


**Contract No. DC/2009/24  
HATS Stage 2A – Upgrading of  
Preliminary Treatment Works at  
Sandy Bay, Cyberport, Wah Fu,  
Aberdeen and Ap Lei Chau**

**Quarterly Environmental  
Monitoring and Audit Report  
January to March 2019**

**(Version 1.0)**

Certified By   
(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.

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

**WELLAB LTD**  
Room 1701, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong  
Tel: (852) 2898 7388 Fax: (852) 2898 7076  
Email: wellab@wellab.com.hk

CE/Harbour Area Treatment Scheme  
Drainage Services Department  
Sewage Services Branch  
Harbour Area Treatment Scheme Division  
5/F, Western Magistracy  
2A Pokfulam Road, Hong Kong

Attn: Mr. K K Kam

**Agreement No. CE 8/2009(EP) Harbour Area Treatment Scheme Stage 2A  
Independent Environmental Checker for Construction Phase – Investigation**

**Our Reference**  
EC/AFK/DC/bw/  
T261332/22.01/L-1392

**Contract No. DC/2009/24 – Upgrading of Preliminary Treatment Works at  
Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau**

3/F Mapletree Bay Point  
348 Kwun Tong Road  
Kowloon  
Hong Kong

**Submission of 29<sup>th</sup> Quarterly EM&A Report for January to March 2019 (v1.0)**

T +852 2828 5757  
F +852 2827 1823  
mottmac.hk

29 May 2019

**By Post**

Dear Sir,

We refer to the captioned Quarterly EM&A Report for January to March 2019 (v1.0) received on 27 May 2019 and confirm that we have no comment.

Yours faithfully  
for MOTT MACDONALD HONG KONG LIMITED



Ir Dr Anne F Kerr  
Independent Environmental Checker  
T +852 2828 5757  
anne.kerr@mottmac.com

c.c.

Ove Arup & Partners HK Limited  
Leader – JEC JV  
Wellab Limited

Mr. Jeremy Mark Sparrow      Fax: 2370 4377  
Mr. Kelvin Cheung / Ms. S P Ngan      By email  
Dr. Priscilla Choy      By email

# TABLE OF CONTENTS

	Page
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction .....	1
Environmental Monitoring Works .....	1
Air Quality and Noise (General Context) .....	2
Noise (Sandy Bay PTW).....	2
Air Quality and Noise (Cyberport PTW) .....	2
Air Quality and Noise (Wah Fu PTW) .....	3
Environmental Complaint and Prosecution .....	4
Environmental Licenses and Permits .....	4
Future Key Issues:.....	4
<b>1. INTRODUCTION .....</b>	<b>5</b>
Background .....	5
<b>2 PROJECT CHARACTERISTICS.....</b>	<b>6</b>
Project Organization and Contacts of Key Management.....	6
Construction Programme and Synopsis of Work.....	6
<b>3. ENVIRONMENTAL MONITORING &amp; AUDIT REQUIREMENTS.....</b>	<b>7</b>
Monitoring Parameters and Monitoring Locations .....	7
Monitoring Methodology and Calibration Details .....	7
Environmental Quality Performance Limits (Action and Limit Levels) .....	7
Environmental Mitigation Measures.....	7
<b>4. MONITORING RESULTS .....</b>	<b>8</b>
Weather Conditions.....	8
Air Quality .....	8
Noise .....	8
<b>5 ENVIRONMENTAL AUDIT.....</b>	<b>10</b>
Implementation Status of Environmental Mitigation Measures .....	10
Site Audit Summary.....	10
Status of Environmental Licensing and Permitting .....	10
Advice on Waste Management Status.....	11
<b>6. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS).....</b>	<b>12</b>
Summary of Exceedances .....	12
Review of the Reasons for and the Implications of Non-compliance.....	12
Summary of action taken in the event of and follow-up on non-compliance .....	12
<b>7 ENVIRONMENTAL COMPLAINTS.....</b>	<b>12</b>
<b>8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS .....</b>	<b>12</b>
<b>9. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>13</b>

## **LIST OF TABLES**

Table I	Summary Table for Non-compliance Recorded in the Reporting Quarter
Table 4.1	Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Quarter
Table 4.2	Summary of Noise Monitoring Result in Reporting Quarter
Table 5.1	ET's Observation and Recommendations of Site Audits

## **LIST OF FIGURES**

Figure 1	General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations
Figure 2	ET Organization Chart

## **LIST OF APPENDICES**

A	Contact Details of the Project Organisation
B	Construction Programme
C	Monitoring Requirements
D	Action and Limit Levels
E	Graphical Presentation of Air Quality Monitoring Results
F	Graphical Presentation of Noise Monitoring Results
G	Implementation Status of Environmental Mitigation Measures (EMIS)
H	Summary of Environmental Licenses and Permits
I	Summary of Amount of Waste Generated in the Reporting Period
J	Complaint Log
K	Summary of Exceedance

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HATS 2A	Harbour Area Treatment Scheme Stage 2A
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

---

## EXECUTIVE SUMMARY

### Introduction

1. This is the 29<sup>th</sup> Quarterly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Limited for DSD Contract No. DC/2009/24 “HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau” (The Project) which documents the key information of EM&A of Contract No. DC/2009/24 and environmental monitoring results from Contract DC/2009/24 HATS Stage 2A with the Environmental Permit (Permit No. EP-322/2008/G) for January to March 2019. The project was taken over by Wellab Limited (Wellab) starting from 1<sup>st</sup> January 2019.
2. The site activities undertaken for in the reporting quarter included:

#### *January 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Land and Marine GI works, Cable tray installation in FSGT building, Electrical works in FSGT building, Finishing works in FSGT building;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

#### *February 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Remedial E&M repairing works, Site clearance works for further seawall reinstatement;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

#### *March 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Remedial E&M repairing works, Site clearance works for further seawall reinstatement;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

### Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2009/24 under HATS 2A with the Environmental Permit and in accordance with the EM&A Manual. The monitoring results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

