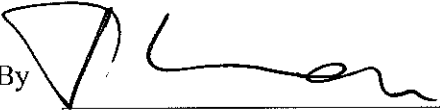


# Civil Engineering and Development Department

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

**Quarterly Environmental  
Monitoring and Audit Report –  
May 2019 – July 2019**

**(version 1.0)**

Approved By   
(Dr. HF Chan,  
Environmental Team Leader)

REMARKS:

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

CINOTECH accepts no responsibility for changes made to this report by third parties.

**CINOTECH CONSULTANTS LTD**

Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong  
Tel: (852) 2151 2083 Fax: (852) 3107 1388  
Email: [info@cinotech.com.hk](mailto:info@cinotech.com.hk)



Civil Engineering and Development Department  
New Territories East Development Office  
Suite 1213, Chinachem Golden Plaza  
77 Mody Road  
Tsimshatsui  
Kowloon

Your reference:

Our reference: HKCEDD08/50/106003

Date: 4 September 2019

Attention: Mr Lo Sai Pak, Sunny

**BY FAX & POST**  
**(Fax no.: 2739 0076)**

Dear Sirs

Agreement No.: NTE 06/2016  
Independent Environmental Checker for Tseung Kwan O – Lam Tin Tunnel  
Quarterly Environmental Monitoring and Audit Report for May 2019 to July 2019

We refer to emails of 21 August and 2 September 2019 from Cinotech Consultants Limited attaching the Quarterly Environmental Monitoring and Audit Report for May 2019 to July 2019.

We have no further comment and hereby verify the captioned report.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Ricky Lau on 2618 2831.

Yours faithfully  
ANEWR CONSULTING LIMITED

Independent Environmental Checker

LYMA/LCCR/csym

- cc CEDD – Mr Simon Wong (email: simonwong@cedd.gov.hk)  
AECOM – Mr K Y Chan (email: ky.chan@tko-ltt1-aecom.com)  
AECOM – Mr Dominic Lam (email: dominic.cw.lam@tko-ltt1-aecom.com)  
AECOM – Ms Mandy Fu (email: mandy.ky.fu@tko-ltt1-aecom.com)  
AECOM – Mr Alex Ho (email: alex.kl.ho@tko-ltt1-aecom.com)  
Cinotech – Dr H F Chan (email: hf.chan@cinotech.com.hk)  
Cinotech – Mr K S Lee (email: ks.lee@cinotech.com.hk)

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**EXECUTIVE SUMMARY****Introduction**

1. This is the 11<sup>th</sup> Quarterly 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 summary report presents the EM&A works performed in the period from May 2019 to July 2019.
2. During the reporting quarter, the following works contracts were undertaken within the site:
  - Contract No. NE/2015/01 – Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works; and
  - 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.

**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 in the reporting quarter for the Project is tabulated in **Table I**. Details of the environmental monitoring results is presented in **Section 3**.

**Table I Non-compliance (Exceedance) Record for the Project in the Reporting Quarter**

Parameter	No. of Exceedance		No. of Exceedance due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
<b>May 2019</b>					
Air Quality	0	0	0	0	N/A
Noise	11	5	11	0	Refer to Appendix K & L
Groundwater Quality	1	9	0	0	Refer to Appendix K
Marine Water Quality	50	290	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
<b>June 2019</b>					
Air Quality	0	0	0	0	N/A

Parameter	No. of Exceedance		No. of Exceedance due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Noise	6	0	6	0	Refer to Appendix K & L
Groundwater Quality	0	2	0	0	Refer to Appendix K
Marine Water Quality	41	224	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
<b>July 2019</b>					
Air Quality	0	0	0	0	N/A
Noise	6	0	6	0	N/A
Groundwater Quality	0	0	0	0	Refer to Appendix K & L
Marine Water Quality	50	227	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).

### Key Information in the Reporting Quarter

5. Summary of key information in the reporting quarter is tabulated in **Table II**.

**Table II Summary Table for Key Information in the Reporting Quarter**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaints Recorded by Project Team / EPD (May 2019)	11	Noise	Investigation Completed	Closed / Draft CIR submitted	Details refer to App L
Complaints Recorded by Project Team / EPD (June 2019)	11	Noise / Air / Water / Working Hours <sup>1</sup>	Investigation Completed	Closed / Draft CIR submitted	
Complaints Recorded by Project Team / EPD (July 2019)	6	Noise/Air	Investigation Completed	Draft CIR submitted	
Reporting Changes	0	---	N/A	N/A	---
Notifications of any summons & prosecutions	0	---	N/A	N/A	---

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
received (May 2019)					
Notifications of any summons & prosecutions received (June 2019)	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received (July 2019)	0	---	N/A	N/A	---
1. The validity of conducting works during Restricted Hours					

6. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

### Summary of Complaints in the Reporting Quarterly

7. The summary of documented complaints and the complaint investigations in the reporting quarter are tabulated in Table III, IV and V.

**Table III Summary of Documented Complaints in May 2019**

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
<b>Lam Tin Side</b>		
Blasting works during night-time	Midnight blasting works have to be conducted in areas close to the MTR's Railway Protection Zone for safety reason. No midnight blasting was recorded after mid-May.	-Blasting doors are adopted in all explosions. - Blasting should be carried out outside sensitive hours as far as practicable
Construction inside TKOLT tunnel	No PME was operated inside the during the time of the complaints	- No follow-up actions are required
<b>Tseung Kwan O Side</b>		
Operation of Construction works during restricted hours	Construction works were conducted under valid CNPs with confirmation from RE and CCTV footage of the works area	- No follow-up actions are required
Noise from communication using loudspeaker/mega	Contractor and RE has confirmed that only walkie-talkie was used as the means of communication	- No follow-up actions are required



**Table IV Summary of Documented Complaints in June 2019**

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
<b>Lam Tin Side</b>		
Noise nuisance from construction works during weekday daytime and evening times. Noise barriers was found missing in certain parts of the construction areas.	Noise barriers for breakers and drill rigs have been adopted according to the CNMP, which is verified during the site audits.	- Contractors are reminded to use intact noise barrier properly in accordance to the CNMP at all times
Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Dismantling of crusher shelter works were conducted in Portion III during the period of complaint. As confirmed by RE, only a cherry picker and an excavator was operated under valid CNP.	- Contractors are recommended to use quiet quality mechanical PMEs - Use of noise barriers to shield the PMEs from the direct-line of sight to Yau Lai Estate is recommended
Vibration from the construction of Lam Tin Tunnel	Ground-borne noise emitted from the drilling works inside the tunnel is suspected as the cause for the vibration. However	No further mitigation measures can be provided and hence no follow-up action is required.
<b>Tseung Kwan O Side</b>		
Operation of Construction works during restricted hours	Construction works were conducted under valid CNPs with confirmation from RE and CCTV footage of the works area	- No follow-up actions are required
Complaint about dark smoke nuisance from the tug boat inside the cofferdam area.	- Dark smoke has been seen emitting dark smoke intermittently from tug boats - No violation of the air pollution control (smoke) regulations have been observed	- The contractors have replaced the air filters in the tug boats - Contractors are reminded to replace the air filters regularly
Discharge of mud water into Junk Bay from TKOLT construction site	The muddy water in Junk Bay was suspected to be discharged from the upstream drainage due to heavy rainstorm, as sand plume was found near the outfalls at Junk Bay not within the cofferdam area	Contractors was reminded to cover all exposed grounds with tarpaulin and sandbags; and divert stormwater into wastewater treatment system where sufficient storage and treatment capacity is provided.
Odour nuisance from construction site near Tong Tin Street in daytime. Using impure oil in mobile crane was suspected as the source of odour.	- Only ULSD with Euro 5 standards was used in the mobile cranes at the site - No leakage of oil from the mobile cranes was observed or reported.	Contractor was reminded to store the oil tanks properly and avoid oil leakage from the tanks or PMEs at all times.

**Table V Summary of Documented Complaints in July 2019**

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
<b>Lam Tin Side</b>		
Noise nuisance from breakers operated in Portion 4C	Movable noise barrier (noise insulating fabric) has been adopted to mitigate noise emitted by breakers in Portion 4C. However it is observed that the barriers could not completely screen off the direct line-of-sight from PMEs to Yau Lai Estate.	-Adopted a less noisy hydraulic spiting method for breaking works  - Replace existing movable noise barrier with a semi-enclosure noise barrier which is still under development
<b>Tseung Kwan O Side</b>		
Operation of Construction works during restricted hours	Construction works were conducted under valid CNPs with confirmation from RE and CCTV footage of the works area	- No follow-up actions are required
Noise nuisance and inadequate noise barrier at the construction site near Ocean shore	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	-SlientUp/Semi-enclosure should be adopted to cover the noisy parts of drilling / piling works in both Portion IV & IX is recommended
Noise nuisance from the barge operating in reclamation works area near O King Road during evening times.	1 derrick barge was operated during the period of complaint with valid CNP	- Regular maintenance should be provided for all operating barges regularly - only barge in good condition should be operated during restricted hours

## 1. INTRODUCTION

### Background

- 1.1 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.
- 1.2 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**.
- 1.3 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.

### Project Organizations

- 1.4 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)
- 1.5 The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 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. KY Chan	3922 9000	2759 1698
Cinotech	Environmental Team	Dr. HF Chan	2151 2088	3107 1388
		Mr. KS Lee	2151 2091	
AnewR	Independent Environmental Checker	Mr. Adi Lee	2618 2836	3007 8648

### Construction Activities undertaken during the Report Quarter

- 1.6 The major site activities undertaken in the reporting quarter are shown in **Appendix M**.

## 2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

### Monitoring Parameters and Monitoring Locations

- 2.1 The EM&A Manual designates locations for environmental monitoring in terms of air quality, noise, groundwater quality, water quality, ecology, cultural heritage and landfill gas due to the Project. The Project area and monitoring locations are depicted in **Figures 1-6**. **Appendix A** gives details of monitoring requirements. Locations of the environmental sensitive receivers are shown in **Figures 3.1, 3.2, 4.1, 5.1, 6.2 and 9.2**.

### Monitoring Methodology and Calibration Details

- 2.2 Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

### Environmental Quality Performance Limits (Action and Limit Levels)

- 2.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix B**.
- 2.4 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that the Action / Limit Levels are exceeded, the actions in accordance with the Event and Action Plans in **Appendix N** was carried out.

### Implementation Status of Environmental Mitigation Measures

- 2.5 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for implementation by the Contractor. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix I**.

### Site Audit Summary

- 2.6 During site inspections in the reporting period, no non-compliances was recorded. The observations and recommendations made during the reporting period are summarized in **Appendix H**.

### Status of Waste Management

- 2.7 The amount of wastes generated by the activities of the Work Contracts within TKO-LTT during the reporting period is shown in **Appendix J**.

### 3. MONITORING RESULTS

#### Weather Conditions

- 3.1 The weather during monitoring sessions was summarized in **Table 3.1**.

**Table 3.1 Summary of Weather Conditions in the Reporting Period**

Reporting Month	General Weather Conditions
May 2019	Sunny, Cloudy and Rainy
June 2019	Sunny, Cloudy and Rainy
July 2019	Sunny, Cloudy and Rainy

- 3.2 The detail of weather conditions for each individual monitoring session was presented in the monthly EM&A report.

#### Air Quality

- 3.3 All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.
- 3.4 All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action / Limit Level exceedance was recorded.
- 3.5 The graphical presentations of the air quality monitoring results are shown in **Appendix C**.

#### Construction Noise

##### May 2019

All noise monitoring was conducted as scheduled in the reporting month. Eleven (11) Action Level exceedances were recorded due to the documented complaints received in this reporting month. Five (5) Limit Level exceedances for night-time construction noise monitoring were recorded and they were considered due to the road traffic near Eastern Cross Harbour Tunnel Toll Plaza, therefore non-Project related. No Limit Level exceedance for day time was recorded in the reporting month. .

##### June 2019

All noise monitoring was conducted as scheduled in the reporting month. Six (6) Action Level exceedances were recorded due to the documented complaints received in this reporting month. No Limit Level exceedances for day-time, evening time and night-time construction noise monitoring were recorded in the reporting month.

##### July 2019

- 3.6 All noise monitoring was conducted as scheduled in the reporting month. Six (6) Action Level exceedances were recorded due to the documented complaints received in this reporting month. No exceedances for night-time construction noise monitoring were recorded and no Limit Level exceedance for day-time noise was recorded in the reporting month.
- 3.7 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

---

## Water Quality

### *Exceedance Summary*

#### May 2019

- 3.8 Groundwater quality monitoring was conducted as scheduled in the reporting month. One (1) Action Level and nine (9) Limit Level exceedances were recorded in the reporting month.

#### June 2019

- 3.9 Groundwater quality monitoring was conducted as scheduled in the reporting month. Two (2) Limit Level exceedances were recorded in the reporting month.

#### July 2019

- 3.10 All groundwater quality monitoring was conducted as scheduled in the reporting month. No exceedance was recorded in the reporting month.
- 3.11 It is considered that the exceedance are not project-related based on the following reasons:
- The distance between the tunnel construction activities and monitoring station of stream 2 and 3 are about 1000 meters.
  - The vertical distance between Stream 1 and the tunnel construction site is more than 44 meters. Therefore, Stream 1 will not be affected by any tunnel construction works as its elevation is above the tunnel construction site.
  - The exceedances are considered probably due to non-project factors, such as human activities and adverse weather. The investigation details are shown in **Appendix K**.
- 3.12 The graphical presentations of the groundwater quality monitoring results are shown in **Appendix E**.
- 3.13 All marine water monitoring was conducted as scheduled in the reporting quarter. 50, 41 & 50 Action Level and 290, 224 & 227 Limit Level exceedances were recorded in May, June 2019 & July 2019 respectively.

### *Observation and Exceedance Investigations*

- 3.14 During this reporting quarter, 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 ongoing reclamation activities of the Project. Weekly silt curtain inspection (including diving inspection) have been carried out by contractor, the record, reviewed by the site auditors, indicated that silt curtains were found in good conditions. No major deficiency of the silt curtains were also observed during site inspection.

- 3.15 According to the data from Hong Kong Observatory, high rainfall was recorded in June and first half of July. The high volume of upstream muddy water was discharged into the Junk Bay, it was observed by the weekly site inspection at a few outfalls in Junk Bay. The muddy water discharge occurred during the rainstorms would have resulted in an increase of the overall SS concentrations in Junk Bay and hence the SS limit level exceedance was recorded. No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring was required. Details of the exceedance investigation report can be found in **Appendix K**.
- 3.16 In addition, exceedances of turbidity and suspended solids was recorded randomly from various monitoring stations in late July 2019. Recent investigation has revealed that the presence of microalgae in the marine waters may have contributed to the turbidity/SS level. With reference to the photo record (shown at **Appendix K**) of the filter papers for samples collected above, the substance collected by the filter papers appeared greenish in colour. Since the presence of algae in summer is a normal phenomenon especially in the summer, the increase in the recorded SS level could be attributed by the weight of the substances from algae. As microalgae may not be visible to the naked eyes during the marine water quality monitoring, the water sampled during the marine water quality monitoring only appeared clear. Details of the exceedance investigation report can be found in **Appendix K**.
- 3.17 The graphical presentations of the marine water quality monitoring results are shown in **Appendix F**.
- 3.18 Construction phase daily piezometer monitoring was carried out in August and September as tunnel construction activities were carried out within +/- 50m of the piezometer gate in plan. The monitoring switched to monthly basis in October as the construction activities were not within +/- 50m of the piezometer gate in plan. No Action or Limit Level exceedance was recorded in the reporting quarter.

#### **Ecological Monitoring**

- 3.19 Post-translocation 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 survey were completed in February 2017.

#### **Monitoring on Cultural Heritage**

- 3.20 Monitoring of vibration impacts at Cha Kwo Ling Tin Hau Temple commenced on 8 April 2017. No Alert Alarm and Action (AAA) Level exceedance was recorded in the reporting quarter.

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

- 3.21 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 **Appendix H**.

#### **Landfill Gas Monitoring**

- 3.22 Monitoring of landfill gases was commenced in March 2016 and were carried out by the Contractors at excavation location, Portion III in the reporting quarter. No Limit Level

exceedance was recorded. The graphical presentations of the landfill gas monitoring results are shown in **Appendix G**.

### **Waste Management**

- 3.23 Wastes generated from this Project include inert construction and demolition (C&D) materials, non-inert C&D materials and marine sediments. Details of waste management data is presented in **Appendix I**.

### **Influencing Factors on the Monitoring Results**

- 3.24 During the reporting period, the major dust and noise source identified at the designated monitoring stations are as follows:

**Table 3.2 Major Dust Sources during the Monitoring in the Reporting Period**

<b>Station</b>	<b>Major Dust Source</b>
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



**Table 3.3 Major Noise Sources during the Monitoring in the Reporting Period**

<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. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**

##### **Summary of Exceedances**

- 4.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix K**.

##### *Air Quality*

- 4.2 No Action/Limit Level exceedance was recorded in the reporting quarter.

##### *Construction Noise*

- 4.3 Twenty three (23) Action Level exceedances were recorded due to the documented complaints received from monitoring stations in the reporting quarter. Five (5) Limit Level exceedances were recorded for night time construction noise in the reporting quarter. No Limit Level exceedance was recorded for day time construction noise in the reporting quarter.

##### *Water Quality*

- 4.4 One (1) Action Level exceedance and Eleven (5) Limit Level exceedances were recorded for groundwater quality monitoring in the reporting quarter. It is considered that the exceedances were non-project related.

- 4.5 One-Hundred and Forty-One (141) Action Level exceedances and Seven Hundred and Forty-one (741) Limit Level exceedances were recorded for marine water quality monitoring in the reporting quarter.

##### *Ecological Monitoring*

- 4.6 No action/limit level of mortality was exceeded in the monitoring survey conducted in the reporting quarter.

##### *Monitoring on Cultural Heritage*

- 4.7 No Alert Alarm and Action (AAA) Level exceedance was recorded in the reporting quarter.

##### *Landscape and Visual*

- 4.8 No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

##### *Landfill Gas*

- 4.9 No Limit Level exceedance was recorded in the reporting quarter.

##### Review of the Reasons for and the Implications of Non-compliance

- 4.10 During site audits in the reporting quarter, no non-compliance was recorded. Recommendations made in each individual site audit session were attached in the **Appendix H**.

### **Summary of Environmental Complaints and Prosecutions**

- 4.11 Twenty Eight (28) cases of environmental complaints on this Project were received in the reporting quarter. The details were attached in the **Appendix L**.
- 4.12 No environmental prosecution was received in the reporting quarter.

## 5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

### Effectiveness of Mitigation Measures

- 5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.
- 5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.
- 5.3 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed.
- 5.4 The summary record of non-compliance (exceedances) of Action/Limit Level for environmental monitoring in the reporting quarter has been presented in **Table I** above and in **Appendix K**.
- 5.5 Twenty Eight (28) cases of environmental complaints were received in the reporting quarter. The details were attached in the **Appendix L**.
- 5.6 No warning, notification of summon and environmental prosecution was received in the reporting quarter. The details were attached in the **Appendix L**.

### Recommendations

- 5.7 Joint weekly site audits by the representatives of the Engineer, Contractor and the ET were conducted in the reporting quarter. The following recommendations was made to the Contractor for the coming reporting month:

#### *Air Quality Impact*

- To implement dust suppression measures such as water spray on all haul roads, stockpiles, dry surfaces, excavation and rock breaking works.
- To cover stockpile of dusty material by impervious material
- To properly display NRMM Label to Powered Mechanical Equipment on site
- To avoid smoke emission from Powered Mechanical Equipment on site
- To remove the dusty cement bags after use.
- To provide sand bag bunds to gullies at site access near the site office
- To provide top and three-side enclosure for grouting equipment on site
- To repair the gaps and the noise tarpaulin sheets to ensure the effectiveness of dust curtain.

#### *Construction Noise*

- 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.
- To provide mitigation measures to PME as proposed in the approved NMP.
- To repair / replace noise barrier of drill rig on site.
- To provide proper acoustic material for enclosing the breaker head

### *Water Quality Impact*

- To prevent any surface runoff discharge into any stream course or the waters in vicinity.
- To review and implement temporary drainage system.
- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks or those accumulated in drainage.
- To provide bund to stockpile storage area on site to avoid leakage of surface runoff.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To provide and repair the silt curtain to fully enclose the site.
- To remove the dusty material to avoid mud/sand fall into the sea.
- To prevent silty water flow out of site during wheel washing
- To provide bunds or containment pit to prevent muddy water flow out of site.
- To remove the construction waste in U-channel.
- To set up proper drainage system within site.
- To cover or seal the gaps of covers of catchpit to prevent silt water or oil stain flow out of site.
- To remove the sand material deposited near the seafront.
- To provide sand bag bunds to gullies
- To cover exposed ground with tarpaulin and sandbag to avoid surface run-off
- Provide sufficient storage/diversion for storm water collected within the site during rainstorm, in order to avoid overflowing the water treatment tanks

### *Waste/Chemical Management*

- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.
- To provide label to identify waste storage area within site.
- To remove oil stain mixed with muddy water within site.
- To provide drip tray to chemical containers
- To remove the construction material from drip tray and provide a plug for drip tray on site.

### *Landscape and Visual*

- To remove the construction material near the tree and set up proper tree protection area

### *Permit/Licence*

- To provide and display the Environmental Permit for the marine barge.
- To update the Environmental Permit displayed on crane barge.

### *Cultural Heritage*

- To properly set up fenced-off buffer zone around Tin Hau Temple.

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## FIGURES

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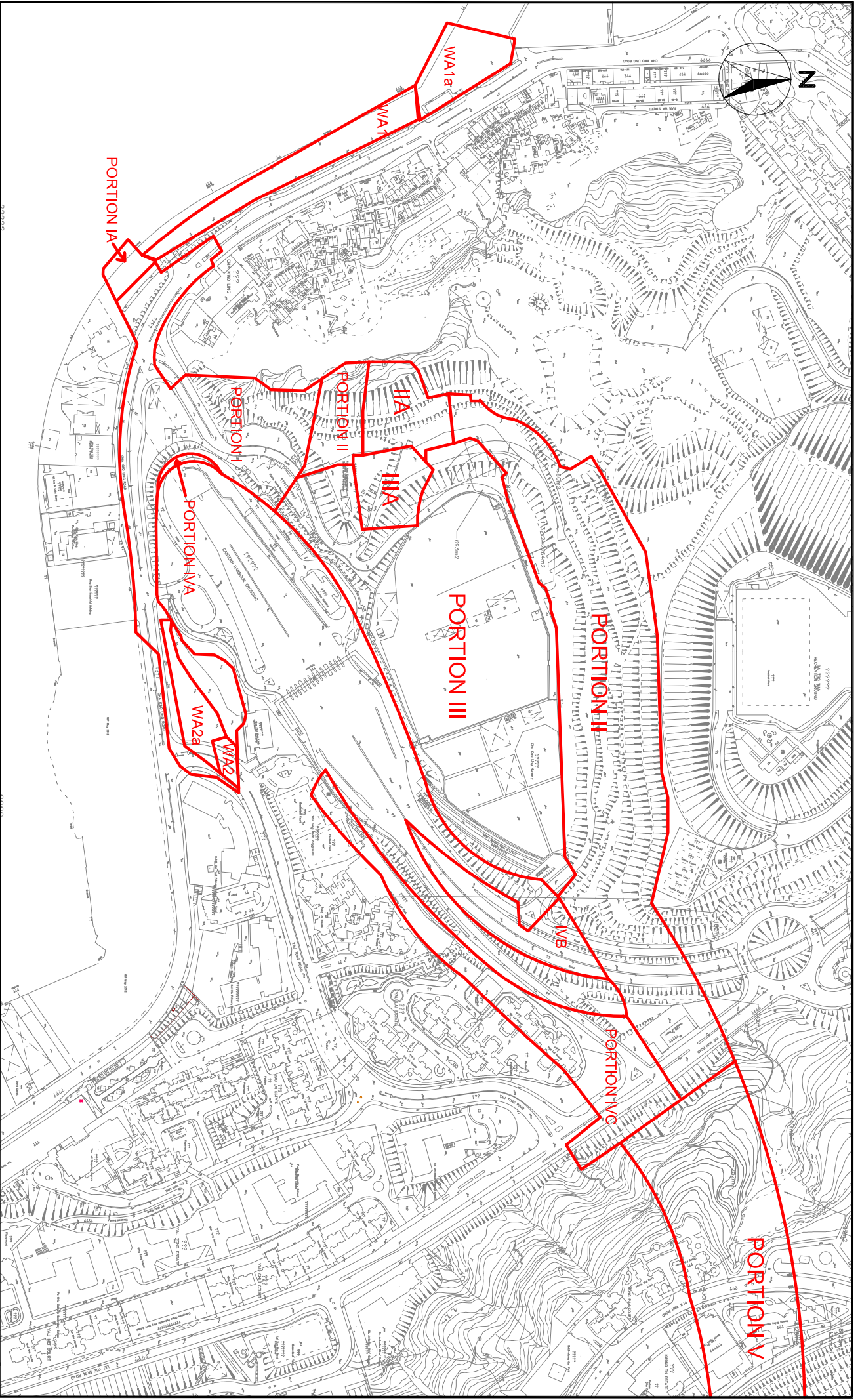
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	Contract No. NE/2015/01
	Contract No. NE/2015/02
	Contract No. NE/2015/03
	Contract No. NE/2017/02
	Contract No. NE/2017/01

**CINOTECH**  
Cinotech Consultants Limited

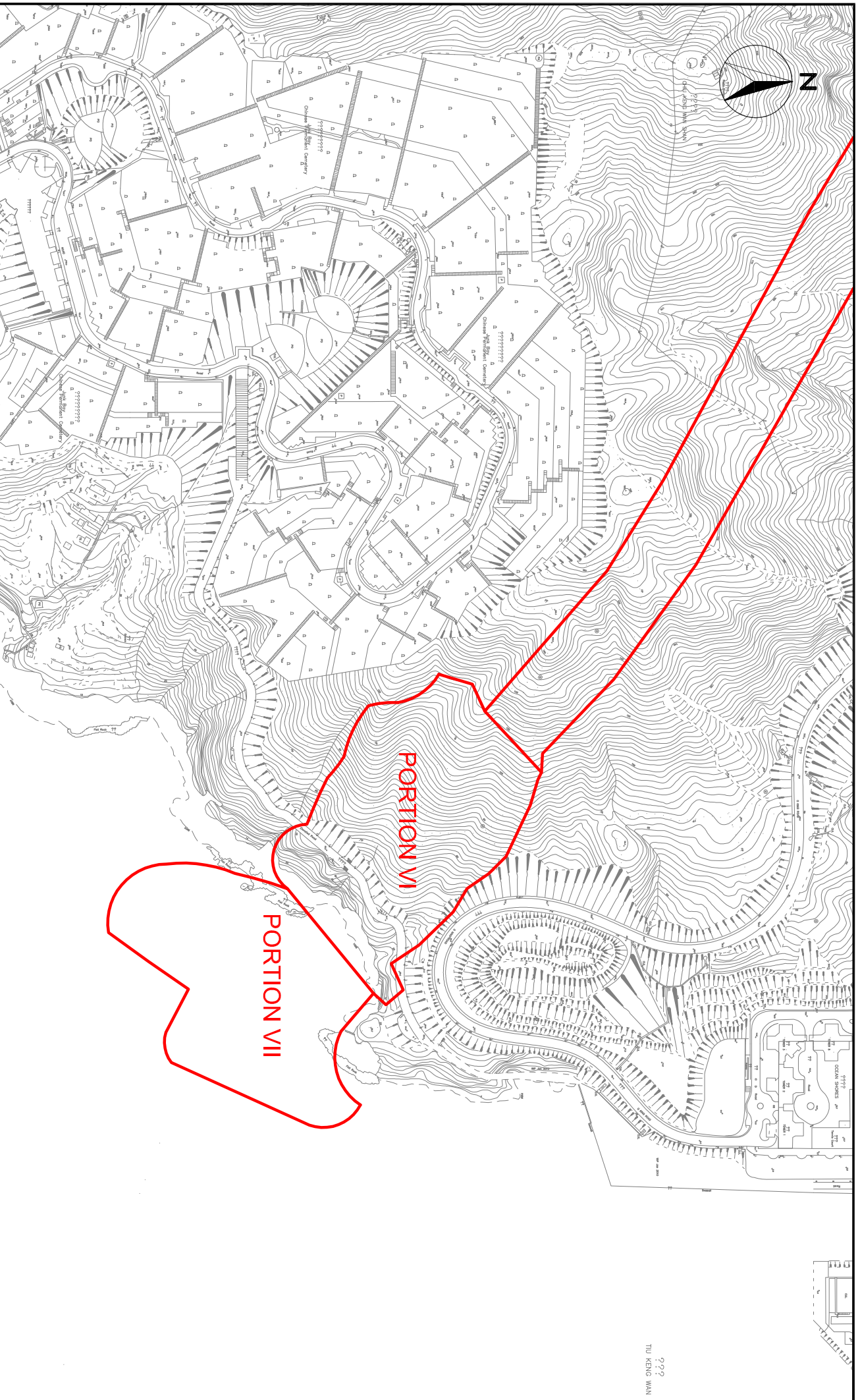
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Environmental Team for Tseung Kwan O - Lam Tin Tunnel  
- Design and Construction  
Site Layout Plan

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JOB No.	MA16034	FIGURE NO.	1	REV -



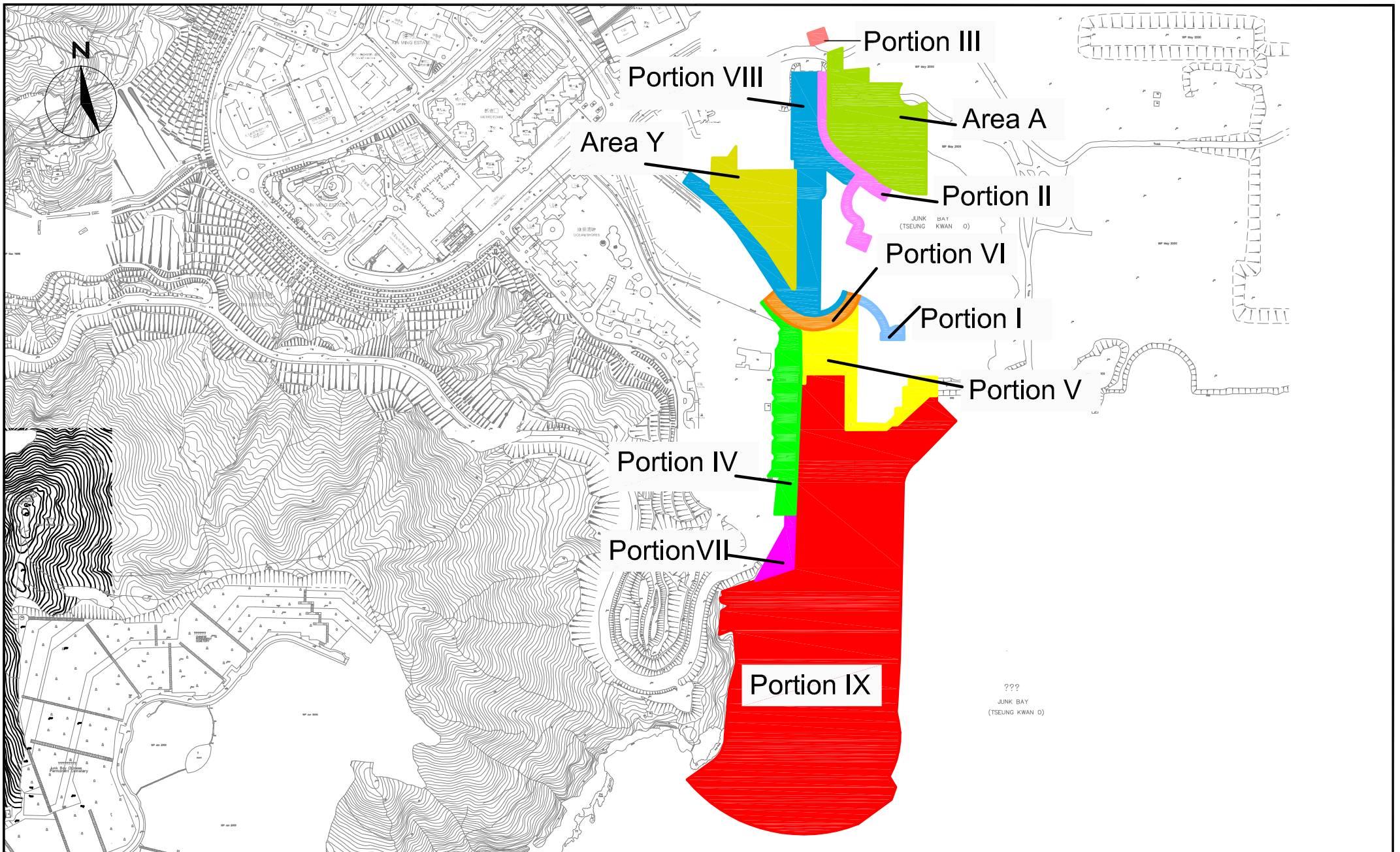
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JOB NO.	MA16034	FIGURE NO.	1a
		REV	-



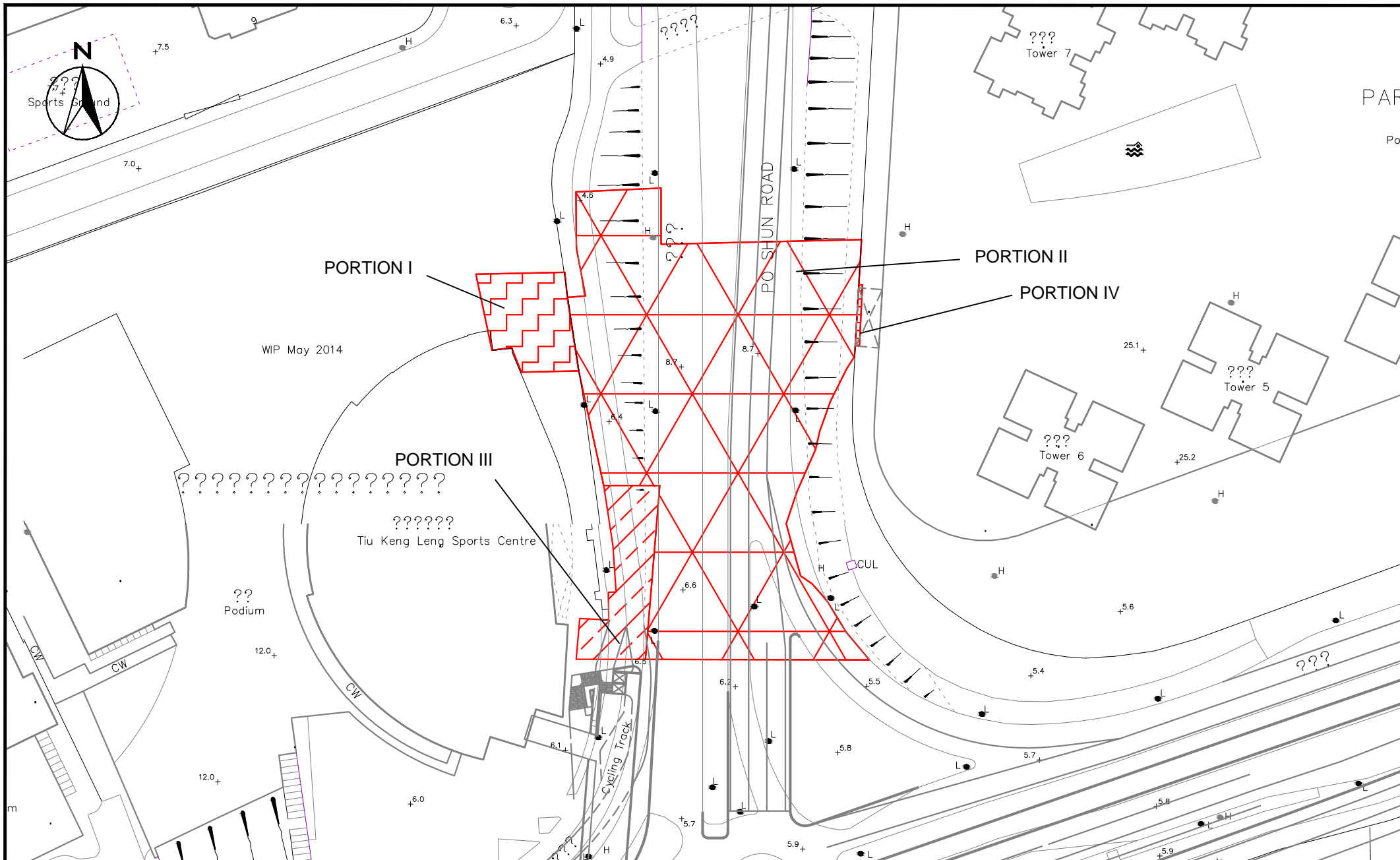


222  
TJU KENG WAN

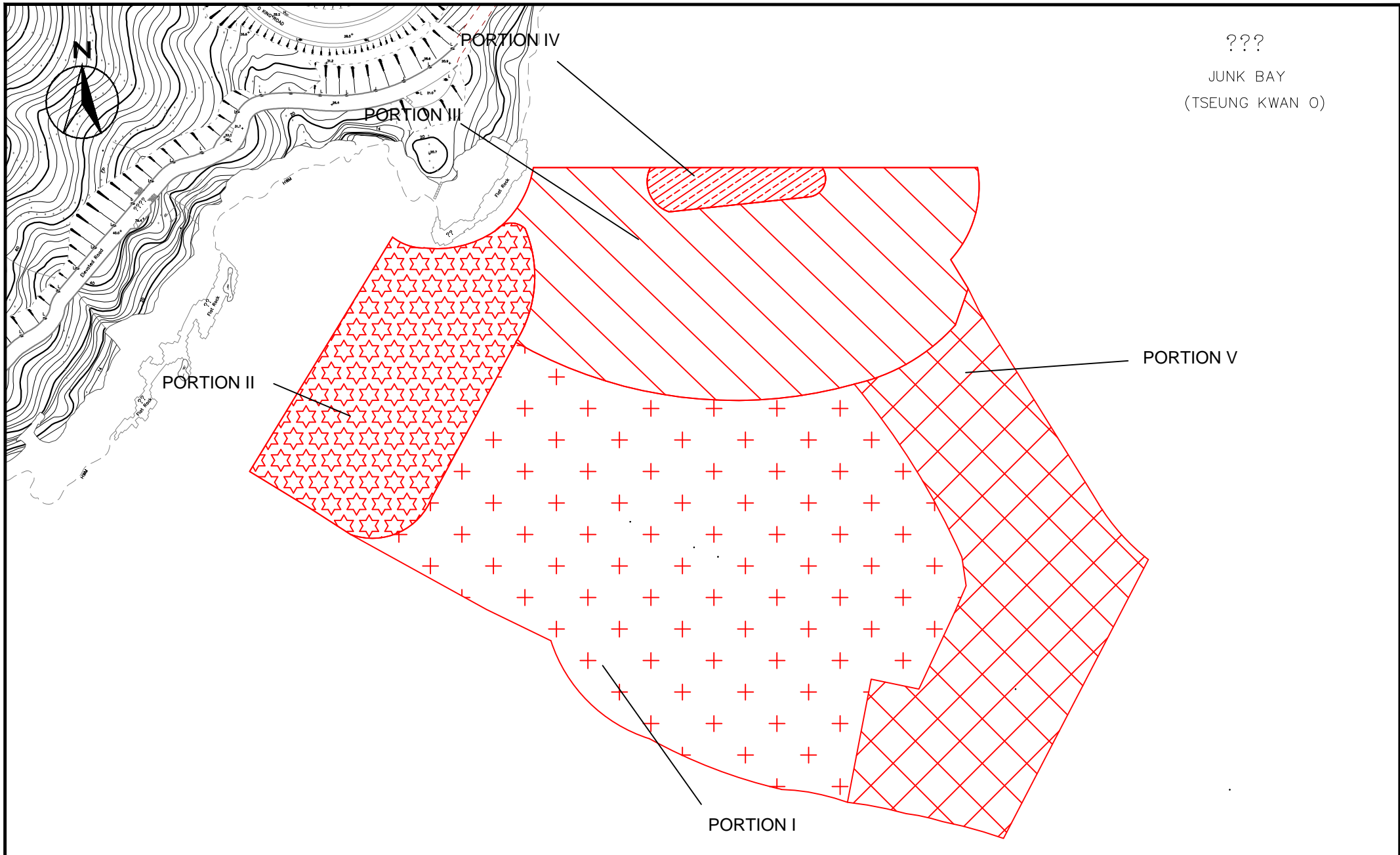
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JOB NO.	MA16034	FIGURE NO.	1b	REV
				-



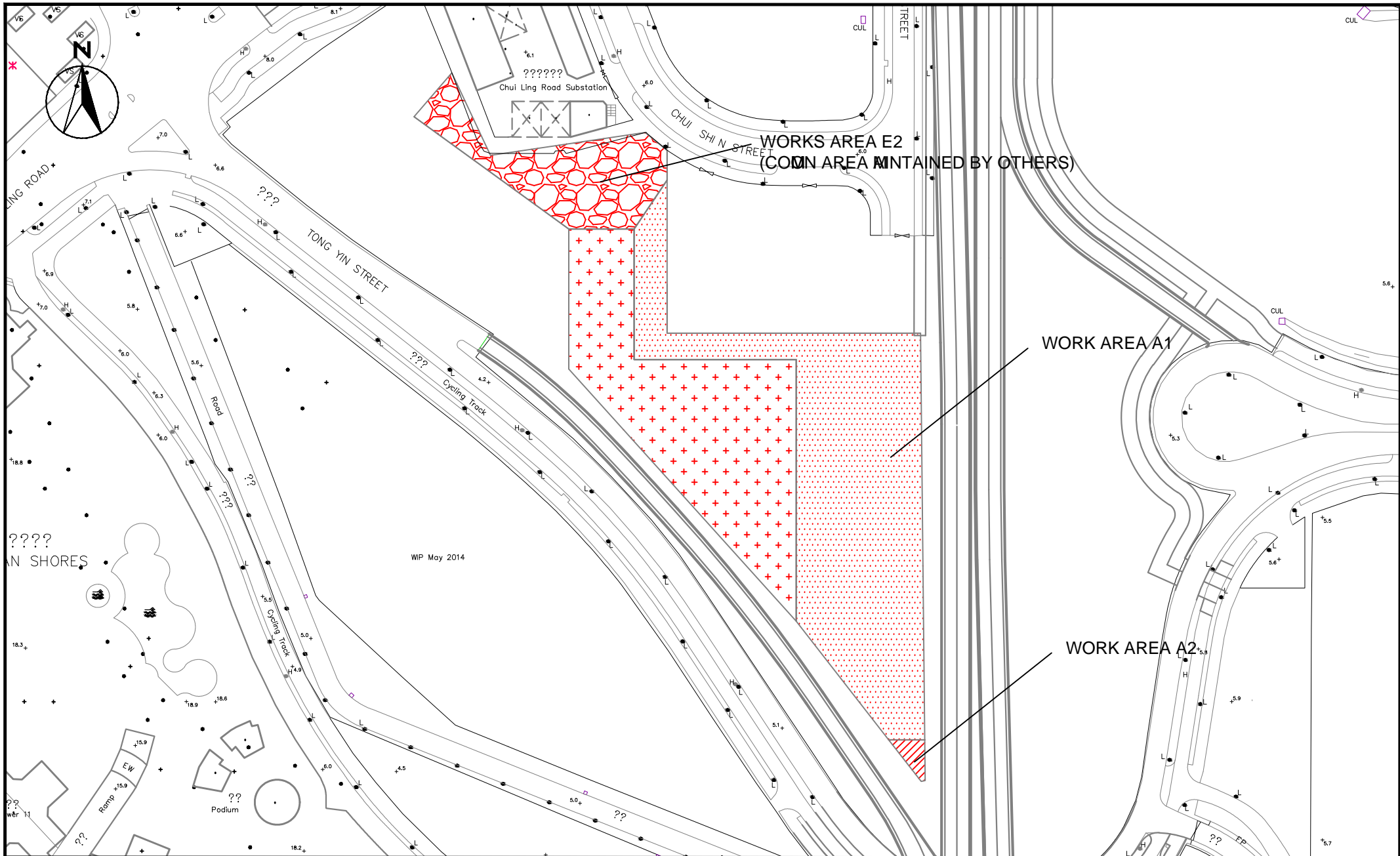
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JOB No.	MA16034	FIGURE NO.	1c	REV -



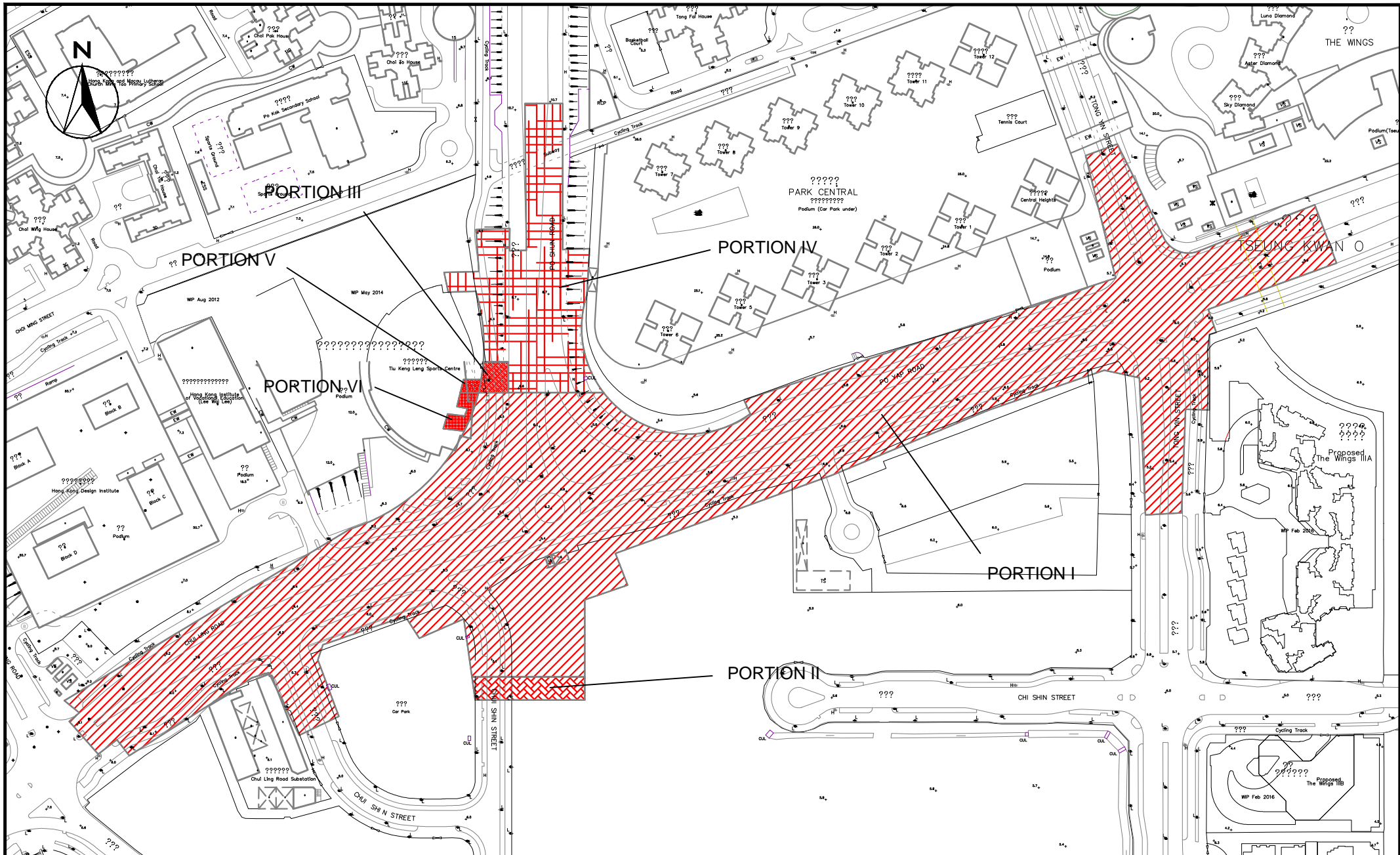
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JOB No.	M16034	FIGURE NO.	1d	REV
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JOB No.	M16034	FIGURE NO.	1e	REV -

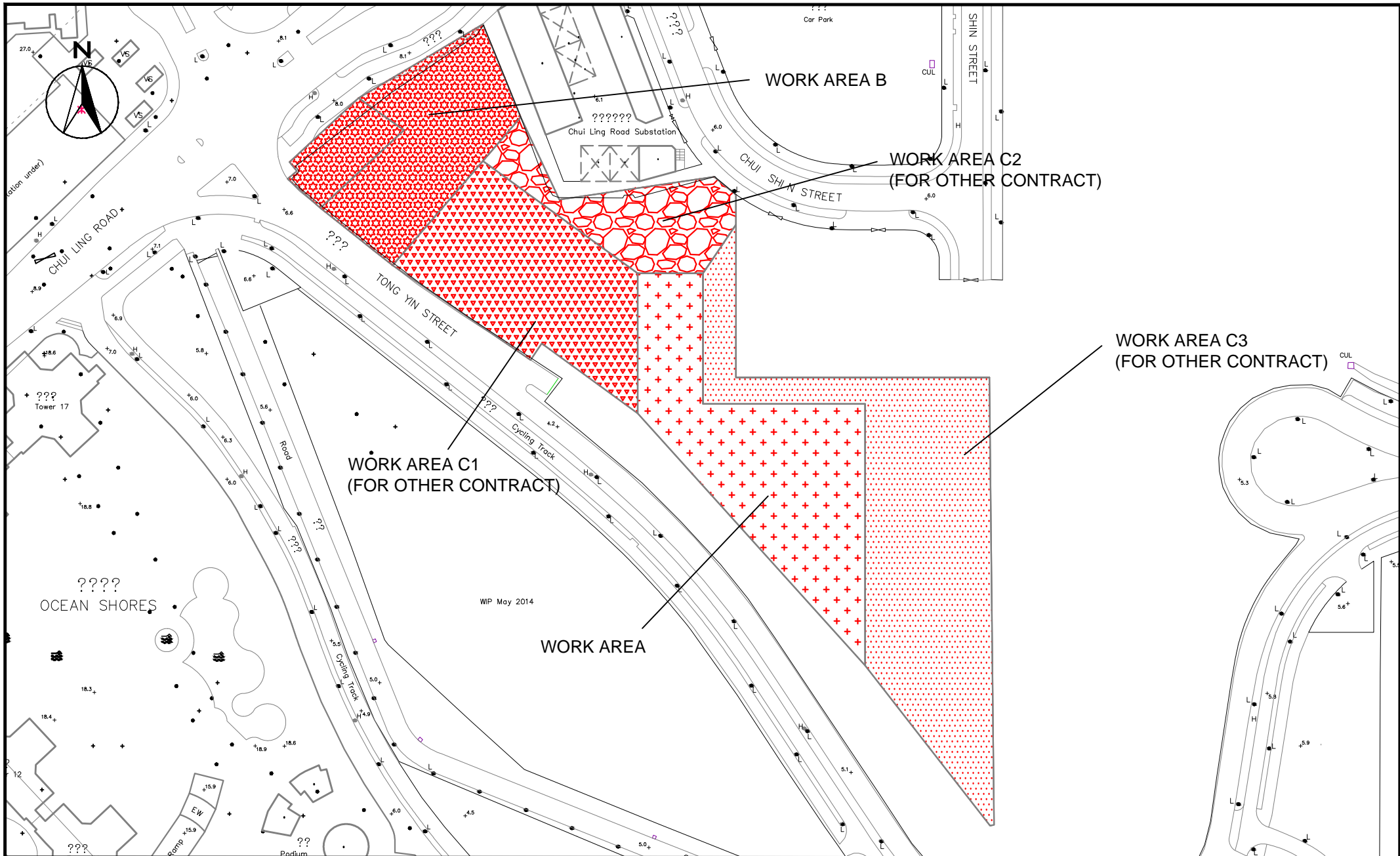


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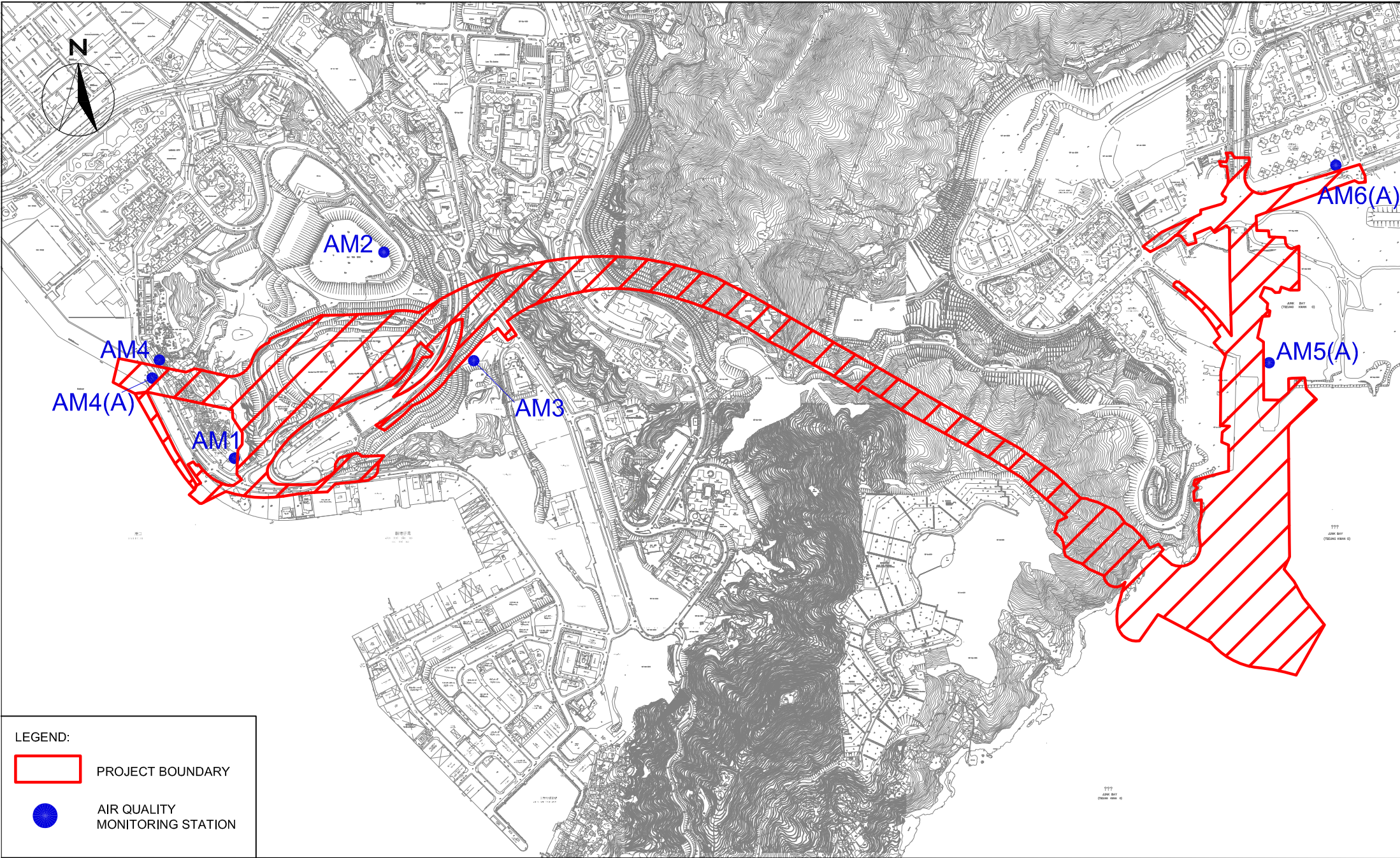


Agreement No. CE/59/2015 (EP)  
 Environmental Impact Assessment for Tseung Kwan O - Lan Tin Tunnel  
 - Design and Construction  
 Site Portions under Work Contract No. NE/2017/02

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CHECK	VC	DRAWN	AC	
JOB No.	M16034	FIGURE NO.	1g	REV
				-



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JOB No.	M16034	FIGURE NO.	1h	REV
				-



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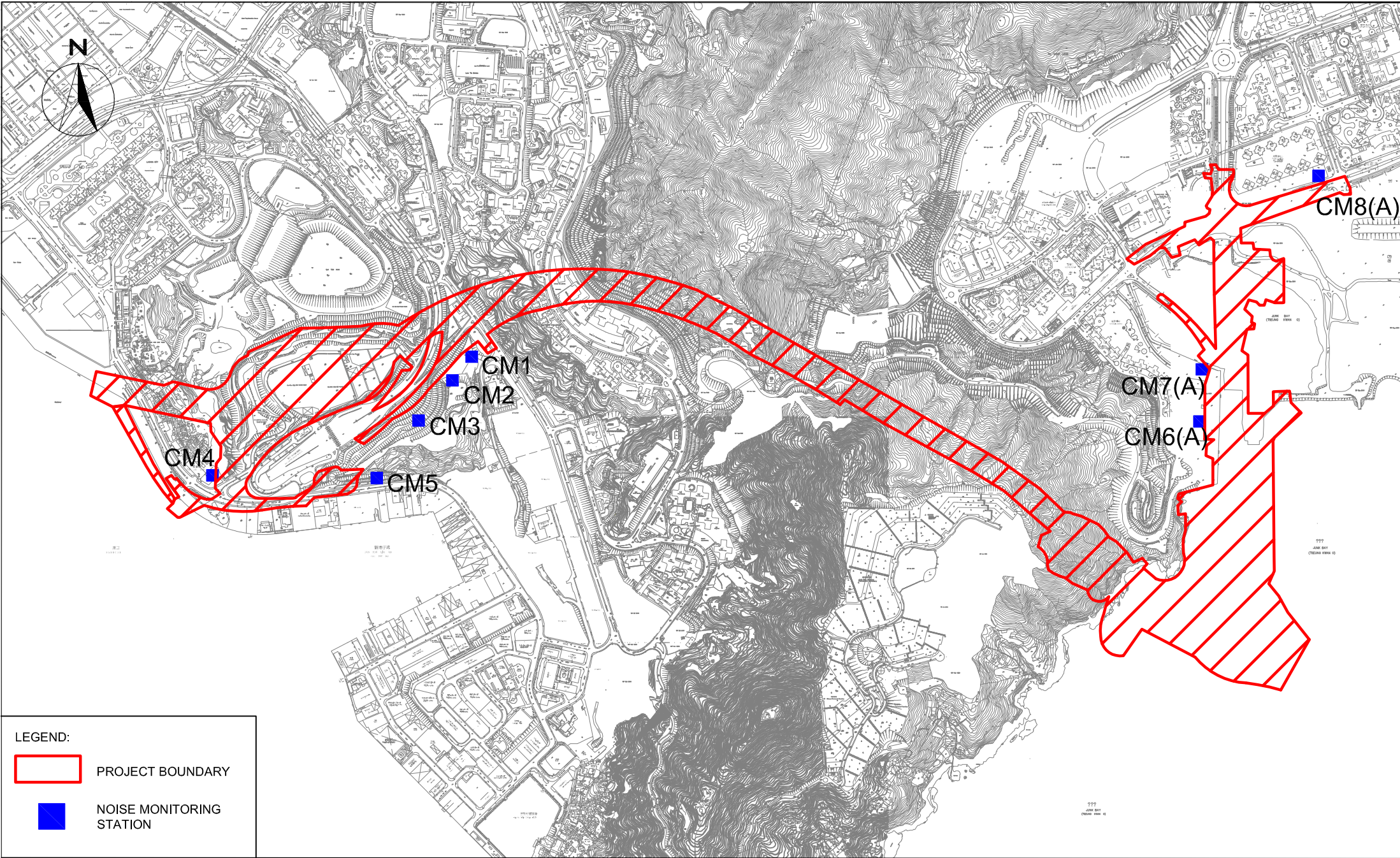
- PROJECT BOUNDARY
- AIR QUALITY MONITORING STATION



Agreement No. CE/59/2015 (EP)  
Environmental Team for Tseung Kwan O - Lam Tin Tunnel -  
Design and Construction  
Air Quality Monitoring Stations

SCALE	1:15000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
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				-





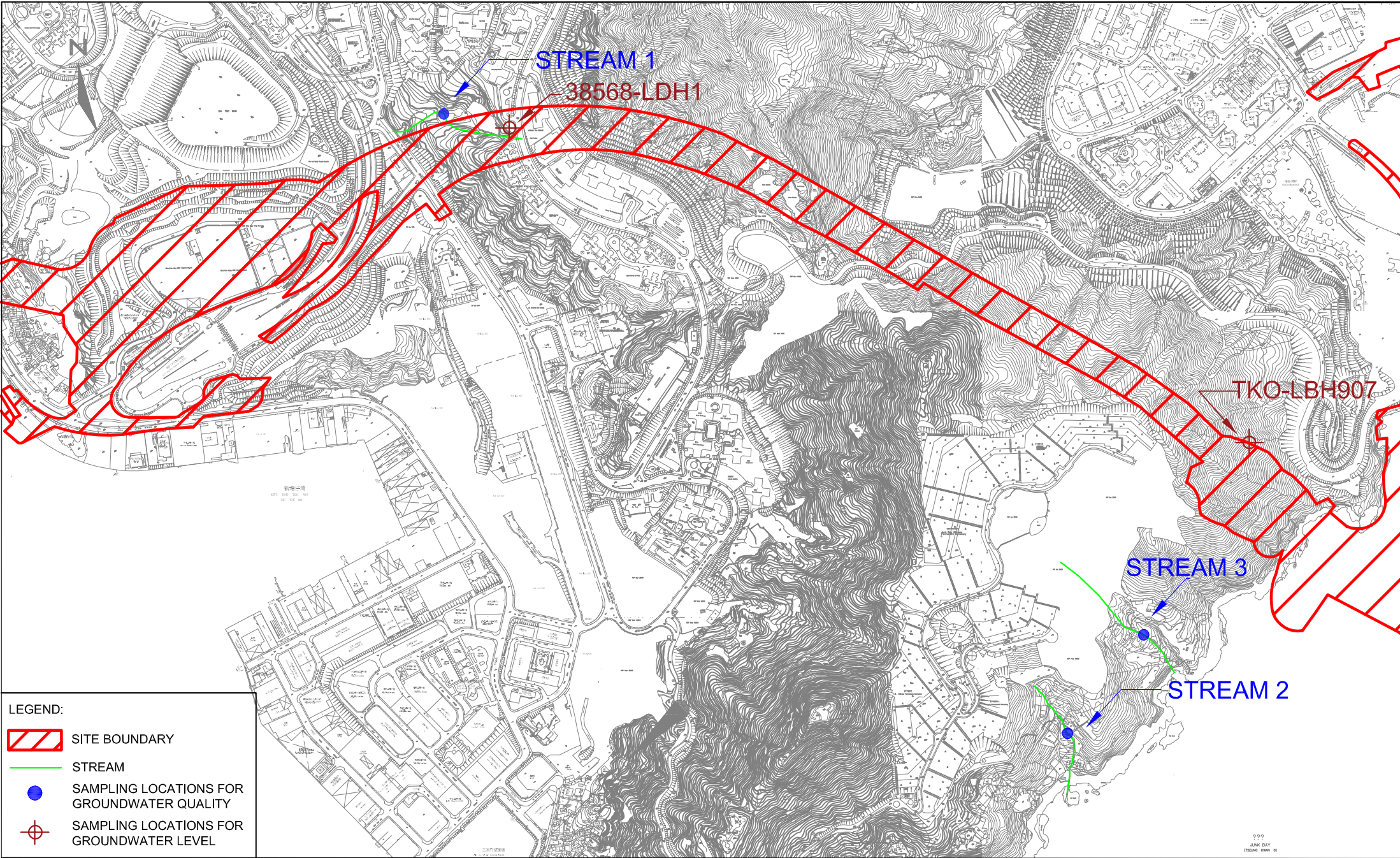
**LEGEND:**

- PROJECT BOUNDARY
- NOISE MONITORING STATION







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

SCALE	1:15000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
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			-	



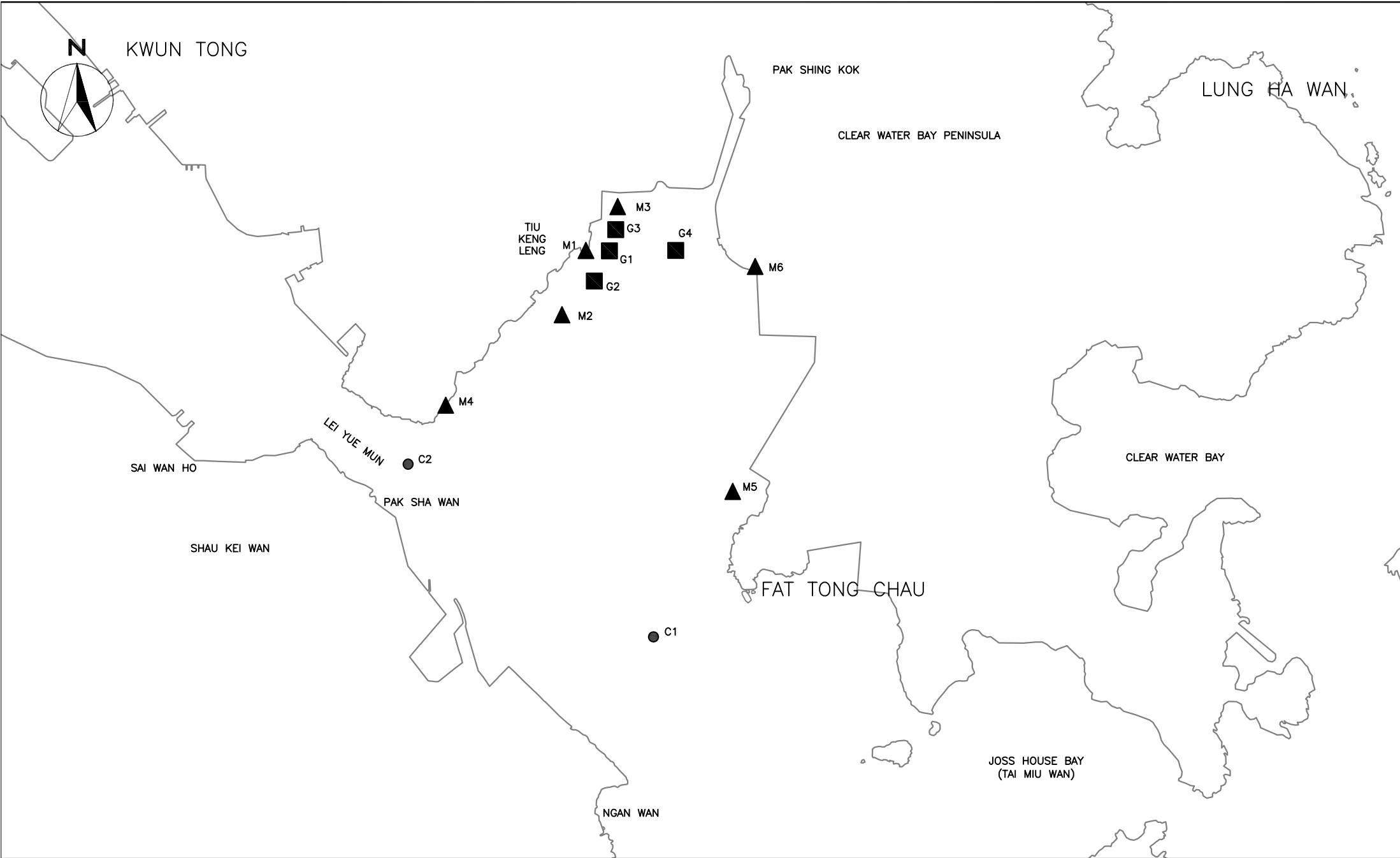
**LEGEND:**

-  SITE BOUNDARY
-  STREAM
-  SAMPLING LOCATIONS FOR GROUNDWATER QUALITY
-  SAMPLING LOCATIONS FOR GROUNDWATER LEVEL



Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel -  
 Design and Construction  
 Location of Streams for Groundwater Quality and Groundwater Level Monitoring

SCALE	1:10000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
JOB No.	MA16034	FIGURE NO.	4	REV
				-



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

**Locations of Water Quality Monitoring Stations**

SCALE	N.T.S	DATE	AUG 2016	
CHECK	JF	DRAWN	JW	
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. M16034  
 Figure 6





**LEGEND:**

● CL1	AIR SENSITIVE RECEIVER
---	500m STUDY BOUNDARY
—	OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL
- - -	TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL

CUT-LINE  
FOR CONTINUITY, REFER TO FIGURE 3.1b

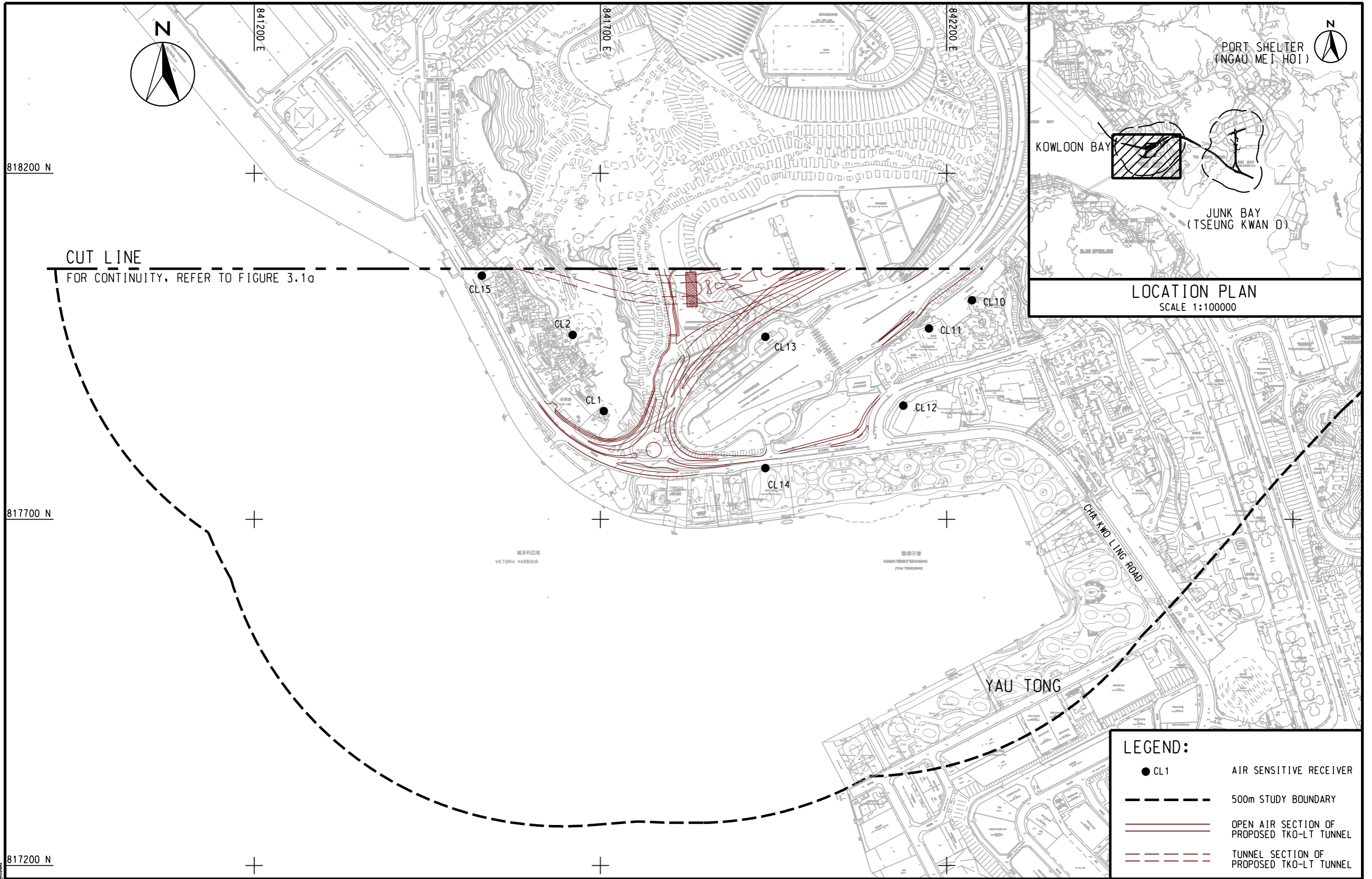
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AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (LAM TIN)**

SHEET 1 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
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JOB No.	60097677	DRAWING No.	FIGURE 3.1a
		REV	-

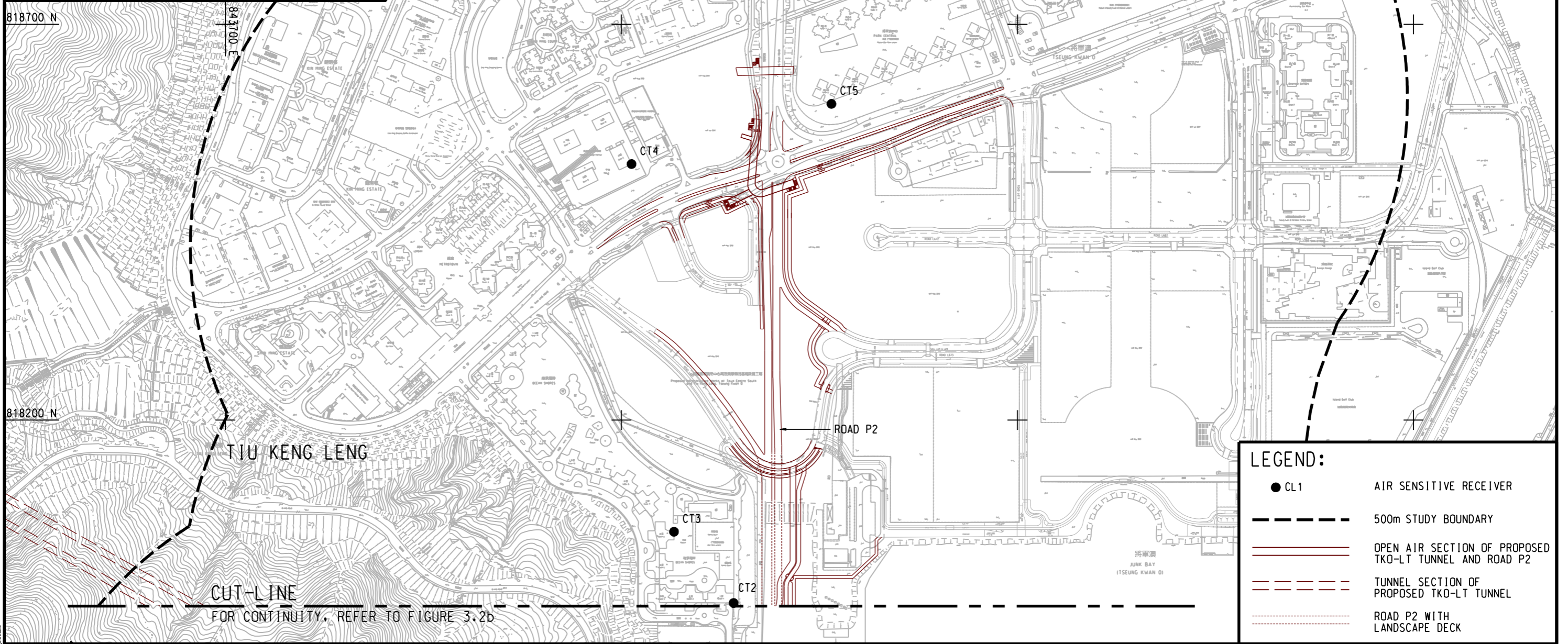
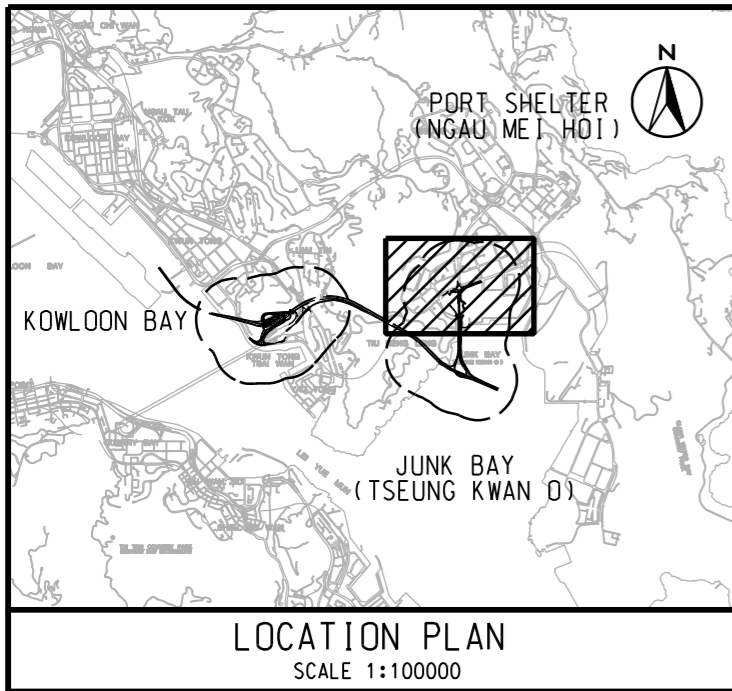


AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (LAM TIN)

SHEET 2 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 3.1b
		REV	-

Plot File by: 1/16/2013 QIUAM



**LEGEND:**

- CL1 AIR SENSITIVE RECEIVER
- 500m STUDY BOUNDARY
- ==== OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL AND ROAD P2
- - - - TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL
- ..... ROAD P2 WITH LANDSCAPE DECK

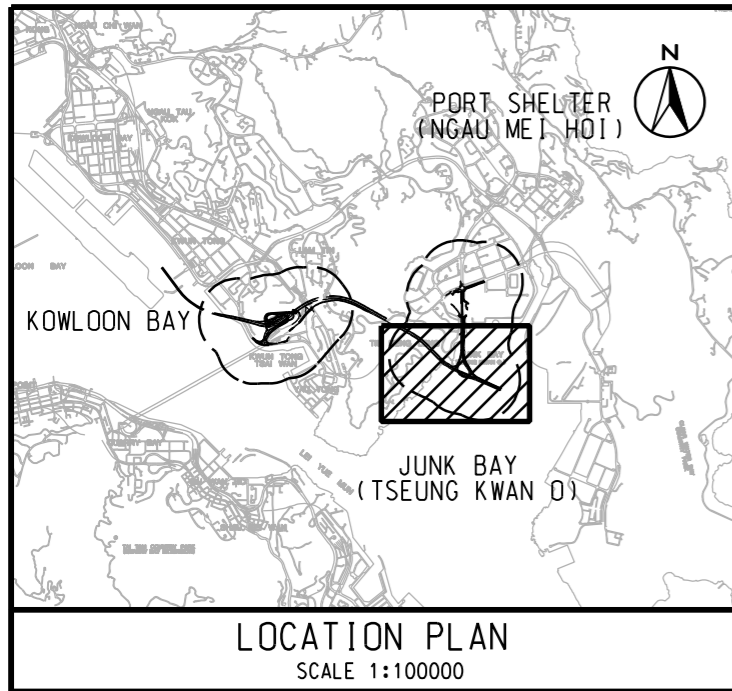
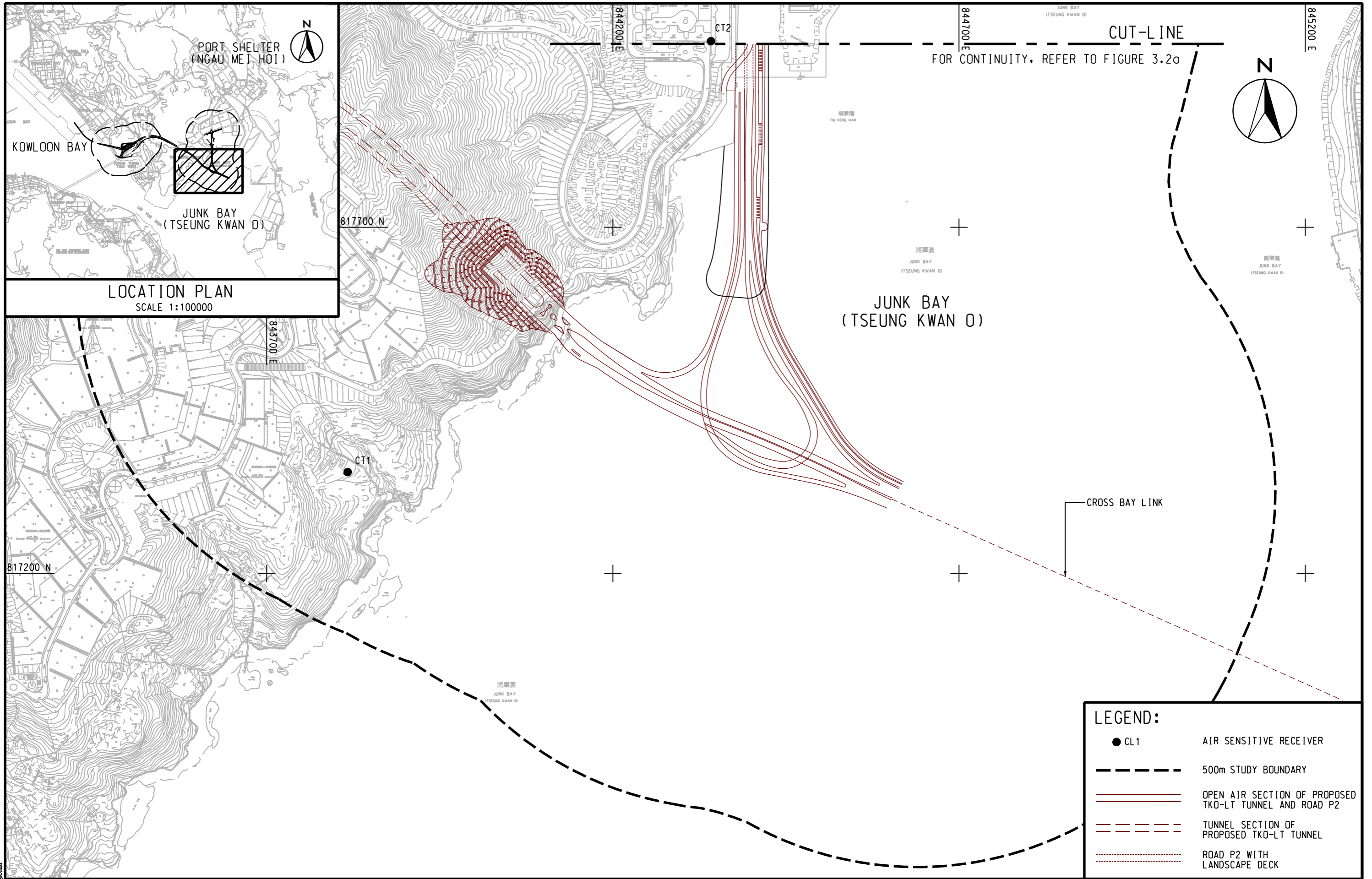
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AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (TSEUNG KWAN O)**

SHEET 1 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 3.2a
		REV	-



**LEGEND:**

- CL1 AIR SENSITIVE RECEIVER
- 500m STUDY BOUNDARY
- ==== OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL AND ROAD P2
- - - - TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL
- ..... ROAD P2 WITH LANDSCAPE DECK



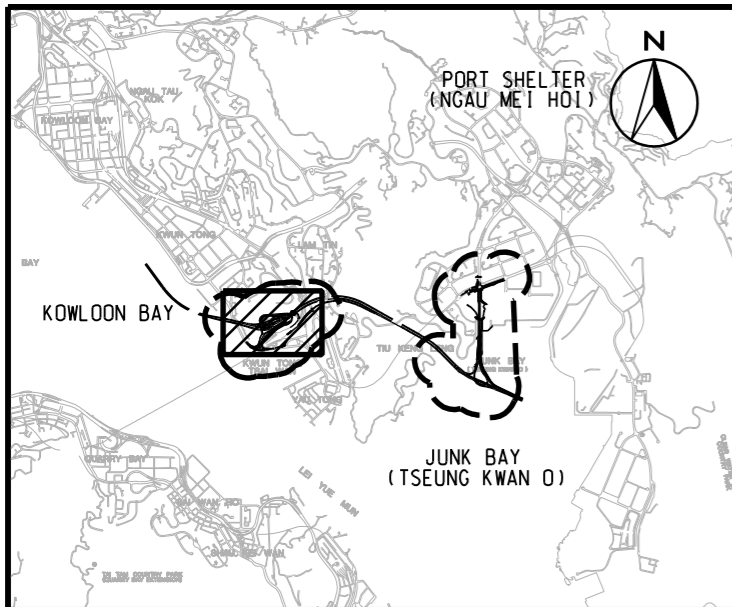
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TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (TSEUNG KWAN O)

SHEET 2 OF 2

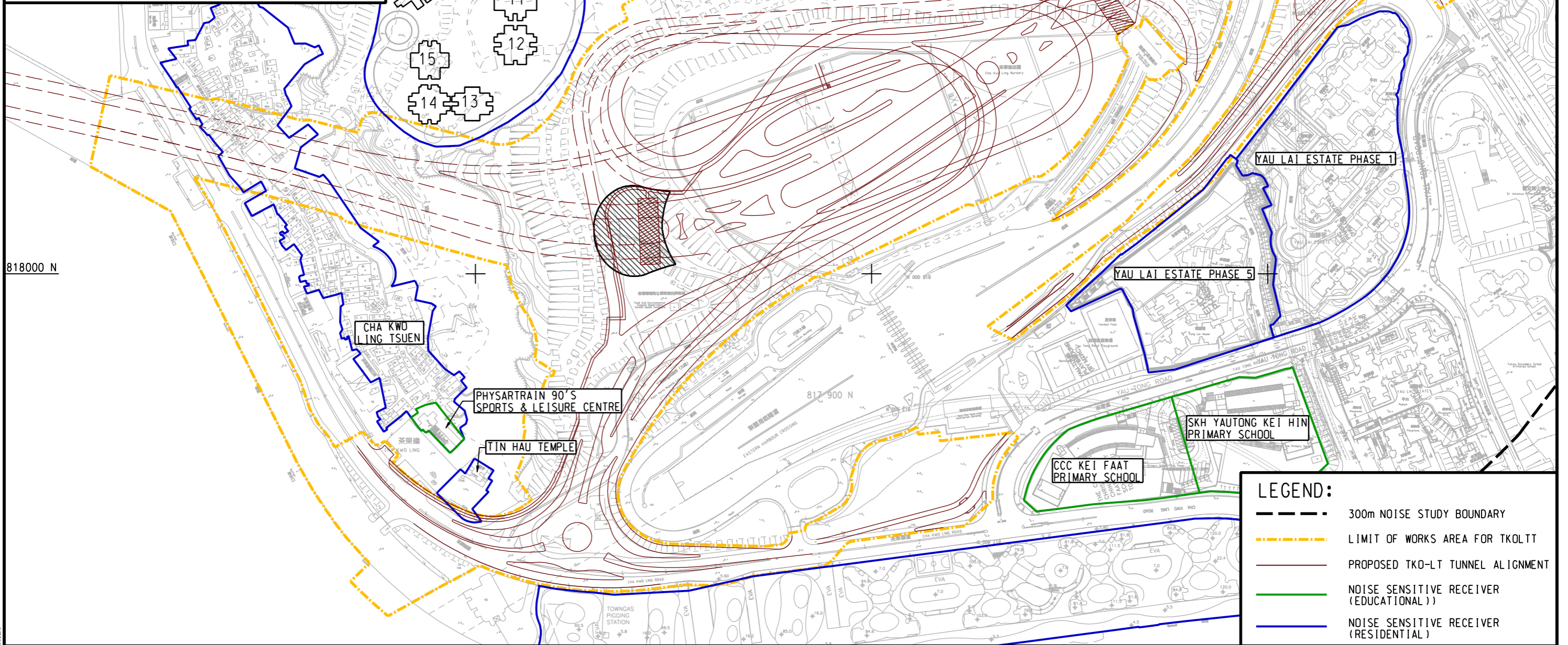
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CHECK	-	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 3.2b
		REV	-

