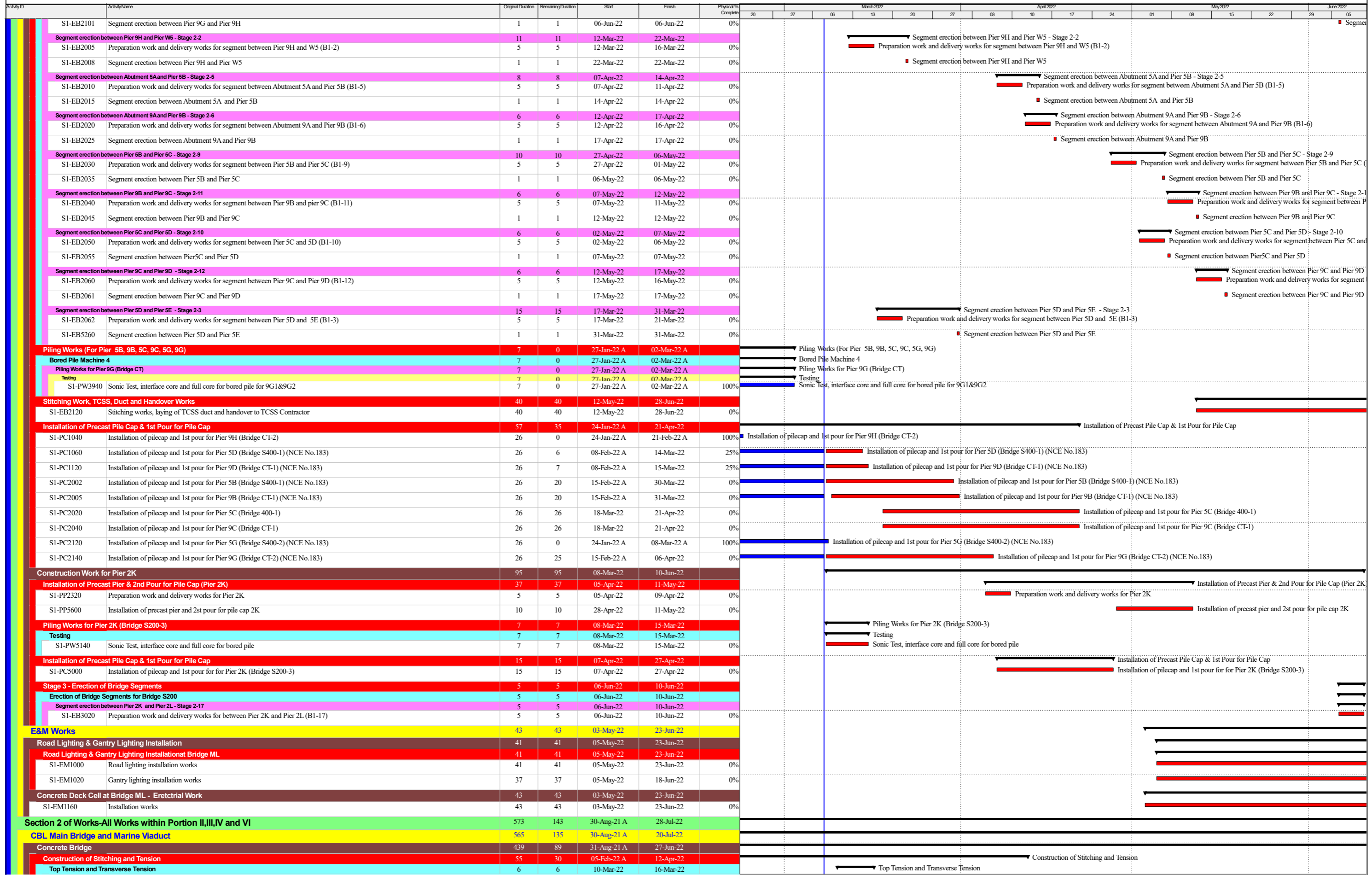
█ Remaining Level of Effort    █ Critical Remaining Work  
█ Actual Work    ◆ Milestone  
█ Remaining Work    ▶ Summary

Three Month Rolling Programme (March 2022 - June 2022)

Date	Revision	Checked	Approved
08-Mar-22	3MRP (Mar 22 - Jun 22)		



Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works



█ Remaining Level of Effort    █ Critical Remaining Work  
█ Actual Work    ◆ Milestone  
█ Remaining Work    ▬ Summary

Three Month Rolling Programme (March 2022 - June 2022)

Date	Revision	Checked	Approved
08-Mar-22	3MRP (Mar 22 - Jun 22)		





Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Physical % Complete	Gantt Chart (March 2022 - June 2022)																	
							20	27	06	13	20	27	03	10	17	24	01	08	15	22	29	05		
S2-RW1072	Paving block laying for footpath	50	50	18-May-22	16-Jul-22	0%																		
S2-RW1073-1	Waterproofing for cycle track	4	4	08-Apr-22	12-Apr-22	0%																		
S2-RW1074	Sandblasting and primer for carriageway (Delay due to shortage of worker affected by COVID-19)	4	29	05-Feb-22 A	11-Apr-22	0%																		
S2-RW1074-2	Waterproofing for carriageway	4	4	12-Apr-22	19-Apr-22	0%																		
S2-RW1074-5	Transportation of cooker to Hong Kong (target to Hong kong on 20 Apr 22 due to border problem)	0	0		20-Apr-22*	0%																		
S2-RW1074-6	Site trial by Cooker for MA	7	7	21-Apr-22	28-Apr-22	0%																		
S2-RW1075	Road pavement for cycle track at Steel Bridge	12	12	29-Apr-22	14-May-22	0%																		
S2-RW1076	Road pavement for carriageway at Steel Bridge	27	27	14-May-22	15-Jun-22	0%																		
S2-RW1140	Installation of isolation steel post	45	30	24-Jan-22 A	12-Apr-22	18%																		
<b>Fabrication and Delivery Works</b>																								
S2-CB5540	Fabrication and delivery of steel post and transom for L3 parapet	161	90	12-Nov-21 A	28-Jun-22	1%																		
S2-CB5560	Fabrication and delivery of steel works for isolation panel	60	20	12-Nov-21 A	30-Mar-22	50%																		
S2-CB5580	Fabrication of PMMA panel	90	90	09-Feb-22 A	28-Jun-22	20%																		
<b>Welding &amp; Painting Works</b>																								
<b>Preparation Works</b>																								
<b>Activation of the Pendulum Bearing</b>																								
S2-SB1520	Activation of permanent bearing and removal of temporary jacks from the Pier W1 (after completion of transition section)	6	6	19-Mar-22	25-Mar-22	0%																		
<b>Painting of the Ring Weld</b>																								
S2-SB2040	Painting of the west side span ring weld (inside) (upper part)	116	92	08-Jan-22 A	30-Jun-22	100%																		
S2-SB2045	Painting of the west side span ring weld (inside) (bottom part) (NCE No.181)	18	18	16-Mar-22*	06-Apr-22	0%																		
S2-SB2065	Painting of the east side span ring weld (inside) (bottom part) (NCE No.181)	18	18	16-Mar-22*	06-Apr-22	0%																		
S2-SB2072	Top coating of the steel deck (east span) (NCE No.181)	75	30	08-Jan-22 A	12-Apr-22	20%																		
S2-SB2076	Top coating of the steel deck (west span) (NCE No.181)	75	40	08-Jan-22 A	27-Apr-22	20%																		
S2-SB2080	Top coating of the steel deck (main span) (NCE No.181)	98	92	08-Jan-22 A	30-Jun-22	20%																		
S2-SB2100	Painting repair of the arch rib (Internal)	45	45	07-Apr-22	04-Jun-22	0%																		
S2-SB2105	Painting repair of the arch rib (External)	45	45	07-May-22	30-Jun-22	0%																		
<b>Removal of the Temporary Supports at W1 &amp; E1</b>																								
S2-SB2220	Removal of the temporary supports at W1	57	10	03-Jan-22 A	18-Mar-22	35%																		
S2-SB2240	Removal of the temporary supports at W2	10	5	04-Jan-22 A	12-Mar-22	0%																		
S2-SB2260	Removal of the temporary supports at E1	1	1	18-Mar-22	18-Mar-22	0%																		
S2-SB2260	Removal of the temporary supports at E1	10	4	03-Jan-22 A	11-Mar-22	40%																		
S2-SB2280	Removal of the temporary supports at E2	1	1	16-Mar-22	16-Mar-22	0%																		
<b>Construction of Steel-Concrete Transition Zone</b>																								
<b>Construction of the west side transition</b>																								
S2-CT1060	Welding of the box out on steel deck (top)	56	9	20-Dec-21 A	17-Mar-22	90%																		
S2-CT1100	Removal of the temporary jacks from the Pier W2	10	8	20-Dec-21 A	16-Mar-22	0%																		
S2-CT1100	Removal of the temporary jacks from the Pier W2	1	1	17-Mar-22	17-Mar-22	0%																		
<b>Construction of the east side transition</b>																								
S2-CT1180	Welding of the box out on steel deck (top)	10	7	08-Feb-22 A	15-Mar-22	0%																		
S2-CT1180	Welding of the box out on steel deck (top)	10	6	08-Feb-22 A	14-Mar-22	0%																		
S2-CT1220	Removal of the temporary jacks from the Pier E2	1	1	15-Mar-22	15-Mar-22	0%																		
<b>Associated, E&amp;M Works for CBL Main Bridge and Marine Viaduct</b>																								
<b>UBG and AIC</b>																								
<b>AIC</b>																								
S2-EM1320	Installation of the Arch Inspection Cradle (shortage of worker delayed due to COVID-19; target start on 28 Apr 22)	121	108	30-Aug-21 A	20-Jul-22	0%																		
S2-EM1340	Testing of the AIC	57	57	27-Jan-22 A	07-Jul-22	0%																		
S2-EM1340	Testing of the AIC	27	27	28-Apr-22*	31-May-22	0%																		
<b>UBG</b>																								
<b>Testing of the UBG and SAT</b>																								
S2-EM1280	Testing of the UBG	50	26	27-Jan-22 A	07-Apr-22	20%																		
S2-EM1280	Testing of the UBG	50	26	27-Jan-22 A	07-Apr-22	20%																		
S2-EM1300	SAT	30	23	27-Jan-22 A	02-Apr-22	0%																		
S2-EM1300	SAT	3	3	04-Apr-22	07-Apr-22	0%																		
<b>Installation of Other Systems</b>																								
S2-EM1360	SHMS installation (NCE No.186)	164	108	30-Aug-21 A	20-Jul-22	45%																		
S2-EM1380	Dehumidification system installation in the stay cables	60	25	30-Aug-21 A	06-Apr-22	0%																		
S2-EM1380	Dehumidification system installation in the stay cables	10	10	17-Mar-22	28-Mar-22	0%																		
S2-EM1400	Commission and testing of the dehumidification system	90	90	29-Mar-22	20-Jul-22	0%																		
<b>E&amp;M Works</b>																								
<b>E&amp;M Works in Portion II, III &amp; IV</b>																								
<b>Road Lighting</b>																								
S2-EM1560	Road Lighting works at E2-EA	361	143	01-Dec-21 A	28-Jul-22	0%																		
S2-EM1620	Road Lighting works at W2-E2	57	57	07-Apr-22	18-Jun-22	0%																		
S2-EM1620	Road Lighting works at W2-E2	37	37	05-May-22	18-Jun-22	0%																		
<b>Pier Head Lighting Installation at Piers W5-EA</b>																								
S2-EM3040	Pier Head Lighting Installation at Piers W2-W5	105	105	19-Mar-22	28-Jul-22	0%																		
S2-EM3060	Pier Head Lighting Installation at Piers E2-EA	101	101	19-Mar-22	23-Jul-22	0%																		
S2-EM3080	Pier Head Lighting Installation at Piers W1-E1	105	105	19-Mar-22	28-Jul-22	0%																		
S2-EM3080	Pier Head Lighting Installation at Piers W1-E1	96	96	19-Mar-22	18-Jul-22	0%																		
<b>Fixed Red Lighting Installation at Piers W1-E1</b>																								
S2-EM3100	Installation of Pier Head Lighting	64	64	19-Mar-22	21-May-22	0%																		
S2-EM3100	Installation of Pier Head Lighting	38	38	19-Mar-22	07-May-22	0%																		
S2-EM3120	Testing & Commissioning	14	14	08-May-22	21-May-22	0%																		

█ Remaining Level of Effort     █ Critical Remaining Work  
█ Actual Work     ◆ Milestone  
█ Remaining Work     ▶ Summary

**Three Month Rolling Programme (March 2022 - June 2022)**

Date	Revision	Checked	Approved
08-Mar-22	3MRP (Mar 22 - Jun 22)		