---

### **Air Quality and Noise (General Context)**

4. The monitoring of air quality monitoring station at Wah Ming House, Wah Fu Estate (CM\_WF1a) and noise monitoring station at Aegean Terrace (M6a), Wah Ming House (M7a) and Wah Ling House (M8) was handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in July 2014. The noise monitoring station at Mei Chun Court, South Horizons (M9) was handed over to Contract No. DC/2009/24 from Contract No. DC/2008/09 on 28 July 2014. The air quality and noise monitoring stations was set up by Cinotech Consultants Limited (ET for this project at the time) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from July 2014.
5. Furthermore, the monitoring of air quality monitoring station at The Arcade, Cyberport (CM\_CB1a) and The Hong Kong Ice and Cold Storage (CM\_AB1a) were handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in August 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project at the time) to monitor the air quality in the vicinity of the sensitive receivers starting from August 2014.
6. However, the air quality monitoring at CM\_AB1a had been rejected and could not be continued, the proposed location (CM\_AB1b – Works Site Boundary of Aberdeen PTW) was approved by ER on 22 July 2014 and approved by EPD on 5 December 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project at the time) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from August 2014. The location of CM\_AB1b is shown in **Figure 1c-2**.

### **Noise (Sandy Bay PTW)**

7. The Proposal for Termination of Construction Phase EM&A Works for Contract No. DC/2007/24 was submitted by its ET to EPD in July 2015. The proposal, including the termination of noise monitoring at Chuk Lam Ming Tong (M5), was approved by the EPD on 27 July 2015. The result of noise monitoring at M5 would not be reported from 27 July 2015, based on section 15.11 of the EM&A Manual of this Project as below:
  - i) Construction activities including the remaining outstanding construction works for Sandy Bay PTW have been completed by the Contractor of this Project, therefore, no major environmental impact from Sandy Bay PTW in anticipated due to the Project.

### **Air Quality and Noise (Cyberport PTW)**

8. The Proposal for Termination of Construction Phase EM&A Works at Cyberport PTW for this Project was submitted by its ET to EPD in December 2017. The proposal, including the termination of air quality monitoring at The Arcade, Cyberport (CM\_CB1a) and noise monitoring at Aegean Terrace (M6a), was approved by the EPD on 7 December 2017. The result of air quality monitoring at CM\_CB1a and noise monitoring at M6a would not be reported from 7 December 2017, based on section 15.11 and 15.12 of the EM&A Manual of this Project as below:
  - i) Referring to the certificates of substantial completion, the construction works at Cyberport PTW was substantially completed on 30<sup>th</sup> June 2016. Construction activities including the remaining outstanding construction works at Cyberport PTW will be

completed by the Contractor by the end of November 2017. All construction activities with significant environmental impact at Cyberport PTW have been completed on 22<sup>nd</sup> November 2017. Therefore, no significant environmental impact at Cyberport PTW is anticipated due to the Project starting from 1<sup>st</sup> December 2017.

- ii) No Project-related environmental monitoring (air quality monitoring and noise monitoring) exceedance was recorded over the duration of the monitoring programme at Cyberport PTW.
- iii) No environmental-related prosecution or summons was recorded at Cyberport PTW. No case of complaint was logged since project commencement at Cyberport PTW.

### Air Quality and Noise (Wah Fu PTW)

9. The Proposal for Termination of Construction Phase EM&A Works at Wah Fu PTW for this Project was submitted by its ET to EPD in July 2018. The proposal, including the termination of air quality monitoring at the rooftop of Wah Ming House (CM\_WF1a) and noise monitoring at the rooftop of Wah Ming House (M7a), was approved by the EPD on 2 October 2018. The result of air quality monitoring at CM\_WF1a and noise monitoring at M7a would not be reported from 2 October 2018, based on section 15.11 and 15.12 of the EM&A Manual of this Project as below:

- i) Referring to the certificates of substantial completion, the construction works at Wah Fu PTW was substantially completed on 25<sup>th</sup> August 2016. Construction activities including the remaining outstanding construction works at Wah Fu PTW is completed by the Contractor on 4<sup>th</sup> June 2018. All construction activities with significant environmental impact at Wah Fu PTW have been completed on 4<sup>th</sup> June 2018. Therefore, no significant environmental impact at Wah Fu PTW is anticipated due to the Project starting from 4<sup>th</sup> June 2018. Moreover, according to the email from ER on 11<sup>th</sup> June 2018, the site portion of Wah Fu PTW had been handed over to DSD/ST2 on 4<sup>th</sup> June 2018.
- ii) One Project related Limit Level exceedance was recorded during the daytime construction noise monitoring on 19<sup>th</sup> December 2012 by the ET of DC/2007/24 at M7a. References could be made to the Monthly EM&A Report for December 2012. No Project-related environmental monitoring (air quality monitoring and noise monitoring) exceedance was recorded since January 2013 at Wah Fu PTW.

10. Summary of the non-compliance of the reporting quarter is tabulated in **Table I**.

**Table I Summary Table for Non-compliance Recorded in the Reporting Quarter**

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
CM_CB1a	1-hr TSP	--	--	--	--	--
	24-hr TSP	--	--	--	--	--
CM_WF1a	1-hr TSP	--	--	--	--	--
	24-hr TSP	--	--	--	--	--



CM_AB1b	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
M5	Noise (Day Time)	--	--	--	--	--
M6a		--	--	--	--	--
M7a		--	--	--	--	--
M8		0	0	0	0	N/A
M9		0	0	0	0	N/A

*1-hour TSP Monitoring*

11. All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

*24-hour TSP Monitoring*

12. All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

*Construction Noise*

13. All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

**Environmental Complaint and Prosecution**

14. There was no environmental prosecution or notification of summons received in the reporting quarter while eight complaints were already received since the Project commencement. The Complaint Log is presented in **Appendix J**.

**Environmental Licenses and Permits**

15. Licenses/Permits granted to the Project include the Environmental Permit (EP), Notification of Works under APCO, Water Discharge Licences and Registered as a Chemical Waste Producer for Sandy Bay, Cyberport, Ap Lei Chau, Aberdeen, Wah Fu PTWs sites.