Plot File by: J1/G2013 QTCAM





LOCATION PLAN  
SCALE 1 : 90000



**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- - - - - LIMIT OF WORKS AREA FOR TKOLTT
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- NOISE SENSITIVE RECEIVER (EDUCATIONAL)
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)

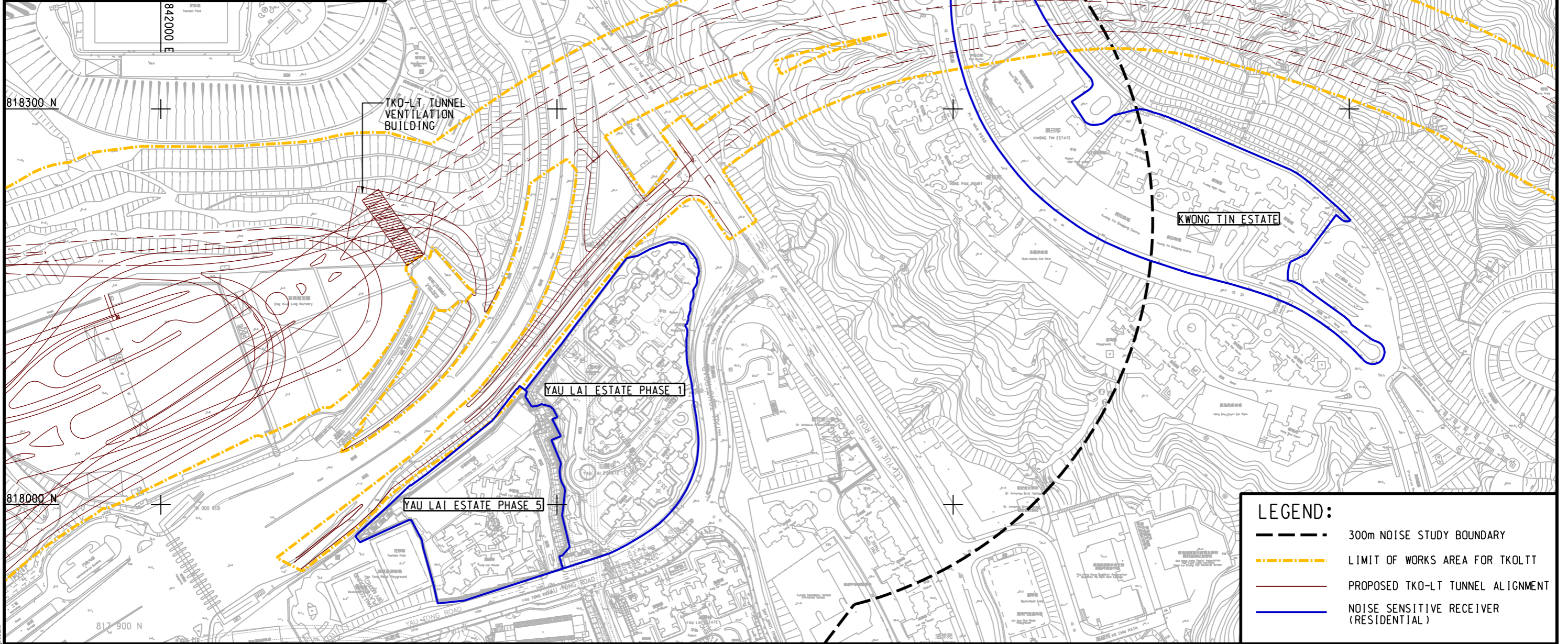
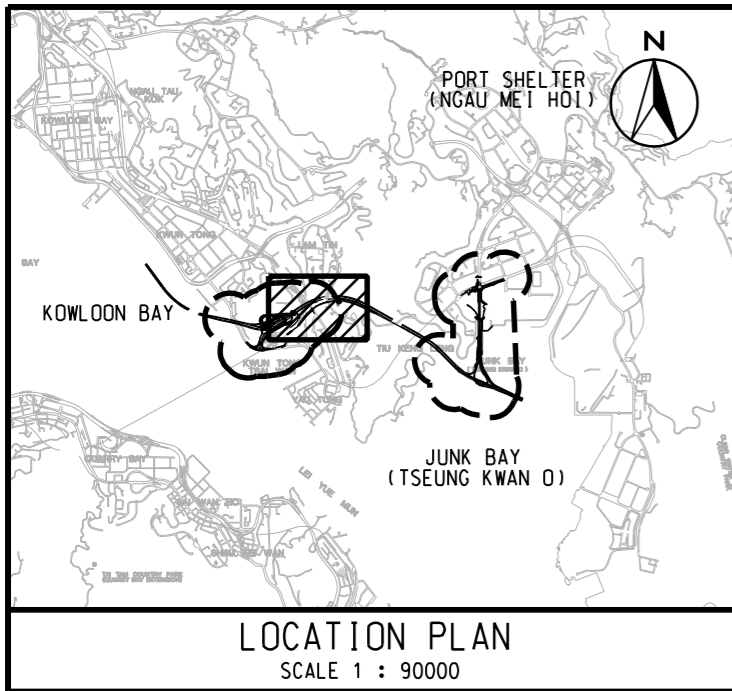
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TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

SHEET 1 OF 4

SCALE	A3 1 : 3000	DATE	NOV. 2012
CHECK	---	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	---



Plot File by: 1/15/2013 QTCAM



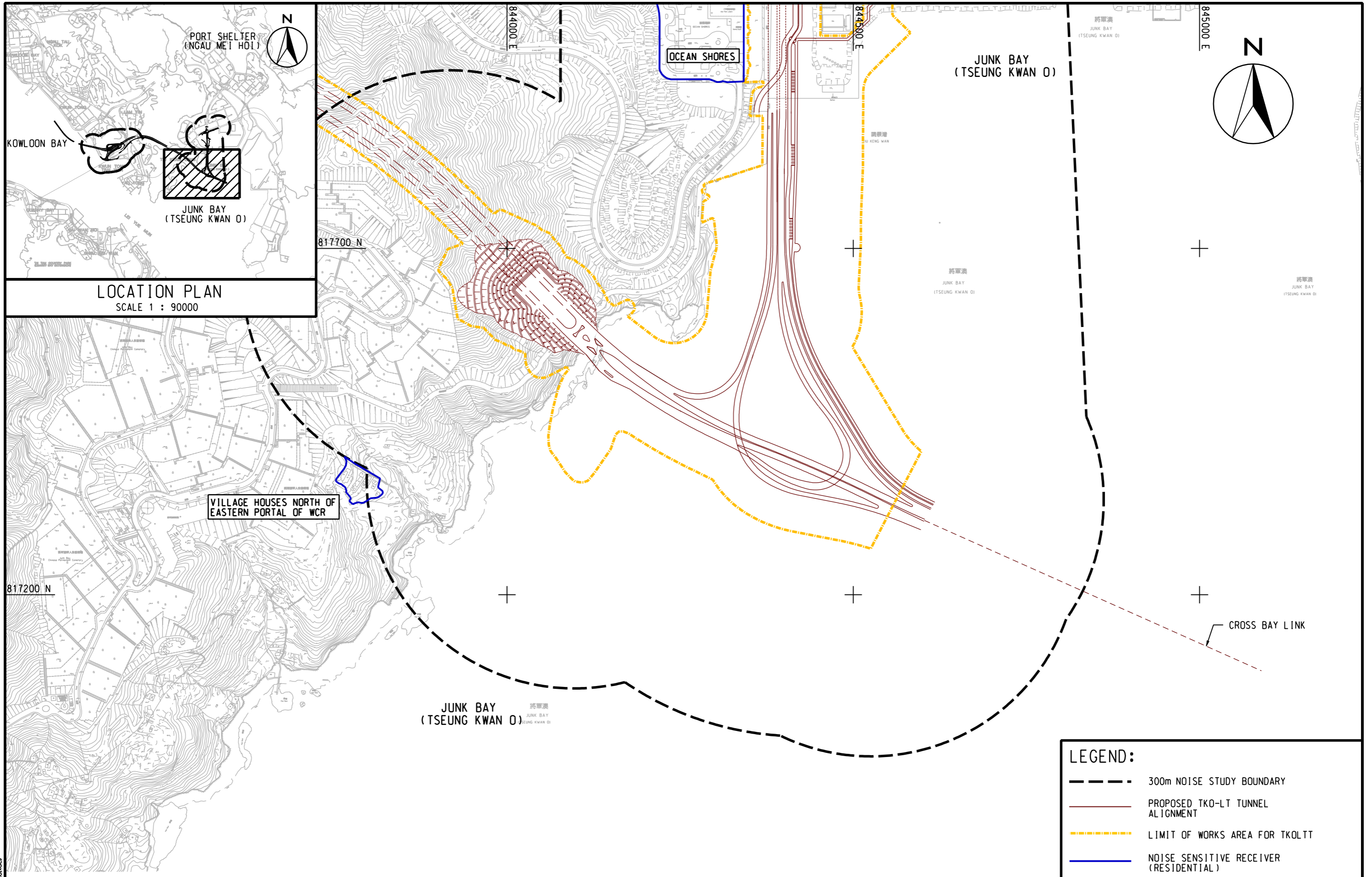
AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

SHEET 2 OF 4

SCALE	A3 1 : 3000	DATE	NOV. 2012
CHECK	--	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--



Plot File by: J1152013



LOCATION PLAN  
SCALE 1 : 90000

LEGEND:			
	300m NOISE STUDY BOUNDARY		PROPOSED TKO-LT TUNNEL ALIGNMENT
	LIMIT OF WORKS AREA FOR TKO-LT		NOISE SENSITIVE RECEIVER (RESIDENTIAL)

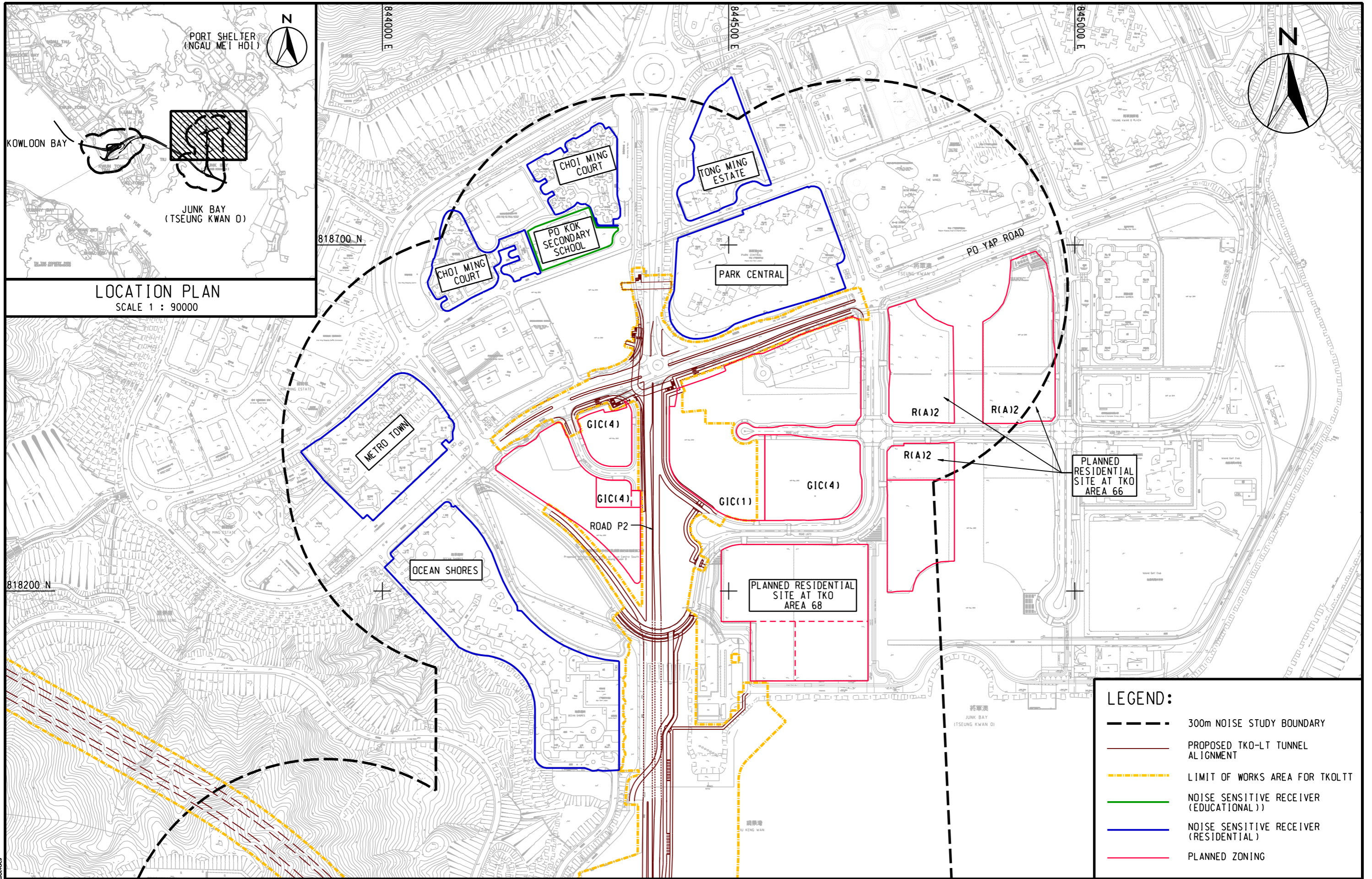


AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

SHEET 3 OF 4

SCALE	A3 1 : 5000	DATE	JAN. 2013
CHECK	--	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--

Plot File by : 24/01/2013 XIONGCI



**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- LIMIT OF WORKS AREA FOR TKOLTT
- NOISE SENSITIVE RECEIVER (EDUCATIONAL)
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)
- PLANNED ZONING



AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION

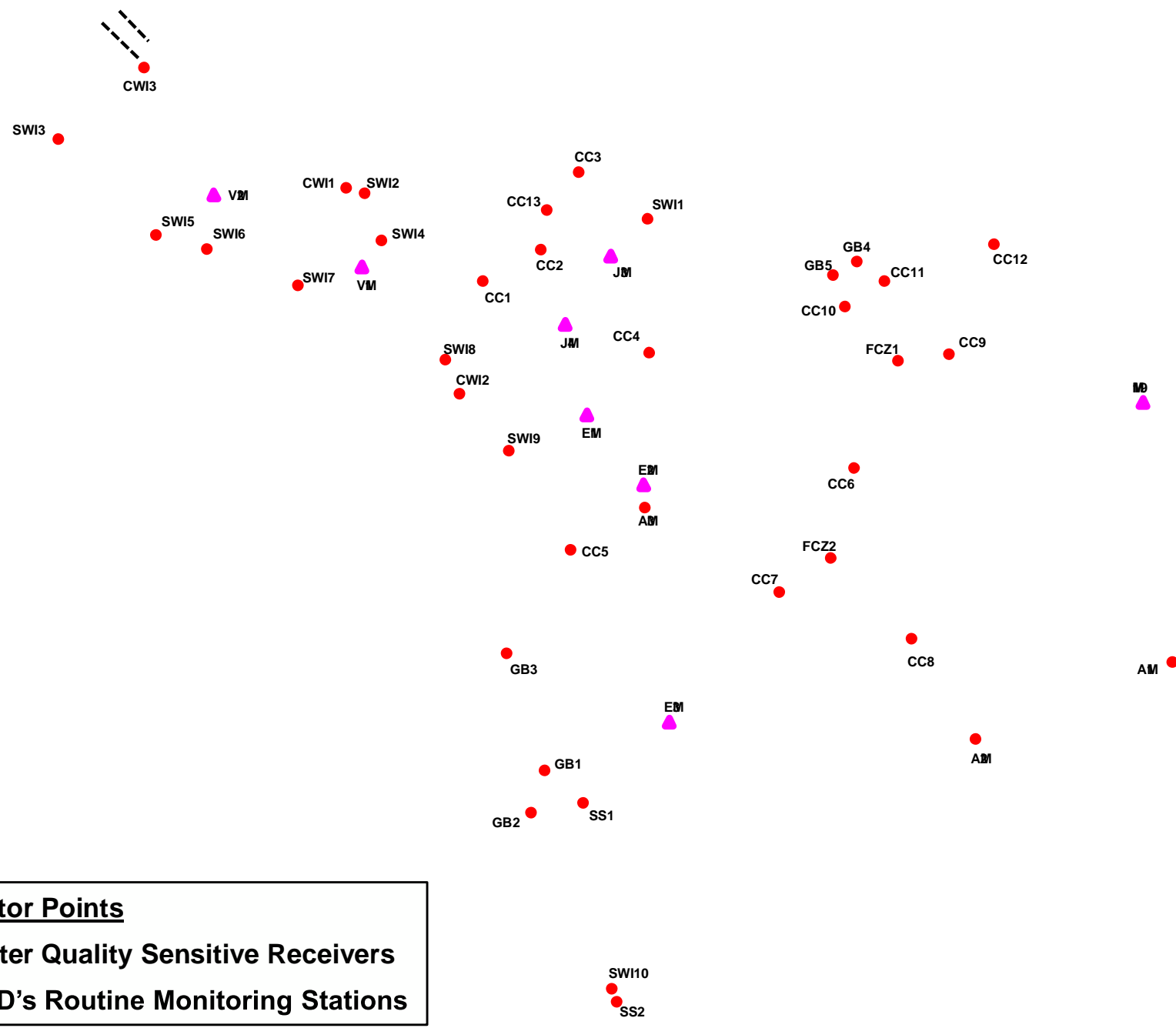
**LOCATIONS OF NOISE SENSITIVE RECEIVERS**

SHEET 4 OF 4

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JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--

Plot File by : 24/01/2013 XIONGCCI

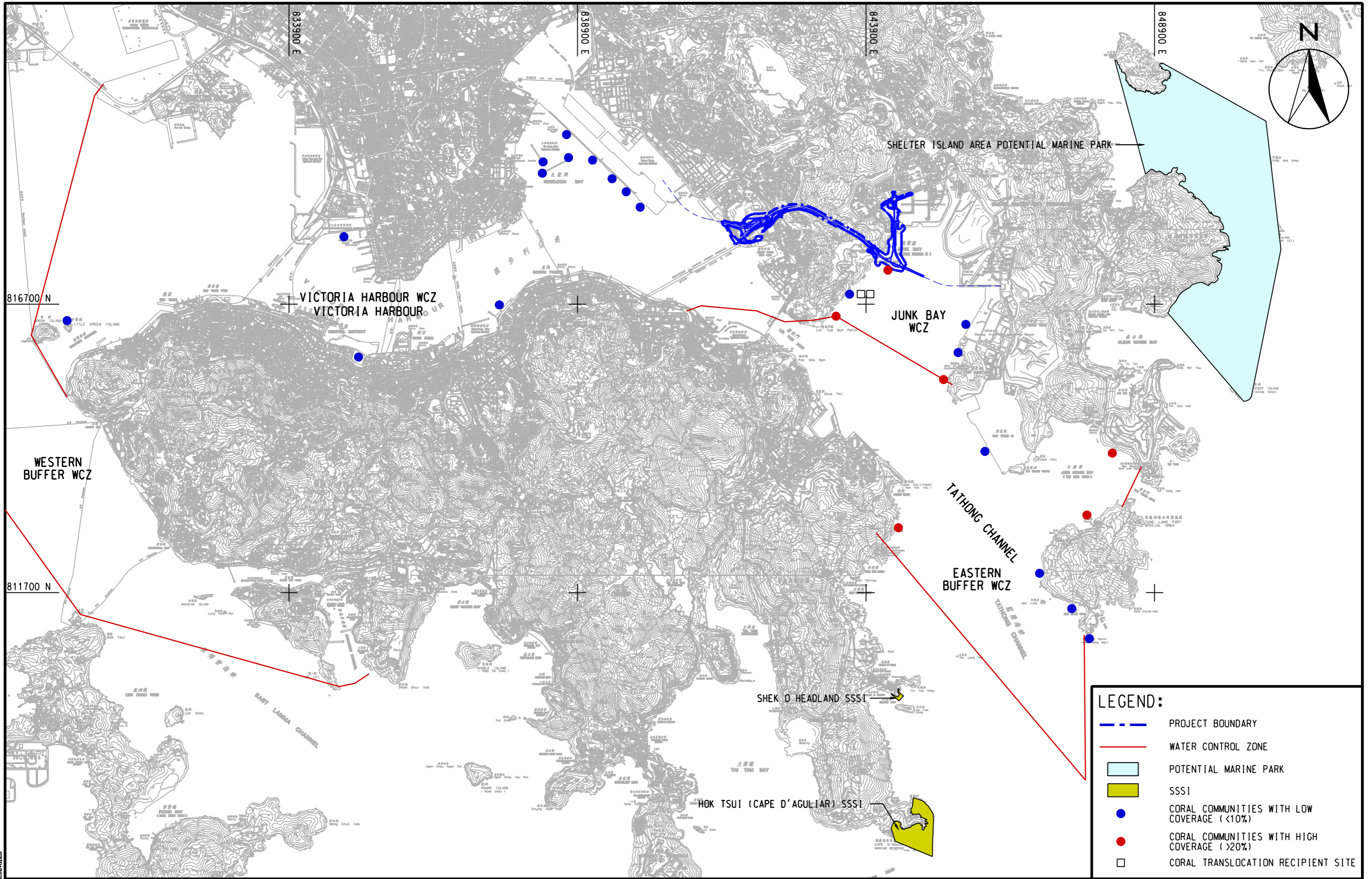
Printed by :  
 BUSEP  
 F11100001  
 05/11/2011



**Indicator Points**

- Water Quality Sensitive Receivers
- ▲ EPD's Routine Monitoring Stations

WSR ID	Description
SWI1	WSD's Salt Water Intakes at Tseung Kwan O
SWI2	WSD's Salt Water Intakes at Yau Tong
SWI3	WSD's Salt Water Intakes at Tai Wan
SWI4	WSD's Salt Water Intakes at Cha Kwo Lang
SWI5	WSD's Salt Water Intakes at North Point
SWI6	WSD's Salt Water Intakes at Quarry Bay
SWI7	WSD's Salt Water Intakes at Sai Wan Ho
SWI8	WSD's Salt Water Intakes at Heng Fa Chuen
SWI9	WSD's Salt Water Intakes at Siu Sai Wan
SWI10	Salt Water Intakes at Cape D'Aguliar for Swire Institute of Marine Science, The University of Hong Kong
CWI1	Cooling Water Intakes for Dairy Farm Ice Plant
CWI2	Cooling Water Intakes for Pamela Youde Nethersole Eastern Hospital
CWI3	Future Kai Tak Cooling Water Intakes
CC1	Coral Sites at Chiu Keng Wan
CC2	Coral Sites at Junk Bay
CC3	Coral Sites at Junk Island
CC4	Coral Sites at Fat Tong Chau West
CC5	Coral Sites at Tso Tui Wan North
CC6	Coral Sites at Joss House Bay
CC7	Coral Sites at Tung Lung Chau West
CC8	Coral Sites at Tung Lung Chau East
CC9	Coral Sites at Shek Mei Tau
CC10	Coral Sites at So Shi Tau
CC11	Coral Sites at Tai Wang Tau
CC12	Coral Sites at Po Keng Teng
CC13	Coral Sites at Junk Bay near Chiu Keng Wan
SS1	SSSI at Shek O Headland
SS2	SSSI at Cape D'Aguliar
FCZ1	Fish Culture Zone at Po Toi O
FCZ2	Fish Culture Zone at Tung Lung Chau
AM1	Spotted Occurrence of Amphioxus (historical record of summer survey)
AM2	Spotted Occurrence of Amphioxus (Yr 2006 record of summer survey)
AM3	Spotted Occurrence of Amphioxus (Yr 2006 record of summer survey)
GB1	Shek O Rocky Bay
GB2	Shek O Beach
GB3	Big Wave Bay Beach
GB4	Clear Water Bay First Beach
GB5	Clear Water Bay Second Beach



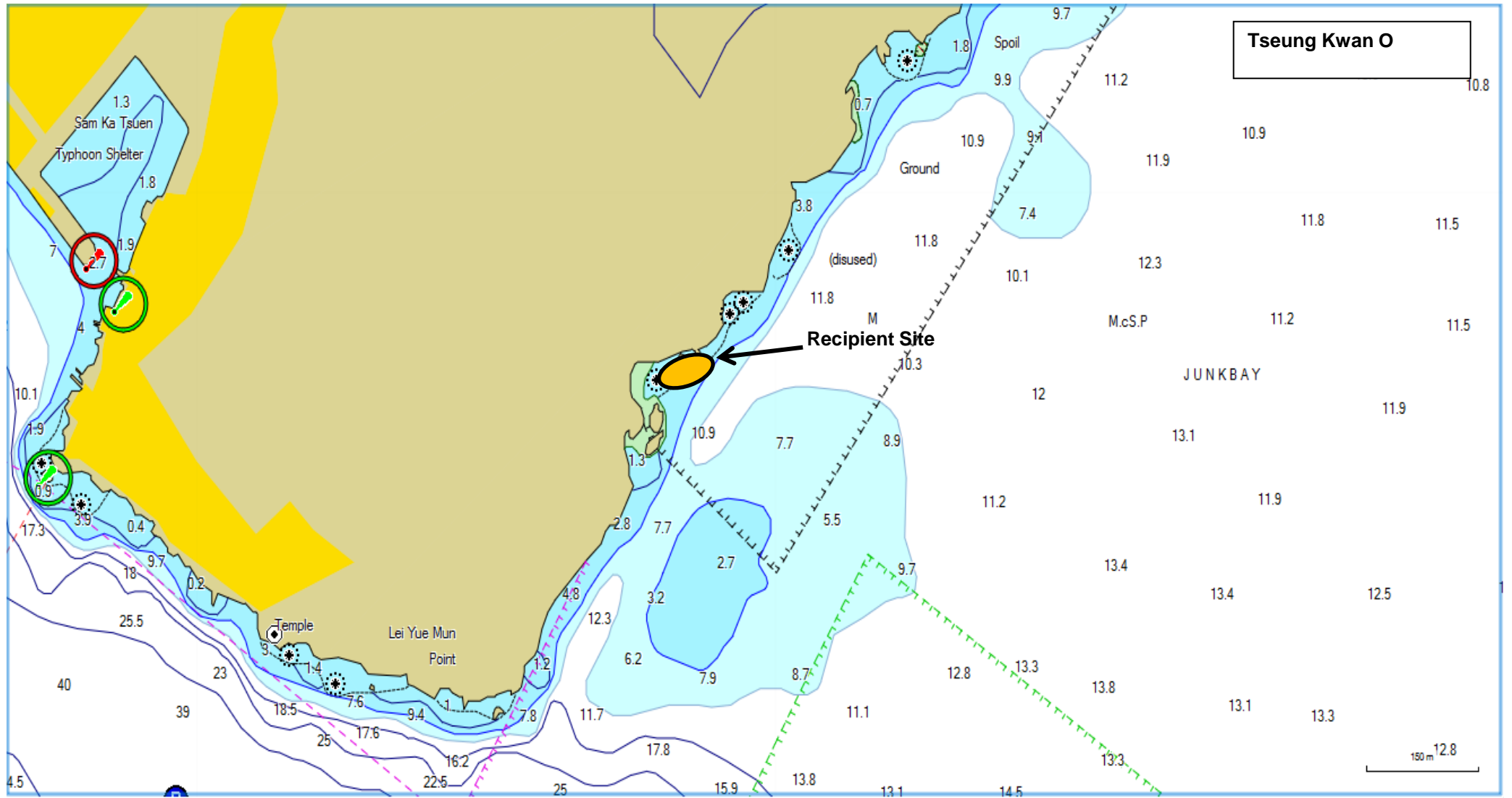
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AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION

MARINE ECOLOGICAL SENSITIVE RECEIVERS WITHIN AND IN VICINITY OF THE ASSESSMENT AREA

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		REV	-

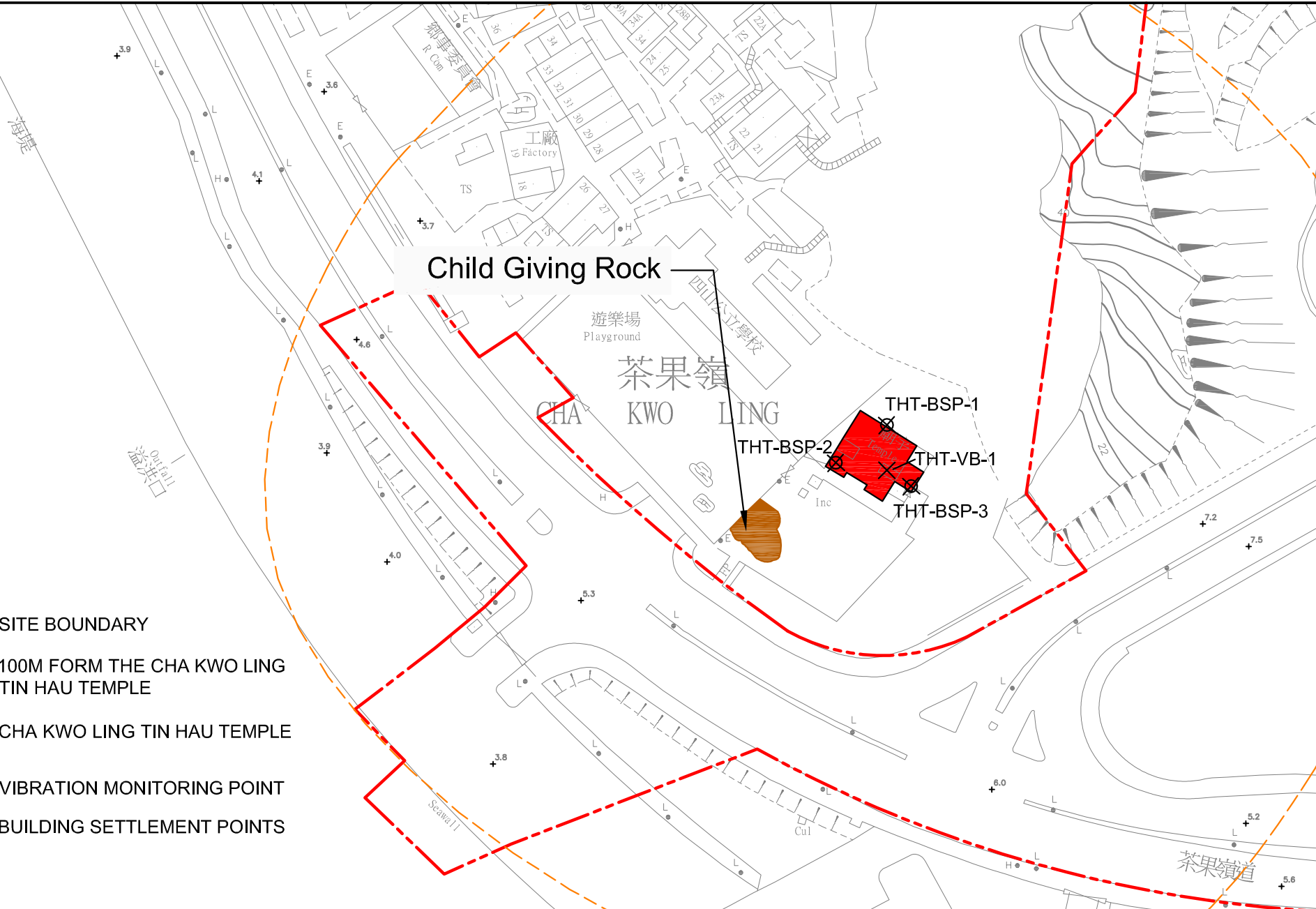
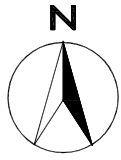


Title Agreement No. CE/59/2015 (EP)  
 Environmental Test for Tseung Kwan O - Lan Tin Tunnel - Design and Construction  
 Location of Post-translocation Coral Monitoring

Scale N.T.S  
 Date M-17

Project No. M16034  
 Figure 7



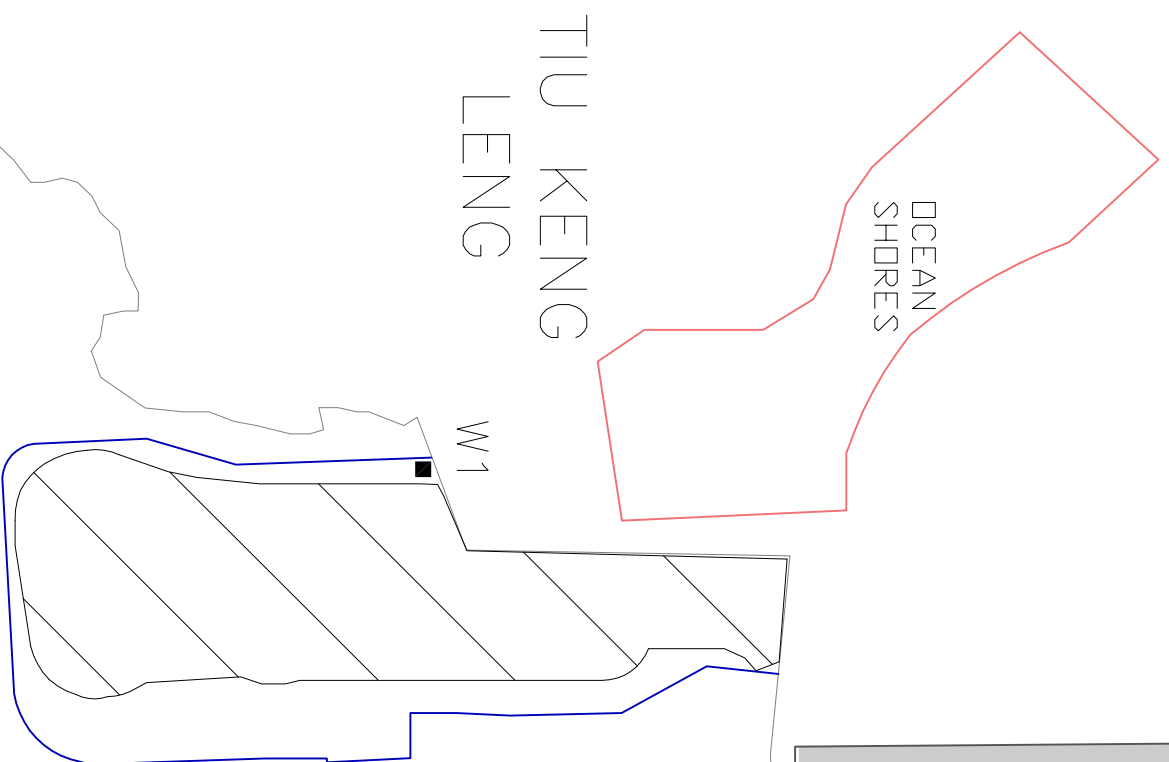
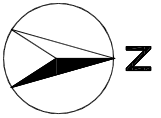


**LEGEND**

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

SCALE	N.T.S.	DATE	FEB 2018	
CHECK	JF	DRAWN	AC	
JOB No.	MA16034	FIGURE NO.	8	REV -





### LEGEND

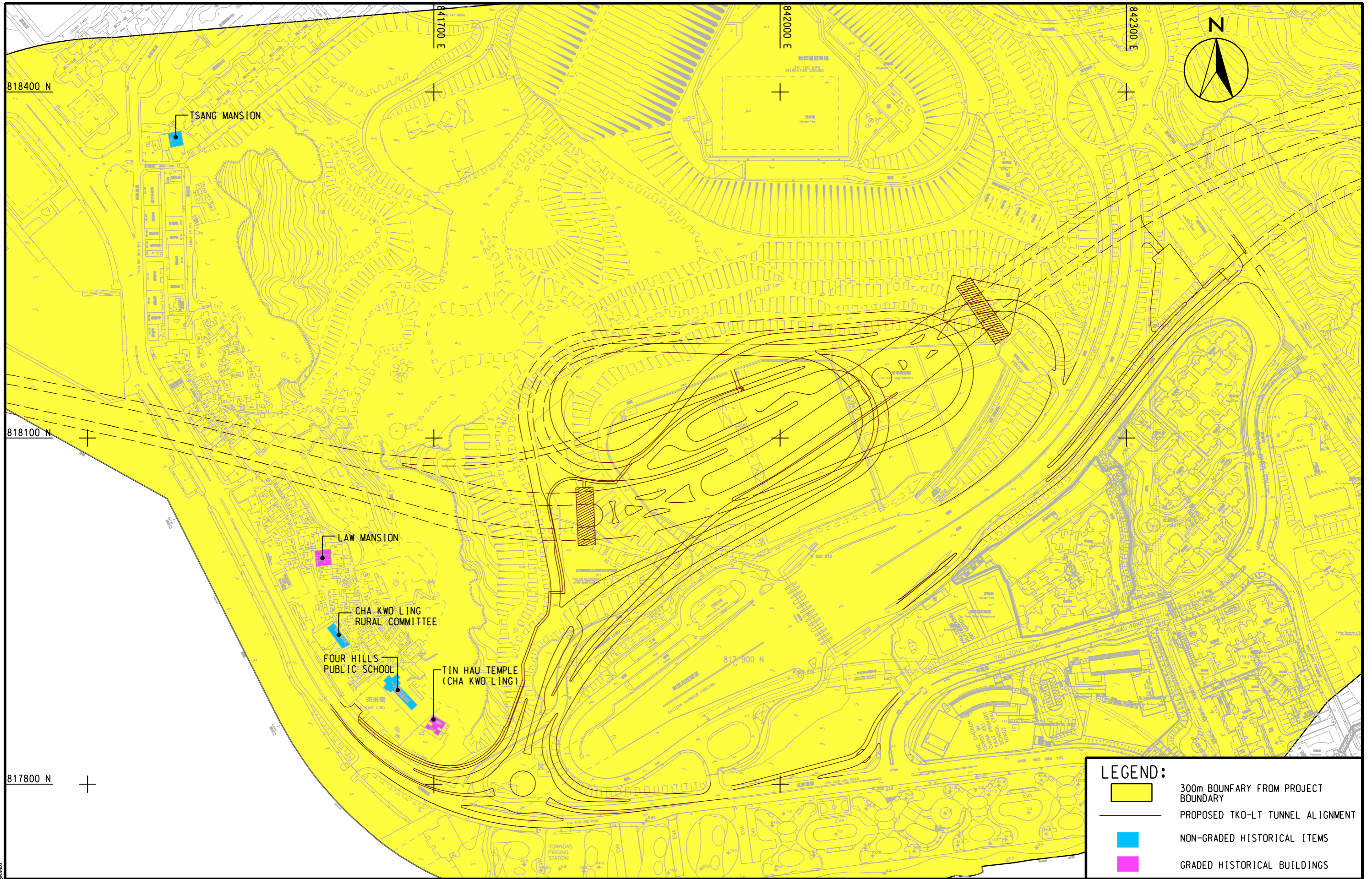
-  IMPACT STATIONS
-  LOCATION OF TEMPORARY MARINE EMBAYMENT BY STEEL COFFERDAM
-  RECLAMATION FOOTPRINT

CURRENT SHORELINE

TIU KENG  
W1

OCEAN  
SHORES

SCALE	N.T.S	DATE	MAY 2017
CHECK PROJECT NO.	JF	DRAWN	JW
	MA16034	FIGURE NO.	REV
			—



LEGEND:			
	300m BOUNDFARY FROM PROJECT BOUNDARY		PROPOSED TKO-LT TUNNEL ALIGNMENT
	NON-GRADED HISTORICAL ITEMS		GRADED HISTORICAL BUILDINGS

Plot File by: 1/11/2013 QTCAM



AGREEMENT NO. CE 42/2008 (CE)  
 TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**CULTURAL HERITAGE RESOURCES AT CHA KWO LING**

SCALE	A3 1 : 3000	DATE	DEC. 2012
CHECK	--	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 9.2
		REV	--

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**APPENDIX A  
MONITORING REQUIREMENTS**

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## Appendix A - Environmental Impact Monitoring Requirements

Table I – Air Quality Monitoring

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1 hour TSP	Three times / 6 days	<ul style="list-style-type: none"> <li>• AM1 – Tin Hau Temple</li> <li>• AM2 – Sai Tso Wan Recreation Ground</li> <li>• AM3 – Yau Lai Estate Bik Lai House</li> <li>• AM4<sup>(1)</sup> – Road Traffic at Cha Kwo Ling Road</li> <li>• AM4(A)<sup>(2)(*)</sup> – Cha Kwo Ling Public Cargo Working Area Administrative Office</li> <li>• AM5(A)<sup>(*)</sup> – Tseung Kwan O DSD Desilting Compound</li> <li>• AM6(A)<sup>(*)</sup> – Park Central, L1/F Open Space Area</li> </ul>	<ul style="list-style-type: none"> <li>• AM1 – Ground Level</li> <li>• AM2 – Ground Level</li> <li>• AM3 – Rooftop (41/F)</li> <li>• AM4<sup>(1)</sup> – Ground Level</li> <li>• AM4(A)<sup>(2)(*)</sup> – Rooftop (3/F)</li> <li>• AM5(A)<sup>(*)</sup> – Ground Level</li> <li>• AM6(A)<sup>(*)</sup> – 1/F</li> </ul>
	24 hour TSP	Once / 6 days		

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.

**Table II – Noise Monitoring**

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 30 minute intervals during 0700 to 1900 on normal weekdays	Once per week	<ul style="list-style-type: none"> <li>• CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong</li> <li>• CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong</li> <li>• CM3 – Block S, Yau Lai Estate Phase 5, Yau Tong</li> <li>• CM4 – Tin Hau Temple, Cha Kwo Ling</li> <li>• CM5 – CCC Kei Faat Primary School, Yau Tong</li> <li>• CM6(A)* – Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores</li> <li>• CM7(A)* – Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores</li> <li>• CM8(A)* – Park Central, L1/F Open Space Area</li> </ul>	<ul style="list-style-type: none"> <li>• CM1 – Rooftop (41/F)</li> <li>• CM2 – Rooftop (41/F)</li> <li>• CM3 – Rooftop (40/F)</li> <li>• CM4 – Ground Level</li> <li>• CM5 – Rooftop (6/F)</li> <li>• CM6(A)* – Ground Level</li> <li>• CM7(A)* – Ground Level</li> <li>• CM8(A)* – 1/F</li> </ul>

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.

**Table III – Water Quality Monitoring**

Monitoring Stations	Parameters, unit	Depth	Frequency
<b>Groundwater Quality</b>			
Stream 1- Stream 3	<ul style="list-style-type: none"> <li>• DO, mg/L</li> <li>• DO Saturation, %</li> <li>• pH</li> <li>• Water Temperature (°C)</li> <li>• Turbidity, NTU</li> <li>• SS, mg/L</li> <li>• BOD<sub>5</sub>, mg O<sub>2</sub>/L</li> <li>• TOC, mg-TOC/L</li> <li>• Total Nitrogen, mg/L</li> <li>• Ammonia-N, mg NH<sub>3</sub>-N/L</li> <li>• Total Phosphate, mg-P/L</li> </ul>	Mid-depth	<p style="text-align: center;">Biweekly</p> <p style="text-align: center;">(When the tunnel construction works are found within 50m of the location, weekly.)</p>
<b>Marine Water Quality</b>			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	<p><i>In-situ:</i></p> <p>Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity</p> <p><u>Laboratory Testing:</u></p> <p>Suspended Solids (SS)</p>	<p><u>M1-M5, C1-C2, G1-G4</u></p> <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> <p><u>M6</u></p> <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>	<p style="text-align: center;">3 days per week</p> <p style="text-align: center;">/</p> <p style="text-align: center;">2 per monitoring day</p> <p style="text-align: center;">(1 for mid-ebb and 1 for mid-flood)</p>

**Table IV –Landfill Gas Monitoring**

Type of Monitoring	Parameter	Frequency	Location
Landfill Gas	Methane, Carbon dioxide and Oxygen	at least daily before starting the work of the day	<ul style="list-style-type: none"> <li>• Excavation Locations</li> <li>• Manholes and Chambers</li> <li>• Relocation of monitoring wells</li> <li>• Any other Confined Spaces</li> </ul>

**Table V –Ecological Monitoring**

Type of Monitoring	Parameter	Frequency
Marine Ecology	The presence, survival, health condition and growth of the translocated coral colonies	Once every 3 months after completion for a period of 12 months

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**APPENDIX B  
ACTION AND LIMIT LEVELS**

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**APPENDIX B – 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 from any one of the monitoring stations	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 DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. 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.
3. 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 and 4)	<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 and 4)	<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>6.9 mg/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.

**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% EL (i.e. > 0.5% by volume)
	>20% EL (i.e. > 1% by volume)
Carbon Dioxide	>0.5%
	>1.5%

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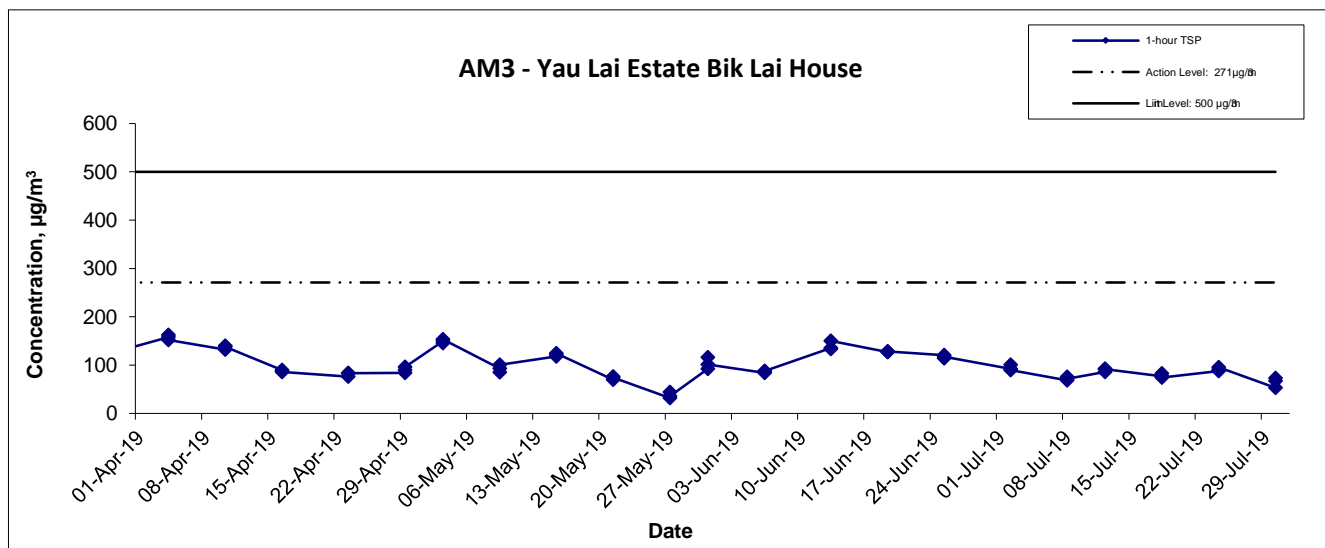
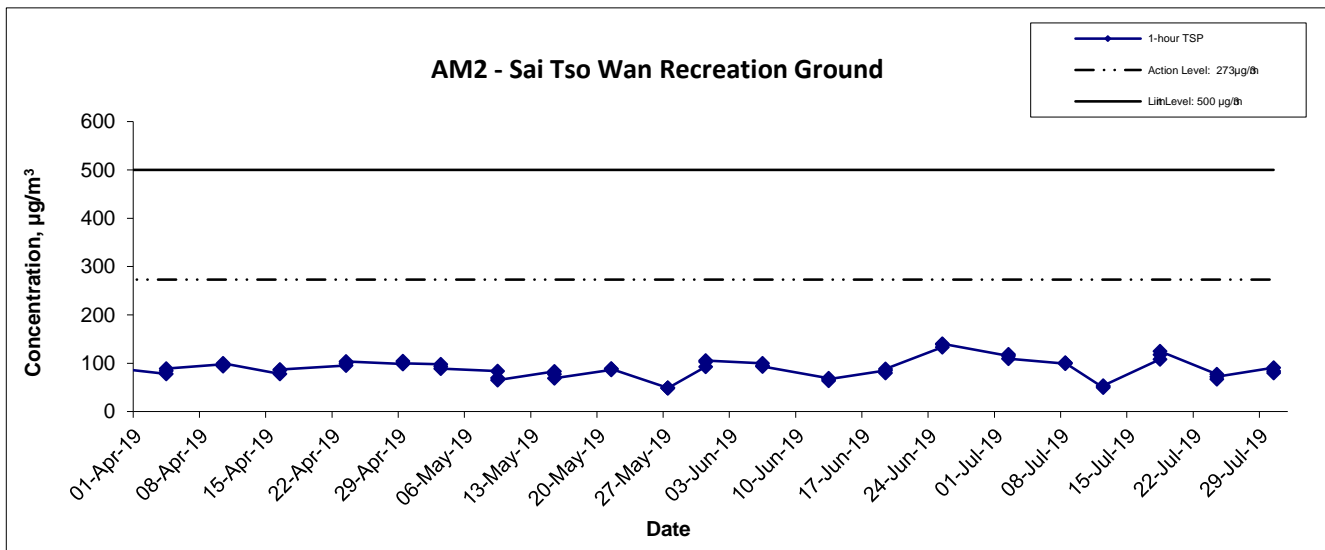
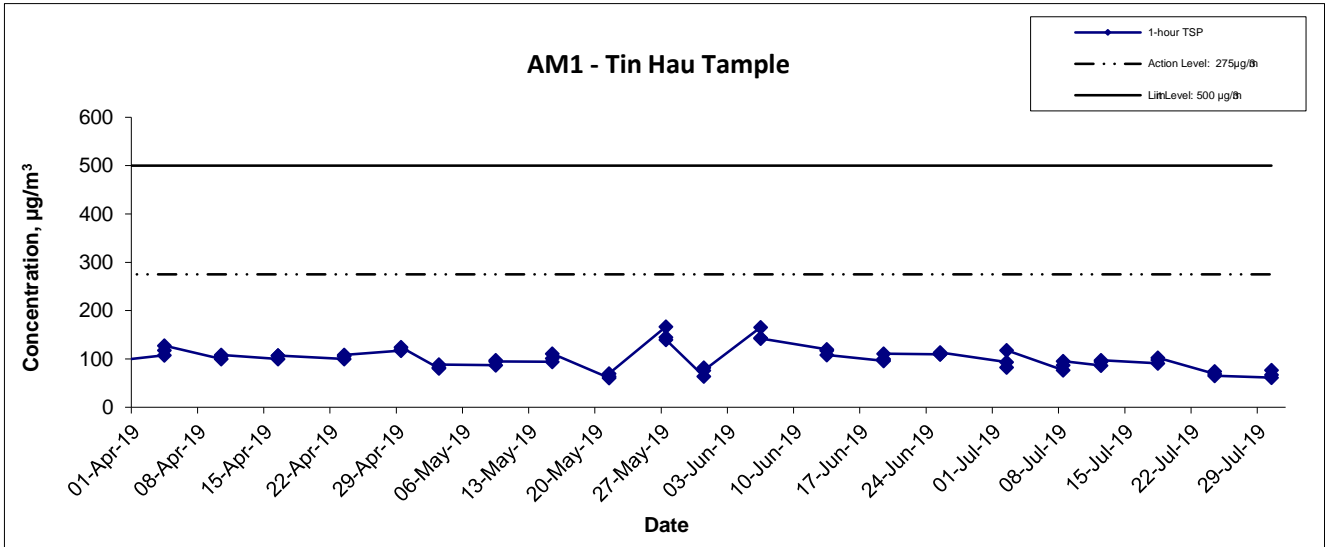
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**APPENDIX C  
GRAPHICAL PRESENTATION OF AIR  
QUALITY MONITORING RESULTS**

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### 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  
N.T.S

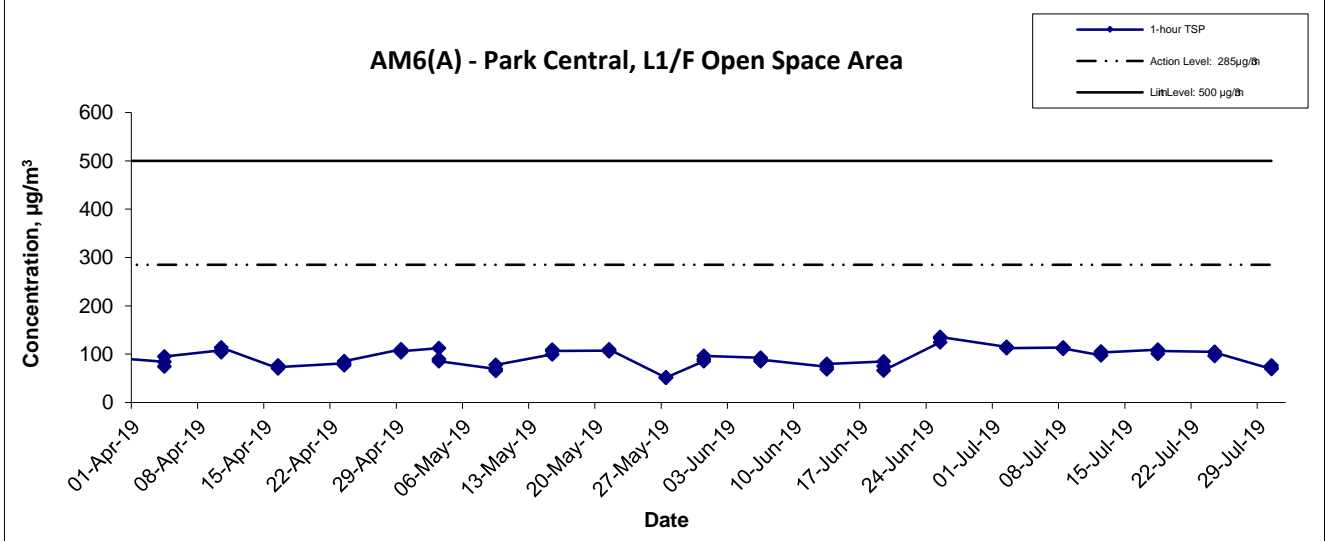
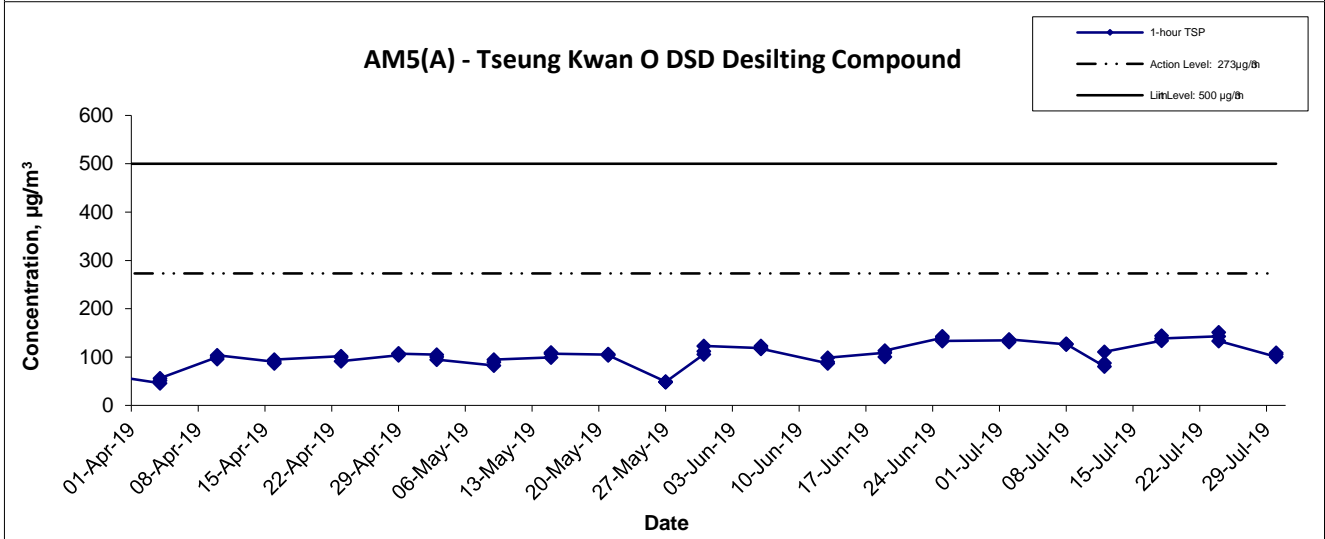
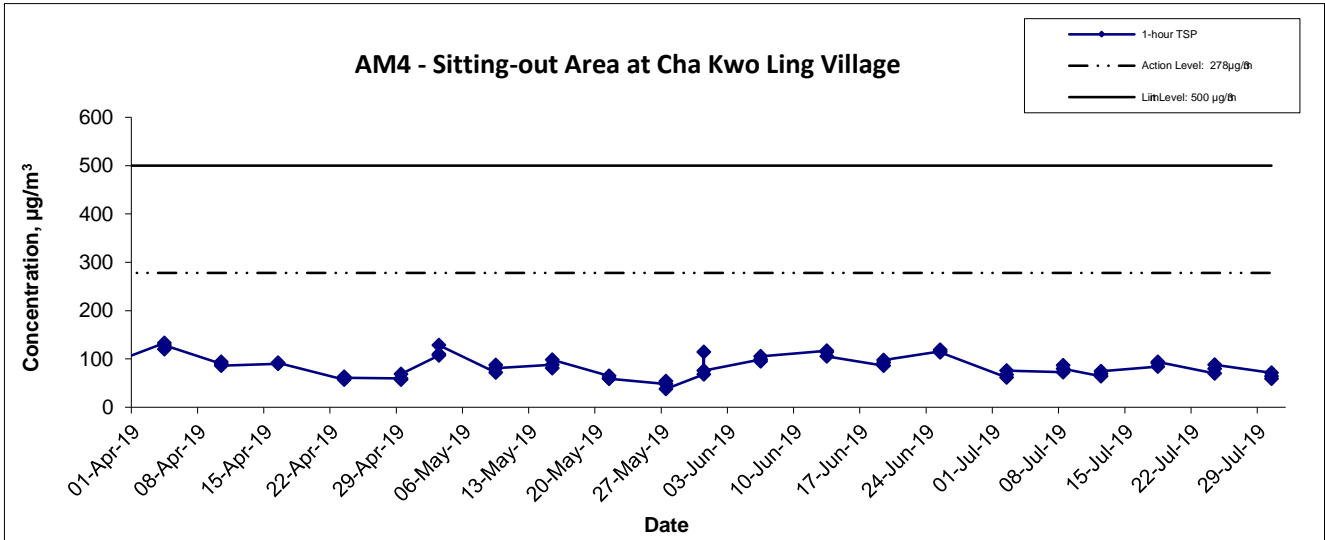
Date  
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Project  
No. M16034

Appendix  
C



### 1-hr TSP Concentration Levels



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

Graphical Presentation of 1-hour TSP Monitoring Results

Scale  
 N.T.S

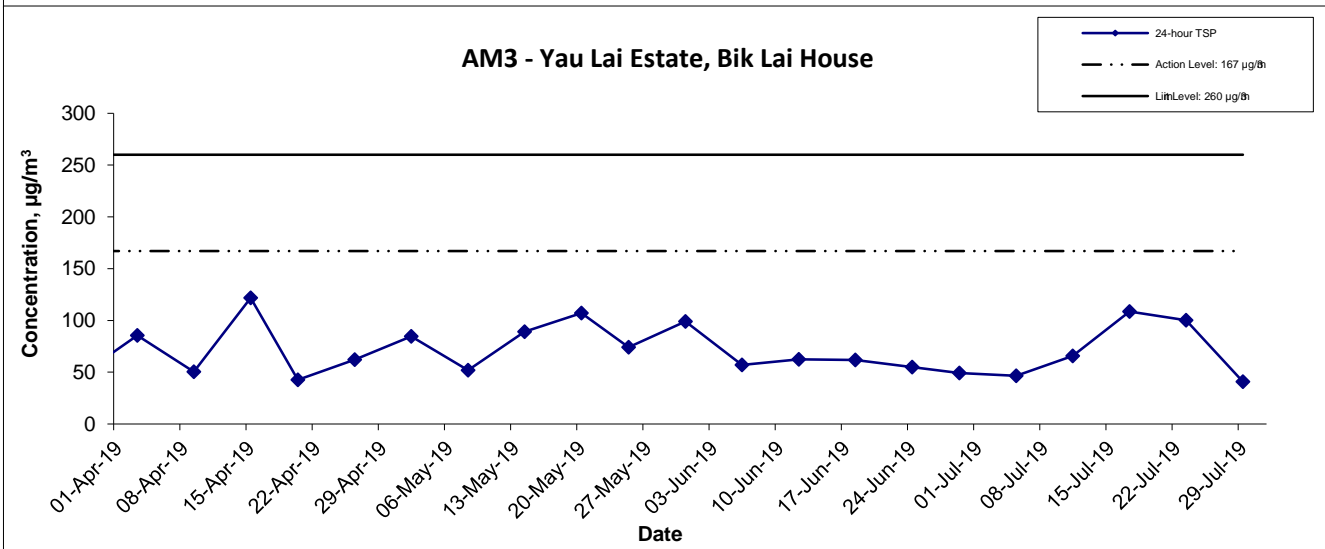
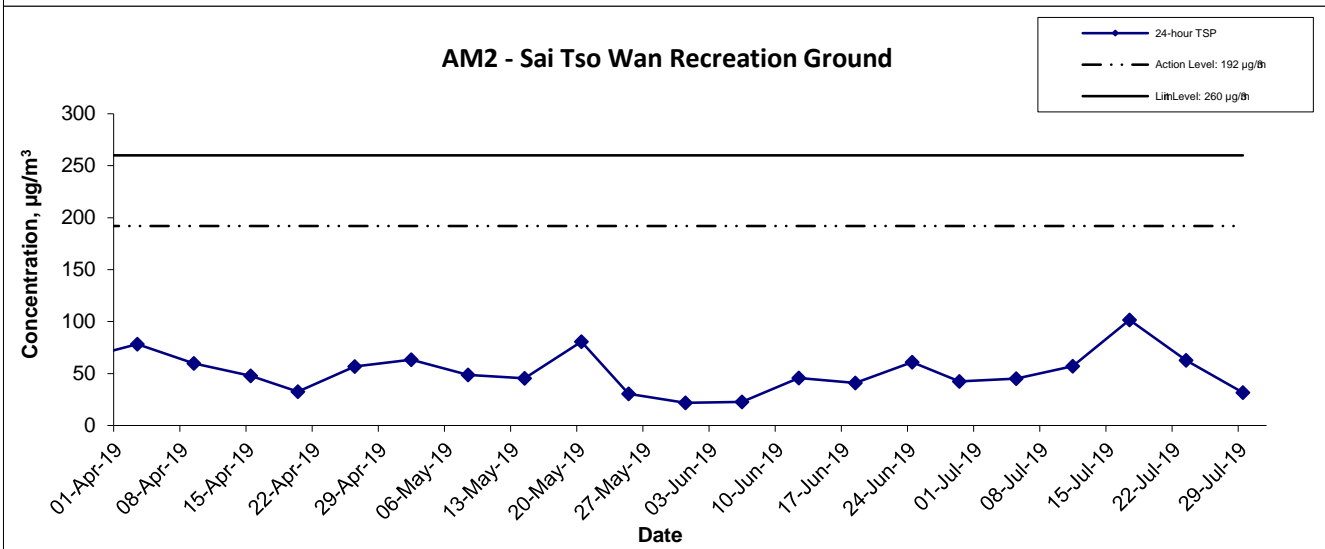
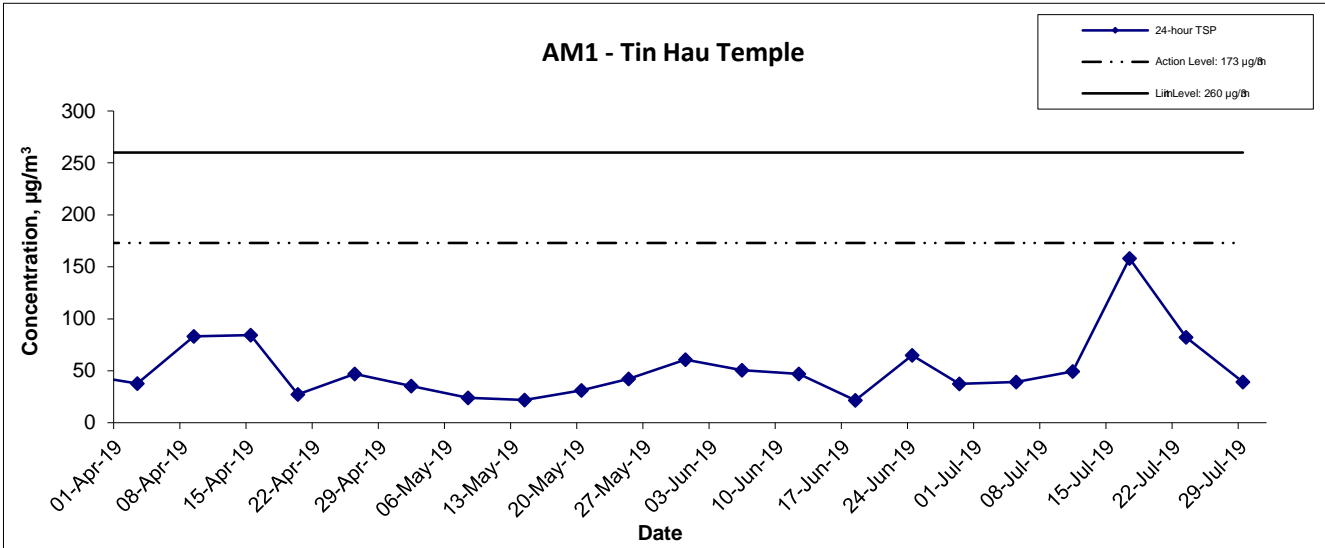
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Project  
 No. M16034

Appendix  
 C



### 24-hr TSP Concentration Levels



Agreement No. CE/59/2015 (EP)  
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 Design and Construction

Graphical Presentation of 24-hour TSP Monitoring Results

Scale  
 N.T.S

Date  
 Jul-19

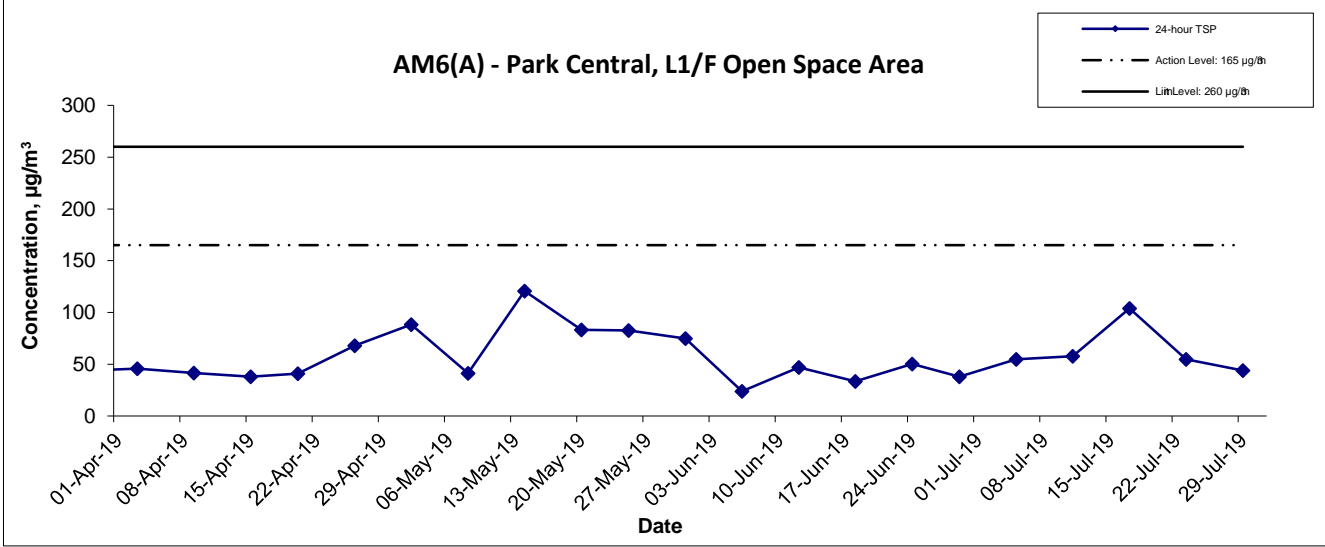
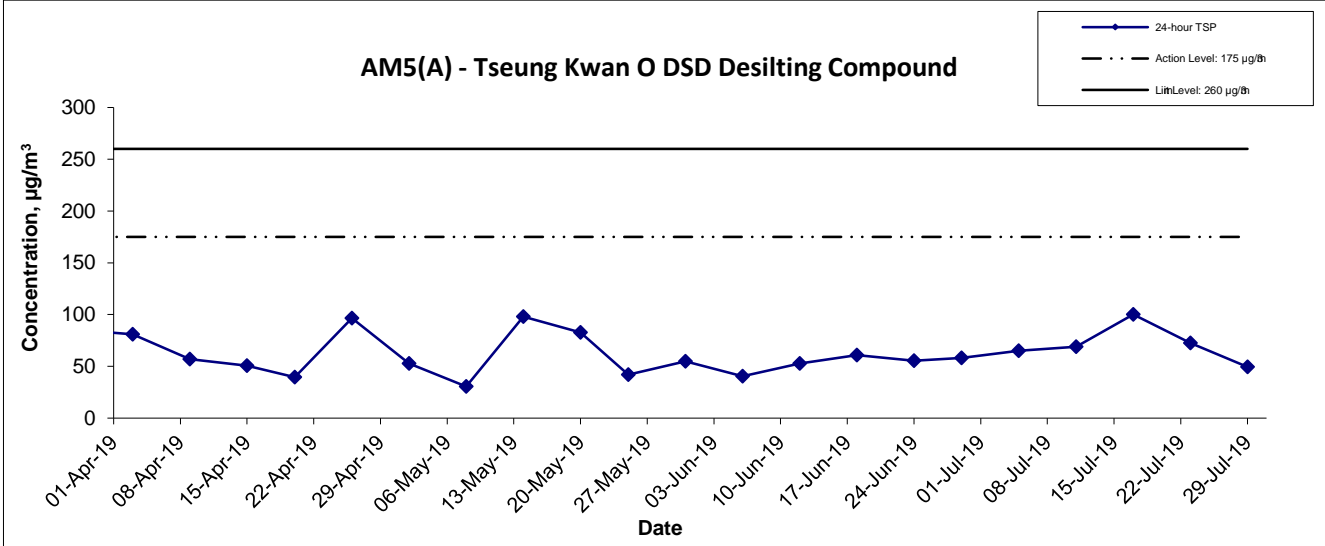
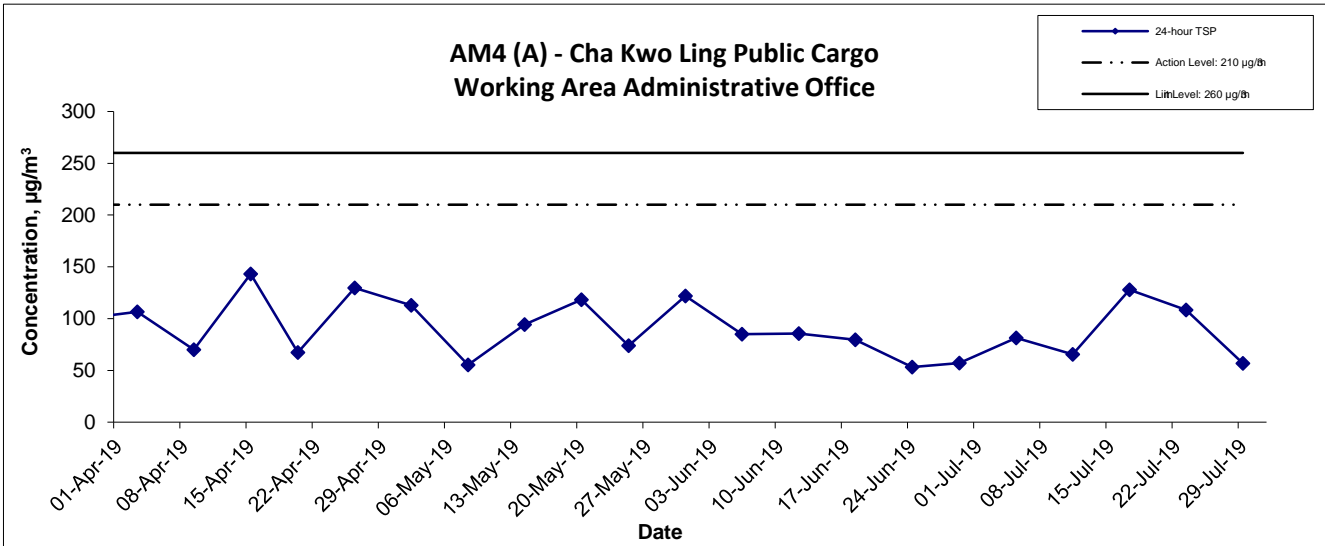
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 No. M16034

Appendix  
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### 24-hr TSP Concentration Levels



Agreement No. CE/59/2015 (EP)  
 Environmental Test for Tseung Kwan O - Lantau Tunnel -  
 Design and Construction  
 Graphical Presentation of 24-hour TSP Monitoring Results

Scale	N.T.S	Project No.	M16034
Date	Jul-19	Appendix	C



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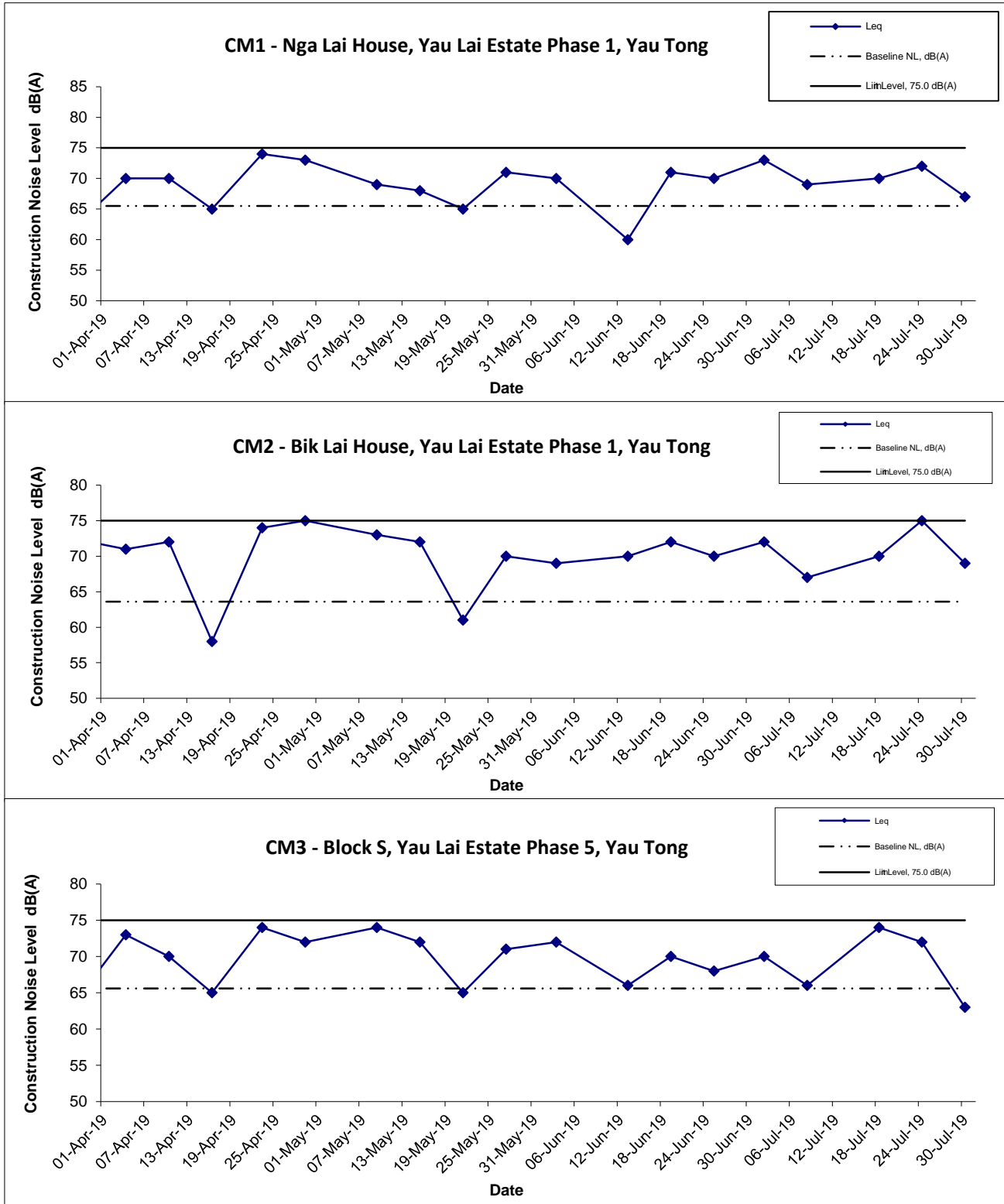
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**APPENDIX D  
GRAPHICAL PRESENTATION OF  
NOISE MONITORING RESULTS**

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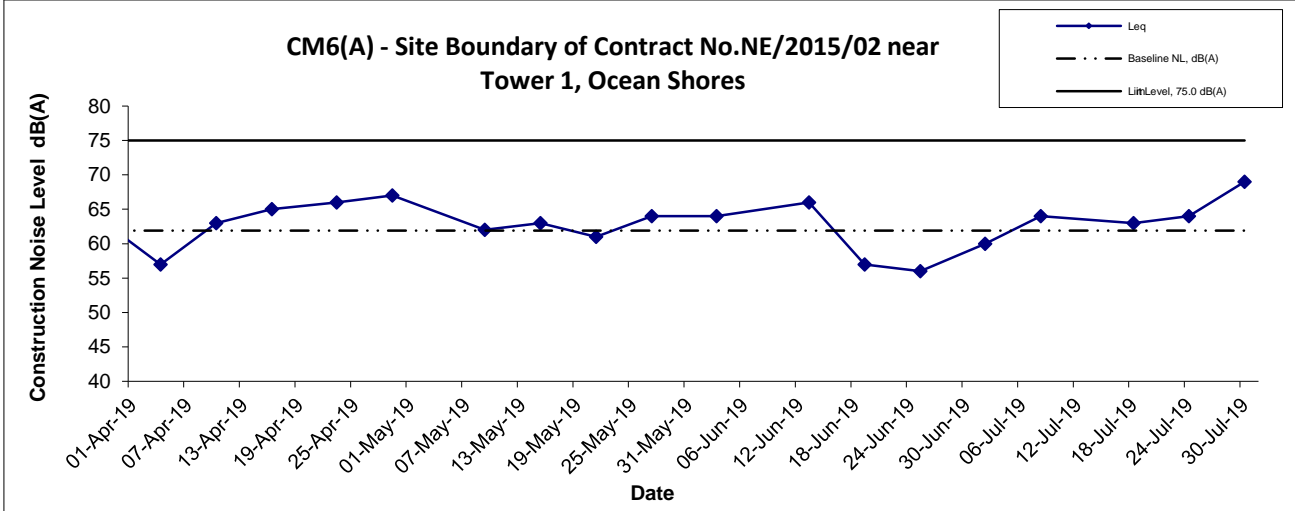
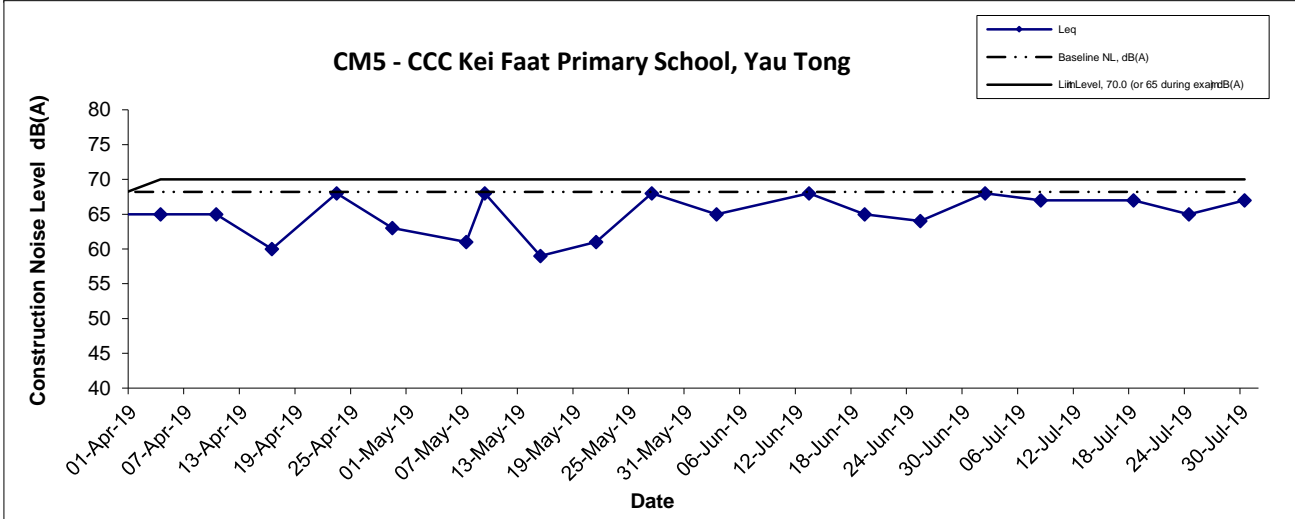
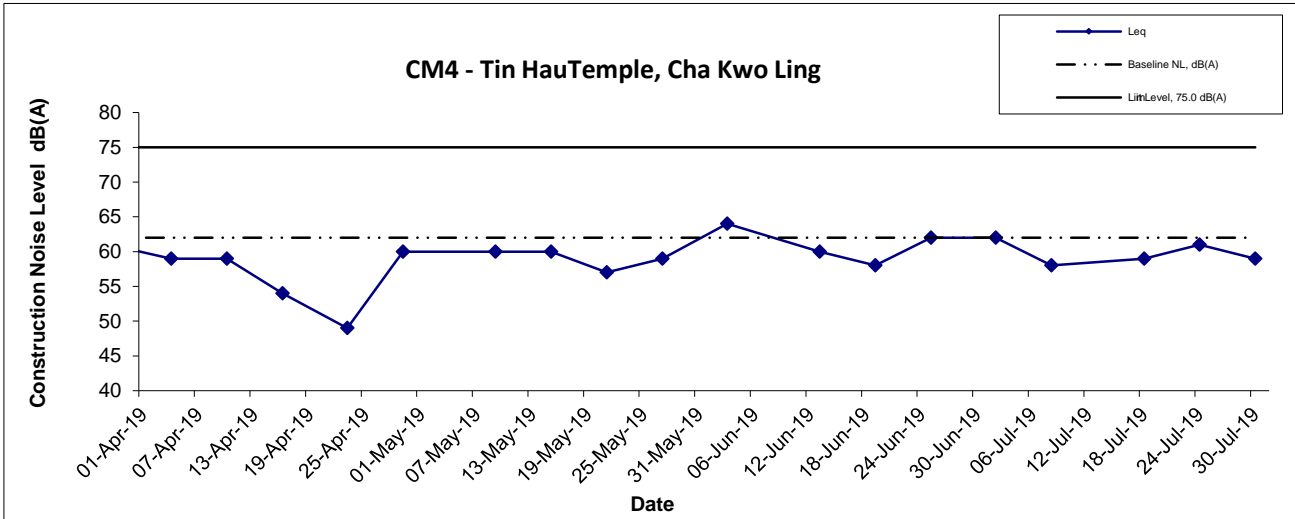
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## Noise Levels (Daytime)



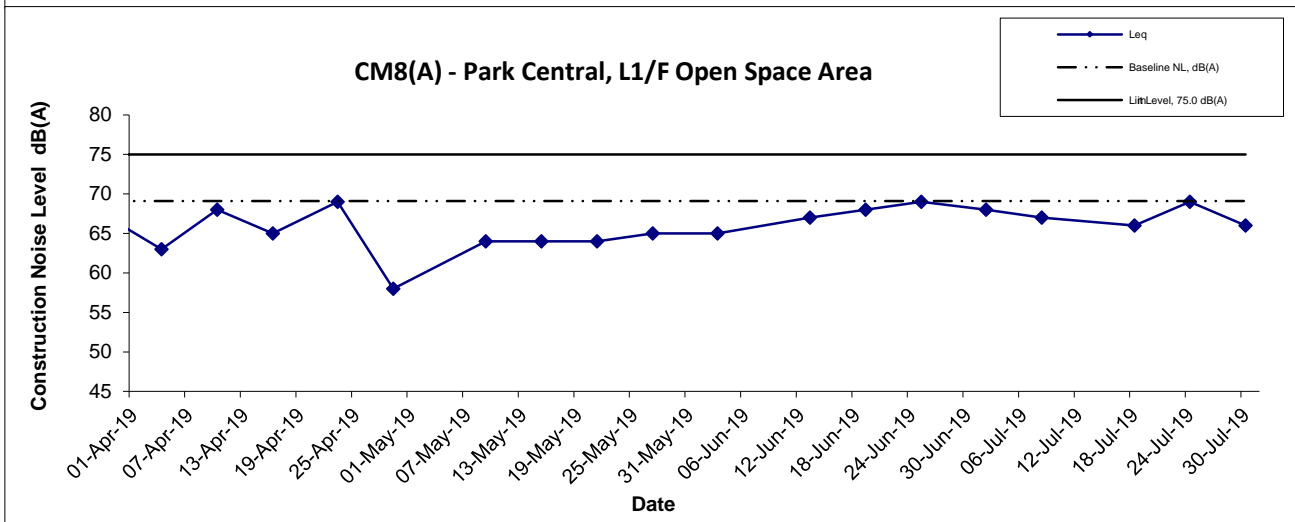
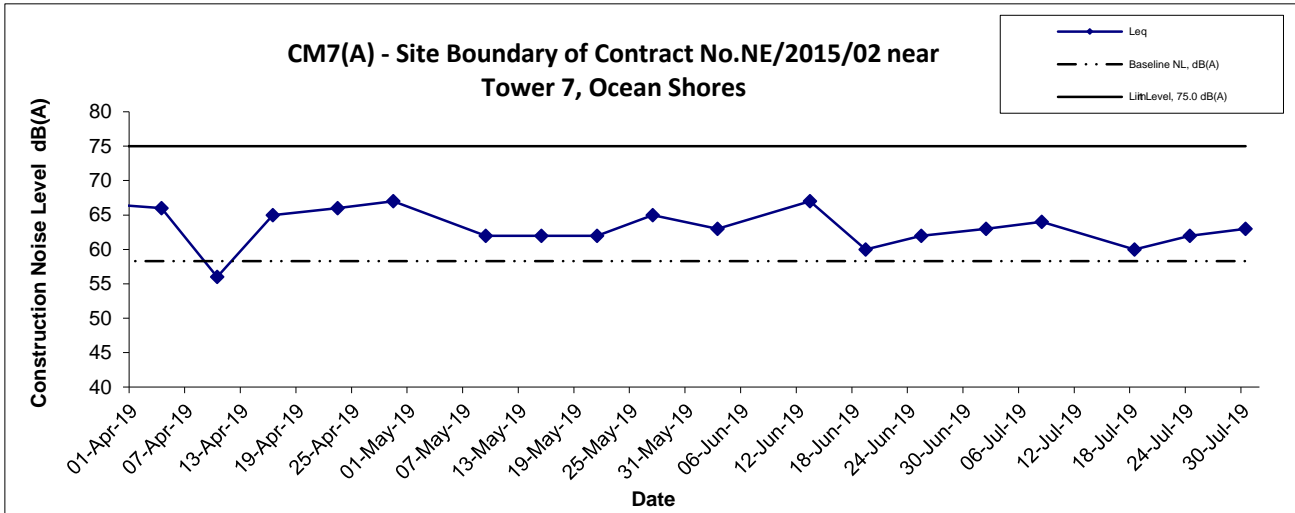
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	Date	Appendix	
	Jul 19	D	