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Physical % Complete	Gantt Chart (March 2022 - June 2022)											
							20	27	06	13	20	27	03	10	17	24	01	08
<b>SCADA System</b>																		
S5-PR3240	FAT preparation	75	30	23-Dec-21 A	07-Jul-22	45%	FAT preparation											
S5-PR3260	FAT and deliver to Site	12	12	13-Apr-22	29-Apr-22	0%	FAT and deliver to Site											
S5-PR3280	Installation of cable containment	20	20	26-Mar-22	22-Apr-22	0%	Installation of cable containment											
S5-PR3300	Equipment cabling & wiring completion for termination	20	20	14-Apr-22	12-May-22	0%	Equipment cabling & wiring completion for termination											
S5-PR3320	Rack & Equipment on site installation	14	14	13-May-22	28-May-22	0%	Rack & Equipment on site installation											
S5-PR3340	Equipment & RIOU panel termination	18	18	13-May-22	02-Jun-22	0%	Equipment & RIOU panel termination											
S5-PR3360	Optical fibre cable laying	60	60	08-Mar-22	23-May-22	0%	Optical fibre cable laying											
S5-PR3380	Cable & wiring Termination	37	37	24-May-22	07-Jul-22	0%	Cable & wiring Termination											
<b>Navigation Lighting at Piers W1-E1</b>																		
S2-EM1630	Navigation Lighting Installation at Piers W1-E1	72	72	19-Mar-22	18-Jun-22	0%	Navigation Lighting Installation at Piers W1-E1											
<b>Avigation Lighting at Piers W1-E1</b>																		
S2-EM1700	Avigation Lighting Installation at Piers W1-E1	88	88	19-Mar-22	08-Jul-22	0%	Avigation Lighting Installation at Piers W1-E1											
<b>Functional Lighting at Piers W1-E1</b>																		
S2-EM1760	Equipment Installation of Functional Light	90	90	19-Mar-22	11-Jul-22	0%	Equipment Installation of Functional Light											
<b>Lightning System and Main Earthing System</b>																		
S2-EM1940	Lightning tape installation	94	85	27-Jan-22 A	22-Jun-22	8%	Lightning tape installation											
S2-EM1980	Installation of earthing tape at Main Bridge	50	50	08-Mar-22	11-May-22	0%	Installation of earthing tape at Main Bridge											
S2-EM1990	T&C for main earthing system	30	30	12-May-22	10-Jun-22	0%	T&C for main earthing system											
<b>Deck Cell - Erection Work</b>																		
<b>Concrete Deck Cell at Piers W2-W5</b>																		
S1-EM1240	Concrete Deck Cell at Piers W2-W5 (Delay due to shortage of worker affected by COVID-19)	76	20	01-Dec-21 A	30-Mar-22	70%	Concrete Deck Cell at Piers W2-W5 (Delay due to shortage of worker affected by COVID-19)											
<b>Concrete Deck Cell at Piers E2-EA</b>																		
S1-EM1320	E2-EA - Lighting fitting and wiring accessories installation S1-EM1320 (Shortage of worker affected by COVID-19)	52	20	31-Dec-21 A	30-Mar-22	72%	E2-EA - Lighting fitting and wiring accessories installation S1-EM1320 (Shortage of worker affected by COVID-19)											
<b>Steel Bridge Deck Cell at Piers W1-E1 Main Span (Steel)</b>																		
S1-EM1360	Piers W1-E1 Main Span (Steel) - installation of lighting fitting and wiring accessories (COVID-19: shortage of worker)	58	45	05-Feb-22 A	04-May-22	10%	Piers W1-E1 Main Span (Steel) - installation of lighting fitting and wiring accessories (COVID-19: shortage of worker)											
<b>Steel Deck Cell at Piers W1-W2 West Side Span Deck</b>																		
S1-EM1400	Steel Deck Cell at Piers W1-W2 West Side Span - small cable wiring work (Shortage of worker affected by COVID-19)	87	65	16-Dec-21 A	28-May-22	80%	Steel Deck Cell at Piers W1-W2 West Side Span - small cable wiring work (Shortage of worker affected by COVID-19)											
S1-EM1420	Steel Deck Cell at Piers W1-W2 West Side Span - installation of lighting fitting and wiring accessories	50	50	25-Mar-22	28-May-22	0%	Steel Deck Cell at Piers W1-W2 West Side Span - installation of lighting fitting and wiring accessories											
<b>Steel Deck Cell at Piers E1-E2 East Side Span Deck</b>																		
S1-EM1460	Steel Deck Cell at Piers W1-W2 West Side Span - small cable wiring work (Shortage of worker affected by COVID-19)	118	112	31-Jan-22 A	27-Jun-22	12%	Steel Deck Cell at Piers W1-W2 West Side Span - small cable wiring work (Shortage of worker affected by COVID-19)											
S1-EM1480	Testing & Commissioning	60	45	31-Jan-22 A	04-May-22	0%	Testing & Commissioning											
<b>Power for Dehumidification System at Piers W1-E1</b>																		
S1-EM1500	Power for Dehumidification System at Piers W1-E1	30	30	29-May-22	27-Jun-22	0%	Power for Dehumidification System at Piers W1-E1											
<b>Gantry Lighting Installation at Piers W2 &amp; E3</b>																		
S1-EM1520	Gantry Lighting Installation at Piers W2 & E3	65	45	25-Jan-22 A	04-May-22	0%	Gantry Lighting Installation at Piers W2 & E3											
<b>17M Information Sign Lighting Installation at Piers W1-E1</b>																		
S2-EM3020	17M Information Sign Lighting Installation at Piers W1-E1	47	47	13-May-22	08-Jul-22	0%	17M Information Sign Lighting Installation at Piers W1-E1											
<b>Section 3 of the Works-Comprises All of the Landscape Works</b>																		
S3-LW2000	Landscape works for CBL bridge	53	53	19-Mar-22	26-May-22	0%	Landscape works for CBL bridge											
<b>Section 5 of the Works-All Works within Portion V (CBL E&amp;M Plantroom)</b>																		
<b>Remaining Work</b>																		
S5-PR2200	Water works,pluming and drainage works	699	184	30-Jul-20 A	07-Sep-22	94%	Water works,pluming and drainage works											
S5-PR2290	Cable Installation Work After Access Permitted (Portion VI)	623	184	30-Jul-20 A	07-Sep-22	0%	Cable Installation Work After Access Permitted (Portion VI)											
S5-PR2300	T&C for all systems after connection from plantroom to the bridge (incl. 15 days TRA)	60	9	30-Jul-20 A	17-Mar-22	0%	T&C for all systems after connection from plantroom to the bridge (incl. 15 days TRA)											
<b>Major Services System</b>																		
<b>SCADA System</b>																		
S5-PR3040	FAT preparation	515	97	28-Sep-20 A	07-Jul-22	100%	FAT preparation											
S5-PR3060	FAT and deliver to Site	155	97	23-Dec-21 A	07-Jul-22	0%	FAT and deliver to Site											
S5-PR3080	Installation of cable containment	12	12	13-Apr-22	29-Apr-22	0%	Installation of cable containment											
S5-PR3100	Equipment cabling & wiring completion for termination	20	20	11-Mar-22	02-Apr-22	0%	Equipment cabling & wiring completion for termination											
S5-PR3120	Rack & Equipment on site installation	20	20	29-Mar-22	25-Apr-22	0%	Rack & Equipment on site installation											
S5-PR3140	Equipment & RIOU panel termination	14	14	30-Apr-22	18-May-22	0%	Equipment & RIOU panel termination											
S5-PR3160	Optical fibre cable laying	18	18	30-Apr-22	23-May-22	0%	Optical fibre cable laying											
S5-PR3180	Cable & wiring termination	60	60	08-Mar-22	23-May-22	0%	Cable & wiring termination											
<b>Electrical System</b>																		
<b>UPS Room</b>																		
S5-PR2565	UPS Factory Fabrication	37	37	24-May-22	07-Jul-22	0%	UPS Factory Fabrication											
S5-PR2570	UPS FAT	174	83	15-Nov-21 A	20-Jun-22	100%	UPS FAT											
S5-PR2575	UPS delivery	83	0	15-Nov-21 A	28-Feb-22 A	0%	UPS delivery											
S5-PR2580	UPS Installation (Including E&M Work)	17	17	01-Mar-22 A	26-Mar-22	0%	UPS Installation (Including E&M Work)											
<b>Generator Room</b>																		
<b>Generator Room</b>																		

█ Remaining Level of Effort     █ Critical Remaining Work  
█ Actual Work     ◆ Milestone  
█ Remaining Work     ▶ Summary

**Three Month Rolling Programme (March 2022 - June 2022)**

Date	Revision	Checked	Approved
08-Mar-22	3MRP (Mar 22 - Jun 22)		





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**APPENDIX R  
RECORD OF LANDFILL GAS  
MONITORING BY CONTRACTOR**

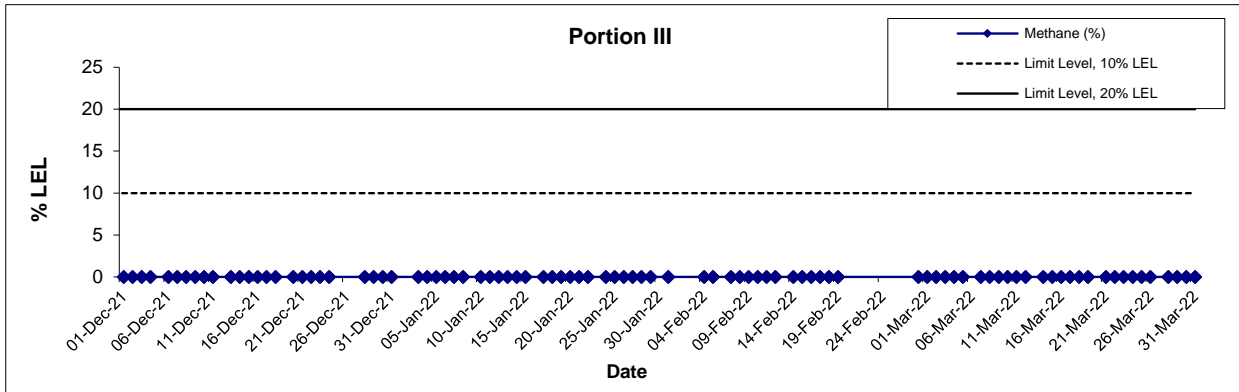
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APPENDIX R - RECORD OF LANDFILL GAS MONITORING BY THE CONTRACTOR