**Future Key Issues:**

16. Major site activities for the coming two months include:
- Wah Fu PTW: N/A;
  - Aberdeen PTW: N/A;
  - Ap Lei Chau PTW: Operation of PTW, Building Service installation of Screening and Degritting Facilities and Effluent Pumping Station, seawall reconstruction;
  - Sandy Bay PTW: N/A; and
  - Cyberport PTW: N/A.
17. The environmental concerns in coming months are mainly on chemicals storage, surface run off, spillage of wastewater during rainstorm and dust generated from the construction works.

## 1. INTRODUCTION

### Background

- 1.1 The Project ‘HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau’ with Contract No: DC/2009/24 mainly comprises the following major works:
- The construction of screens, grit traps, deodourisation rooms, workshop and administration buildings, and modification of existing inlet pumping stations at the preliminary treatment works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau.
- 1.2 The general location plan of the Project is shown in **Figure 1**.
- 1.3 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project (Register No. : AEIAR-121/2008). The environmental permit: (Permit No. EP-322/2008/G) which was issued on 10<sup>th</sup> October 2012 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.4 Leader and JEC Joint Venture (hereafter called the LJJV) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/24 “Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau”.
- 1.5 Cinotech Consultants Limited was commissioned by LJJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP. The ET of this project was taken over by Wellab Limited (Wellab) starting from 1<sup>st</sup> January 2019.
- 1.6 The construction works at Wah Fu PTW and Ap Lei Chau PTW were commenced in the January 2012.
- 1.7 The construction phase of EM&A programme of the Project commenced in January 2012.
- 1.8 This is the 29<sup>th</sup> quarterly EM&A report summarizing the EM&A works conducted for the Project in January to March 2019.

## 2 PROJECT CHARACTERISTICS

### Project Organization and Contacts of Key Management

- 2.1 Different parties with different levels of involvement in the project organization include:
- Project Proponent – The Drainage Services Department (DSD)
  - Engineer’s Representative (ER) – Ove Arup & Partners Hong Kong Ltd.
  - Contractor – Leader and JEC Joint Venture (LJJV)
  - Environmental Team (ET) – Wellab Ltd.
  - Independent Environmental Checker (IEC) – Mott MacDonald Hong Kong Ltd.
- 2.2 The key contacts of the Project and the ET organization chart and are shown in **Appendix A** and **Figure 2**.

### Construction Programme and Synopsis of Work

- 2.3 The construction programme is presented in **Appendix B**. The site activities undertaken during the reporting quarter included:

#### *January 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Land and Marine GI works, Cable tray installation in FSGT building, Electrical works in FSGT building, Finishing works in FSGT building;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

#### *February 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Remedial E&M repairing works, Site clearance works for further seawall reinstatement;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

#### *March 2019:*

- Wah Fu PTW – N/A;
- Ap Lei Chau PTW – Continuous interim operation and maintenance of the ALC PTW, Remedial E&M repairing works, Site clearance works for further seawall reinstatement;
- Aberdeen PTW – Continuous interim operation and maintenance of the ABN PTW, Defect Rectification Works;
- Sandy Bay PTW – N/A;
- Cyberport PTW – N/A.

---

### **3. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS**

#### **Monitoring Parameters and Monitoring Locations**

- 3.1 In accordance with the EM&A Manual, 1-hour and 24-hour Total Suspended Particulates (TSP) and Noise monitoring were conducted to monitor the air quality and the impact noise. The general layout plan of the Project and the monitoring locations are shown in **Figures 1, Appendix C** gives details of monitoring requirements.

#### **Monitoring Methodology and Calibration Details**

- 3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the Project Specific EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports of this Project.

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

- 3.3 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 D**.

#### **Environmental Mitigation Measures**

- 3.4 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the Project Specific EM&A Manual for the Contractor to implement. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix G**.

**4. MONITORING RESULTS**

**Weather Conditions**

4.1 The weather conditions during monitoring sessions were mainly sunny and sometimes cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets and they could be found in the Appendices of the corresponding monthly EM&A reports.

**Air Quality**

*1-hr TSP Monitoring and 24-hr TSP Monitoring*

- 4.2 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.
- 4.3 **Table 4.1** summarizes the dust monitoring results which were extracted from the monthly reports for this Project.
- 4.4 The detailed monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to **Appendix E** of this report.

**Table 4.1 Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Quarter**

Reporting Months	Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP					
January 2019	CM_AB1b	113	76-184	283	500
February 2019	CM_AB1b	139	87-199		
March 2019	CM_AB1b	125	83-211		
24 hours TSP					
January 2019	CM_AB1b	107	77-128	174	260
February 2019	CM_AB1b	74	59-94		
March 2019	CM_AB1b	58	38-80		

**Noise**

- 4.5 All construction noise monitoring was conducted as scheduled in the reporting quarter.
- 4.6 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.
- 4.7 **Table 4.2** summarizes the noise monitoring results which were extracted from the monthly reports for this Project.
- 4.8 The construction noise monitoring at the designated locations was conducted by the ET of this Project as scheduled in the reporting quarter. The monitoring results and graphical presentation are provided in **Appendix F** of this report.

**Table 4.2 Summary of Noise Monitoring Result in Reporting Quarter**

Reporting Months	Noise Quality Monitoring Station	Range, dB(A) Leq(30 min.)	Limit Level, dB(A) Leq(30 min.)
January 2019	M8	63-67	75.0
	M9	46-62	
February 2019	M8	56-67	
	M9	56-64	
March 2019	M8	48-72	
	M9	50-56	

**5 ENVIRONMENTAL AUDIT**

**Implementation Status of Environmental Mitigation Measures**

5.1 The implementation status of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix G**.

**Site Audit Summary**

5.2 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made in each site audit session in the reporting period are summarized in **Table 5.1**.