## Noise Levels (Daytime)



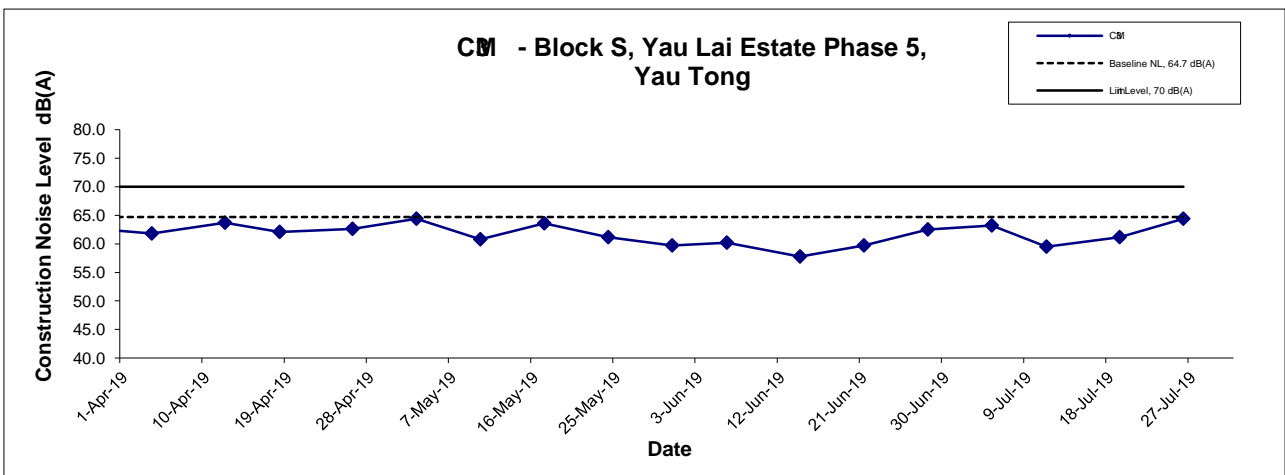
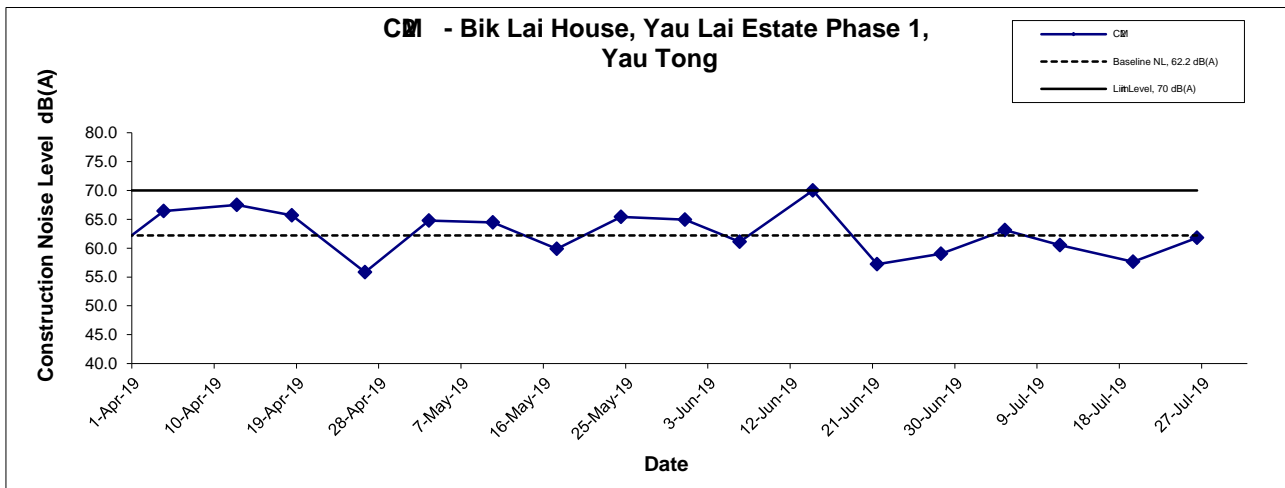
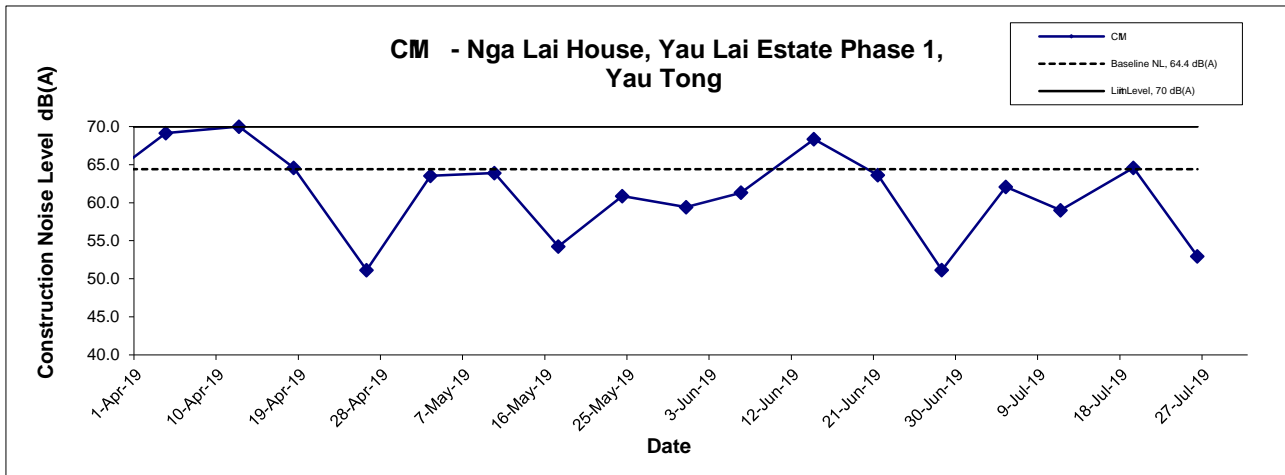
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	Date	Appendix	
	Jul 19	D	

## Noise Levels (Daytime)



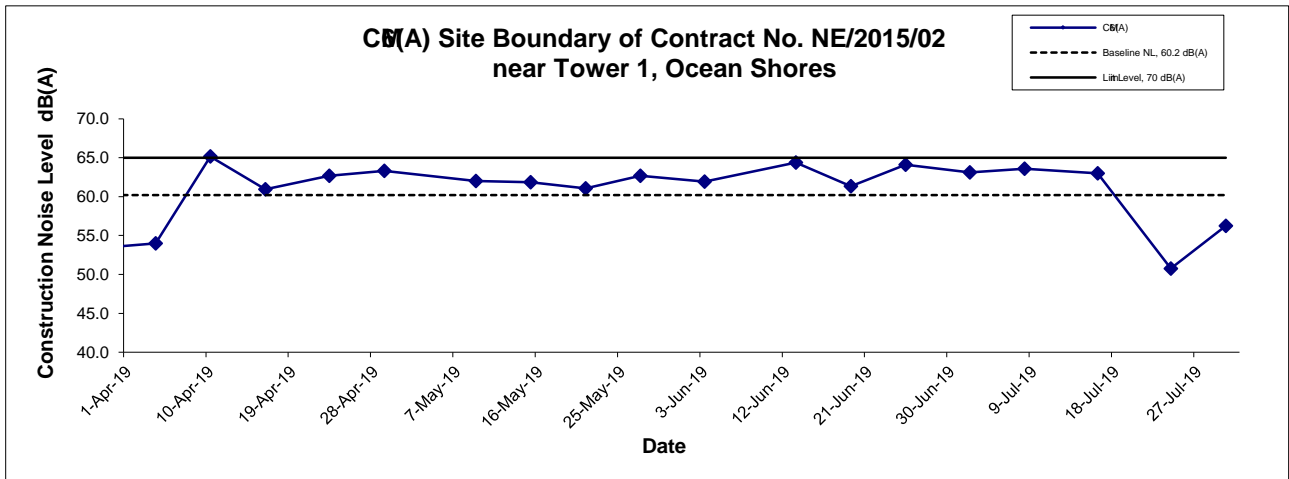
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	Date	Appendix	
	Jul 19	D	

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



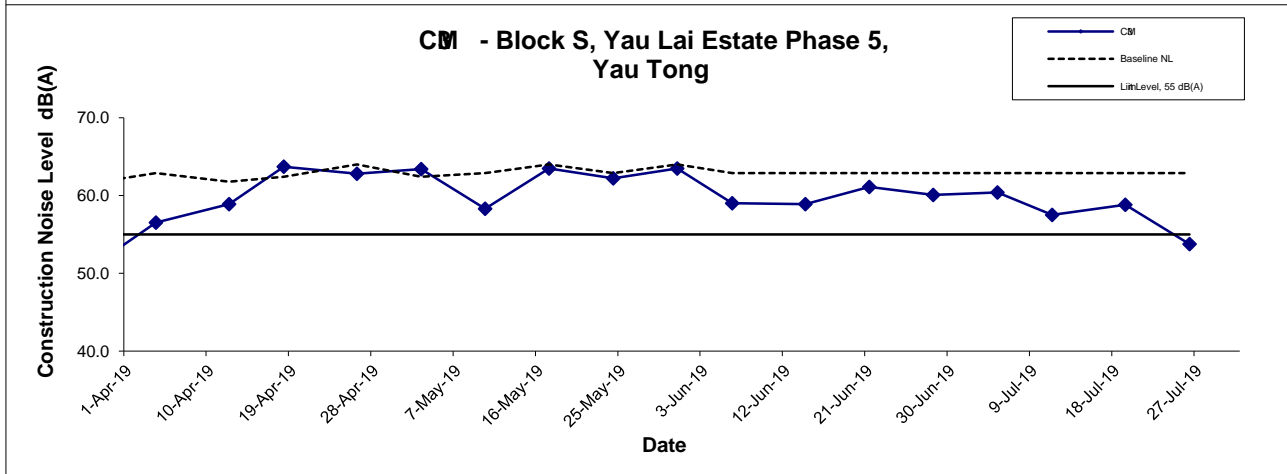
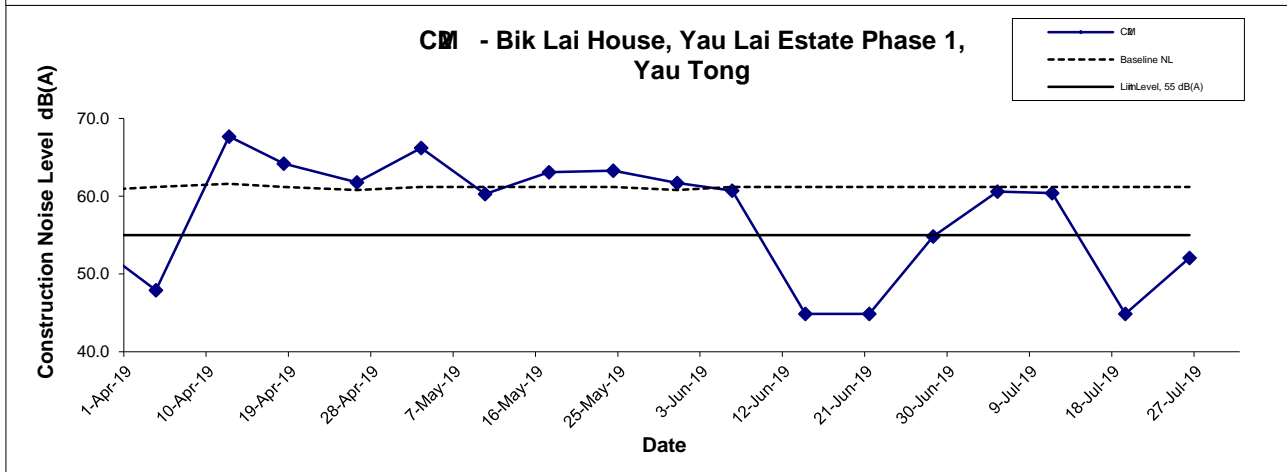
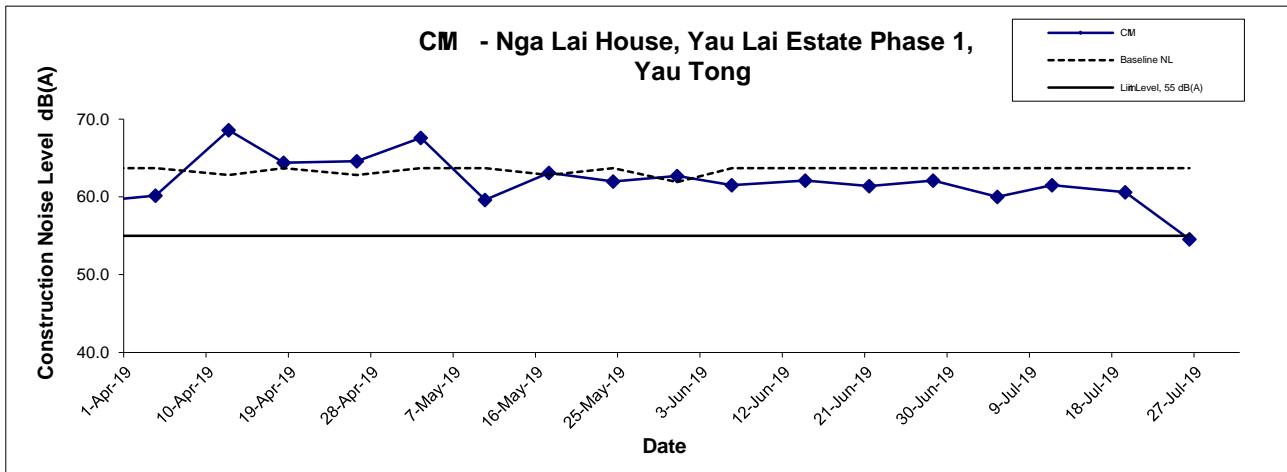
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	Date Jul 19	Appendix D	

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



<b>Title</b> 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	<b>Scale</b> N.T.S	<b>Project No.</b> M 16034	<b>CINOTECH</b>
	<b>Date</b> Jul 19	<b>Appendix</b> D	

## Noise Levels (Restricted Hours - 2300-0700 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. M 16034	CINOTECH
	Date Jul 19	Appendix D	



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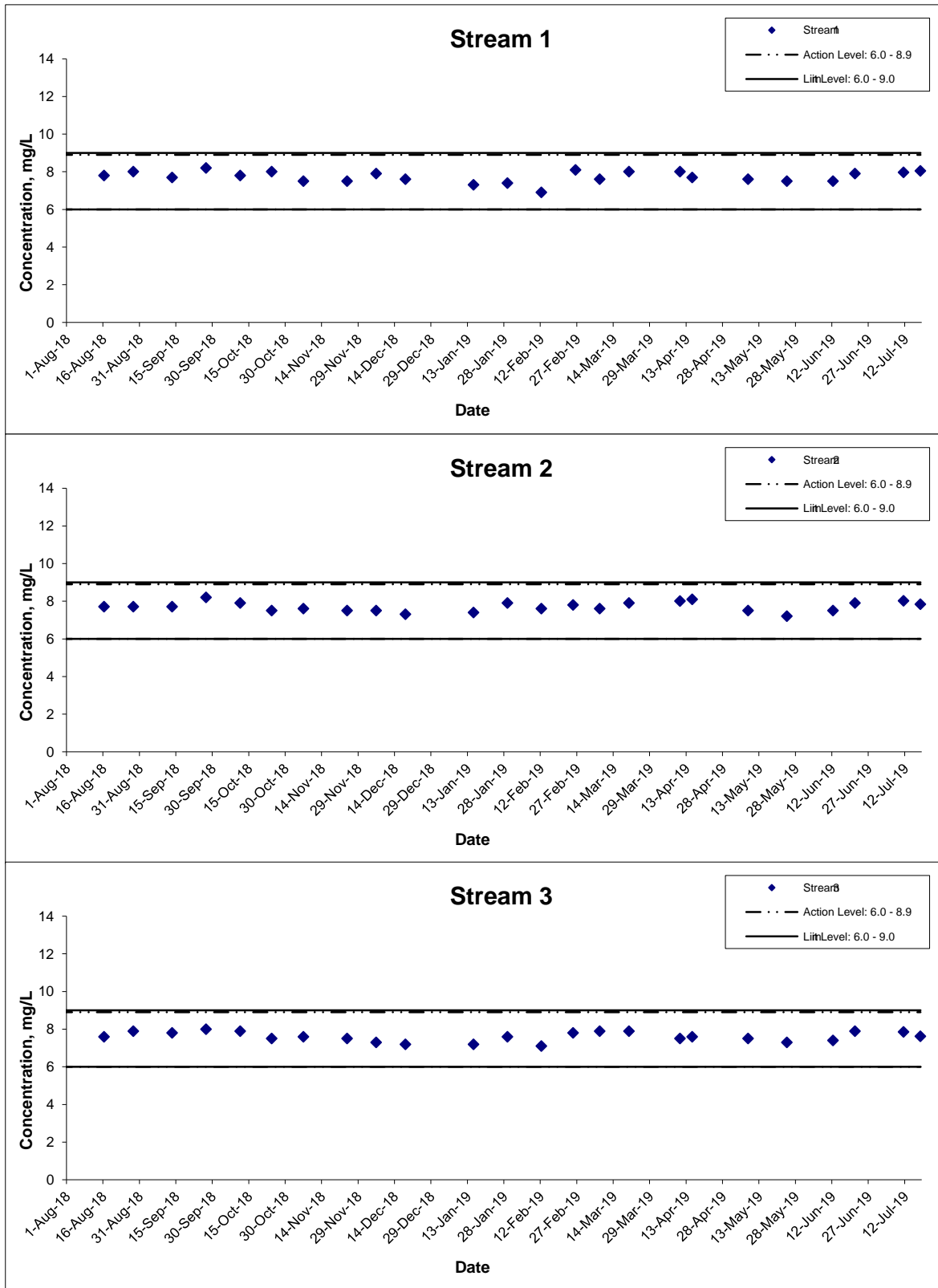
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**APPENDIX E  
GRAPHICAL PRESENTATION OF  
GROUNDWATER QUALITY  
MONITORING RESULTS**

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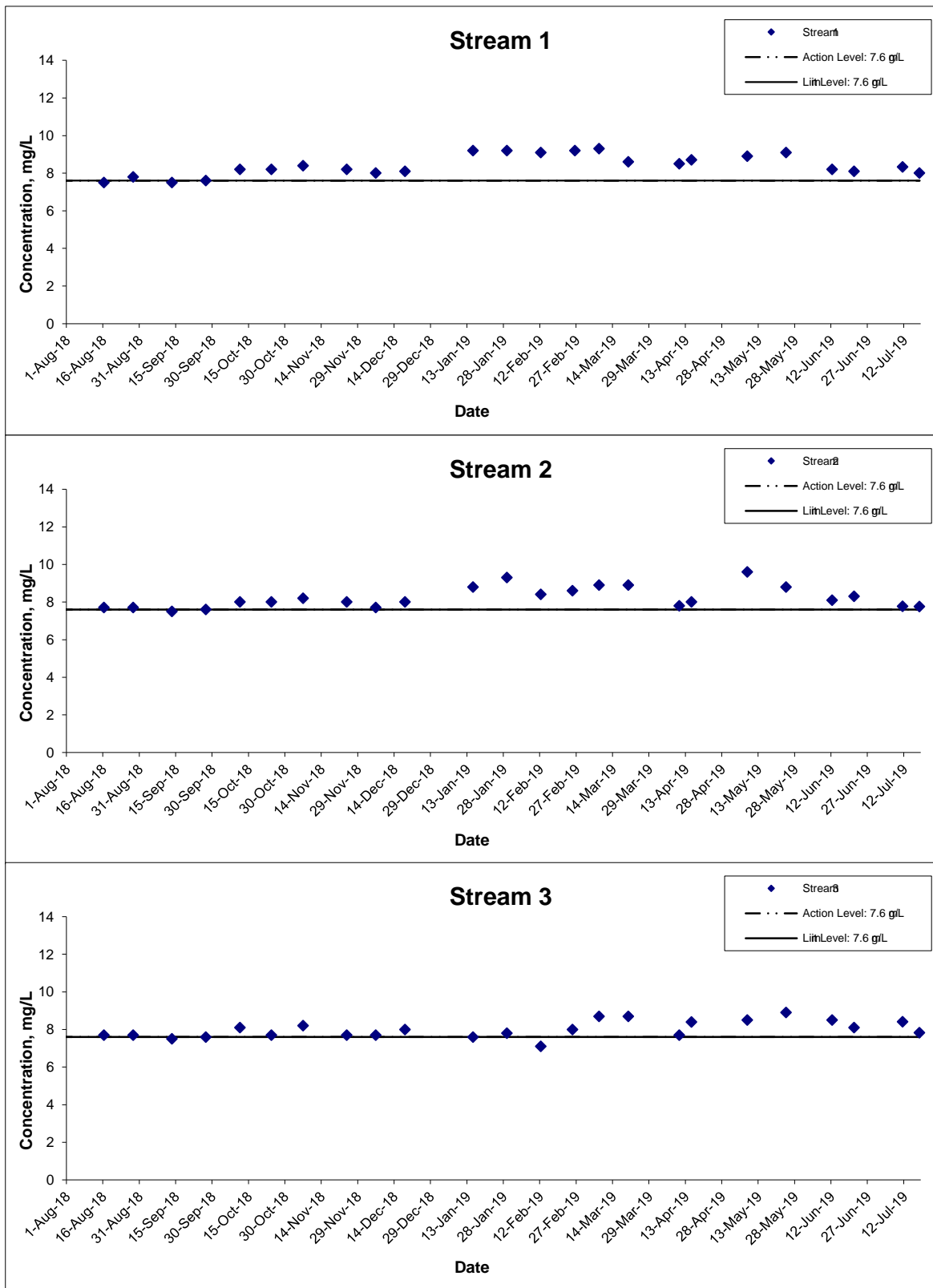
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# pH



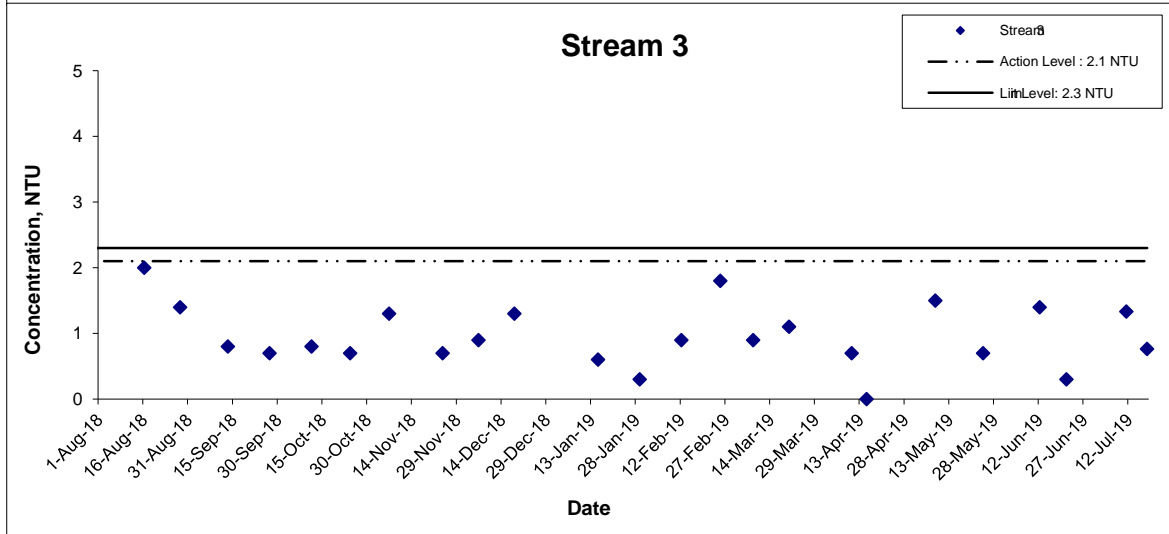
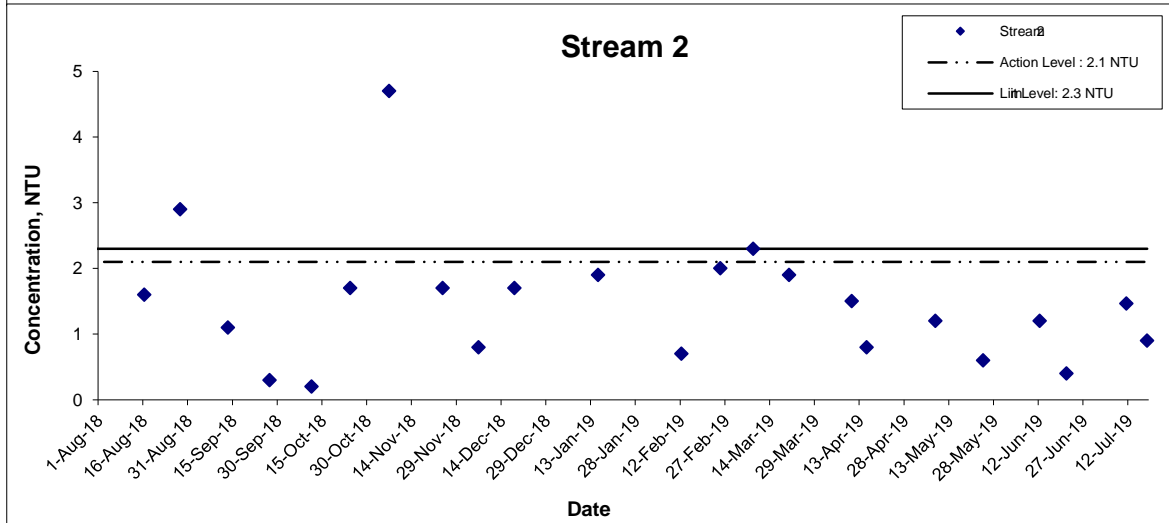
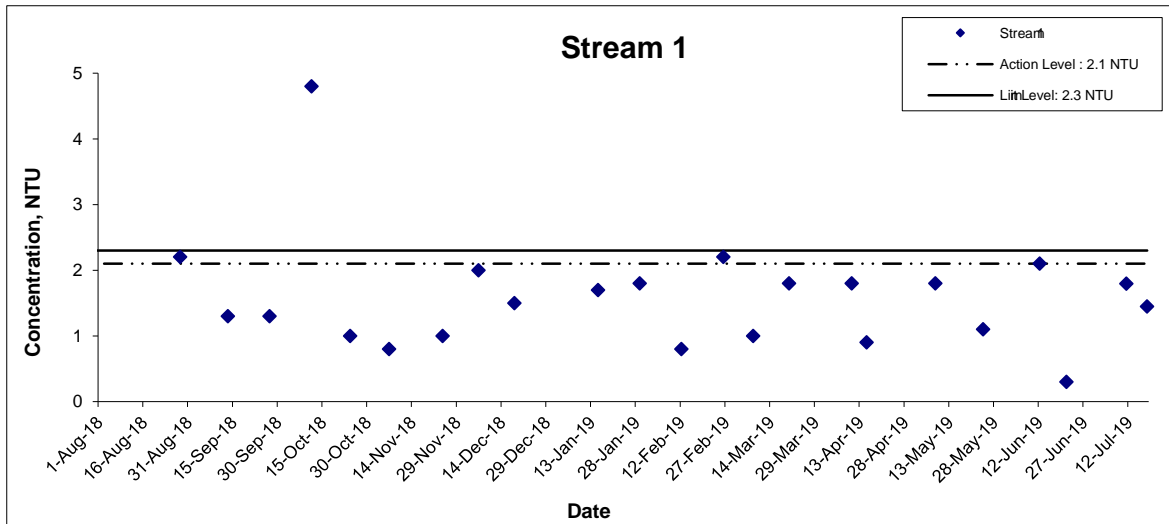
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	Date Jul 19	Appendix E	

## Dissolved Oxygen



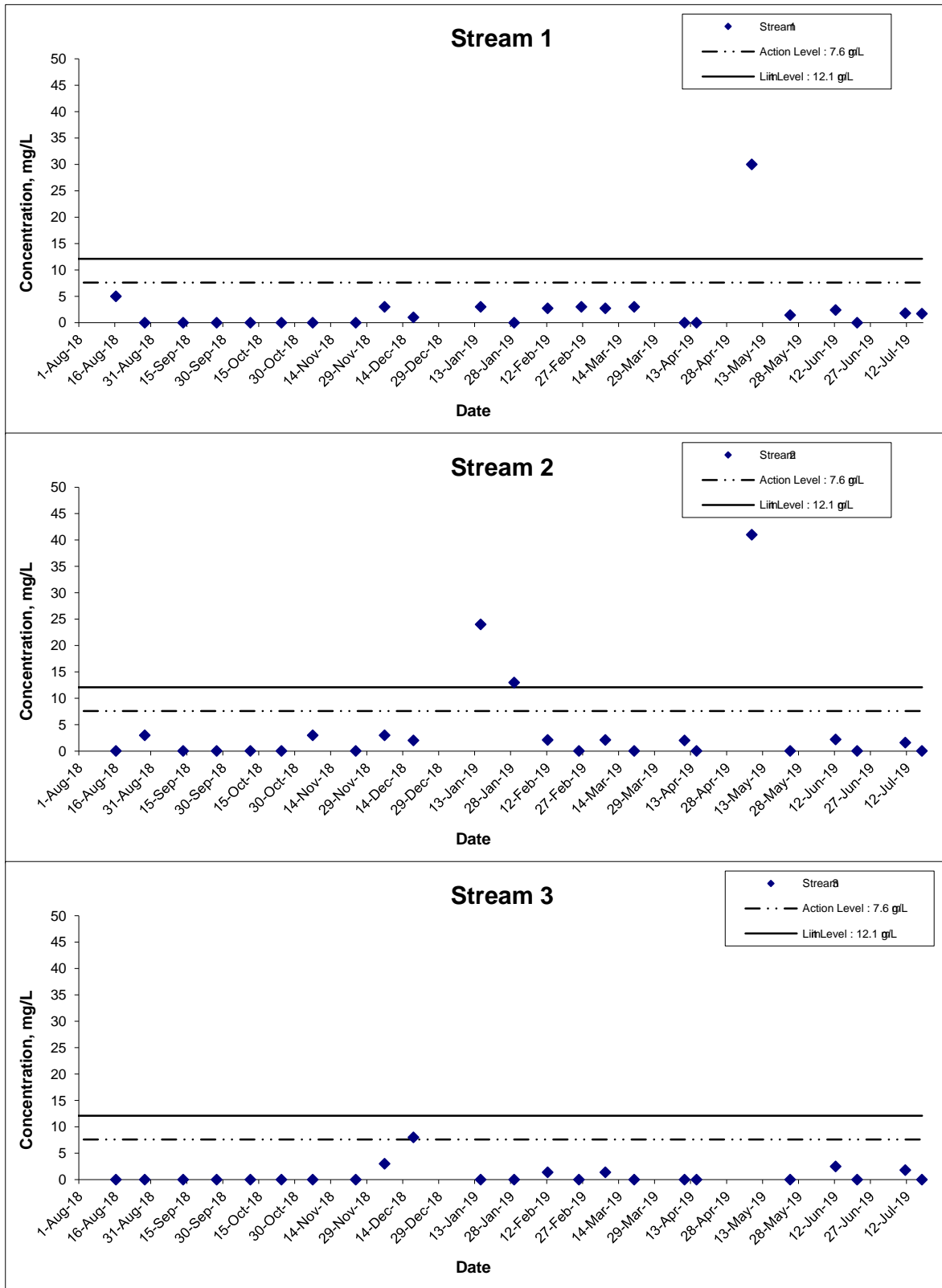
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## Turbidity



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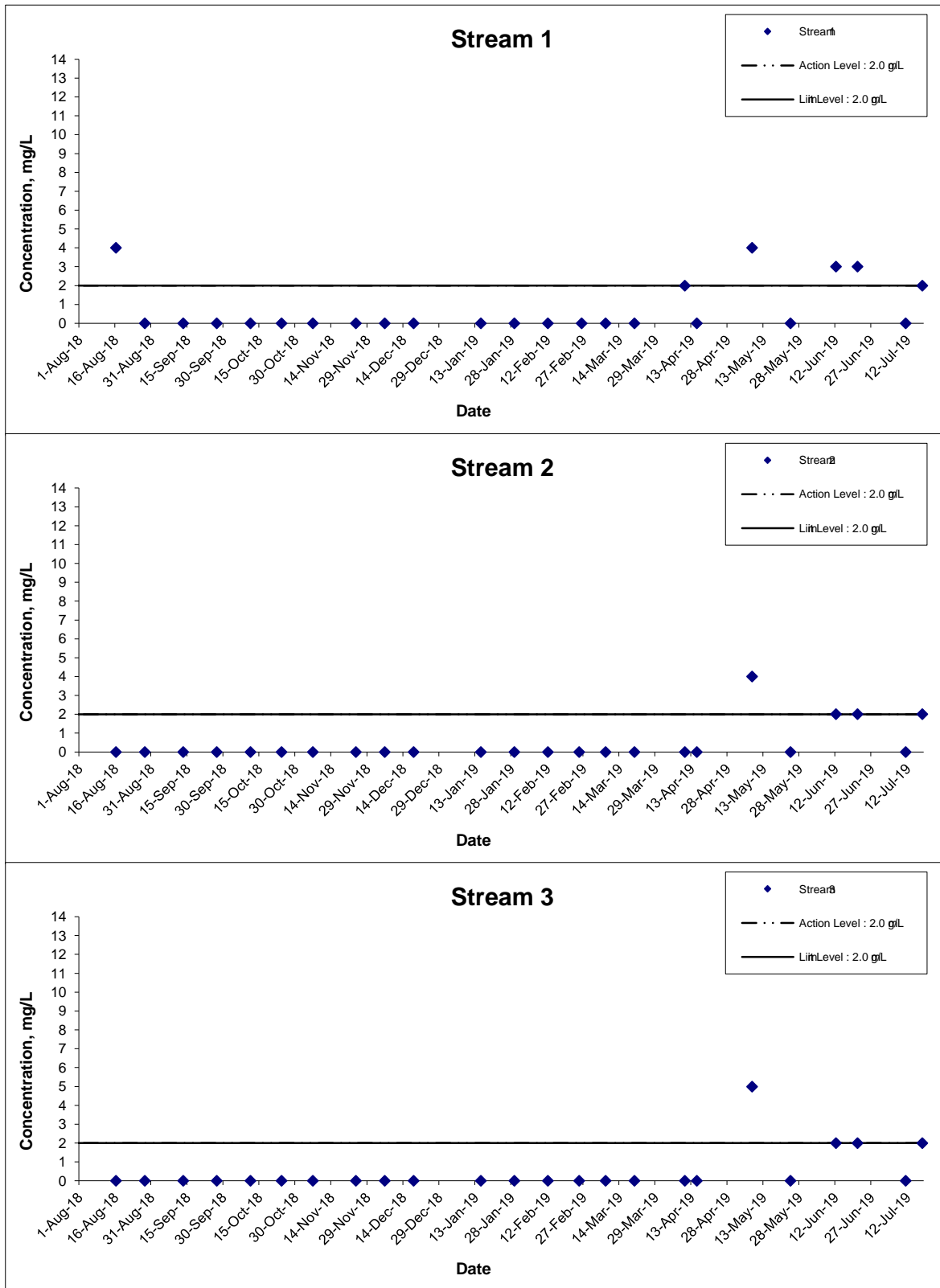
## Suspended Solids



Remarks: The graphical point at zero concentration is presented as <2.5 g/L

Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lan Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. M16034	
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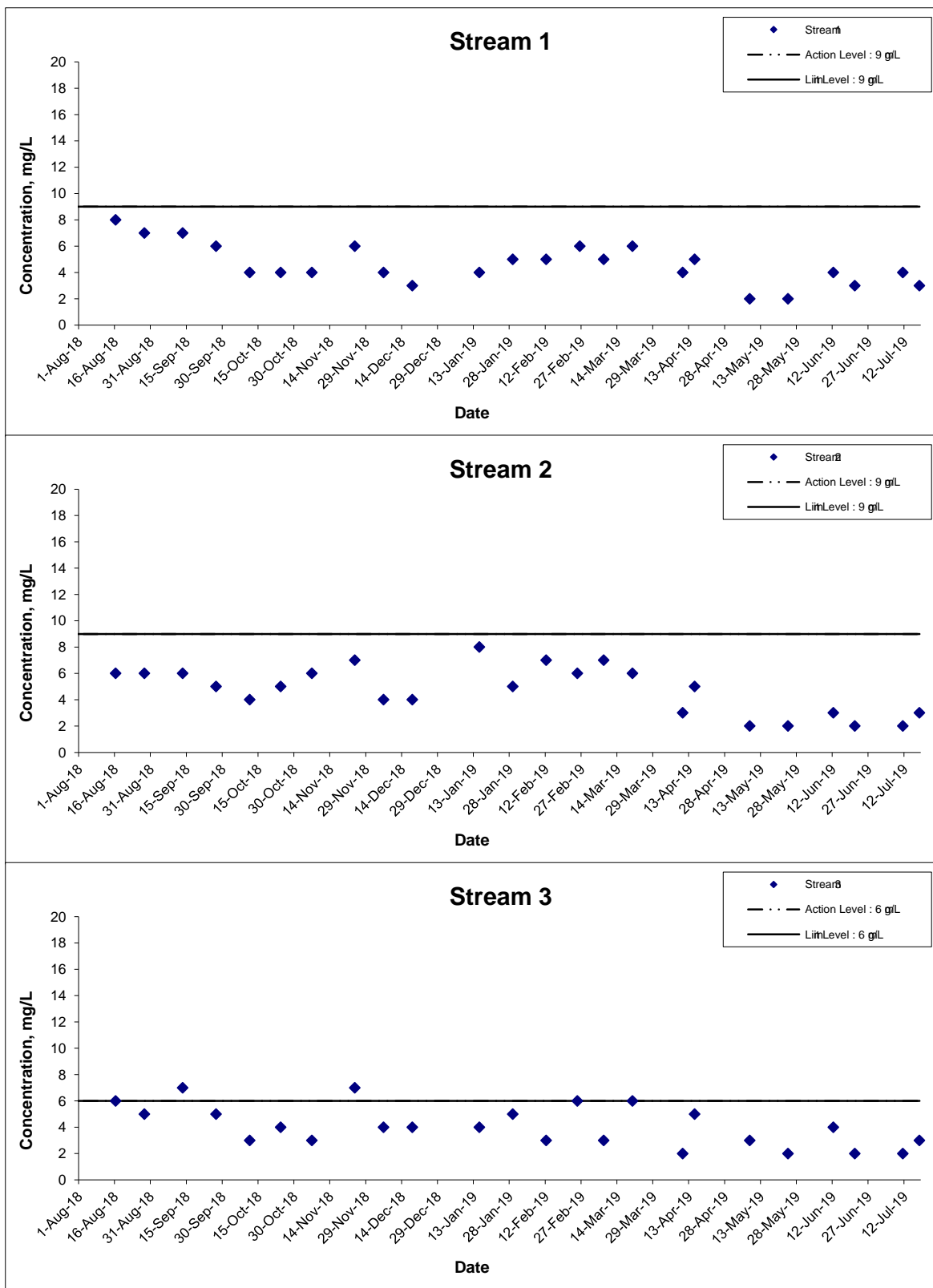
## 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>)



Remarks: The graphical point at zero concentration is presented as <2 g/L

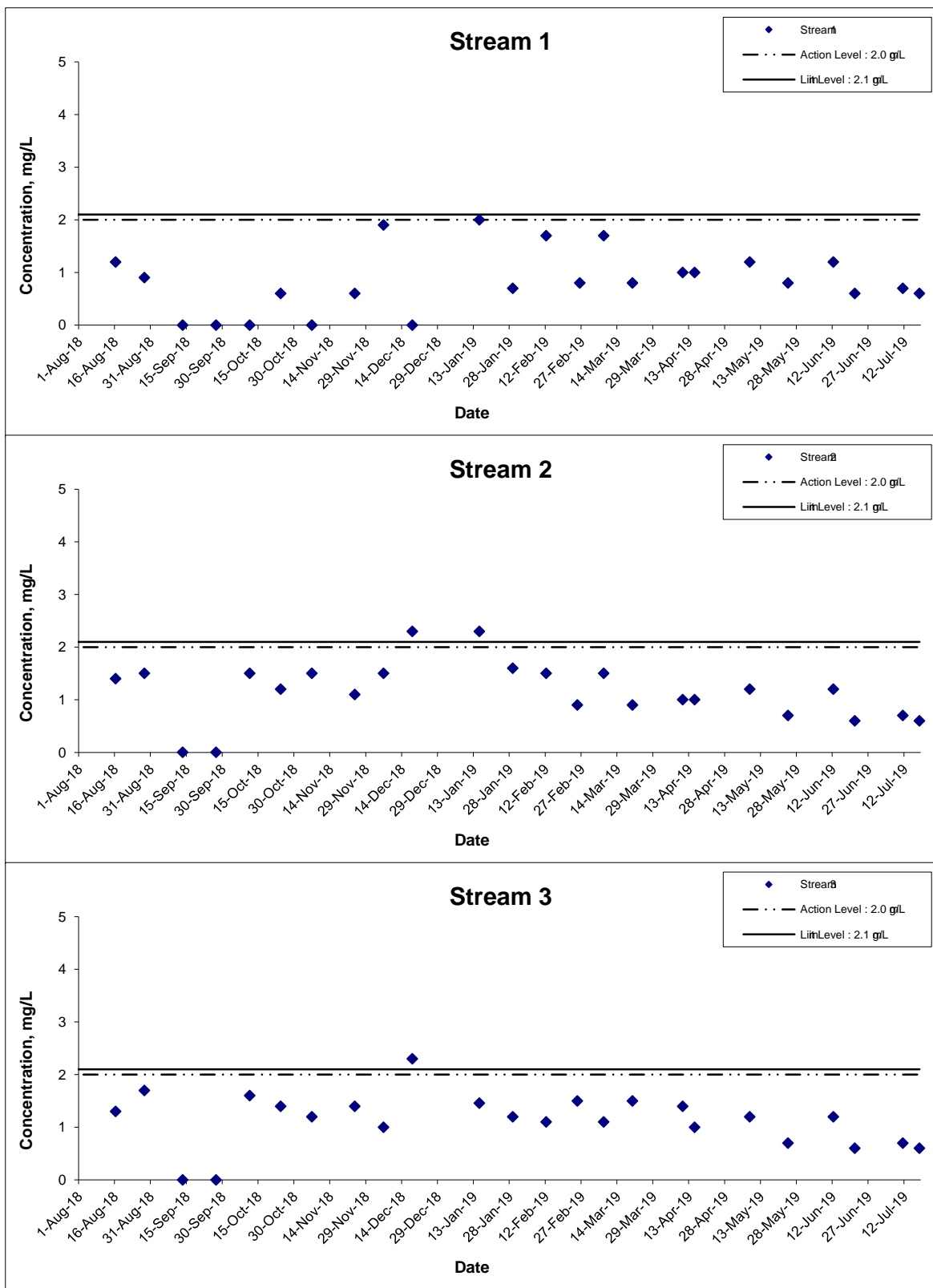
Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lan Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. M16034	
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## Total Organic Carbon (TOC)



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## Total Nitrogen

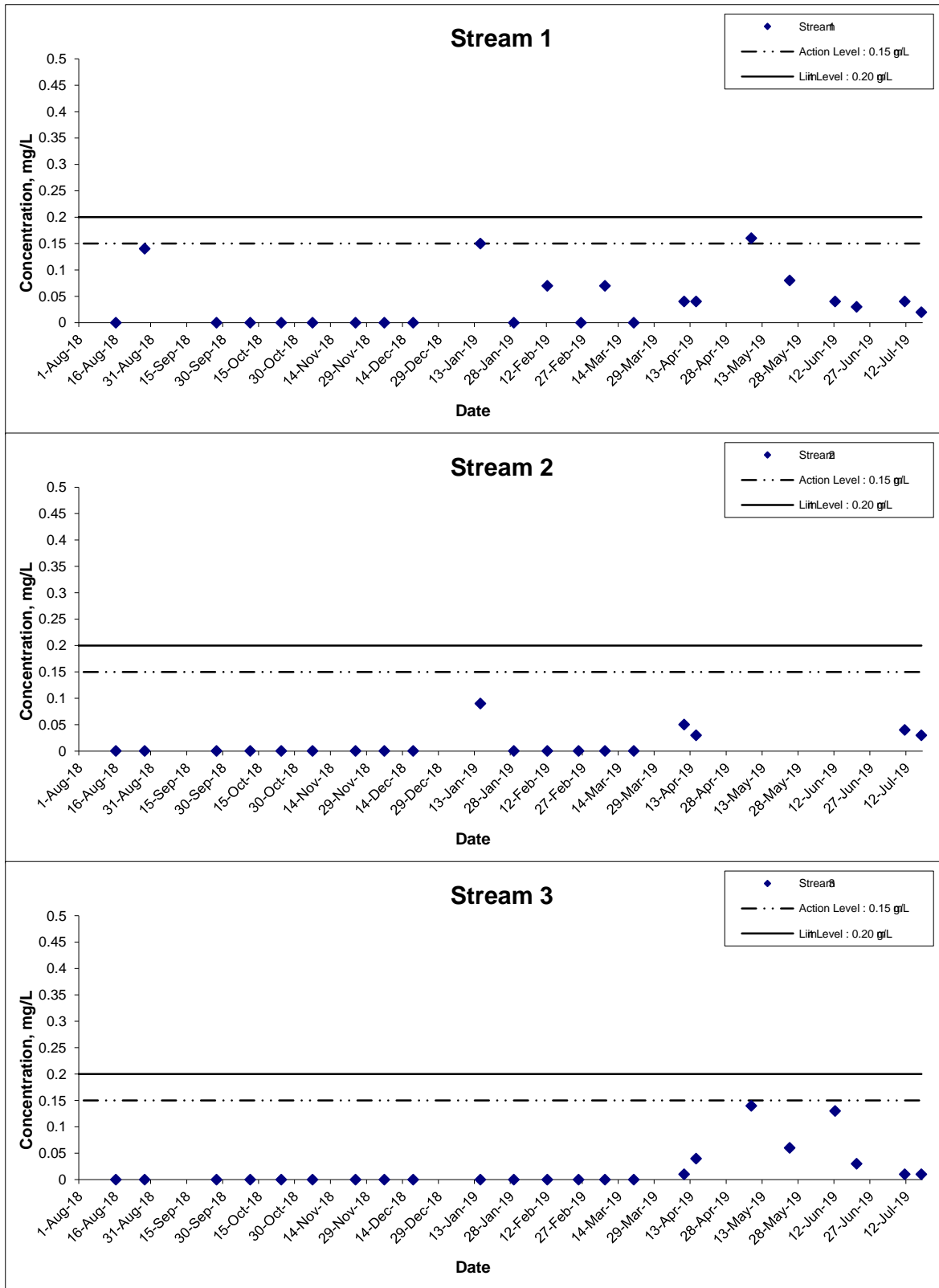


Remarks: The graphical point at zero concentration is presented as <0.6 mg/L

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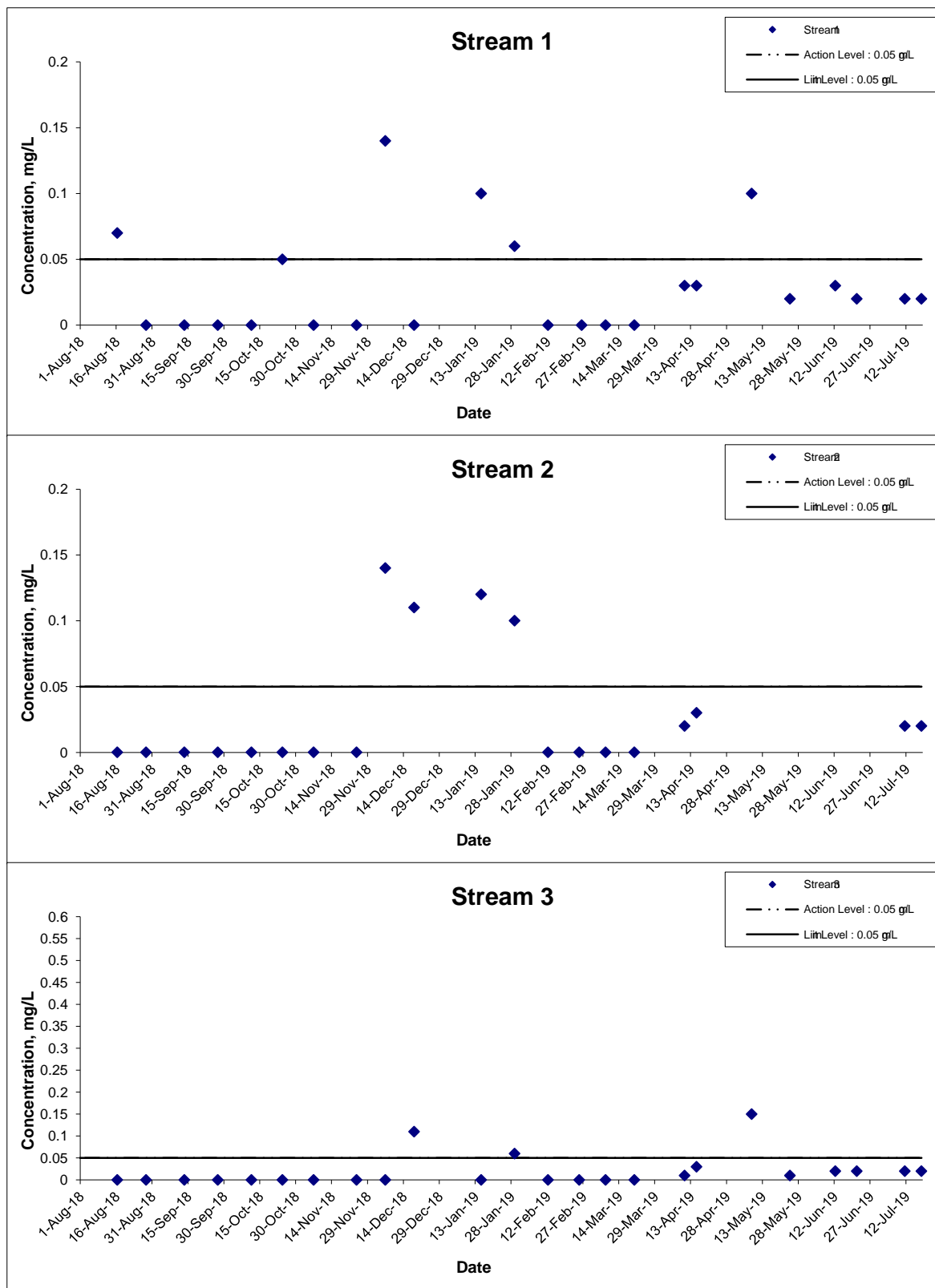
# Ammonia-Nitrogen



Remarks: The graphical point at zero concentration is presented as <0.05 g/L

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## Total Phosphate



Remarks: The graphical point at zero concentration is presented as <0.05 mg/L

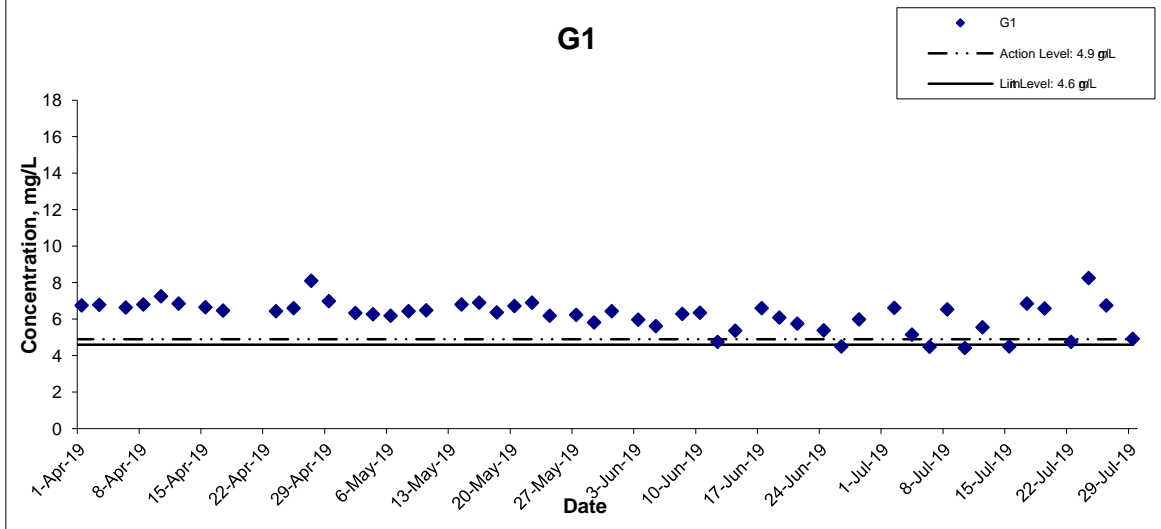
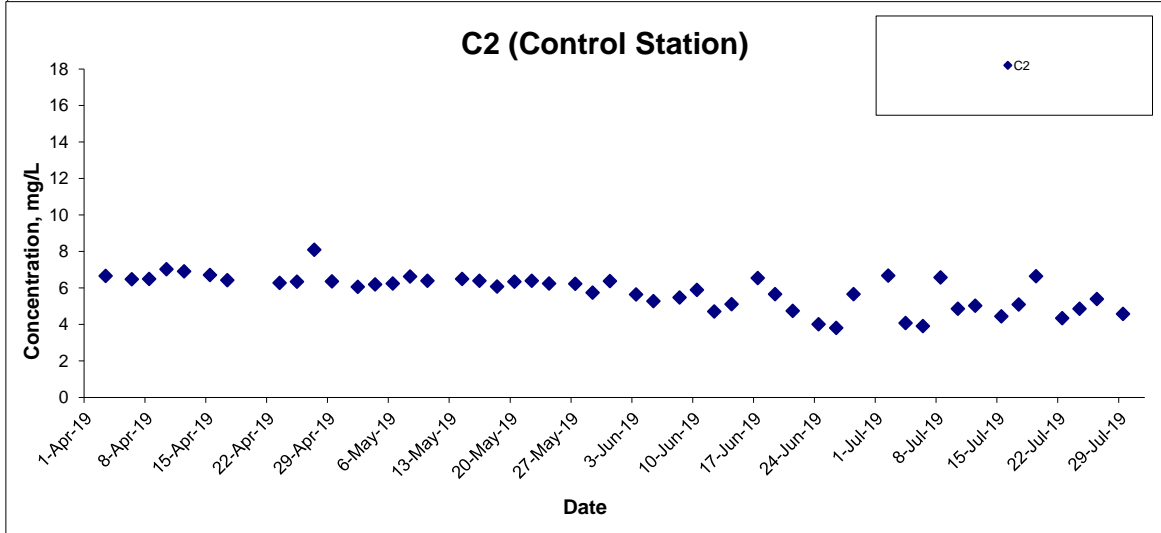
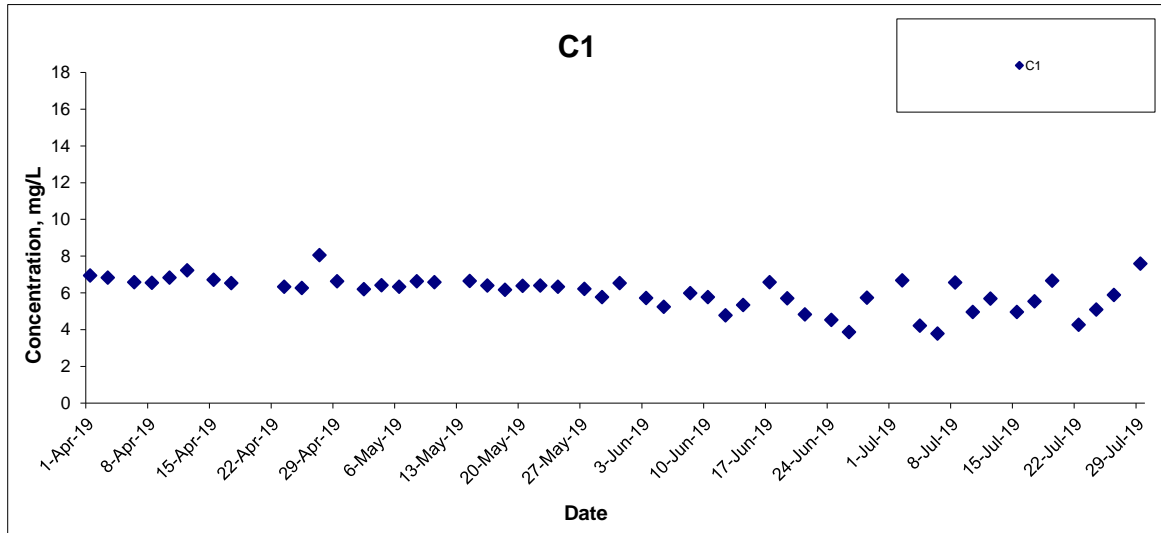
Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lan Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. M16034	
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**APPENDIX F  
GRAPHICAL PRESENTATION OF  
MARINE WATER QUALITY  
MONITORING RESULTS**

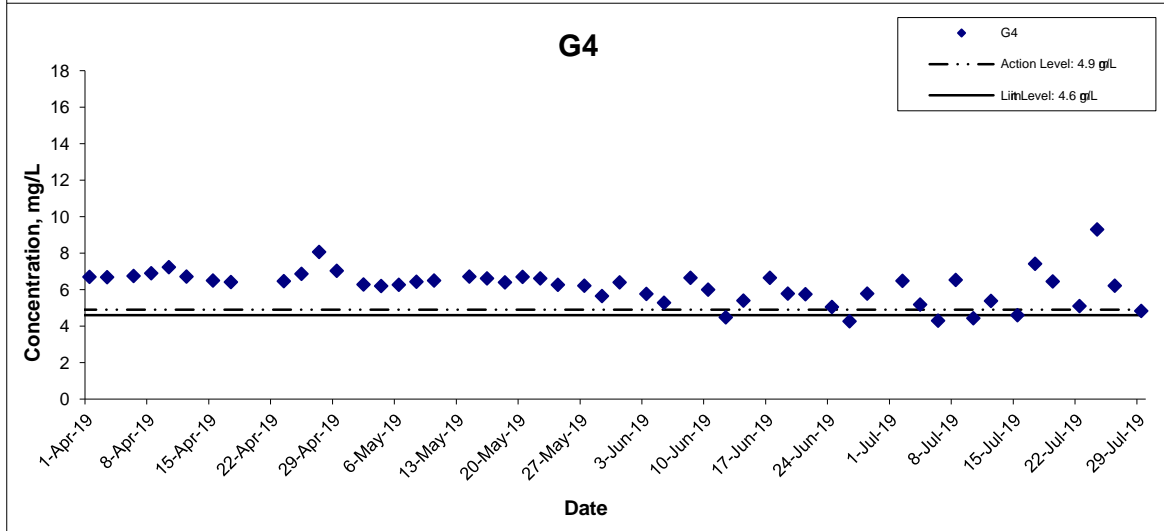
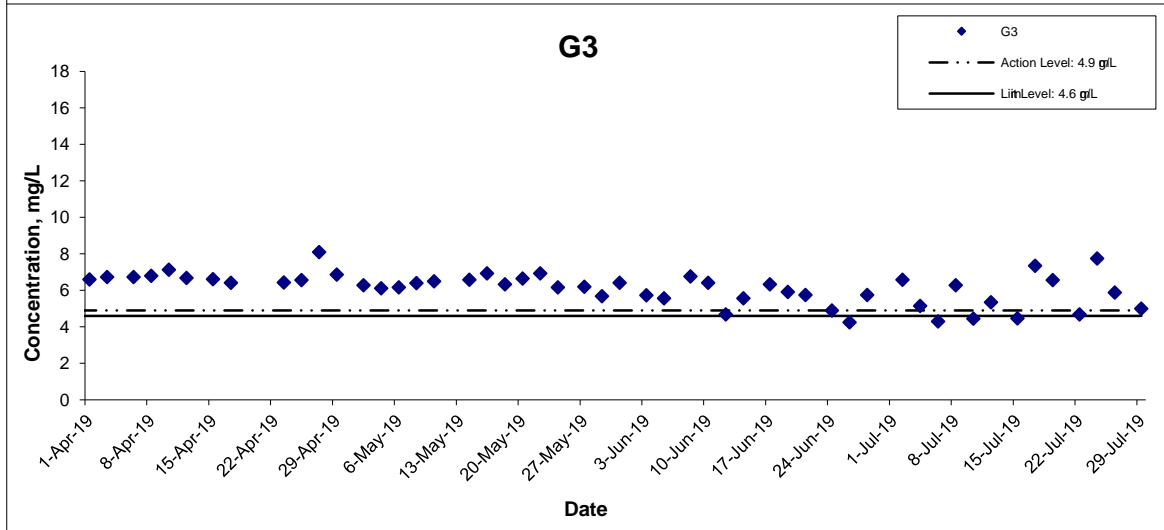
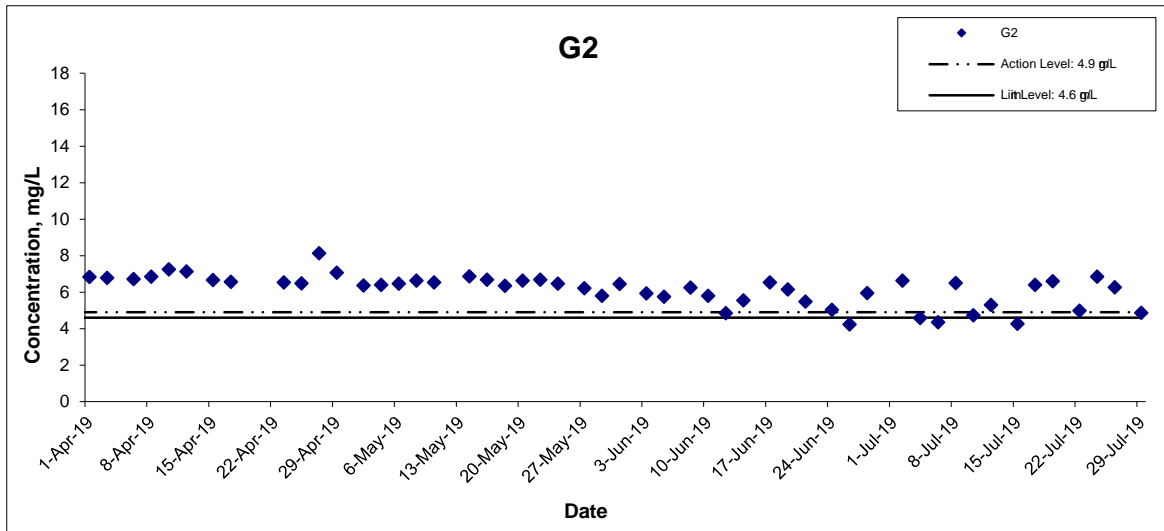
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## Dissolved Oxygen (Depth-averaged) at M-Ebb Tide



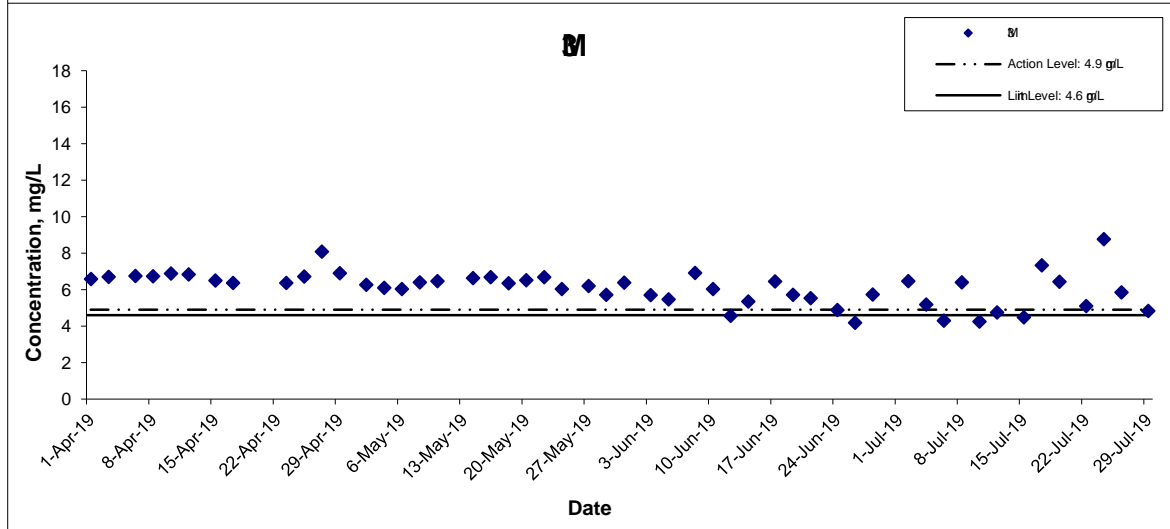
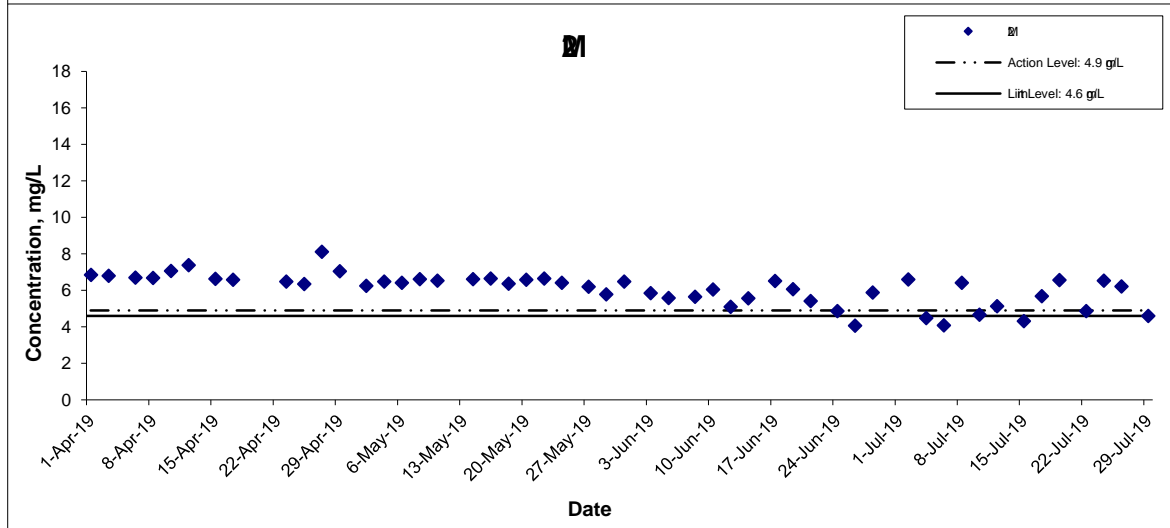
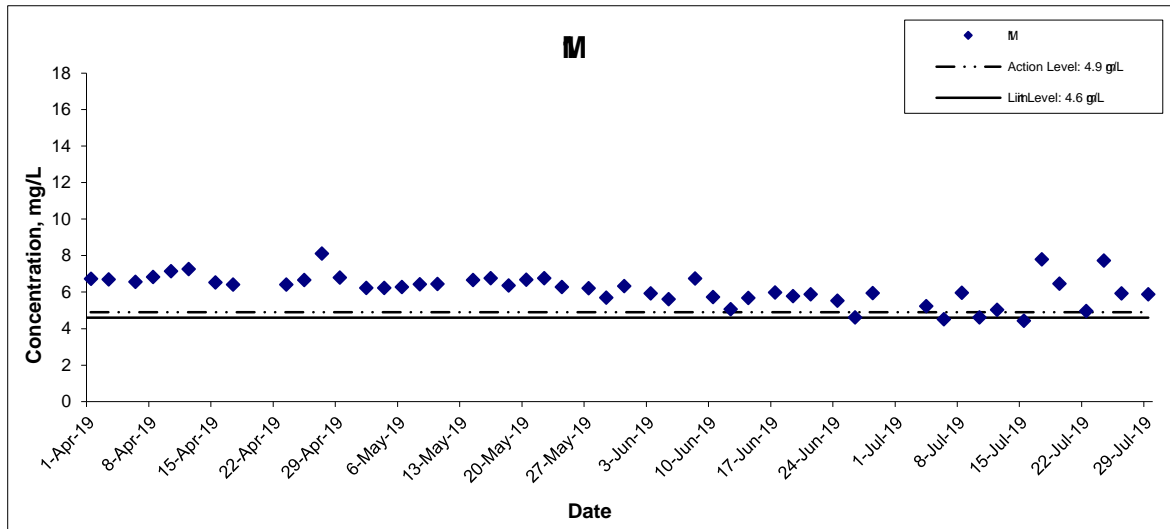
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Dissolved Oxygen (Depth-averaged) at M-Ebb Tide



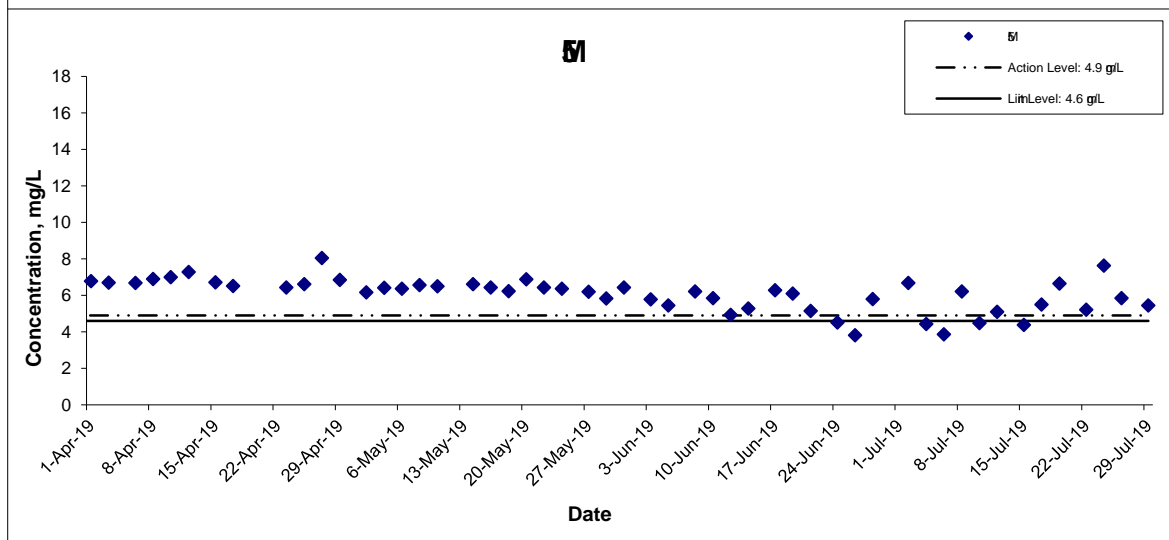
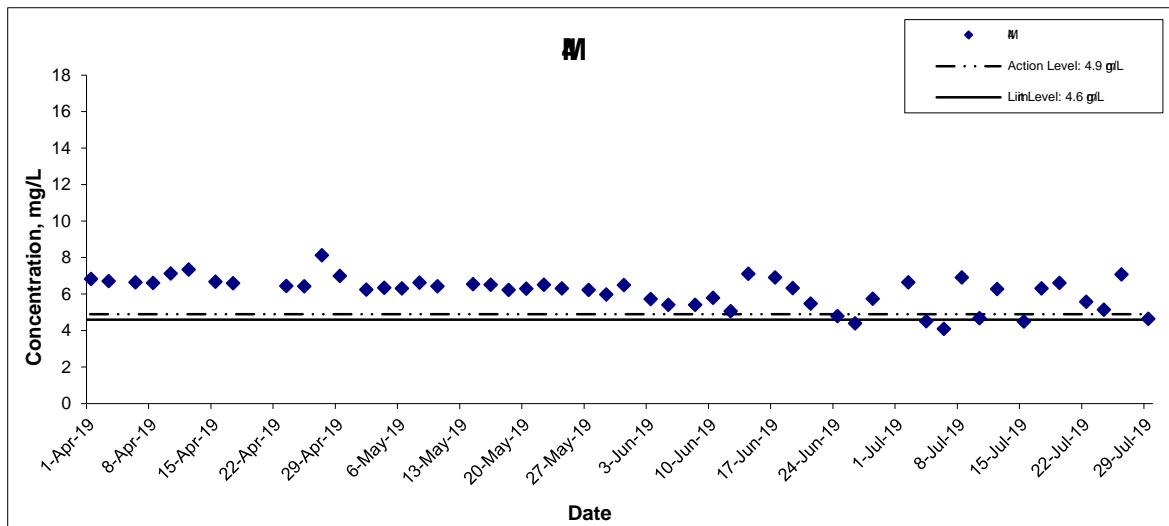
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Dissolved Oxygen (Depth-averaged) at M-Ebb Tide



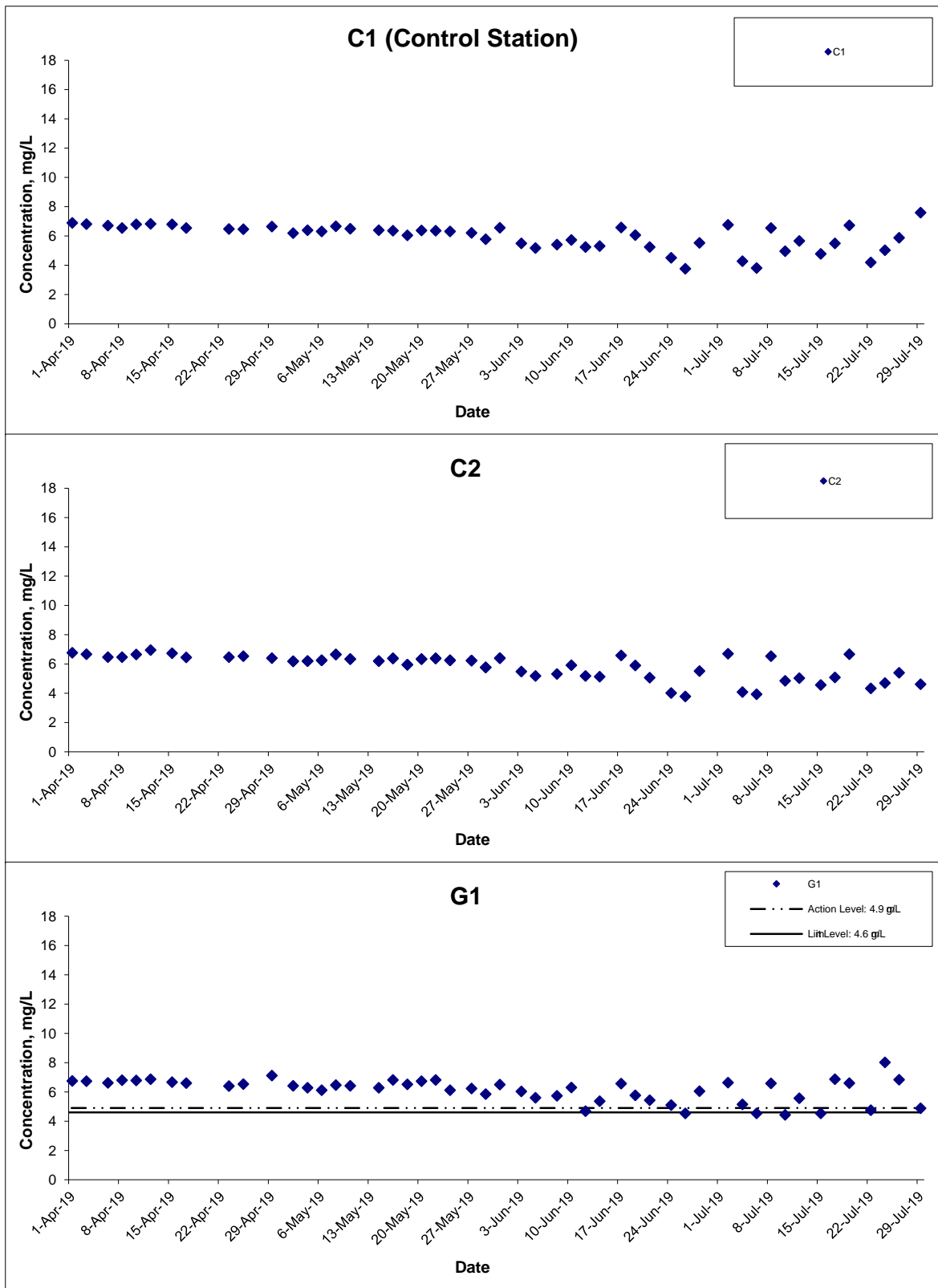
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Dissolved Oxygen (Depth-averaged) at M-Ebb Tide



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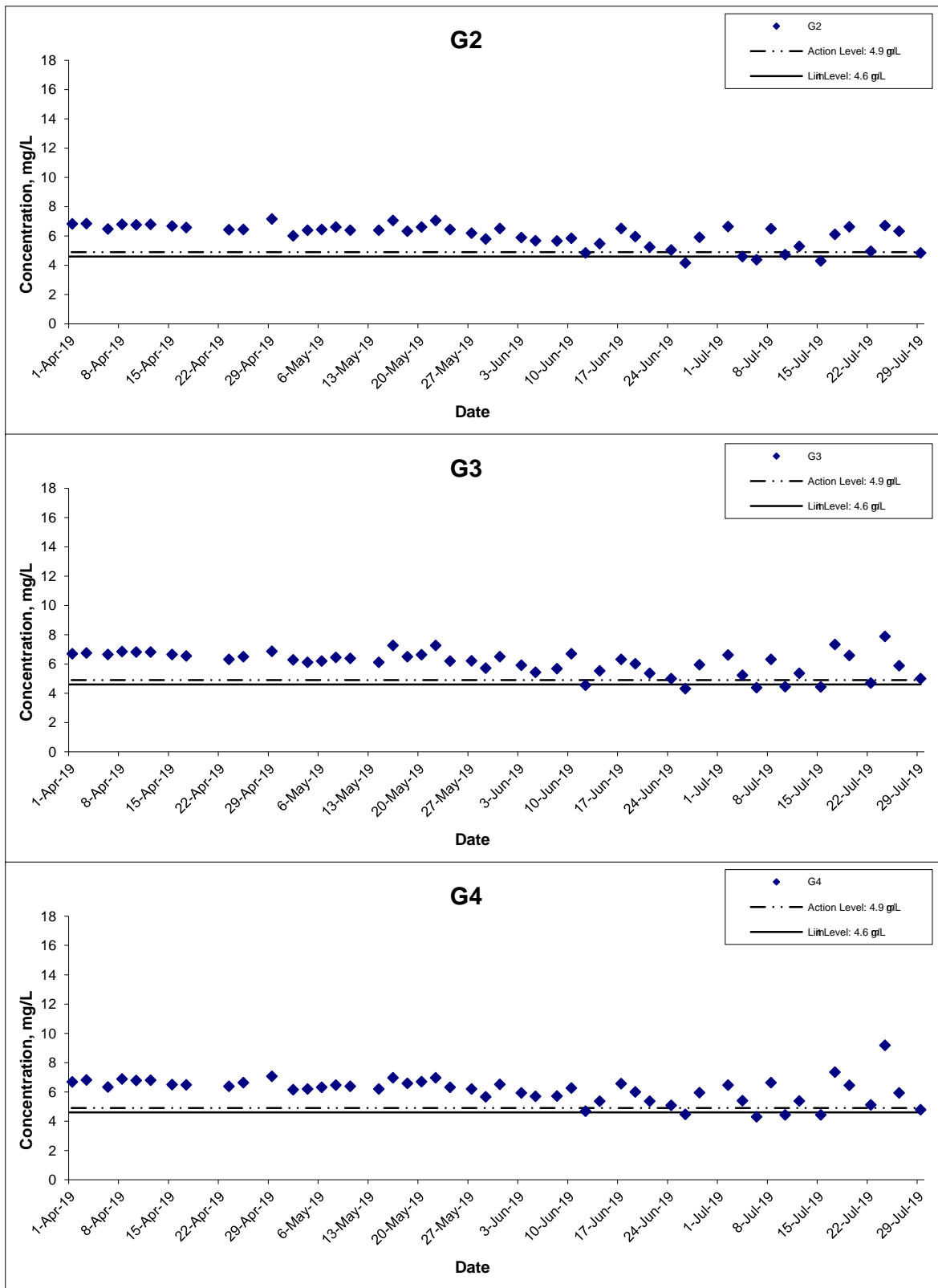
## Dissolved Oxygen (Depth-averaged) at M-Flood Tide



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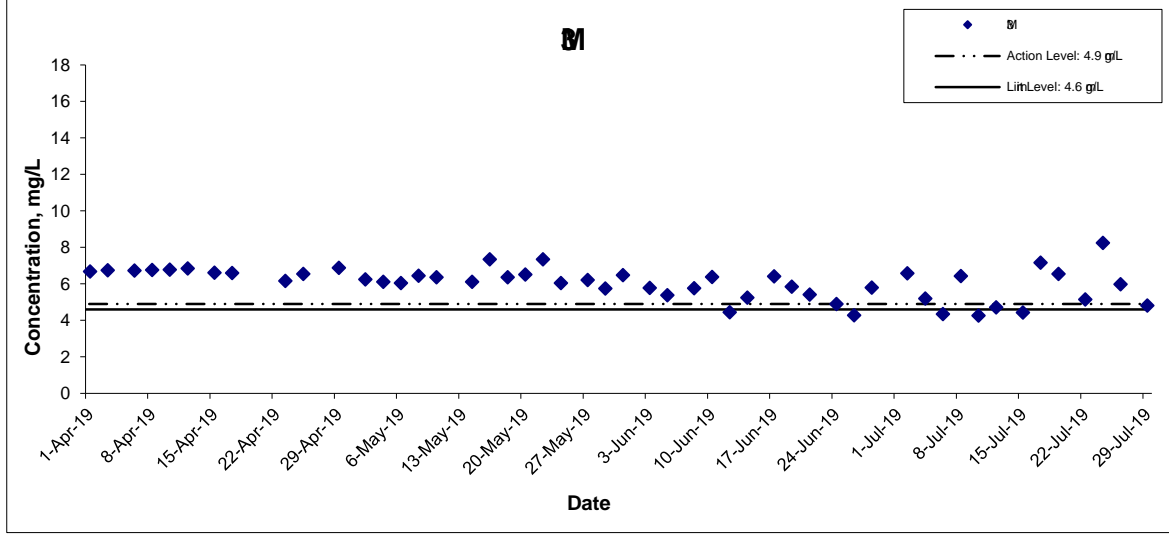
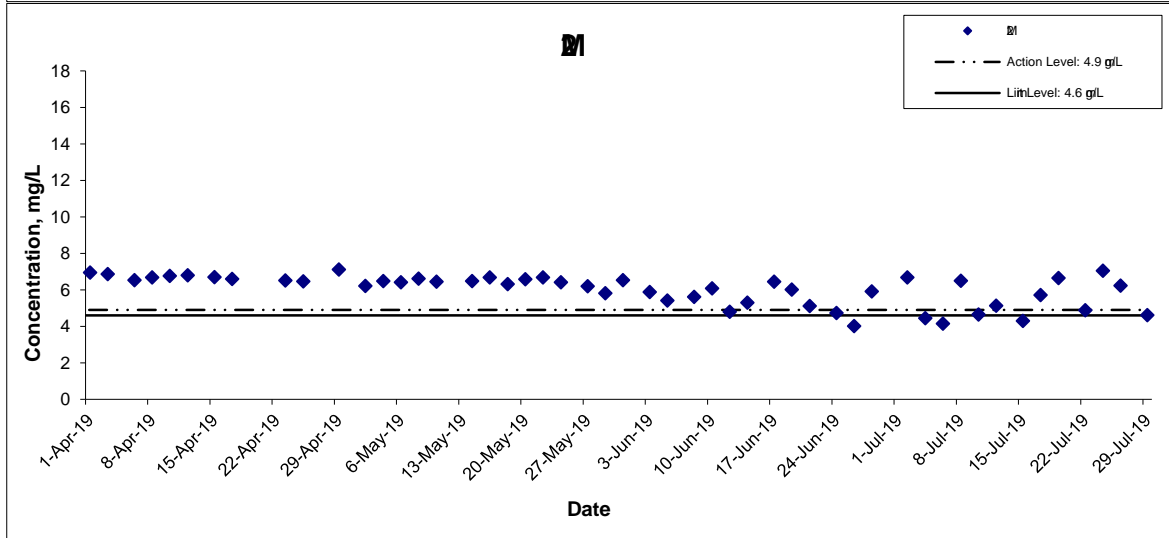
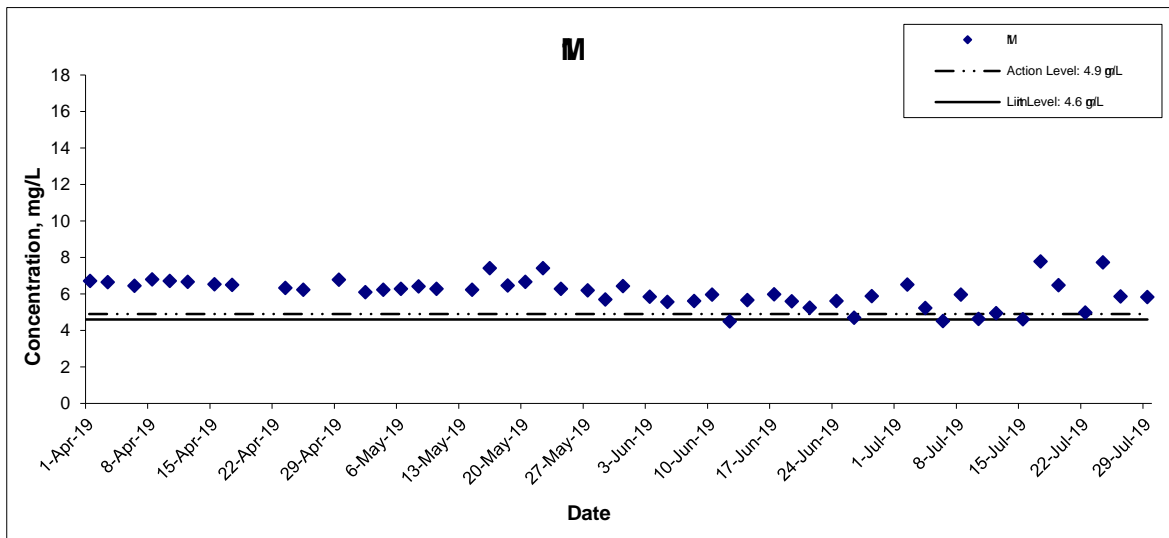