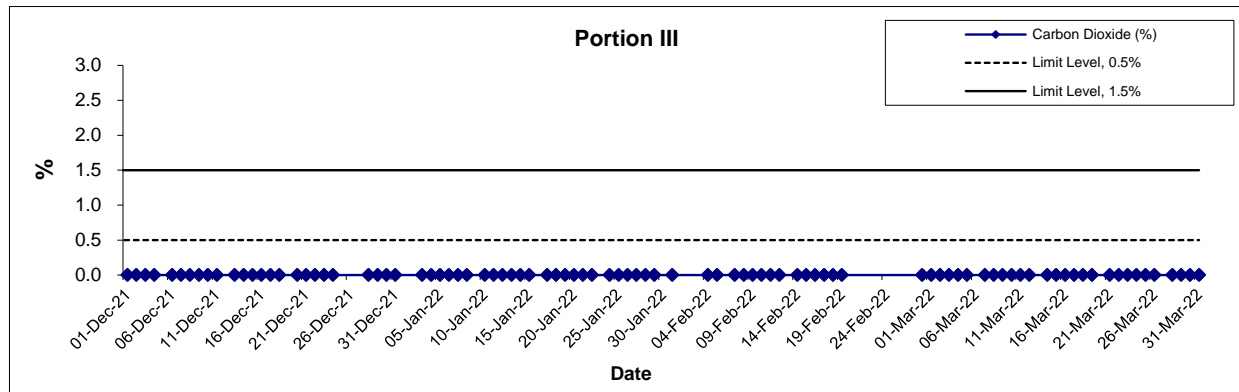
Location	Date of Measurement	Sampling time	Weather Condition	Temperature (°C)	Methane (%)	Carbon dioxide (%)	Oxygen (%)
Portion III	1-Mar-22	8:32	Cloudy	20	0	0	20.9
Portion III	1-Mar-22	13:40	Sunny	25	0	0	20.9
Portion III	2-Mar-22	8:35	Sunny	19	0	0	20.9
Portion III	2-Mar-22	13:33	Sunny	26	0	0	20.9
Portion III	3-Mar-22	8:23	Cloudy	18	0	0	20.9
Portion III	3-Mar-22	13:27	Cloudy	19	0	0	20.9
Portion III	4-Mar-22	8:17	Cloudy	18	0	0	20.9
Portion III	4-Mar-22	13:19	Cloudy	19	0	0	20.9
Portion III	5-Mar-22	8:23	Cloudy	19	0	0	20.9
Portion III	5-Mar-22	13:25	Cloudy	21	0	0	20.9
Portion III	7-Mar-22	8:33	Cloudy	19	0	0	20.9
Portion III	7-Mar-22	13:19	Cloudy	21	0	0	20.9
Portion III	8-Mar-22	8:22	Cloudy	18	0	0	20.9
Portion III	8-Mar-22	13:25	Cloudy	23	0	0	20.9
Portion III	9-Mar-22	8:15	Cloudy	18	0	0	20.9
Portion III	9-Mar-22	13:17	Cloudy	23	0	0	20.9
Portion III	10-Mar-22	8:21	Cloudy	19	0	0	20.9
Portion III	10-Mar-22	13:19	Cloudy	22	0	0	20.9
Portion III	11-Mar-22	8:27	Sunny	19	0	0	20.9
Portion III	11-Mar-22	13:10	Sunny	24	0	0	20.9
Portion III	12-Mar-22	8:13	Sunny	20	0	0	20.9
Portion III	12-Mar-22	13:15	Sunny	28	0	0	20.9
Portion III	14-Mar-22	8:16	Cloudy	20	0	0	20.9
Portion III	14-Mar-22	13:17	Cloudy	24	0	0	20.9
Portion III	15-Mar-22	8:24	Sunny	20	0	0	20.9
Portion III	15-Mar-22	13:15	Sunny	26	0	0	20.9
Portion III	16-Mar-22	8:32	Sunny	21	0	0	20.9
Portion III	16-Mar-22	13:24	Sunny	29	0	0	20.9
Portion III	17-Mar-22	8:24	Sunny	22	0	0	20.9
Portion III	17-Mar-22	13:15	Sunny	29	0	0	20.9
Portion III	18-Mar-22	8:27	Rainy	22	0	0	20.9
Portion III	18-Mar-22	13:12	Cloudy	26	0	0	20.9
Portion III	19-Mar-22	8:23	Sunny	23	0	0	20.9
Portion III	19-Mar-22	13:16	Sunny	27	0	0	20.9
Portion III	21-Mar-22	8:20	Cloudy	17	0	0	20.9
Portion III	21-Mar-22	13:15	Cloudy	24	0	0	20.9
Portion III	22-Mar-22	8:24	Rainy	16	0	0	20.9
Portion III	22-Mar-22	13:20	Cloudy	21	0	0	20.9
Portion III	23-Mar-22	8:30	Cloudy	18	0	0	20.9
Portion III	23-Mar-22	13:15	Cloudy	20	0	0	20.9
Portion III	24-Mar-22	8:23	Cloudy	18	0	0	20.9
Portion III	24-Mar-22	13:17	Sunny	24	0	0	20.9
Portion III	25-Mar-22	8:27	Sunny	21	0	0	20.9
Portion III	25-Mar-22	13:21	Sunny	25	0	0	20.9
Portion III	26-Mar-22	8:24	Sunny	20	0	0	20.9
Portion III	26-Mar-22	13:16	Sunny	25	0	0	20.9
Portion III	28-Mar-22	8:24	Sunny	23	0	0	20.9
Portion III	28-Mar-22	13:19	Sunny	28	0	0	20.9
Portion III	29-Mar-22	8:23	Cloudy	24	0	0	20.9
Portion III	29-Mar-22	13:25	Sunny	29	0	0	20.9
Portion III	30-Mar-22	8:30	Cloudy	25	0	0	20.9
Portion III	30-Mar-22	13:32	Cloudy	29	0	0	20.9
Portion III	31-Mar-22	8:32	Cloudy	25	0	0	20.9
Portion III	31-Mar-22	13:26	Cloudy	29	0	0	20.9

**APPENDIX R - RECORD OF LANDFILL GAS MONITORING BY THE CONTRACTOR**

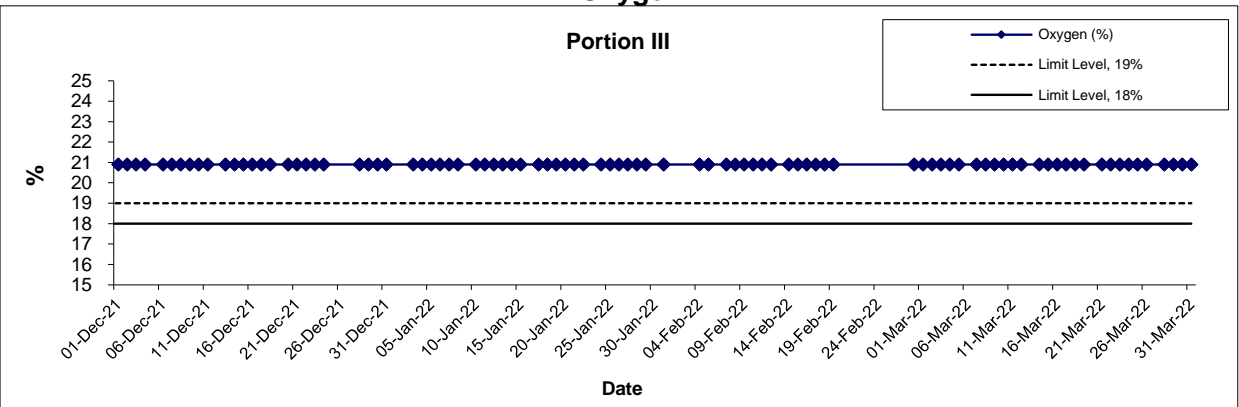
**Methane**




**Carbon Dioxide**



**Oxygen**



\*Site closed between 20 Feb 2022 to 26 Feb 2022

Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction	Scale	Project	
	Date	No. MA16034 Appendix R	

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**APPENDIX T  
PHOTO RECORD OF POST-  
TRANSLOCATION CORAL  
MONITORING SURVEY**

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**Appendix T – Cultural Heritage Monitoring Results**

Date	Tilting				Settlement (mm)			Vibration (mm/s)		
	THT-TM-01	THT-TM-02	THT-TM-03	THT-TM-04	THT-BSP-1	THT-BSP-2	THT-BSP-3	Measurement Direction		
								Tran	Vertical	Longitude
1-Mar-22								0.102	0.118	0.110
2-Mar-22								0.118	0.150	0.110
3-Mar-22								0.118	0.213	0.197
4-Mar-22								0.173	0.410	0.110
5-Mar-22								0.095	0.126	0.095
7-Mar-22								0.150	0.181	0.110
8-Mar-22								0.236	0.292	0.181
9-Mar-22								0.087	0.150	0.118
10-Mar-22								0.110	0.150	0.118
11-Mar-22								0.378	0.441	0.615
12-Mar-22								0.118	0.142	0.118
14-Mar-22								0.095	0.126	0.110
15-Mar-22								0.095	0.158	0.102
16-Mar-22								0.102	0.181	0.102
17-Mar-22								0.102	0.118	0.110
18-Mar-22								0.095	0.142	0.095
19-Mar-22								0.102	0.142	0.118
21-Mar-22								0.118	0.126	0.118
22-Mar-22								0.110	0.142	0.118
23-Mar-22								0.102	0.150	0.102
24-Mar-22								0.102	0.197	0.110
25-Mar-22								0.102	0.134	0.102
26-Mar-22								0.110	0.126	0.118
28-Mar-22								0.118	0.173	0.134
29-Mar-22								0.150	0.197	0.213
30-Mar-22								0.166	0.315	0.260
31-Mar-22								0.134	0.181	0.118
Alert Level	1:2000				6			4.5		
Alarm Level	1:1500				8			4.8		
Action Level	1:1000				10			5		