**Table 5.1 ET’s Observations and Recommendations of Site Audits**

Parameters	Date/Ref. Number	Observations	Follow Up Action
<b>Water Quality</b>	190124-001	The bund should be improved properly to prevent the silty water runoff from the site boundary of ALC-PTW.	The bund was improved at ALC-PTW.
	190307-001	The drainage system should be adequate for the stormwater/surface runoff at ALC-PTW.	The drainage system was adequate and improved at ALC-PTW.
	190307-002	The silt curtain and wastewater treatment facility should be provided to prevent the silty water overflow from the site boundary of ALC-PTW.	The silt curtain and wastewater treatment facility were provided at ALC-PTW.
	190321-001	The silt curtain should be provided to prevent the silty water flow out from the site boundary of ALC-PTW.	The silt curtains were provided near the site boundary of ALC-PTW.
	190321-002	The wastewater should be collected and treated properly before discharging out at ALC-PTW.	The wastewater was cleared at ALC-PTW.
<b>Air Quality</b>	190214-R01	Properly cover the opened cement bags to prevent the dust generation at ALC-PTW.	The opened cement bags were covered at ALC-PTW.
<b>Waste/ Chemical Management</b>	190103-R01	Oil container was found not properly place on the drip tray, Contractor was reminded to ensure all chemical containers should be placed properly.	Please refer to 190110-R01.
	190110-R01	The chemical containers should be placed in the drip tray properly to prevent the oil leakage at Abd-PTW.	The chemical containers were cleared and not observed at Abd-PTW.
<b>Landscape and Visual</b>	NIL	--	--
<b>Noise</b>	NIL	--	--
<b>Permit/ Licenses</b>	NIL	--	--

**Status of Environmental Licensing and Permitting**

5.3 Environmental licenses and permits including the Billing Account for Disposal of Construction Waste, Chemical Waste Producer and Wastewater Discharge were in place and valid during the reporting quarter. A summary status of licenses and permits is given in

## **Appendix H.**

### **Advice on Waste Management Status**

- 5.4 The amount of wastes generated by the activities of the Project in the reporting period was attached in the appendices of the monthly reports for January to March 2019 and was shown in **Appendix I.**



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

### Summary of Exceedances

- 6.1 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. A summary of exceedance is attached in **Appendix K**.
- 6.2 No Action/Limit Level exceedance of 1-hour TSP and 24-hour TSP was recorded in the reporting quarter.
- 6.3 No Action/Limit Level exceedance of Construction Noise was recorded in the reporting quarter.

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

- 6.4 There was no non-compliance from the site audits in the reporting quarter. The observations and recommendations made in each individual site audit session were presented in **Table 5.1**.

### Summary of action taken in the event of and follow-up on non-compliance

- 6.5 There was no particular action taken since no non-compliance was observed from the site audits in the reporting quarter.

## 7 ENVIRONMENTAL COMPLAINTS

- 7.1 No environmentally related summons or prosecutions were received for the Project in the reporting quarter.

### 7.2 Sandy Bay PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

### Cyberport PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

### Wah Fu PTW:

There was no environmental prosecution or notification of summons since the Project commencement while six complaints were already received since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

### Aberdeen PTW:

There was no environmental prosecution or notification of summons since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

### Ap Lei Chau PTW:

There was no environmental prosecution or notification of summons in the reporting quarter while two complaints were already received since the Project commencement. The updated Complaint Log is attached in **Appendix J**.

## 8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 8.1 No environmental prosecution was recorded in the reporting quarter.

## 9. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Key environmental issues for the coming months include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise nuisance from operation of equipment and machinery on-site;
- Provision well maintenance on the storage facilities of chemicals/fuel and chemical waste/waste oil on-site;
- Mosquito breeding due to the ponding water and stagnant water around the site areas;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after raining;
- Maintenance of de-silting facilities and drainage system such as U-channels;
- Blockage of U-channel by accumulated silt;
- Silty surface runoff generated from the site area; and
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

### 9.2 According to the environmental audit performed in the reporting quarter, the following recommendations were made:

#### *Water Quality*

- The bund should be improved properly to prevent the silty water runoff from the site boundary;
- The drainage system should be adequate for the stormwater/surface runoff from the site area;
- The silt curtain and wastewater treatment facility should be provided to prevent the silty water overflow from the site boundary; and
- The wastewater should be collected and treated properly before discharging out from the site area.

#### *Air Quality*

- The opened cement bags should be covered properly to prevent the dust emission in the site area.

#### *Waste/ Chemical Management*

- The chemical containers should be placed in the drip tray properly to prevent the oil leakage in the site area.