## Dissolved Oxygen (Depth-averaged) at M-Flood Tide



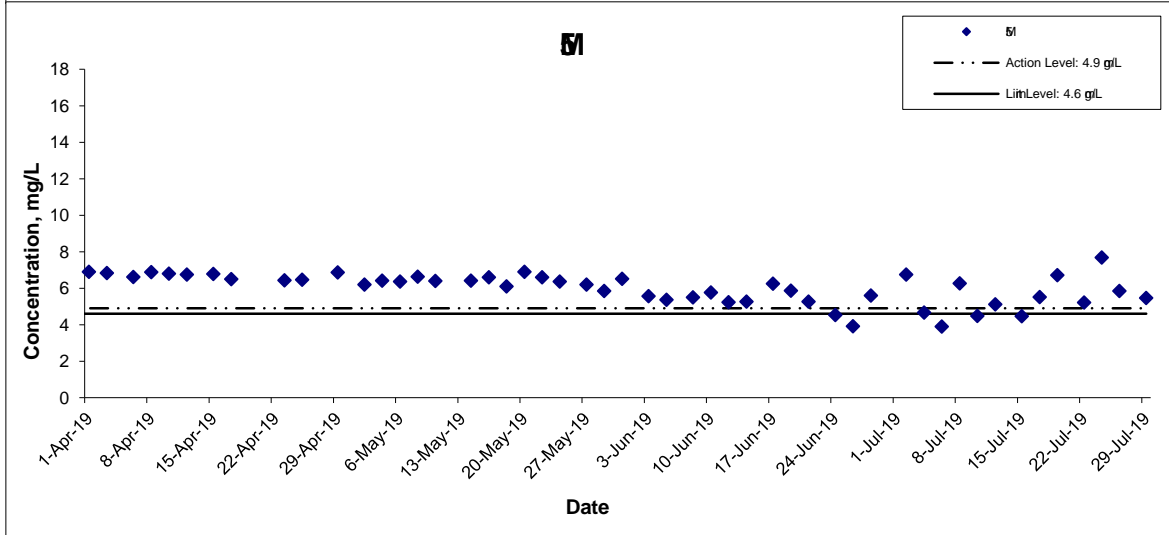
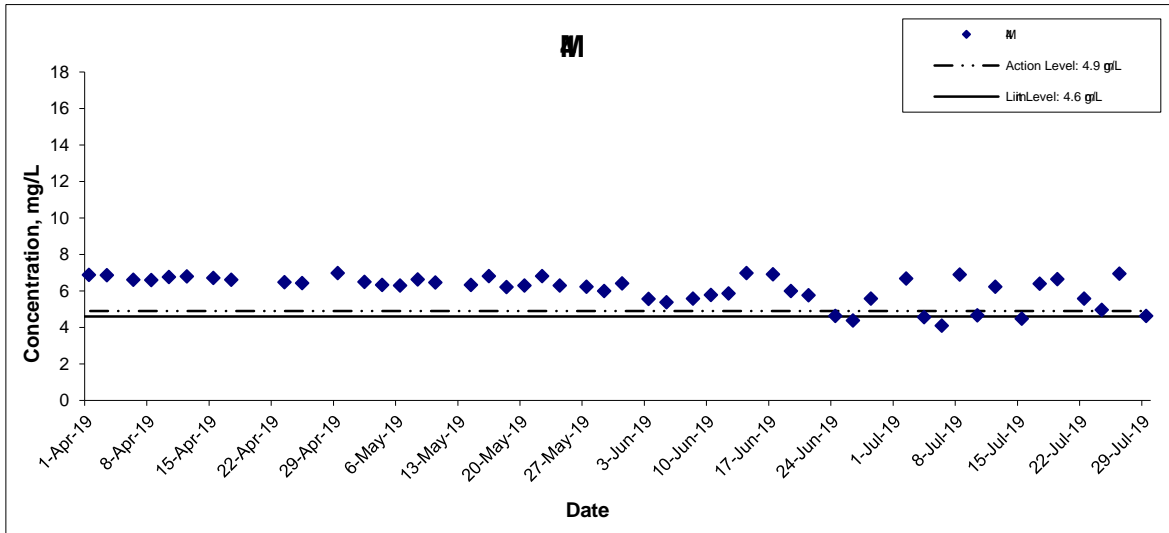
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	Date July 19	Appendix F	

## Dissolved Oxygen (Depth-averaged) at M-Flood Tide



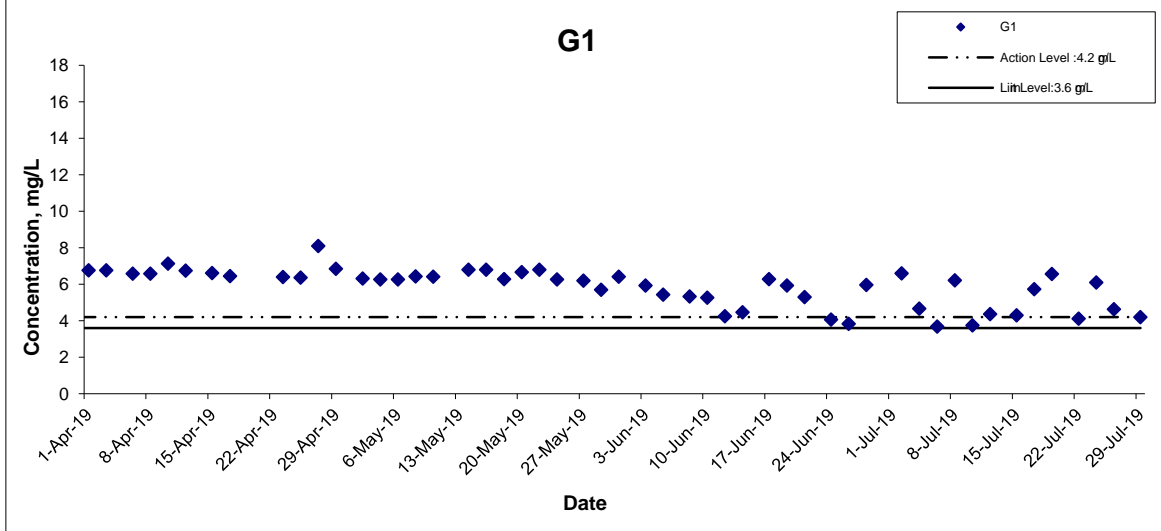
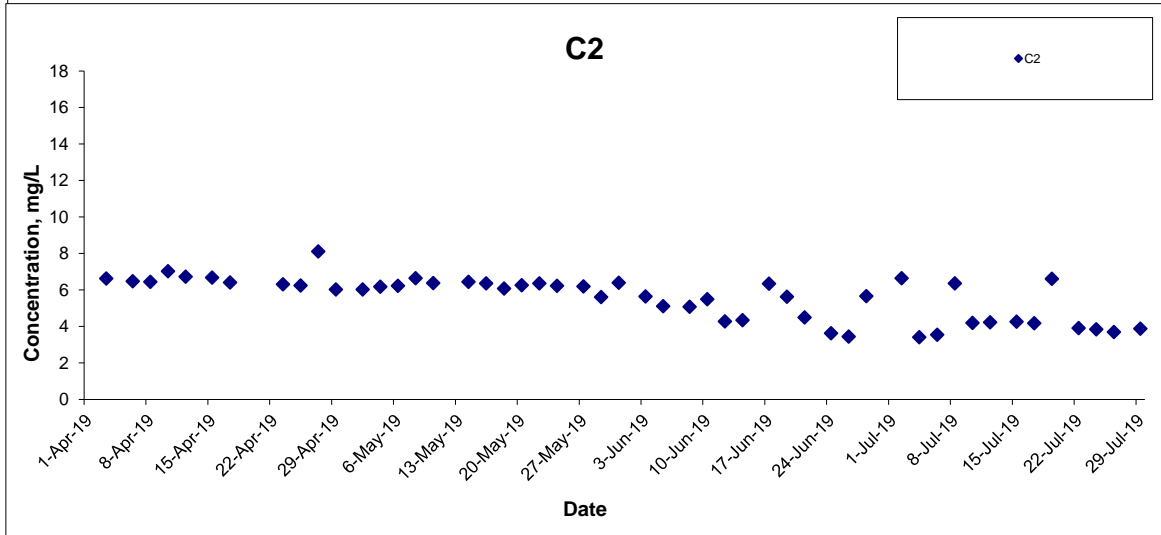
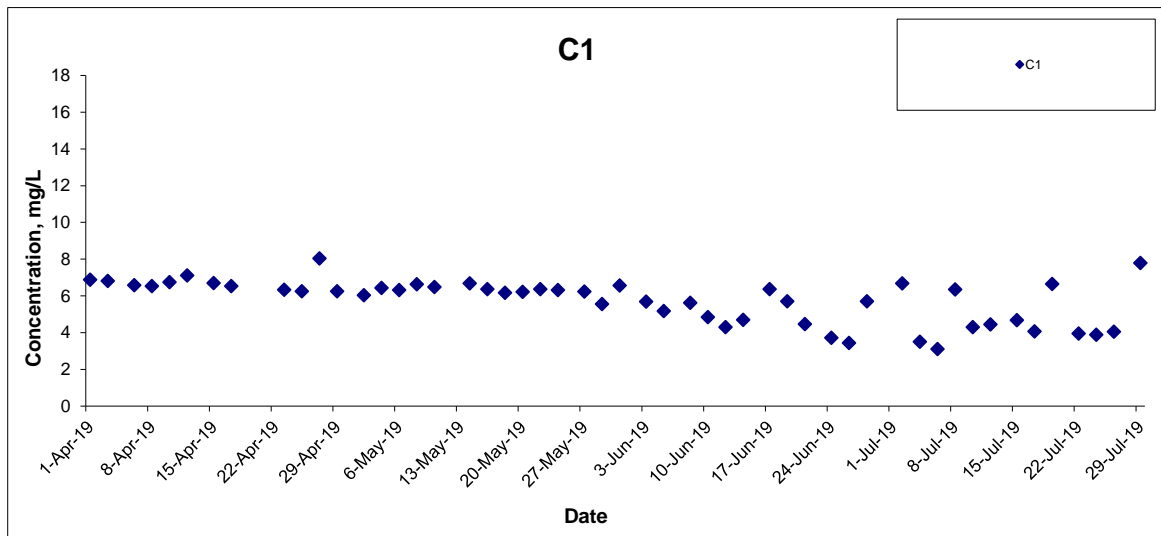
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	Date July 19	Appendix F	

## Dissolved Oxygen (Depth-averaged) at M-Flood Tide



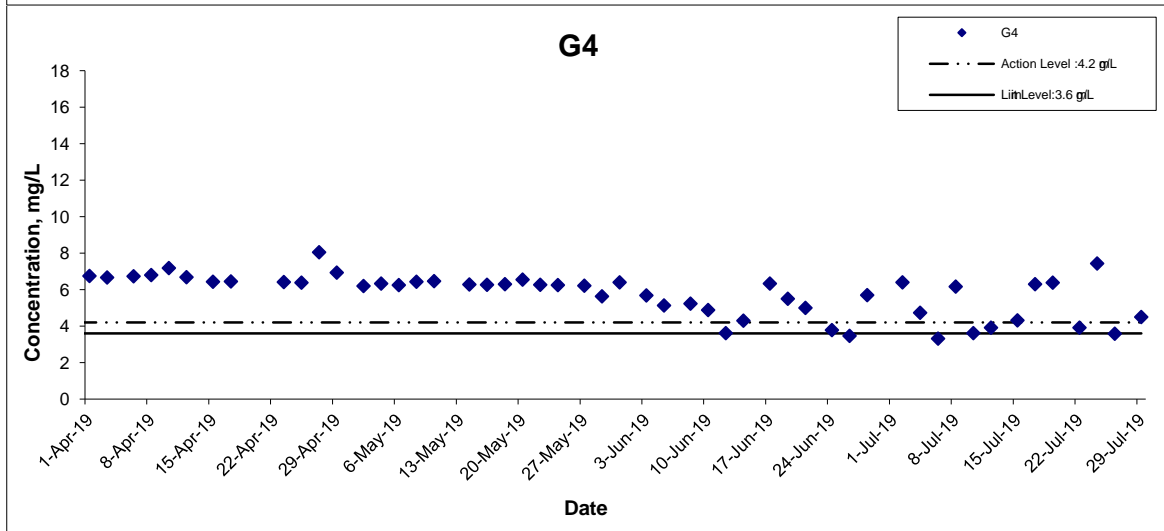
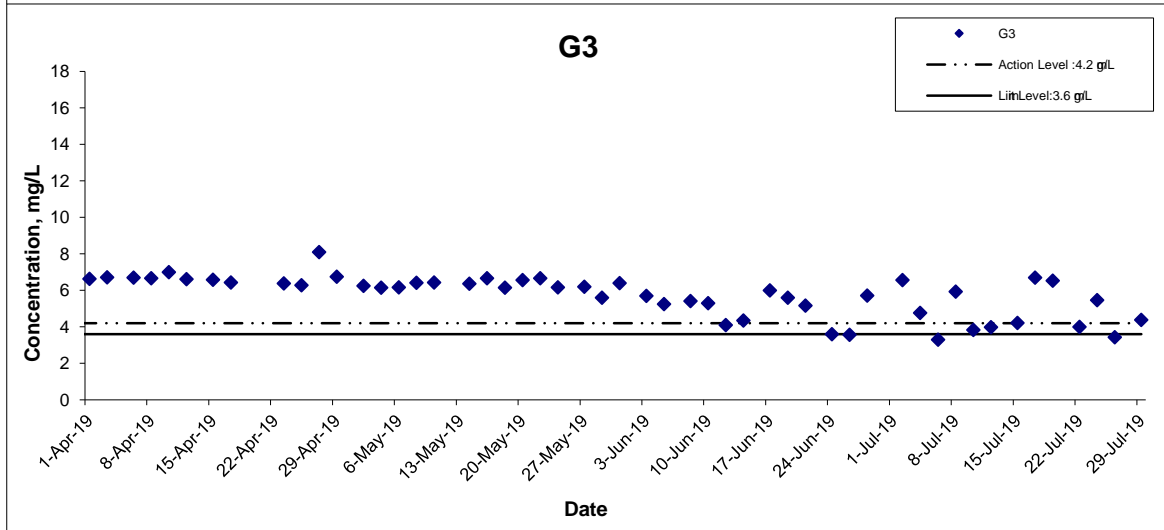
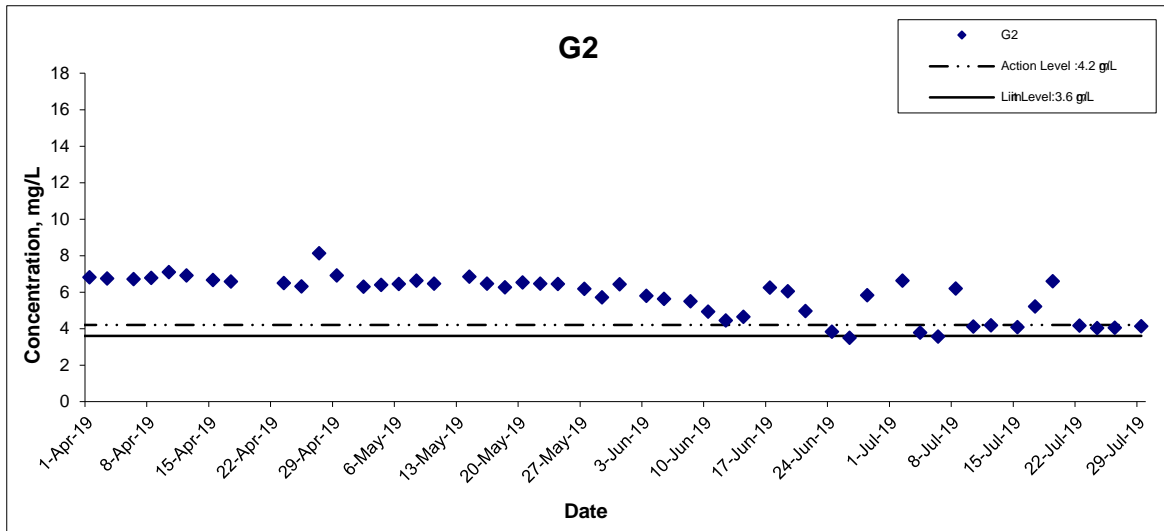
Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Land Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
	Date July 19	Appendix F	

### Dissolved Oxygen (Bottom) at M-Ebb Tide



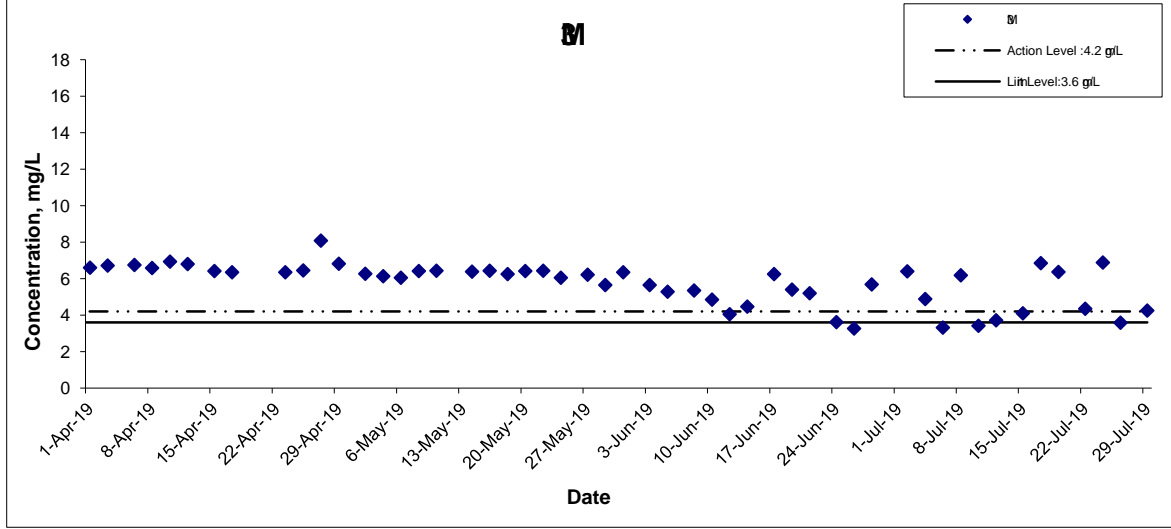
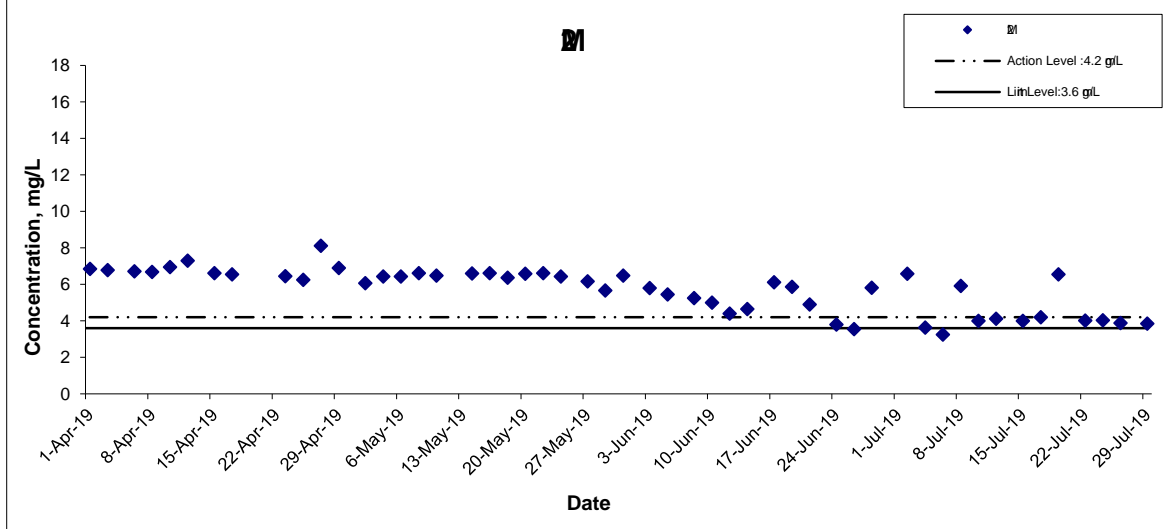
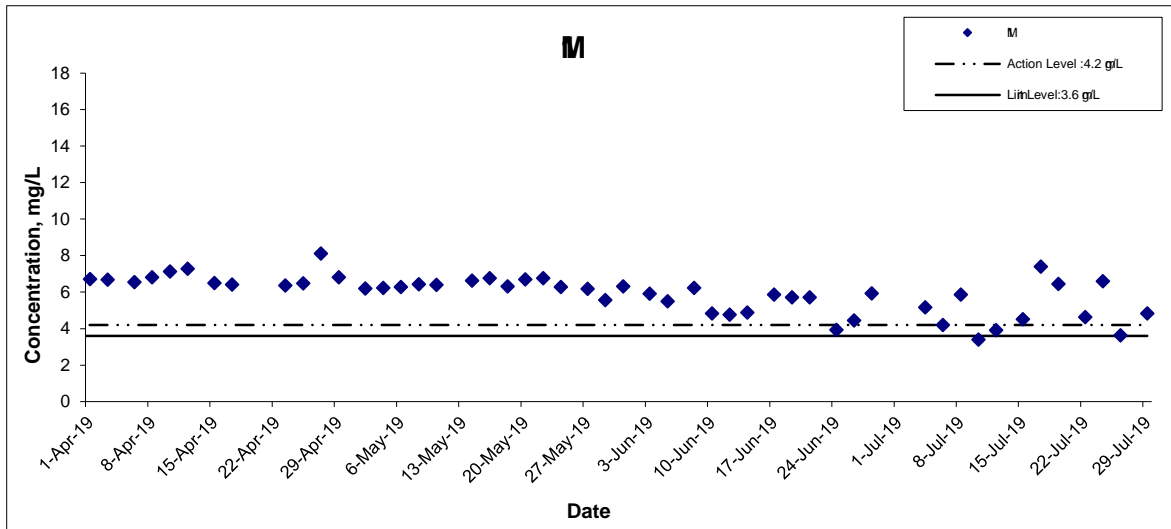
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## Dissolved Oxygen (Bottom) at M-Ebb Tide



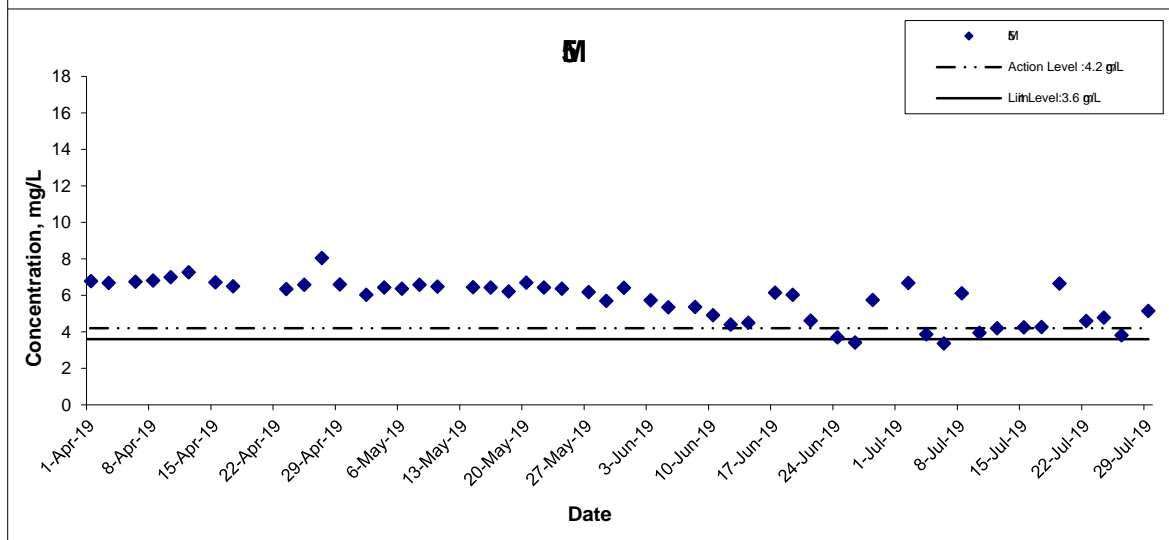
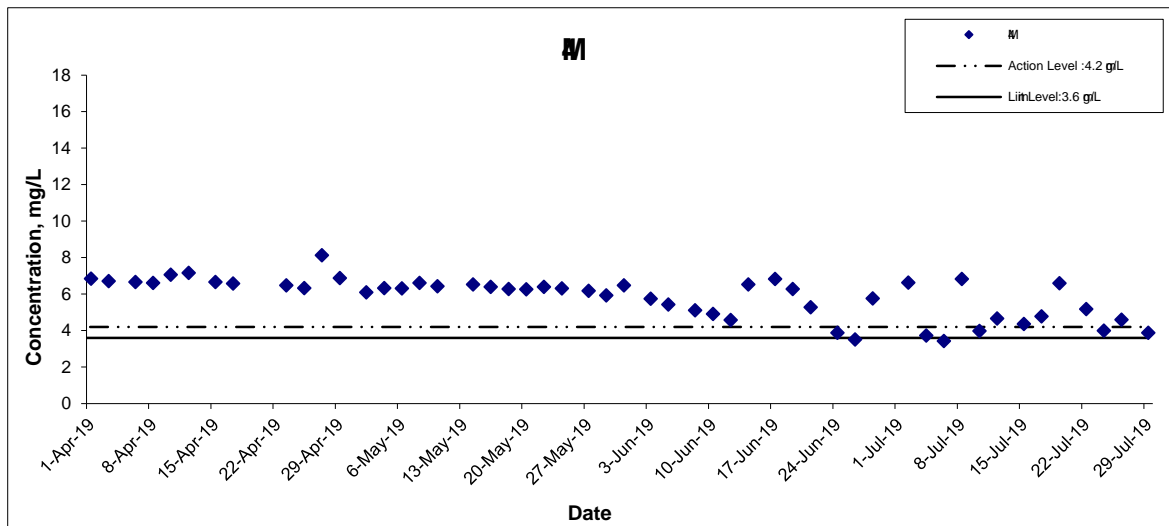
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	<p>Date</p> <p style="text-align: center;">July 19</p>	<p>Appendix</p> <p style="text-align: center;">F</p>	

## Dissolved Oxygen (Bottom) at M-Ebb Tide



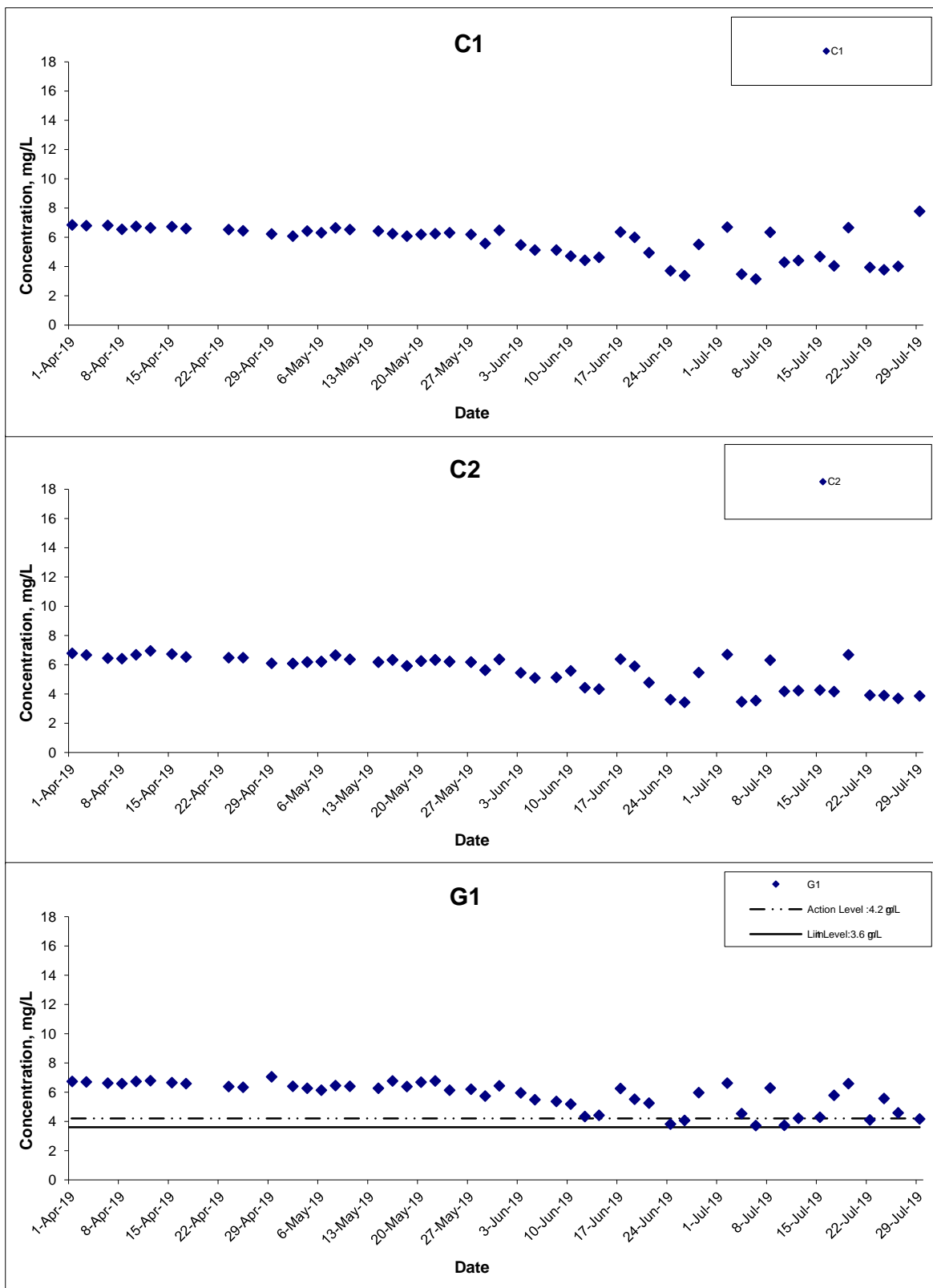
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Dissolved Oxygen (Bottom) at M-Ebb Tide



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### Dissolved Oxygen (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  
Graphical Presentation of Water Quality Monitoring Results

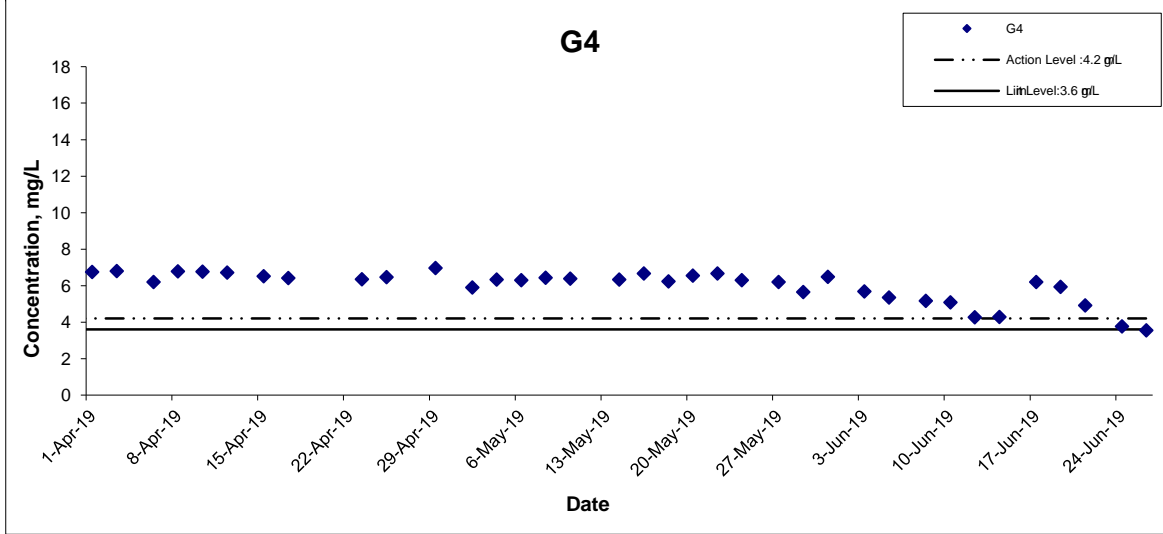
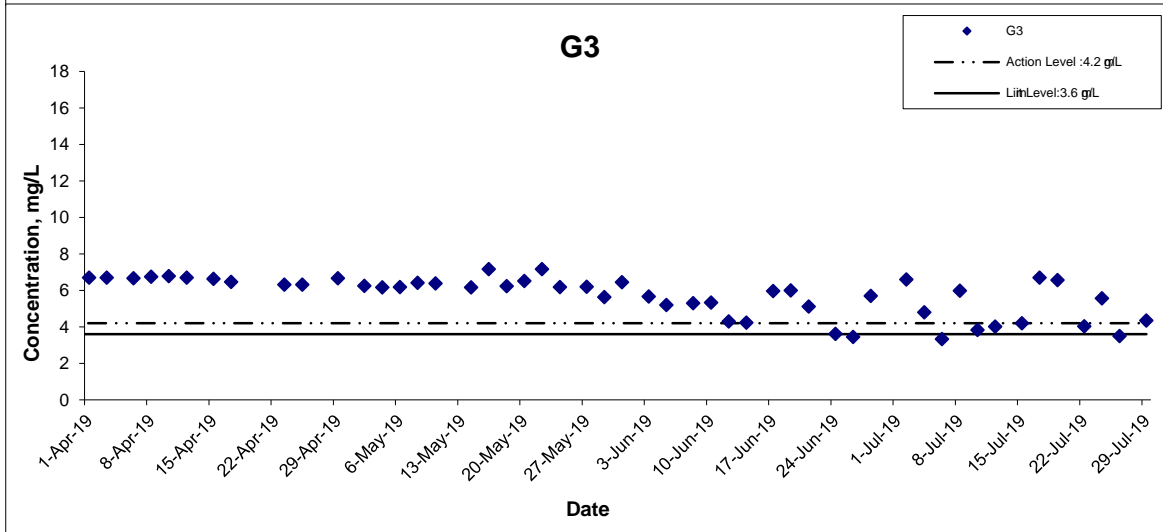
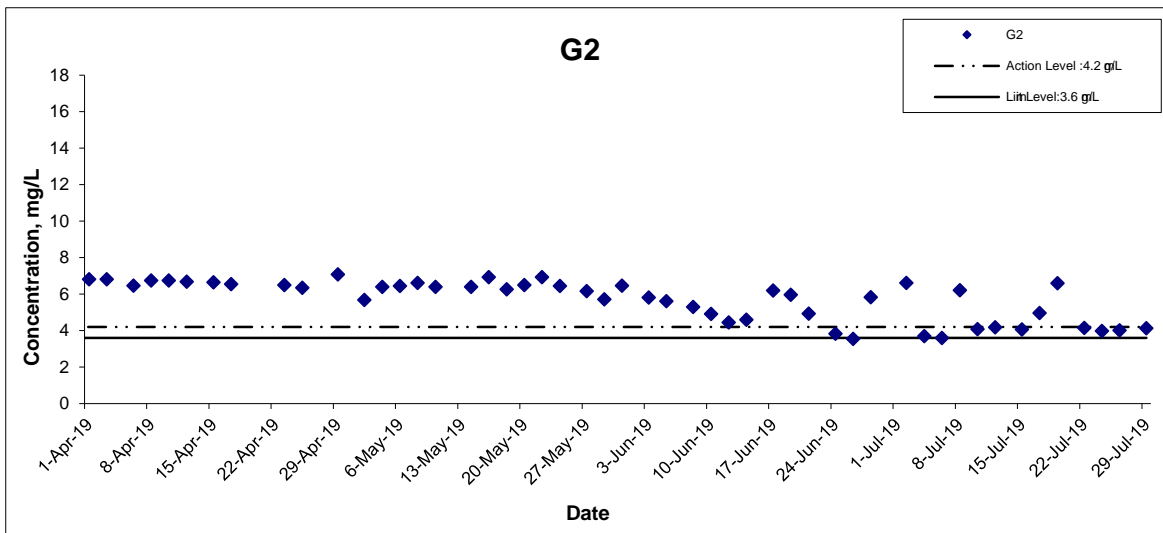
Scale N.T.S  
Date July 19

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Appendix F



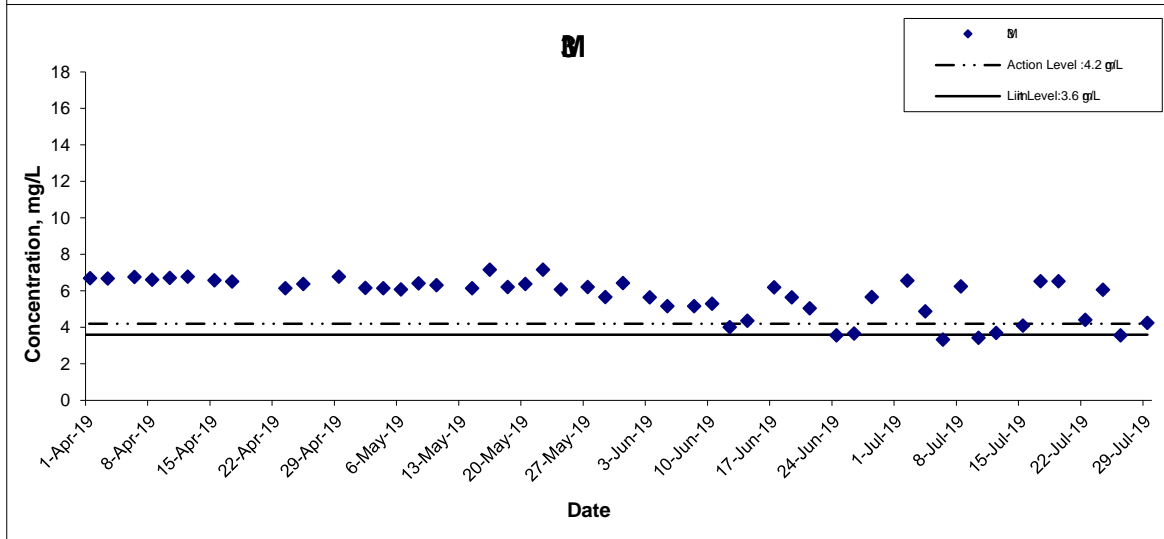
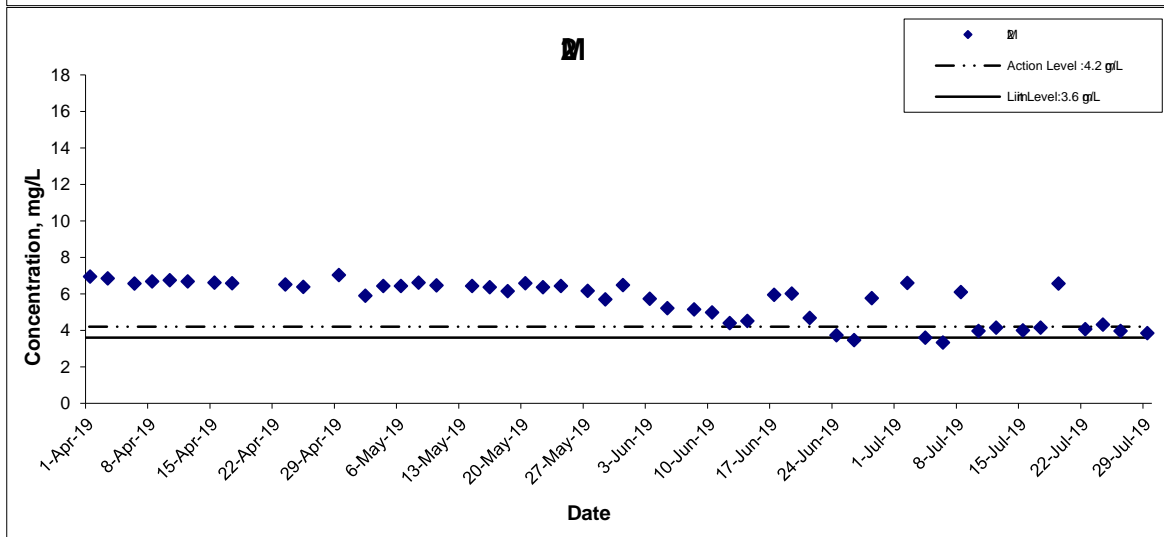
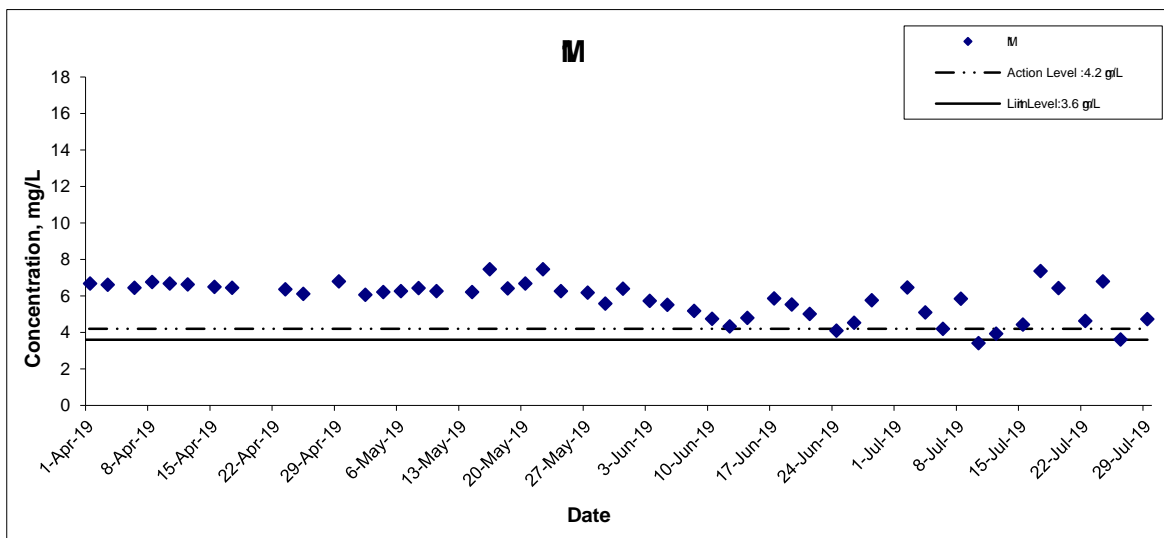


## Dissolved Oxygen (Bottom) at M-Flood Tide



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### Dissolved Oxygen (Bottom) at M-Flood Tide



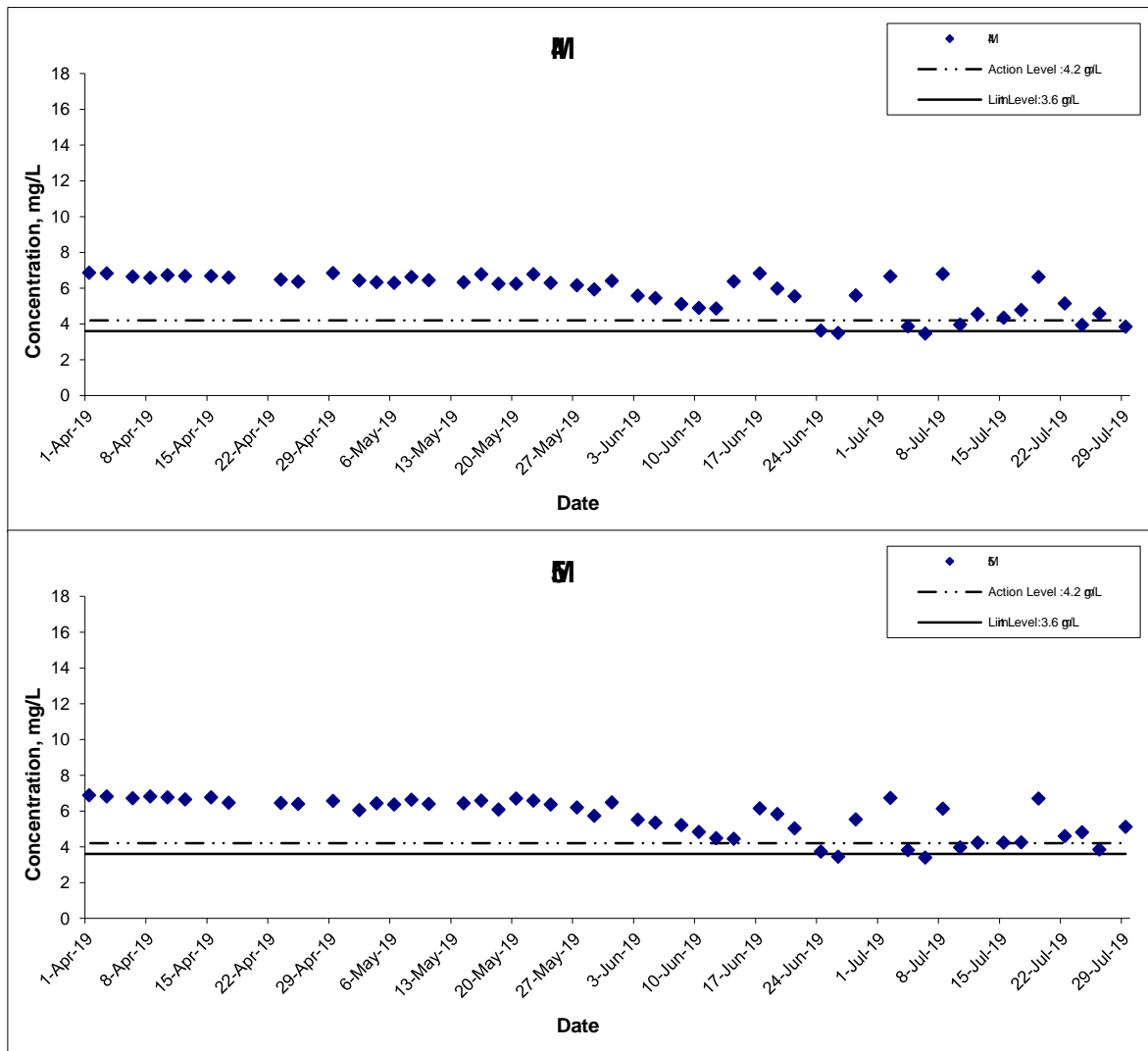
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Graphical Presentation of Water Quality Monitoring Results

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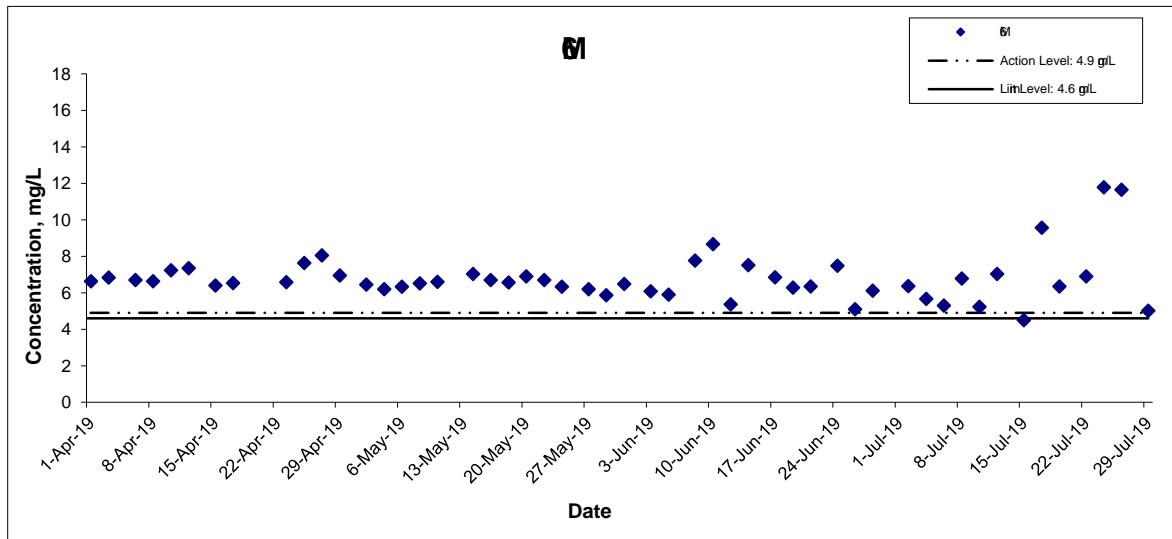


## Dissolved Oxygen (Bottom) at M-Flood Tide



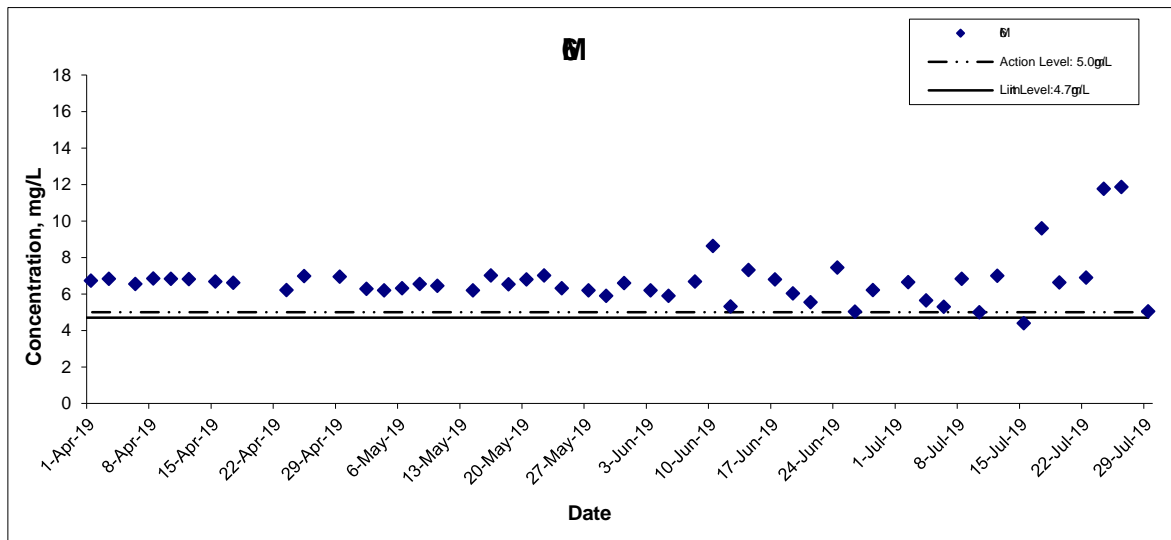
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## Dissolved Oxygen (Intake Level of WSD Salt Water Intake) at M-Ebb Tide



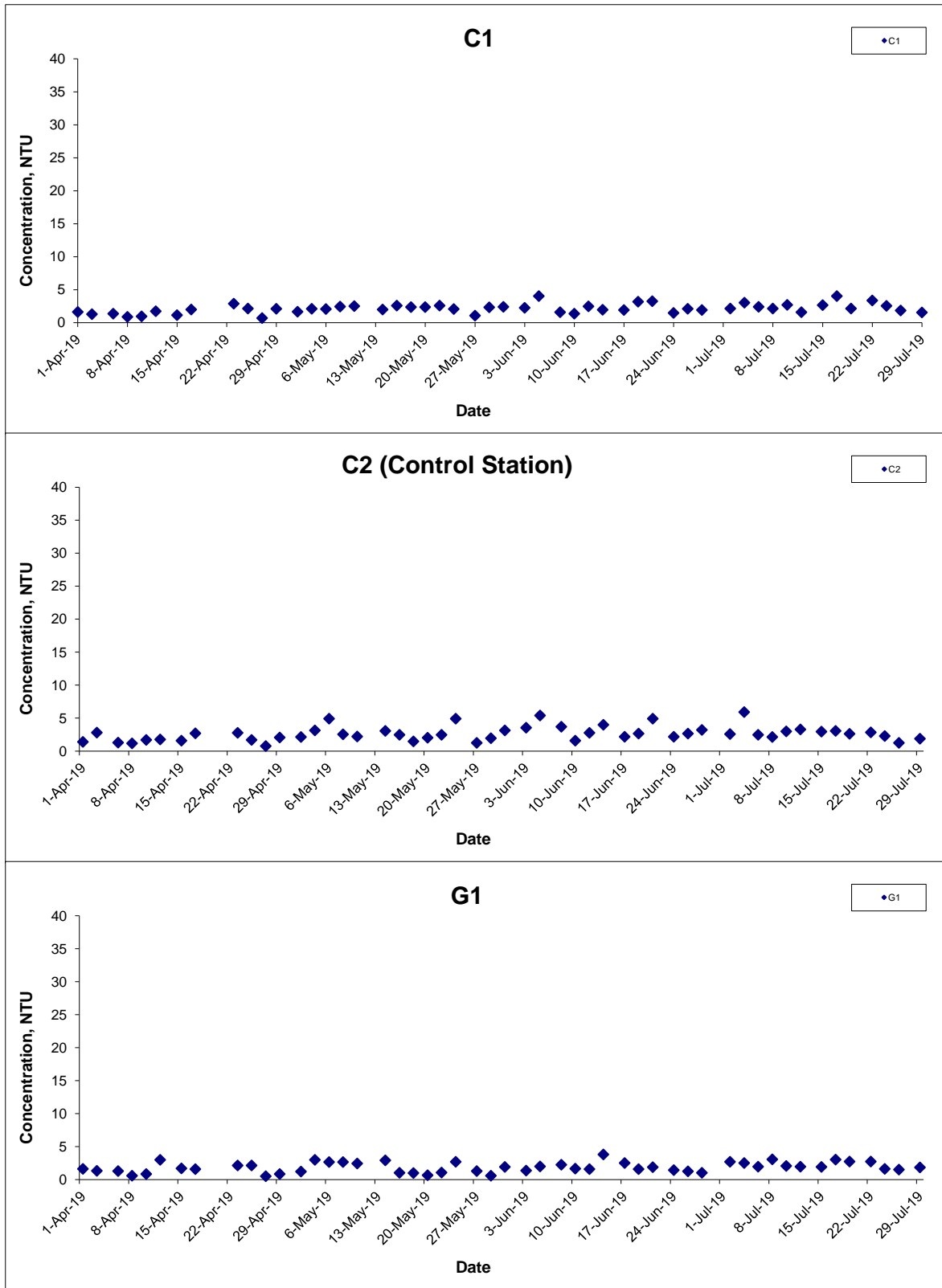
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## Dissolved Oxygen (Intake Level of WSD Salt Water Intake) at M-Flood Tide



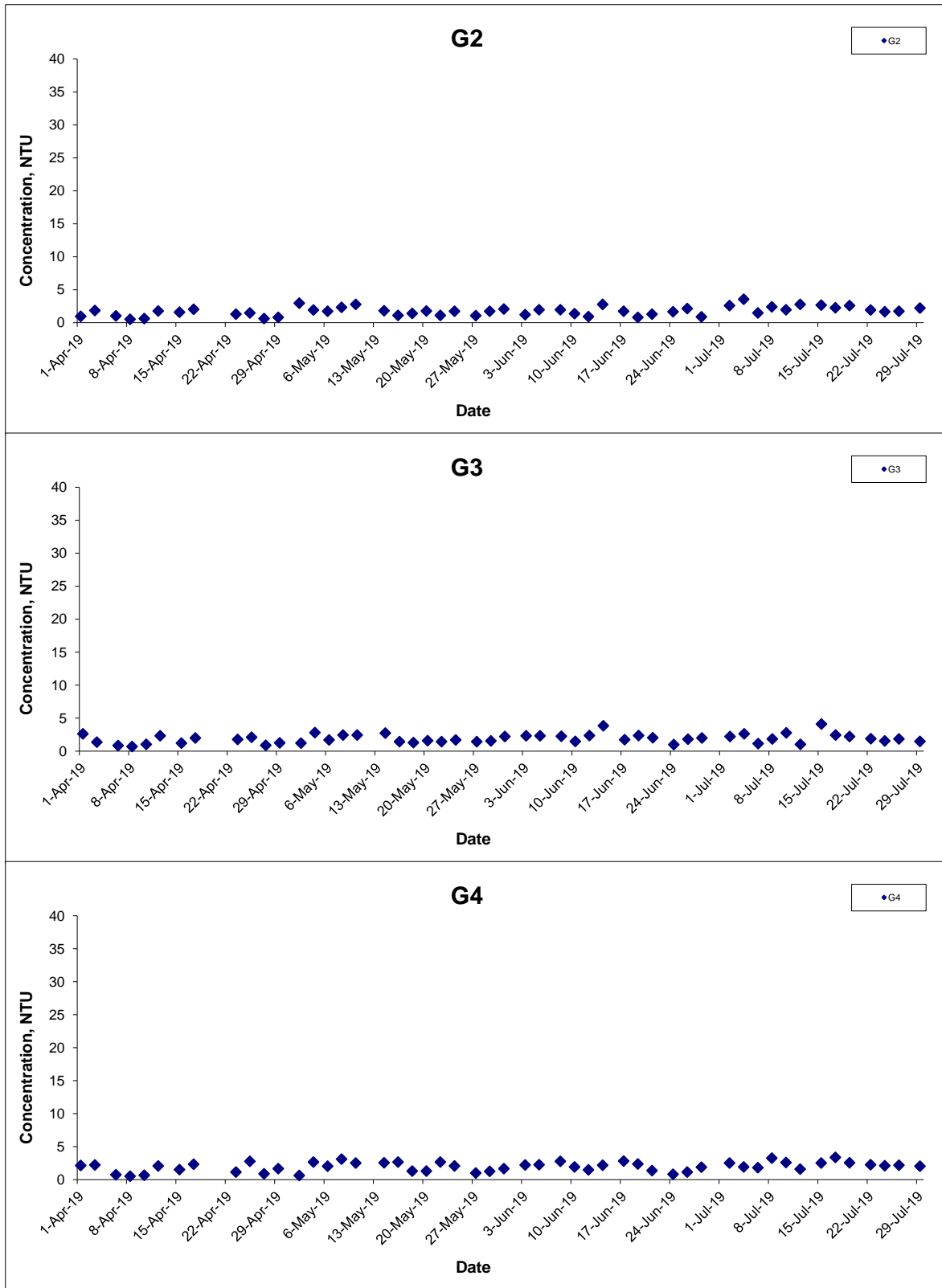
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### Turbidity (Depth-averaged) at M-Ebb Tide



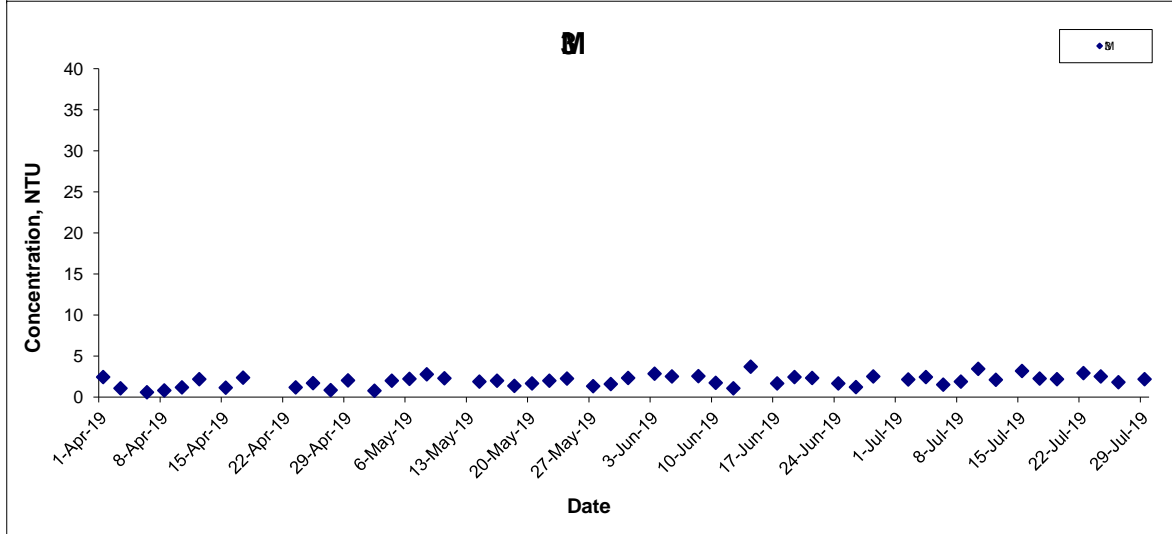
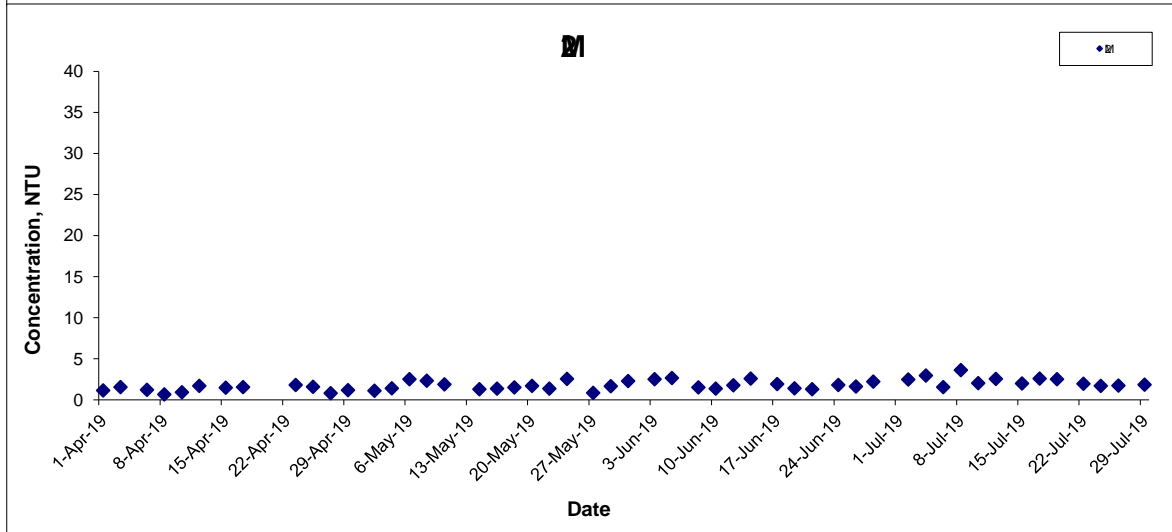
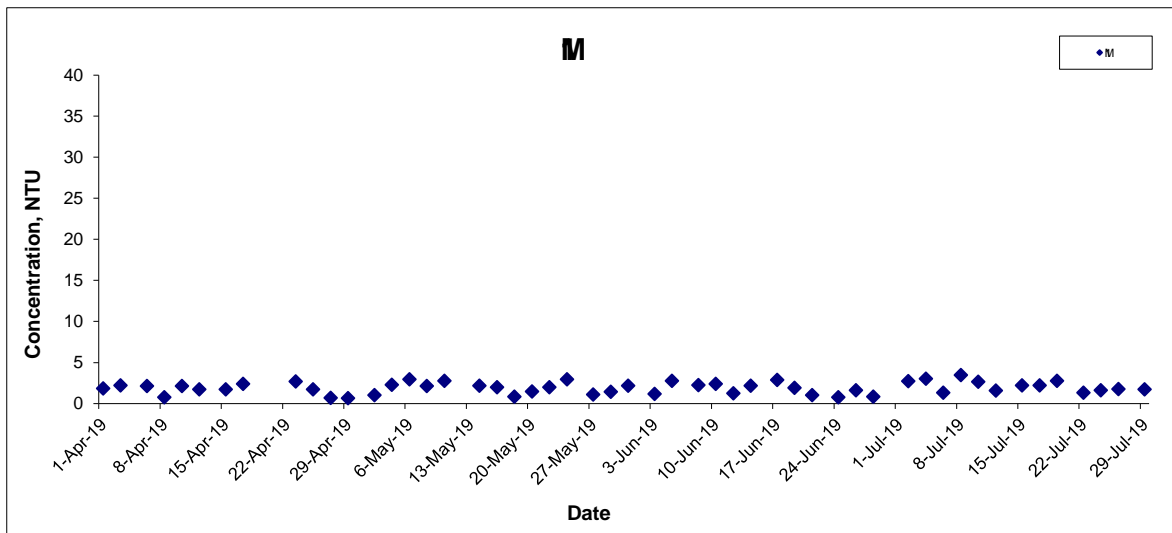
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantau Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Turbidity (Depth-averaged) at M-Ebb Tide



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### Turbidity (Depth-averaged) at M-Ebb Tide



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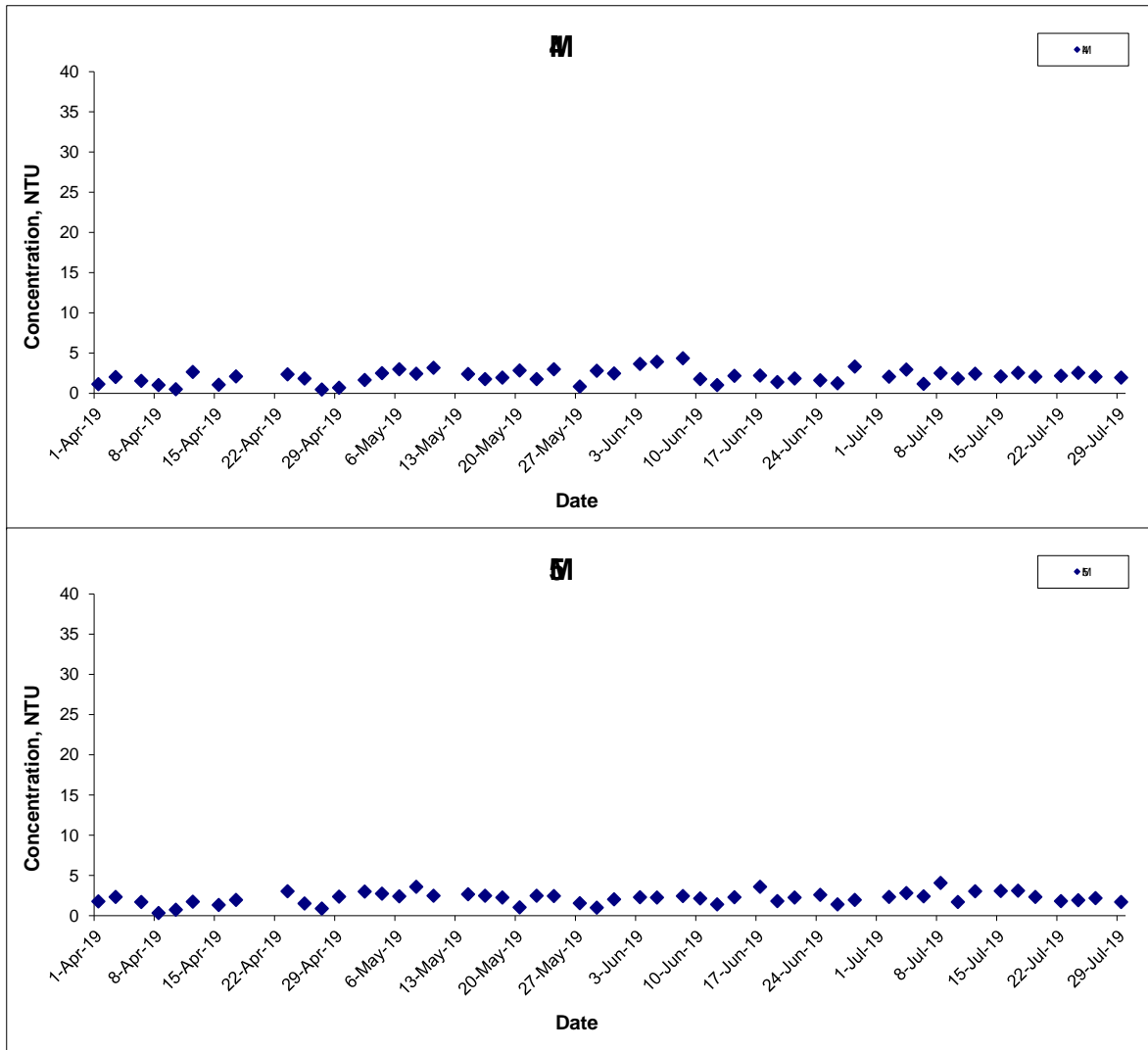
Scale N.T.S  
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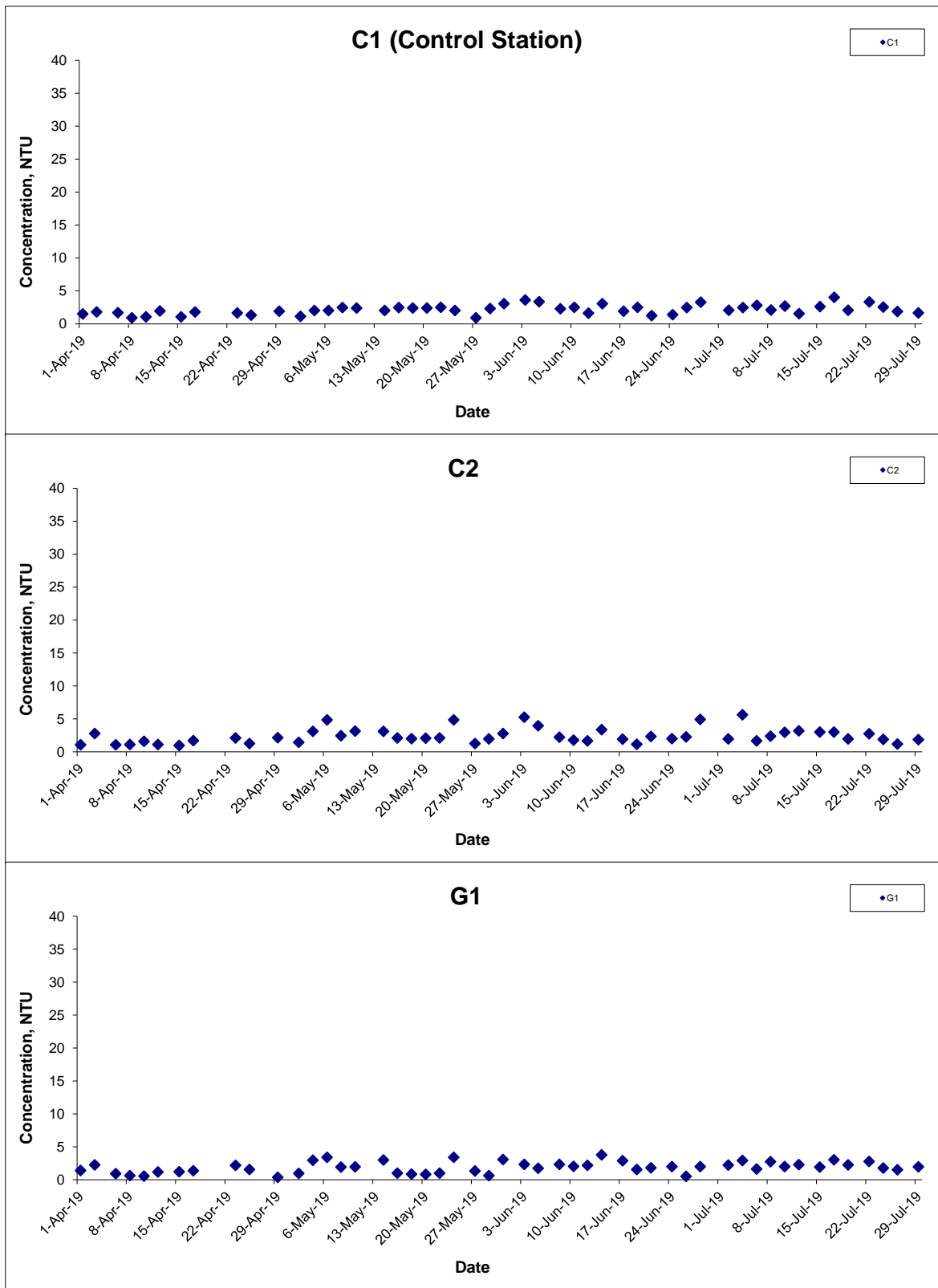


### Turbidity (Depth-averaged) at M-Ebb Tide



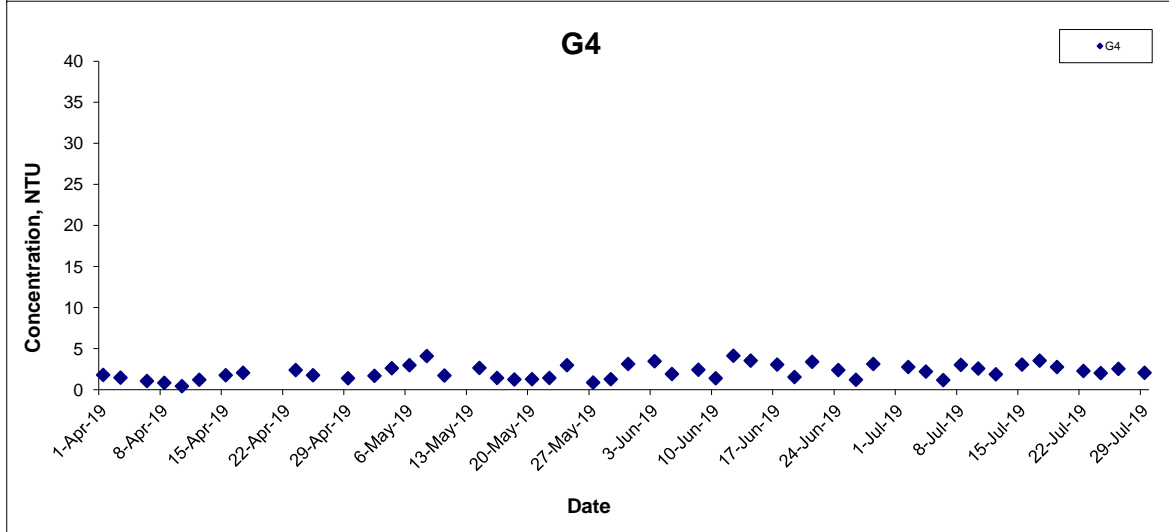
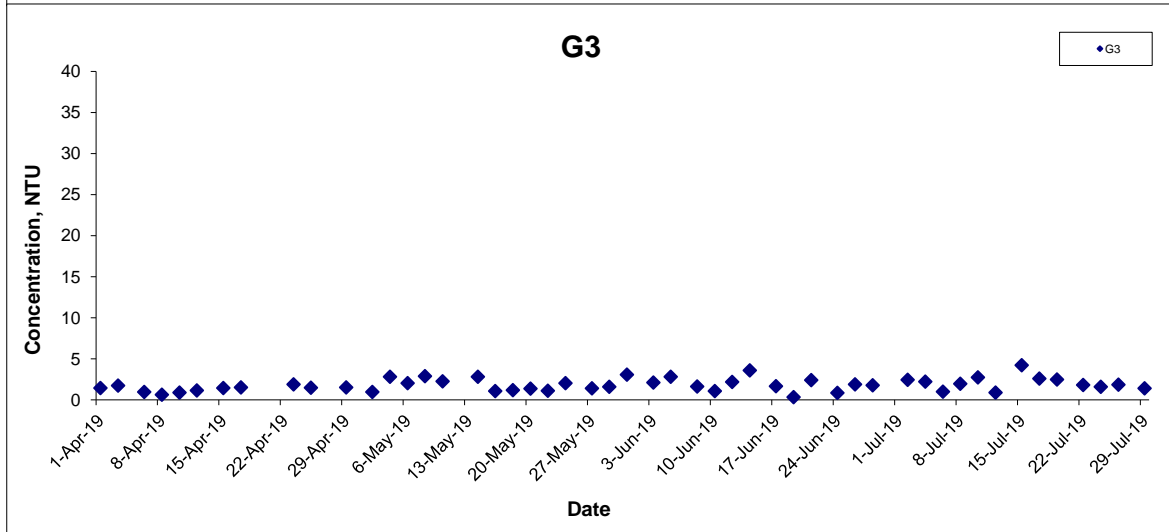
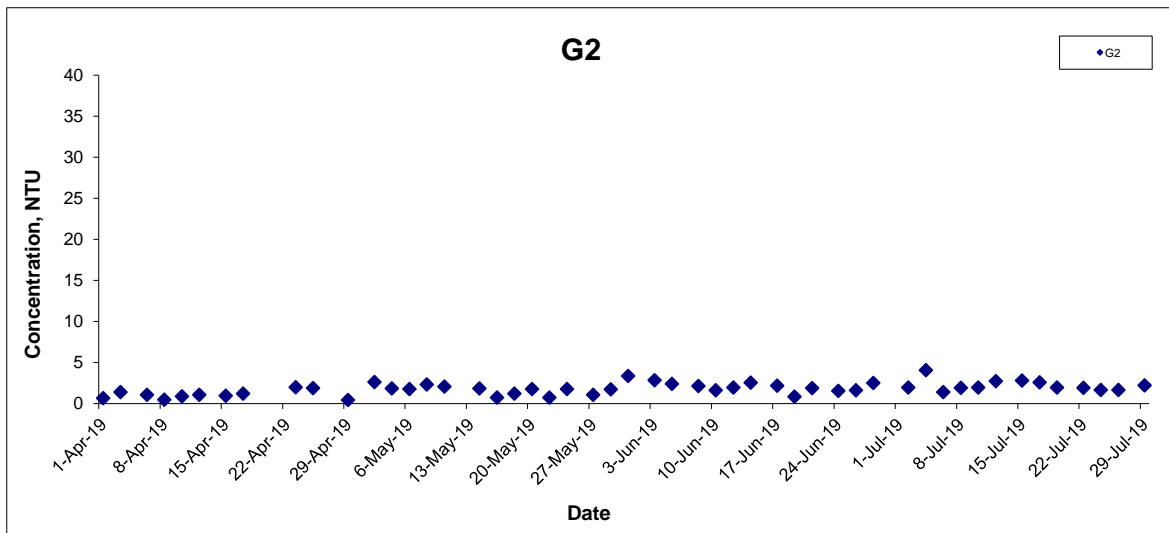
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## Turbidity (Depth-averaged) at M-Flood Tide



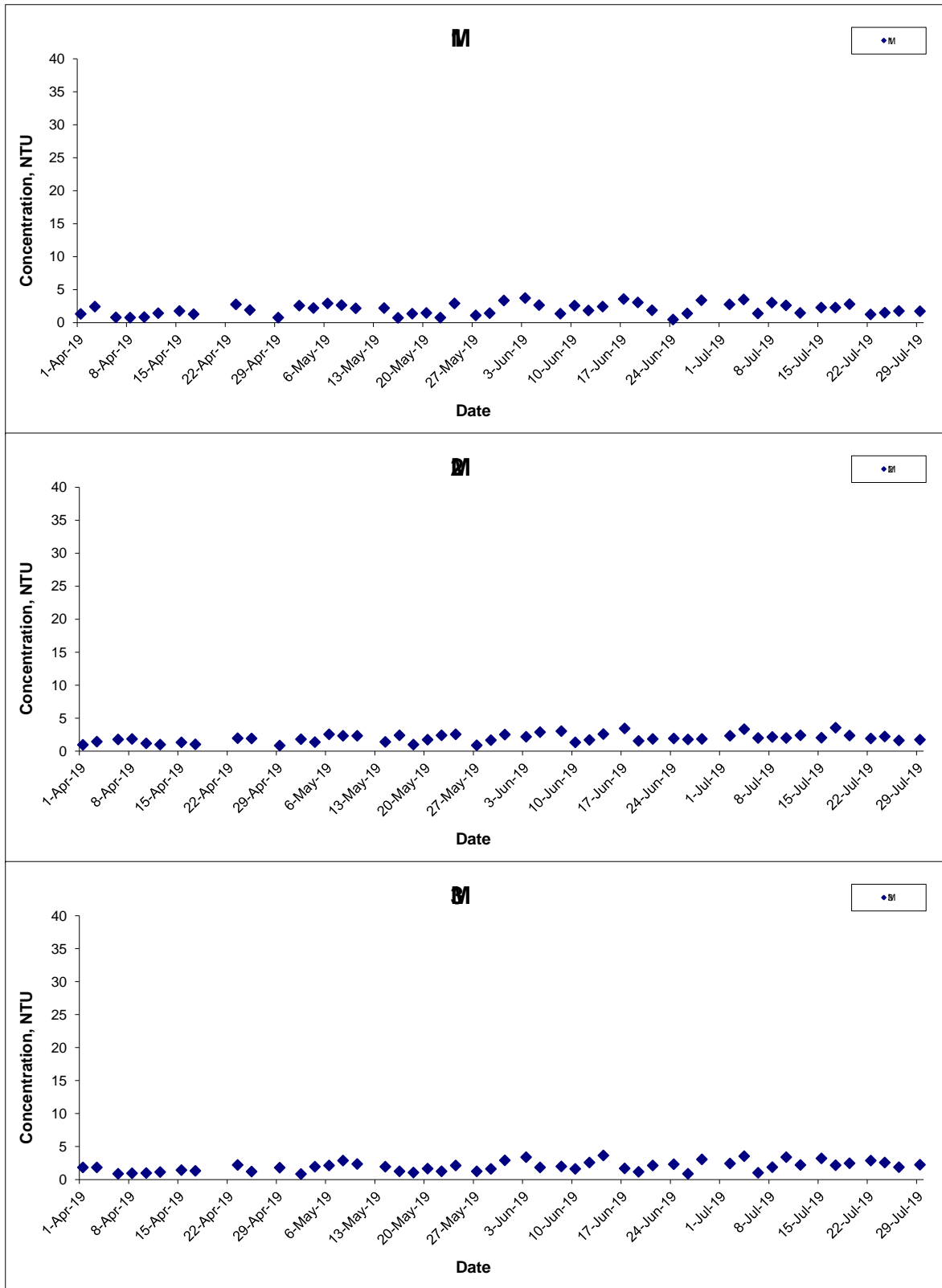
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## Turbidity (Depth-averaged) at M-Flood Tide



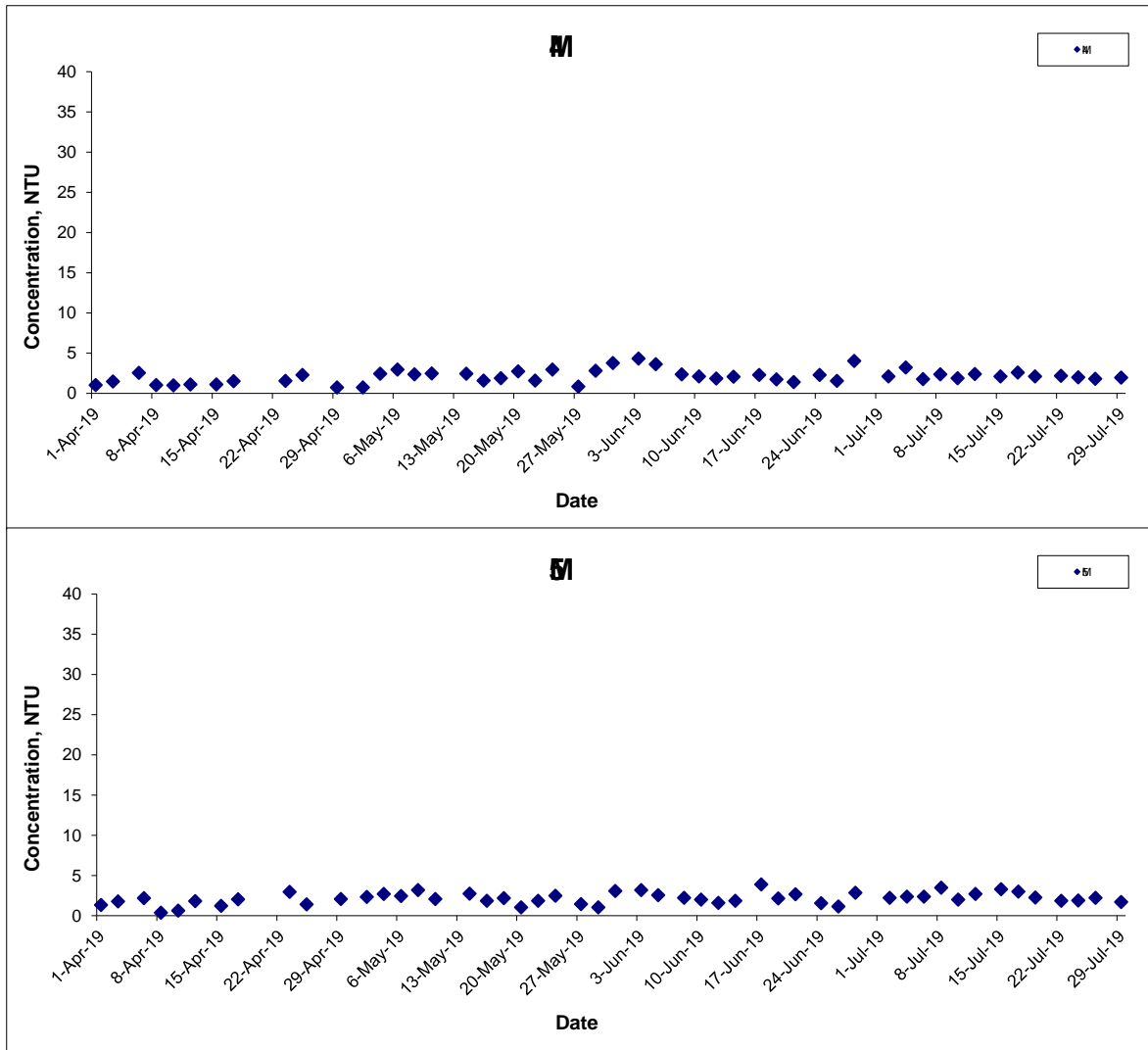
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## Turbidity (Depth-averaged) at M-Flood Tide



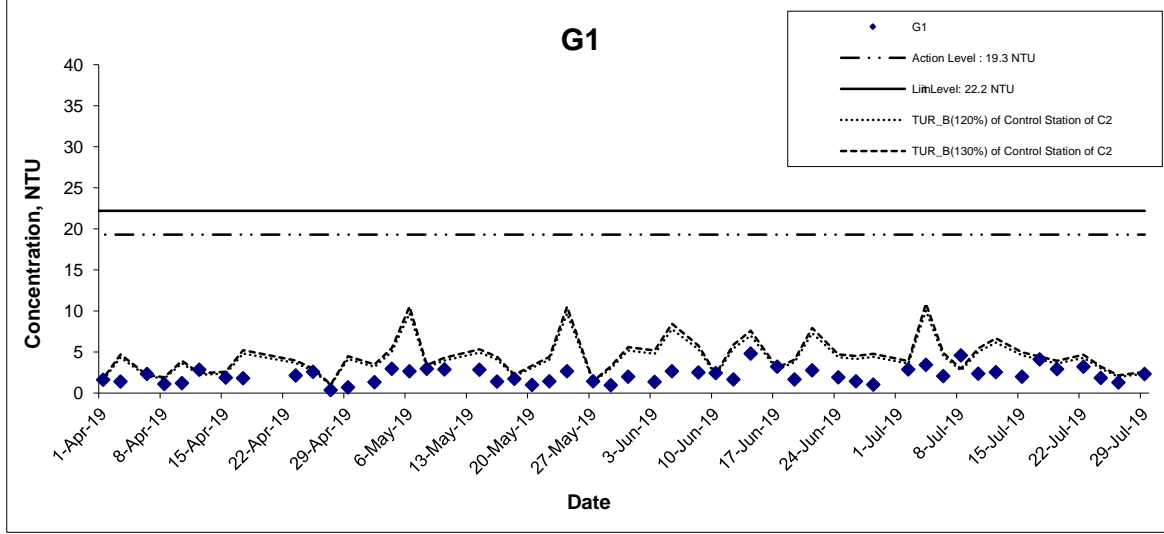
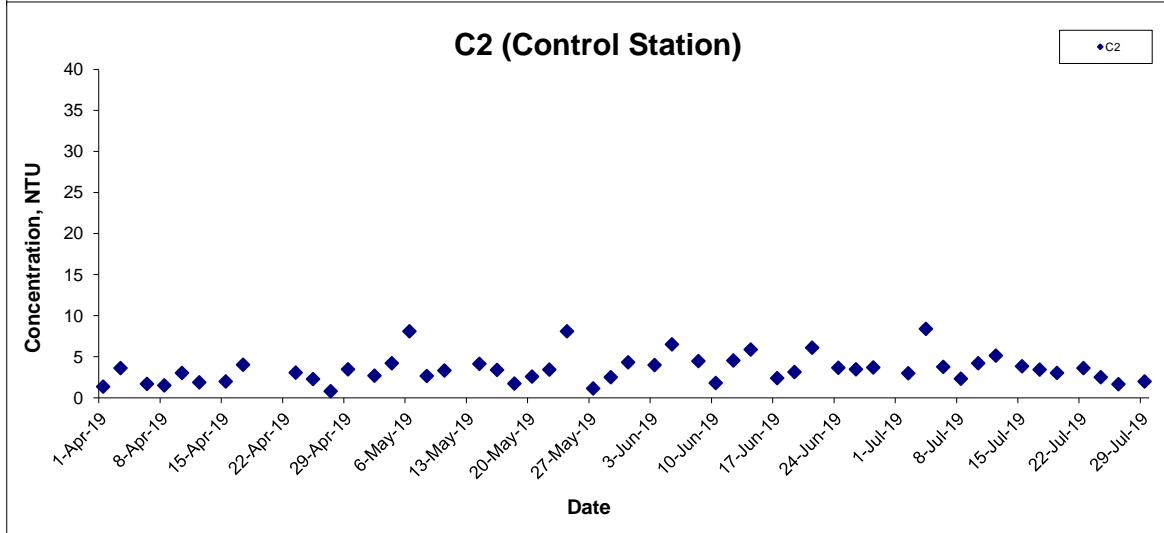
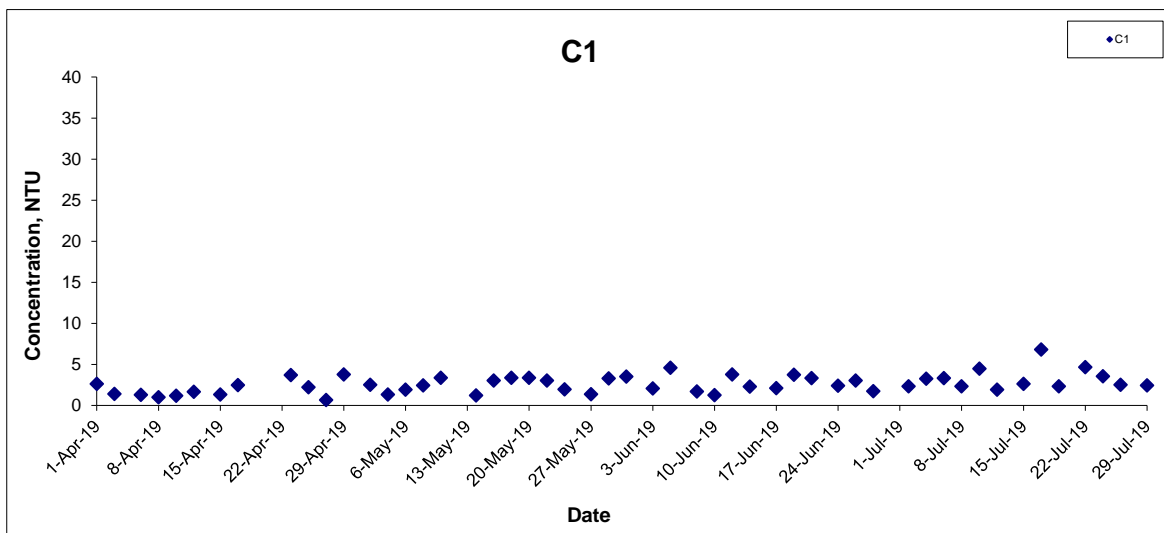
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## Turbidity (Depth-averaged) at M-Flood Tide