Pending arrangement for reinstatement

Note:  
**Bold** means Alert Level exceedance

## **Appendix T – Cultural Heritage Monitoring Results**

***Bold Italic*** means Alarm Level exceedance

***Bold Italic with underline*** means Action Level exceedance

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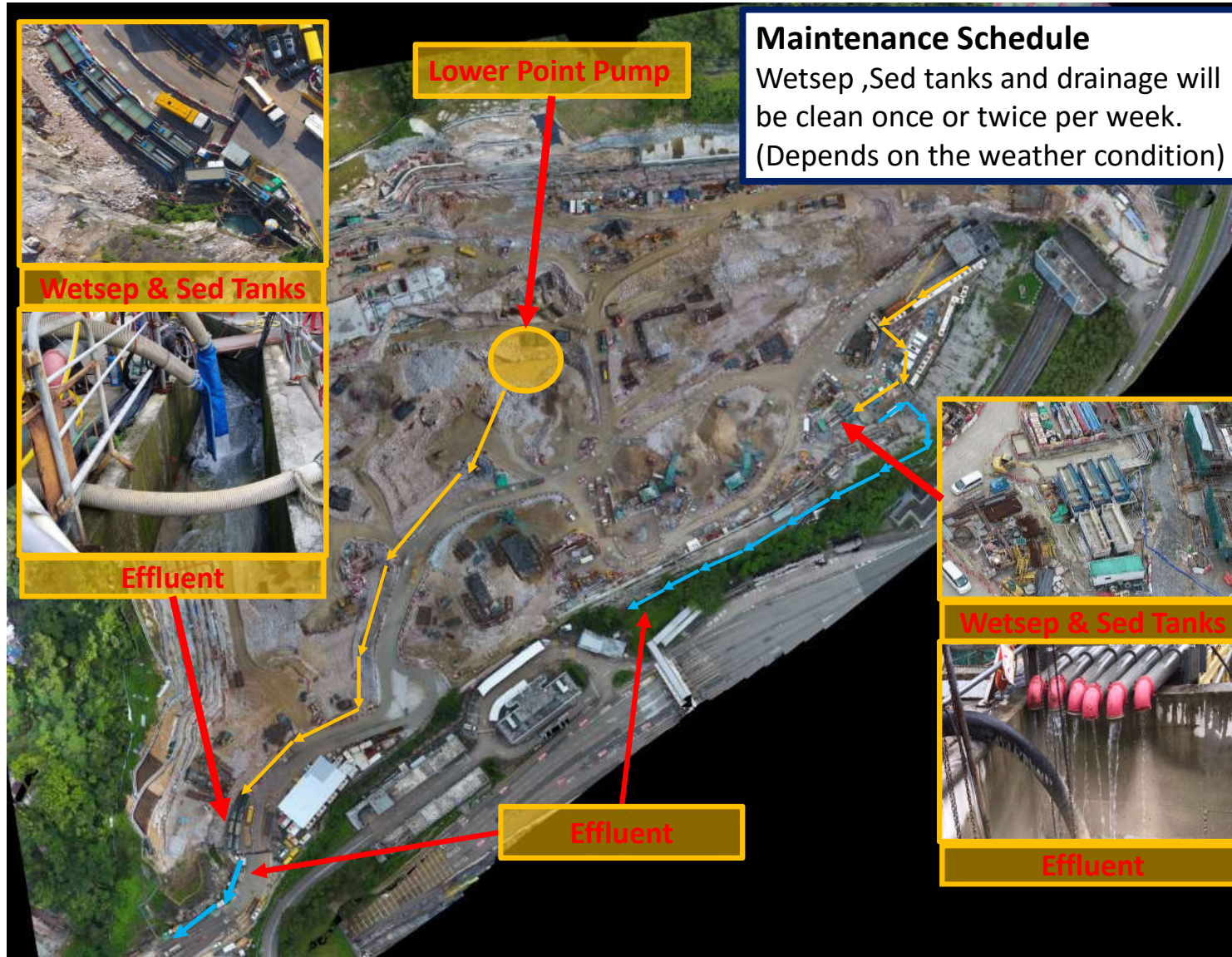
**APPENDIX V  
SURFACE RUNOFF MANAGEMENT  
PLAN**

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**Maintenance Schedule**  
Wetsep ,Sed tanks and drainage will be clean once or twice per week.  
(Depends on the weather condition)

**Sed tanks**

**Site Clearance & provide cover to exposed excavation area**

**Wetsep**

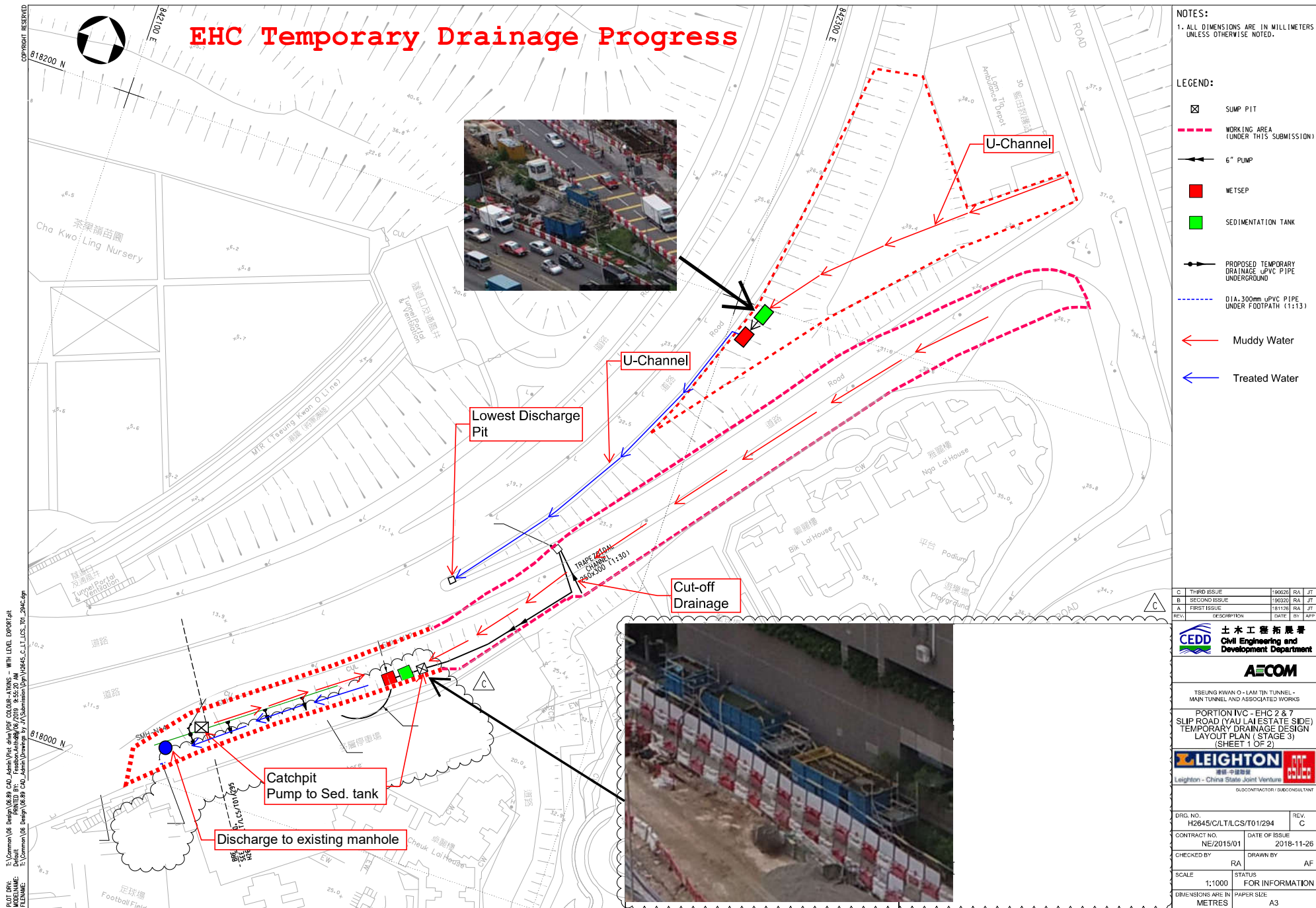
**Effluent**

**Extension of Sed tanks**

Contract Number NE/2015/01

2019年6月28日  
新界

The image is an aerial photograph of a construction site for a road or bridge project. The site is situated on a hillside with terraced slopes. A large concrete structure, likely a bridge pier or abutment, is visible. A road with traffic is running through the site. Several callout boxes with yellow borders and red arrows point to specific areas: 'Maintenance Schedule' points to a general area; 'Sed tanks' points to a large rectangular structure; 'Site Clearance & provide cover to exposed excavation area' points to a worker in a yellow vest; 'Wetsep' points to a blue truck; 'Effluent' points to a pipe discharging water; and 'Extension of Sed tanks' points to a concrete structure near a river. A date stamp '2019年6月28日 新界' is visible in the top left callout box. The text 'Contract Number NE/2015/01' is overlaid in the center.