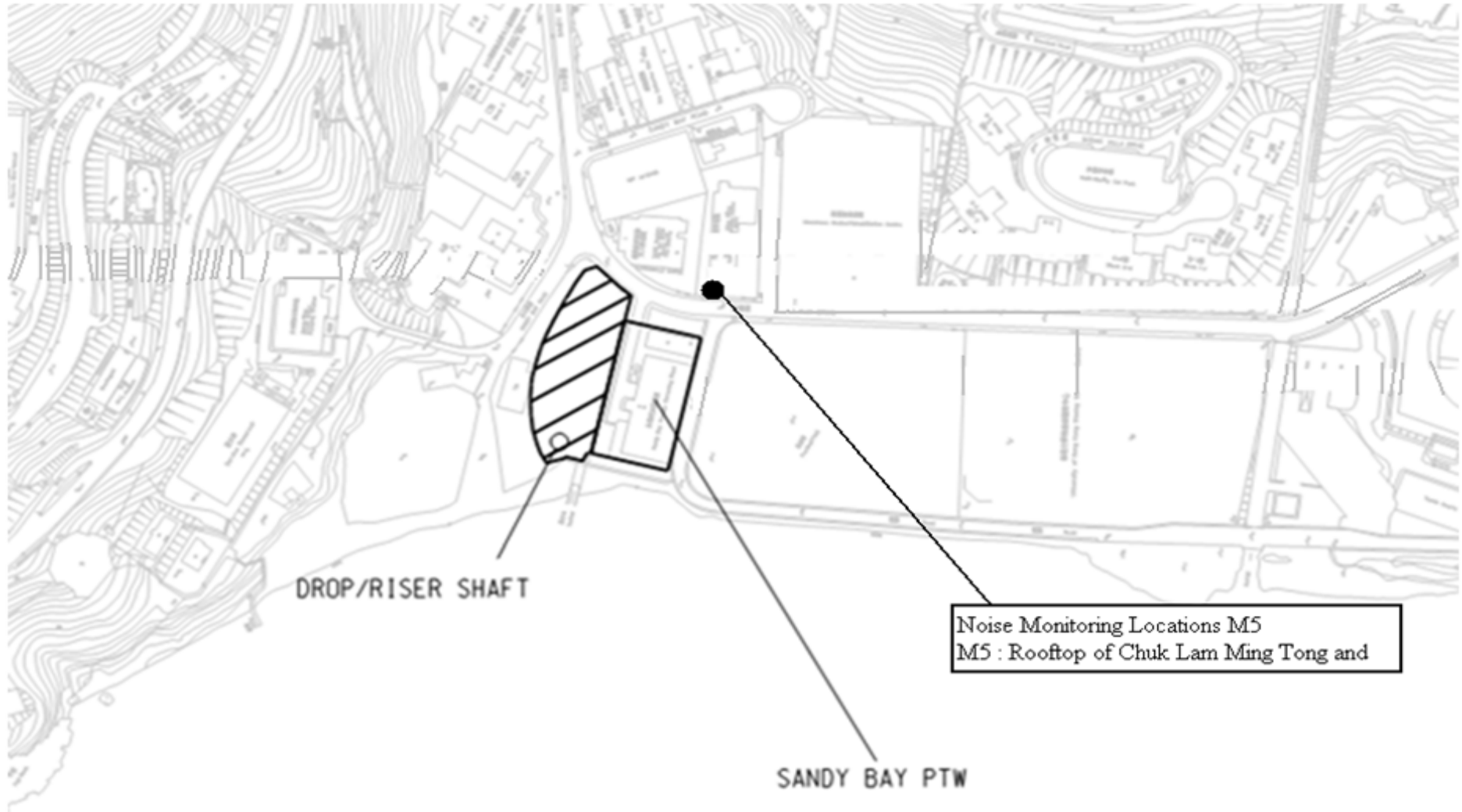
---

---

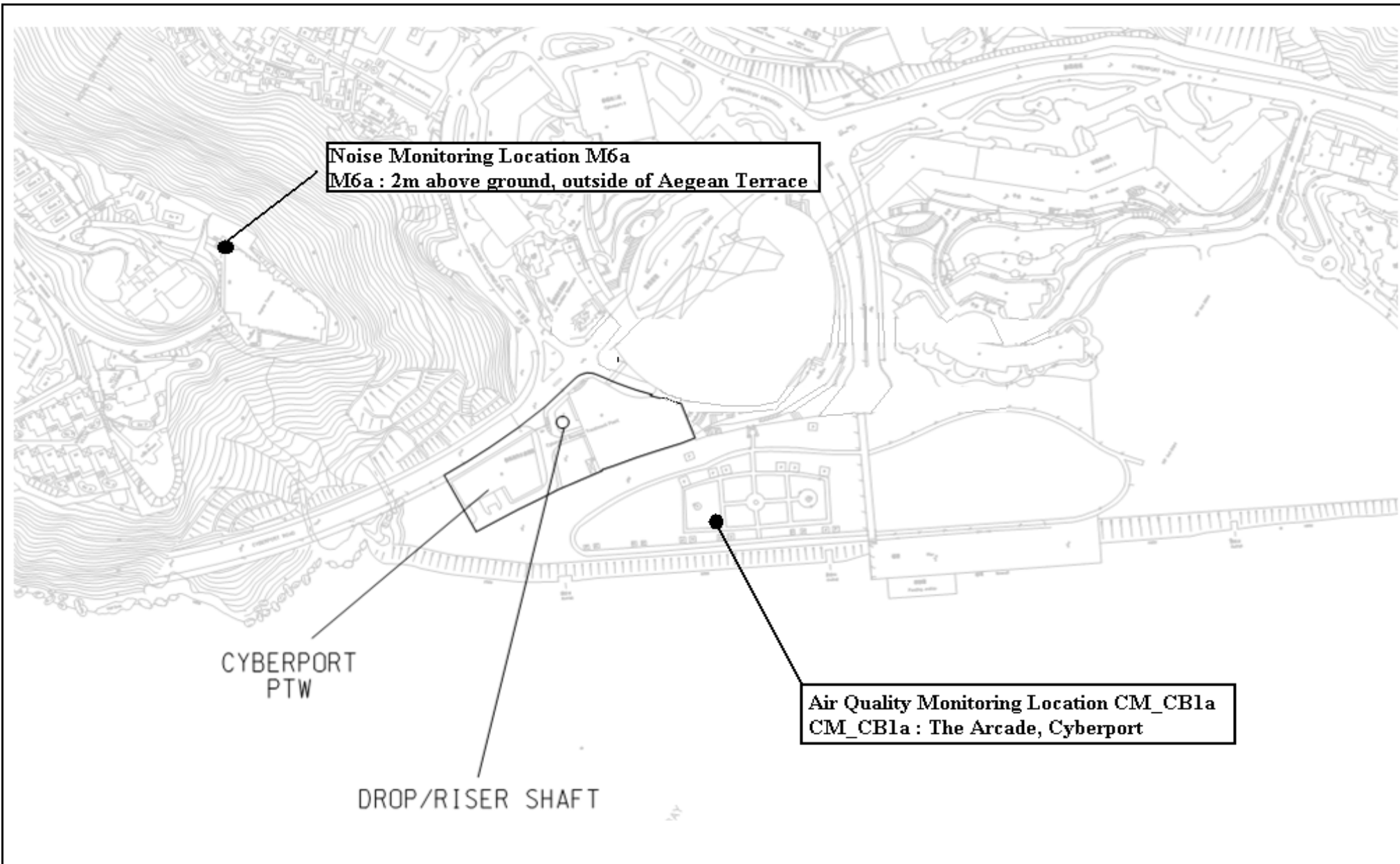
## FIGURES

---

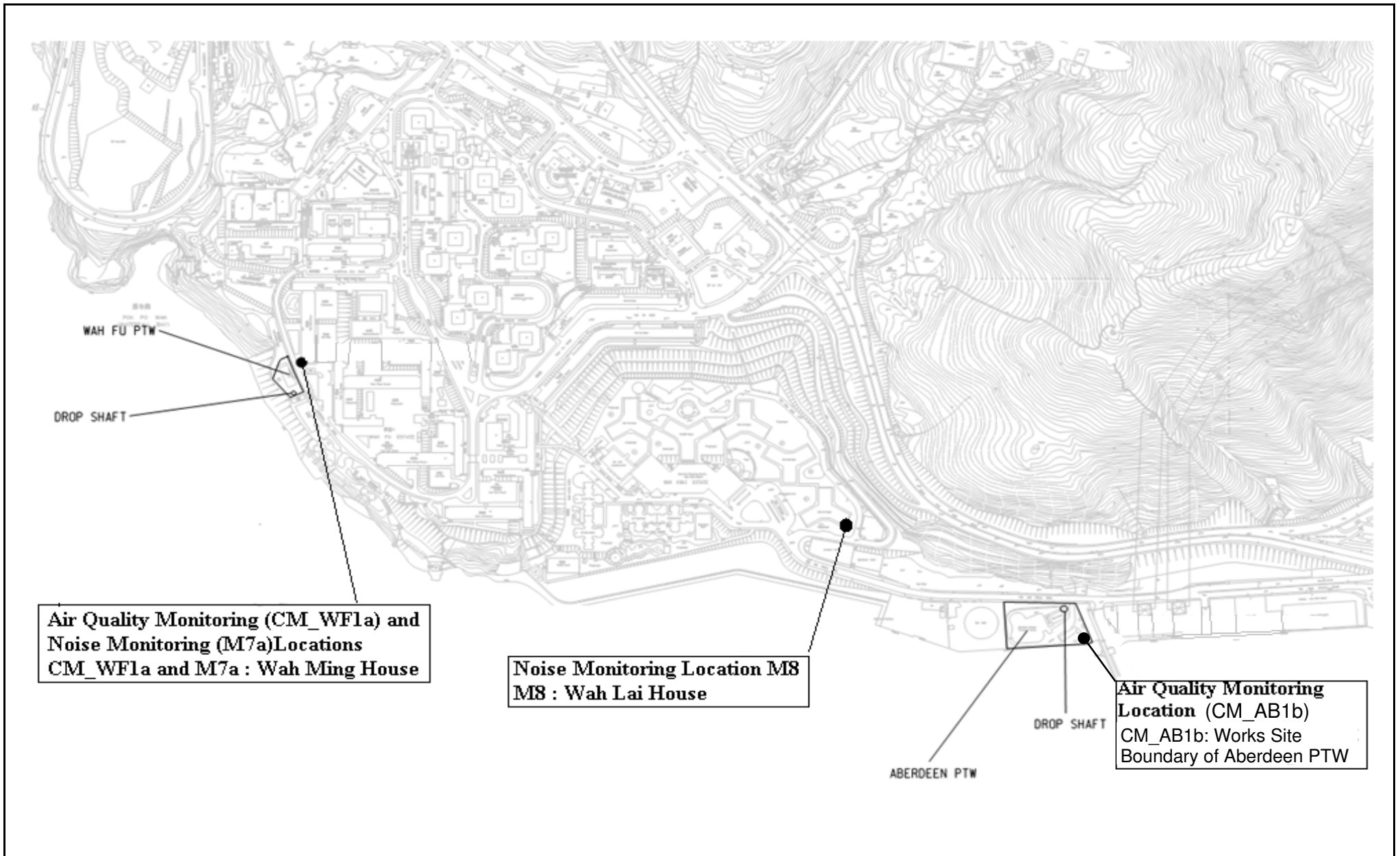
---



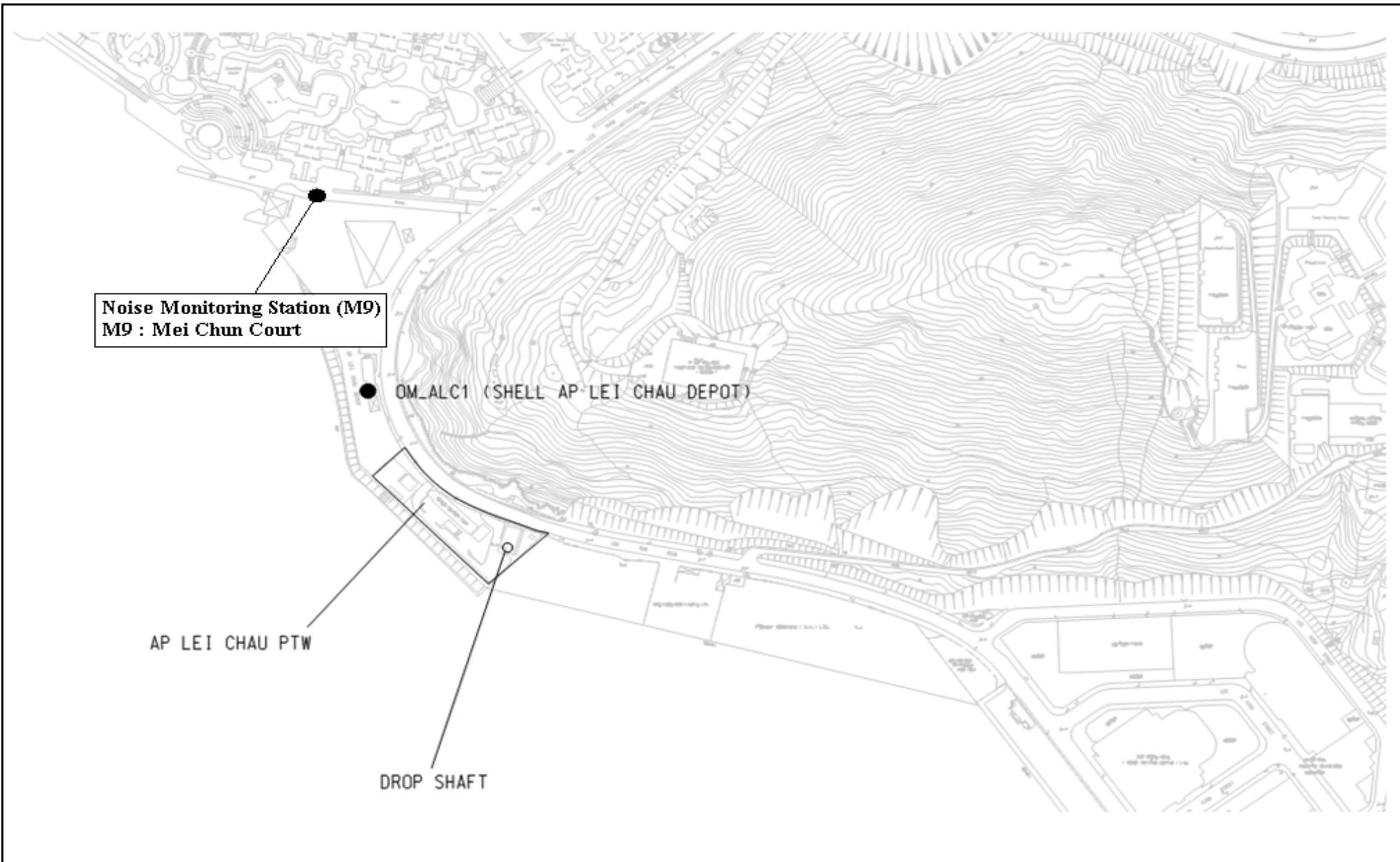
Title	Contract No: DC/2009/24	Scale	Project	<b>WELLAB</b>
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Sandy Bay PTW and Locations of Noise Monitoring Stations	Date	Figure	
		01/2012	1A	