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### Turbidity (Bottom) at M-Ebb Tide



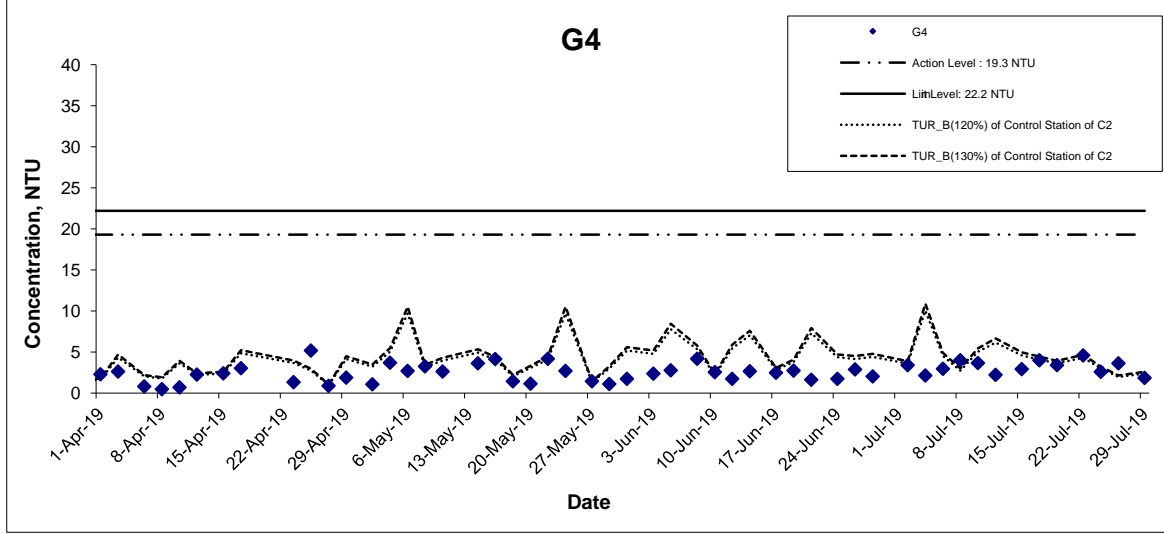
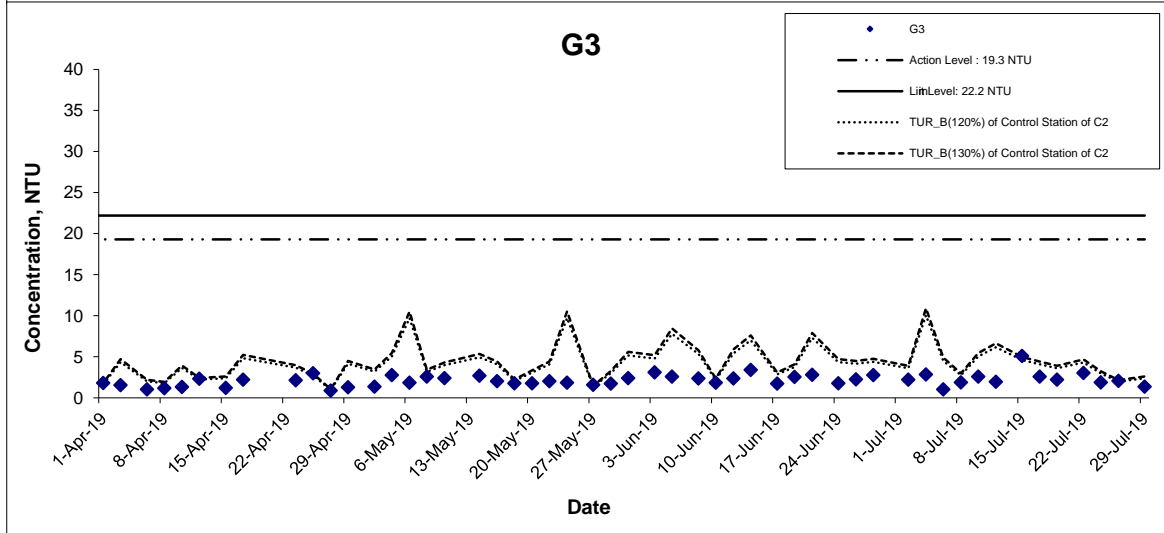
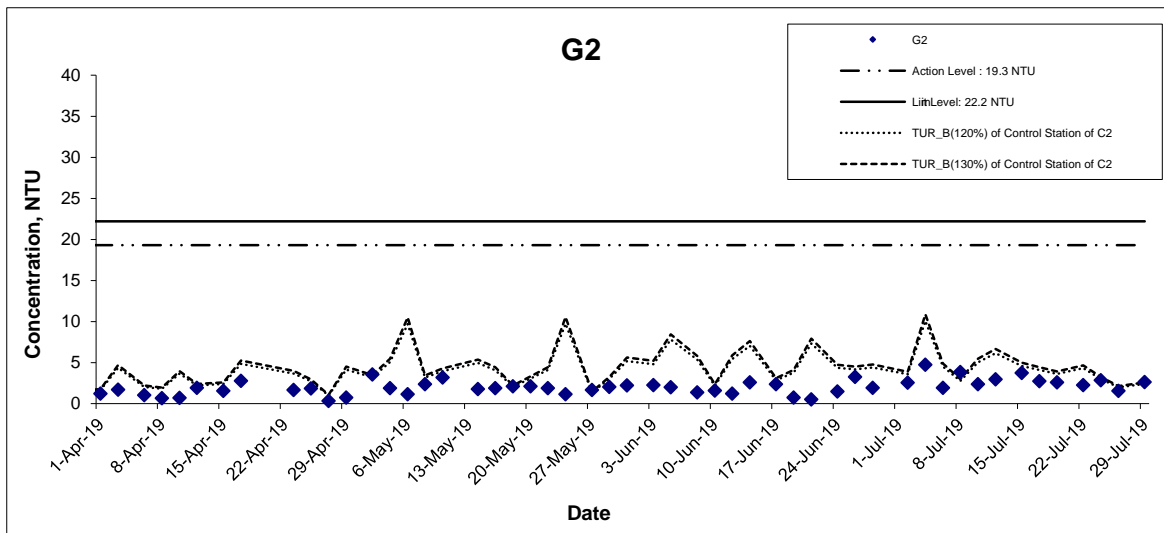
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  
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### Turbidity (Bottom) at M-Ebb Tide



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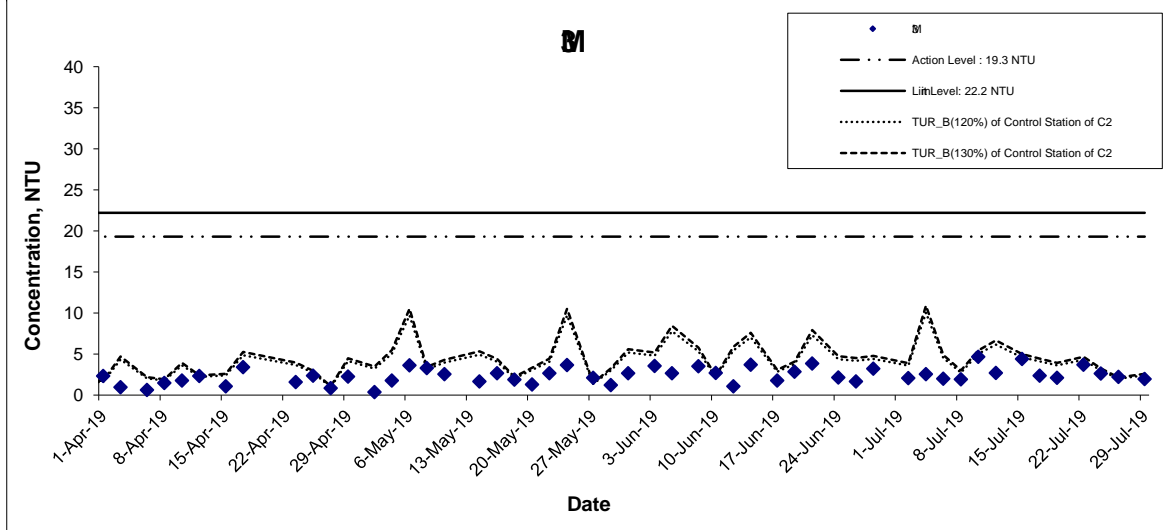
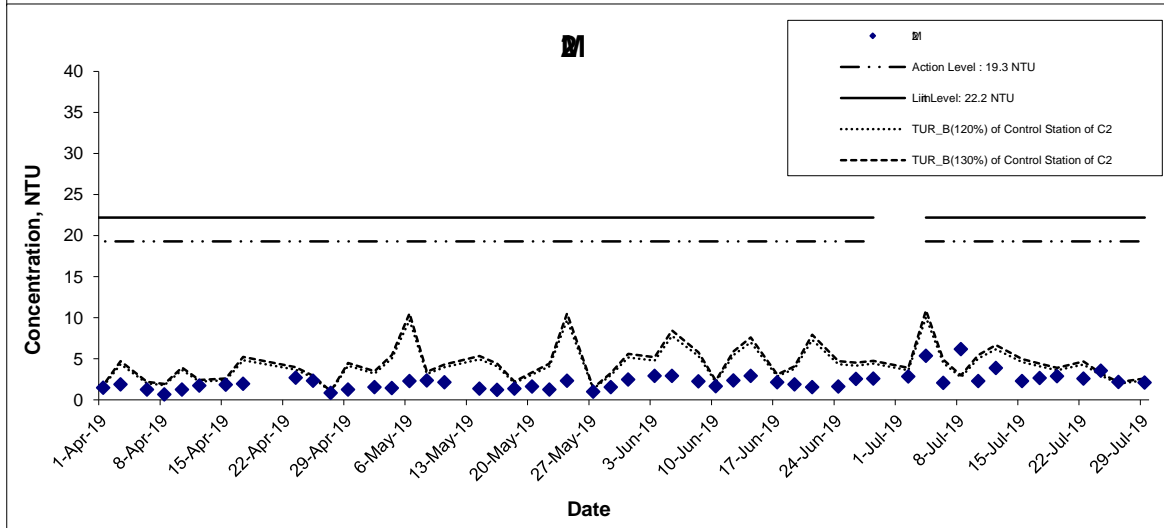
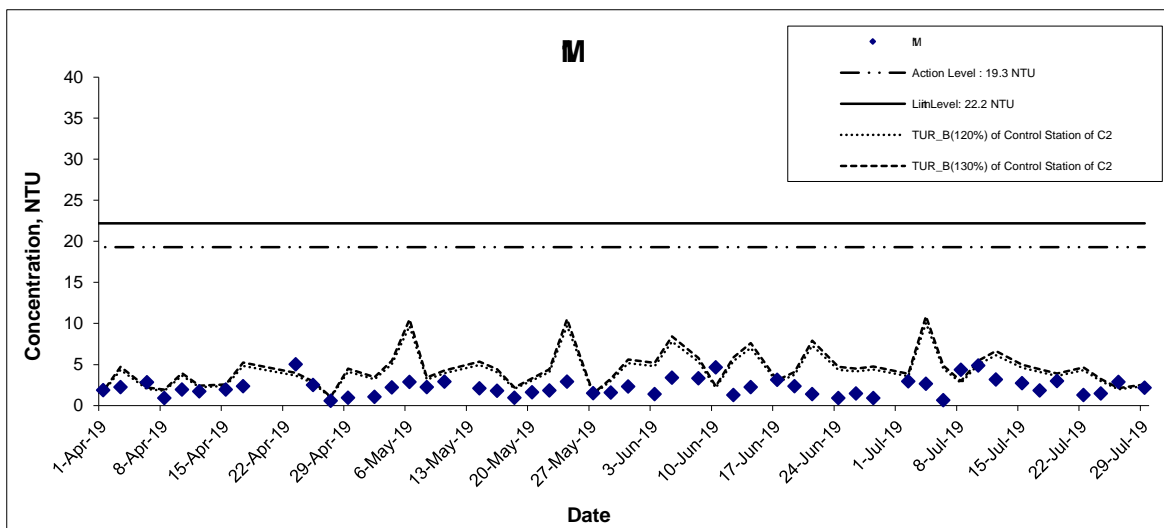
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### Turbidity (Bottom) at M-Ebb Tide



Title Agreement No. CE 59/2015(EP) Environmental Tearfor  
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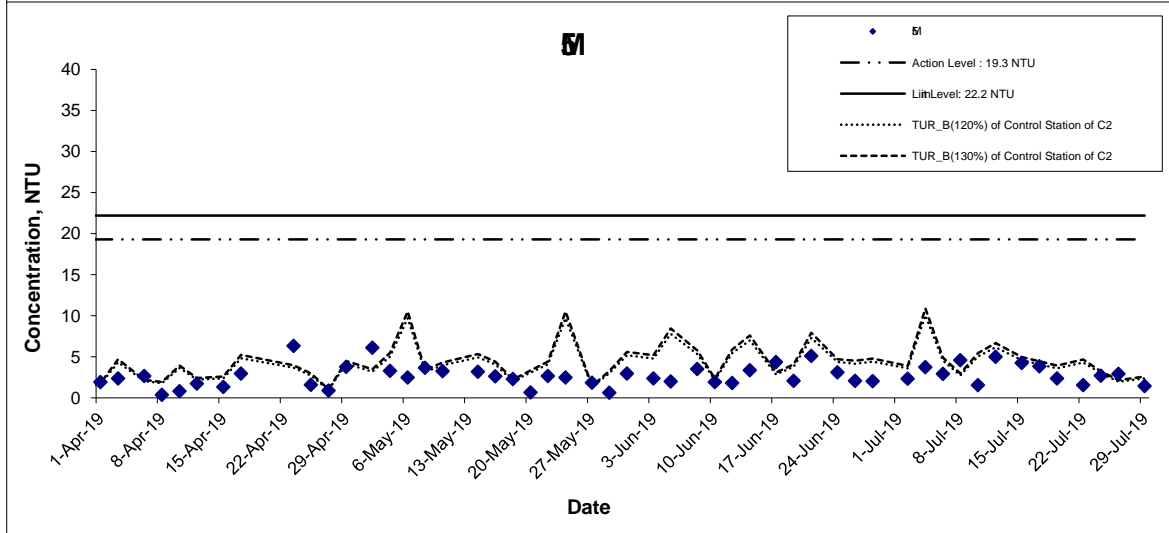
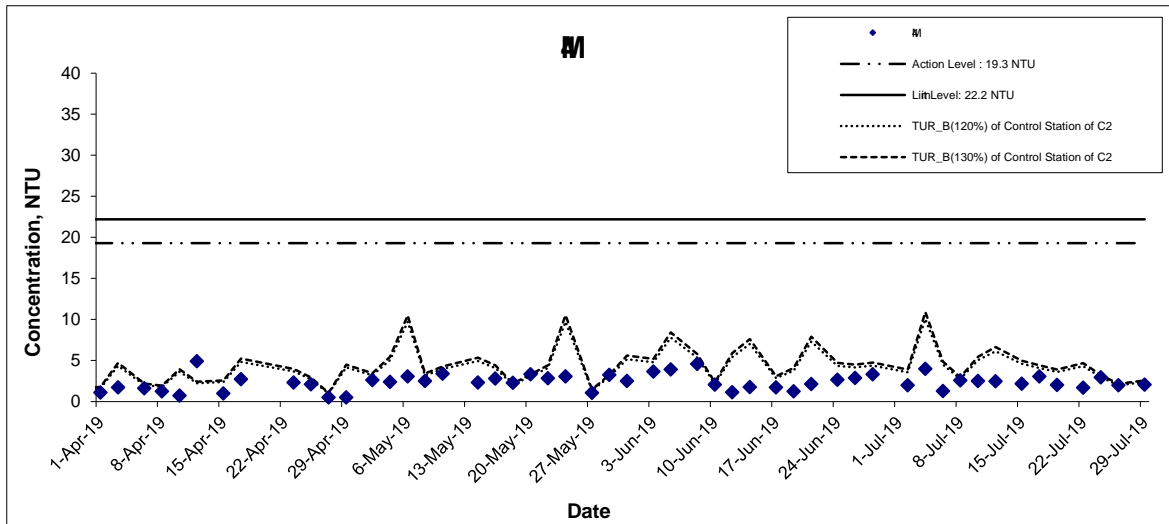
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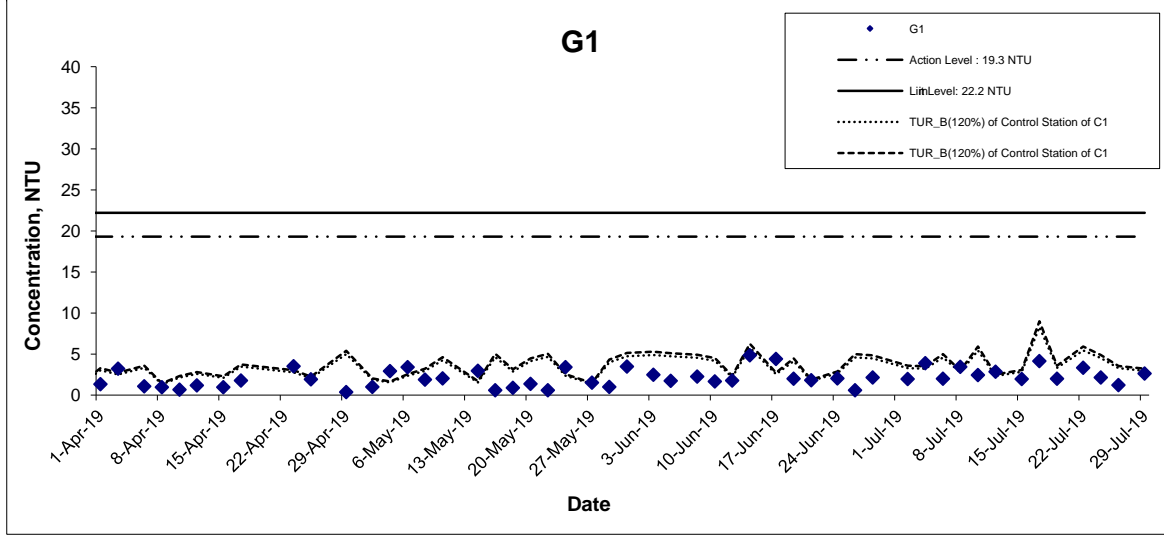
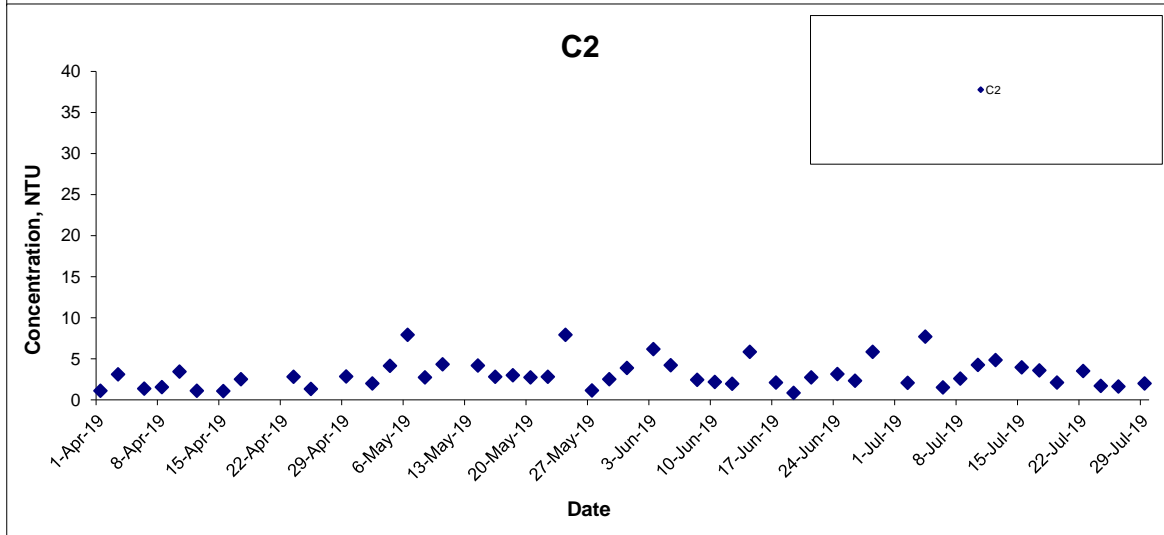
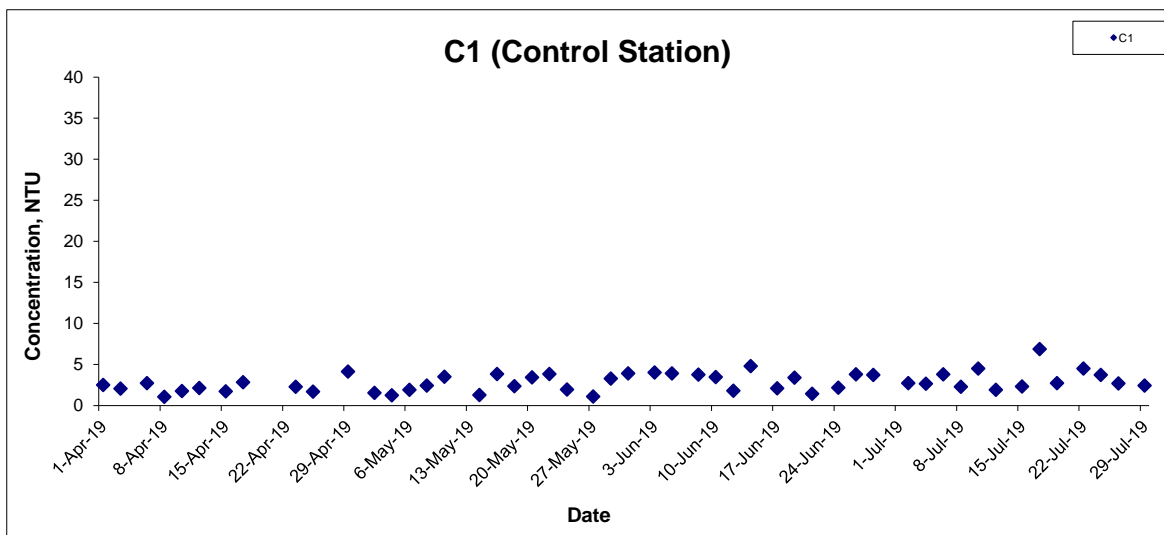


### Turbidity (Bottom) at M-Ebb Tide



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### Turbidity (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for  
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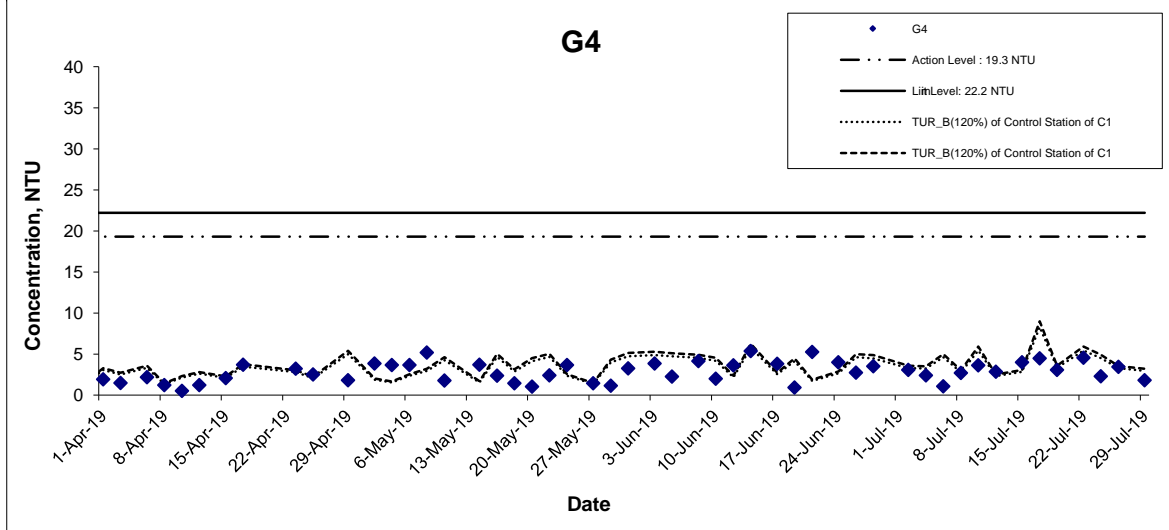
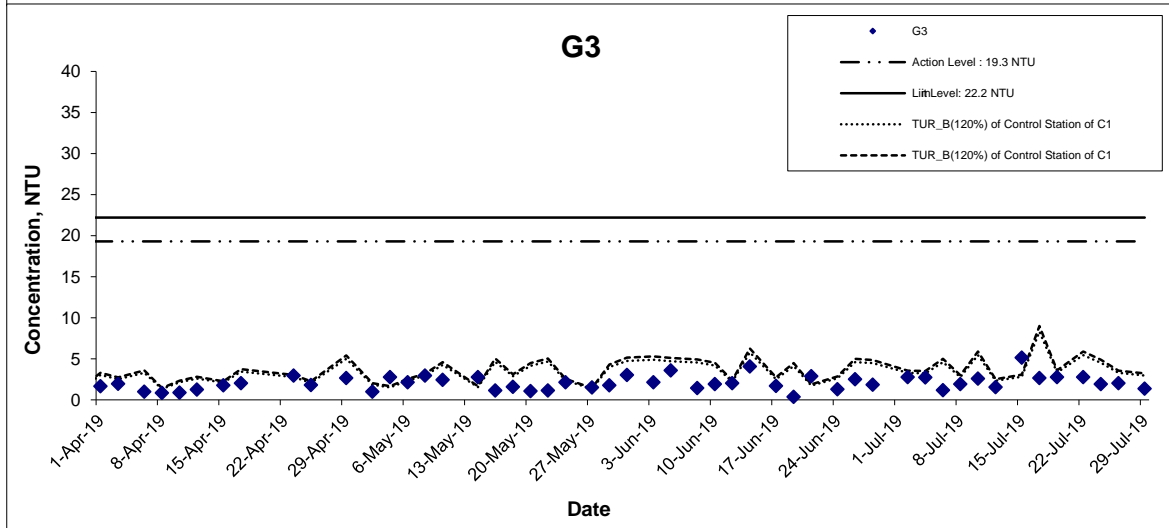
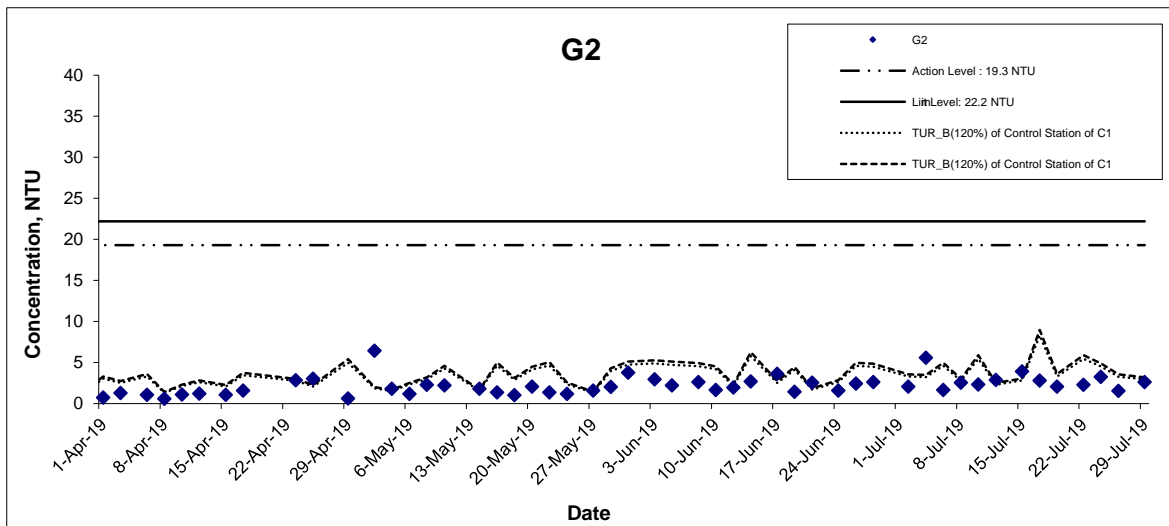
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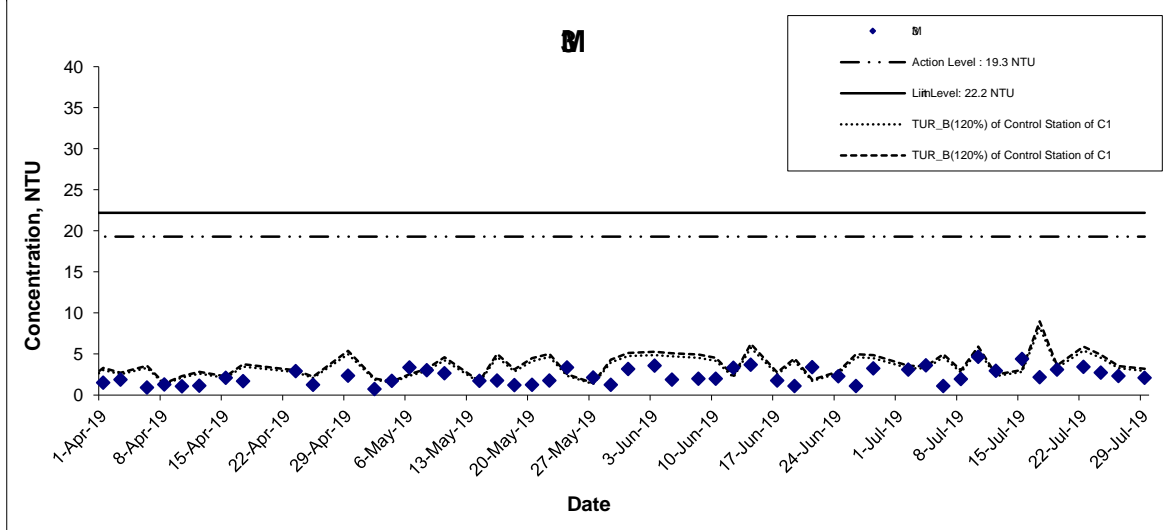
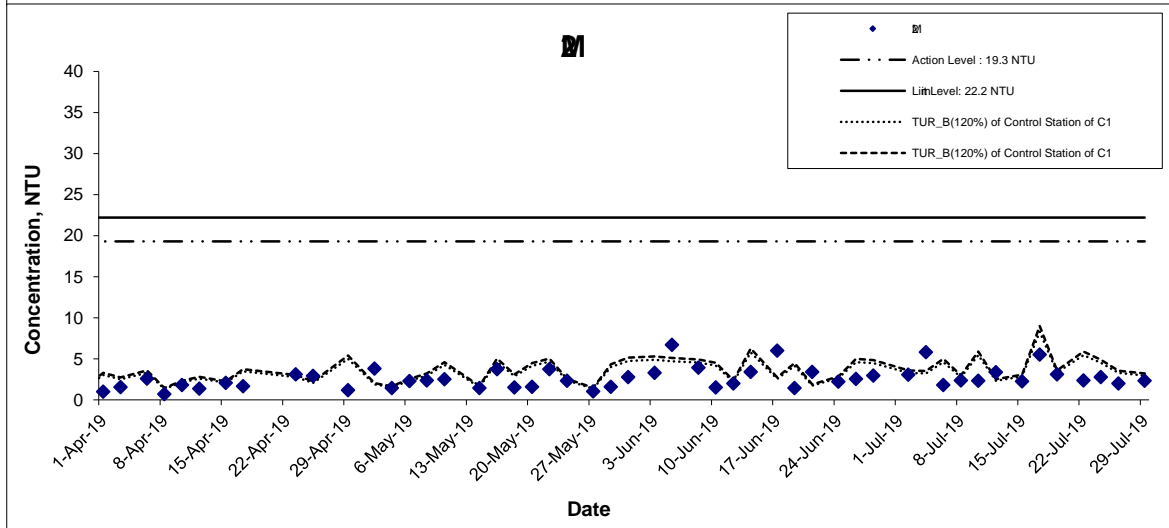
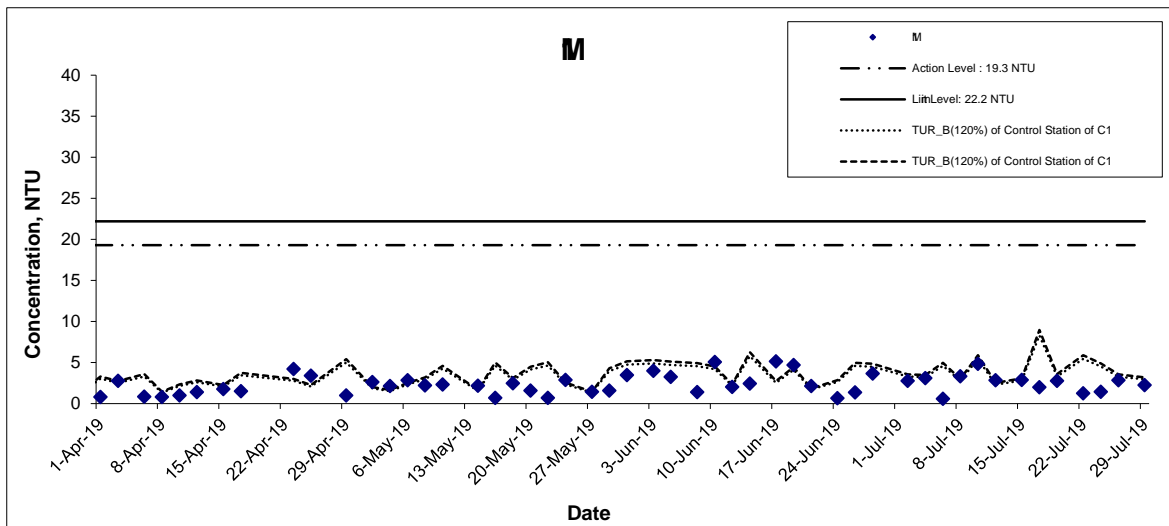


## Turbidity (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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### Turbidity (Bottom) at M-Flood Tide



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

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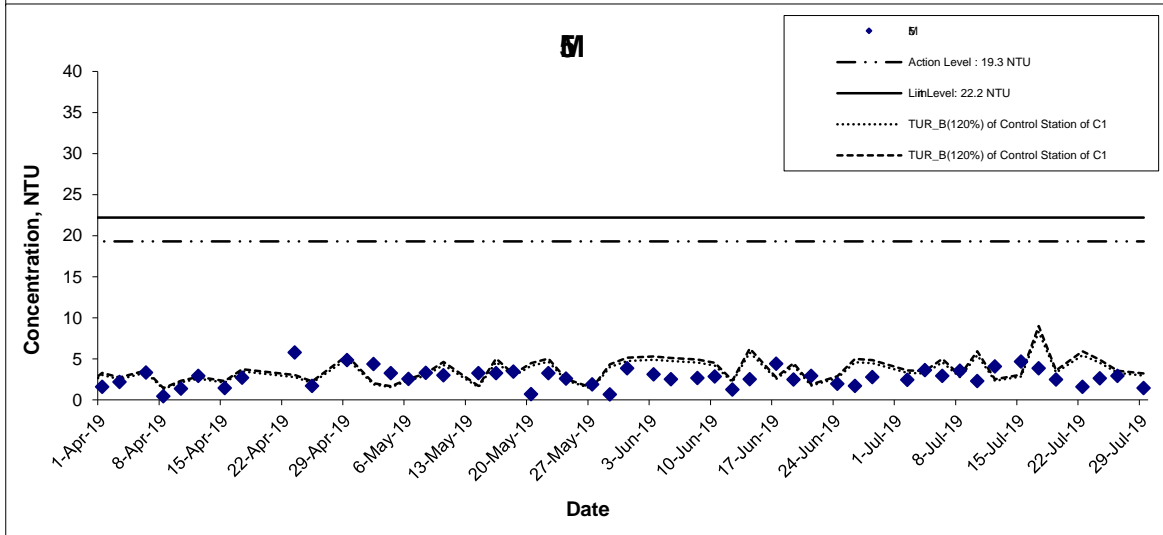
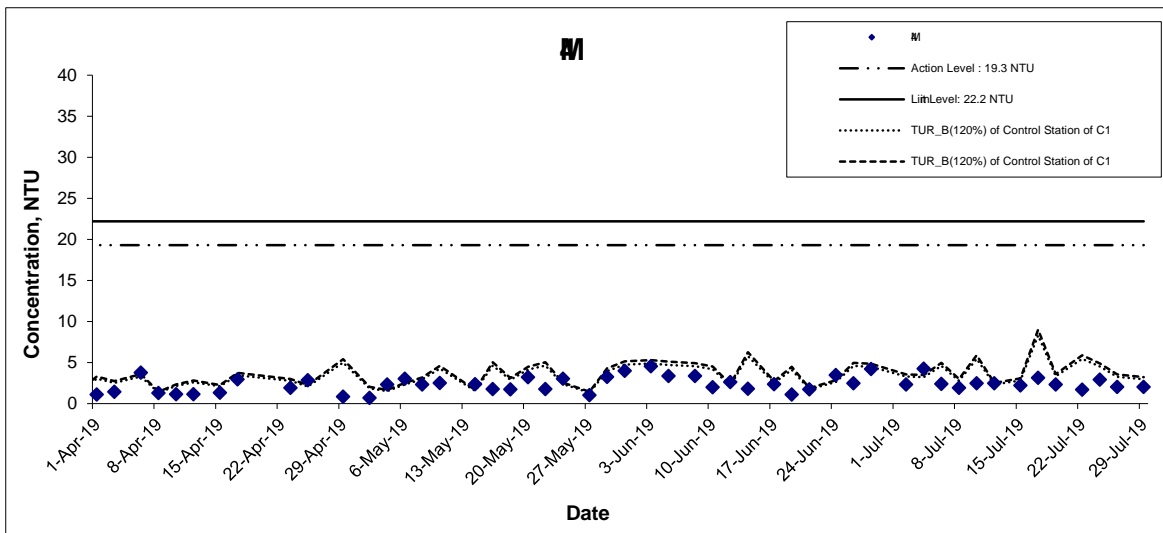
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### Turbidity (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction

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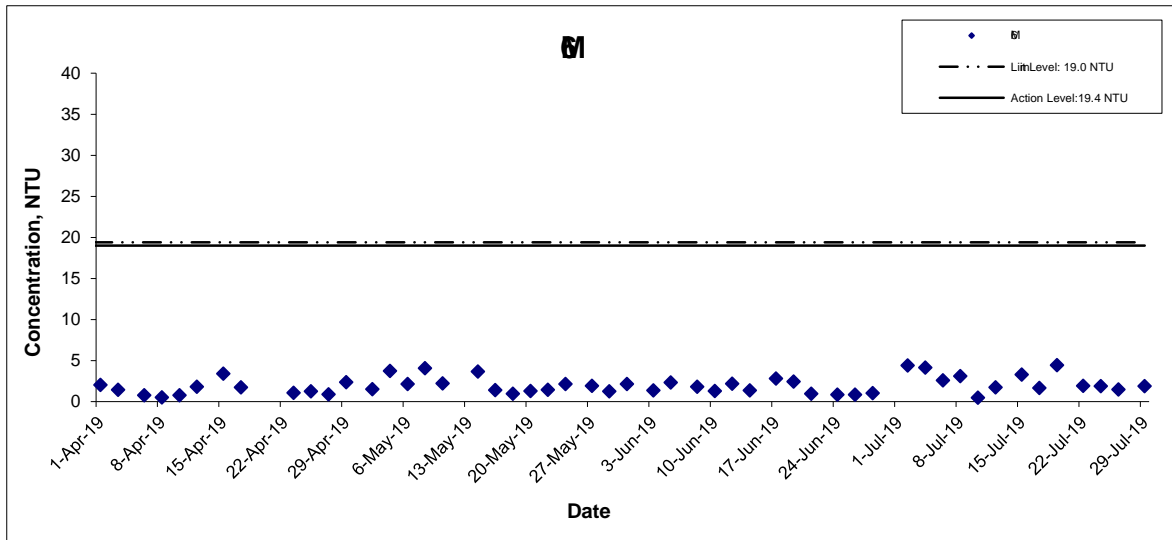
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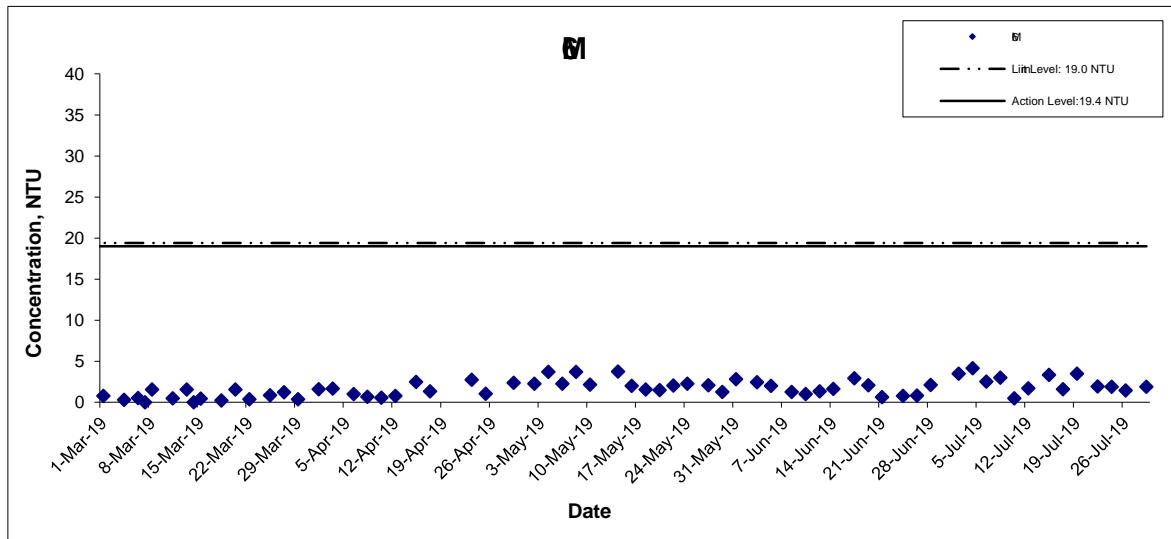


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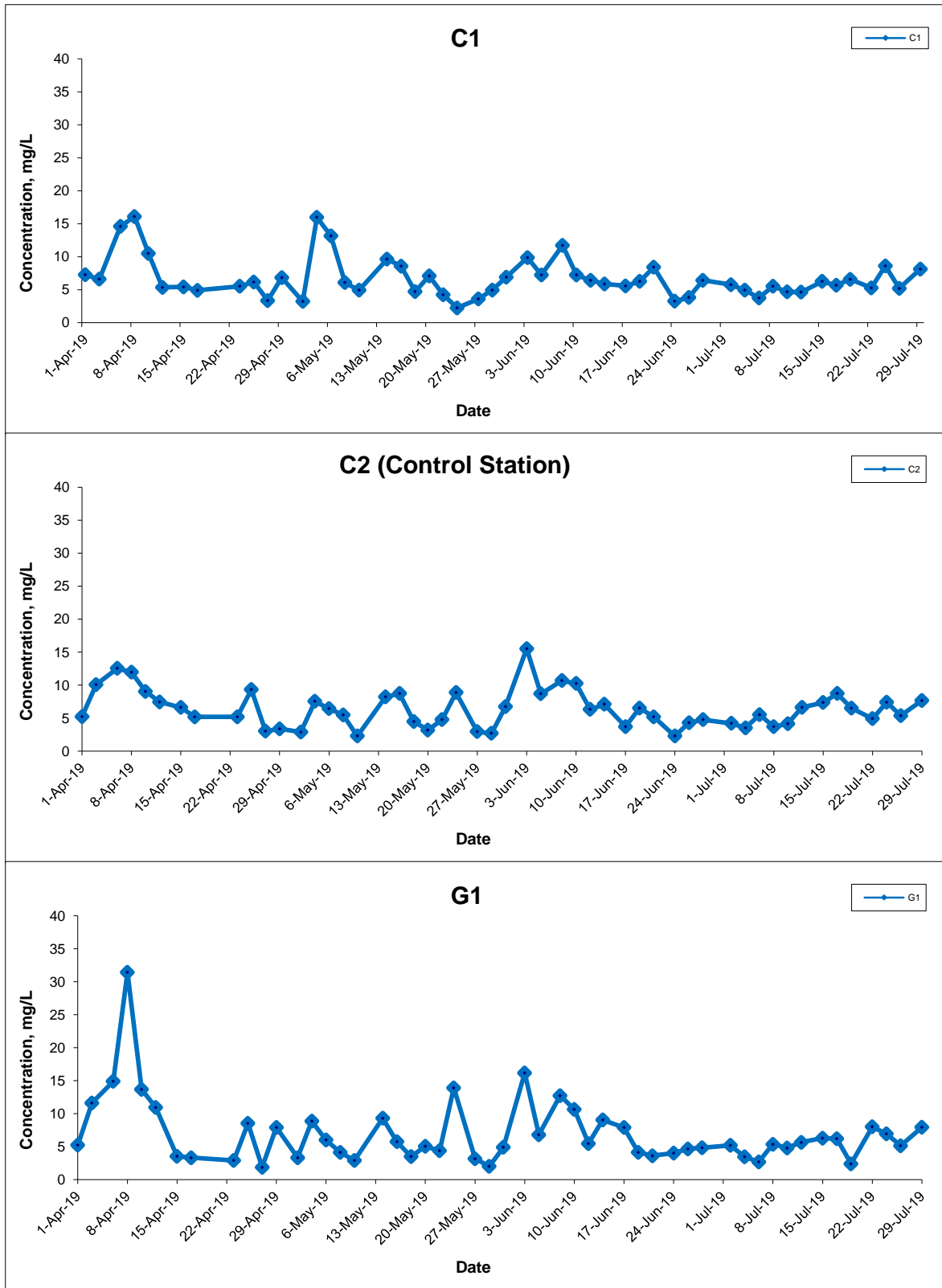
Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantien Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Turbidity (Intake Level of WSD Salt Water Intake) at M-Flood Tide



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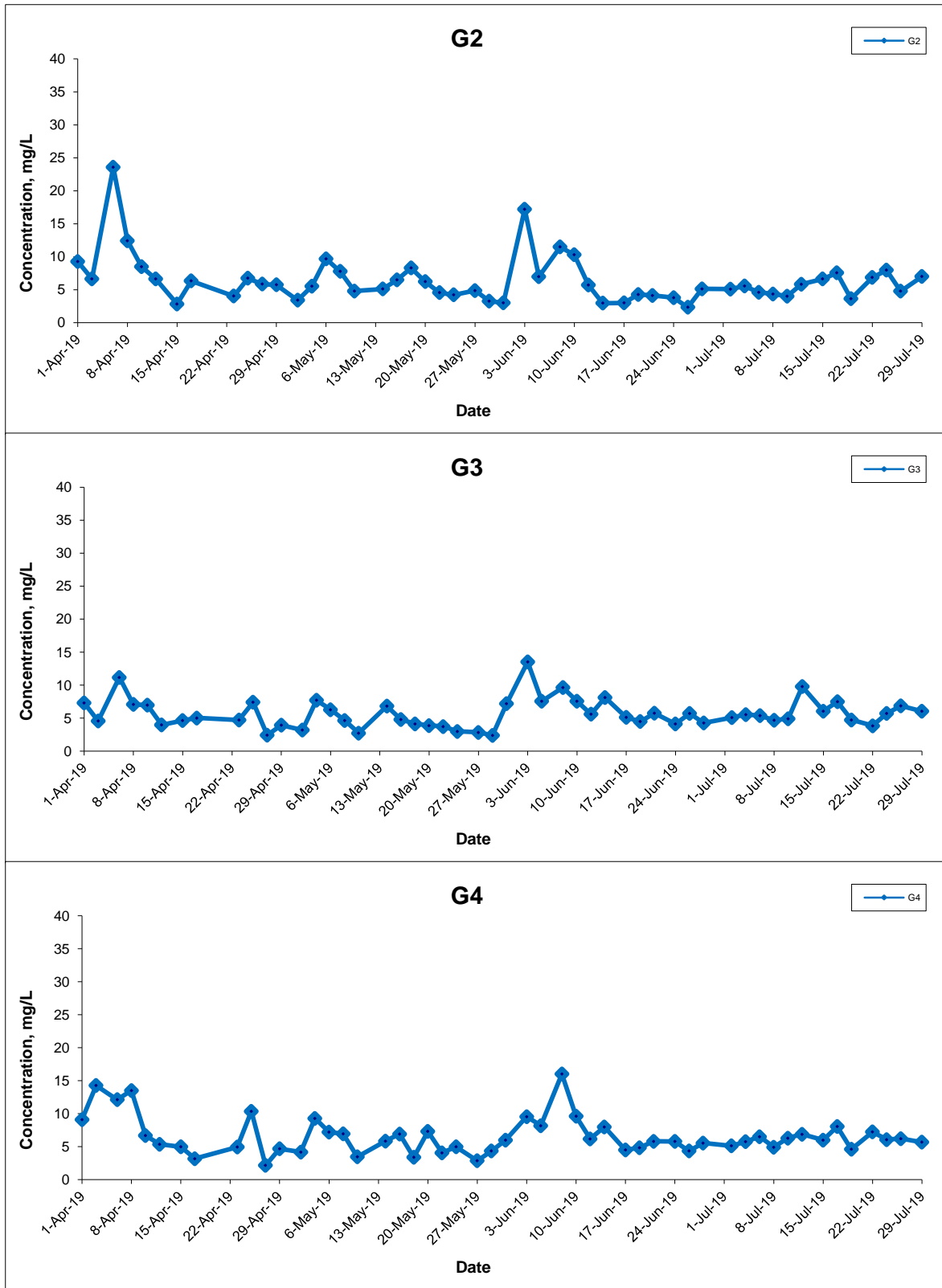
## Suspended Solids (Depth-averaged) at M-Ebb Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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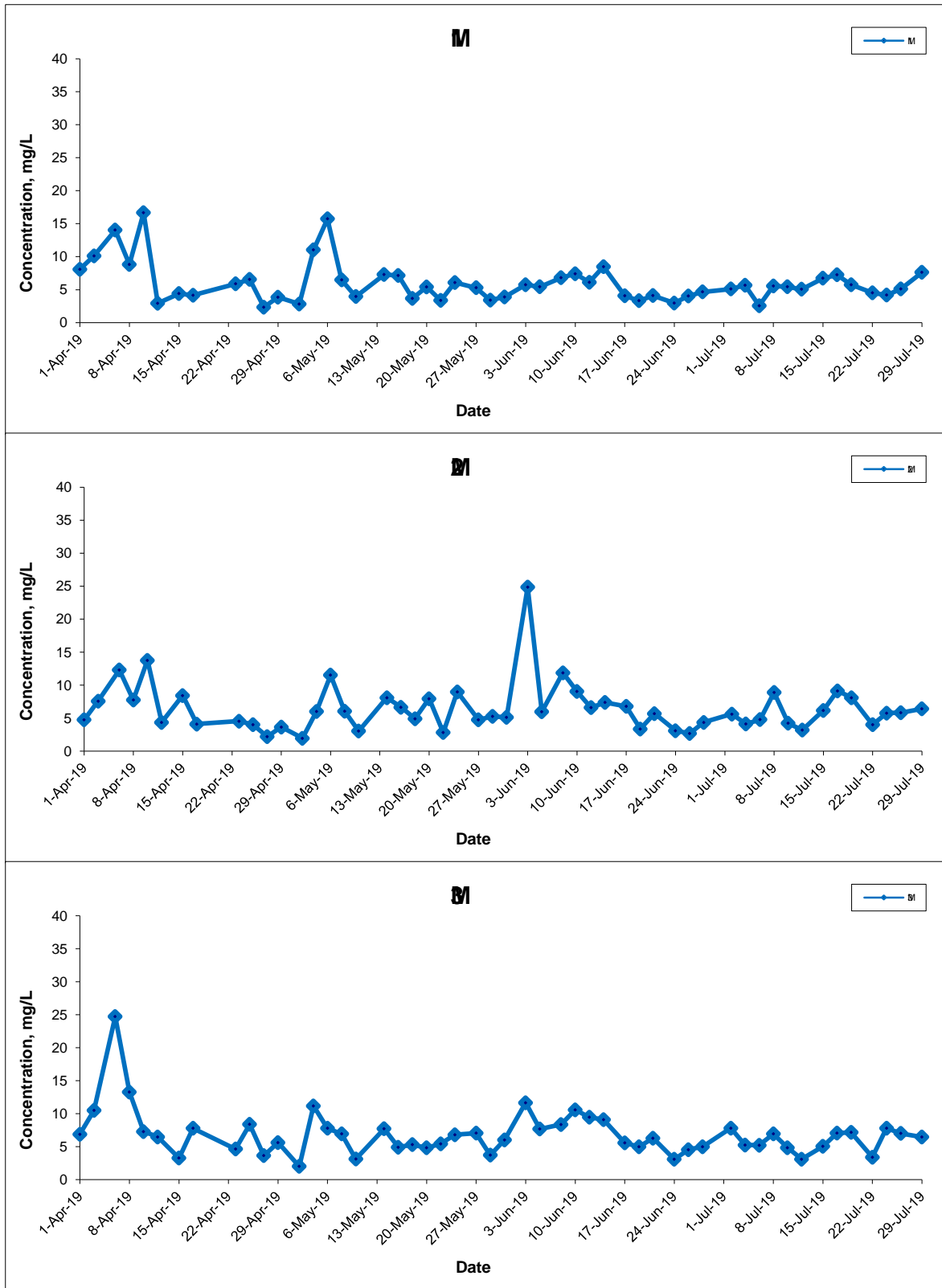


## Suspended Solids (Depth-averaged) at M-Ebb Tide



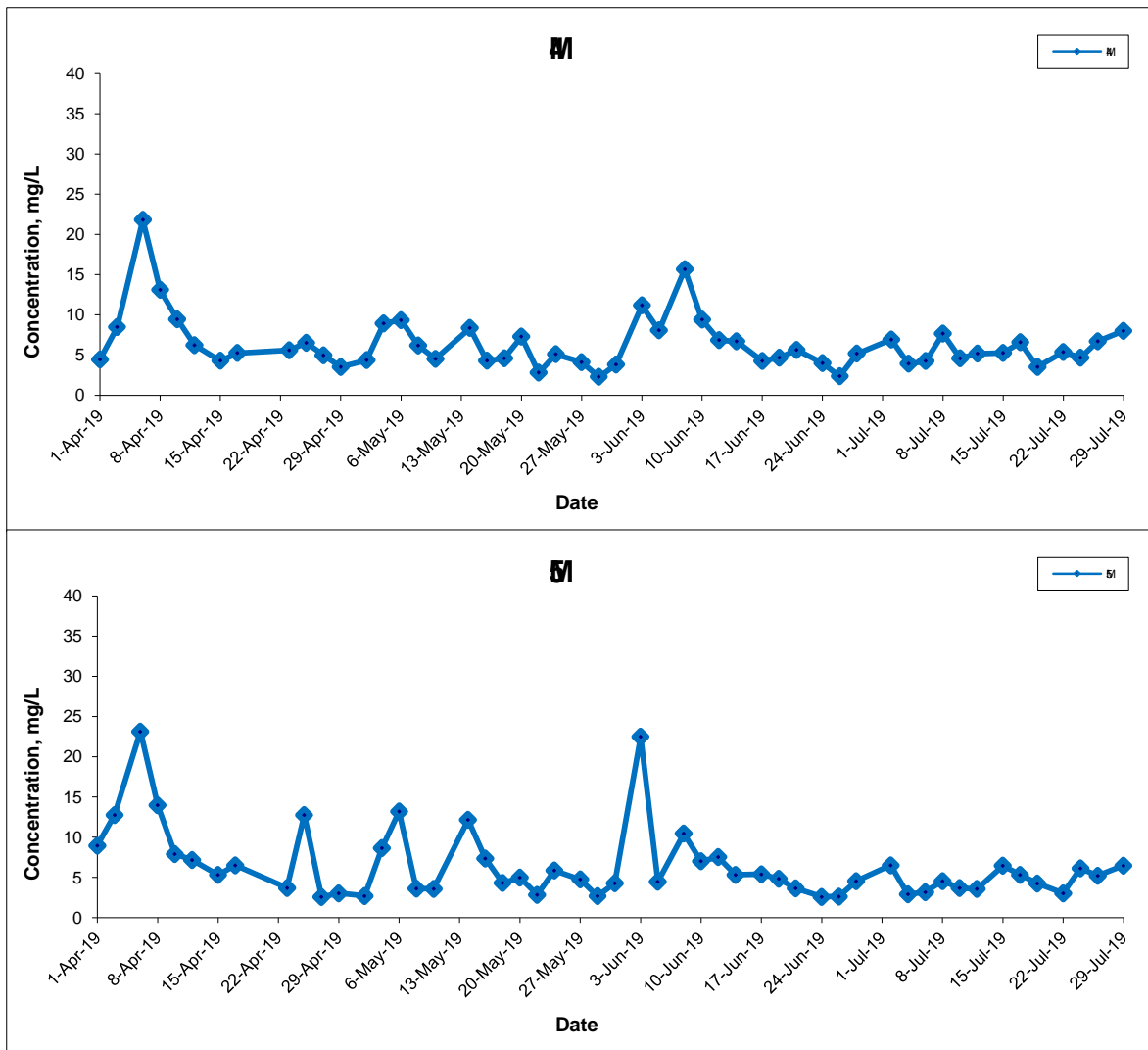
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### Suspended Solids (Depth-averaged) at M-Ebb Tide



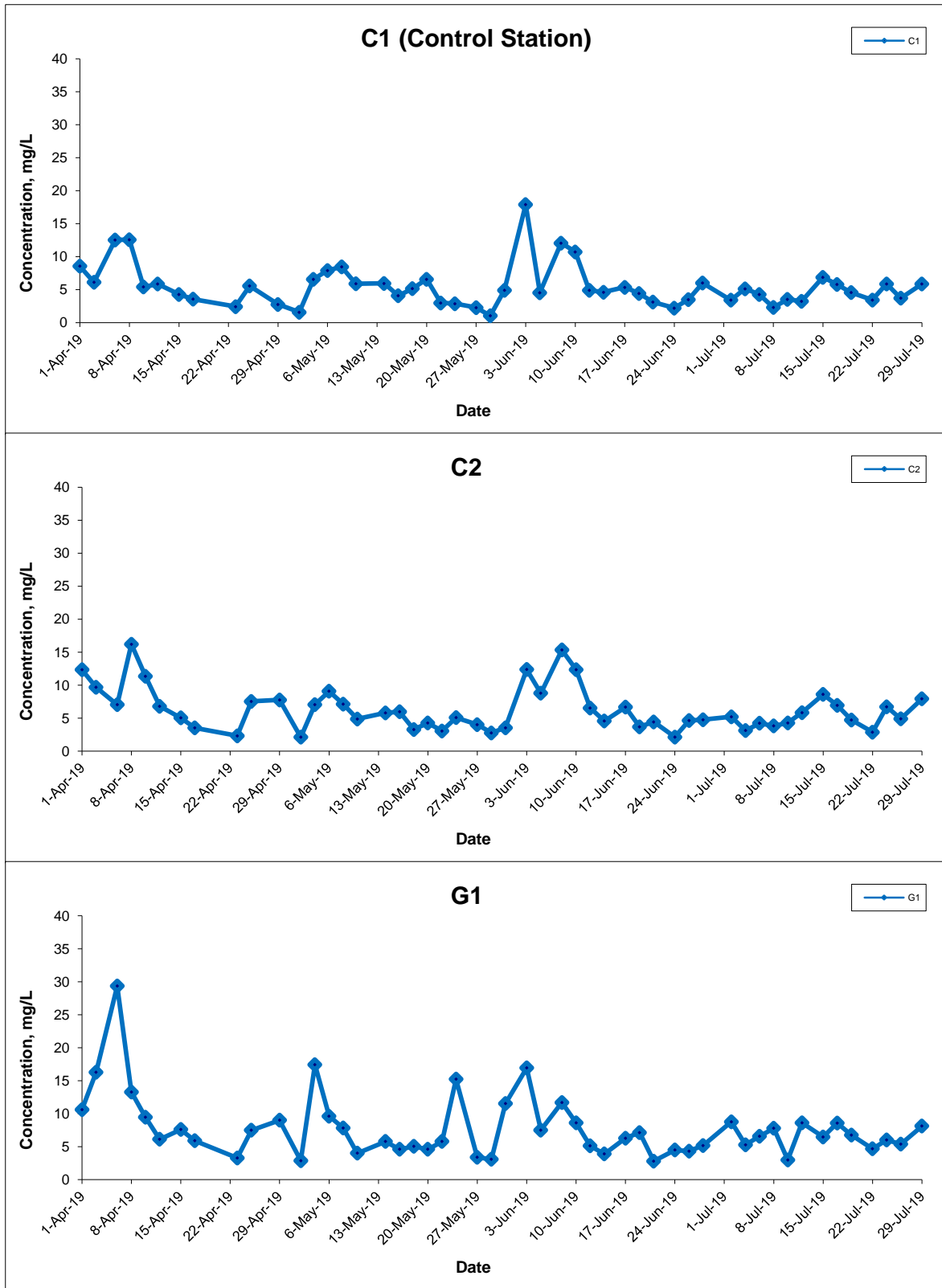
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### Suspended Solids (Depth-averaged) at M-Ebb Tide



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## Suspended Solids (Depth-averaged) at M-Flood Tide



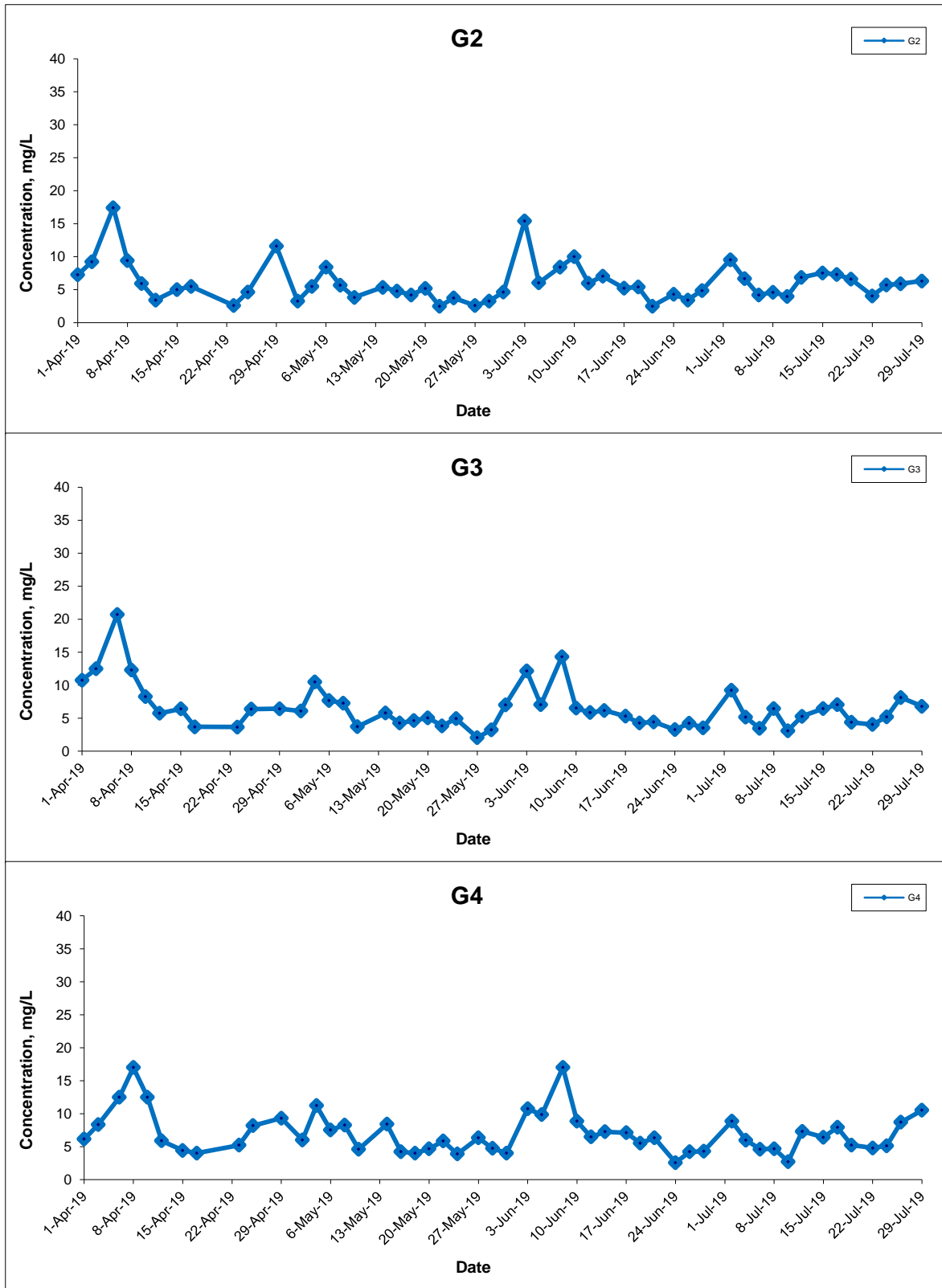
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## Suspended Solids (Depth-averaged) at M-Flood Tide



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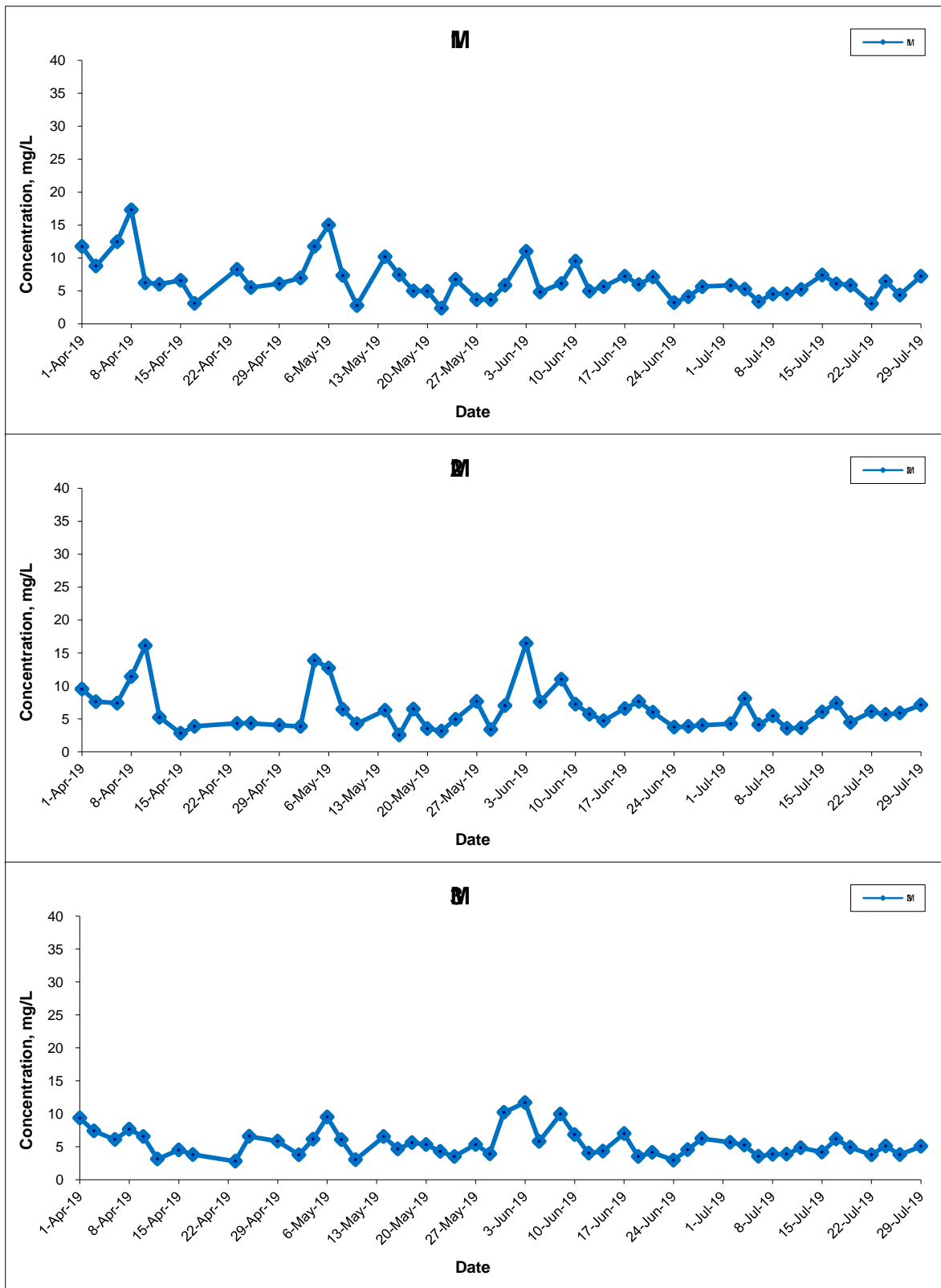
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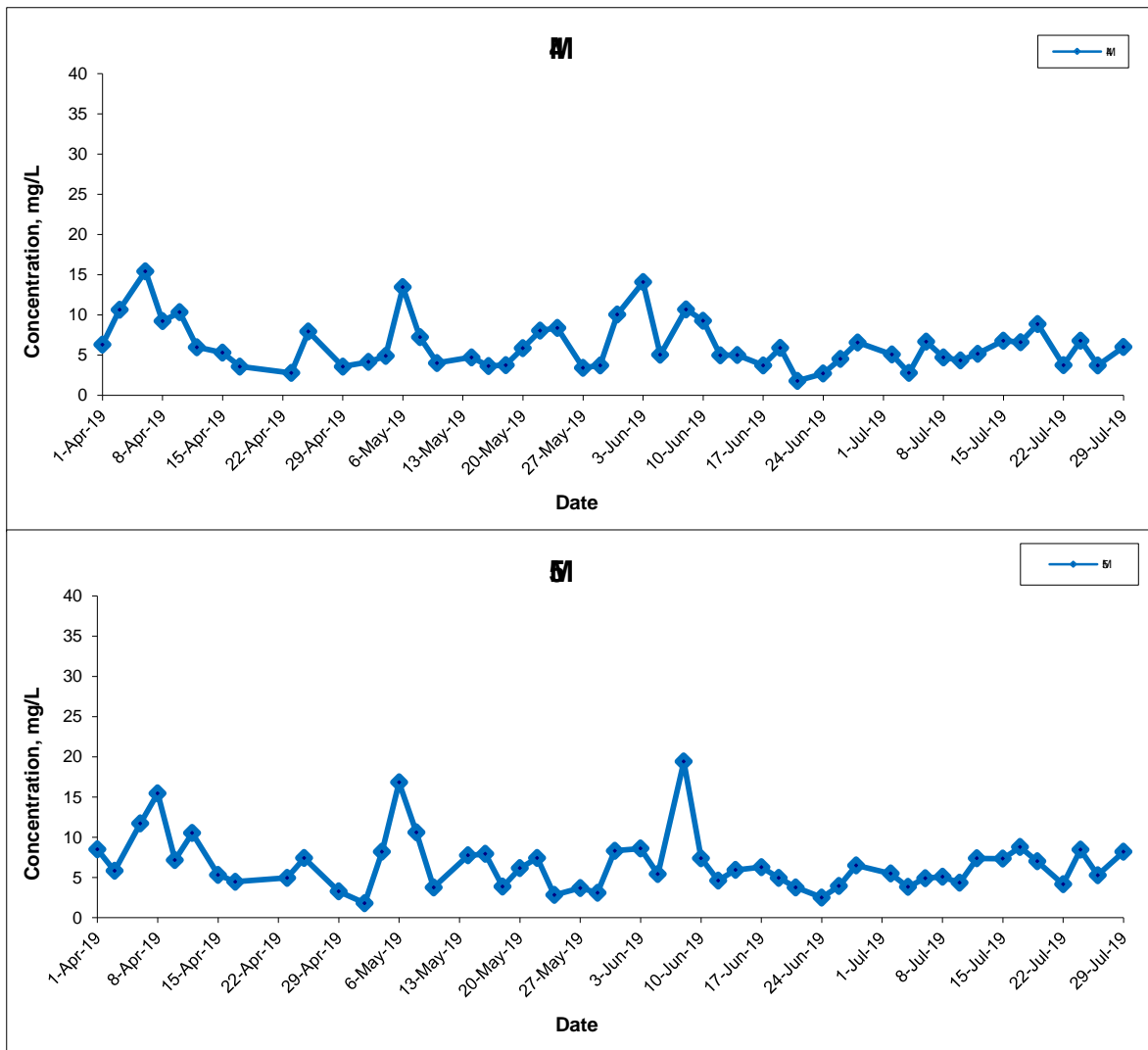


## Suspended Solids (Depth-averaged) at M-Flood Tide



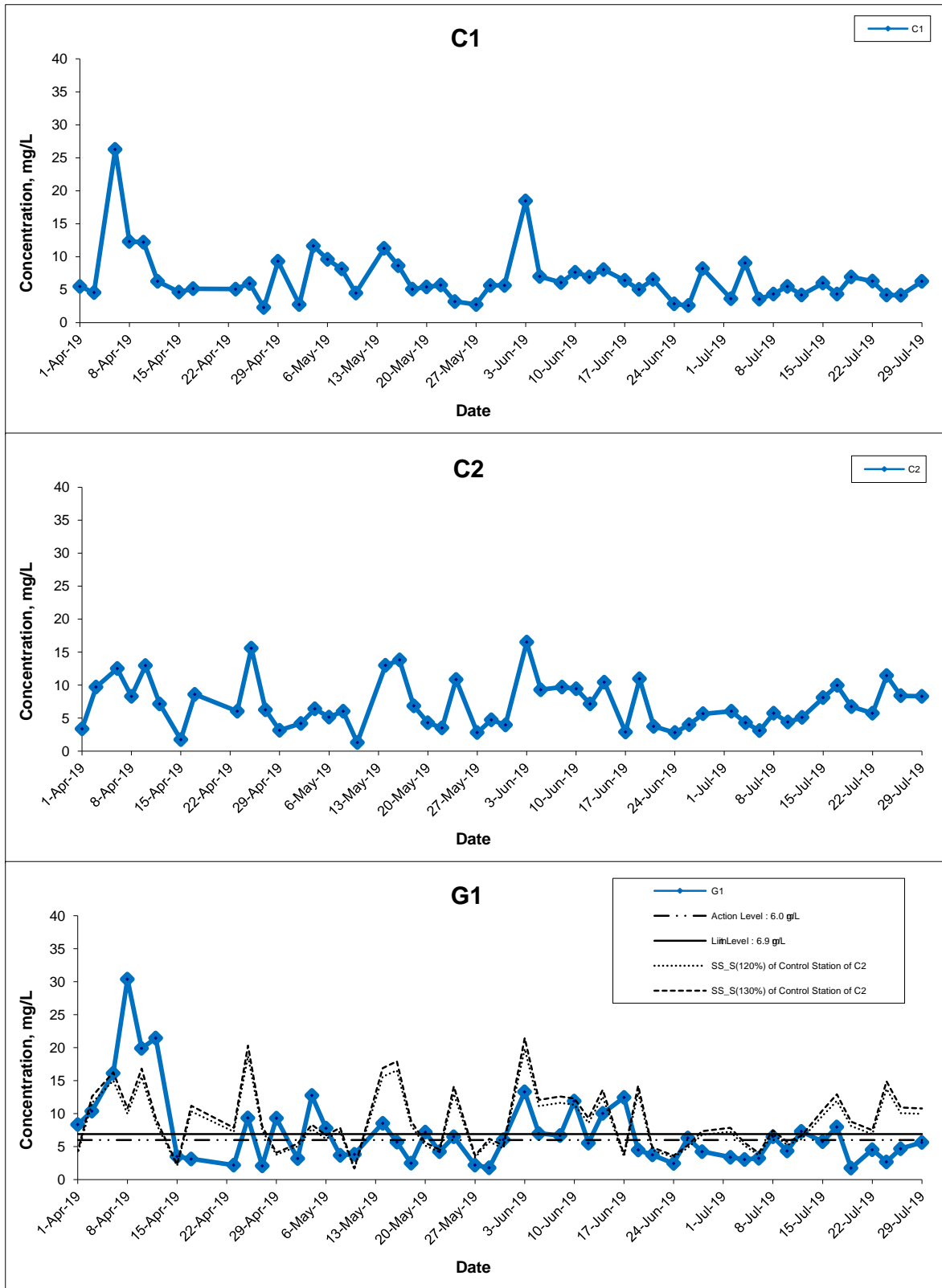
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## Suspended Solids (Depth-averaged) at M-Flood Tide



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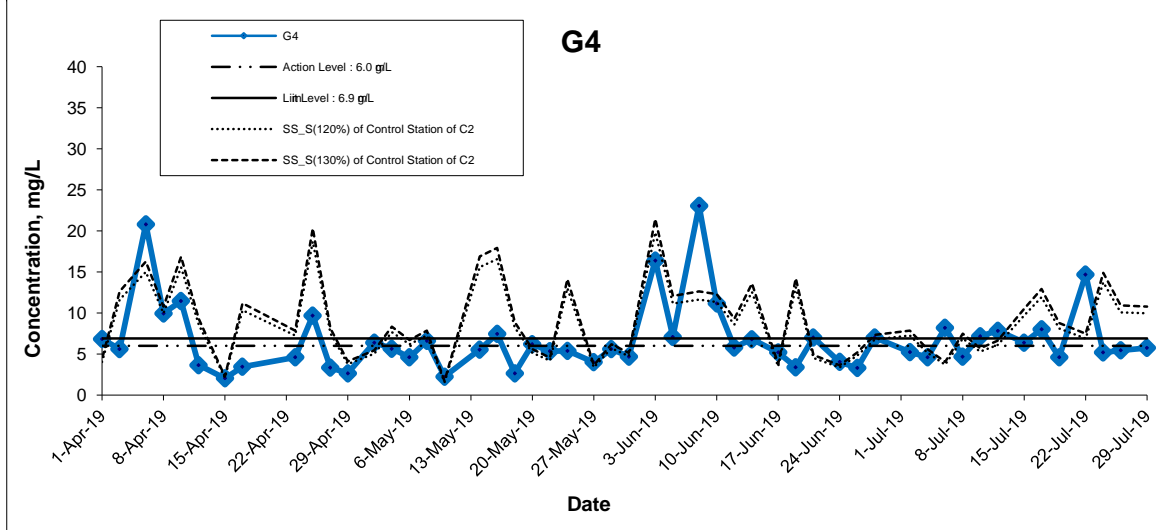
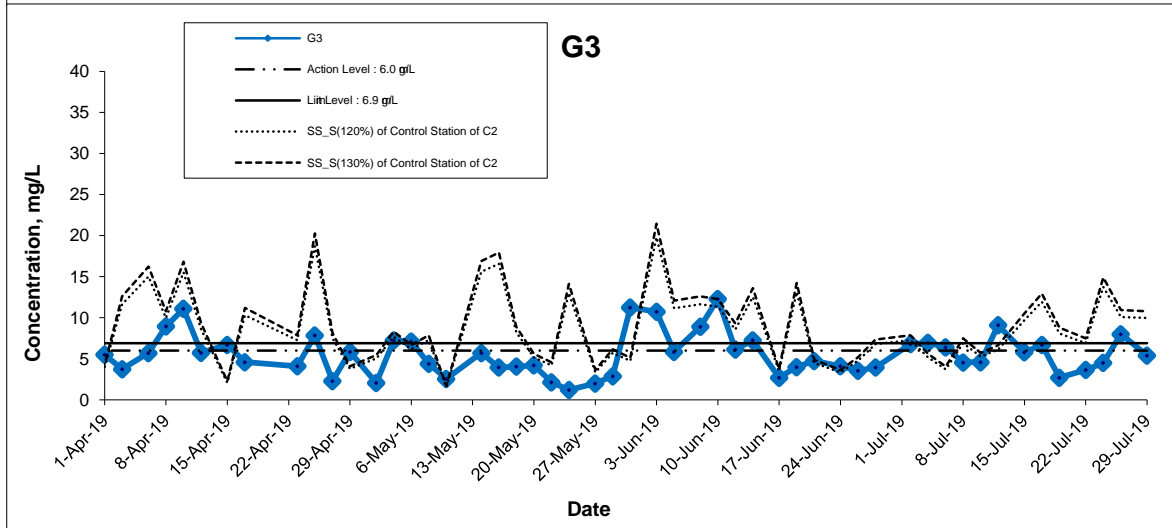
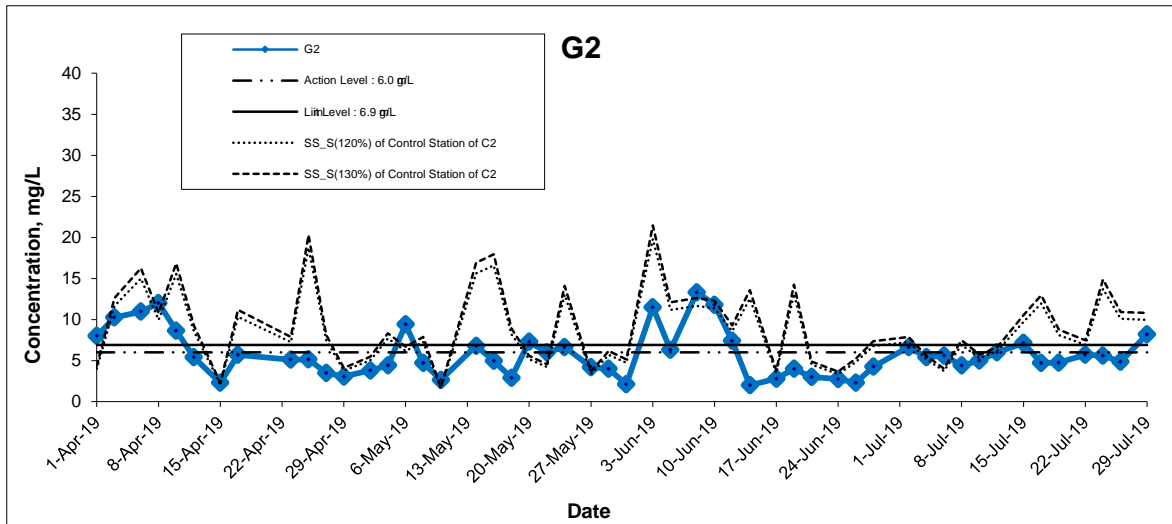
## Suspended Solids (Surface) at M-Ebb Tide



Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Land Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
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## Suspended Solids (Surface) at M-Ebb Tide



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

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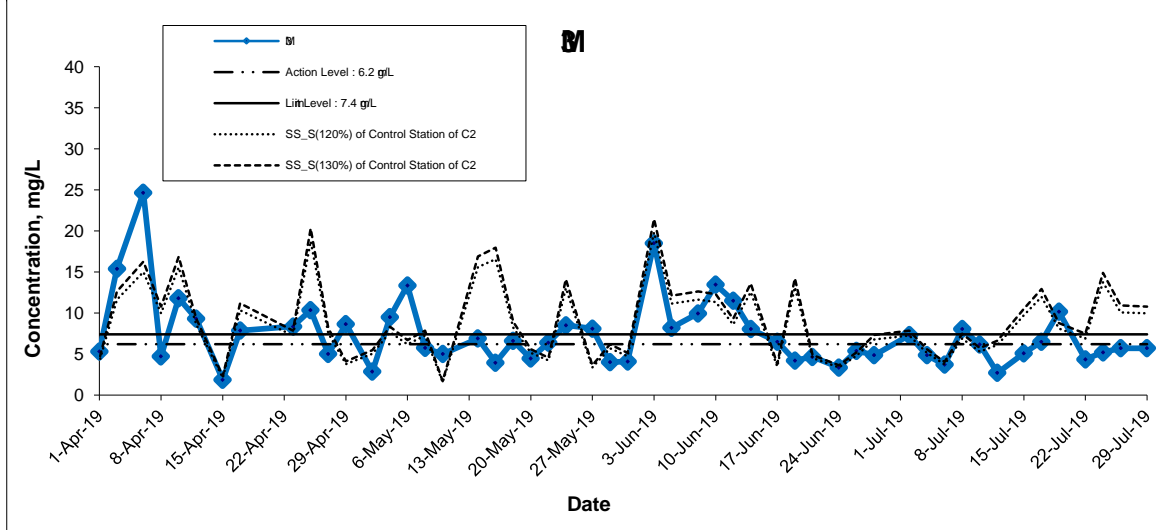
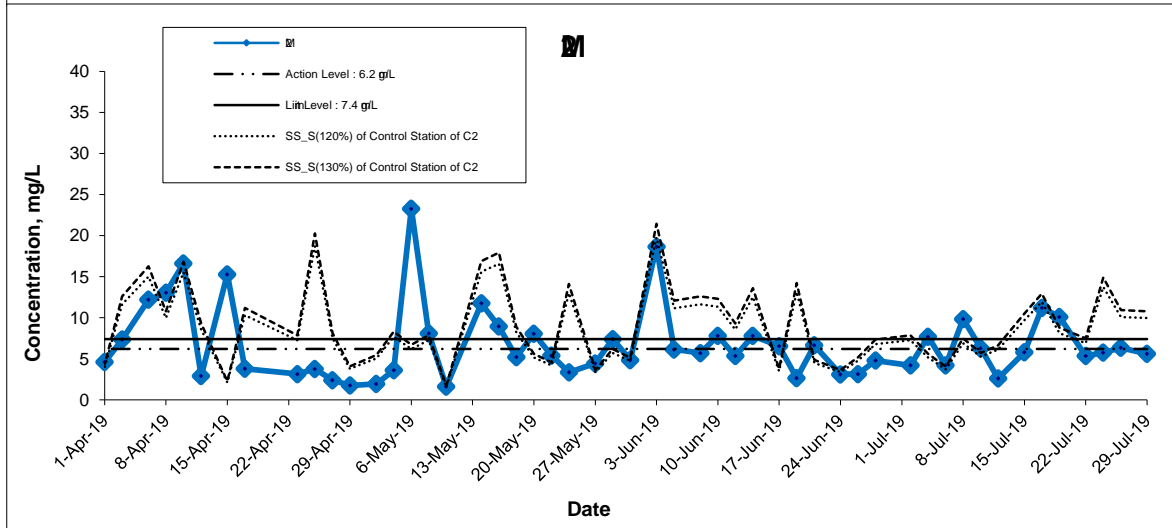
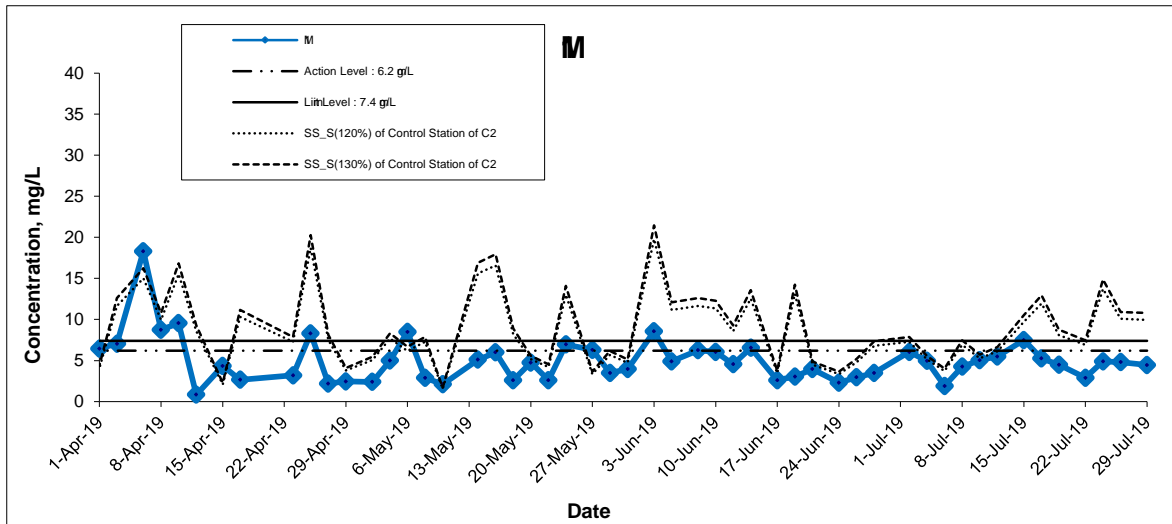
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## Suspended Solids (Surface) at M-Ebb Tide