C	THIRD ISSUE	190226	RA	JT
B	SECOND ISSUE	190320	RA	JT
A	FIRST ISSUE	181126	RA	JT
REV.	DESCRIPTION	DATE	BY	APP

**CEPD** 土木工程拓展署  
Civil Engineering and Development Department

**AECOM**

TSEUNG KWAN O - LAM TIN TUNNEL - MAIN TUNNEL AND ASSOCIATED WORKS

PORTION IVC - EHC 2 & 7  
SLIP ROAD (YAU LAI ESTATE SIDE)  
TEMPORARY DRAINAGE DESIGN LAYOUT PLAN (STAGE 3)  
(SHEET 1 OF 2)

**LEIGHTON** 中國建築  
Leighton - China State Joint Venture

DRG. NO. H2645/C/LT/LCS/T01/294

CONTRACT NO. NE/2015/01 DATE OF ISSUE 2018-11-26

CHECKED BY RA DRAWN BY AF

SCALE 1:1000 STATUS FOR INFORMATION  
DIMENSIONS ARE IN METRES PAPER SIZE A3



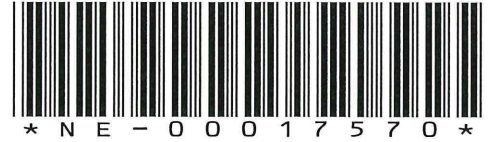


中國路橋  
C R B C



## CRBC-Build King Joint Venture

Our Ref.:JV/TKO-P2/NE201502/19.00.00.00/017621/L  
Your Ref.: TLT/(NE/2015/02)/C30/650/(0205)



29 March 2021

**AECOM Asia Company Limited**  
8/F, Tower 2, Grand Central Plaza  
138 Shatin Rural Committee Road  
Shatin, Hong Kong

**By Hand**

**Attn.: Mr C. W. Lam, Dominic (CRE)**

Dear Sir,

**Contract No.: NE/2015/02**

**Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works**  
**Submission of Layout Plan for Site Surface Run-off Control**

We would like to submit herewith a Layout Plan for Site Surface Run-off Control so as to illustrate our site preparedness for the coming typhoon and wet season as per PS Clause 25.08.

Yours faithfully,  
For and on behalf of  
CRBC-Build King Joint Venture

  
\_\_\_\_\_  
**YU Man Kit, Andy**  
**Site Agent**

Encl.

c.c.:

The Project Manager for the contract, (CE/E1, CEDD) – Attn.: Mr. Sunny SP LO  
The Project Manager's Delegate, AECOM (HO) - Attn: Mr. Ivan Tsang

Fax: 2739 0076  
Fax: 3922 9797

AY/GN/WW/RP/KC

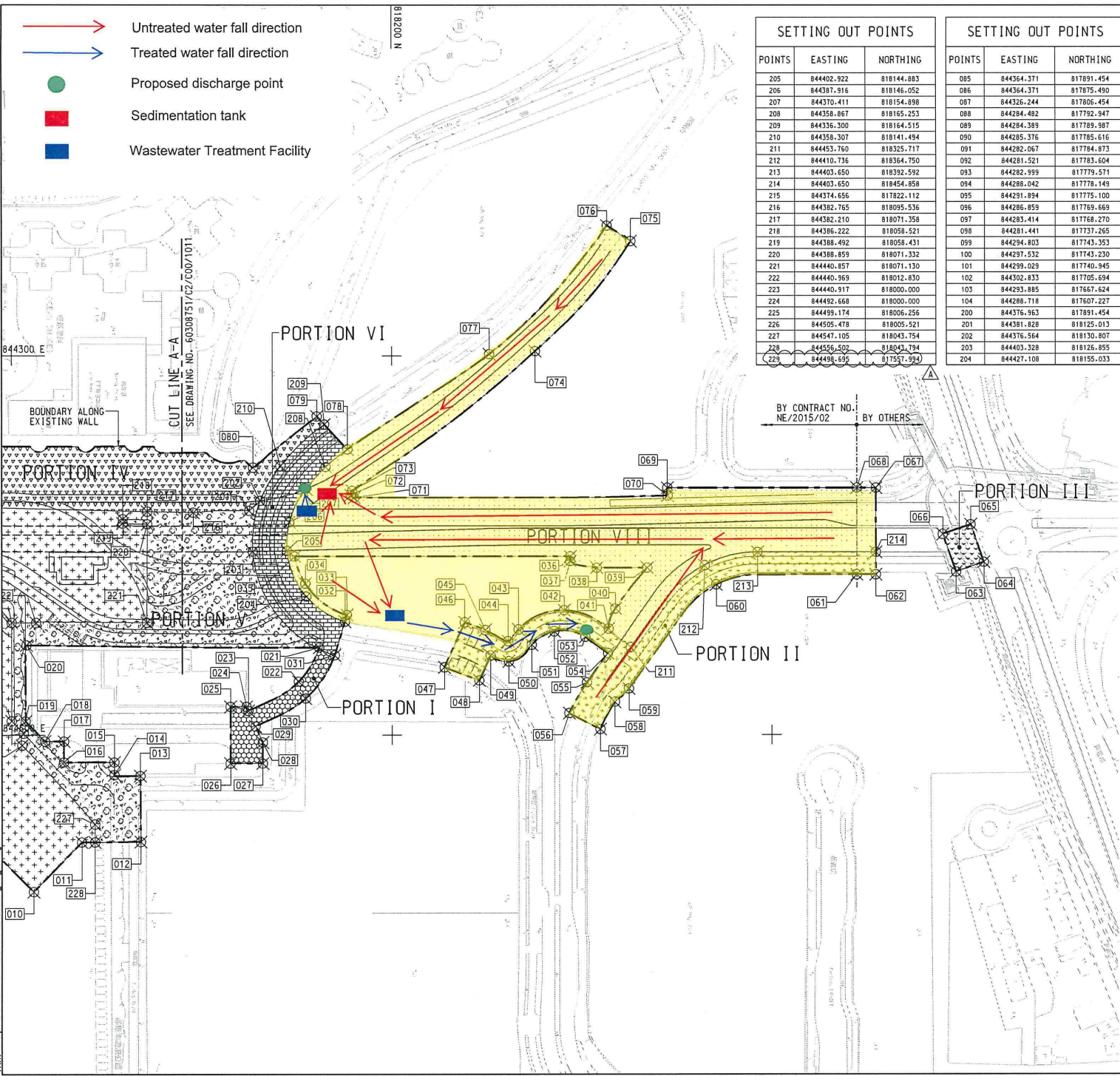
Page 1 of 1





Project Management Table: Designer: AT/HI, Checker: PC/CA, Approved: CHN  
 City: ISO A1 (60mm x 60mm)  
 Scale: 1:6000  
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 PLOT FILE: J:\LUP\60308751\URBAN\GIS\DWG\C2\001012.dwg, 08/10/2015, 09:14:21 AM

- Untreated water fall direction
- Treated water fall direction
- Proposed discharge point
- Sedimentation tank
- Wastewater Treatment Facility



SETTING OUT POINTS		
POINTS	EASTING	NORTHING
205	84402.922	818144.883
206	844387.916	818146.052
207	844370.411	818154.898
208	844356.867	818165.253
209	844356.300	818164.515
210	844358.307	818141.494
211	844453.760	818325.717
212	844410.736	818364.750
213	844403.650	818392.592
214	844403.650	818454.858
215	844374.656	817822.112
216	844382.765	818095.536
217	844382.210	818071.358
218	844386.222	818058.521
219	844388.492	818058.431
220	844388.859	818071.332
221	844440.357	818071.130
222	844440.369	818020.830
223	844440.917	818000.000
224	844452.668	818000.000
225	844459.174	818006.256
226	844505.478	818055.521
227	844547.105	818043.754
228	844556.502	818040.194
229	844458.899	817571.590