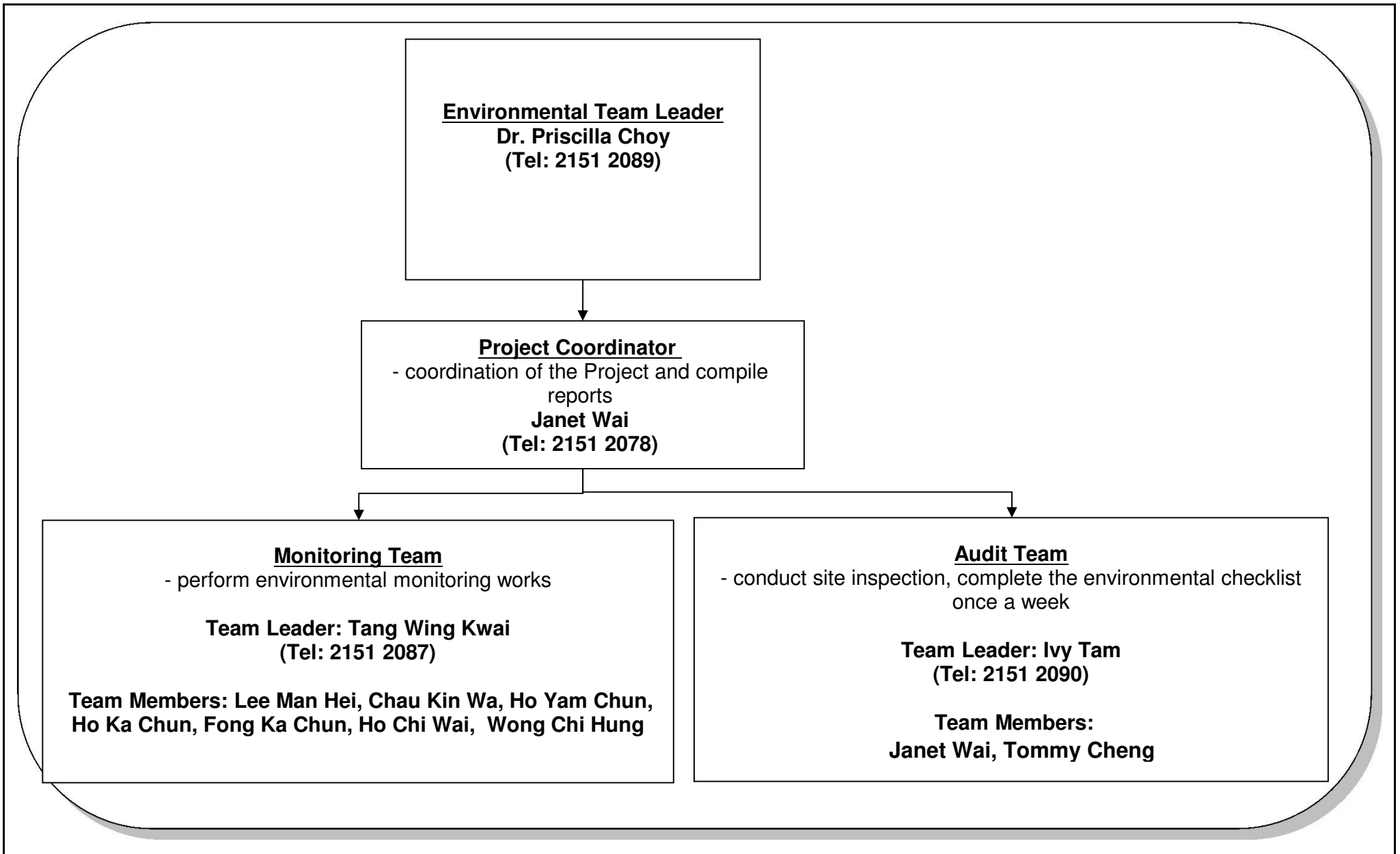
Title	Contract No: DC/2009/24	Scale	Project	<b>WELLAB</b>
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Cyberport PTW and Locations of Air Quality and Noise Monitoring Stations	Date	Figure	
		01/2012	1B	



Title	Contract No: DC/2009/24	Scale	Project	<b>WELLAB</b>
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	Location of Wah Fu and Aberdeen PTW and Locations of Air Quality and Noise Monitoring Locations	Date	Figure	
		07/2014	1C	



Title	Contract No: DC/2009/24	Scale	Project	<b>WELLAB</b>
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	Locations of AP LEI CHAU PTW and the Noise Monitoring Location	Date	Figure	
		1/2012	1D	



Title	Contract No. DC/2009/24 HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau ET's Organization Chart	Scale	N.T.S	Project No.	MA11060	<b>WELLAB</b>
		Date	Jan 2019	Figure	2	