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

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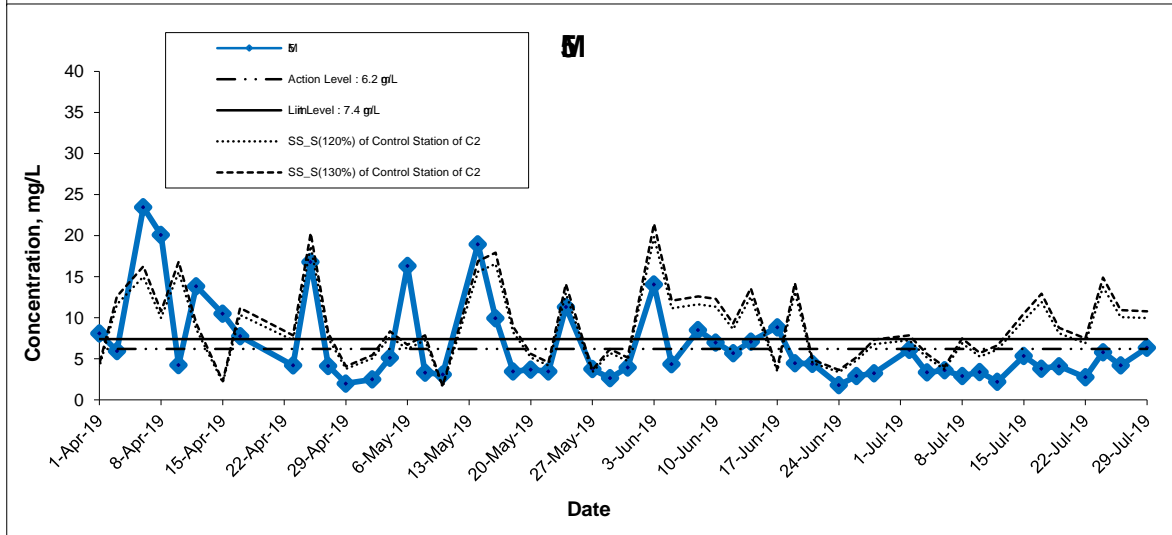
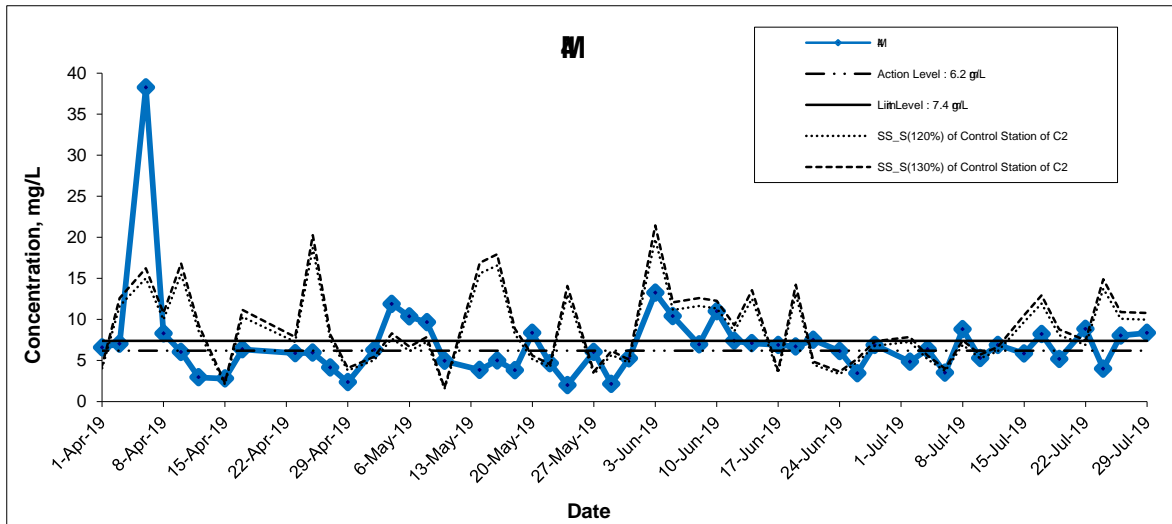
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## Suspended Solids (Surface) at M-Ebb Tide



Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantau Tunnel Design and Construction

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Scale N.T.S

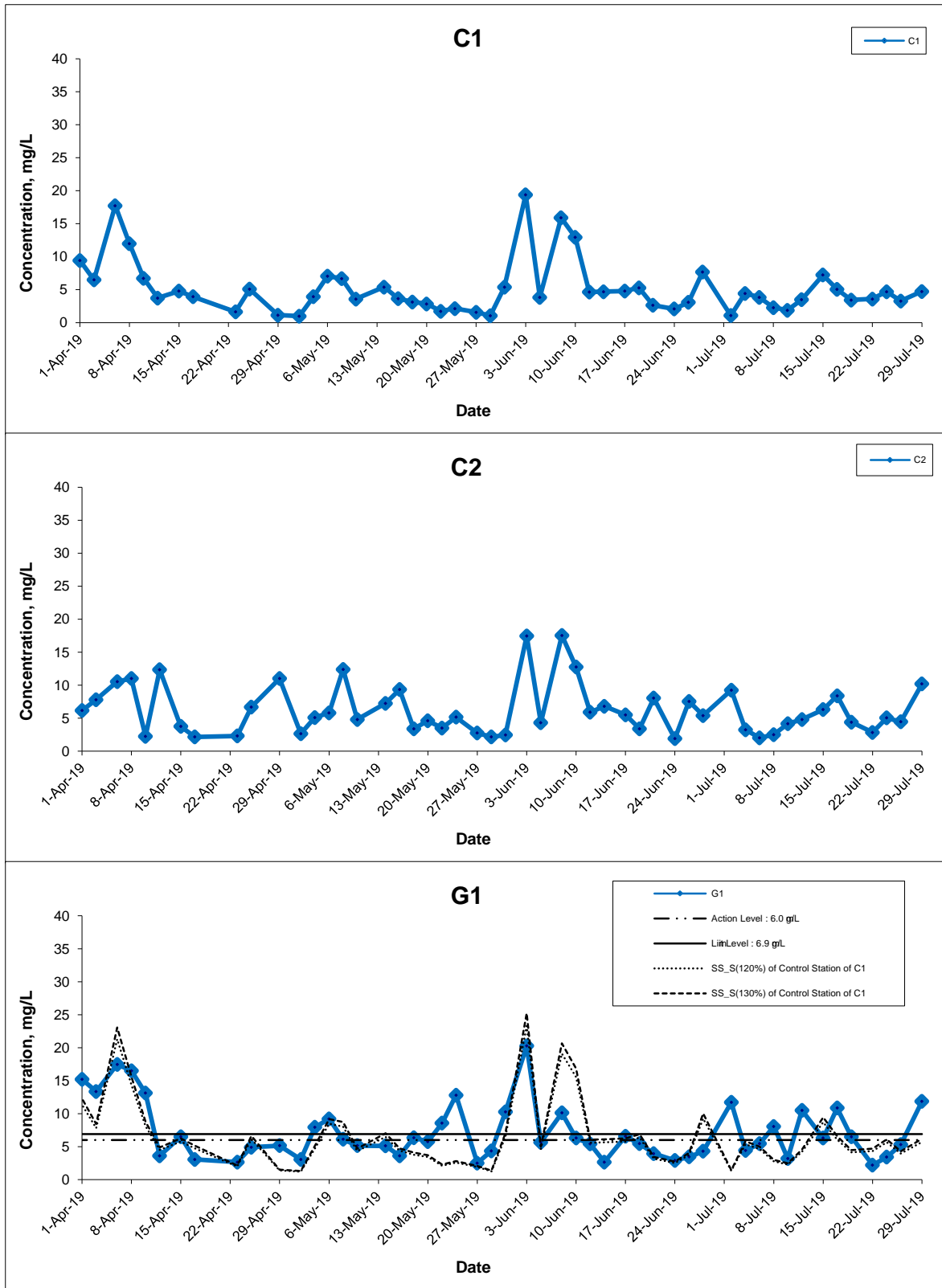
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## Suspended Solids (Surface) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lantau Tunnel Design and Construction

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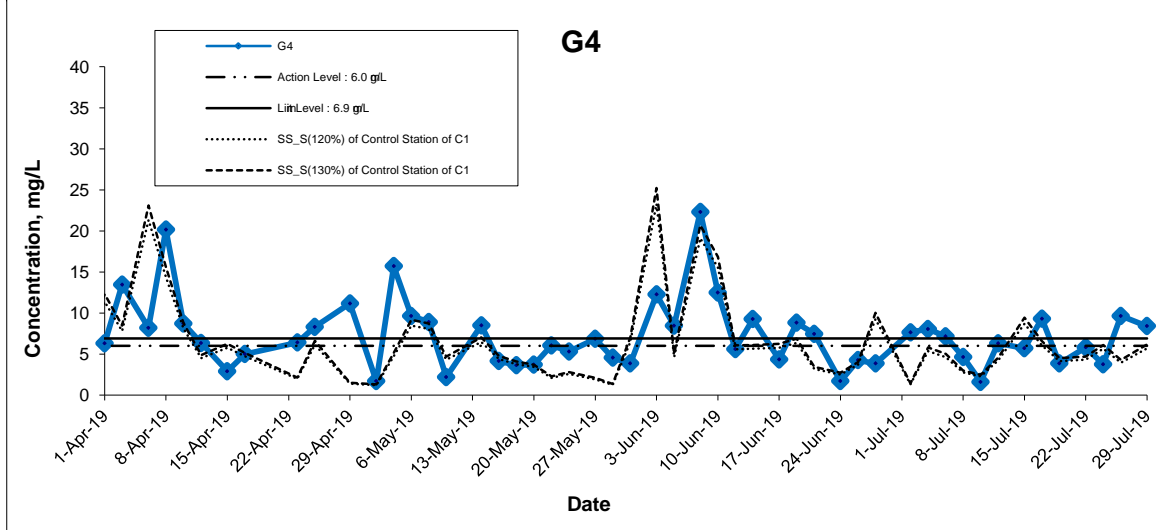
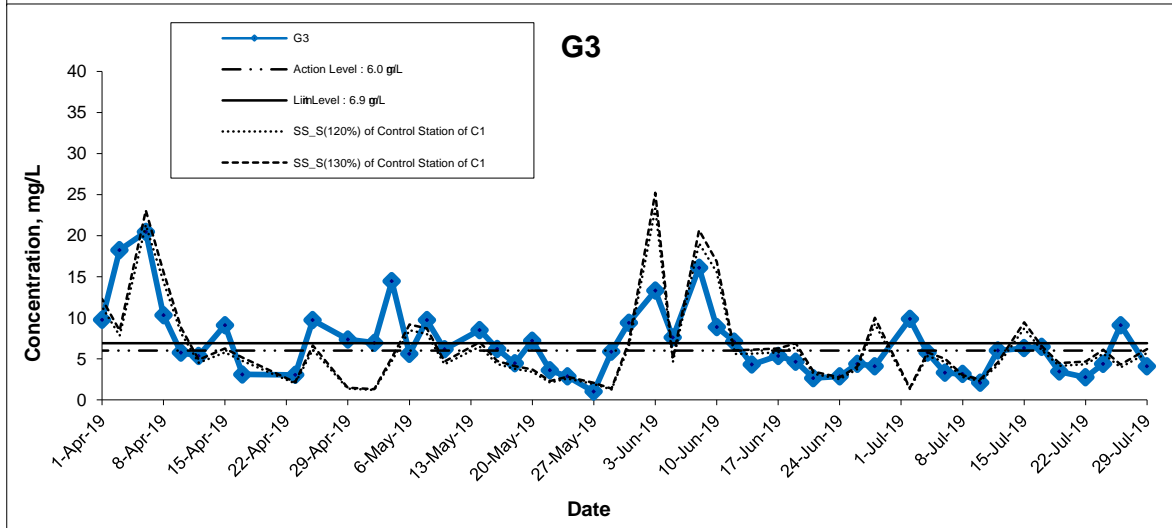
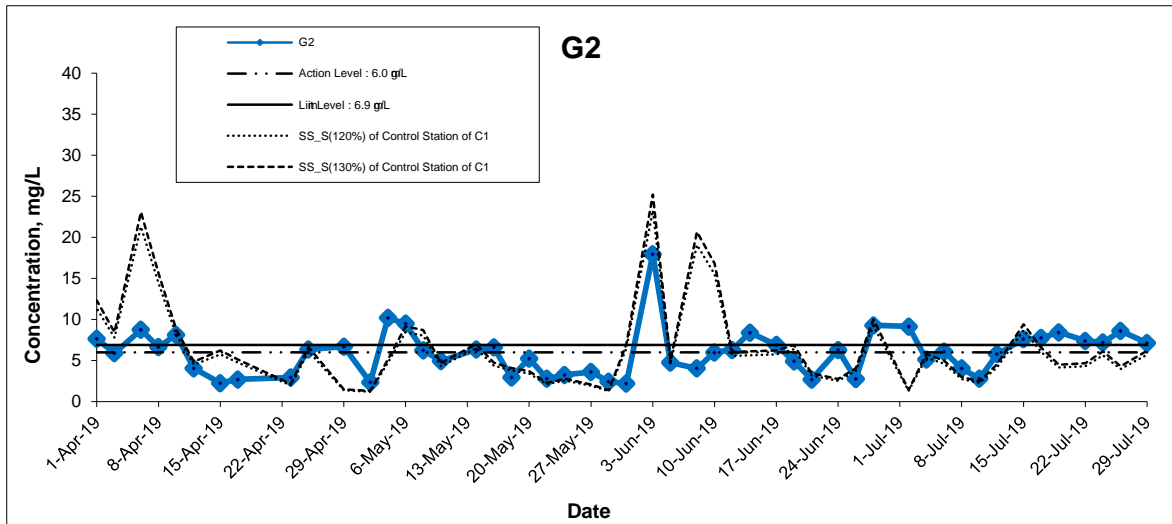
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**CINOTECH**

## Suspended Solids (Surface) at M-Flood Tide



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

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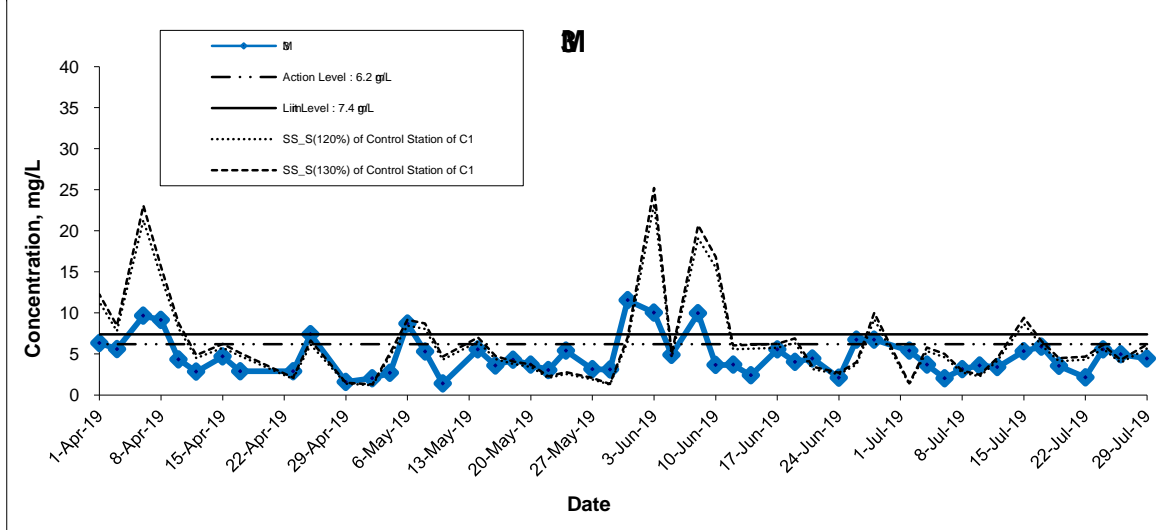
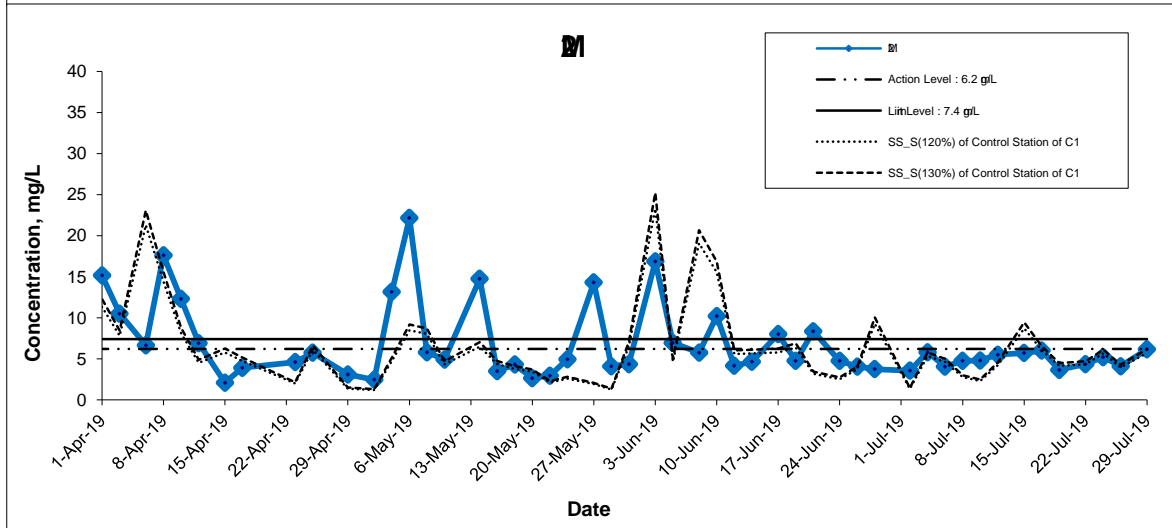
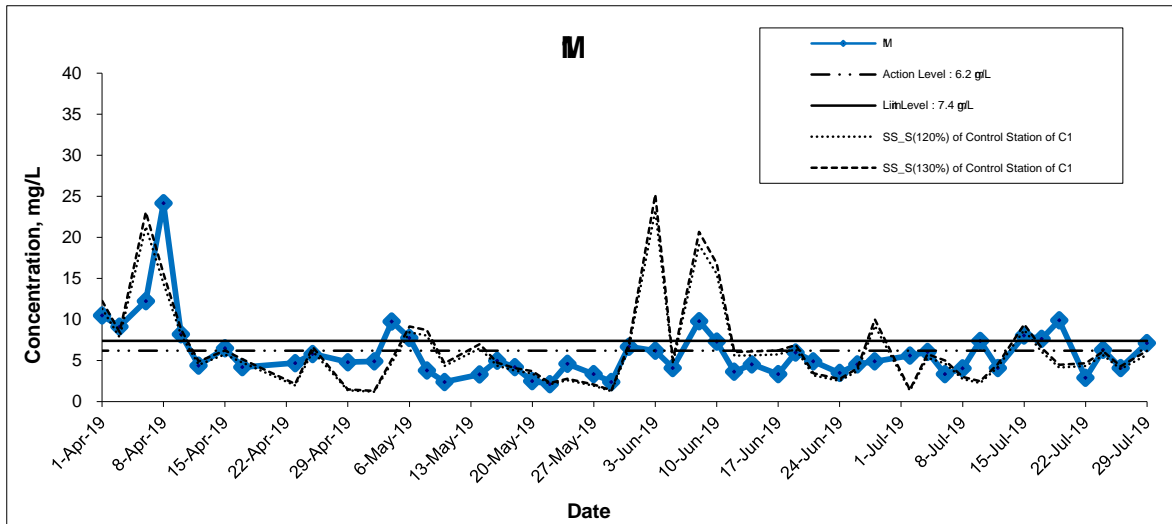
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## Suspended Solids (Surface) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Tearfor  
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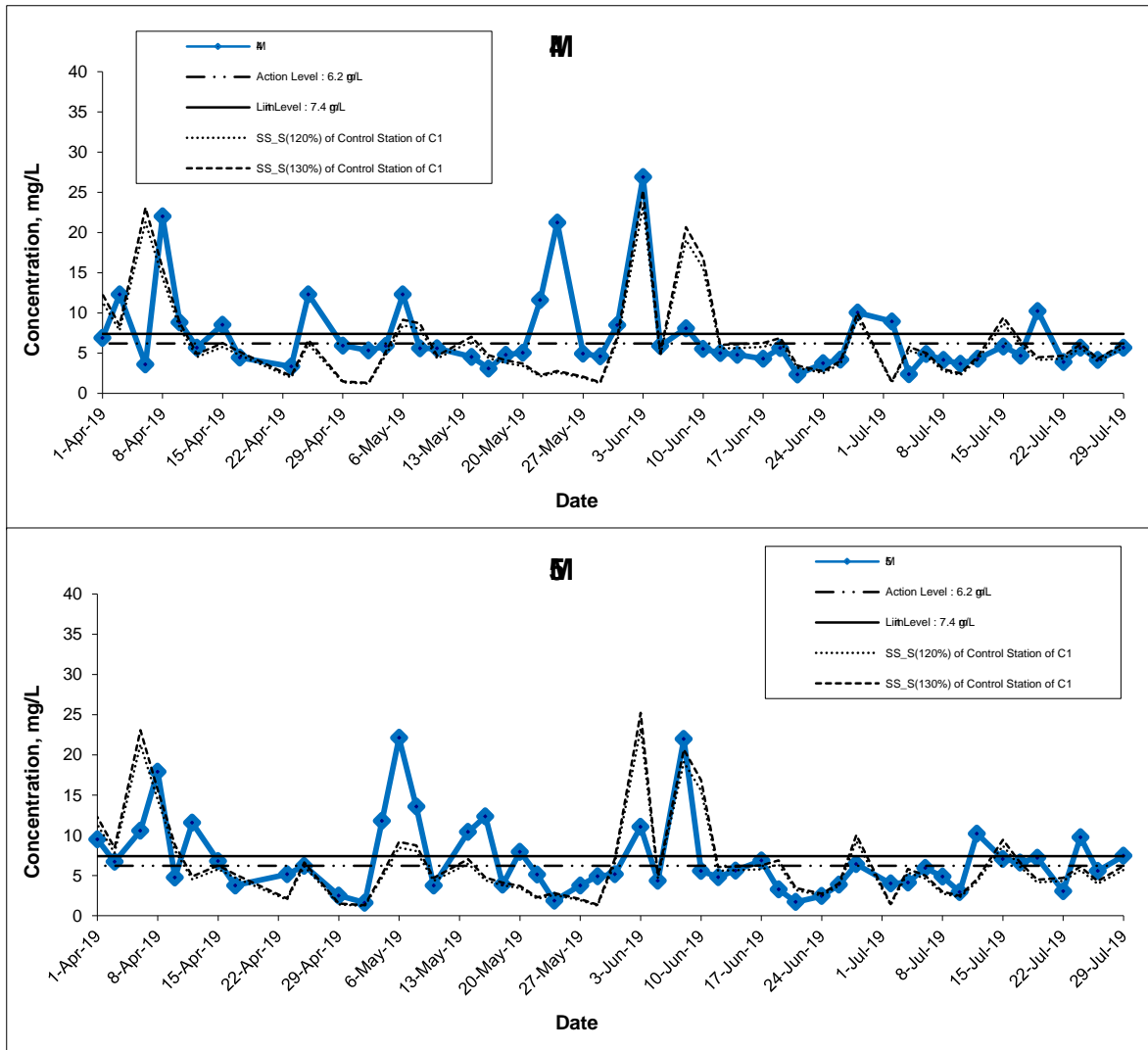
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## Suspended Solids (Surface) at M-Flood Tide



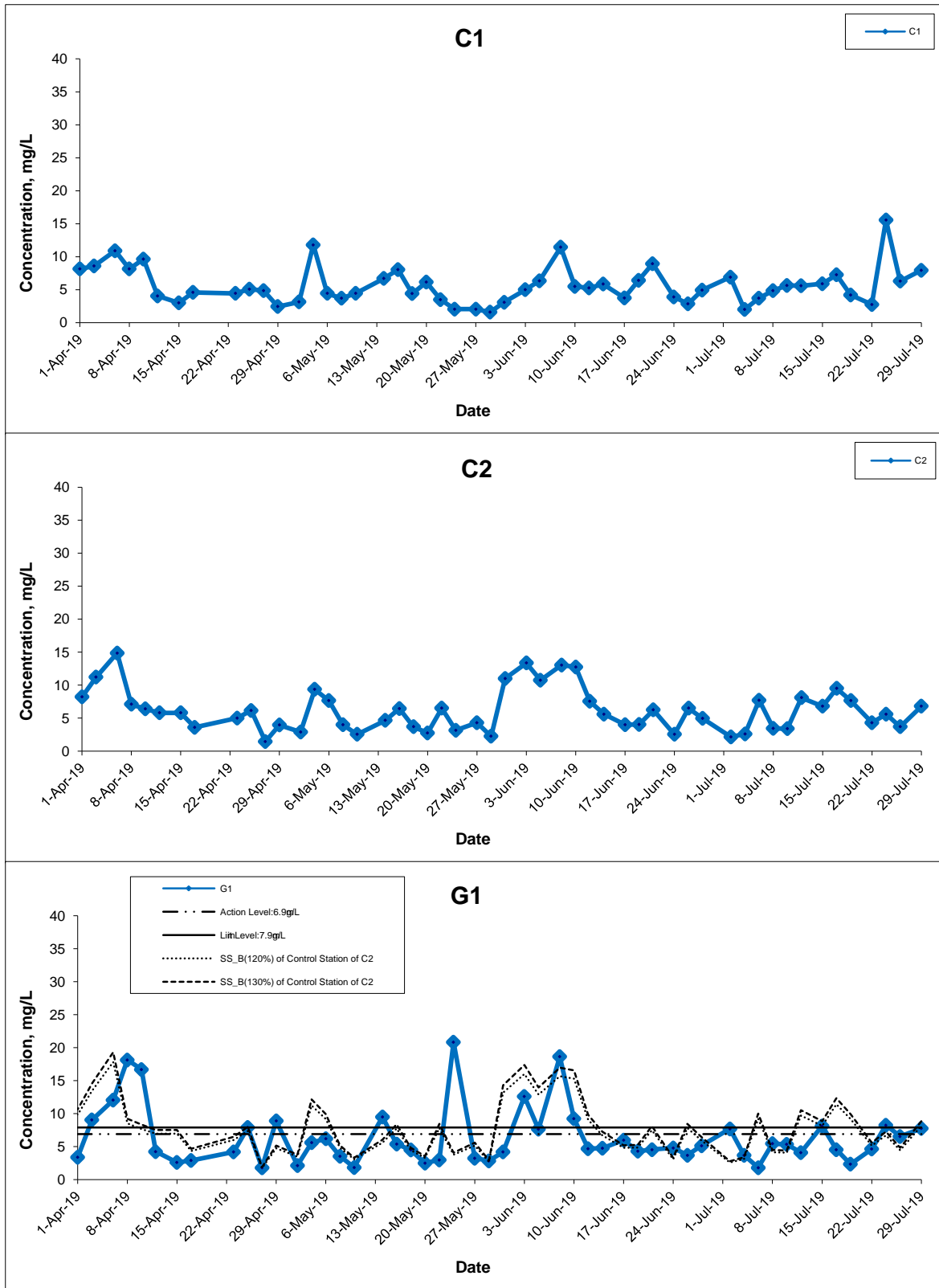
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## Suspended Solids (Bottom) at M-Ebb Tide



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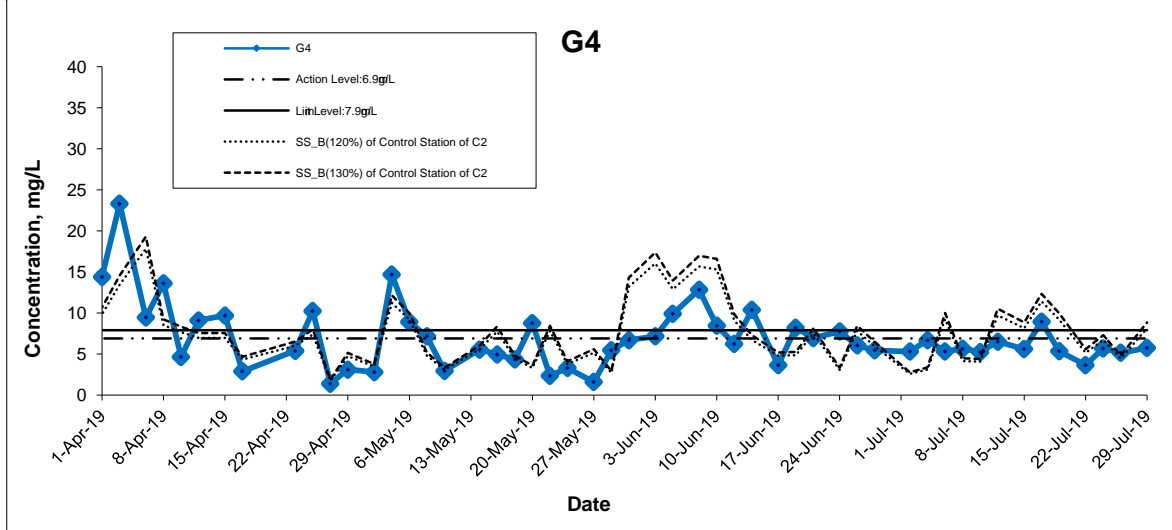
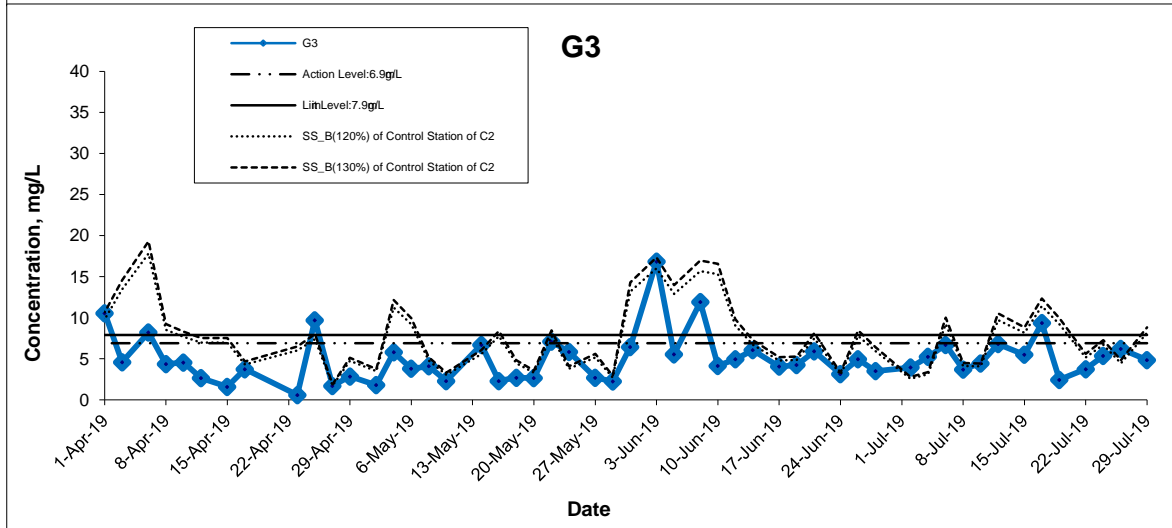
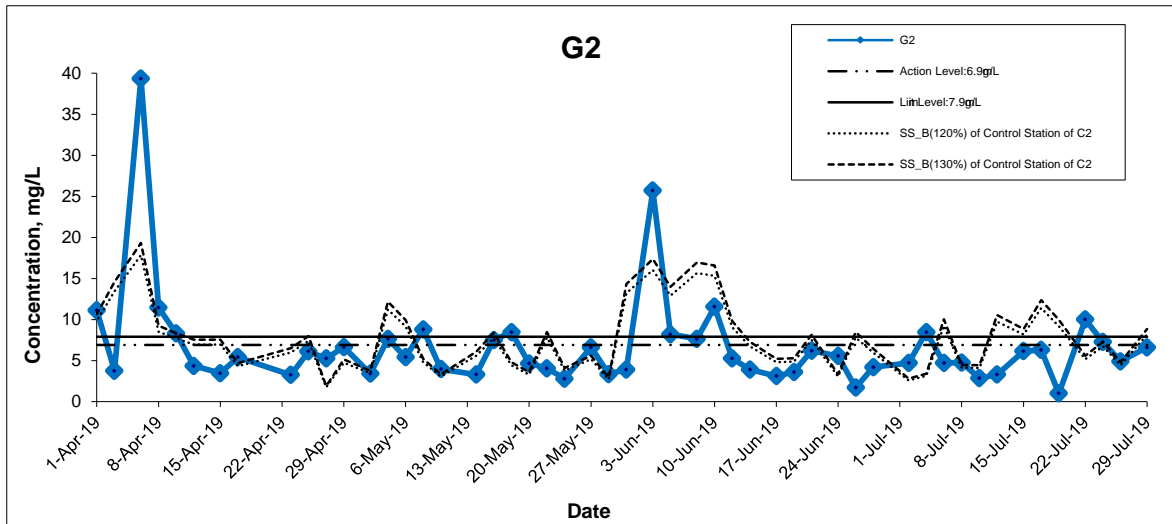
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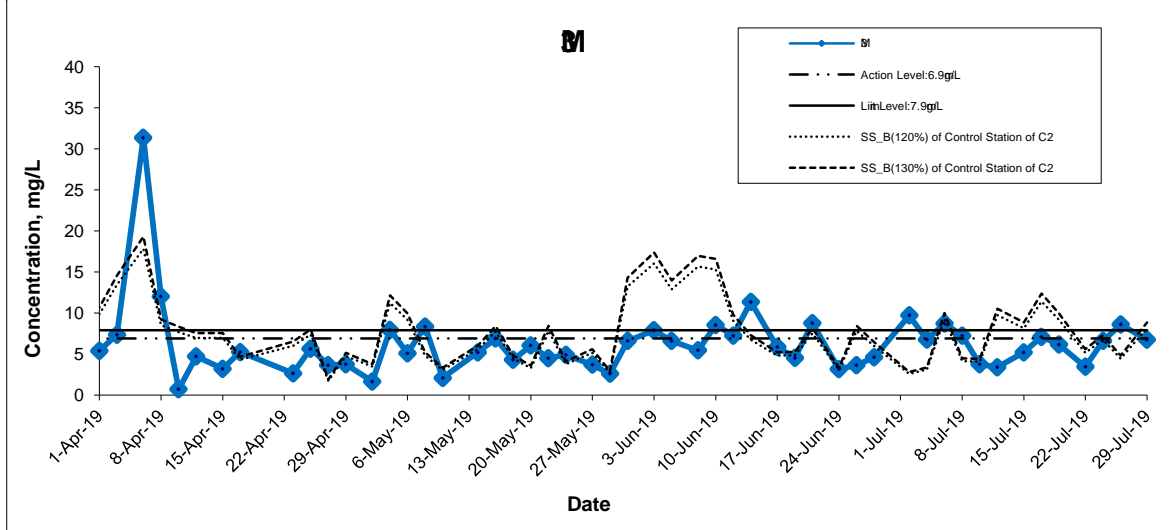
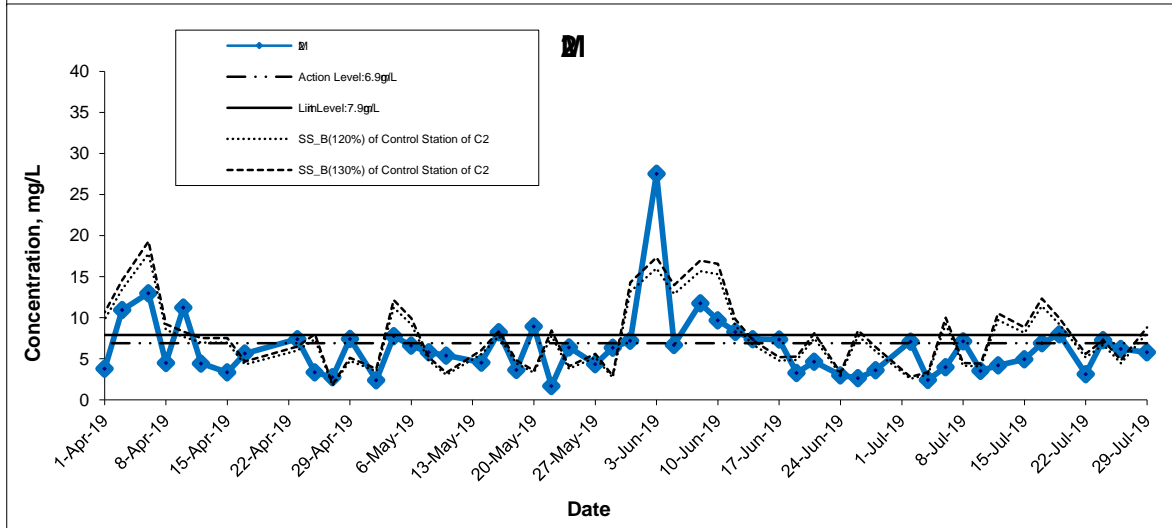
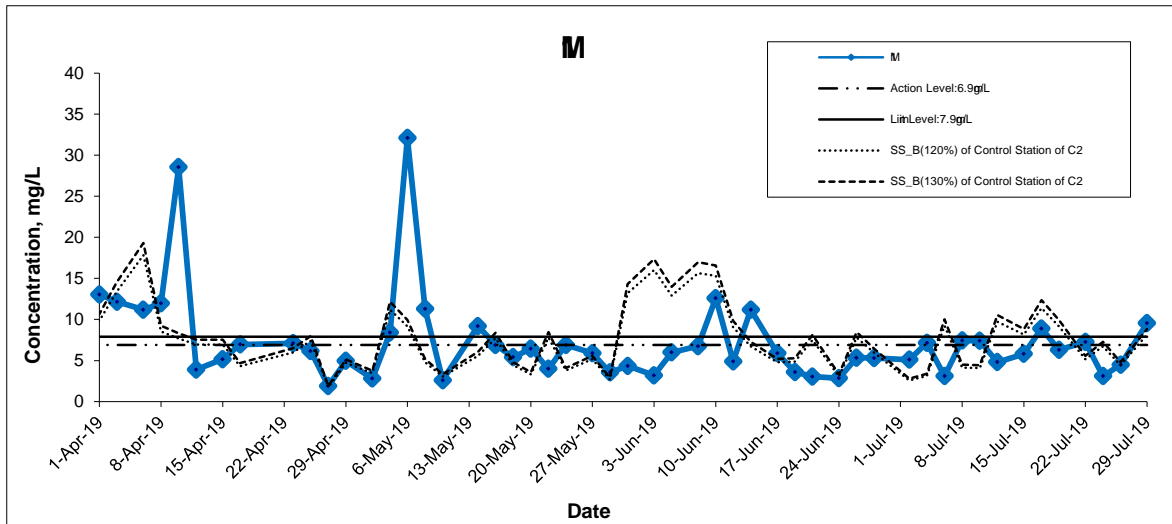


## Suspended Solids (Bottom) at M-Ebb Tide



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### Suspended Solids (Bottom) at M-Ebb Tide



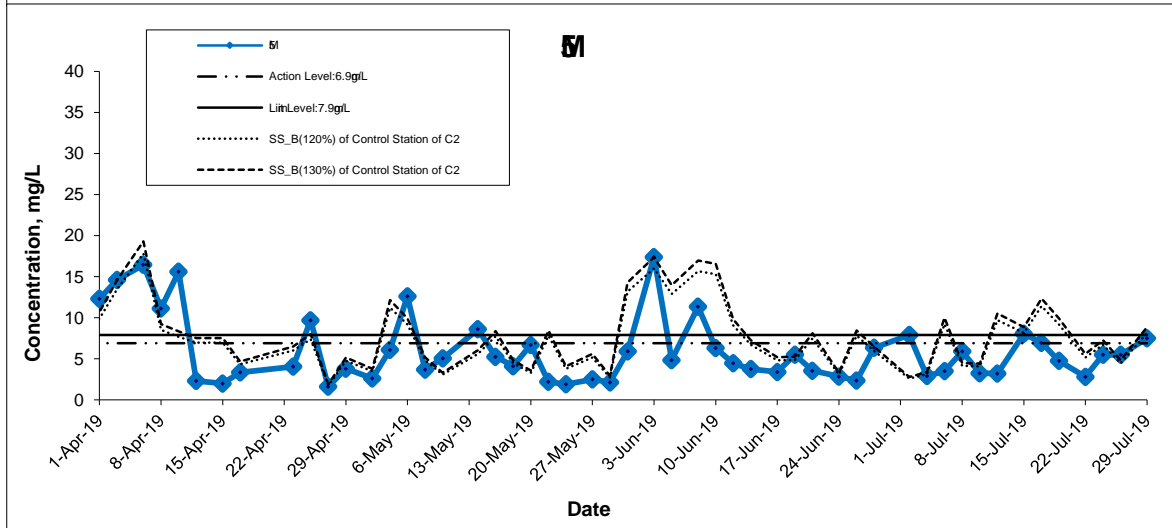
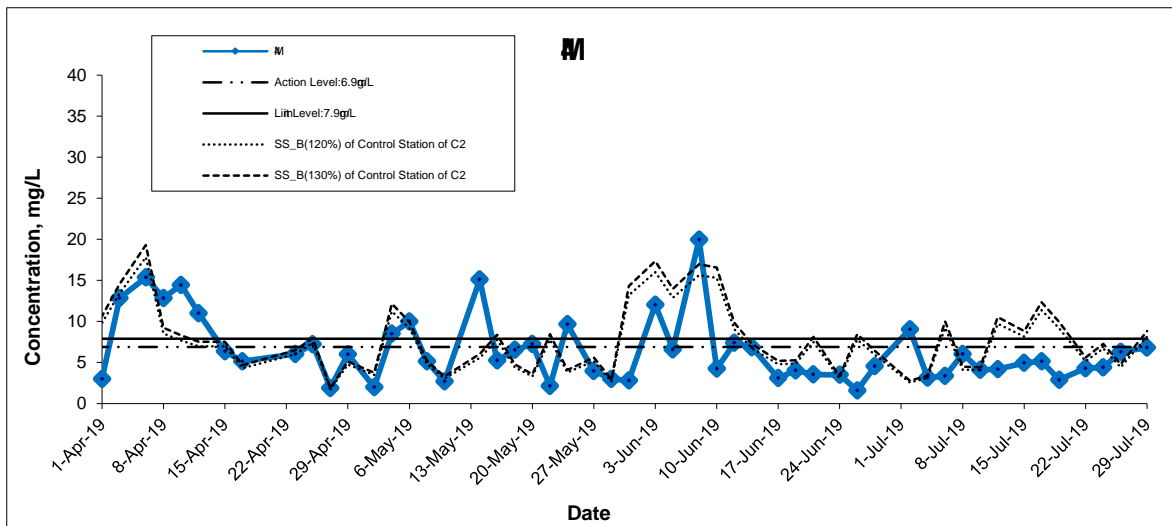
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### Suspended Solids (Bottom) at M-Ebb Tide



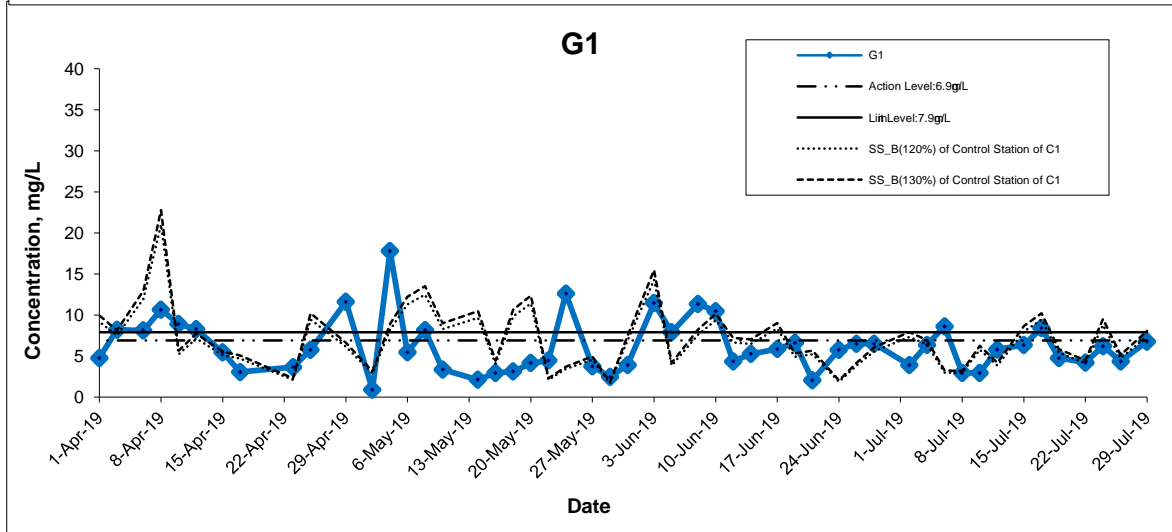
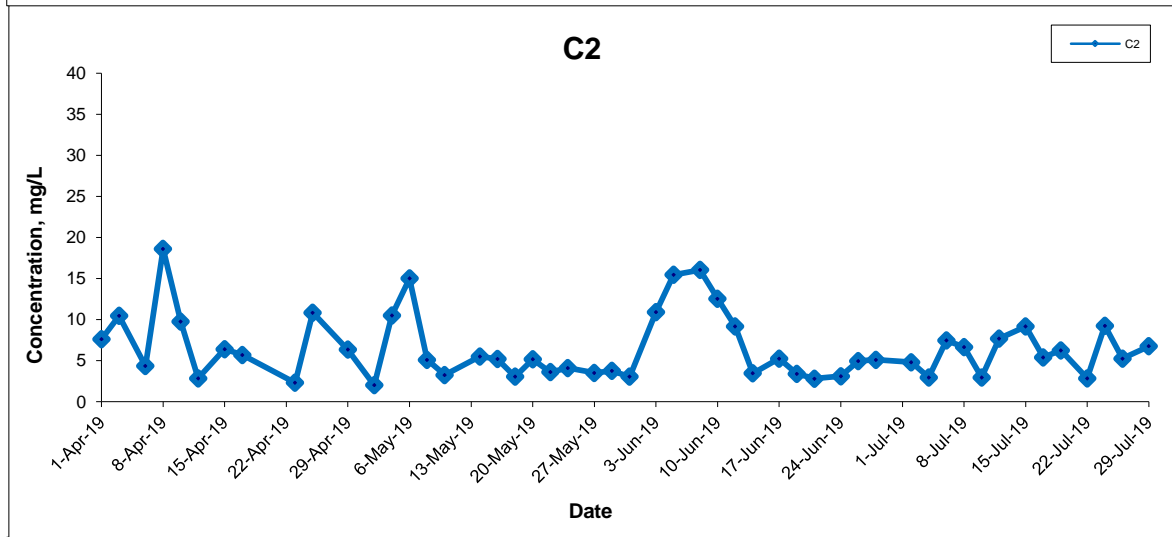
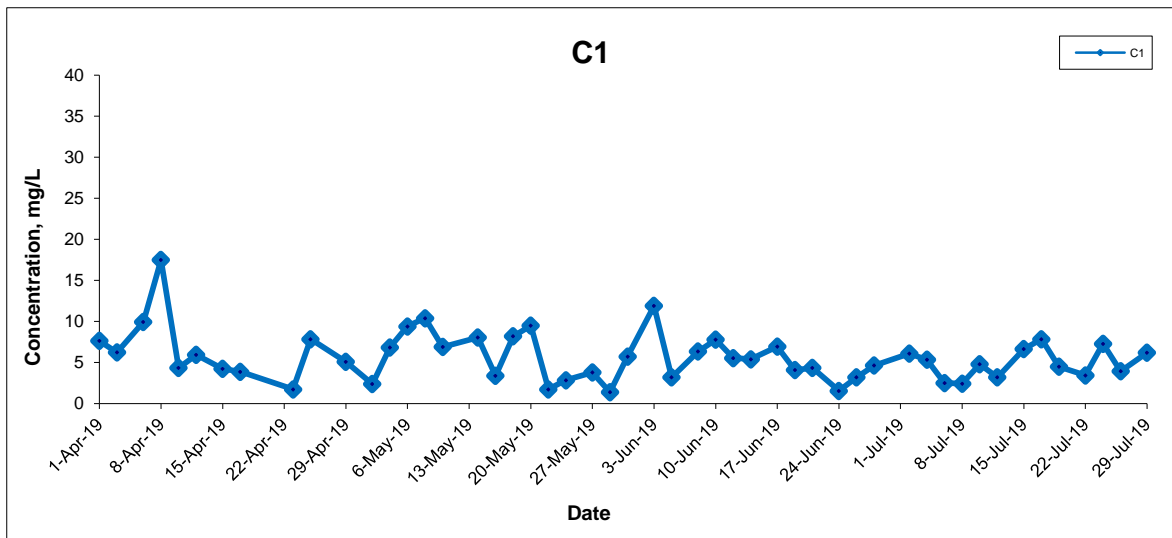
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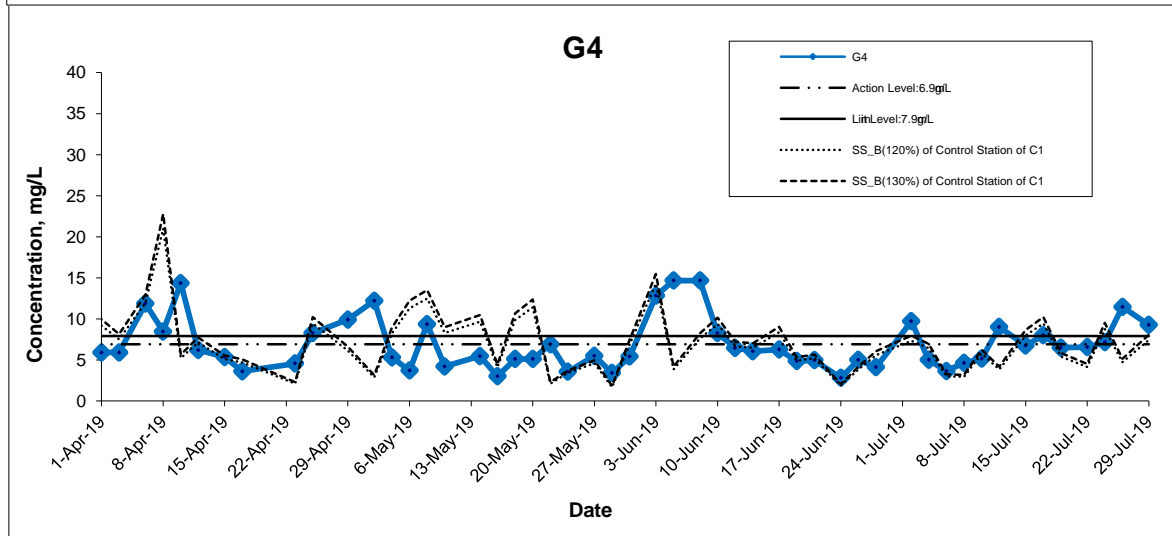
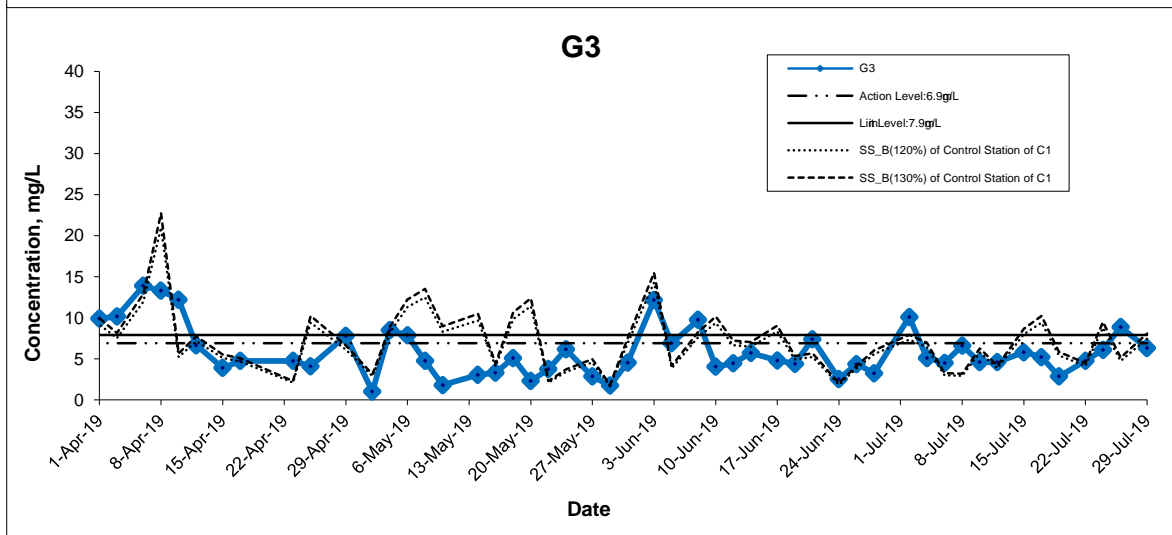
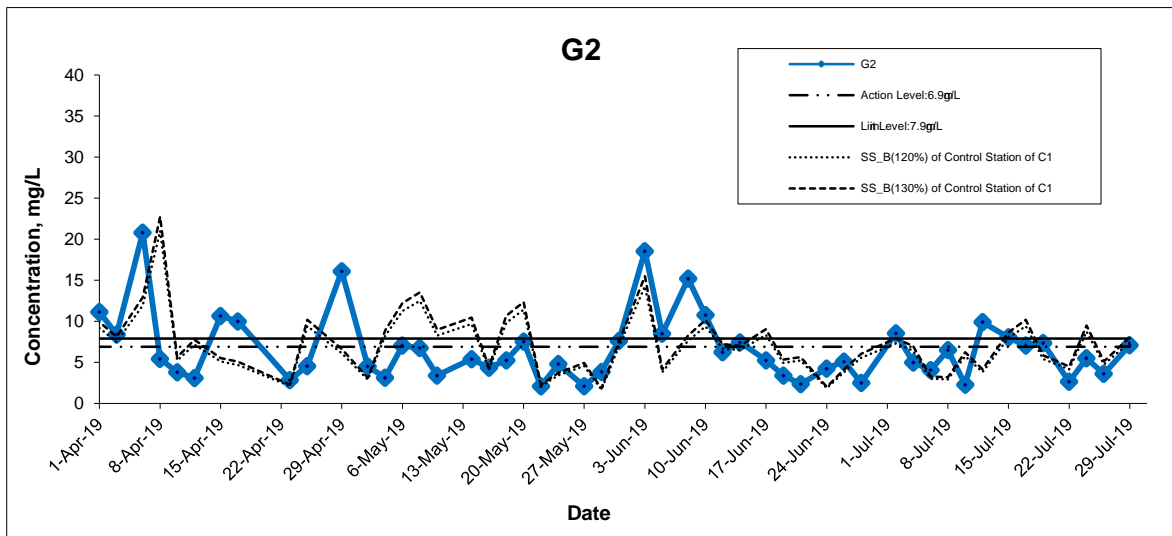


## Suspended Solids (Bottom) at M-Flood Tide



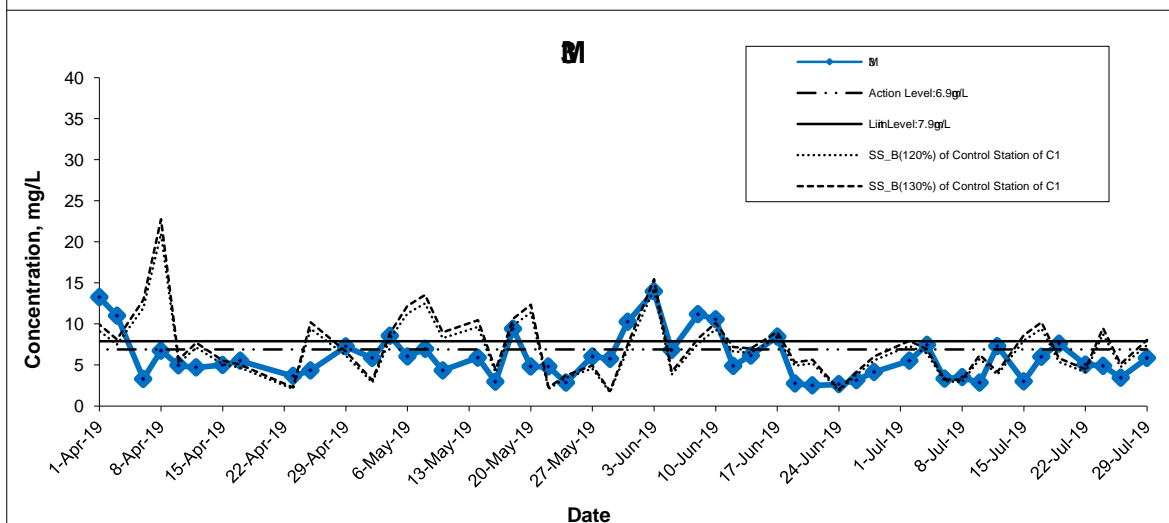
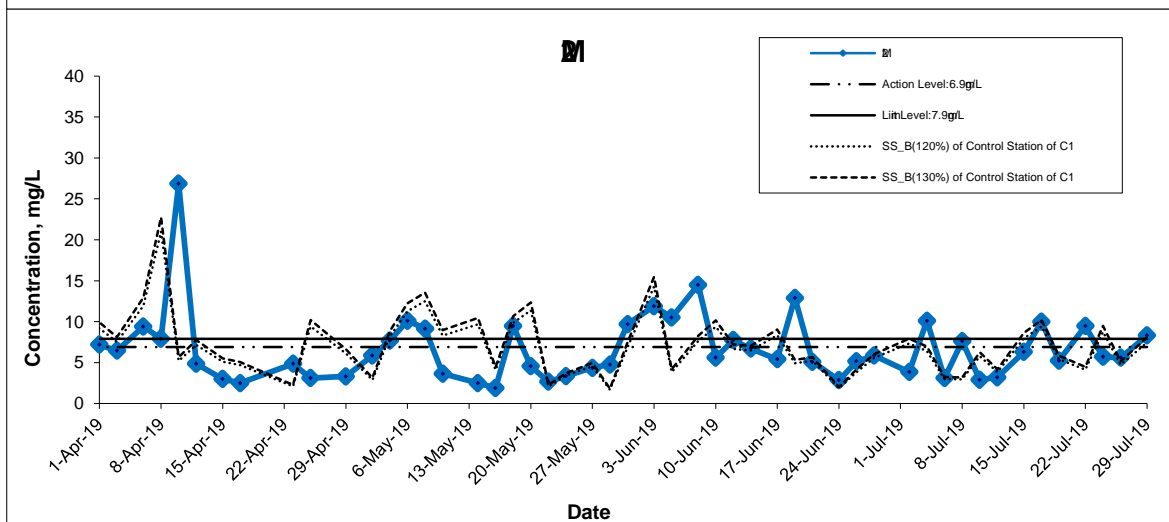
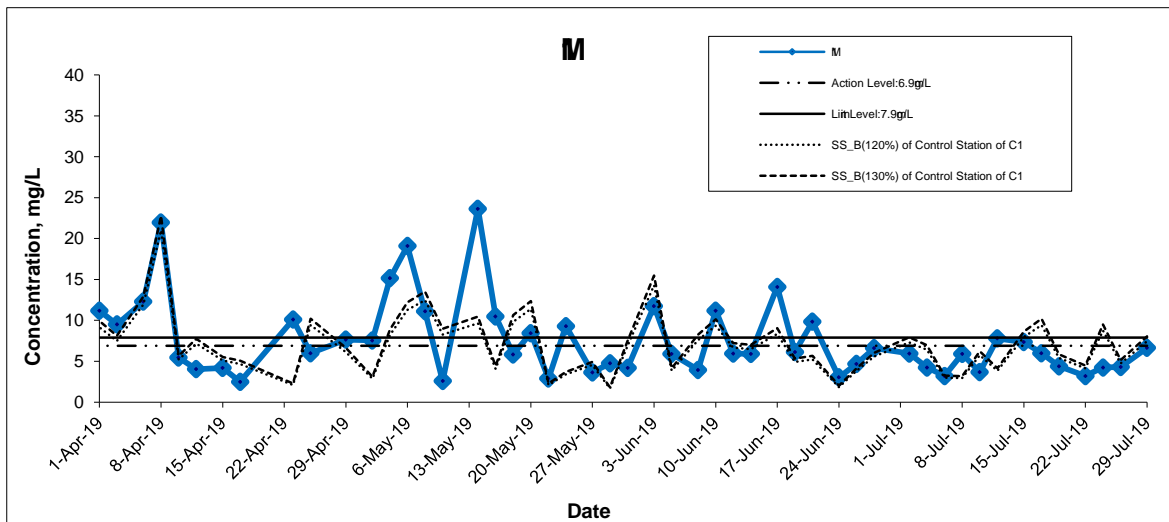
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## Suspended Solids (Bottom) at M-Flood Tide



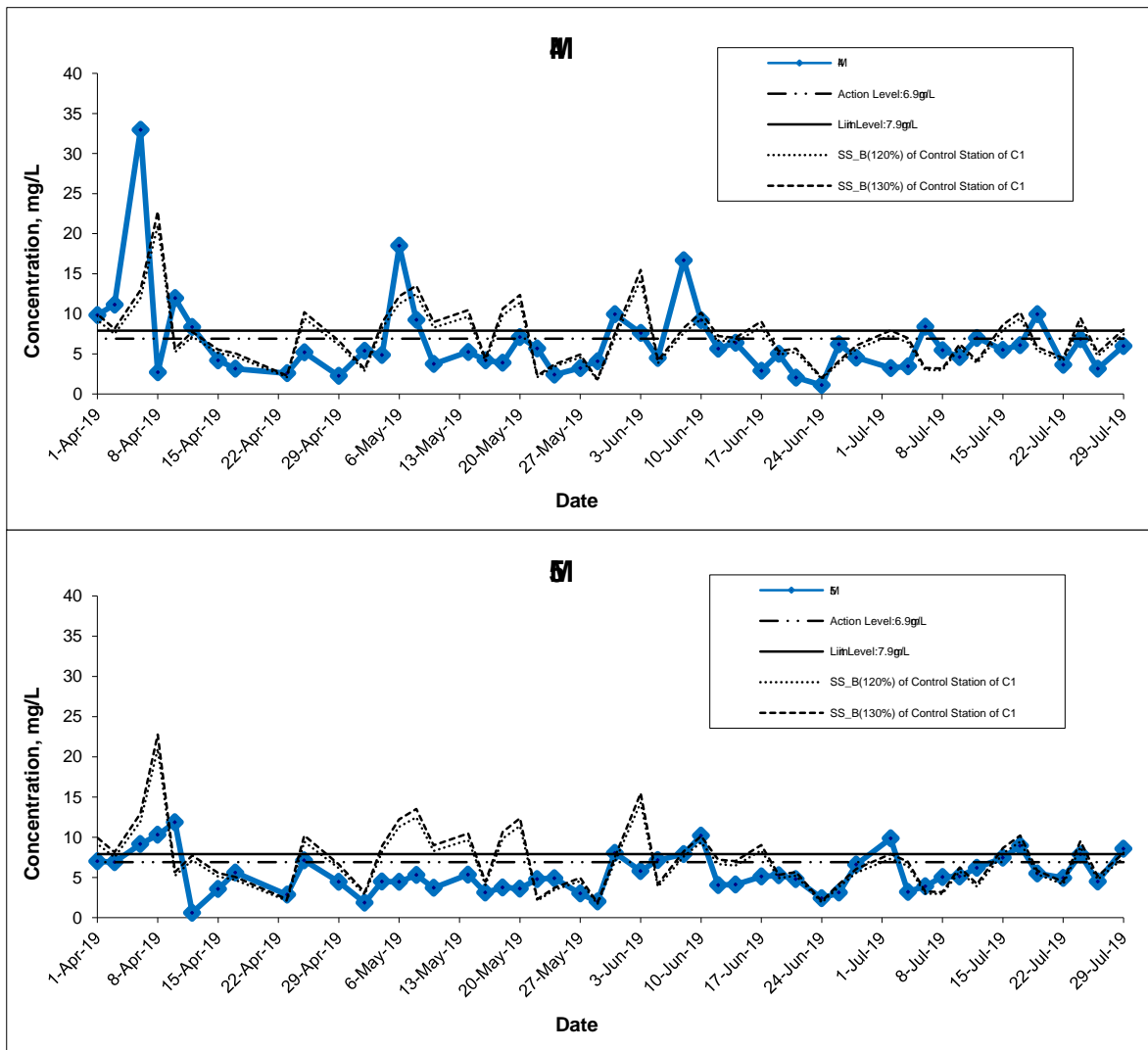
<p>Title</p> <p style="text-align: center;">Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lantau Tunnel Design and Construction</p> <p style="text-align: center;">Graphical Presentation of Water Quality Monitoring Results</p>	<p>Scale</p> <p style="text-align: center;">N.T.S</p>	<p>Project No.</p> <p style="text-align: center;">M16034</p>	
	<p>Date</p> <p style="text-align: center;">July 19</p>	<p>Appendix</p> <p style="text-align: center;">F</p>	

### Suspended Solids (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lantau Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
	Date July 19	Appendix F	

## Suspended Solids (Bottom) at M-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lantau Tunnel Design and Construction

Graphical Presentation of Water Quality Monitoring Results

Scale N.T.S

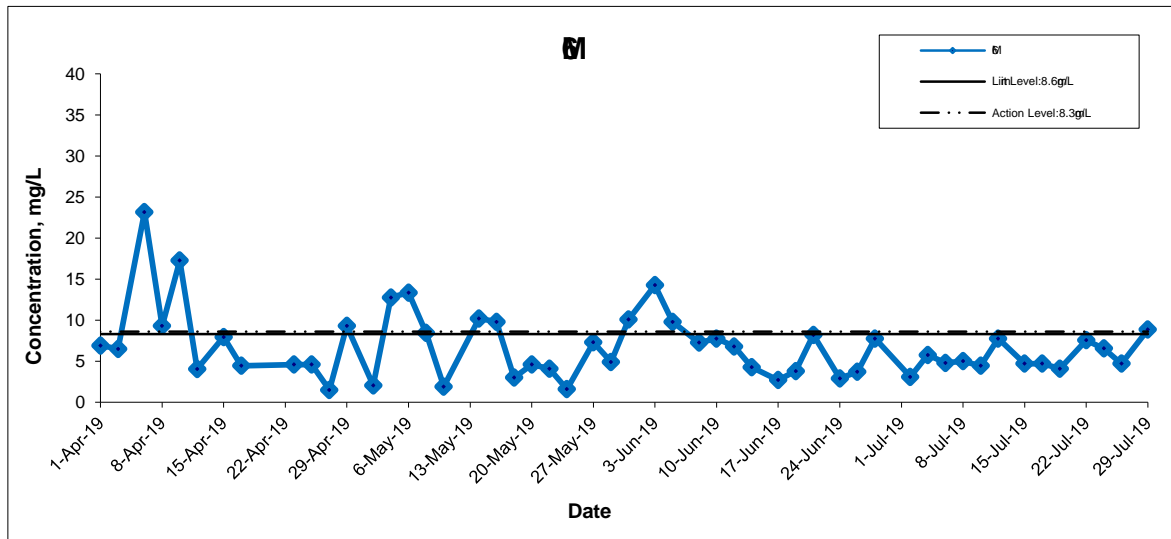
Date July 19

Project No. M16034

Appendix F



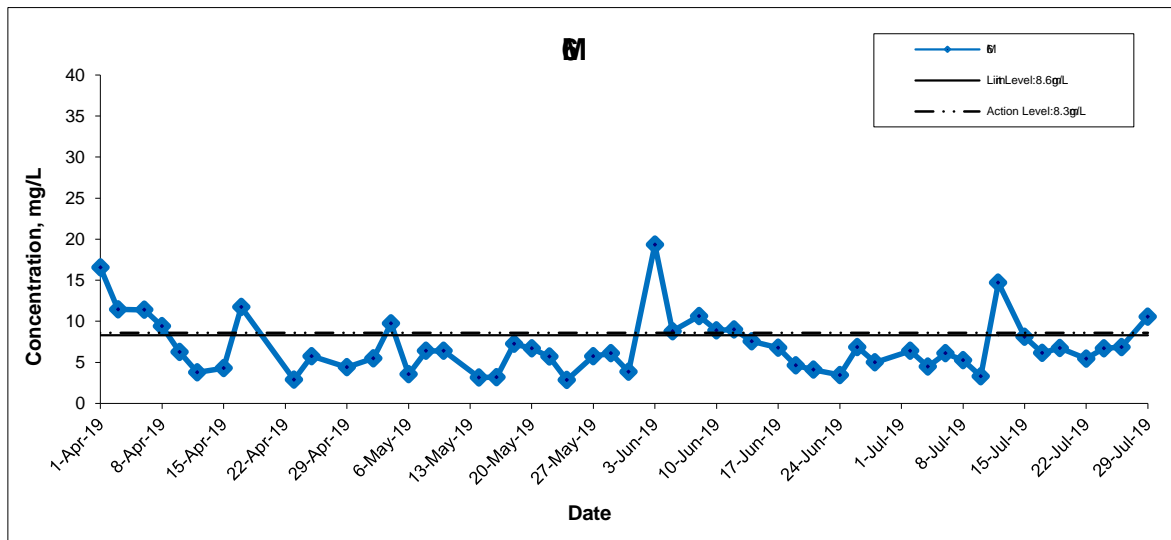
### Suspended Solids (Intake Level of WSD Salt Water Intake) at M-Ebb Tide



Title Agreement No. CE 59/2015(EP) Environmental Test for Tseung Kwan O - Lantau Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
	Date July 19	Appendix F	

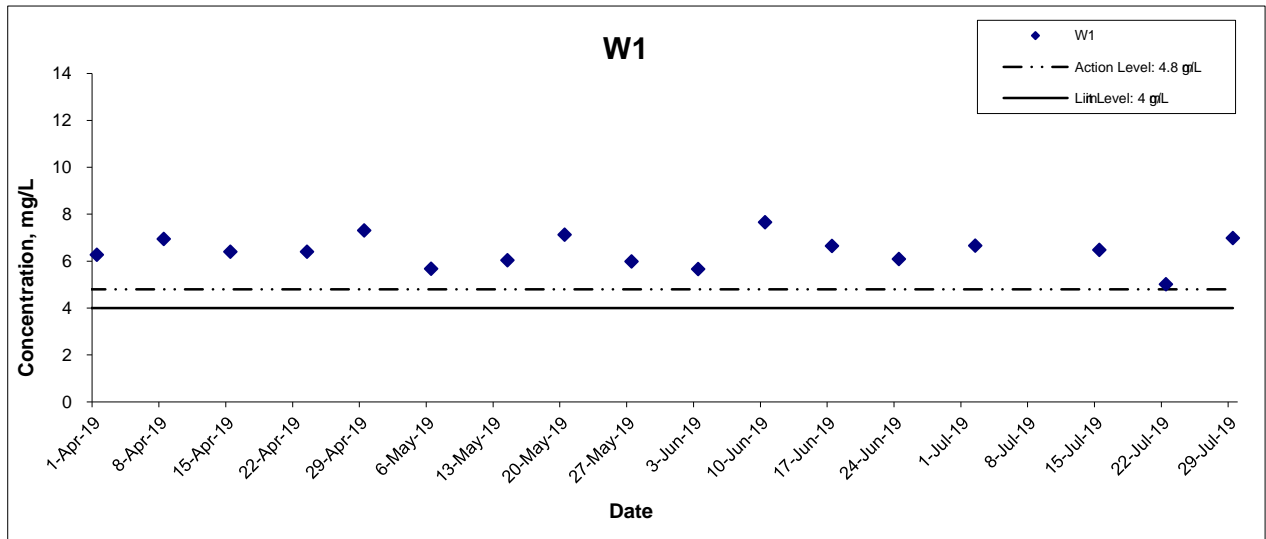


## Suspended Solids (Intake Level of WSD Salt Water Intake) at M-Flood Tide

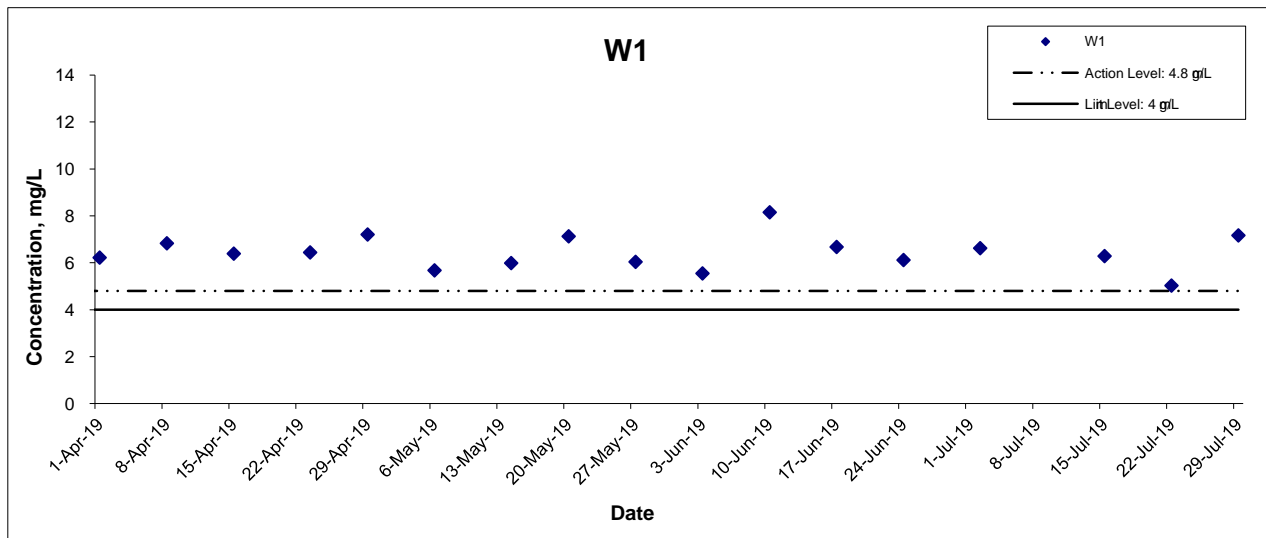


Title Agreement No. CE 59/2015(EP) Environmental Tear for Tseung Kwan O - Lantian Tunnel Design and Construction  Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
	Date July 19	Appendix F	

### Dissolved Oxygen (Depth-Averaged) at M-Ebb Tide

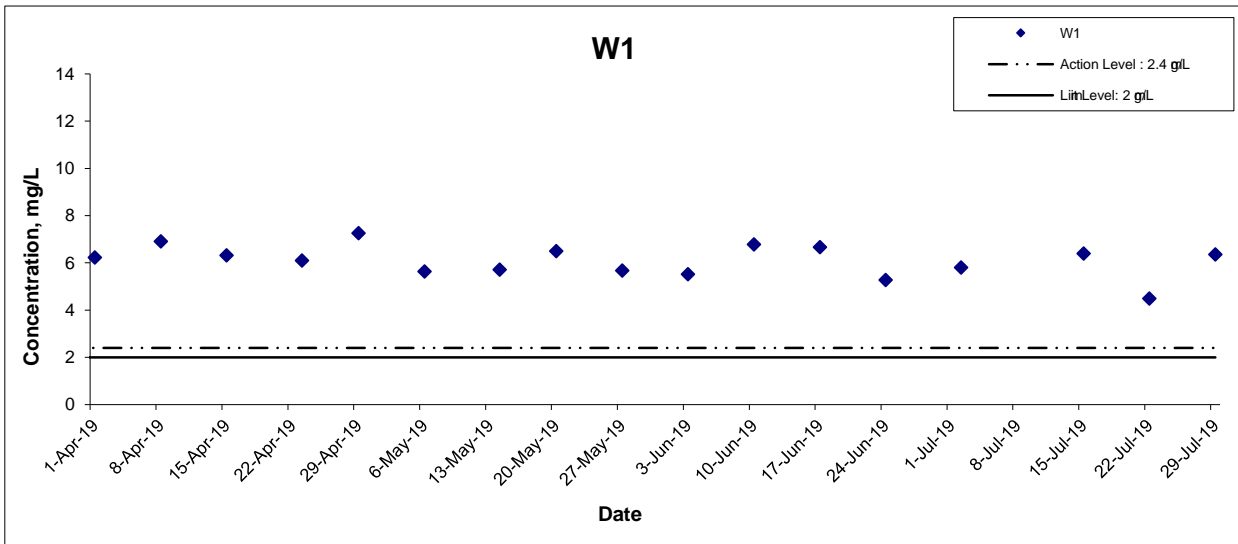


### Dissolved Oxygen (Depth-Averaged) at M-Flood Tide

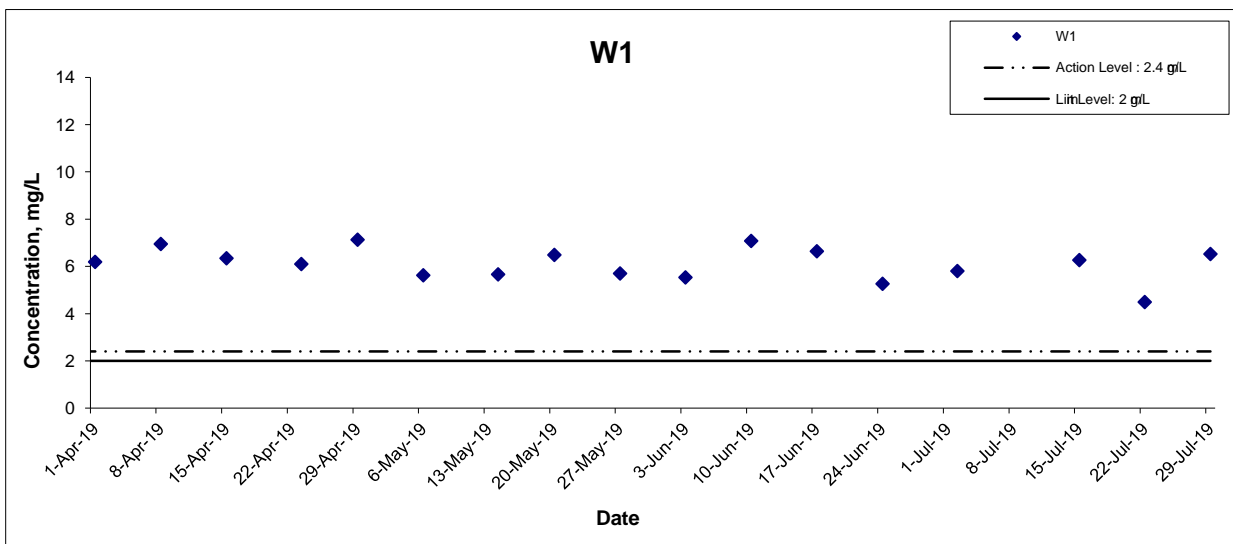


Title Agreement No. CE 59/2015(EP) Environmental Impact Assessment for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Additional Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	<b>CINOTECH</b>
	Date Jul-19	Appendix I	

### Dissolved Oxygen (Bottom) at M-Ebb Tide



### Dissolved Oxygen (Bottom) at M-Flood Tide



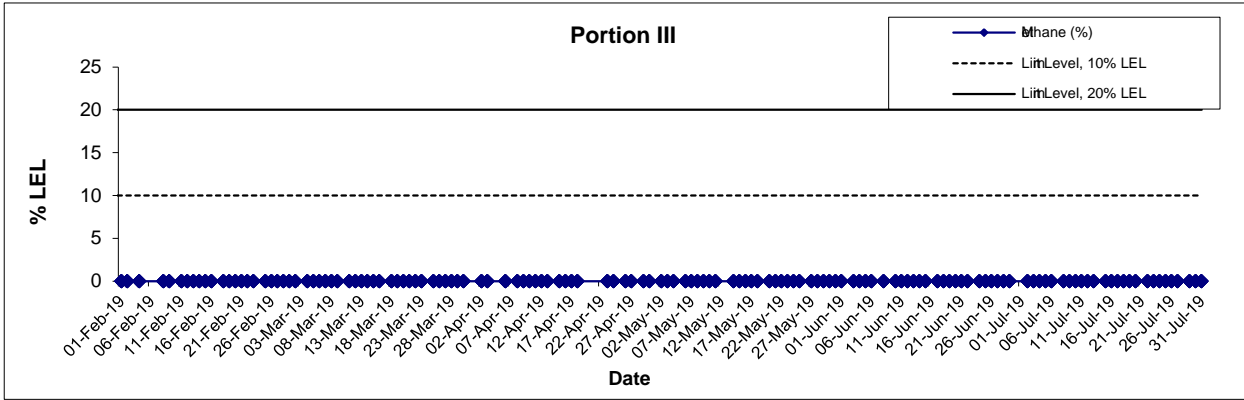
Title Agreement No. CE 59/2015(EP) Environmental Tseung Kwan O - Lam Tunnel Design and Construction  Graphical Presentation of Additional Water Quality Monitoring Results	Scale N.T.S	Project No. M16034	
	Date Jul-19	Appendix I	

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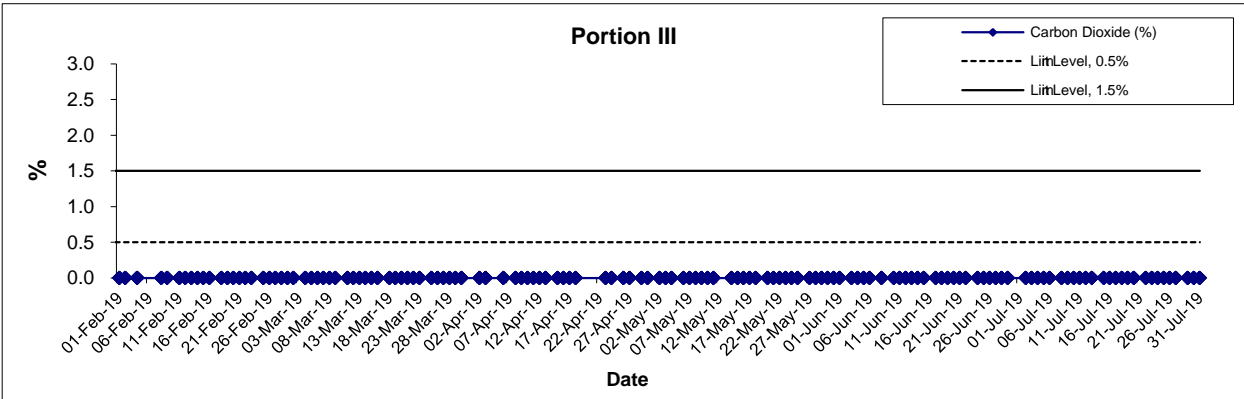
**APPENDIX G  
GRAPHICAL PRESENTATION OF  
LANDFILL GAS MONITORING  
RESULTS**

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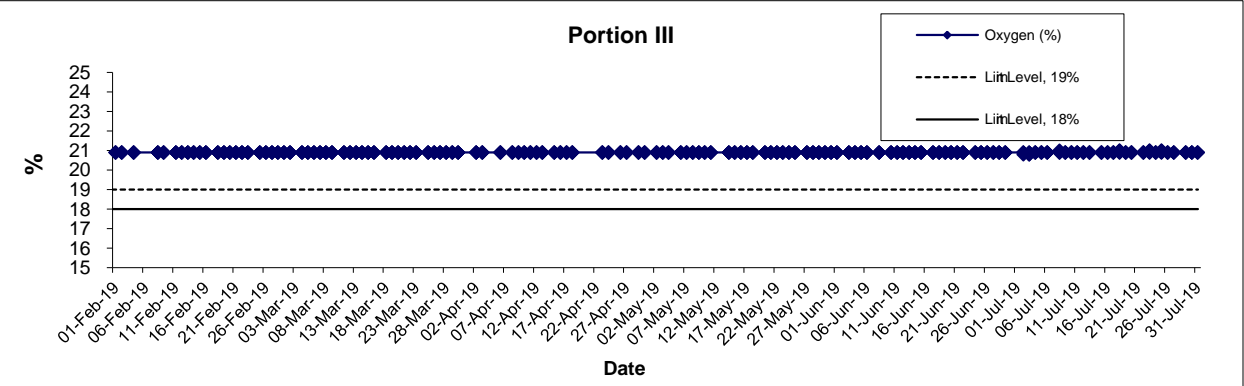
### Methane



### Carbon Dioxide



### Oxygen



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

Scale  
 N.T.S  
 Date  
 Jul-19

Project  
 No. MA16034  
 Appendix  
 G



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**APPENDIX H  
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& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2015/01 (May)**

*Tseung Kwan O - Lam Tin Tunnel - Lam Tin Tunnel and Associated Works*

<b>Item</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
<b><i>Water Quality</i></b>			
Silt curtains at the right side of shores in Portion VII were floating.	30 April 2019	✓	Improved/rectified on 8 May 2019
Water runoffs and standing water from construction works were observed in a slope of Portion VI in Tseung Kwan O and Portion III in Lam Tin site.	8 May 2019	✓	Improved/rectified on 15 May 2019
In TKO site, silt curtains of two barges were missing. Contractor is reminded to ensure complete silt curtain deployment.	8 May 2019	✓	Improved/rectified on 15 May 2019
Oil was seen floating on the surface of the sea and Portion VII. However, the main source could not be identified	15 May 2019	✓	Improved/rectified on 22 May 2019
Still water was found in Portion VI and Area WA1. Contractor is reminded to pump out still water in the construction site.	29 May 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Ecology</i></b>			
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<b><i>Noise</i></b>			
A noise barrier of a driller was found in the incorrect direction of NSRs. Contractor is reminded to set noise barrier(s) in a correct position.	30 April 2019	✓	Improved/rectified on 8 May 2019
<b><i>Landscape and Visual</i></b>			
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<b><i>Air Quality</i></b>			
Dust was emitted from a breaker without sufficient water sprays. Contractor is reminded to provide steady and continuous water sprays at all times during breaking.	30 April 2019	✓	Improved/rectified on 8 May 2019
Dust was emitted during unloading of sandy materials/stones in Portion III.	22 May 2019	✓	Improved/rectified on 29 May 2019
<b><i>Waste / Chemical Management</i></b>			
A chemical tank was found without a drip tray in Portion II.	30 April 2019	✓	Improved/rectified on 8 May 2019
Chemical waste tanks in Portion VI (TKO) and the resting room near the entrance of Portion III (LTT) were found without chemical waste labels.	8 May 2019	✓	Improved/rectified on 15 May 2019
Chemical waste tanks in Portion VI and Portion III should be placed with a drip tray.	8 May 2019	✓	Improved/rectified on 15 May 2019
Oil stains were observed on the deck of Platform 1D. Contractor is reminded to adopt oil leaking prevention measures during translocation of equipment.	15 May 2019	✓	Improved/rectified on 22 May 2019
Rubbish was found in a perimeter drain near the entrance of East Harbor Cross Tunnel.	22 May 2019	✓	Improved/rectified on 29 May 2019
Garbage was found in Area WA1a. Contractor is reminded to provide rubbish bin(s) to collect refuse properly.	29 May 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Impact on Cultural Heritage</i></b>			
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Appendix H - Site Audit Summary (May – July 2019)

Item	Date	Status*	Follow up Action
<i>Permits / Licenses</i>			
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Appendix H - Site Audit Summary (May – July 2019)

Contract No. NE/2015/01 (June)

Tseung Kwan O - Lam Tin Tunnel - Lam Tin Tunnel and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
Still water was found in Portion VI and Area WA1. Contractor is reminded to pump out still water in the construction site.	29 May 2019	✓	Improved/rectified on 5 June 2019.
Parts of silt curtains for Platform 1C and 1D were missing and need to be placed completely.	5 June 2019	✓	Improved/rectified on 12 June 2019.
Mud, branches and still water were found in a perimeter drain and a soldier pile wall near East Cross Harbour Tunnel, and a drain near Cha Kwo Ling Rd. They need to be cleared to prevent overflow when raining.	19 June 2019	✓	Improved/rectified on 26 June 2019.
Part of a silt curtain at the western end of TKO site was floating and it should be fixed.	19 June 2019	✓	Improved/rectified on 26 June 2019.
Part of silt curtain was broken and stranded on shores near the barging point at Tseung Kwan O site. The Contractor is reminded to repair and fix silt curtain regularly.	26 June 2019	#	Follow up action will be reported in the next reporting month.
<b>Ecology</b>			
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<b>Noise</b>			
In Portion III, an idle excavator was found. Idle machines and equipment need to be turned off to minimize noise impacts to nearby NSRs.	12 June 2019	✓	Improved/rectified on 19 June 2019.
In Portion VI, breakers were found with a broken piece of acoustic material. Contractor is reminded to wrap complete noise absorption materials to each breaker.	19 June 2019	✓	Improved/rectified on 26 June 2019.
<b>Landscape and Visual</b>			
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<b>Air Quality</b>			
In Portion III, dust was emitted during unloading of materials from trucks and a driller. Contractor is reminded to provide sufficient water sprays to dust-generating activities.	12 June 2019	✓	Improved/rectified on 19 June 2019.
<b>Waste / Chemical Management</b>			
Garbage was found in Area WA1a. Contractor is reminded to provide rubbish bin(s) to collect refuse properly.	29 May 2019	✓	Improved/rectified on 5 June 2019.
A drip tray in Portion VI was filled with water. It is required to pump out	5 June 2019	✓	Improved/rectified on 12 June 2019.
Three chemical tanks in Portion WA1 were found without a drip tray.	5 June 2019	✓	Improved/rectified on 12 June 2019.
Oil stain was found in the barging point at Tseung Kwan O site and needs to be cleaned.	26 June 2019	#	Follow up action will be reported in the next reporting month.