SETTING OUT POINTS		
POINTS	EASTING	NORTHING
085	844364.371	817891.454
086	844364.371	817875.490
087	844326.244	817806.454
088	844284.482	817792.947
089	844284.389	817789.387
090	844285.376	817785.616
091	844282.067	817784.873
092	844281.521	817783.604
093	844282.999	817779.571
094	844286.042	817778.148
095	844281.894	817775.100
096	844286.359	817769.669
097	844283.414	817768.270
098	844281.441	817737.265
099	844284.803	817743.353
100	844287.532	817743.230
101	844289.028	817740.345
102	844302.833	817705.634
103	844293.885	817667.624
104	844288.718	817607.227
200	844376.363	817891.454
201	84381.828	818125.013
202	844376.564	818130.807
203	844403.328	818126.855
204	844427.108	818155.033

SETTING OUT POINTS		
POINTS	EASTING	NORTHING
001	844240.443	817551.753
002	844378.242	817483.648
003	844507.431	817651.547
004	844572.090	817627.455
005	844508.100	817638.302
006	844510.396	817707.874
007	844512.113	817769.940
008	844514.507	817827.403
009	844526.294	817851.500
010	844532.662	818011.583
011	844556.546	818036.852
012	844556.348	818067.859
013	844521.461	818067.035
014	844520.974	818054.006
015	844514.184	818053.562
016	844514.184	818027.500
017	844503.341	818027.533
018	844503.310	818017.436
019	844492.751	818007.313
020	844452.548	818007.806
021	844453.846	818161.851
022	844471.734	818150.993
023	844487.228	818124.474
024	844485.040	818123.474
025	844485.066	818115.080
026	844514.812	818115.080
027	844514.780	818132.072
028	844503.831	818132.066
029	844495.412	818128.216
030	844480.656	818154.679
031	844457.878	818169.920
032	844440.338	818175.353
033	844436.898	818176.414
034	844420.348	818154.523
035	844405.950	818148.828
036	844405.950	818253.952
037	844408.358	818253.952
038	844411.950	818307.882
039	844411.950	818334.450
040	844433.544	818317.697
041	844444.122	818314.082
042	844434.450	818290.757
043	844444.533	818266.647
044	844450.595	818261.204
045	844444.836	818249.176
046	844440.809	818238.366
047	844464.244	818227.720
048	844471.151	818246.011
049	844458.057	818251.971
050	844461.122	818261.598
051	844452.437	818273.632
052	844445.444	818285.889
053	844448.276	818301.825
054	844456.901	818313.763
055	844472.263	818302.664
056	844488.541	818293.366
057	844497.009	818309.725
058	844482.600	818317.345
059	844475.566	818324.746
060	844420.811	818370.795
061	844415.550	818444.858
062	844415.550	818454.858
063	844414.101	818497.107
064	844408.909	818511.699
065	844389.112	818504.792
066	844394.208	818490.092
067	844369.750	818454.858
068	844369.750	818444.858
069	844369.750	818345.114
070	844373.946	818345.217
071	844375.033	818180.335
072	844373.624	818178.424
073	844371.382	818179.206
074	844297.397	818275.538
075	844239.314	818325.845
076	844231.051	818313.326
077	844298.964	818251.396
078	844349.536	818176.741
079	844332.057	818160.618
080	844359.085	818127.054
081	844356.683	817940.562
082	844356.683	817936.032
083	844354.618	817933.769
084	844350.647	817891.454

**PROJECT**  
TSEUNG KWAN O - LAM TIN TUNNEL

**CONTRACT TITLE**  
TSEUNG KWAN O - LAM TIN TUNNEL ROAD P2 AND ASSOCIATED WORKS

**CLIENT**  
CEDD  
Civil Engineering and Development Department

**CONSULTANT**  
AECOM Asia Company Ltd.  
www.aecom.com

**SUB-CONSULTANTS**  
中環工程顧問有限公司

NO.	DATE	DESCRIPTION	CHK.
B	SEP.16	WORKING DRAWING	RPCM
A	FEB.16	TENDER ADDENDUM NO.1	RPCM
-	JAN.16	TENDER DRAWING	RPCM

**STATUS**  
WORKING DRAWING

**SCALE**  
A1 1:1000  
DIMENSION UNIT: METRES

**KEY PLAN**  
A1 1:6000

**PROJECT NO.** 60308751  
**CONTRACT NO.** NE/2015/02

**SHEET TITLE** PORTION OF SITE  
**SHEET NUMBER** SHEET 2 OF 2

60308751/C2/C00/1012B

This drawing has been prepared for the use of AECOM clients. It may not be used, modified, approved or used for any other purpose without the written consent of AECOM. AECOM shall not be liable for any errors or omissions in this drawing, whether caused by AECOM or any other party. Full details of any party's full liability shall be set out in the contract. The drawing is the property of AECOM and shall remain the property of AECOM. All measurements must be obtained from the latest drawings.



**Contract No.: NE/2017/02**

**Contract Title: Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and  
Associated Works**

## **Flooding Mitigation Plan**

### **Treatment facility**









### Bunding

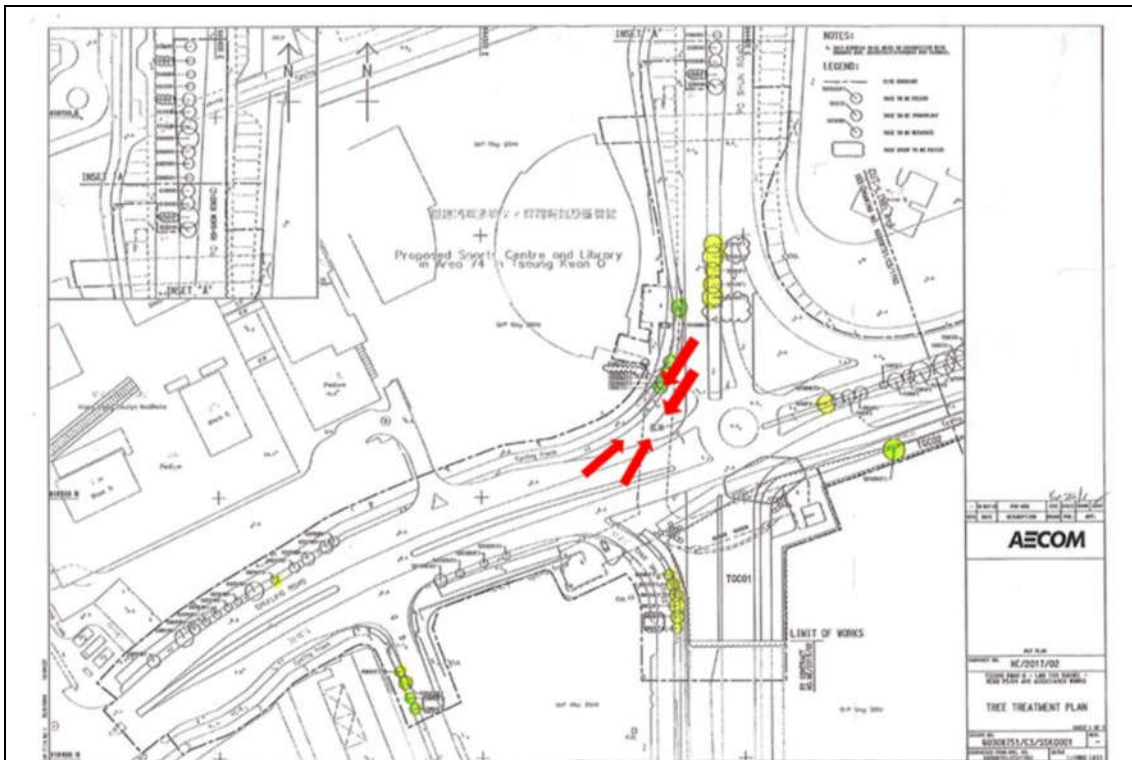






### Surface runoff collection





**Height difference between the road and site area to form a natural flow. Sump pit was provided for wastewater collection.**