Appendix H - Site Audit Summary (May – July 2019)

Item	Date	Status*	Follow up Action
<i>Impact on Cultural Heritage</i>			
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<i>Permits / Licenses</i>	--	--	--
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Appendix H - Site Audit Summary (May – July 2019)

Contract No. NE/2015/01 (July)

Tseung Kwan O - Lam Tin Tunnel - Lam Tin Tunnel and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
Part of silt curtain was broken and stranded on shores near the barging point at Tseung Kwan O site. The Contractor is reminded to repair and fix silt curtain regularly.	26 June 2019	✓	Improved/rectified on 31 July 2019.
In Portion VI, some mud water was flown from the slope within the site to the sea. They should be pumped out or diverted to prevent the muddy water from discharging to the sea.	3 July 2019	✓	Improved/rectified on 10 July 2019.
At Tseung Kwan O side, silt curtains were broken near extended sedimentation tanks. Contractor is reminded to repair silt curtains as soon as possible and to inspect the condition of the silt curtain before the commencement of works every day. (17 July 2019) Silt curtain was still floating near the extended sedimentation tank. Contractor agreed to repair after Typhoon Signal is cancelled. (31 July 2019)	17 July 2019	#	Follow up action will be reported in the next reporting month.
Near Cha Kwo Ling Rd (Site Area-100a), mud water flew from construction site to the public road and manholes. Contractor is reminded to prevent on-site water surface run-offs to public drainage system and to maintain the U-channels, within the Site, clear of rubbish at all times.	24 July 2019	✓	Improved/rectified on 31 July 2019.
<b>Ecology</b>			
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<b>Noise</b>			
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<b>Landscape and Visual</b>			
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<b>Air Quality</b>			
In Portion III, water sprays were not provided in the inlet of a crusher. The Contractor is reminded to provide water sprays for both inlet and outlet of crushers at all times.	10 July 2019	✓	Improved/rectified on 17 July 2019.
In Portion VI, water sprays were required to be provided when breaking.	17 July 2019	✓	Improved/rectified on 24 July 2019.
In Portion III, no covers/ water spraying was provided for the dried stockpiles. The Contractor was reminded to cover the stockpile with tarpaulin.	17 July 2019	✓	Improved/rectified on 24 July 2019.
At Tseung Kwan O side, contractor is reminded to provide sufficient water sprays for dust-generating activities.	31 July 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			
Oil stain was found in the barging point at Tseung Kwan O site and needs to be cleaned.	26 June 2019	✓	Improved/rectified on 10 July 2019.
Accumulation of water/oil in a drip tray.	24 July 2019	✓	Improved/rectified on 31 July 2019.
Oil stain was found and is required to be cleaned.	31 July 2019	#	Follow up action will be reported in the

**Appendix H - Site Audit Summary (May – July 2019)**

Item	Date	Status*	Follow up Action
			next reporting month.
<i>Impact on Cultural Heritage</i>			
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<i>Permits / Licenses</i>			
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- 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& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2015/02 (May)**

*Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works*

<b>Item</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
<b><i>Water Quality</i></b>			
The stagnant water was accumulated at portion IV after raining.	9 May 2019	✓	Improved/rectified on 16 May 2019
Some floating refuse was found in the water gate.	16 May 2019	✓	Improved/rectified on 23 May 2019
The silt curtain was floating outside the cofferdam at portion IX.	30 May 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Noise</i></b>			
Noise emission from the excavator, need to apply with lubricant.	25 April 2019	✓	Improved/rectified on 2 May 2019
<b><i>Landscape and Visual</i></b>			
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<b><i>Air Quality</i></b>			
Smoke emission from the duct during operation of the Roller.	25 April 2019	✓	Improved/rectified on 2 May 2019
<b><i>Waste / Chemical Management</i></b>			
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<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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- Non-compliance but rectified by the contractor

Appendix H - Site Audit Summary (May – July 2019)

**Contract No. NE/2015/02 (June)**

Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
The silt curtain was floating outside the cofferdam at portion IX.	30 May 2019	✓	Improved/rectified on 6 June 2019.
Some floating refuse was observed in the water within the double water gate of the cofferdam.	20 June 2019	✓	Improved/rectified on 27 June 2019.
<b>Noise</b>			
<b>Landscape and Visual</b>			
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<b>Air Quality</b>			
<b>Waste / Chemical Management</b>			
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<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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- \* Non-compliance of mitigation measure
- Non-compliance but rectified by the contractor

Appendix H - Site Audit Summary (May – July 2019)

**Contract No. NE/2015/02 (July)**

Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
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<b>Noise</b>			
Inadequate noise barriers for piling works are observed in portion IX. Contractor should place adequate noise barriers (e.g. cantilever or semi-enclosure barrier with noise absorbing materials for covering the noisy region of the piling works.)	25 July 2019	#	Follow up action will be reported in the next reporting month.
<b>Landscape and Visual</b>			
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<b>Air Quality</b>			
<b>Waste / Chemical Management</b>			
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<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Monthly EM& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2015/03 (May)**

*Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge*

<b>Item</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
<b><i>Water Quality</i></b>			
Stockpile is observed near the site boundary.	23 May 2019	✓	Improved/rectified on 30 May 2019
<b><i>Noise</i></b>			
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<b><i>Landscape and Visual</i></b>			
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<b><i>Air Quality</i></b>			
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<b><i>Waste / Chemical Management</i></b>			
A drip tray was filled with water and soil after raining.	9 May 2019	✓	Improved/rectified on 16 May 2019
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Monthly EM& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2015/03 (June)**

*Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge*

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
<b>Noise</b>			
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<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
Uncovered stockpile was observed at west pier.	20 June 2019	✓	Improved/rectified on 27 June 2019.
<b>Waste / Chemical Management</b>			
Stagnant water was observed in the drip tray for the oil drum.	20 June 2019	✓	Improved/rectified on 27 June 2019.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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Appendix H - Site Audit Summary (May – July 2019)

Contract No. NE/2015/03 (July)

Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
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<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
Exposed stockpile is observed next to the site boundary at the west. The contractor was requested to cover the stockpile and place sandbags along the site boundary to prevent potential site runoff flowing out of site.	25 July 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			
--	--	--	--
<b>Impact on Cultural Heritage</b>			
--	--	--	--
<b>Permits / Licenses</b>			
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**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2017/01 (May)**

*Tseung Kwan O - Lam Tin Tunnel – Tsung Kwan O Interchange and Associated Works*

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
The silt curtain was not completed.	28 May 2019	#	Follow up action will be reported in the next reporting month.
<b>Noise</b>			
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<b>Landscape and Visual</b>			
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<b>Air Quality</b>			
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<b>Waste / Chemical Management</b>			
Vessel DP 63: Drip tray should be provided for the oil container.	16 May 2019	✓	Improved/rectified on 28 May 2019
Drip tray should be well-maintained to avoid oil leakage.	30 April 2019	✓	Improved/rectified on 7 May 2019
General refuse should be disposed regularly.	30 April 2019	✓	Improved/rectified on 7 May 2019
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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**Contract No. NE/2017/01 (June)**

*Tseung Kwan O - Lam Tin Tunnel – Tsung Kwan O Interchange and Associated Works*

<b>Item</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
<b><i>Water Quality</i></b>			
A small section of the silt curtain in Portion I was found without the buoys on the surface.	28 May 2019	✓	Improved/rectified on 4 June 2019.
<b><i>Noise</i></b>			
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<b><i>Landscape and Visual</i></b>			
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<b><i>Air Quality</i></b>			
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<b><i>Waste / Chemical Management</i></b>			
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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## Appendix H - Site Audit Summary (May – July 2019)

Contract No. NE/2017/01 (July)

Tseung Kwan O - Lam Tin Tunnel – Tsung Kwan O Interchange and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
Accumulation of water and oil within the drip tray should be cleaned regularly to avoid the pollutants from overflowing from drip tray during rain.	4 July 2019	✓	Improved/rectified on 9 July 2019.
Accumulation of water in the tank should be avoided.	18 July 2019	✓	Improved/rectified on 23 July 2019.
<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
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<b>Waste / Chemical Management</b>			
General refuse should be disposed regularly to avoid accumulation on site.	4 July 2019	✓	Improved/rectified on 18 July 2019.
Drip tray should be provided for all the oil containers to avoid leakage.	18 July 2019	✓	Improved/rectified on 23 July 2019.
Oil container should be provided with a drip tray to avoid oil leakage.	30 July 2019	#	Follow up action will be reported in the next reporting month.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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- ✓ 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 rectified by the contractor

**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Monthly EM& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2017/02 (May)**

*Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works*

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
<b>Noise</b>			
The contractor was reminded to maintain the PME (excavator) to reduce noise	23 May 2019	--✓	Improved/rectified on 30 May 2019
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
The contractor need to provide frequent water spraying / coverings to reduce dust emission	25 April 2019	✓	Improved/rectified on 2 May 2019
The contractor was reminded to cover the exposed stockpile (Outside Sport Centre).	23 May 2019	✓	Improved/rectified on 30 May 2019
<b>Waste / Chemical Management</b>			
--	--	--	--
<b>Impact on Cultural Heritage</b>			
--	--	--	--
<b>Permits / Licenses</b>			
--	--	--	--

- ✓ 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 rectified by the contractor

**Agreement No. CE 59/2015 (EP)**  
**Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction**  
**Monthly EM& Report**

**Appendix H - Site Audit Summary (May – July 2019)**

**Contract No. NE/2017/02 (June)**

*Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works*

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
<b>Noise</b>			
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
<b>Waste / Chemical Management</b>			
--	--	--	--
<b>Impact on Cultural Heritage</b>			
--	--	--	--
<b>Permits / Licenses</b>			
--	--	--	--

- ✓ 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 rectified by the contractor

Appendix H - Site Audit Summary (May – July 2019)

Contract No. NE/2017/02 (July)

Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works

Item	Date	Status*	Follow up Action
<b>Water Quality</b>			
--	--	--	--
<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
The contractor was reminded to cover the exposed stockpile (Outside Sport Centre).	4 July 2019	✓	Improved/rectified on 11 July 2019.
The contractor was reminded to cover the exposed stockpile (Portion I).	18 July 2019	✓	Improved/rectified on 25 July 2019
Dry exposed earth is observed. Contractor should water it regularly	25 July 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			
--	--	--	--
<b>Impact on Cultural Heritage</b>			
--	--	--	--
<b>Permits / Licenses</b>			
--	--	--	--

- ✓ 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 rectified by the contractor



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**APPENDIX I  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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**Table I – Recommended Mitigation Measures stipulated in EIA Manual of the Project**

(Further information on observations/reminders/non-compliance made during site audit should refer to Table II)

- Key:**
- ^ Mitigation measure was fully implemented.
  - \* Observation/reminder was made during site audit but improved/rectified by the contractor.
  - # Observation/reminder was made during site audit but not yet improved/rectified by the contractor.
  - X Non-compliance of mitigation measure
  - Non-compliance but rectified by the contractor
  - N/A Not Applicable

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?	Status
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 tarpaulin sheeting or placed in an area sheltered on the top and the 3 sides. - Use of frequent watering for particularly dusty construction areas and areas close to ASRs. - 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.	To minimize the dust impact	Contractor	All Construction Work Sites	Construction phase	APCO and Air Pollution Control (Construction Dust) Regulation	* (1) # (1)  * (1)

	<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> <li>- Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> <li>- Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> <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> <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> <li>- Imposition of speed controls for vehicles on site haul roads.</li> <li>- Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs</li> <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> <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>* (1)</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
/	<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</li> </ul>	<p>Reduce air pollution emission from construction vehicles and</p>	<p>Contractor</p>	<p>All construction sites</p>	<p>Construction stage</p>	<p>• APCO</p> <p>^</p> <p>^</p> <p>^</p>

	ultra low sulphur diesel fuel (ULSD)	plants					
/	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	- Use of quiet PM Use of movable noise barriers for Excavator, Lorry, Dump Truck, Mobile Crane, Coprocessor, 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 & Pump and Concrete Pump	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TMNCO	^
Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, SilentUp and etc.) or Full Enclosure for PM 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-TMNCO	*(2) # (3)
S4.9	Good Site Practice - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program - Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program - Mobile plant, if any, should be sited as far away from NSRs as possible. - Machines and plant (such as trucks) that may be in intermittent use should be	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TMNCO	*(3)  ^  ^ *(3)

	<p>shut down between works periods or should be throttled down to a minimum</p> <ul style="list-style-type: none"> <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>						<p>^</p> <p>^</p>
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-TMNCO	N/A
<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-TMWPCO	N/A
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-TMWPCO	N/A
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-TMWPCO	N/A
Silt	- Silt curtains should be deployed properly to surround the works area.	Control potential	Contractor	NE/2015/01	Construction	EIAO	* (4) # (4)

<p>Curtain Deployment Plan</p>	<ul style="list-style-type: none"> <li>- Maintenance of silt curtain should be provided.</li> <li>- Sufficient stock of silt curtain should be provided on site.</li> </ul>	<p>Impacts from marine works</p>			<p>stage</p>		
<p>S5.8.3</p>	<p>Other good site practices should be undertaken during filling operations include:</p> <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> <li>- floating single silt curtain shall be employed for all marine works;</li> <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> <li>- all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</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 decks being washed by wave action;</li> <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> <li>- any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> <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> <li>- before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation,</li> </ul>	<p>Control potential impacts from filling activities and marine-based construction</p>	<p>CEDD's Contractors</p>	<p>Work site</p>	<p>Construction Phase</p>	<p>EIAO-TMWPCO, Waste Disposal Ordinance (WDO)</p>	<p>^ ^ ^ ^ ^ ^ ^ ^ ^ * (5) N/A</p>

	design and operation of the silt curtain.						
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	N/A
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	N/A  N/A  N/A
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 minimize 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	* (6)

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 minimized 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	* (7)
S5.8.8	Exposed soil areas should be minimized 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: - use of sediment traps; and - adequate maintenance of drainage systems to prevent flooding and overflow.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM WPCO	^  N/A  ^
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	* (8)



S5.8.10	Ideally, construction works should be programmed to minimize 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 pulped.	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	^
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	^
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 pulped 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	^
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 siltar 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	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM WPCO	* (9) #(5)

		land-based construction					
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 rain storms are likely, actions to be taken when a rain storm is imminent or forecast, and actions to be taken during or after rain storms 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 stormwater 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	N/A
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	^

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 systems 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 stormflows. 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	CEDD's Contractors	Work site	Construction Phase	EIAO-TM/WPCO, TMS	^

		land-based construction					
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	*(10)
S5.8.25 - S5.8.27 & Table 5.18	Grouting would be adopted as a 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 preventive 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	N/A
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 Phase	ProPECC PN 1/94, EIAOTM WPCO	N/A
S5.8.29 -	Wastewater generated from the washing down of mixing trucks and drummers and	Control potential	CEDD's	Work site	Construction	ProPECC PN	^

S5.8.31	<p>siltar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum to prevent pollution from wastewater overflow, the pumps of any water recycling systems 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.</p>	<p>Impacts from construction site runoff and land-based construction</p>	<p>Contractors</p>		<p>Phase</p>	<p>1/94, EIAOTM WPCO</p>	
S5.8.32	<p>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.</p>	<p>Control potential Impacts from construction site runoff and land-based construction</p>	<p>CEDD's Contractors</p>	<p>Work site</p>	<p>Construction Phase</p>	<p>ProPECC PN 1/94, EIAOTM WPCO</p>	<p>^</p>
S5.8.33	<p>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.</p>	<p>Control potential Impacts from construction site runoff and land-based construction</p>	<p>CEDD's Contractors</p>	<p>Work site</p>	<p>Construction Phase</p>	<p>ProPECC PN 1/94, EIAOTM WPCO</p>	<p>N/A</p>
S5.8.34	<p>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 Effluent Standards.</p>	<p>Control potential Impacts from construction site runoff and land-based construction</p>	<p>CEDD's Contractors</p>	<p>Work site</p>	<p>Construction Phase</p>	<p>ProPECC PN 1/94, EIAOTM WPCO</p>	<p>N/A</p>
S5.8.35	<p>Water used in water testing to check leakage of structures and pipes should be</p>	<p>Control potential</p>	<p>CEDD's</p>	<p>Work site</p>	<p>Construction</p>	<p>ProPECC PN</p>	<p>N/A</p>

	reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.	Impacts from construction site runoff and land-based construction	Contractors		Phase	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	N/A
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	N/A
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 tanker 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	^

		construction					
S5.8.40	Wastewater collected from restaurant 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	N/A
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	^
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)	Control potential impacts from	CEDD's Contractors	Work site	Construction Phase	EIAO-TM WPCO, WDO	^

	and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	accidental spillage of chemicals					
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-TMWPCO	^
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: <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> <li>- chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>- storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TMWPCO, WDO	* (13) ^ ^
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-TMWPCO,	^
<b>Ecological Impact</b>							
S6.8.4	<b>Measures to Minimize Disturbance</b> <ul style="list-style-type: none"> <li>- Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible.</li> <li>- Hoarding or fencing should be erected around the works area boundaries during the construction phase. The hoarding would screen adjacent habitats from</li> </ul>	Minimize noise, human and traffic disturbance to terrestrial habitat	Design Team Contractor	Land-based works are	Construction Phase	N/A	^ ^



	<p>construction phase activities, reduce noise disturbance to these habitats and also to restrict access to habitats adjacent to works areas by site workers;</p> <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>	<p>and wildlife; and reduce dust generation</p>					^
S6.8.5	<p><b>Standard Good Site Practice</b></p> <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 minimize disturbance to natural habitats.</li> <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> <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> <li>- General drainage arrangements should include sediment and oil traps to collect and control construction site run-off.</li> <li>- Open burning on works sites is illegal, and should be strictly prohibited.</li> <li>- Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.</li> </ul>	<p>Reduce disturbance to surrounding habitats</p>	Contractor	Land-based works area	Construction Phase	N/A	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
S6.8.6	<p><b>Measure to Minimize Groundwater Inflow</b></p> <ul style="list-style-type: none"> <li>- The drained tunnel construction method with groundwater inflow control measures would generally be adopted.</li> <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>	<p>Minimize groundwater inflow</p>	Contractor	Tunnel	Construction Phase	N/A	<p>N/A</p> <p>N/A</p>
S6.8.8	<p><b>Measure to Minimize Impact on Corals</b></p> <p><u>Coral translocation</u></p> <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>	<p>Minimize loss of coral</p>	Design team contractor, project operator	Within reclamation areas and pier footprint	Prior construction	N/A	^

	<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> <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> <li>- The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCD) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCD prior to commencement of coral translocation.</li> </ul> <p><u>Post translocation Monitoring</u></p> <ul style="list-style-type: none"> <li>- A coral monitoring program is recommended to assess any adverse and unacceptable impacts to the translocated coral communities</li> <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>						<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
<p>S6.8.9</p> <p>S6.8.10</p>	<p><b>Measure to Control Water Quality Impact</b></p> <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>	<p>Control water quality impact, especially on suspended solid level; minimize the containment of wastewater discharge, accidental</p>	<p>Design Team contractor</p>	<p>Offshore and landbased works area</p>	<p>Construction phase</p>	<p>WQO</p>	<p>N/A</p> <p>^</p> <p>^</p> <p>^</p>

		chemical spillage and construction site runoff to the receiving water bodies					
S6.8.11	<p><b>Compensation for Vegetation Loss</b></p> <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	^
<b>Fisheries Impact</b>							
S7.7.3	<p><b>Measure to Control Water Quality Impact</b></p> <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	<p><b>Good Site Practices and Waste Reduction Measures</b></p> <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</li> </ul>	To reduce waste management impacts	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)	^  ^  * (11) #(6)  ^

	<p>containers; and</p> <ul style="list-style-type: none"> <li>- Regular cleaning and maintenance program for drainage systems, sumps and oil interceptors.</li> </ul>						^
S8.6.4	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <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	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <p>The Contractor shall prepare and implement a WRM as part of the ERM 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 ERM should be submitted to the Engineer for approval. The Contractor should implement the waste management practices in the ERM throughout the construction stage of the Project. The ERM should be reviewed regularly and updated by the Contractor.</p>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005	^
S8.6.6	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <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	^
S8.6.7	<p><b>Storage, Collection and Transportation of Waste</b></p> <p>Should any temporary storage or stockpiling of waste is required, recommendations to</p>	To minimize potential	Contractor	All work sites	Construction Phase	-	

	<p>minimize the impacts include:</p> <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>	<p>adverse environmental impacts arising from waste storage</p>					<p>^</p> <p>^</p> <p>^</p> <p>^</p>
S8.6.8/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>- Remove waste in tidy 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>	<p>To minimize potential adverse environmental impacts arising from waste collection and disposal</p>	Contractor	All work sites	Construction Phase		<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
S8.6.9/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <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>	<p>To minimize potential adverse environmental impacts arising from waste collection and disposal</p>	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010	<p>^</p>





	<p>when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.</p> <p>- 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 and pit where they would be covered by further and disposal and later by the and pit capping, thereby meeting the requirements for fully confined and disposal.</p>						<p>N/A</p> <p>N/A</p>
<p>S8.6.26/ Waste Management Plan</p>	<p><b>Chemical Wastes.</b></p> <p>- 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.</p>	<p>To ensure proper management of chemical waste</p>	<p>Contractor</p>	<p>All works sites</p>	<p>Construction Phase</p>	<p>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</p> <p>Waste Disposal (Chemical Waste) (General) Regulation</p>	<p>* (12) # (7) #(8)</p>
<p>S8.6.27/ Waste Management Plan</p>	<p><b>General Refuse</b></p> <p>- General refuse should be stored in enclosed bins or collection 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.</p>	<p>To ensure proper management of general refuse</p>	<p>Contractor</p>	<p>All works sites</p>	<p>Construction Phase</p>	<p>Public Health and Municipal Services Ordinance (Cap. 132)</p>	<p>* (13)</p>



<b>Impact on Cultural Heritage (Construction Phase)</b>							
S9.6.4	Dust and visual impacts <ul style="list-style-type: none"> <li>- Temporarily fenced off buffer zone with allowance for public access (minimum) 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>	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; ACO	^  ^ ^
S9.6.4	Indirect vibration impact <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 ACO 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; ACO.	^  ^ ^ ^
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; ACO.	^ ^ ^
<b>Landscape and Visual Impact (Construction Phase)</b>							
Table 10.8.1/ Landscape Mitigation	CM - Construction area and contractor's temporary works areas to be limited to avoid impacts on adjacent landscape.	Avoid impact on adjacent landscape areas	CEDD (via Contractor)	General	Construction planning and during construction period	N/A	^

Plan							
Table 10.8.1/ Landscape Mitigation Plan	CM - Reduction of construction period to practical minimum	Minimize duration of impact	CEDD (via Contractor)	N/A	Construction planning	N/A	^
Table 10.8.1/ Landscape Mitigation Plan	CM - 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	CM - 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	CM - 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 program	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	CM - 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	To maximize screening of the	CEDD (via Contractor)	At Lanfin Interchange	Beginning of construction	N/A	^

Landscape Mitigation Plan	years.	works		and edge of Road P2 landscape deck, TKO	period		
Table 10.8.1/ Landscape Mitigation Plan	CM - 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	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM - 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	CM - 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	^
Table 10.8.1/ Landscape Mitigation Plan	CM - 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	CM1 - Limitation of runoff 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	CM2 - Mitigate area of reclamation and design the edges sensitively to tie in with adjacent coastline character	Mitigate loss of Junk Bay and integration with existing coastline	CEDD (via Contractor)	Temporary reclamation for barging points at TKO and Lantau and permanent reclamation for TKO Interchange slip roads and Road P2	Construction planning and reclamation stages	N/A	N/A

**Landfill Gas Hazard (Design and Construction Phase)**

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%	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	^
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<p>for suspending the work in the event of unacceptable or hazardous conditions.</p> <p>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.</p> <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 500m. This aim is to create a clear void under the structure which is ventilated by natural air movement such that emission of gas from the ground are reduced and diluted by air.</li> <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> <li>- During construction, adequate fire extinguishing equipment, fire -resistant clothing and breathing apparatus (BA) sets should be made available on site.</li> <li>- Fire drills should be organized at not less than six monthly intervals.</li> <li>- The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.</li> <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> <li>- Service runs within the Consultation Zone should be designated as "special</li> </ul>						<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
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	<p>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).</p> <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>						<p>^</p> <p>^</p>
<p>S11.5.26 - S11.5.31</p>	<p><b>Monitoring</b></p> <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 10m 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> <li>● For excavations deeper than 1m, measurements should be carried out:             <ul style="list-style-type: none"> <li>- at the ground surface before excavation commences;</li> <li>- immediately before any worker enters the excavation;</li> <li>- at the beginning of each working day for the entire period the excavation remains open; and</li> <li>- periodically throughout the working day whilst workers are in the excavation.</li> </ul> </li> <li>● For excavations between 300mm and 1m deep, measurements should be</li> </ul>	<p>Protect the workers from landfill gas hazards</p>	<p>Contractor</p>	<p>Project sites within the Sai Tso Wan Landfill Consultation Zone</p>	<p>Construction phase</p>	<p>EPD's Landfill Gas Hazard Assessment Guidance Note</p>	<p>^</p> <p>^</p>

	<p>carried out:</p> <ul style="list-style-type: none"> <li>- directly after the excavation has been completed; and</li> <li>- periodically whilst the excavation remains open.</li> </ul> <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> <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> <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.</li> </ul> <p>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</p>						<p>^</p> <p>^</p> <p>^</p> <p>^</p>
S11.5.32	<p>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.</p>	<p>construction stage within the Sai Tso Wan</p> <p>Protect the workers from landfill gas hazards</p>	<p>Contractor</p>	<p>Project sites within the Sai Tso Wan Landfill Consultation Zone</p>	<p>Construction phase</p>	<p>EPD's Landfill Gas Hazard Assessment Guidance Note</p>	<p>N/A</p>



**Table II - Observations/reminders/non-compliance made during Site Audit**

- Key:**
- \* Observation/reminder was made during site audit but improved/rectified by the contractor.
  - # Observation/reminder was made during site audit but not yet improved/rectified by the contractor.
  - X Non-compliance of mitigation measure
  - Non-compliance but rectified by the contractor

Status / Remark	EIA Ref.	Recommended Mitigation Measures	Contract No.	Work Sites	Details of Observation/Reminder
<i>Air Quality Impact (Construction Phase)</i>					
* (1) # (1) # (2)	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> <li>- Use of frequent watering for particularly dusty construction areas and areas close to ASRs..</li> <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> <li>- Open stockpiles shall be avoided or</li> </ul>	NE/2015/01	Construction of Lam Tin Interchange	• Dust was emitted during unloading of sandy materials/stones in Portion III.
			NE/2015/01	Construction of Lam Tin Interchange	• Dust was emitted from a breaker without sufficient water sprays. Contractor is reminded to provide steady and continuous water sprays at all times during breaking.
			NE/2015/01	Construction of Lam Tin Interchange	• In Portion III, dust was emitted during unloading of materials from trucks and a driller. Contractor is reminded to provide sufficient water sprays to dust-generating activities.
			NE/2015/01	Construction of Lam Tin Interchange	• In Portion III, water sprays were not provided in the inlet of a crusher. The Contractor is reminded to provide water sprays for both inlet and outlet of crushers at all times.
			NE/2015/01	Construction of Lam Tin Interchange	• In Portion VI, water sprays were required to be provided when breaking.
			NE/2015/01	Construction of Lam Tin Interchange	• In Portion III, no covers/ water spraying was provided for the dried stockpiles. The Contractor was reminded to cover the stockpile with tarpaulin.

		covered. Where possible, prevent placing dusty material storage piles near ASRs.	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, contractor is reminded to provide sufficient water sprays for dust-generating activities.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Smoke emission from the duct during operation of the Roller.</li> </ul>
			NE/2017/02	Road P2/D4 and Associated Works	<ul style="list-style-type: none"> <li>The contractor need to provide frequent water spraying / coverings to reduce dust emission</li> </ul>
			NE/2017/02	Road P2/D4 and Associated Works	<ul style="list-style-type: none"> <li>The contractor was reminded to cover the exposed stockpile (Outside Sport Centre).</li> </ul>
			NE/2017/02	Road P2/D4 and Associated Works	<ul style="list-style-type: none"> <li>Dry exposed earth is observed. Contractor should water it regularly</li> </ul>
<b>Noise Impact (Construction Phase)</b>					
* (2)	Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, Silent Up, and etc) or Full Enclosure for PME according to the approved Noise Mitigation Plan	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>A noise barrier of a driller was found in the incorrect direction of NSRs. Contractor is reminded to set noise barrier(s) in a correct position.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In Portion VI, breakers were found with a broken piece of acoustic material. Contractor is reminded to wrap complete noise absorption materials to each breaker.</li> </ul>
# (3)			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Inadequate noise barriers for piling works are observed in portion IX. Contractor should place adequate noise barriers (e.g. cantilever or semi-enclosure barrier with noise absorbing materials for covering the noisy region of the piling works.)</li> </ul>
* (3)	S4.9	Good Site Practice - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In Portion III, an idle excavator was found. Idle machines and equipment need to be turned off to minimize noise impacts to nearby NSRs.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Noise emission from the excavator, need to apply with lubricant.</li> </ul>

		<ul style="list-style-type: none"> <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>	<p>NE/2017/02</p>	<p>Road P2/D4 and Associated Works</p>	<ul style="list-style-type: none"> <li>• The contractor was reminded to maintain the PME</li> </ul>
<p><b>Water Quality Impact (Construction Phase)</b></p>					
<p>* (4)</p>	<p>Silt curtain deployment Plan</p>	<ul style="list-style-type: none"> <li>- Silt curtains should be deployed properly to surround the works area.</li> <li>- Maintenance of silt curtain should be</li> </ul>	<p>NE/2015/01</p>	<p>Construction of Lam Tin Interchange</p>	<ul style="list-style-type: none"> <li>• Silt curtains at the right side of shores in Portion VII were floating.</li> </ul>

		provided.	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In TKO site, silt curtains of two barges were missing. Contractor is reminded to ensure complete silt curtain deployment</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Parts of silt curtains for Platform 1C and 1D were missing and need to be placed completely.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Part of a silt curtain at the western end of TKO site was floating and it should be fixed.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Part of silt curtain was broken and stranded on shores near the barging point at Tseung Kwan O site. The Contractor is reminded to repair and fix silt curtain regularly.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In Portion VI, some mud water was flown from the slope within the site to the sea. They should be pumped out or diverted to prevent the muddy water from discharging to the sea.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, silts curtains were broken near extended sedimentation tanks. Contractor is reminded to repair silt curtains as soon as possible and to inspect the condition of the silt curtain before the commencement of works every day. (17 July 2019)</li> <li>Silt curtain was still floating near the extended sedimentation tank. Contractor agreed to repair after Typhoon Signal is cancelled. (31 July 2019)</li> </ul>

# (4)			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>The silt curtain was floating outside the cofferdam at portion IX.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>The silt curtain was not completed.</li> </ul>
* (5)	S5.8.3	- 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	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Oil was seen floating on the surface of the sea and Portion VII. However, the main source could not be identified</li> </ul>
* (6)	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.	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Water runoffs and standing water from construction works were observed in a slope of Portion VI in Tseung Kwan O and Portion III in Lam Tin site.</li> </ul>
* (7)	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	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Mud, branches and still water were found in a perimeter drain and a soldier pile wall near East Cross Harbour Tunnel, and a drain near Cha Kwo Ling Rd. They need to be cleared to prevent overflow when raining.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In Portion VI, some mud water was flown from the slope within the site to the sea. They should be pumped out or diverted to prevent the muddy water from discharging to the sea.</li> </ul>

		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.	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Near Cha Kwo Ling Rd (Site Area-100a), mud water flew from construction site to the public road and manholes. Contractor is reminded to prevent on-site water surface run-offs to public drainage system and to maintain the U-channels, within the Site, clear of rubbish at all times.</li> </ul>
* (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.	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Stagnant water are found at Portion V.</li> </ul>

* (9)          # (5)	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.	NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>Stockpile is observed near the site boundary.</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>Uncovered stockpile was observed at west pier.</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>Exposed stockpile is observed next to the site boundary at the west. The contractor was requested to cover the stockpile and place sandbags along the site boundary to prevent potential site runoff flowing out of site.</li> </ul>
* (10)	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.	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Still water was found in Portion VI and Area WA1. Contractor is reminded to pump out still water in the construction site</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.	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Some floating refuse was finding in the water gate.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Some floating refuse was observed in the water within the double water gate of the cofferdam.</li> </ul>

Waste/ Chemical Management

* (11)  # (6)	S8.6.3	- Provision of sufficient waste disposal points and regular collection of waste	NE/2015/01	Construction of Lam Tin Interchange	• Rubbish was found in a perimeter drain near the entrance of East Harbor Cross Tunnel.
			NE/2015/01	Construction of Lam Tin Interchange	• Garbage was found in Area WA1a. Contractor is reminded to provide rubbish bin(s) to collect refuse properly.
* (12) # (7) # (8)	S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <p>- 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</p>	NE/2015/01	Construction of Lam Tin Interchange	• A chemical tank was found without a drip tray in Portion II.
			NE/2015/01	Construction of Lam Tin Interchange	• Chemical waste tanks in Portion VI and Portion III should be placed with a drip tray.
			NE/2015/01	Construction of Lam Tin Interchange	• Oil stains were observed on the deck of Platform 1D. Contractor is reminded to adopt oil leaking prevention measures during translocation of equipment.



		<p>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.</p>	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Chemical waste tanks in Portion VI (TKO) and the resting room near the entrance of Portion III (LTT) were found without chemical waste labels</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>A drip tray in Portion VI was filled with water. It is required to pump out</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Three chemical tanks in Portion WA1 were found without a drip tray.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Oil stain was found in the barging point at Tseung Kwan O site and needs to be cleaned.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Accumulation of water/oil in a drip tray in Portion IVC.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Oil stain was found in Portion VI and is required to be cleaned.</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>A drip tray was filled with water and soil after raining</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>Stagnant water was observed in the drip tray for the oil drum.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Vessel DP 63: Drip tray should be provided for the oil container.</li> </ul>

			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Drip tray should be provided for all the oil containers to avoid leakage.</li> <li>Oil container should be provided with a drip tray to avoid oil leakage.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Drip tray should be well-maintained to avoid oil leakage.</li> </ul>
* (13)	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>	NE/2017/01	Construction of TKO Interchange	Accumulation of water in the tank should be avoided.
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>General refuse should be disposed regularly.</li> </ul>
<b>Landscape and Visual Impact (Construction Phase)</b>					
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**APPENDIX J  
WASTE GENERATED QUANTITY**

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**Monthly Summary Waste Flow Table for 2019**

Mnth	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	131.655	73.591	0.000	103.085	28.570	0.000	0.000	0.421	0.000	2.400	0.140
February	105.752	52.675	0.000	55.650	50.103	0.000	0.000	0.333	0.000	0.000	0.088
March	147.872	85.219	0.000	85.219	62.653	0.000	0.000	0.654	0.000	0.000	0.102
April	86.872	63.871	0.000	65.710	21.162	0.000	0.000	0.000	0.000	0.000	0.101
May	88.182	56.127	0.000	56.5945	31.587	0.000	0.000	0.410	0.000	3.200	0.126
June	103.458	59.644	0.000	59.644	43.814	0.000	0.000	0.000	0.000	1.120	0.102
Sub-total	663.791	391.127	0.000	425.903	237.888	0.000	0.000	1.818	0.000	6.720	0.658
July	119.093	75.619	0.000	75.619	43.474	0.000	0.000	0.000	0.000	3.465	0.206
August											
September											
October											
November											
December											
Total	782.884	466.746	0.000	501.522	281.362	0.000	0.000	1.818	0.000	10.185	0.865

Total inert C&D waste generated = c+d+e

Total inert C&D waste recycled = c+d

% of recycled inert C&D waste = Total C&D waste recycled / Total C&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 2019 Year

Month	Actual Quantities of Inert CR Materials Generated Monthly						Actual Quantities of CR Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken 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	39.06133	0.00000	1.09752	0.00000	2.94501	35.01880	140.97000	0.00000	0.00000	4.11000	0.07932
Feb	27.16095	0.00000	0.73212	0.00000	1.09407	25.33476	0.00000	0.00000	0.00000	0.72000	0.01610
Mar	48.33586	0.00000	0.00000	0.00000	3.29905	45.03681	18.33000	0.00000	0.00000	0.00000	0.04866
Apr	103.60117	0.00000	0.00000	0.00000	2.04236	101.55882	0.00000	0.00000	0.00000	0.00000	0.03052
May	179.02844	0.00000	7.33100	0.00000	4.51844	167.17900	0.00000	0.00000	0.00000	0.00000	0.07562
June	119.80242	0.00000	30.10000	0.00000	2.16472	87.53770	95.27000	0.00000	0.00000	0.00000	0.03852
SUB-TOTAL	516.99016	0.00000	39.26064	0.00000	16.06364	461.66589	254.57000	0.00000	0.00000	4.83000	0.28874
Jul	96.06118	0.00000	31.19800	0.00000	1.79282	63.07036	0.00000	0.00000	0.00000	0.00000	0.03452
Aug											
Sep											
Oct											
Nov											
Dec											
TOTAL	613.05134	0.00000	70.45864	0.00000	17.85646	524.73625	254.57000	0.00000	0.00000	4.83000	0.32326

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 CR is weight in 1000kg multiply by 0.0005  
 Plastics refer to plastic bottles / containers, plastic sheets / foanfrompackaging aterial  
 Plastics refer to plastic bottles / containers, plastic sheets / foanfrompackaging aterial



### Monthly Summary of Waste Flow Table for 2019

Name of Person completing the Record: Martin Yiu

Mnth	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (in '000m <sup>3</sup> )	Broken Concrete (see Note 1) (in '000m <sup>3</sup> )	Reused in the Contract (in '000m <sup>3</sup> )	Reused in other Projects (in '000m <sup>3</sup> )	Disposed as Public Fill (in '000m <sup>3</sup> )	Metals (in '000 Kg)	Paper/ cardboard packaging (in '000 Kg)	Plastics (see Note 2) (in '000 Kg)	Chemical Waste (in '000 Kg)	Others, e.g. general refuse (in '000m <sup>3</sup> )
		(in '000m <sup>3</sup> )						(in '000 Kg)		
Jan	0.3363	0	0	0	0.3363	0	0	0	0	0.0065
Feb	0.0650	0	0	0	0.0650	0	0	0	0	0.0065
Mar	0.2925	0	0	0	0.2925	0	0	0	0	0.0065
Apr	0.3331	0	0	0	0.3331	0	0	0	0	0.0065
May	0.4330	0	0	0	0.4330	0	0	0	0	0.0065
Jun	0.8912	0	0	0	0.8912	0	0	0	0	0.0065
Jul	0.3006	0	0	0	0.3006	0	0	0	0	0.0065
Sub-total	2.6517	0	0	0	2.6517	0	0	0	0	0.0455
Aug	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
Total	2.6517	0	0	0	2.6517	0	0	0	0	0.0455

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> / 8.125m<sup>3</sup> by volume.



**Monthly Summary Waste Flow Table For 2019**

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	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0.018
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0	0
<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</b>	<b>0</b>	<b>0</b>	<b>0.018</b>
Jul	0	0	0	0	0	0	0	0	0	0	0
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>0.018</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 July 2019 to 31 July 2019.



## Monthly Summary Waste Flow Table for 2019 Year

Month	Actual Quantities of Inert CR Materials Generated Monthly						Actual Quantities of CR Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken 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> ]
Accumulated from	1.2344	0.0000	0.1754	0.4274	0.5979	0.0306	0.0000	0.0000	0.0000	0.0000	0.0382
Jan	0.0002	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Feb	0.0026	0.0000	0.0000	0.0000	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mar	0.0048	0.0000	0.0000	0.0000	0.0045	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apr	0.0125	0.0000	0.0000	0.0000	0.0125	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
May	0.5493	0.0000	0.0000	0.0000	0.5493	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
June	0.4838	0.0000	0.0000	0.0000	0.4838	0.0000	0.0000	0.0000	0.0000	0.0000	0.0146
SUB-TOTAL	2.2876	0.0000	0.1754	0.4274	1.6508	0.0306	0.0000	0.0000	0.0000	0.0000	0.0528
Jul	0.0669	0.0000	0.0000	0.0000	0.0669	0.0000	0.0000	0.0000	0.0000	0.0000	0.1430
Aug											
Sep											
Oct											
Nov											
Dec											
TOTAL	2.3545	0.0000	0.1754	0.4274	1.7177	0.0306	0.0000	0.0000	0.0000	0.0000	0.1958

Note:

1. Conversion to 1000m<sup>3</sup> for general refuse is weight in 1000kg multiply by 0.002
2. Conversion to 1000m<sup>3</sup> for Inert CR is weight in 1000kg multiply by 0.0005
3. Plastics refer to plastic bottles / containers, plastic sheets / foams from packaging material
4. The Contractor shall also submit the latest forecast of the total amount of CR materials expected to be generated from the works, together with a breakdown of the nature where the total amount of CR materials expected to be generated from the works is equal to or exceeding 50,000m<sup>3</sup>

Monthly Summary Waste Flow Table for 2019

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	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015
Feb	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0017
Mar	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006
Apr	0.0420	0.0000	0.0000	0.0000	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012
May	0.0608	0.0000	0.0000	0.0000	0.0608	0.0000	0.0148	0.0000	0.0080	0.0000	0.0010
Jun	0.1055	0.0000	0.0000	0.0400	0.0655	0.0000	0.0000	0.0000	0.0000	0.0000	0.0040
Sub-total	0.3283	0.0000	0.0000	0.1600	0.1683	0.0000	0.0148	0.0000	0.0080	0.0000	0.0100
Jul	0.1149	0.0000	0.0000	0.0400	0.0749	0.0000	0.0000	0.0000	0.0000	0.0000	0.0020
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.4432	0.0000	0.0000	0.2000	0.2432	0.0000	0.0148	0.0000	0.0080	0.0000	0.0120

- 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.

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**APPENDIX K  
SUMMARY OF EXCEEDANCE**

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**Agreement No. CE 59/2015 (EP)**  
**Environmental Test for Tseung Kwan O - Lan Tin Tunnel – Design and Construction**  
**Appendix K-1 – Summary of Exceedance**

**Reporting Period: May 2019 – July 2019**

**(A) Exceedance Report for Air Quality**  
**(NIL in the reporting quarter)**

**(B) Exceedance Report for Construction Noise**

**Action Level for Construction Noise**

**(Twenty-three (23) Action Level exceedance was recorded due to the documented complaints received from monitoring station in the reporting quarter. Please refer to the complaint log in Appendix L.)**

**L10 Level for Construction Noise**

**(Five (5) L10 Level exceedances for night-time construction noise were considered not due to project and no L10 Level exceedance for daytime construction noise were recorded as due to the project in the reporting quarter respectively.)**

**Exceedance recorded during night-time**

Date	Monitoring Location	Measured Level (Leq dB(A))	Baseline Noise Level (Leq dB(A))	Construction Noise Level (Leq dB(A))	L10 Level
3 May 2019	CM1	67.6	63.7	<u>65</u>	55
3 May 2019	CM2	66.2	61.2	<u>65</u>	
17 May 2019		63.1	61.2	<u>59</u>	
24 May 2019		63.3	61.2	<u>59</u>	
3 May 2019	CM3	63.4	62.4	<u>57</u>	

**(C) Exceedance Report for Water Quality**

**Groundwater Quality**

**(One (1) Action Level exceedance and eleven (11) L10 Level exceedances in groundwater quality monitoring were recorded in the reporting quarter.)**

Date	Monitoring Location	Monitoring Parameter	Monitoring Results	Action Level	L10 Level
2019/05/08	Stream 1	Suspended Solid (mg/L)	<u>30</u>	7.6	12.1
	Stream 2		<u>41</u>	7.6	12.1
	Stream 3		<u>55</u>	7.6	12.1

**Agreement No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O - Landfill Tunnel - Design and Construction**

**Appendix K-1 – Summary of Exceedance**

	Stream 1	Ammonia-Nitrogen (mg/L)	<u>0.16</u>	0.15	0.20
	Stream 1	Total Phosphorus (mg-P/L)	<u>0.10</u>	0.05	0.05
	Stream 2		<u>0.12</u>	0.05	0.05
	Stream 3		<u>0.15</u>	0.05	0.05
2019/05/08	Stream 1	Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	<u>4.0</u>	2	2
	Stream 2		<u>4.0</u>	2	2
	Stream 3		<u>5.0</u>	2	2
2019/06/12	Stream 1		<u>3.0</u>	2	2
2019/06/21	Stream 1		<u>3.0</u>	2	2

It is considered that the exceedance is not project-related based on the following reasons:

- The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.
- The vertical distance between Stream 1 and the tunnel construction site is more than 44 meters. Therefore, Stream 1 will not affect by any tunnel construction works as its elevation is above the tunnel construction site
- Rainfall was recorded during the monitoring date
- Waste was observed on the stream during sampling

**Marine water Quality**

One-hundred and forty-one (141) Action Level and seven-hundred and forty-one (741) Limit Level Exceedances in Marine Water Quality were recorded in the reporting quarter. (Please refer to Appendix K-2.)

**(D) Exceedance Report for Ecology**  
(NIL in the reporting quarter)

**(E) Exceedance Report for Cultural Heritage**  
(NIL in the reporting quarter)

**(F) Exceedance Report for Landfill Gas**  
(NIL in the reporting quarter)

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

**- Notification of Exceedances**

NOE No. 190503\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:00-00:01

Date of Noise Monitoring: 3 May 2019 – 4 May 2019

**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	23:02-23:17	67.6	63.7	<u>65</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:18-23:33	66.2	61.2	<u>65</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	23:46-00:01	63.4	62.4	<u>57</u>			

**Field Observation(s) and Conclusion**

<p>(a) Statement of exceedance(s)</p> <p>Construction noise measured at CM1, CM2 &amp; CM3 exceeded the construction noise (night time) limit level.</p>
<p>(b) Cause of exceedance(s)</p> <p>The exceedance was not considered related to the Project works:</p> <ul style="list-style-type: none"> <li>• According to our field observation, road traffic noise was identified as the dominant noise source. No noticeable noise from blasting / associated works was identified.</li> <li>• No major construction activity was observed in Lam Tin Interchange during monitoring.</li> </ul>

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature: 

Date: 6 May, 2019

**Agreement No. CE 59/2015 (EP) Environmental Test for Tseung Kwan O – Land in Tunnel**  
**- Notification of Exceedances**

NOE No. 190517\_noise (CM2) Exceedance Level: Limit

Time of Measurement : 23:20-23:35

Date of Noise Monitoring: 17 May 2019

**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
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:20-23:35	63.1	61.2	<u>59</u>	When one documented complaint is received.	55	Limit

**Field Observation(s) and Conclusion**

(a) Statement of exceedance(s)  
 Construction noise measured at CM2 exceeded the construction noise (night time) limit level.

(b) Cause of exceedance(s)  
 The exceedance was not considered related to the Project works:

- According to our field observation, road traffic noise was identified as the dominant noise source. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature:  \_\_\_\_\_

Date: 20 May, 2019

Agreement No. CE 59/2015 (EP) Environmental Test for Tseung Kwan O – Land in Tunnel  
 - Notification of Exceedances

NOE No. 190524\_noise (CM2) Exceedance Level: Limit

Time of Measurement : 23:20-23:35

Date of Noise Monitoring: 24 May 2019

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
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:20-23:35	63.3	61.2	<u>59</u>	When one documented complaint is received.	55	Limit

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)  
 Construction noise measured at CM2 exceeded the construction noise (night time) limit level.

(b) Cause of exceedance(s)  
 The exceedance was not considered related to the Project works:

- According to our field observation, road traffic noise was identified as the dominant noise source. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature:  \_\_\_\_\_

Date: 31 May, 2019



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

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 8 May 2019

**Part A – Summary of Exceedance Records**

<b>Date</b>	<b>Monitoring Parameter</b>	<b>Monitoring Location</b>	<b>Monitoring Results</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Justification*</b>	<b>Exceedance due to the Project</b>
8 May 2019	Suspended Solid (mg/L)	Stream 1	<u>30</u>	7.6	12.1	(1)	No
8 May 2019	Suspended Solid (mg/L)	Stream 2	<u>41</u>	7.6	12.1	(2)	No
8 May 2019	Suspended Solid (mg/L)	Stream 3	<u>55</u>	7.6	12.1	(2)	No
8 May 2019	Ammonia-Nitrogen (mg/L)	Stream 1	<b>0.16</b>	0.15	0.20	(1)	No
8 May 2019	Total Phosphorus (mg-P/L)	Stream 1	<u><b>0.10</b></u>	0.05	0.05	(1)	No
8 May 2019	Total Phosphorus (mg-P/L)	Stream 2	<u><b>0.12</b></u>	0.05	0.05	(2)	No
8 May 2019	Total Phosphorus (mg-P/L)	Stream 3	<u><b>0.15</b></u>	0.05	0.05	(2)	No
8 May 2019	BOD <sub>5</sub> (mg O <sub>2</sub> /L)	Stream 1	<u><b>4</b></u>	2	2	(1)	No
8 May 2019	BOD <sub>5</sub> (mg O <sub>2</sub> /L)	Stream 2	<u><b>4</b></u>	2	2	(2)	No
8 May 2019	BOD <sub>5</sub> (mg O <sub>2</sub> /L)	Stream 3	<u><b>5</b></u>	2	2	(2)	No

Note: **Bold Italic** means Action Level exceedance  
**Bold Italic with underline** means Limit Level exceedance

\*Remarks

- (1) – Stream 1 is at a higher ground level than the construction site, therefore construction runoff cannot reach Stream 1.
- (2) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Agreement No. CE 59/2015 (EP)**  
**ET for Tseung Kwan O – Lantau Tunnel**  
**Design and Construction**

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

Reviewed by: Dr. HF Chan  
(Environmental Team Leader)

Date: 10 May, 2019

Signature: 

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

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 12 June 2019

**Part A – Summary of Exceedance Records**

Date	Monitoring Parameter	Monitoring Location	Monitoring Results	Action Level	Limit Level	Justification*	Exceedance due to the Project
12 June 2019	Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	Stream 1	<b><i><u>3.0</u></i></b>	2.0	2.0	(1)	No

Note: **Bold Italic** means Action Level exceedance

**Bold Italic with underline** means Limit Level exceedance

\*Remarks

- (1) – Stream 1 is at a higher ground level than the construction site, therefore construction runoff cannot reach Stream 1.
- (2) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

Reviewed by: Dr. HF Chan  
(Environmental Team Leader)

Date: 15 June, 2019

Signature:



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

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 21 June 2019

**Part A – Summary of Exceedance Records**

Date	Monitoring Parameter	Monitoring Location	Monitoring Results	Action Level	Limit Level	Justification*	Exceedance due to the Project
21 June 2019	Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	Stream 1	<b><i><u>3.0</u></i></b>	2.0	2.0	(1)	No

Note: **Bold Italic** means Action Level exceedance

**Bold Italic with underline** means Limit Level exceedance

\*Remarks

- (1) – Stream 1 is at a higher ground level than the construction site, therefore construction runoff cannot reach Stream 1.
- (2) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

Reviewed by: Dr. HF Chan  
(Environmental Team Leader)

Date: 24 June, 2019

Signature:



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 02 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.7	G2	11:39	3.2	3.5	<u>3.6</u>	
						M5	12:21			<u>6.1</u>	
			Mid-flood	C1	1.6		G2	15:56	1.9	2.0	<u>6.4</u>
							G4	16:15			<u>3.8</u>
							M1	16:00			<u>2.7</u>
							M2	15:51			<u>3.8</u>
							M5	16:26			<u>4.4</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.2	G4	12:04	6.0	6.9	5.0	5.5	<u><b>6.4</b></u>
				M4	11:27	6.2	7.4			<u><b>6.3</b></u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	1.0	G1	16:06	6.0	6.9	1.2	1.3	<b><u>3.1</u></b>
				G2	15:56					<b><u>2.4</u></b>
				G3	16:10					<b><u>7.0</u></b>
				G4	16:15					<b><u>1.7</u></b>
				M1	16:00	6.2	7.4			<b><u>4.9</u></b>
				M2	15:51					<b><u>2.5</u></b>
				M3	16:12					<b><u>2.1</u></b>
				M4	15:48					<b><u>5.4</u></b>
		M5	16:26	<b><u>1.6</u></b>						
		Bottom	2.4	G2	15:56	6.9	7.9	2.9	3.1	<b><u>4.5</u></b>
				G4	16:15					<b><u>12.2</u></b>
				M1	16:00					<b><u>7.6</u></b>
				M2	15:51					<b><u>5.9</u></b>
				M3	16:12					<b><u>5.9</u></b>
M4	15:48			<b><u>5.4</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring: 04 May 2019**

**Part A – Exceedance Summary Tables**

**Table I: ~~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	1.6	G1	8:28	1.5	1.7	<u>2.9</u>
						G2	8:17			<u>1.8</u>
						G3	8:33			<u>2.8</u>
						G4	8:41			<u>3.7</u>
						M1	8:23			<u>2.2</u>
						M3	8:36			<u>1.7</u>
						M4	8:08			<u>2.4</u>
						M5	8:47			<u>3.2</u>



Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	6.4	G1	11:58	6.0	6.9	7.7	8.3	<u>12.8</u>
				G3	12:03					<u>7.3</u>
				M3	12:06	6.2	7.4			<u>9.5</u>
				M4	11:38					<u>11.9</u>
		Intake	n.a.	M6	12:14	8.3	8.6	n.a.	n.a.	<u>12.8</u>
		Bottom	9.4	G2	11:48	6.9	7.9	11.2	12.2	<u>7.7</u>
				G4	12:11					<u>14.7</u>
				M1	11:53					<u>8.4</u>
				M2	11:43					<u>7.8</u>
				M3	12:06					<u>8.0</u>
		M4	11:38	<u>8.5</u>						

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	4.0	G1	8:28	6.0	6.9	4.7	5.1	<b><u>8.0</u></b>
				G2	8:17					<b><u>10.2</u></b>
				G3	8:33					<b><u>14.5</u></b>
				G4	8:41					<b><u>15.7</u></b>
				M1	8:23	6.2	7.4			<b><u>9.8</u></b>
				M2	8:13					<b><u>13.2</u></b>
				M4	8:08					<b><u>5.9</u></b>
		M5	8:47	<b><u>11.8</u></b>						
		Intake	n.a.	M6	8:43	8.3	8.6	n.a.	n.a.	<b><u>9.8</u></b>
		Bottom	6.9	G1	8:28	6.9	7.9	8.2	8.9	<b><u>17.8</u></b>
				G3	8:33					<b><u>8.5</u></b>
				M1	8:23					<b><u>15.2</u></b>
				M2	8:13					<b><u>7.7</u></b>
M3	8:36			<b><u>8.6</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 06 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.0	G1	8:34	2.3	2.5	<u>3.4</u>
						G4	8:51			<u>3.6</u>
						M1	8:27			<u>2.9</u>
						M3	8:47			<u>3.4</u>
						M4	8:09			<u>3.0</u>
						M5	9:02			<u>2.6</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	5.2	G1	12:33	6.0	6.9	6.2	6.7	<u>7.8</u>
				G2	12:20					<u>9.4</u>
				G3	12:37					<u>7.1</u>
				M1	12:26					<u>8.5</u>
				M2	12:15	<u>23.3</u>				
				M3	12:45	<u>13.4</u>				
				M4	12:08	<u>10.4</u>				
				M5	13:01	<u>16.3</u>				
		Intake	n.a.	M6	12:54	8.3	8.6	n.a.	n.a.	<u>13.4</u>
		Bottom	7.7	G4	12:49	6.9	7.9	9.2	9.9	<u>8.9</u>
				M1	12:26					<u>32.1</u>
				M4	12:08					<u>10.0</u>
M5	13:01			<u>12.6</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	7.1	G1	8:34	6.0	6.9	8.5	9.2	<b><u>9.2</u></b>
				G2	8:21					<b><u>9.5</u></b>
				G4	8:51					<b><u>9.7</u></b>
				M1	8:27	6.2	7.4			<b><u>7.8</u></b>
				M2	8:16					<b><u>22.2</u></b>
		M3	8:47	<b><u>8.7</u></b>						
		M4	8:09	<b><u>12.3</u></b>						
		M5	9:02	<b><u>22.1</u></b>						
		Bottom	9.4	G2	8:21	6.9	7.9	11.3	12.2	<b><u>7.1</u></b>
				G3	8:39					<b><u>7.9</u></b>
M1	8:27			<b><u>19.1</u></b>						
M2	8:16			<b><u>10.1</u></b>						
M4	8:09			<b><u>18.5</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 08 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.6	G4	13:32	3.2	3.4	<u>3.3</u>
						M3	13:27			<u>3.3</u>
						M5	13:58			<u>3.7</u>
			Mid-Flood	C1	2.5	G4	8:09	3.0	3.2	<u>5.2</u>
						M5	8:36			<u>3.3</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	6.1	G4	13:32	6.0	6.9	7.3	7.9	<b>6.6</b>
				M2	14:22	6.2	7.4			<b>8.1</b>
				M4	14:17					<b>9.7</b>
		Intake	n.a.	M6	13:52	8.3	8.6	n.a.	n.a.	<b>8.5</b>
		Bottom	4.0	G2	14:29	6.9	7.9	4.8	5.2	<b>8.8</b>
				G4	13:32					<b>7.2</b>
				M1	13:13					<b>11.3</b>
				M2	14:22					<b>5.8</b>
				M3	13:27					<b>8.4</b>
		M4	14:17	<b>5.2</b>						

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	6.7	G1	7:56	6.0	6.9	8.0	8.7	<b><i>6.1</i></b>
				G2	9:07					<b><i>6.3</i></b>
				G3	8:00					<b><i>9.7</i></b>
				G4	8:09					<b><i>8.9</i></b>
				M5	8:36					<b><i>13.6</i></b>
		Bottom	10.4	G1	7:56	6.9	7.9	12.5	13.5	<b><i>8.2</i></b>
				G4	8:09					<b><i>9.4</i></b>
				M1	7:51					<b><i>11.1</i></b>
				M2	9:00					<b><i>9.2</i></b>
				M3	8:05					<b><i>7.0</i></b>
				M4	8:55					<b><i>9.3</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring: 10 May 2019**

**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	G1	15:13	6.0	6.9	1.6	1.7	<u>3.9</u>
				G2	15:04					<u>2.7</u>
				G3	15:16					<u>2.6</u>
				G4	15:21					<u>2.3</u>
				M1	15:08	6.2	7.4			<u>2.1</u>
				M3	15:18					<u>5.0</u>
				M4	14:55					<u>5.0</u>
		M5	15:29	<u>3.1</u>						
		Bottom	2.6	G2	15:04	6.9	7.9	3.1	3.3	<u>4.0</u>
				M2	15:00					<u>5.4</u>
M5	15:29			<u>5.1</u>						

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.6	G1	9:46	6.0	6.9	4.3	4.7	<b><u>5.2</u></b>
				G2	9:33					<b><u>5.0</u></b>
				G3	9:49					<b><u>6.2</u></b>
				M2	9:27	<b><u>4.9</u></b>				
				M4	9:23	6.2	7.4			<b><u>5.6</u></b>
				G1	9:46					<b><u>5.2</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 14 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	G1	15:03	1.6	1.7	<u>2.9</u>
						G2	14:53			<u>1.8</u>
						G3	15:08			<u>2.8</u>
						G4	15:16			<u>3.7</u>
						M1	14:58			<u>2.2</u>
						M3	15:11			<u>1.7</u>
						M4	14:43			<u>2.4</u>
						M5	15:22			<u>3.3</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	13.0	G1	10:09	6.0	6.9	15.6	16.9	<u>8.6</u>
				G2	9:55					<u>6.8</u>
				M2	9:50	6.2	7.4			<u>11.8</u>
				M3	10:20					<u>6.9</u>
				M5	10:42					<u>19.0</u>
		Intake	n.a.	M6	10:32	8.3	8.6	n.a.	n.a.	<u>10.2</u>
		Bottom	4.7	G1	10:09	6.9	7.9	5.6	6.0	<u>9.5</u>
				G3	10:13					<u>6.7</u>
				M1	10:01					<u>9.2</u>
				M4	9:45					<u>15.1</u>
M5	10:42			<u>8.6</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.4	G2	14:53	6.0	6.9	6.5	7.0	<b><i>6.4</i></b>
				G3	15:08					<b><i>8.5</i></b>
				G4	15:16					<b><i>8.5</i></b>
				M2	14:48	<b><i>14.8</i></b>				
				M5	15:22	<b><i>10.4</i></b>				
				M1	14:58	<b><i>23.7</i></b>				
		Bottom	8.1	G2	14:53	6.9	7.9	9.7	10.5	<b><i>6.4</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 16 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.4	G4	10:39	4.1	4.4	<b>4.2</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	13.8	G4	10:39	6.0	6.9	16.6	17.9	<u>7.5</u>
				M2	10:11	6.2	7.4			<u>9.0</u>
				M5	10:45					<u>10.0</u>
		Intake	n.a.	M6	10:43	8.3	8.6	n.a.	n.a.	<u>9.8</u>
		Bottom	6.5	G2	10:15	6.9	7.9	7.7	8.4	<u>7.5</u>
				M2	10:11					<u>8.3</u>
				G4	10:39					<u>7.5</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.7	G2	15:36	6.0	6.9	4.4	4.7	<b><i>6.6</i></b>
				G3	16:01					<b><i>6.2</i></b>
				M1	15:46	6.2	7.4			<b><i>5.0</i></b>
				M5	16:31					<b><i>12.4</i></b>
		Bottom	3.4	G2	15:36	6.9	7.9	4.1	4.4	<b><i>4.4</i></b>
				M1	15:46					<b><i>10.5</i></b>
				M4	15:22					<b><i>4.2</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 18 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.7	G2	12:15	2.0	2.2	<u>2.1</u>
						M4	12:04			<u>2.3</u>
						M5	12:45			<u>2.3</u>
			Mid-Flood	C1	2.4	M5	18:25	2.9	3.1	<u>3.5</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	6.9	M3	12:33	6.2	7.4	8.2	8.9	<b>6.6</b>
		Bottom	3.7	G1	12:22	6.9	7.9	4.4	4.8	<b>4.5</b>
				G2	12:15					<b>8.5</b>
				M1	12:18					<b>5.4</b>
				M4	12:04					<b>6.6</b>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.2	G1	17:48	6.0	6.9	3.8	4.1	<b><u>6.4</u></b>
				G3	17:55					<b><u>4.5</u></b>
				M1	17:40	6.2	7.4			<b><u>4.2</u></b>
				M2	17:23					<b><u>4.3</u></b>
				M3	18:04					<b><u>4.3</u></b>
				M4	17:16					<b><u>4.8</u></b>
		Bottom	8.2	M5	18:25	6.9	7.9	9.8	10.7	<b><u>3.9</u></b>
				M2	17:23					<b><u>9.5</u></b>
				M3	18:04					<b><u>9.4</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 20 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.6	M4	07:55	3.1	3.3	<b>3.3</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.3	G1	8:19	6.0	6.9	5.2	5.6	<u>7.2</u>
				G2	8:05					<u>7.3</u>
				G4	8:40					<u>6.2</u>
				M2	7:57	6.2	7.4			<u>8.1</u>
				M4	7:55					<u>8.4</u>
		Bottom	2.8	G2	8:05	6.9	7.9	3.3	3.6	<u>4.7</u>
				G4	8:40					<u>8.8</u>
				M1	8:11					<u>6.5</u>
				M2	7:57					<u>9.0</u>
				M3	8:32					<u>6.1</u>
				M4	7:55					<u>7.3</u>
M5	8:58	<u>6.7</u>								

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	2.9	G1	13:35	6.0	6.9	3.4	3.7	<b><u>5.8</u></b>
				G2	13:20					<b><u>5.3</u></b>
				G3	13:43					<b><u>7.2</u></b>
				G4	14:03					<b>3.7</b>
				M3	13:56					<b>3.7</b>
				M4	13:08					<b><u>5.1</u></b>
		Bottom	9.5	M5	14:16	<b><u>8.0</u></b>				
				G2	13:20	<b>7.6</b>				
				M1	13:28	<b><u>8.5</u></b>				
				M4	13:08	<b>7.1</b>				

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 22 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.4	G4	08:39	4.1	4.4	<b>4.2</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	3.5	G1	8:22	6.0	6.9	4.2	4.6	<b>4.3</b>
				G2	8:15					<b>6.0</b>
				G4	8:39					<b>5.4</b>
				M2	8:11	6.2	7.4			<b>5.4</b>
				M3	8:33					<b>6.4</b>
				M4	8:04					<b>4.7</b>
		Bottom	8:25	6.9	7.9	7.8	8.5	<b>7.1</b>		



Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	1.8	G1	14:54	6.0	6.9	2.1	2.3	<b><u>8.6</u></b>
				G2	14:36					<b><u>2.8</u></b>
				G3	15:01					<b><u>3.6</u></b>
				G4	15:18					<b><u>6.1</u></b>
				M1	14:46	6.2	7.4			<b><u>2.2</u></b>
				M2	14:29					<b><u>3.0</u></b>
				M3	15:10					<b><u>3.1</u></b>
				M4	14:22					<b><u>11.6</u></b>
		M5	15:31	<b><u>5.1</u></b>						
		Bottom	1.8	G1	14:54	6.9	7.9	2.1	2.3	<b><u>4.5</u></b>
				G3	15:01					<b><u>3.8</u></b>
				G4	15:18					<b><u>6.9</u></b>
				M1	14:46					<b><u>2.9</u></b>
				M2	14:29					<b><u>2.7</u></b>
M3	15:10			<b><u>4.8</u></b>						
M4	14:22	<b><u>5.7</u></b>								
M5	15:31	<b><u>4.8</u></b>								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 24 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.0	G1	8:34	2.4	2.5	<u>3.4</u>
						G4	8:51			<u>3.7</u>
						M1	8:27			<u>2.9</u>
						M3	8:47			<u>3.4</u>
						M4	8:09			<u>3.0</u>
						M5	9:02			<u>2.6</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	10.9	G1	16:33	6.0	6.9	13.0	14.1	<b>6.5</b>
				G2	16:20					<b>6.7</b>
				M1	16:26	6.2	7.4			<b>7.0</b>
				M3	16:45					<b>8.5</b>
				M5	17:01					<b>11.3</b>
		Bottom	3.2	G1	16:33	6.9	7.9	3.8	4.1	<b>20.9</b>
				G3	16:37					<b>5.9</b>
				M1	16:26					<b>6.9</b>
				M2	16:15					<b>6.4</b>
				M3	16:45					<b>4.9</b>
M4	16:08	<b>9.7</b>								

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	2.2	G1	8:34	6.0	6.9	2.6	2.8	<b><u>12.8</u></b>
				G2	8:21					<b><u>3.3</u></b>
				G3	8:39					<b><u>2.9</u></b>
				G4	8:51					<b><u>5.3</u></b>
				M1	8:27	6.2	7.4			<b><u>4.6</u></b>
				M2	8:16					<b><u>5.0</u></b>
				M3	8:47					<b><u>5.4</u></b>
				M4	8:09					<b><u>21.3</u></b>
		Bottom	2.9	G1	8:34	6.9	7.9	3.4	3.7	<b><u>12.6</u></b>
				G2	8:21					<b><u>4.8</u></b>
				G3	8:39					<b><u>6.2</u></b>
				G4	8:51					<b><u>3.6</u></b>
				M1	8:27					<b><u>9.3</u></b>
				M5	9:02					<b><u>4.9</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 27 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.1	G2	17:35	1.4	1.5	<u>1.7</u>
						G3	17:55			<u>1.6</u>
						M1	17:42			<u>1.5</u>
						M3	18:08			<u>2.1</u>
						M5	18:27			<u>1.9</u>
			Mid-Flood	C1	1.1	G1	11:50	1.3	1.5	<u>1.5</u>
						G2	11:38			<u>1.6</u>
						G3	11:54			<u>1.5</u>
						G4	12:11			<u>1.4</u>
						M1	11:45			<u>1.4</u>
						M3	12:05			<u>2.1</u>
						M5	12:25			<u>1.9</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	2.8	G2	17:35	6.0	6.9	3.4	3.6	<u>4.2</u>
				G4	18:15					<u>4.0</u>
				M1	17:42	6.2	7.4			<u>6.3</u>
				M2	17:27					<u>4.5</u>
				M3	18:08					<u>8.1</u>
				M4	17:21					<u>6.1</u>
		M5	18:27	<u>3.8</u>						
		Bottom	4.3	G2	17:35	6.9	7.9	5.2	5.6	<u>6.6</u>
				M1	17:42					<u>5.9</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	1.6	G1	11:50	6.0	6.9	1.9	2.1	<b><u>2.5</u></b>
				G2	11:38					<b><u>3.6</u></b>
				G4	12:11					<b><u>6.9</u></b>
				M1	11:45	6.2	7.4			<b><u>3.4</u></b>
				M2	11:30					<b><u>14.3</u></b>
				M3	12:05					<b><u>3.2</u></b>
				M4	11:23					<b><u>5.0</u></b>
				M5	12:25					<b><u>3.8</u></b>
		Bottom	3.8	G4	12:11	6.9	7.9	4.6	4.9	<b><u>5.5</u></b>
				M3	12:05					<b><u>6.1</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Landfill Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 29 May 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.5	M4	14:48	3.0	3.3	<b>3.3</b>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.8	M2	14:53	6.2	7.4	5.7	6.2	<u>7.4</u>
		Bottom	2.3	G1	15:05	6.9	7.9	2.7	2.9	<u>2.9</u>
				G2	14:57					<u>3.4</u>
				G4	15:13					<u>5.5</u>
				M1	15:00					<u>3.6</u>
				M2	14:53					<u>6.4</u>
				M4	14:48					<u>3.0</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	1.1	G1	15:05	6.0	6.9	1.3	1.4	<b><u>4.4</u></b>
				G2	14:57					<b><u>2.5</u></b>
				G3	15:07					<b><u>5.9</u></b>
				G4	15:13					<b><u>4.6</u></b>
				M1	15:00	6.2	7.4			<b><u>2.4</u></b>
				M2	14:53					<b><u>4.1</u></b>
				M3	15:10					<b><u>3.1</u></b>
				M4	14:48					<b><u>4.6</u></b>
		M5	15:20	<b><u>4.9</u></b>						
		Bottom	1.4	G1	15:05	6.9	7.9	1.7	1.8	<b><u>2.5</u></b>
				G2	14:57					<b><u>3.9</u></b>
				G3	15:07					<b><u>1.8</u></b>
				G4	15:13					<b><u>3.4</u></b>
				M1	15:00					<b><u>4.8</u></b>
				M2	14:53					<b><u>4.8</u></b>
				M3	15:10					<b><u>5.8</u></b>
M4	14:48			<b><u>4.1</u></b>						
M5	15:20	<b><u>2.0</u></b>								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring: 31 May 2019**

**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	4.0	G1	11:11	6.0	6.9	4.7	5.1	<u>6.1</u>
				G3	11:15					<u>11.3</u>
				M2	10:52	6.2	7.4			<u>4.9</u>
				M4	10:48					<u>5.3</u>
		Intake	n.a.	M6	11:25	8.3	8.6	n.a.	n.a.	<u>10.1</u>
		Bottom	11	M2	10:52	6.9	7.9	13.2	14.3	<u>7.2</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	5.4	G1	11:11	6.0	6.9	6.5	7.0	<b><u>10.3</u></b>
				G3	11:15					<b><u>9.4</u></b>
				M2	10:52	6.2	7.4			<b><u>6.7</u></b>
				M4	10:48					<b><u>11.6</u></b>
				M6	11:25					<b><u>8.5</u></b>
		Bottom	5.8	M2	10:52	6.9	7.9	6.9	7.5	<b><u>7.6</u></b>
				G1	15:53					<b><u>9.7</u></b>
				G3	15:56					<b><u>10.3</u></b>
				M1	15:48					<b><u>10.0</u></b>
				M3	15:59					<b><u>8.1</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 3 June 2019

**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	16.5	G1	11:16	6.0	6.9	19.8	21.5	<u>13.3</u>
				G2	11:07					<u>11.5</u>
				G3	11:19					<u>10.8</u>
				G4	11:30					<u>16.4</u>
				M1	11:11	6.2	7.4			<u>8.6</u>
				M2	11:03					<u>18.7</u>
				M3	11:26					<u>18.5</u>
				M4	10:57					<u>13.3</u>
		M5	11:42	<u>14.1</u>						
		Intake	11:35	8.3	8.6	n.a.	n.a.	<u>14.3</u>		
		Bottom	13.4	G1	11:16	6.9	7.9	16.0	17.4	<u>12.6</u>
				G2	11:07					<u>25.7</u>
				G3	11:19					<u>16.9</u>
				G4	11:30					<u>7.2</u>
				M2	11:03					<u>27.6</u>
M3	11:26			<u>7.9</u>						
M4	10:57			<u>12.1</u>						
M5	11:42	<u>17.4</u>								

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	19.4	G1	18:09	6.0	6.9	23.3	25.2	<b><u>20.3</u></b>
				G2	17:58					<b><u>18.0</u></b>
				G3	18:14					<b><u>13.3</u></b>
				G4	18:26					<b><u>12.3</u></b>
				M2	17:53	6.2	7.4			<b><u>16.9</u></b>
				M3	18:22					<b><u>10.1</u></b>
				M4	17:48					<b><u>26.9</u></b>
				M5	18:38					<b><u>11.1</u></b>
		Intake	n.a.	M6	18:32	8.3	8.6	n.a.	n.a.	<b><u>19.4</u></b>
		Bottom	11.9	G1	18:09	6.9	7.9	14.3	15.5	<b><u>11.5</u></b>
				G2	17:58					<b><u>18.6</u></b>
				G3	18:14					<b><u>12.2</u></b>
				G4	18:26					<b><u>12.8</u></b>
				M1	18:04					<b><u>11.8</u></b>
				M2	17:53					<b><u>11.9</u></b>
				M3	18:22					<b><u>14.0</u></b>
M4	17:48			<b><u>7.6</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 5 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.9	M2	12:33	4.7	5.1	6.7

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	9.3	G1	8:24	6.0	6.9	11.2	12.1	<u>7.0</u>
				G2	8:13					<u>6.3</u>
				G4	8:38					<u>7.1</u>
				M3	8:33					<u>8.2</u>
				M4	8:06					<u>10.4</u>
		Intake	n.a.	M6	8:41	8.3	8.6	n.a.	n.a.	<u>9.8</u>
		Bottom	10.8	G1	8:24	6.9	7.9	12.9	14.0	<u>7.7</u>
				G2	8:13					<u>8.2</u>
				G4	8:38					<u>9.9</u>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.9	G1	12:52	6.0	6.9	4.6	5.0	<u>5.7</u>
				G2	12:39					4.8
				G3	12:58					7.6
				G4	13:08					8.5
				M2	12:33					7.0
				M3	13:02					4.9
				M4	12:25					5.9
		Intake	n.a.	M6	13:13	8.3	8.6	n.a.	n.a.	8.8
		Bottom	3.2	G1	12:52	6.9	7.9	3.8	4.2	7.9
				G2	12:39					8.5
				G3	12:58					6.9
				G4	13:08					14.7
				M1	12:46					5.9
				M2	12:33					10.5
				M3	13:02					6.8
M4	12:25			4.5						
M5	13:19	7.2								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

Contract No. CE 59/2015 (EP)

Environmental Team for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Date of Water Quality Monitoring: 8 June 2019

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	9.7	G1	16:10	6.0	6.9	11.6	12.6	<u>6.7</u>
				G2	16:00					<u>13.3</u>
				G3	16:15					<u>8.9</u>
				G4	16:24					<u>23.1</u>
				M1	16:05	6.2	7.4			<u>6.3</u>
				M3	16:18					<u>10.0</u>
				M4	15:51					<u>7.0</u>
				M5	16:30					<u>8.5</u>
		Bottom	13.1	G1	16:10	6.9	7.9	15.7	17.0	<u>18.7</u>
				G2	16:00					<u>7.7</u>
				G3	16:15					<u>11.9</u>
				G4	16:24					<u>12.9</u>
				M2	15:56					<u>11.8</u>
				M4	15:51					<u>20.0</u>
M5	16:30	<u>11.4</u>								

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	15.9	G1	9:00	6.0	6.9	19.1	20.7	<b><u>10.1</u></b>
				G3	9:04					<b><u>16.1</u></b>
				G4	9:11					<b><u>22.3</u></b>
				M1	8:55	6.2	7.4			<b><u>9.8</u></b>
				M3	9:07					<b><u>10.0</u></b>
				M4	8:41					<b><u>8.1</u></b>
		M5	9:22	<b><u>22.0</u></b>						
		Intake	n.a.	M6	9:16	8.3	8.6	n.a.	n.a.	<b><u>10.7</u></b>
		Bottom	6.4	G1	9:00	6.9	7.9	7.6	8.3	<b><u>11.4</u></b>
				G2	8:50					<b><u>15.2</u></b>
				G3	9:04					<b><u>9.8</u></b>
				G4	9:11					<b><u>14.7</u></b>
				M2	8:46					<b><u>14.5</u></b>
				M3	9:07					<b><u>11.2</u></b>
				M4	8:41					<b><u>16.7</u></b>
M5	9:22	<b><u>7.9</u></b>								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 10 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.8	G1	18:25	2.2	2.3	<u>2.5</u>
						G4	18:47			<u>2.6</u>
						M1	18:17			<u>4.6</u>
						M3	18:36			<u>5.1</u>
			Mid-Flood	C1	3.5	M1	11:08	4.2	4.5	<u>2.5</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	9.5	G1	18:25	6.0	6.9	11.3	12.3	<u>11.9</u>
				G2	18:13					<u>11.8</u>
				G3	18:29					<u>12.3</u>
				G4	18:47					<u>11.2</u>
				M2	18:09	6.2	7.9			<u>7.8</u>
				M3	18:36					<u>13.5</u>
				M4	18:04					<u>11.0</u>
				M5	19:02					<u>7.0</u>
		Bottom	12.8	G1	18:25	6.9	7.9	15.3	16.6	<u>9.3</u>
				G2	18:13					<u>11.6</u>
				G4	18:47					<u>8.5</u>
				M1	18:17					<u>12.6</u>
M2	18:09			<u>9.7</u>						
M3	18:36			<u>8.6</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	13.0	G1	11:16	6.0	6.9	15.5	16.8	<b>6.3</b>
				G3	11:20					<b>8.9</b>
				G4	11:30					<b>12.5</b>
				M1	11:08	6.2	7.4			7.3
				M2	11:00					<b>10.2</b>
		Intake	n.a.	M6	11:38	8.3	8.6	n.a.	n.a.	<b>8.9</b>
		Bottom	7.8	G1	11:16	6.9	7.9	9.4	10.1	<b>10.5</b>
				G2	11:04					<b>10.8</b>
				G4	11:30					<b>8.3</b>
				M1	11:08					<b>11.2</b>
				M3	11:22					<b>10.6</b>
				M4	10:55					<b>9.2</b>
				M5	11:42					<b>10.2</b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 12 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.8	G4	14:36	2.2	2.4	<u>3.6</u>
						M3	14:32			<u>3.3</u>
						M4	14:08			<u>2.6</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	7.2	G2	8:31	6.0	6.9	8.6	9.3	<u>7.4</u>
				G3	8:43					<u>6.2</u>
				M3	8:46	6.2	7.4			<u>11.5</u>
				M4	8:22					<u>7.4</u>
		Bottom	7.6	M2	8:28	6.9	7.9	9.1	9.8	<u>8.3</u>
				M3	8:46					<u>7.3</u>
				M4	8:22					<u>7.4</u>



Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	4.7	G2	14:16	6.0	6.9	5.6	6.0	<b><u>6.3</u></b>
				G3	14:30					<b><u>7.1</u></b>
		Intake	n.a.	M6	14:40	8.3	8.6	n.a.	n.a.	<b><u>9.0</u></b>
		Bottom	5.6	M2	14:13	6.9	7.9	6.7	7.2	<b><u>7.8</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 14 June 2019

**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	10.5	G1	10:30	6.0	6.9	12.5	13.6	<u>10.1</u>
				G3	10:35					<u>7.3</u>
				G4	10:44					<u>6.8</u>
				M1	10:25	6.2	7.4			<u>6.6</u>
				M2	10:14					<u>7.8</u>
		M3	10:39	<u>8.1</u>						
		M4	10:10	<u>7.1</u>						
		M5	10:57	<u>7.1</u>						
		Bottom	5.6	G4	10:44	6.9	7.9	6.7	7.3	<u>10.4</u>
				M1	10:25					<u>11.2</u>
M2	10:14			<u>7.4</u>						
M3	10:39			<u>11.4</u>						
M4	10:10			<u>6.9</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	4.7	G2	15:47	6.0	6.9	5.6	6.1	<b><i>8.4</i></b>
				G4	16:13					<b><i><u>9.3</u></i></b>
		Bottom	5.4	G2	15:47	6.9	7.9	6.5	7.0	<b><i>7.5</i></b>
				M2	15:43					<b><i><u>6.7</u></i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 17 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.4	G1	12:20	2.9	3.1	<u>3.2</u>
						M1	12:16			<u>3.1</u>
						M5	12:42			<u>4.4</u>
			Mid-Flood	C1	2.1	G1	19:20	2.5	2.7	<u>4.4</u>
						G2	19:08			<u>3.7</u>
						G4	19:34			<u>3.8</u>
						M1	19:16			<u>5.2</u>
						M2	19:03			<u>6.0</u>
						M5	19:42			<u>4.4</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	2.9	G1	12:20	6.0	6.9	3.5	3.8	<u>12.5</u>
				G4	12:34					<u>5.2</u>
				M2	12:03	6.2	7.9			<u>6.6</u>
				M3	12:30					<u>6.5</u>
				M4	11:57					<u>6.9</u>
				M5	12:42					<u>8.9</u>
		Bottom	4.0	G1	12:20	6.9	7.9	4.8	5.2	<u>6.0</u>
				M1	12:16					<u>5.9</u>
				M2	12:03					<u>7.4</u>
				M3	12:30					<u>5.9</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	4.8	G1	19:20	6.0	6.9	5.8	6.2	<b><u>6.6</u></b>
				G2	19:08					<b><u>6.9</u></b>
				M2	19:03	6.2	7.4			<b><u>8.0</u></b>
				M5	19:42					<b><u>6.9</u></b>
		Bottom	7.0	M1	19:16	6.9	7.9	8.3	9.0	<b><u>14.1</u></b>
				M3	19:30					<b><u>8.5</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 19 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.4	M1	9:26	4.1	4.5	<u>4.7</u>

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	11.0	M4	13:20	6.2	7.4	13.1	14.2	<b>6.7</b>
		Bottom	4.1	G4	13:48	6.9	7.9	4.9	5.3	<b>8.2</b>
				M5	14:03					<b>5.5</b>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.3	G4	9:42	6.0	6.9	6.4	6.9	<b><i>8.8</i></b>
		Bottom	4.1	G1	9:31	6.9	7.9	4.9	5.3	<b><i>6.6</i></b>
				M1	9:26					<b><i>6.2</i></b>
				M2	9:17					<b><i>12.9</i></b>
				M4	9:13					<b><i>5.0</i></b>
				M5	9:54					<b><i>5.3</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 21 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.4	G1	9:41	1.7	1.9	<u>1.8</u>
						G2	9:32			<u>2.6</u>
						G3	9:45			<u>2.9</u>
						G4	9:52			<u>5.2</u>
						M1	9:36			<u>2.2</u>
						M2	9:27			<u>3.4</u>
						M3	9:48			<u>3.4</u>
						M5	10:02			<u>2.9</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	3.8	G3	14:23	6.0	6.9	4.5	4.9	<u>4.8</u>
				G4	14:30					<u>7.0</u>
				M2	14:05					<u>6.7</u>
				M3	14:26	6.2	7.4			<u>4.7</u>
				M4	14:00					<u>7.5</u>
		Bottom	6.3	G4	14:30	6.9	7.9	7.5	8.1	<u>7.0</u>
				M3	14:26					<u>8.8</u>

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	2.7	G1	9:41	6.0	6.9	3.2	3.4	<b><i>4.0</i></b>
				G4	9:52					<b><i>7.5</i></b>
				M1	9:36	6.2	7.4			<b><i>4.9</i></b>
				M2	9:27					<b><i>8.4</i></b>
				M3	9:48					<b><i>4.5</i></b>
		Bottom	4.4	G3	9:45	6.9	7.9	5.2	5.7	<b><i>7.4</i></b>
				M1	9:36					<b><i>9.9</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 24 June 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.2	G4	10:12	2.6	2.9	<u>4.0</u>
						M4	9:33			<u>3.5</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	2.8	G3	16:00	6.0	6.9	3.4	3.6	<u>4.1</u>
				G4	16:13					<u>4.1</u>
				M4	15:34					<u>6.2</u>
		Bottom	2.6	G1	15:55	6.9	7.9	3.1	3.3	<u>4.8</u>
				G2	15:45					<u>5.6</u>
				G3	16:00					<u>3.2</u>
				G4	16:13					<u>7.8</u>
				M3	16:05					<u>3.2</u>
				M4	15:34					<u>3.5</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	2.1	G1	9:54	6.0	6.9	2.5	2.7	<b><u>2.9</u></b>
				G2	9:44					<b><u>6.3</u></b>
				G3	9:59					<b><u>2.9</u></b>
				M1	9:49	6.2	7.4			<b><u>3.5</u></b>
				M2	9:40					<b><u>4.8</u></b>
				M4	9:33					<b><u>3.8</u></b>
		Bottom	1.6	G1	9:54	6.9	7.9	1.9	2.0	<b><u>5.8</u></b>
				G2	9:44					<b><u>4.3</u></b>
				G3	9:59					<b><u>2.6</u></b>
				G4	10:12					<b><u>2.8</u></b>
				M1	9:49					<b><u>3.1</u></b>
				M2	9:40					<b><u>2.9</u></b>
				M3	10:04					<b><u>2.7</u></b>
				M5	10:24					<b><u>2.4</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 26 June 2019

**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	4.0	G1	8:37	6.0	6.9	4.8	5.2	<u>6.3</u>
				M3	8:45	6.2	7.4			<u>5.4</u>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.1	G3	12:46	6.0	6.9	3.7	4.0	<b><u>4.4</u></b>
				G4	12:55					<b><u>4.3</u></b>
				M1	12:34	6.2	7.4			<b><u>4.6</u></b>
				M2	12:25					<b><u>4.1</u></b>
				M3	12:48					<b><u>6.8</u></b>
				M4	12:16					<b><u>4.2</u></b>
				M5	13:05					<b><u>3.9</u></b>
		Bottom	3.2	G1	12:39	6.9	7.9	3.8	4.2	<b><u>6.5</u></b>
				G2	12:29					<b><u>5.1</u></b>
				G3	12:46					<b><u>4.4</u></b>
				G4	12:55					<b><u>5.0</u></b>
				M1	12:34					<b><u>4.7</u></b>
				M2	12:25					<b><u>5.2</u></b>
				M4	12:16					<b><u>6.2</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring: 28 June 2019**

**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	5.7	G4	10:09	6.0	6.9	6.8	7.3	<u>7.0</u>
				M4	9:36	6.2	7.4			<b>6.9</b>
		Bottom	5.0	M5	10:21	6.9	7.9	5.9	6.4	<b>6.4</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	7.7	G2	14:15	6.0	6.9	9.2	10.0	<b><u>9.3</u></b>
				M3	14:39	6.2	7.4			<b><u>6.8</u></b>
				M4	14:05					<b><u>10.1</u></b>
				M5	14:55					<b><u>6.4</u></b>
		Bottom	4.7	G1	14:26	6.9	7.9	5.6	6.0	<b><u>6.5</u></b>
				M1	14:21					<b><u>6.6</u></b>
				M2	14:10					<b><u>5.9</u></b>
				M5	14:55					<b><u>6.6</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lantau Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (June 2019)**

**Part A – Details of Investigation**

The exceedance of SS has been recorded continuously in June. According to the data from Hong Kong Observatory, high rainfall was recorded in June and amber rainstorm warning signal was hoisted on 1, 4, 11, 13, 14 and 25 June which resulted in a high volume of upstream muddy water discharge into the Junk Bay, as observed during the rainstorm events (Photo 1 & 2). 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 (Photo 7, 8 and 9), and, as part of mitigation measures for marine works, silt curtains and cofferdam are deployed around the marine works area of the Project and no major deficiency of the conditions of the silt curtain and the cofferdam has been discovered.

In addition, muddy water was observed during weekly site inspection at the discharge point adjoining Tseung Kwan O South Landing Steps during rainstorm (see photo 3, 4 and 5); muddy water was also found discharging from the DSD desilting compound following to a few rainstorms that took place in June 2019, but no obvious sand plume was observed inside the marine works area (see photo 6). Besides the Project, other construction activities within Junk Bay might have also lead to the on-going exceedance of SS. It was reported that discharge of muddy water was found at the seafront off the Industrial Estate and was suspected to be originated from a construction site at the Industrial Estate. The muddy water discharge would result in an increase of the overall SS concentrations in Junk Bay and hence the SS limit level exceedance was recorded.

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 – Lantau Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (June 2019)**

**Part B-Photo Record**



Photo 1



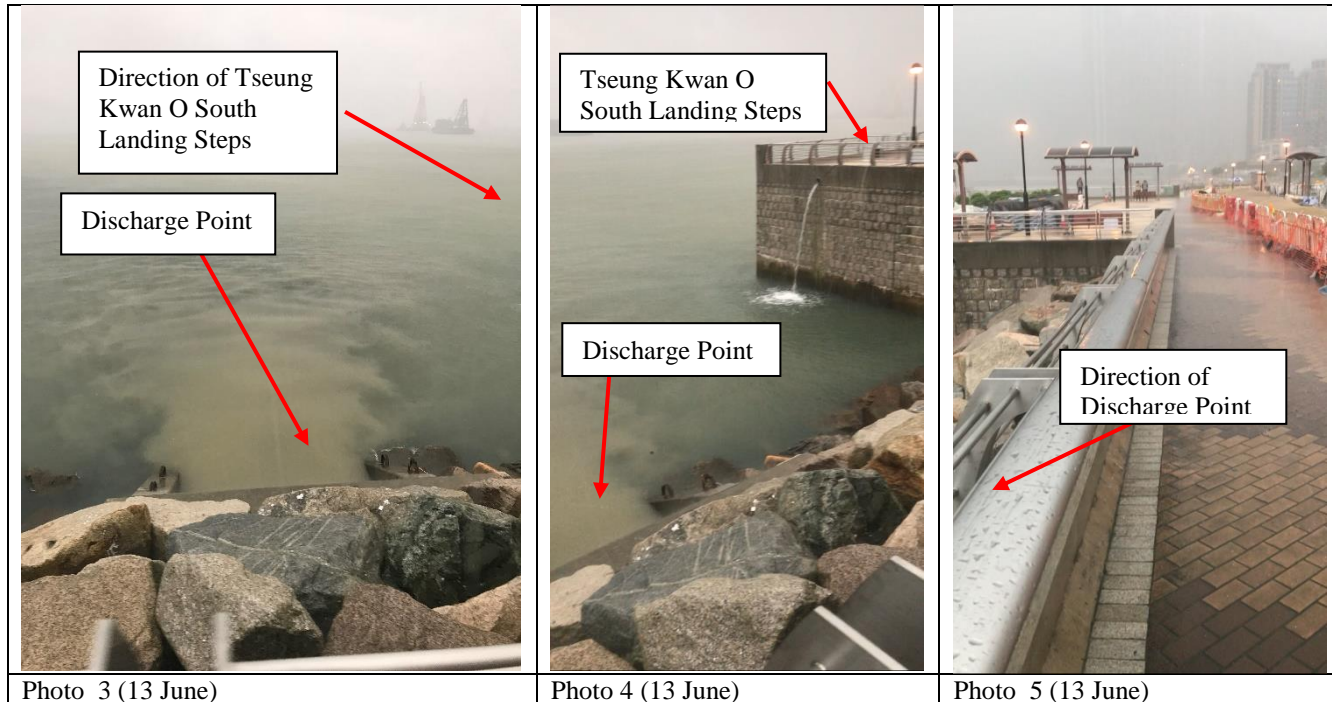
Photo 2

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lantau Tunnel

Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances (June 2019)



Contract No. CE 59/2015 (EP)

Environmental Team for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances (June 2019)



Photo 6



Photo 7



Photo 8



Photo 9

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lantian Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (June 2019)**

**Part C – Recommendations**

The contractor is reminded to cover the exposed ground with sandbags and tarpaulin and provide appropriate diversion of the received rainwater to the wastewater treatment system within the site, where sufficient storage and treatment capacity should be provided. The conditions of the cofferdam and silt curtain should be monitored and maintained at all times, weekly diver inspections should be conducted to ensure that there are no damages or leakages within the cofferdam and silt curtains.

Reviewed by:



(Environmental Team Leader: Dr. HF Chan)

Date: 2 July, 2019



Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Date of Water Quality Monitoring: 02 July 2019

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	6.1	G2	12:16	6.0	6.9	7.3	7.9	<b>6.7</b>
				G3	12:36					<b>6.8</b>
				M3	12:43					<b>7.3</b>
		Bottom	2.2	G1	12:26	6.9	7.9	2.6	2.8	<u>7.7</u>
				G2	12:16					<u>4.7</u>
				G3	12:36					<u>4.0</u>
				G4	12:51					<u>5.3</u>
				M1	12:22					<u>5.1</u>
				M2	12:08					<u>7.1</u>
				M3	12:43					<u>9.7</u>
				M4	12:02					<u>9.1</u>
M5	13:10	<u>7.9</u>								

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	1.1	G1	18:02	6.0	6.9	1.3	1.4	<b><u>11.7</u></b>
				G2	17:52					<b><u>9.2</u></b>
				G3	18:05					<b><u>9.9</u></b>
				G4	18:15					<b><u>7.7</u></b>
				M1	17:58	6.2	7.4			<b><u>5.6</u></b>
				M2	17:46					<b><u>3.6</u></b>
				M3	18:10					<b><u>5.4</u></b>
				M4	17:41					<b><u>9.0</u></b>
		M5	18:32	<b><u>4.0</u></b>						
		Bottom	6.1	G2	17:52	6.9	7.9	7.3	7.9	<b><u>8.6</u></b>
				G3	18:05					<b><u>10.1</u></b>
				G4	18:15					<b><u>9.7</u></b>
M5	18:32			<b><u>9.9</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 04 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.7	G1	9:05	3.2	3.5	<u>3.9</u>
						G2	8:53			<u>5.6</u>
						M2	8:47			<u>5.8</u>
						M3	9:14			<u>3.6</u>
						M4	8:41			<u>4.3</u>
						M5	9:31			<u>3.6</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	4.3	G2	12:24	6.0	6.9	5.2	5.6	<u>5.4</u>
				G3	12:42					<u>7.0</u>
				M2	12:19	6.2	7.4			<u>7.7</u>
				M4	12:13					<u>6.4</u>
		Bottom	2.6	G1	12:36	6.9	7.9	3.1	3.4	<u>3.7</u>
				G2	12:24					<u>8.5</u>
				G3	12:42					<u>5.3</u>
				G4	12:52					<u>6.7</u>
	M1			12:30	<u>7.2</u>					
	M3			12:45	<u>6.8</u>					
			M4	12:13					<u>3.2</u>	

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	4.5	G3	9:11	6.0	6.9	5.3	5.8	<b><i>5.8</i></b>
				G4	9:20					<b><i><u>8.1</u></i></b>
				M1	8:58	6.2	7.4			<b><i><u>6.1</u></i></b>
				M2	8:47					<b><i>5.8</i></b>
		Bottom	5.4	M2	8:47	6.9	7.9	6.4	7.0	<b><i><u>10.1</u></i></b>
				M3	9:14					<b><i><u>7.5</u></i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 06 July 2019

**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	3.1	G2	14:25	6.0	6.9	3.7	4.0	<u>5.6</u>
				G3	14:46					<u>6.4</u>
				G4	14:57					<u>8.2</u>
				M2	14:16					<u>4.2</u>
		Bottom	7.7	M3	14:50	6.9	7.9	9.2	10.0	<u>8.7</u>

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.9	G1	8:39	6.0	6.9	4.6	5.0	<b><u>5.5</u></b>
				G2	8:23					<b><u>6.1</u></b>
				G4	8:56					<b><u>7.2</u></b>
				M4	8:09					<b><u>4.9</u></b>
				M5	9:10					<b><u>6.0</u></b>
		Bottom	2.5	G1	8:39	6.9	7.9	3.0	3.3	<b><u>8.6</u></b>
				G2	8:23					<b><u>4.1</u></b>
				G3	8:45					<b><u>4.5</u></b>
				G4	8:56					<b><u>3.7</u></b>
				M1	8:31					<b><u>3.2</u></b>
				M2	8:14					<b><u>3.1</u></b>
				M3	8:50					<b><u>3.4</u></b>
				M4	8:09					<b><u>8.4</u></b>
				M5	9:10					<b><u>3.9</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Landfill Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 08 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.3	G1	16:21	2.8	3.0	<u>4.6</u>
						G2	16:09			<u>3.9</u>
						G4	16:35			<u>4.0</u>
						M1	16:17			<u>4.4</u>
						M2	16:04			<u>6.2</u>
						M5	16:43			<u>4.6</u>
			Mid-Flood	C1	2.3	G1	10:21	2.8	3.0	<u>3.4</u>
						M1	10:17			<u>3.3</u>
						M5	10:43			<u>3.6</u>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Landfill Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	5.8	G1	16:21	6.0	6.9	6.9	7.5	<b>6.5</b>
				M2	16:04	6.2	7.4			<b>9.9</b>
				M3	16:31					<b>8.1</b>
				M4	15:58					<b>8.8</b>
		Bottom	3.5	G1	16:21	6.9	7.9	4.1	4.5	<b>5.5</b>
				G2	16:09					<b>4.8</b>
				G4	16:35					<b>5.7</b>
				M1	16:17					<b>7.5</b>
				M2	16:04					<b>7.2</b>
				M3	16:31					<b>7.3</b>
				M4	15:58					<b>6.1</b>
				M5	16:43					<b>5.9</b>

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	2.3	G1	10:21	6.0	6.9	2.8	3.0	<b><u>8.1</u></b>
				G2	10:09					<b><u>4.1</u></b>
				G3	10:25					<b><u>3.2</u></b>
				G4	10:35					<b><u>4.7</u></b>
				M1	10:17	6.2	7.4			<b><u>4.1</u></b>
				M2	10:04					<b><u>4.8</u></b>
				M3	10:31					<b><u>3.2</u></b>
				M4	9:58					<b><u>4.2</u></b>
		M5	10:43	<b><u>4.9</u></b>						
		Bottom	2.5	G1	10:21	6.9	7.9	2.9	3.2	<b><u>3.0</u></b>
				G2	10:09					<b><u>6.5</u></b>
				G3	10:25					<b><u>6.6</u></b>
				G4	10:35					<b><u>4.7</u></b>
				M1	10:17					<b><u>5.9</u></b>
				M2	10:04					<b><u>7.6</u></b>
				M3	10:31					<b><u>3.5</u></b>
M4	9:58			<b><u>5.5</u></b>						
M5	10:43	<b><u>5.1</u></b>								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring: 10 July 2019**

**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	3.1	G4	18:30	6.0	6.9	3.7	4.0	<u>7.2</u>
				M2	17:59	6.2	7.4			<u>6.3</u>
				M3	18:21					<u>6.2</u>
		Bottom	7.7	G1	18:16	6.9	7.9	9.2	10.0	<u>5.4</u>
				G3	18:18					<u>4.5</u>
				G4	18:30					<u>5.3</u>
	M1			18:10	<u>7.4</u>					

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.9	G1	13:39	6.0	6.9	4.6	5.0	<b><u>3.2</u></b>
				G2	13:28					<b><u>2.8</u></b>
				M1	13:33	6.2	7.4			<b><u>7.4</u></b>
				M2	13:22					<b><u>4.8</u></b>
				M3	13:44					<b><u>3.6</u></b>
				M4	13:15					<b><u>3.7</u></b>
				M5	14:05					<b><u>3.0</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 12 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.9	G1	15:10	2.3	2.5	<u>2.8</u>
						G2	15:01			<u>2.9</u>
						G4	15:22			<u>2.8</u>
						M1	15:06			<u>2.9</u>
						M2	14:57			<u>3.4</u>
						M3	15:18			<u>3.0</u>
						M4	14:54			<u>2.5</u>
						M5	15:29			<u>4.1</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	5.1	G1	8:58	6.0	6.9	6.1	6.6	<u>7.3</u>
				G3	9:03					<u>9.1</u>
				G4	9:09	<u>7.9</u>				
				M4	8:42	6.2	7.4			<u>6.9</u>

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Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.5	G1	15:10	6.0	6.9	4.2	4.6	<b><u>10.5</u></b>		
				G2	15:01					<b><u>5.8</u></b>		
				G3	15:16					<b><u>6.0</u></b>		
				G4	15:22					<b><u>6.3</u></b>		
				M2	14:57					<b><u>5.5</u></b>		
				M4	14:54					<b><u>4.3</u></b>		
		Intake	n.a.	M6	15:25	8.3	8.6	n.a.	n.a.	<b><u>14.7</u></b>		
				Bottom	3.2	G1	15:10	6.9	7.9	3.8	4.2	<b><u>5.8</u></b>
						G2	15:01					<b><u>9.9</u></b>
		G3	15:16			<b><u>4.6</u></b>						
		G4	15:22			<b><u>9.0</u></b>						
		M1	15:06			<b><u>7.8</u></b>						
		M3	15:18	<b><u>7.3</u></b>								
		M4	14:54	<b><u>7.0</u></b>								
		M5	15:29	<b><u>6.2</u></b>								

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 15 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.8	G3	11:55	4.6	5.0	<u>5.1</u>
			Mid-Flood	C1	2.4	G2	17:55	2.8	3.1	<u>3.9</u>
						G3	18:16			<u>5.1</u>
						G4	18:27			<u>4.0</u>
						M1	17:59			<u>2.9</u>
						M3	18:21			<u>4.4</u>
						M5	18:40			<u>4.6</u>



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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	8.1	G2	11:33	6.0	6.9	9.7	10.5	<u>7.2</u>
				G4	12:15					<u>6.4</u>
				M1	11:38					<u>7.5</u>
		Bottom	6.8	G1	11:47	6.9	7.9	8.2	8.8	<u>8.2</u>
				M5	12:26					<u>8.1</u>

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Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	7.3	G1	18:08	6.0	6.9	8.7	9.4	<b><i>6.3</i></b>
				G2	17:55					<b><u>7.6</u></b>
				G3	18:16					<b><i>6.3</i></b>
				M1	17:59					<b><u>8.1</u></b>
				M5	18:40					<b><i>7.1</i></b>
		Bottom	6.7	G2	17:55	6.9	7.9	8.0	8.6	<b><u>8.1</u></b>
				M1	17:59					<b><i>7.4</i></b>
				M5	18:40					<b><i>7.5</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
**Bold Italic with underline** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 17 July 2019

**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	10.0	G1	12:30	6.0	6.9	11.9	12.9	<u>8.0</u>
				G3	12:33					6.7
				G4	12:38					<u>8.0</u>
				M2	12:14					<u>11.2</u>
				M3	12:35					6.5
		M4	12:09	<u>8.2</u>						
		Bottom	9.5	G3	12:33	6.9	7.9	11.4	12.4	<u>9.4</u>
				G4	12:38					<u>9.0</u>
				M1	12:26					<u>8.9</u>
				M3	12:35					7.1
M5	12:45			7.0						

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**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.1	G1	18:41	6.0	6.9	6.1	6.6	<b><u>10.9</u></b>
				G2	18:32					<b><u>7.8</u></b>
				G3	18:44					<b><u>6.5</u></b>
				G4	18:49					<b><u>9.3</u></b>
				M1	18:37					<b><u>7.7</u></b>
				M5	18:56					<b><u>6.6</u></b>
		Bottom	7.9	G1	18:41	6.9	7.9	9.4	10.2	<b><u>8.4</u></b>
				G2	18:32					<b><u>7.1</u></b>
				G4	18:49					<b><u>8.0</u></b>
				M2	18:25					<b><u>10.0</u></b>
				M5	18:56				<b><u>9.0</u></b>	

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 19 July 2019

**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	6.8	M2	8:11	6.2	7.4	8.1	8.8	<u>10.1</u>
				M3	8:46					<u>10.2</u>
		Bottom	7.7	M2	8:11	6.9	7.9	9.2	9.9	<u>8.0</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.5	G1	13:01	6.0	6.9	4.1	4.5	<b><i>6.5</i></b>
				G2	12:51					<b><i>8.5</i></b>
				M1	12:57	6.2	7.4			<b><i>9.9</i></b>
				M4	12:40					<b><i>10.3</i></b>
				M5	13:31					<b><i>7.2</i></b>
		Bottom	4.5	G2	12:51	6.9	7.9	5.4	5.9	<b><i>7.4</i></b>
				G4	13:14					<b><i>6.5</i></b>
				M3	13:09					<b><i>7.6</i></b>
				M4	12:40					<b><i>10.0</i></b>
				M5	13:31					<b><i>5.5</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 22 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.6	G4	14:52	4.3	4.7	<b>4.6</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	5.8	G4	14:52	6.0	6.9	6.9	7.5	<u>14.7</u>
				M4	14:23	6.2	7.4			<u>8.9</u>
		Bottom	4.3	G2	14:31	6.9	7.9	5.2	5.6	<u>10.0</u>
				M1	14:34					<u>7.3</u>



Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.6	G2	9:18	6.0	6.9	4.3	4.7	<b><u>7.4</u></b>
				G4	9:40					<b><u>5.8</u></b>
				M2	9:15					<b>4.4</b>
		Bottom	3.5	G1	9:26	6.9	7.9	4.1	4.5	<b>4.2</b>
				G3	9:31					<b><u>4.8</u></b>
				G4	9:40					<b><u>6.6</u></b>
	M2			9:15	<b><u>9.5</u></b>					
	M3	9:36	<b><u>5.1</u></b>							
	M5	9:48	<b><u>5.0</u></b>							

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 24 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.5	M2	15:38	3.0	3.2	<u><b>3.6</b></u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

Table II: 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	5.6	G1	15:50	6.9	7.9	6.7	7.3	<u>8.3</u>
				G2	15:41					7.3
				M2	15:38					7.3

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	4.7	G2	10:08	6.0	6.9	5.6	6.1	<b><i>7.2</i></b>
				M1	10:13	6.2	7.4			<b><i>6.3</i></b>
				M4	9:57					<b><i>5.7</i></b>
				M5	10:32					<b><i>9.8</i></b>
		Bottom	7.3	G4	10:24	6.9	7.9	8.8	9.5	<b><i>7.2</i></b>
				M5	10:32					<b><i>7.9</i></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Landfill Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 26 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.7	G3	13:39	2.0	2.1	<u>2.1</u>
						G4	13:44			<u>3.6</u>
						M1	13:33			<u>2.9</u>
						M2	13:25			<u>2.2</u>
						M3	13:41			<u>2.2</u>
						M5	13:52			<u>2.9</u>
			Mid-Flood	C1	2.7	G4	8:33	3.3	3.5	3.4

**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	8.4	G3	13:39	6.0	6.9	10.1	10.9	<u>8.0</u>
				M2	13:25	6.2	7.4			<u>6.4</u>
				M4	13:17					<u>8.1</u>
		Bottom	3.7	G1	13:37	6.9	7.9	4.4	4.8	<u>6.6</u>
				G2	13:28					<u>4.9</u>
				G3	13:39					<u>6.2</u>
				G4	13:44					<u>5.2</u>
				M1	13:33					<u>4.5</u>
				M2	13:25					<u>6.2</u>
				M3	13:41					<u>8.6</u>
				M4	13:17					<u>6.3</u>
M5	13:52	<u>5.5</u>								

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	3.3	G1	8:26	6.0	6.9	4.0	4.3	<b><u>5.3</u></b>
				G2	8:17					<b><u>8.6</u></b>
				G3	8:28					<b><u>9.1</u></b>
				G4	8:33					<b><u>9.7</u></b>
				M1	8:22	6.2	7.4			<b><u>4.1</u></b>
				M2	8:14					<b><u>4.1</u></b>
				M3	8:30					<b><u>5.0</u></b>
				M4	8:06					<b><u>4.2</u></b>
		M5	8:41	<b><u>5.6</u></b>						
		Bottom	4.0	G3	8:28	6.9	7.9	4.7	5.1	<b><u>8.9</u></b>
				G4	8:33					<b><u>11.5</u></b>
M2	8:14			<b><u>5.6</u></b>						

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 29 July 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.0	G2	10:21	2.4	2.6	<b>2.6</b>



**Contract No. CE 59/2015 (EP)**

**Environmental Test for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	8.3	G2	10:21	6.0	6.9	10.0	10.8	<u>8.2</u>
				M4	10:09	6.2	7.4			<u>8.4</u>
				M5	11:05					<u>6.4</u>
		Intake	n.a.	M6	10:59	8.3	8.6	n.a.	n.a.	<u>8.9</u>
		Bottom	6.8	G1	10:36	6.9	7.9	8.2	8.8	<u>7.8</u>
				M1	10:29					<u>9.6</u>
				M5	11:05					<u>7.5</u>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Notification of Environmental Quality Limit Exceedances

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	4.8	G1	16:30	6.0	6.9	5.7	6.2	<b><u>11.9</u></b>
				G2	16:17					<b><u>7.2</u></b>
				G4	16:55					<b><u>8.4</u></b>
				M1	16:25	<b><u>7.2</u></b>				
				M2	16:10	<b><u>6.2</u></b>				
				M5	17:08	<b><u>7.5</u></b>				
		Intake	n.a.	M6	17:01	8.3	8.6	n.a.	n.a.	<b><u>10.6</u></b>
		Bottom	6.2	G2	16:17	6.9	7.9	7.4	8.1	<b><u>7.1</u></b>
				G4	16:55					<b><u>9.3</u></b>
				M2	16:10					<b><u>8.3</u></b>
				M5	17:08					<b><u>8.6</u></b>

Note: ***Bold Italic*** means Action Level exceedance  
***Bold Italic with underline*** means Limit Level exceedance

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (July 2019)**

**Part A – Details of Investigation**

Exceedances of turbidity and suspended solid were continuously recorded on the first half of July. High rainfall was recorded in July which resulted in the discharge of high volume of upstream muddy water into the Junk Bay through the outfalls (see photo 1-4, 6-8 & 10). No sand plume within the cofferdam area and no muddy water discharge at the designated discharge point within the Site and away from the works area was identified (see photo 5, 9 & 12) during the site inspection and water quality monitoring. And as part of mitigation measures for marine works, silt curtains and cofferdam are deployed around the marine works area of the Project (see photo 11) and no major deficiency of the conditions of the silt curtain and the cofferdam has been discovered.

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.






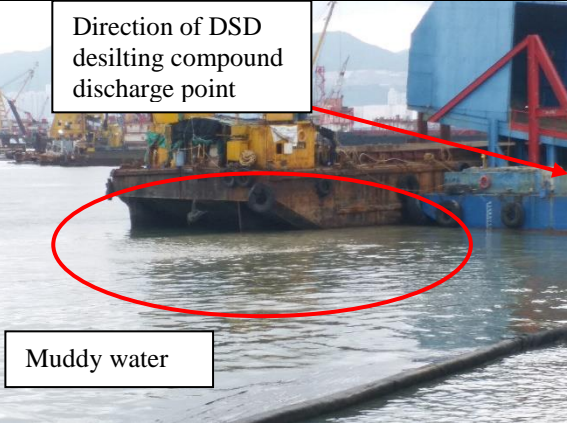
Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lantau Tunnel

Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances (July 2019)

**Part B – Photo Record**







 <p>Outside of the marine construction site area</p>	 <p>Outside of the marine construction site area</p>	 <p>DSD desilting compound discharge point</p>
<p>Photo 1 (Photo taken on 4 July)</p>	<p>Photo 2 (Photo taken on 4 July)</p>	<p>Photo 3 (Photo taken on 4 July)</p>
 <p>Outside of the marine construction site area</p>	 <p>Designated discharge point within the Site</p>	 <p>Direction of DSD desilting compound discharge point</p> <p>Muddy water</p>
<p>Photo 4 (Photo taken on 4 July)</p>	<p>Photo 5 (Photo taken on 4 July)</p>	<p>Photo 6 (Photo taken on 10 July)</p>

Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lantau Tunnel

Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances (July 2019)

 <p>DSD desilting compound discharge point</p> <p>Location of Photo 8</p>		 <p>Away from DSD desilting compound discharge point</p>
<p>Photo 7 (Photo taken on 10 July)</p>	<p>Photo 8 (Photo taken on 10 July)</p>	<p>Photo 9 (Photo taken on 10 July)</p>
 <p>DSD desilting compound</p>	 <p>Outside of the marine construction site area</p>	 <p>Designated discharge point within the Site</p>
<p>Photo 10 (Photo taken on 10 July)</p>	<p>Photo 11 (Photo taken on 11 July)</p>	<p>Photo 12 (Photo taken on 11 July)</p>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lantian Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (July 2019)**

**Part C – Recommendations**

The contractor is reminded to cover the exposed ground with sandbags and tarpaulin and provide appropriate diversion of the received rainwater to the wastewater treatment system within the site, where sufficient storage and treatment capacity should be provided. The conditions of the cofferdam and silt curtain should be monitored and maintained at all times, weekly diver inspections should be conducted to ensure that there are no damages or leakages within the cofferdam and silt curtains.

Reviewed by:



(Environmental Team Leader: Dr. HF Chan)

Date: 19 July, 2019

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**

**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (July 2019)**

**Part A – Details of Investigation**

Exceedances of turbidity and suspended solids was recorded randomly from various monitoring stations in late July 2019. Recent investigation has revealed that the presence of microalgae in the marine waters may have contributed to the turbidity/SS level. With reference to the photo record (Photo 1) of the filter papers for samples collected above, the substance collected by the filter papers appeared greenish in colour. Since the presence of algae in summer is a normal phenomenon especially in the summer, the increase in the recorded SS level could be attributed by the weight of the substances from algae. As microalgae may not be visible to the naked eyes during the marine water quality monitoring, the water sampled during the marine water quality monitoring only appeared clear.

In addition, no discharged of muddy water or sewage within the Site was identified during the site inspection and marine water quality monitoring, and, and as part of mitigation measures for marine works, silt curtains and cofferdam are deployed around the marine works area of the Project and no major deficiency of the conditions of the silt curtain and the cofferdam has been discovered.

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.

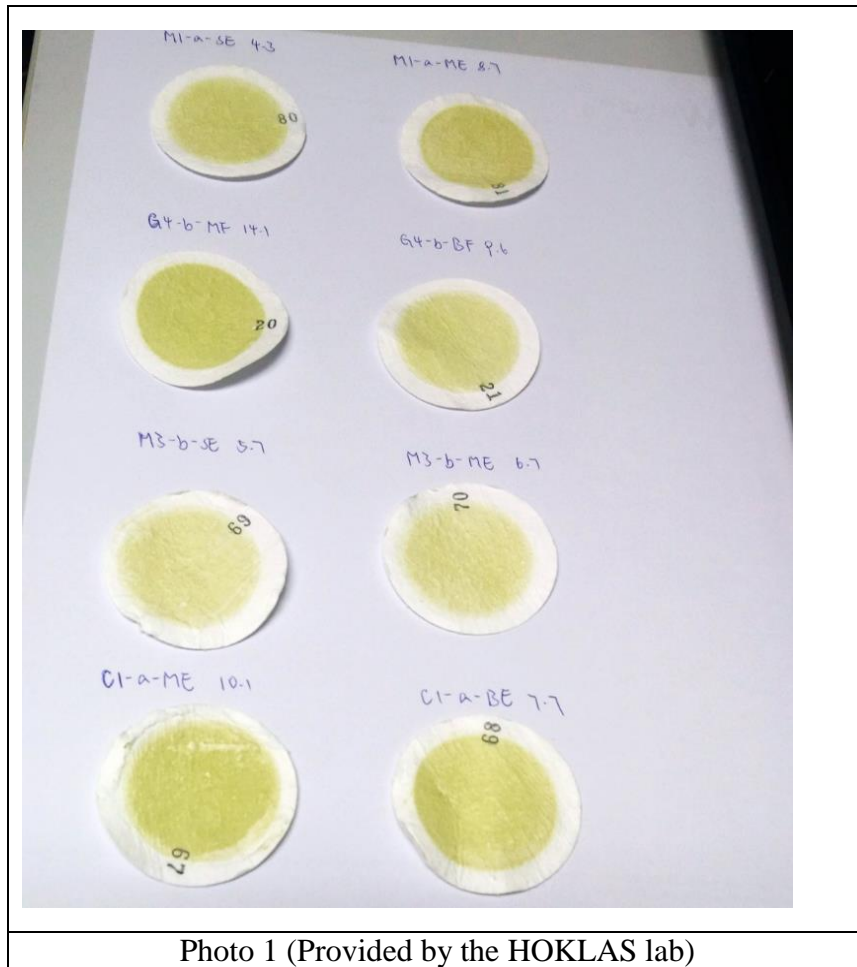
Contract No. CE 59/2015 (EP)

Environmental Test for Tseung Kwan O – Lan Tin Tunnel

Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances (July 2019)

**Part B-Photo Record**





**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lan Tin Tunnel**


**Design and Construction**

**- Investigation Report of Environmental Quality Limit Exceedances (July 2019)**

**Part C – Recommendations**

The contractor is reminded to cover the exposed ground with sandbags and tarpaulin and provide appropriate diversion of the received rainwater to the wastewater treatment system within the site, where sufficient storage and treatment capacity should be provided. The conditions of the cofferdam and silt curtain should be monitored and maintained at all times, weekly diver inspections should be conducted to ensure that there are no damages or leakages within the cofferdam and silt curtains.

Reviewed by:



(Environmental Team Leader: Dr. HF Chan)

Date: 31 July 2019

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**APPENDIX L  
SUMMARIES OF ENVIRONMENTAL  
COMPLAINT, WARNING, SUMMON  
AND NOTIFICATION OF SUCCESSFUL  
PROSECUTION**

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### Appendix L - Cumulative Log for Complaints, Notifications of Summs and Successful Prosecutions

#### Cumulative Complaint Log for Tseung Kwan O - Lam Tin Tunnel

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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 regularly	Draft CIR submitted
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.	Draft CIR submitted
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 PMEs 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 spiting 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.	Draft CIR submitted

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
382 (N08/RE/000 11019-19)	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.	Draft CIR submitted

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
381 (N08/RE/000 15098-19)	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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted.
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.	Draft CIR submitted.

Copllaint No.	Received Date	Date/Location of Copllaint	Copllainant	Nature	Details of Copllaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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 ddismantling 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.	Draft CIR submitted.
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.	Draft CIR submitted.
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.	Draft CIR submitted.
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

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
370 (N08/RE/000 15098-19)	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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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	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.	Draft CIR submitted
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		Draft CIR submitted
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		Draft CIR submitted
362 (N08/RE/000 13396-19)	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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
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		Draft CIR submitted.



Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
358	30-Apr-19	27-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance during evening time.	Y		Draft CIR submitted.
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		Draft CIR submitted.
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		Draft CIR submitted.
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		Draft CIR submitted.
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.	Draft CIR submitted.
		19 Apr 2019 / Cofferdam Area						
		15 Apr 2019 / Cofferdam Area						
		07 Apr 2019 / Cofferdam Area						
		31 Mar 2019 / Cofferdam Area						

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
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.	Draft CIR submitted.
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.	Draft CIR submitted.
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		Draft CIR submitted.
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.	Draft CIR submitted.
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		Draft CIR submitted.

Copllaint No.	Received Date	Date/Location of Copllaint	Copllainant	Nature	Details of Copllaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
348	2-Apr-19	02 Apr 2019 / LTT-TKO	-	Others	The complainant complained the LTT construction site was working during holiday.	N		Draft CIR submitted.
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		Draft CIR submitted.
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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted

Copllaint No.	Received Date	Date/Location of Copllaint	Copllainant	Nature	Details of Copllaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
342	25-Mar-19	24th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction of Lam Tin Interchange in day time hoilday (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.	Draft CIR submitted
341	24-Mar-19	24th March 2019 / Construction of 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		Draft CIR submitted
340	24-Mar-19	24th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction site day time holiday (Sunday).	Y		Draft CIR submitted
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		Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
338	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Ocean Shore	Noise	Construction noise nuisance in night time (03:00 – 04:00)	Y	See Investigation / Mitigation Action for complaint no. 323.	Draft CIR submitted
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.	Draft CIR submitted
336	20-Mar-19	20th March 2019 / Construction of Road	Resident of Park Central	Noise & Pest	Complaint about the noise and pest nuisance from the construction site near Park Central in evening time.	Y		Draft CIR submitted
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 Investigation / Mitigation Action for complaint no. 323.	Draft CIR submitted
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		Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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		Draft CIR submitted
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.	Draft CIR submitted
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		Draft CIR submitted
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		Draft CIR submitted
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.

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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.	Draft CIR submitted
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.	Draft CIR submitted
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.	Draft CIR submitted

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
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.	Draft CIR submitted
323 (EPD-N08/RE/0000 6523-19)	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.	Draft CIR submitted
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 PMEs 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 be 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



Coplnait No.	Received Date	Date/Location of Coplnait	Coplnaitant	Nature	Details of Coplnait	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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). Coplnaitant said the construction should be operated after 08:00.	Y	See Investigation / Mitigation Action for complaint no. 313.	Draft CIR submitted
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		Draft CIR submitted
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		Draft CIR submitted
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.	Draft CIR submitted
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		Draft CIR submitted
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.	Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
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.	Draft CIR submitted
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.	Draft CIR submitted
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

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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	Copland about construction noise (Night time)	Y	See Investigation/ Mitigation Action on Copland no.302. Details should be referred to CIR-N48.	Closed
307	13-Feb-19	13th February 2019 / Construction at Tsueng Kwan O (C1)	Resident of Ocean Shore	Noise	The copland 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.	Draft CIR submitted
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 Copland 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		Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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.	Draft CIR submitted
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. <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
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		Closed
301	31th January 2019	27th - 31th January 2019 / Construction of Lam Tin Interchange	Management Section 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

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
300	30th January 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	30th January 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	30th January 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.	Draft CIR submitted
297	30th January 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

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
296	29th January 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	<p>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"/> To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance;</li> <li><input type="checkbox"/> Frequent checking and repair the operating PME;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP;</li> <li><input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.</li> </ul>	Closed
295	29th January 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	<p>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.</p>	Draft CIR submitted
294	29th January 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	<p>The sulphur content percentage of the adopted diesel fuel was lower than 0.05% which is complied with the Hong Kong Air Pollution Control (Marine Light Diesel) Regulation, therefore the odour problem should be minimised.</p> <p>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.</p> <p>Details should be referred to CIR-A12.</p>	Draft CIR submitted

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
293 (EPD-K15/RE/0000 3291-19)	29th January 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.	Draft CIR submitted
292	29th January 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: <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. <input type="checkbox"/> RE/RSS should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
291	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from breaking work.	Y		Closed
290	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the construction noise from Tunnel Works	Y		Closed
289 (EPD-N08/RE/0000 0859-19)	24th January 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.
288	18th January 2019	18th January 2019 (Unknown)/ 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.	Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
287	17th January 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	<p>Project-related.</p> <p>The following recommendations are made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><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.</li> <li><input type="checkbox"/> Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li><input type="checkbox"/> To provide training for the workers to prevent unnecessary noise disturbance.</li> <li><input type="checkbox"/> To provide cantilever barrier to screen the construction noise from the NSRs</li> </ul>	Closed
286	17th January 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.	Draft CIR submitted
285	17th January 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.	Draft CIR submitted



Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
284	16th January 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.	Draft CIR submitted
283	15th January 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.	Draft CIR submitted
282	15th January 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.	Draft CIR submitted
281	15th January 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.	Draft CIR submitted

Complaint No.	Received Date	Date/Location of Complaint	Coplainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
280	14th January 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.	Draft CIR submitted
279	14th January 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.	Draft CIR submitted
278	12th January 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.	Draft CIR submitted
277	12th January 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

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
276	11th - 12th 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	<p>The complaints are considered as project-related. 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> <p>Details refer to CIR-N40.</p>	Closed
275	11th January 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.	Draft CIR submitted
274 (EPD-N08/RE/0000 1234-19)	11th January 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.	Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
273	10th January 2019	10th 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. 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
272	8th January 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	<p>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.</p>	Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
271	8th January 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. 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/0000 0691-19)	7th January 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; during breaking works.</p>	Draft CIR submitted
269	7th January 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>	Draft CIR submitted

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
268	7th January 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>• Frequent checking and repair the gaps or broken acoustic sheets;</li> <li>• Replace any broken Silent Mat for wrapping the breaker head;</li> <li>• To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li>• The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver;</li> <li>• To continue to strictly follow the requirements in the relevant CNP;</li> <li>• To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and</li> <li>• Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
267	7th January 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	Refer to 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 (Y/N)	Investigation/ Mitigation Action	File Closed
266	7th January 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>• only well-maintained plant on-site and plant should be serviced regularly during the construction program;</li> <li>• 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> <p>Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</p>	Closed

Copllaint No.	Received Date	Date/Location of Copllaint	Copllainant	Nature	Details of Copllaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
265	7th January 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	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>• Frequent checking and repair the gaps or broken acoustic sheets;</li> <li>• Replace any broken Silent Mat for wrapping the breaker head;</li> <li>• To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li>• The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver;</li> <li>• To continue to strictly follow the requirements in the relevant CNP;</li> <li>• To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and</li> <li>• Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	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	<p>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.</p>	Closed



Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File 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	Draft CIR submitted
262	30 <sup>th</sup> December 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 <sup>th</sup> December 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 <sup>th</sup> December 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 <sup>th</sup> December 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

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
258	18 <sup>th</sup> December 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	<p>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.</p> <p><u>Mitigation measures:</u>            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&amp;A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following:</p> <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>• 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> <li>• Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
257	18 <sup>th</sup> December 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 <sup>th</sup> December 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	<p>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)</p> <p>The following recommendations were made for the Contractor to enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li>• To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance;</li> <li>• 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;</li> </ul> <p>To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.</p>	Closed
254	16 <sup>th</sup> December 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	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	Closed

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
253	15 <sup>th</sup> December 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 <sup>th</sup> November 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	<p>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.</p> <p>Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded.</p> <p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>• A more effective acoustic barrier was erected between the drill rig and Park Central.</li> <li>• Frequent water spraying along the Po Yap Road for eight times a day,</li> </ul> <p>Stockpile are covered with impervious material to avoid dust resuspension</p>	Closed
251	28 <sup>th</sup> November 2018	27 <sup>th</sup> November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	<p>The complaint lodged on 25<sup>th</sup> November 2018 is considered as non-project related, as no works was conducted on that day.</p> <p>The complaint on 27<sup>th</sup> 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 equipment to reduce excessive noise disturbance; 2) Ensure no further use of PA system for marine works.</p>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
250	26 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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 <sup>th</sup> November 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

Coplnait No.	Received Date	Date/Location of Coplnait	Coplnaitant	Nature	Details of Coplnait	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
241	6 <sup>th</sup> November 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 <sup>th</sup> November 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
239	25 <sup>th</sup> October 2018	25 <sup>th</sup> October 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about daytime construction noise near Ocean Shore.	Y	<p>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)</p> <p><b>Additional itigation measures adopted by Contractor upon receipt of coplnait:</b></p> <ul style="list-style-type: none"> <li>➤ A more effective acoustic barrier was erected that covered the direct line of sight from the entire Ocean Shore during piling works.</li> </ul> <p><b>Existing Mitigation Measures adopted by Contractor</b></p> <ul style="list-style-type: none"> <li>➤ Silent up barrier was provided for drill rig/vibration hammer. Acoustic barriers was erected along site boundary);</li> <li>➤ Maintenance for acoustic barriers along the site boundary to ensure the integrity effectiveness of sound barrier;</li> <li>➤ Metal chain attached on the vibration hammer was wrapped with rubbery material to reduce the excessive noise produced during piling works.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
238	23 <sup>rd</sup> October 2018	23 <sup>rd</sup> October 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise created by an excavator during morning	Y	See Investigation / Mitigation Measures for Coplain No. 239	Closed
237	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about construction noise at LTI	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
236	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Cha Kwo Ling Village	Noise	Complained about the vibration and noise near	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
235	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI and Portion 4C	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
234	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the Excavator in LTI was not properly wrapped and produce noise nuisance from LTI.	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
233	15 <sup>th</sup> October 2018	15 <sup>th</sup> October 2018/ Lam Tin Interchange	DC member	Noise	Complained about the noise and dust nuisance from LTI	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
232	14 <sup>th</sup> October 2018	14 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during night time	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
231	12 <sup>th</sup> October 2018	12 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
230	11 <sup>th</sup> October 2018	11 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise from rocks unloading in LTI	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed
229	9 <sup>th</sup> October 2018	9 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Bik Lai House, Yau Lai Estate	Noise	Complained about the noise nuisance from LTI, and lack of effective noise barrier.	Y	See Investigation / Mitigation Measures for Coplain No. 227	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
228	9 <sup>th</sup> October 2018	9 <sup>th</sup> October 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
227	3 <sup>rd</sup> October 2018	3 <sup>rd</sup> October 2018/ Lam Tin Interchange	Resident of Yung Lai House, Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during night time	Y	<p>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) and approved Construction Noise Permit (CNP).</p> <p><b>Mitigation Measures adopted by Contractor</b></p> <p><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Noise barriers were repaired to reduce noise nuisance at Portion 4C;</li> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C;</li> </ul> <p>Powered mechanical equipment (PME) for breaker was equipped with noise barriers at Portion 4C.</p>	Closed
226	28 <sup>th</sup> September 2018	28 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about noise nuisance from portion IV	Y	<ul style="list-style-type: none"> <li>➤ See Investigation / Mitigation Measures for Complaint No. 222</li> </ul>	Closed
225	26 <sup>th</sup> September 2018	26 <sup>th</sup> September 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise from rocks unloading in LTI	Y	See Investigation / Mitigation Measures for Complaint No. 218	Closed
224	18 <sup>th</sup> September 2018	18 <sup>th</sup> September 2018/ Construction of Road P2	Public	Noise	Complained about noise nuisance from derrick barge	Y	See Investigation / Mitigation Measures for Complaint No. 219	Closed



Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
223	13 <sup>th</sup> September 2018	9 <sup>th</sup> September 2018/Construction of Portion VII on TKO side	Resident of Ocean Shores	Noise	Complained about noise nuisance from derrick barges	Y	See Investigation / Mitigation Measures for Coplain No. 218	Closed
222	12 <sup>th</sup> September 2018	12 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about the noise nuisance from piling works	Y	<p><b>Mitigation Measures adopted by the Contractor</b></p> <ul style="list-style-type: none"> <li>➤ Acoustics barriers were provided to the vibration hammer for piling works.</li> <li>➤ Maintenance for acoustic barriers on the PME and along the site boundary to ensure the integrity and effectiveness of sound barriers.</li> <li>➤ Regular site checking would be performed to ensure the type and quantity of powered mechanical equipment are in order with the updated Construction Noise Assessment.</li> <li>➤ Acoustics mats were provided to cover the noise source from vibration hammer.</li> <li>➤ The metal chain on vibration hammer was wrapped with rubbery material to minimize sound impact.</li> <li>➤ The schedule for piling works was set with a 5 minutes interval to reduce the accumulated noise level.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
221	11 <sup>th</sup> September 2018	9 <sup>th</sup> September 2018/ Construction of Portion VII on TKO side	Public	Noise	Complained about the noise from broadcasting at barging point	Y	The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&A Manual as follows:  <u>Noise:</u>  Walkie-talkie was used instead of broadcasting to reduce the noise nuisance.	Closed
220	11 <sup>th</sup> September 2018	26 <sup>th</sup> September 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise	Y	➤ See Investigation / Mitigation Measures for Complaint No. 218	Closed
219	7 <sup>th</sup> September 2018	7 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about the noise from sheet piling	Y	<b>Mitigation Measures adopted by the Contractor</b>  <ul style="list-style-type: none"> <li>➤ Silent up barrier was provided for piling works in between vibration hammer and Ocean Shores. Acoustic barriers was erected along site boundary</li> <li>➤ Noise barrier surround the engine of the derrick barge</li> <li>➤ Acoustic material wrapped on vibration hammer for sheet piling works</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
218	6 <sup>th</sup> September 2018	6 <sup>th</sup> September 2018/ Construction in LTI	Public	Noise	Complained about noise nuisance in LTI	Y	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <p><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C;</li> <li>➤ Powered mechanical equipment (PME) for breaker was equipped with noise barriers at Portion 4C.</li> </ul>	Closed
217	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Air Quality	Complained about dark smoke emission from derrick barges.	N	<p>The Contractors has adopted the following environmental mitigation measures to reduce dark smoke nuisance from construction barges since June for dark smoke complaints:</p> <ul style="list-style-type: none"> <li>➤ Smoke filtering tanks were adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell;</li> <li>➤ New engine has been installed on derrick barge to reduce the dark smoke emission.</li> </ul>	Closed
216	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Air Quality	Complained about dark smoke emission from derrick barges.	N	See Investigation / Mitigation Measures for Coplain No. 217	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
215	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Water Quality	Complained about the oil leakage within the cofferdam	N	<p>The Contractors had taken measures to clean up and prevent any further oil spillage for marine works in the future:</p> <ul style="list-style-type: none"> <li>➤ Oil was absorbed and cleared with sorbents</li> <li>➤ Wire was applied with suitable amount of oil to prevent further oil spill</li> <li>➤ Training was provided for frontline staff on applying lubricant oil on wire rope of derrick barge.</li> </ul> <p>The Contractor had implemented environmental measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as below:</p> <ul style="list-style-type: none"> <li>➤ Construction activities should not cause foam, oil, grease, scum, little or other objectionable matter to be present on the water within the site.</li> </ul> <p>Standard good-site practice is adopted to prevent any fuels and solvent entering the nearby watercourses.</p>	Closed
214	4 <sup>th</sup> September 2018	4 <sup>th</sup> September 2018/ Construction of Road P2	Ocean Shores Management Office	Air Quality	Follow up complaint on 21 and 22 August, regarding dark smoke emission from derrick barges.	N	<ul style="list-style-type: none"> <li>➤ See Investigation / Mitigation Measures for Complaint No. 217</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
213	31 <sup>st</sup> August 2018	31 <sup>st</sup> August 2018/ Construction of Lam Tin Interchange	Public	Air Quality	The complainant complained about the dust nuisance at LTI.	N	See Investigation / Mitigation Measures for Complaint No. 207	Closed
212	27 <sup>th</sup> August 2018	27 <sup>th</sup> August 2018/ Construction of Road P2	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from breaker and excavator in LTI.	Y	See Investigation / Mitigation Measures for Complaint No. 203	Closed
211	22 <sup>nd</sup> August 2018	22 <sup>nd</sup> August 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores.	N	See Investigation / Mitigation Measures for Complaint No. 209	Closed
210	21 <sup>st</sup> August 2018	21 <sup>st</sup> August 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores.	N	See Investigation / Mitigation Measures for Complaint No. 209	Closed
209	21 <sup>st</sup> August 2018	20 <sup>th</sup> & 21 <sup>st</sup> August 2018/ Construction of Road P2	DC Member	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores on 20 and 21 of August.	N	<p>The Contractors had implemented environmental mitigation measures to reduce dark smoke nuisance from construction barges to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Additional water filter tank was adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> <li>➤ There were five derrick barges operating on 20 &amp; 22 of August and four of them had water filter installed. The one without water filter was demobilized away from the site on 22 August.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
208	20 <sup>th</sup> August 2018	17 <sup>th</sup> August/ Construction of Road P2	DC Member	Water Quality	The complainant complained that muddy water was discharged from the construction site.	N	<p>Based on the information gathered in the investigation. As the location of muddy discharge was appeared adjoining the Tseung Kwan O DSD Desilting Compound, a high volume of upstream discharge collected from rain events is a possible cause of such muddy discharge event. There are no direct evidence that the muddy discharge near the outfall of DSD Desilting Compound was due to the Project.</p> <p>Measure Taken by the Contractor            The Contractors had taken initiatives to ensure the quality of wastewater discharge from land-based works and to enhance mitigation measure to prevent silt from marine works from entering surrounding waters:</p> <ul style="list-style-type: none"> <li>➤ Additional geotextile was installed between steel tanks to prevent migration of filling materials outside the cofferdam</li> <li>➤ Cofferdams in form of steel tanks filled with aggregated material were covered with geotextile to prevent spillage of silty materials into nearby waters</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
207	18 <sup>th</sup> August 2018	18 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air Quality	The complainant complained about dust nuisance from surface blasting.	N	<p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at following Stations.</p> <p>AM2 – Sai Tso Wan Recreation Ground; AM3 Yau Lai Estate, Bik Lai House.</p> <p>No exceedance was recorded in the above station during August.</p> <p>Mitigation Measures and Follow up Actions by Contractor The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <p>Air Quality:</p> <ul style="list-style-type: none"> <li>➤ Blasting cage were surrounded with impervious material during surface blasting</li> <li>➤ Water spraying was provided at the blasting cage and stone crusher to enhance dust suppression</li> </ul>	Closed
206	13 <sup>th</sup> August 2018	13 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from the breaker at LTI and complained lack of noise barrier.	Y	See Investigation / Mitigation Measures for Coplain No. 203	Closed

<b>Complaint No.</b>	<b>Received Date</b>	<b>Date/Location of Complaint</b>	<b>Complainant</b>	<b>Nature</b>	<b>Details of Complaint</b>	<b>Noise Action Level Exceedance (Y/N)</b>	<b>Investigation/ Mitigation Action</b>	<b>File Closed</b>
205	10 <sup>th</sup> August 2018	10 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance of construction work starting from 7 am and lack of noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 203	Closed
204	9 <sup>th</sup> August 2018	9 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Tak Tin Estate	Noise	The complainant complained about noise nuisance and vibration from blasting activity	Y	<p>According to the EM&amp;A Manual of this Project, weekly noise monitoring in Cha Kwo Ling and Lam Tin during s been carried out at the following Stations.            CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station;            CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong;            CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong.</p> <p>There was no exceedance recorded in the above station during daytime in August.</p>	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
203	9 <sup>th</sup> August 2018	9 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Property Management of Tak Tin Estate	Noise	The complainant complained about the noise nuisance during 8pm	Y	<p>Mitigation Measures and Follow up Actions by Contractor</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <p>Noise:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with noise barriers at Portion 4C</li> </ul> <p>According to the EM&amp;A Manual of this Project, weekly noise monitoring in Cha Kwo Ling and Lam Tin during s been carried out at the following Stations.</p> <p>CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station;</p> <p>CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong;</p> <p>CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong.</p> <p>There was no exceedance recorded in the above station during daytime in August.</p>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
202	1 <sup>st</sup> August 2018	1 <sup>st</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yeung Mei House	Noise	The complainant complained about the construction noise during night-time.	Y	<p>A valid Construction Noise Permit (CNP) (No. GW-RE0421-18) was granted to the Contractor for the construction site at Lam Tin Interchange. The number of excavators that were used on 01 August was covered by the CNP.</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed
201	26 <sup>th</sup> July 2018	26 <sup>th</sup> July 2018 / Construction of P2/D4	Public	Water quality	The complainant complained about the polluted effluent at the nearby surface drain near the construction of elevator.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Sandbags barrier was placed along the working area to prevent direct discharge</li> </ul>	Closed
200	26 <sup>th</sup> July 2018	26 <sup>th</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on 24 <sup>th</sup> July 2018, the situation has yet been addressed.	Y	See Investigation / Mitigation Measures for Complaint No. 197	Closed
199	24 <sup>th</sup> July 2018	23 <sup>rd</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about a yellow breaker working without noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 197	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
	25 <sup>th</sup> July 2018	25 <sup>th</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained about the noise from piling works at Portion IV.	Y	See Investigation / Mitigation Measures for Coplain No. 198	Closed
198	21 <sup>st</sup> July 2018	21 <sup>st</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained about the noise from metal occasionally in the marine works area.	Y	<p>Based on the noise monitoring results in July 2018, no Limit Level Exceedance was recorded at Station CM6(A) and CM7(A). It is considered that no adverse construction noise impact was brought to the nearby sensitive receivers during the construction.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Acoustic box was utilized for breaking works to minimize noise nuisance</li> <li>➤ Acoustic barriers were provided for pre-boring works</li> <li>➤ Regular site checking would be performed to ensure the type and quantity of PME are in order with the updated Construction Noise Assessment.</li> <li>➤ Additional acoustic materials were wrapped around the vibration hammer</li> <li>➤ Quieter plant, i.e. quality powered mechanical equipment was used as far as practicable to minimize noise impact from PME</li> </ul>	Closed

Coplnait No.	Received Date	Date/Location of Coplnait	Coplnaitant	Nature	Details of Coplnait	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
197	21 <sup>st</sup> July 2018	21 <sup>st</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from breaker.	Y	<p>According to the EM&amp;A Manual of this Project, additional weekly noise monitoring in Cha Kwo Ling and Lam Tin during night-time has been carried out at Station CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong, CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong. no Limit Level Exceedance was recorded at Station CM1, CM2 and CM3. The summary of daytime and evening time noise monitoring results which conducted by ET in July and early August 2018 at Station CM1, CM2 and CM3</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed
196	20 <sup>th</sup> July 2018	Not specified / Construction of Lam Tin Interchange	Property Management Office of Hong Pak Court	Air Quality	The complainant complained about the dust problem after blasting work in the afternoon.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Blasting cage were surrounded with impervious material during surface blasting</li> <li>➤ Water spraying was provided at the blasting cage to enhance dust suppression</li> </ul>	Closed

<b>Complaint No.</b>	<b>Received Date</b>	<b>Date/Location of Complaint</b>	<b>Coplainant</b>	<b>Nature</b>	<b>Details of Coplaint</b>	<b>Noise Action Level Exceedance (Y/N)</b>	<b>Investigation/ Mitigation Action</b>	<b>File Closed</b>
195	17 <sup>th</sup> July 2018	16 <sup>th</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained the noise from works area near Ocean Shores	Y	See Investigation / Mitigation Measures for Complaint No. 198	Closed
194	12 <sup>th</sup> July 2018	12 <sup>th</sup> July 2018/ Construction of Road P2/ D4 and Northern Footbridge	Residents of Metrotown	Air Quality	The complainant complained the dusty problem next to Chui Ling Road Substation.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Water spraying was provided at least 8 times a day.</li> <li>➤ Access road was paved to minimize dust emission from truck traffic.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
193	12 <sup>th</sup> July 2018	12 <sup>th</sup> July 2018 / Construction of Road P2	Residents of Metrotown	Air Quality	The complainant complained the dust problem from the partially covered stockpile in Work Area A.	N	<p>According to the information provided and confirmed by the Engineer, loading and unloading of treated sediment was conducted in Work Area A.</p> <p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at Station AM5(A) – Tseung Kwan O DSD Desilting Compound and AM6(A) – Park Central, L1/F Open Space Area. no Action or Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) from 3 to 12 July 2018. It is considered that no adverse air quality impact was brought to the nearby sensitive receivers during the construction period</p> <p>The Contractors had implemented environmental mitigation measures to reduce dust nuisance from construction activities to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Covered the stockpile of treated marine sediment with tarpaulin sheets</li> </ul>	Closed
192	23 <sup>rd</sup> July 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June, 2 <sup>nd</sup> and 3 <sup>rd</sup> July 2018, the complainant complained that the situation has not yet been addressed.	Y	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Replaced and fixed the uneven metal plate on Lei Yue Mun Road near ambulance depot</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
191	3 <sup>rd</sup> July 2018	3 <sup>rd</sup> July 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June, 2 <sup>nd</sup> July 2018, the complainant complained that the situation has not yet been addressed.	Y	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Replaced and fixed the uneven metal plate on Lei Yue Mun Road near ambulance depot</li> </ul> <p>According to the information provided and confirmed by the Engineer, dredging and welding works are conducted on 23 June 2018 during the time of complaint.</p>	Closed
	2 <sup>nd</sup> July 2018	2 <sup>nd</sup> July 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June 2018, the complainant complained that the situation has not yet been addressed.	Y		Closed
	27 <sup>th</sup> June 2018	26 <sup>th</sup> and 27 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained the construction noise at Lam Tin Interchange during night-time.	Y	<p>The Contractors had implemented environmental mitigation measures to reduce odour nuisance from construction activities to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Air blowers were provided at the location where welding works to be carried out to dilute the smell</li> <li>➤ Additional water filter tank was adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> </ul>	Closed
	25 <sup>th</sup> June 2018	23 <sup>rd</sup> June 2018/ Construction of Road P2	Public	Air Quality	The complainant complained the dark smoke emission from construction barge and the smell from welding works.	N		Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
190	22 <sup>nd</sup> June 2018	Not Specific/ Construction of Lam Tin Interchange	Public	Waste Management	The complainant complained about the housekeeping of the construction site.	N	<p>From the Daily Record Summary provided by the Contractor and confirmation by the RE, there was no irregularity, and together with the site inspection conducted by the environmental team in June, construction waste on pavement was not observed.</p> <p>Despite, the Contractor was reminded to follow the relevant mitigation measures related to waste management:</p> <ul style="list-style-type: none"> <li>➤ Ensure trucks have enclosed the containers before leaving the site to reduce the impact during transportation (Photo 3);</li> <li>➤ Training of site personnel in proper waste management and chemical handling procedures to ensure proper disposal of construction waste;</li> <li>➤ Proper storage and site practices to minimize the potential for damage or contamination of construction materials</li> </ul>	Closed
189	20 <sup>th</sup> June 2018	28 <sup>th</sup> May 2018/ Construction of Road P2	SKDC member	Air Quality	The complainant complained the dark smoke emission from the same construction vessel.	N	See Investigation / Mitigation Measures for Complaint No. 181.	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
188	20 <sup>th</sup> June 2018	20 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about construction noise starting from 6 am.	Y	<p>The construction activities in Lam Tin Interchange (Work site No.101) on 20th of June possessed of 6 no. of excavators between 7-8 am, 6 no. of breakers, excavator mounted between 8-10 am. The quantity of excavators and breakers were consistent with the Construction Noise Mitigation Plan (Construction Activity Group 1.1)</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
187	7 <sup>th</sup> June 2018	7 <sup>th</sup> June 2018/ Construction of Road P2	Resident of Ocean Shores	Air Quality	The complainant complained about the smell of machinery exhaust affecting the podium of Ocean Shores (swimming pool). The complainant suspected the exhaust was originated from the nearby barges.	N	<p>According to the information provided and confirmed by the Engineer, dredging works and placing rock fill were conducted during the time of complaint. Dredger, derrick barge, tug boat and hopper barge were being operated for the mentioned works.</p> <p>According to the site inspections conducted by ET and IEC in May and June 2018, no exhausted smell from construction vessel was identified in Portion IV, VII and IX.</p> <p>The Contractors had implemented environmental mitigation measures to minimize the air nuisance to the nearby sensitive receivers as follows:  <u>Odour Emission from Exhausted Gas:</u></p> <ul style="list-style-type: none"> <li>➤ Additional water filter tank was adopted on the deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> </ul>	Closed
186	6 <sup>th</sup> June 2018	6 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Chung Pak House, Hong Pak Court	Noise	The complainant complained about the construction noise at Lam Tin Interchange.	Y	A valid Construction Noise Permit (CNP) (No. GW-RE0278-18) was granted to the Contractor for the construction site at Lam Tin Interchange. The number of excavator and dump trucks that were used on 6 June were covered by the CNP.	Closed
185	6 <sup>th</sup> June 2018	30 <sup>th</sup> May and 30 <sup>th</sup> September 2017/ Construction of Road P2	SKDC member	Noise	The complainant complained about the noise affecting nearby resident in early morning near Ocean Shores.	Y	See Investigation / Mitigation Measures for Complaint No. 50 and 81.	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
184	6 <sup>th</sup> June 2018	Not specified / Construction of Road P2	SKDC member	Landscape	The complainant complained about excessive tree felling near Ocean Shores.	N	<p>According to the information provided and confirmed by the Engineer, tree removal application for the concerned area has granted approval from District Lands Office (DLO) on 1 August 2017 and 18 April 2018 together with the tree compensatory plans. The felling of a total of 85 trees at the concerned area were in accordance with the approved tree removal application by the DLO. None of them are registered Old and Valuable Tree and neither of them are rare nor endangered species. The number of retained trees at the concerned location complies with the latest tree removal application.</p> <p>The Contractor had taken initiatives to minimize nuisance from construction works to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Tree protection zones were established and surrounded by fences to protect retained trees adjacent to the construction area.</li> <li>➤ Tree protection zone were free of machinery and material that are likely to be injurious to the tree.</li> <li>➤ Regular tree assessments were conducted by qualified Arborist to monitor the condition of retained trees.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
183	4 <sup>th</sup> June 2018	4 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	N/A	The complainant complained about the blasting works during night-time.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures”</p> <ul style="list-style-type: none"> <li>➤ Ensured blasting doors were closed while blasting associated works was undertaken in the tunnel</li> <li>➤ Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel</li> </ul>	Closed
182	1 <sup>st</sup> June 2018	Not specified/ Construction of Lam Tin Interchange	Sin Fat Road Tennis Court	Air Quality	The complainant complained about the dust	N	<p>The Contractor had taken initiatives to minimize nuisance from construction works to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Frequent water spraying along the slope area at LTI.</li> <li>➤ Tarpaulin sheets were provided along the slope adjacent to the tennis court during preparation of surface blasting.</li> </ul>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
181	29 <sup>th</sup> May 2018	Not specified/ Construction of Road P2	Public	Air Quality	The complainant complained about the black smoke emission from the construction vessel.	N	<p>According to the information provided and confirmed by the Engineer, dredging and placing rock fill material were conducted during the time of complaint.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p><u>Air Quality:</u></p> <p>As confirmed by the Engineer, the concerned s removed off site for further maintenance;</p> <p>Additional water filter tank was adopted to mission of dark smoke and exhaust.</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
180	25 <sup>th</sup> May 2018	24 <sup>th</sup> May 2018/ Construction of Road P2	SKDC member Mr. Cheung Chin Pang	Odour	The complainant complained about smell of exhaust gas affecting high level residents (60/F and above) of Metrotown Tower 10.	N	<p>According to the information provided and confirmed by the Engineer, modification of temporary marine platform and welding works were conducted during the time of complaint.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p><u>Air Quality:</u></p> <p>Additional water filter tank was adopted to mission of dark smoke and exhaust.</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
179	24 <sup>th</sup> May 2018	24 <sup>th</sup> May 2018/ Construction of Northern footbridge, Road P2/D4 and Road P2	Public	Air Quality	The complainant complained construction dust generated from the CEDD construction works site between Tong Yin Street and Tiu Keng Leng Sport Centre (Po Yap Road) as a result of insufficient dust suppression measures	N	<p>According to the information provided and confirmed by the Engineer, construction works including steel bar fixing, scaffolding, trimming formation level, compaction, removal of road marking and handling of treated sediment were conducted during the time of complaint.</p> <p>As shown in the Air Quality Monitoring Results, no Action/ Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) in May 2018. It is considered that no adverse construction dust impact was brought to the nearby sensitive receivers during the construction period of this Project</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:            raying was provided at least 8 times a day;            near public access was hard paved;            e in Work Area A was covered except the operating area</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Copllaint No.	Received Date	Date/Location of Copllaint	Copllainant	Nature	Details of Copllaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
178	23 <sup>rd</sup> May 2018	22 <sup>nd</sup> May 2018/ Construction of TKO Portal	Public	N/A	The complainant complained construction works was carried out on 22 May (which was a public holiday) around 1500 hour at the sea area near Ocean shore Block 2.	N	<p>According to the information provided and confirmed by the Engineer, modification of temporary marine platform and welding works were conducted during the time of complaint.</p> <p>One valid Construction Noise Permit (CNP) (No. GE-RE0309-18) was granted to the Contractor (Leighton – China State Joint Venture) (Contract No. NE/2015/01) for the marine construction site near Ocean Shores. According to the CNP, Group O to T of the PME listed in condition 3.a. are allowed to operate during general holiday (including Sunday) from 0900 – 2300 hours.</p> <p>As confirmed by the Engineer, only a group of PME (listed in Group Q) was operated during the time of complaint. No welding machine was operated in Zone A. No derrick barge and flat top barge were operated beyond Zone C.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p><u>Noise:</u></p> <p>Preinstalled speaker was used on derrick barge to minimize the noise disturbance from on-site communication.</p> <p>The Engineer and the Environmental Team advised the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by construction works to the nearby residents.</p>	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
177	22 <sup>nd</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air Quality & Noise	The complainant complained about the dust nuisance and construction noise at Lam Tin Interchange	Y	<p>According to the Engineer's Site Diaries, the major construction activities performed in May 2018 included rock breaking, drilling and excavation at Lam Tin Interchange. Construction works for night-time included blasting and excavation.</p> <p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at Station AM2 – Sai Tso Wan Recreation Ground and AM3 – Yau Lai Estate, Bik Lai House. Based on the Air Quality Monitoring Results which conducted by ET, no Action or Limit Level Exceedance was recorded at Station AM2 and AM3. It is considered that no adverse air quality impact was brought to the nearby sensitive receivers during the time of complaint.</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the "Implementation Schedule of Proposed Mitigation Measures" of EM&amp;A Manual as follows:</p> <p><u>Air Quality:</u></p> <p>water spraying on unpaved area and haul roads at Lam change</p> <p>Noise:</p> <ul style="list-style-type: none"> <li>➤ Ensured blasting doors were closed while blasting associated works was undertaken in the tunnel</li> <li>➤ Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel</li> <li>➤ Erected movable cantilever noise barriers and the breaker head was wrapped with Silent Mat and TMD;</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
							<ul style="list-style-type: none"> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> <li>➤ Drill rig was covered with Silent Mat and TMR</li> </ul> <p>The environmental conditions of the site and the control of works will be continuously reviewed and monitored by the Engineer and the Environmental Team.</p>	

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
176	21 <sup>st</sup> May 2018	21 <sup>st</sup> May 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about dust/dirt being brought onto Tong Yin Street by the vehicles travelling to and from TKO-LTT construction site, causing dust problem and air nuisance.	N	<p>According to the information confirmed by the Engineer, all dump trucks were covered and wheel washed before leaving the works site on 21 May 2018.</p> <p>As shown in the Air Quality Monitoring Results, no Action/ Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) in May 2018. It is considered that no adverse construction dust impact was brought to the nearby sensitive receivers during the construction period of this Project</p> <p>The Contractors had implemented environmental mitigation measures to minimize the noise nuisance to the nearby noise sensitive receivers as follows: Water spraying was provided at least 8 times a day. Street washing truck would be provided once a week to clean the dust on the public street. Additional notice would be set up to remind the truck driver to perform wheel-washing properly before leaving site. Deployed staff at the access to check the dump trucks to ensure the dump truck are properly covered and wheel-washed before leaving site.</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed
175	19 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during nighttime.	Y	See Investigation / Mitigation Measures for Coplain No. 160.	Closed

Copland No.	Received Date	Date/Location of Copland	Coplandant	Nature	Details of Copland	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
174	19 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during nighttime.	Y	See Investigation / Mitigation Measures for Copland No. 160.	Closed
173	16 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court,	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during night-time.	Y	See Investigation / Mitigation Measures for Copland No. 160.	Closed
172	15 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Copland No. 165.	Closed
171	15 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate, Bik Lai Estate	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Copland No. 165.	Closed
170	15 <sup>th</sup> May 2018	Not specified/ Construction site near Cha Kwo Ling Tsuen	Anonymous	Noise	The complainant complained the noise nuisance due to the construction work near Cha Kwo Ling Tsuen during night-time.	Y	See Investigation / Mitigation Measures for Copland No. 165.	Closed

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
169	14 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Kowloon East District Council Member Mr. Tam Man Ho	Noise	The complainant complained the noise nuisance due to the construction work and night time blasting works at the Lam Tin Interchange.	Y	<p>According to the latest CNMP of this Contract, the subgroups of work activities undertaken near noise sensitive receivers in the reporting period:</p> <p>The construction activities of Lam Tin Interchange (Work site No.101) on 14th of May 2018 possessed of 6 no. of breakers, excavator mounted which were consistent with the quantities of breaker in the Construction Noise Mitigation Plan (Construction Activity Group1.1)</p> <p><u>Noise:</u> Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel; Erected movable cantilever noise barriers and the breaker head was wrapped with Silent Mat and TMD; Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat;</p> <p>As shown by the Noise Monitoring Results conducted by ET, no Limit Level Exceedance was recorded at Station CM1, CM2, CM3 and CM4. The summary of noise monitoring results which conducted by ETL in May 2018 at Station CM1, CM2, CM3 and CM4.</p> <p>The environmental conditions of the site and the control of works will be continuously reviewed and monitored by the Engineer and the Environmental Team.</p>	Closed
168	14 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate, Yung Lai House	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during night-time.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed

<b>Complaint No.</b>	<b>Received Date</b>	<b>Date/Location of Complaint</b>	<b>Coplainant</b>	<b>Nature</b>	<b>Details of Complaint</b>	<b>Noise Action Level Exceedance (Y/N)</b>	<b>Investigation/ Mitigation Action</b>	<b>File Closed</b>
167	13 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court, Chung Pak House	Noise	The complainant complained the noise nuisance due to the construction work on Sunday morning and night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed
166	13 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Noise nuisance due to the construction work at around 5:00 am and night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
165	13 <sup>th</sup> May 2018	13 <sup>th</sup> May 2018/ Construction of Lam Tin Interchange	Property Management Office of Hong Nga Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange on 13 <sup>th</sup> May 2018 (Sunday morning).	Y	<p>A valid Construction Noise Permit (CNP) (No. GW-RE0278-18) was granted to the Contractor for the construction site at Lam Tin Interchange (location of construction site is shown in Figure 1). According to the conditions in the CNP, only one group among Group A to R of the powered mechanical equipment is allowed to be operated during 0800-2300 hours on general holidays (including Sundays); and 1900-2300 hours on any day not being a general holiday. The number of excavators, dump trucks, craned lorry and breakers that were used on 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup> &amp; 22<sup>nd</sup> of May were covered by the CNP.</p> <p>Other good site practices recommended in the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual and the Noise Mitigation Plan of this Contract had been implemented by the Contractor, including the following:</p> <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>• Mobile plant, if any, should be sited as far away from NSRs as possible;</li> <li>• Plants 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> </ul> <p>As shown by the Noise Monitoring Results conducted by ET, no Limit Level Exceedance was recorded at Station CM1, CM2, CM3 and CM4. The summary of noise monitoring results which conducted by ETL in May 2018 at Station CM1, CM2, CM3 and CM4.</p>	Closed

<b>Complaint No.</b>	<b>Received Date</b>	<b>Date/Location of Complaint</b>	<b>Complainant</b>	<b>Nature</b>	<b>Details of Complaint</b>	<b>Noise Action Level Exceedance (Y/N)</b>	<b>Investigation/ Mitigation Action</b>	<b>File Closed</b>
164	12 <sup>th</sup> May 2018	12 <sup>th</sup> May 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
163	12 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
162	11 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Lung Pak House	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
161	9 <sup>th</sup> May 2018	9 <sup>th</sup> May 2018 / Construction of Road P2	Resident of Ocean Shore	Air Quality	The complainant complained about dark smoke emission from a barge working at the sea area under TKO-LTT project near Block 2 of Ocean Shore.	N	<p>According to the information provided and confirmed by the Engineer, loading and unloading of marine sediment was conducted during the time of complaint</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Additional water filter tank was adopted to reduce emission of dark smoke and exhaust smell.</li> </ul> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	

Coplain No.	Received Date	Date/Location of Coplain	Coplainant	Nature	Details of Coplain	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	File Closed
160	4 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Public	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	<p>According to the Engineer's Site Diaries, the major construction activities performed in May 2018 included rock breaking, drilling and excavation at Lam Tin Interchange. Construction works for night-time included blasting and excavation.</p> <p>The operation of charging unit during the time of complaint was covered by the CNP. Therefore, no violation of CNP (No. GW-RE0278-18) conditions was observed during the time of complaint. No exceedance was recorded in noise monitoring.</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the "Implementation Schedule of Proposed Mitigation Measures" of EM&amp;A Manual as follows:</p> <p><u>Air Quality:</u></p> <p>Frequent water spraying on unpaved area and haul roads at Lam Tin;</p> <p><u>Noise:</u></p> <p>Ensured blasting doors were closed while blasting associated works was undertaken in the tunnel;</p> <p>Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel;</p> <p>Erected movable cantilever noise barriers and the breaker head was wrapped with Silent Mat and TMD;</p> <p>Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat;</p> <p>Drill rig was covered with Silent Mat and TMR.</p>	

**Cumulative Complaint Log since commencement of Project**

Reporting Month	Number of Complaints in Reporting Month	Number of Sums in Reporting Month	Number of Prosecutions in Reporting Month
November 2016	0	0	0
December 2016	11	0	0
January 2017	15	0	0
February 2017	4	0	0
March 2017	6	0	0
April 2017	1	0	0
May 2017	10	0	0
June 2017	8	0	0
July 2017	3	0	0
August 2017	8	0	0
September 2017	14	0	0
October 2017	8	0	0
November 2017	12	0	0
December 2017	10	1	0
January 2018	11	0	0
February 2018	6	0	0
March 2018	17	0	0
April 2018	15	0	0
May 2018	22	0	0
June 2018	11	0	1
July 2018	9	0	0
August 2018	12	0	0
September 2018	11	0	0
October 2018	13	0	0
November 2018	13	0	0

Reporting Month	Number of Complaints in Reporting Month	Number of Sums in Reporting Month	Number of Prosecutions in Reporting Month
December 2018	10	0	0
January 2019	39	0	0
February 2019	20	0	0
March 2019	25	0	0
April 2019	17 <sup>1</sup>	0	0
May 2019	11	0	0
June 2019	11	0	0
July 2019	6	0	0
<b>Total</b>	<b>389</b>	<b>1</b>	<b>1</b>

1. Complaint No. 378, 363, 362 were received after the submission of EMA Monthly Report (April 2019)

**Cumulative Log for Notifications of Sums**

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	KTS24 138/20 17	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 Mar 2018	0	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--

**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	KTS24 138/20 17	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	--	--	--	--	--	--

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**APPENDIX M  
SUMMARY TABLE FOR MAJOR SITE  
ACTIVITIES UNDERTAKEN IN THE  
REPORTING QUARTER**

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**Appendix M - Summary Table for Major Site Activities undertaken in the Reporting Quarter**

Contract	Site Area	Site Activities		
		May 2019	June 2019	July 2019
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</li> <li>2. Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 &amp; Area 5</li> </ol>	<ol style="list-style-type: none"> <li>1. EHC2 U-Trough</li> <li>2. Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 &amp; Area 5</li> <li>3. Administration Building</li> </ol>	<ol style="list-style-type: none"> <li>1. EHC2 U-Trough</li> <li>2. Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 &amp; Area 5</li> <li>3. Administration Building</li> </ol>
	Main Tunnel	<ol style="list-style-type: none"> <li>1) Main tunnel Excavation</li> <li>2) Main tunnel Lining Works</li> </ol>	<ol style="list-style-type: none"> <li>1) Main tunnel Excavation</li> <li>2) Main tunnel Lining Works</li> </ol>	<ol style="list-style-type: none"> <li>1) Main tunnel Excavation</li> <li>2) Main tunnel Lining Works</li> </ol>
	TKO Interchange	<ol style="list-style-type: none"> <li>1) Haul Road Construction, Site Formation and Slope Works</li> <li>2) Steel Platform for Bridge Construction</li> <li>3) Cavern Excavation</li> </ol>	<ol style="list-style-type: none"> <li>1) Haul Road Construction, Site Formation and Slope Works</li> <li>2) Steel Platform for Bridge Construction</li> <li>3) Cavern Excavation</li> </ol>	<ol style="list-style-type: none"> <li>1) Haul Road Construction, Site Formation and Slope Works</li> <li>2) Steel Platform for Bridge Construction</li> <li>3) Cavern Excavation</li> </ol>
NE/2015/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	General	<ol style="list-style-type: none"> <li>1) Excavation of U-trough CH318.00 – CH363.50</li> <li>2) Backfilling of 2100 pipe</li> <li>3) Fabrication of ELS members for proposed ELS system at CH318.00 – CH 363.50</li> <li>4) Street lighting duct installation works at Portion IV near Ocean Shores EVA</li> <li>5) Backfilling of P2A retaining wall</li> <li>6) ELS works for CH318 –</li> </ol>	<ol style="list-style-type: none"> <li>1) Backfilling works at P2 U-trough CH411 – CH500</li> <li>2) Backfilling work of pipe trench for 2100 storm water drain pipe at Portion VII</li> <li>3) Fabrication of ELS members for proposed ELS system at CH318.00 – CH363.50</li> <li>4) Backfilling of P2A retaining wall</li> <li>5) ELS works for CH318 – CH363.50</li> </ol>	<ol style="list-style-type: none"> <li>1) Backfilling works at P2 U-trough CH411 – CH500</li> <li>2) Backfilling work of pipe trench for 2100 storm water drain pipe at Portion VII</li> <li>3) Fabrication of ELS members for proposed ELS system at CH318.00 – CH363.50</li> <li>4) Backfilling of P2A retaining wall</li> <li>5) ELS works for CH318 – CH363.50</li> </ol>

		<p>CH363.50</p> <p>7) Construction of manhole for 2100 pipe (upper part)</p> <p>8) Construction of irrigation pipe at Portion IV adjacent to Ocean Shores EVA</p> <p>9) Construction of pillow box and ducting system at Portion IV adjacent to Ocean Shores EVA</p> <p>10) Construction of utility trough at road P2 (land section)</p> <p>11) CCTV works for completed 2100 pipe</p> <p>12) Site formation at existing land</p> <p>13) Surcharging at surcharge Area 1b1, 1b2, 2a1</p> <p>14) Backfilling of surcharge Area 2a2</p> <p>15) Reclamation works at Portion IX</p> <p>16) Reinstatement of seawall at Portion VII</p> <p>17) Pre-drilling at P2 CH105 – CH264</p> <p>18) Pre-boring at P2 H-pile CH105 – CH305</p> <p>19) ELS at P2 CH105 – CH318</p>	<p>6) Construction of manhole for 2100 pipe (upper part)</p> <p>7) CCTV and air test works for 2100 pipe</p> <p>8) Installation of irrigation system at Portion IV near Ocean Shore EVA</p> <p>9) Site formation works and drainage for Road P2 CH500-CH650</p> <p>10) Removal of sheet pile at Retaining Wall P2A</p> <p>11) Reclamation works at Portion IX</p> <p>12) Reinstatement of existing seawall at Portion VII</p> <p>13) Pipe pile wall for modification of existing seawall of Portion V</p> <p>14) Pre-drilling at P2 CH105 – CH264</p> <p>15) Installation of socket H-pile at P2 CH105 – CH318</p> <p>16) Pre-boring for s/p installation at P2 CH105 – CH318</p> <p>17) Installation of interlock pipe pile wall</p> <p>18) Surcharging of surcharge zone</p>	<p>6) Construction of manhole for 2100 pipe (upper part)</p> <p>7) CCTV and air test works for 2100 pipe</p> <p>8) Installation of irrigation system at Portion IV near Ocean Shore EVA</p> <p>9) Site formation works and drainage for Road P2 CH500-CH650</p> <p>10) Removal of sheet pile at Retaining Wall P2A</p> <p>11) Structure works for U-trough CH318 – CH363.50</p> <p>12) Reclamation works at Portion IX</p> <p>13) Reinstatement of existing seawall at Portion VII</p> <p>14) Pipe pile wall for modification of existing seawall of Portion V</p> <p>15) Installation of socket H-pile at P2 CH105 – CH318</p> <p>16) Pre-boring for s/p installation at P2 CH105 – CH318</p> <p>17) Installation of interlock pipe pile wall</p> <p>18) Surcharging of surcharge zone</p>
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		(Pre-boring for s/p installation and interlock pipe pile installation)	1b1, 1b2, 2a1 – 2a3	1b1, 1b2, 2a1 – 2a3, 2b1
NE/2015/03 – Tsueng Kwan O – Lam Tin Tunnel – Northern Footbridge	General	<ol style="list-style-type: none"> <li>1) Installation of kalzip roofing systems on main deck</li> <li>2) Laying Cable Ducts between pillar box and sump pit</li> <li>3) Installation of subframe of edge cladding on main deck</li> </ol>	<ol style="list-style-type: none"> <li>1) Installation of kalzip roofing systems on main deck</li> <li>2) E&amp;M inside Pillar box</li> </ol>	<ol style="list-style-type: none"> <li>1) Installation of false ceiling</li> <li>2) Installation of kalzip panel ,cladding &amp; fall arrest system</li> <li>3) Construction of retaining wall</li> </ol>
NE/2017/01 – Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	General	<ol style="list-style-type: none"> <li>1) Installation of Precast Pile Cap Shell</li> <li>2) Pre-drilling</li> <li>3) Bored Piling</li> <li>4) Dismantling Works for Temporary Working Platform</li> <li>5) Construction of Temporary Working Platform</li> </ol>	<ol style="list-style-type: none"> <li>1) Installation of Precast Pile Cap Shell</li> <li>2) Pre-drilling</li> <li>3) Bored Piling</li> <li>4) Dismantling Works for Temporary Working Platform</li> <li>5) Construction of Temporary Working Platform</li> </ol>	<ol style="list-style-type: none"> <li>1) Installation of Precast Pile Cap Shell</li> <li>2) Dismantling Works for Temporary Working Platform</li> </ol>
NE/2017/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	General	<ol style="list-style-type: none"> <li>1) Trial pit</li> <li>2) Underground utilities detection</li> <li>3) Temporary traffic arrangement Setup</li> <li>4) Construction of Temporary carriageway</li> <li>5) Modification of traffic Island</li> <li>6) Bored Piles</li> <li>7) Predrilling</li> <li>8) Construction of Temporary</li> </ol>	<ol style="list-style-type: none"> <li>1) Trial pit</li> <li>2) Underground utilities detection</li> <li>3) Temporary traffic arrangement Setup</li> <li>4) Bored Piles</li> <li>5) Predrilling</li> <li>6) Construction of Temporary cycle track</li> <li>7) Construction of drainage and watermain</li> </ol>	<ol style="list-style-type: none"> <li>1) Trial pit</li> <li>2) Underground utilities detection</li> <li>3) Temporary traffic arrangement Setup</li> <li>4) Pile Cap construction</li> <li>5) Construction of drainage and watermain</li> <li>6) Predrilling</li> <li>7) Bored Piles Works</li> </ol>

		<p>cycle track</p> <p>9) Construction of drainage and watermain</p>	8) Pile Cap construction	
<p>NE/2017/06 –</p> <p>Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works</p>	General	<p>1) Erection of Contractor’s site accommodation and project signboard at Po Yap Road, Tseung Kwan O</p>	<p>1) Erection of Contractor’s site accommodation and project signboard at Po Yap Road, Tseung Kwan O</p>	<p>1) Nil</p>

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**APPENDIX N**  
**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
	<p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring.</p>			



**Event and Action Plan for Marine Water Quality**

<b>Event</b>	<b>Action</b>			
	<b>ET</b>	<b>IEC</b>	<b>ER</b>	<b>CONTRACTOR</b>
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 O**  
**ECOLOGICAL MONITORING**

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## **App O – Ecological Monitoring**

Reporting Period: May 2019 – July 2019

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