### Gully Protection



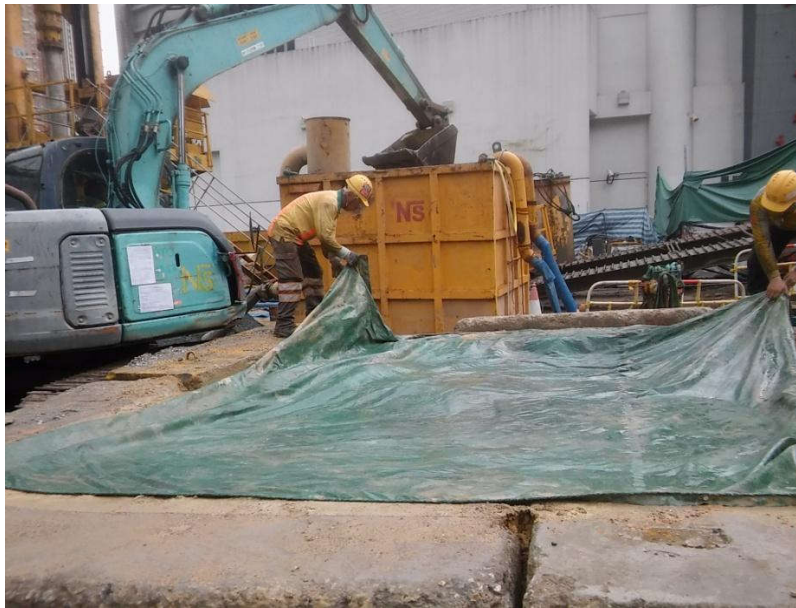
**Gully were protected and covered by geotextile.**



### Stockpile Cover







**Stockpile Should be proper cover with tarpaulin.**

# Site Surface Runoff Measures

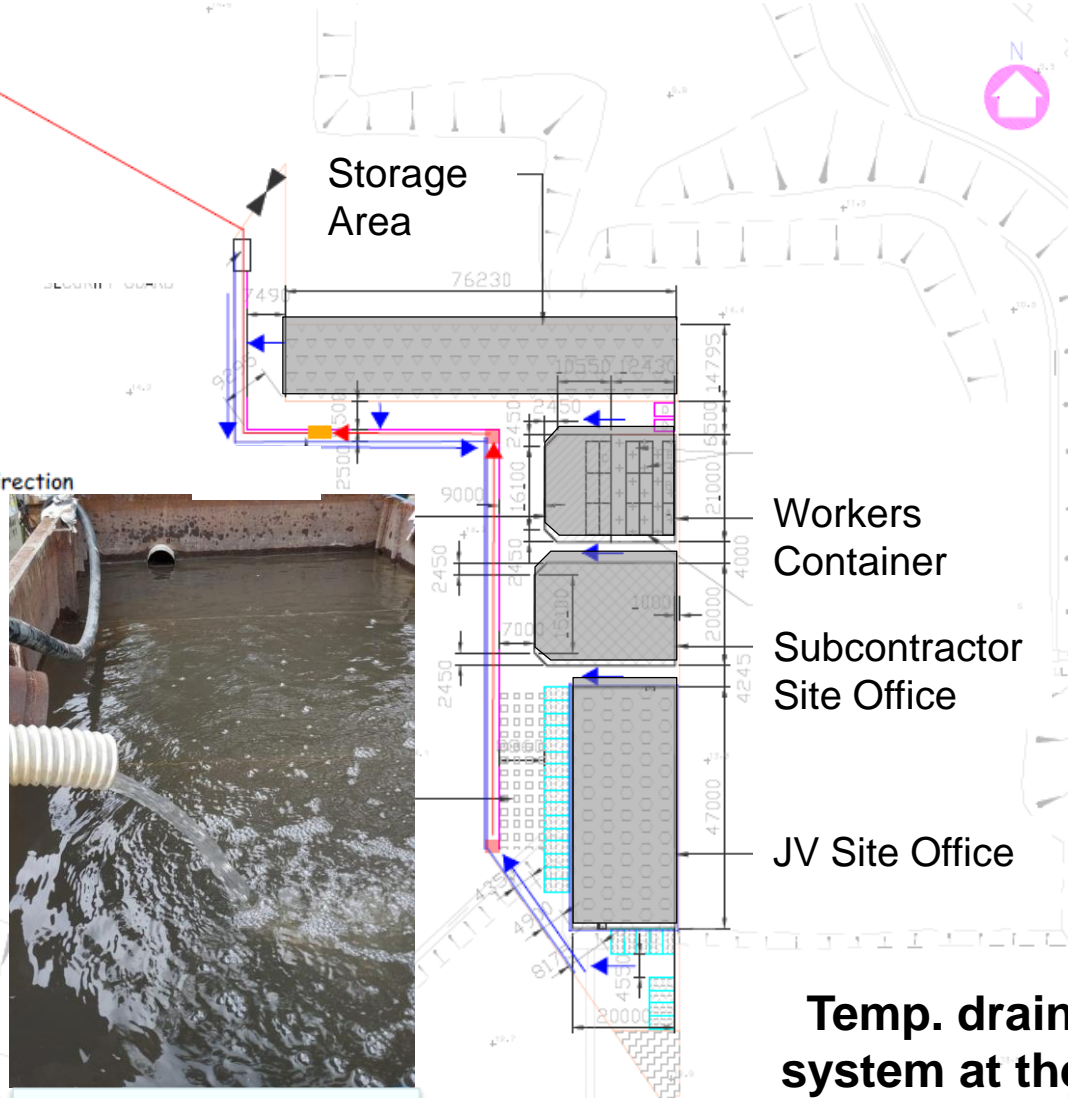
俊和-上隧-中冶聯營  
CW - STEC - CMGC JV



Temp. Channel

Discharge to manhole "ZIA 4004921"

- ← channel / surface water flow direction
- ← water pump direction
- sump pit
- sedimentation tank



Sump Pit



Sedimentation Tank

Temp. drainage system at the site office area



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**APPENDIX W  
MONITORING RESULTS FOR POST-  
RECLAMATION MARINE WATER  
QUALITY MONITORING**

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## Appendix W

### Monitoring Results for Post Reclamation Marine Water Quality Monitoring

#### Part I – Review of Action and Limit Levels for Post Reclamation Marine Water Quality Monitoring

Parameter	Depth	Action Level	Limit Level
Dissolved Oxygen (DO) in mg/L (See Note 1 and 2)	Surface Depth	Nil <sup>[3]</sup>	Nil <sup>[3]</sup>
	Depth Average	4.8 mg/L <sup>[4]</sup>	4 mg/L <sup>[5]</sup>
	Bottom	2.4 mg/L <sup>[4]</sup>	2 mg/L <sup>[5]</sup>

Notes:

- "depth-averaged" is calculated by taking the arithmetic means of reading of all sampling depths.
- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- No action and limit level is proposed for surface depth in accordance to the approved proposal for post-reclamation marine water quality monitoring.
- As an alert for adverse water quality impact, the Action Level is set as 120% of the Current WQOs for marine Waters of Hong Kong
- Current Water Quality Objectives (WQOs) for marine waters of Hong Kong.

The water depth at W2 on 11 March 2022 was **5.40m** and therefore the monitoring at mid-depth is omitted.

#### Part II – Review of Monitoring Results for Post Reclamation Marine Water Quality Monitoring at Surface Depth

Date	Depth (m)	DO (mg/L)	DO saturation (%)	Salinity (ppt)	pH	Temperature (°C)
11 Mar 2022	1.05	9.59	122.8	30.36	8.61	18.2
11 Mar 2022	1.07	9.66	122.8	30.36	8.61	18.2

#### Part III – Review of Monitoring Results for Post Reclamation Marine Water Quality Monitoring at Depth Average

Date	Depth (m)	DO (mg/L)	DO saturation (%)	Salinity (ppt)	pH	Temperature (°C)
11 Mar 2022	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted
11 Mar 2022	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted

#### Part IV – Review of Monitoring Results for Post Reclamation Marine Water Quality Monitoring at Bottom Depth

Date	Depth (m)	DO (mg/L)	DO saturation (%)	Salinity (ppt)	pH	Temperature (°C)
11 Mar 2022	4.45	9.55	120.9	30.17	8.61	18.0
11 Mar 2022	4.46	9.69	121.4	30.17	8.61	18.0

#### Part V – Short Summary

No exceedance of action or limit level of DO in mg/L was recorded in the reporting month.