---

---

**APPENDIX A  
CONTACT DETAILS OF THE PROJECT  
ORGANISATION**

---

---

## Appendix A - Contact Details of the Project Organization

<b>Party</b>	<b>Role</b>	<b>Name</b>	<b>Position</b>	<b>Phone No.</b>
Drainage Services Department	Project Proponent	Mr. Vincent Y. K. Wong	Senior Engineer 2	2159 3406
Ove Arup & Partners Hong Kong Ltd	Engineer's Representative	Mr. Ted Tang	Principal Resident Engineer	2370-4311
	Coordinator	Ms. Natalie Kwok	Resident Engineer	6794 8844
Wellab	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		Ms. Janet Wai	Project Coordinator & Audit Team Leader	2157 3879
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Leader and JEC Joint Venture	Contractor	Mr. Kelvin Cheung	Site Agent	9656 8865
		Ms. S.P. Ngan	Environmental Officer	9516 9431

---

---

**APPENDIX B**  
**CONSTRUCTION PROGRAMME**

---

---



**OUTSTANDING WORKS PROGRAMME FOR AP LEI CHAU PTW**  
**SECTION 7 OF THE WORKS**

**WITHOUT PREJUDICE**

Data Date **05-Mar-19**

ACTIVITY DESCRIPTION	REVISED DWP_REV. 6 incl. AS-Built			Planned % Prog	Actual / Target		2014												2015												2016												2017												2018											
	START	START	FINISH		START	FINISH	Actual % Prog	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
<b>SECTION 7 OF THE WORKS</b>																																																																		
<b>Stage 1 - Construction of Initial Treatment Plant</b>																																																																		
ES7 Structural works for	2/Jul/14	02-Jul-14	31-Aug-15	100%	02-Jul-14	31-Aug-15	100%	[Green bar]																																																										
Flume Channel Co	28/Jan/15	20-Apr-15	06-Jun-15	100%	20-Apr-15	06-Jun-15	100%	[Green bar]																																																										
E&M works for In	30/Jun/14	15-Sep-14	31-Jul-15	100%	15-Sep-14	31-Jul-15	100%	[Blue bar]																																																										
Tie-in Connection	7/Oct/14	15-Dec-14	17-Aug-15	100%	15-Dec-14	17-Aug-15	100%	[Green bar]																																																										
Start of Flow diversion to tie-in pit			20-Nov-15	100%		20-Nov-15	100%													[Blue bar]																																														
Flow diversion to	28/Apr/15	20-Nov-15	19-Dec-15	100%	20-Nov-15	19-Dec-15	100%													[Blue bar]																																														
<b>Stage 2 - Completion of New Treatment Plant</b>																																																																		
Decommissioning	28/Apr/15	02-Nov-15	09-Jan-16	100%	02-Nov-15	09-Jan-16	100%													[Green bar]																																														
Construction of remaining treatment plant (FSGT Bldg)																																																																		
E&M works incl. preliminary																				[Blue bar]																																														
Foundation works for new	6/Jun/15	11-Jan-16	28-Nov-16	100%	11-Jan-16	28-Nov-16	100%													[Green bar]																																														
Structural Works for new	23/Sep/15	29-Nov-16	16-Sep-17	100%	29-Nov-16	16-Sep-17	100%													[Green bar]																																														
Structural works up to		29-Nov-16	24-Apr-17	100%	29-Nov-16	24-Apr-17	100%													[Green bar]																																														
Demolition and replacement of		25-Apr-17	10-May-17	100%	25-Apr-17	10-May-17	100%													[Green bar]																																														
Installation of temporary		11-May-17	31-May-17	100%	11-May-17	31-May-17	100%													[Green bar]																																														
Continuation of remaining		01-Jun-17	07-Sep-17	100%	01-Jun-17	07-Sep-17	100%													[Green bar]																																														
Finishing Works		17-Sep-17	30-Jun-18	100%	17-Sep-17	31-Jul-18	85%													[Green bar]																																														
E&M works for new treatment	19/Feb/16	12-Oct-17	08-Jan-18	100%	12-Oct-17	08-Jan-18	100%													[Blue bar]																																														
Foundation works for new	19/Oct/15	18-Apr-16	18-Jul-16	100%	18-Apr-16	18-Jul-16	100%													[Green bar]																																														
Structural Works	28/Nov/15	19-Jul-16	13-Oct-16	100%	19-Jul-16	13-Oct-16	100%													[Green bar]																																														
Finishing and E&M	12/Jan/16	14-Oct-16	25-May-17	100%	14-Oct-16	25-May-17	100%													[Blue bar]																																														
Workshop Building	7/Dec/15	18-Apr-16	25-Jun-16	100%	18-Apr-16	25-Jun-16	100%													[Green bar]																																														
Remaining Rising Main Installation		14-Oct-17	31-Mar-18	100%	14-Oct-17	10-Mar-18	100%													[Green bar]																																														
Substantial Completion of Section 7 of the Works		08-Jan-18	100%		08-Jan-18	100%																									[Green bar]																																			
<b>Outstanding Works - E&amp;M Works</b>																																																																		
FSGT Area GL 1-4 (cable tray, cable laying, etc.)		29-Jan-18	31-Mar-18	100%	29-Jan-18	21-Jul-18	75%																									[Blue bar]																																		
Pumping System		18-Dec-17	28-Feb-18	100%	18-Dec-17	21-Jul-18	95%																									[Blue bar]																																		
Effluent Pumping System Dry Well (Pump 3 and 4 - Control Room)		01-Mar-18	06-Apr-18	100%	01-Mar-18	21-Jul-18	80%																									[Blue bar]																																		
Control Room (cable tray & etc.)		18-Dec-17	14-Apr-18	100%	18-Dec-17	21-Jul-18	80%																									[Blue bar]																																		
DOU Room Wet Well Area (uPVC etc.)		20-Dec-17	14-Apr-18	100%	20-Dec-17	15-Jul-18	85%																									[Blue bar]																																		
Commissioning of Effluent Pumps		16-Apr-18	15-May-18	100%	23-Jul-18	22-Aug-18	0%																									[Blue bar]																																		
DOU Seeding & system stabilization		16-Apr-18	28-Apr-18	100%	20-Jul-18	28-Jul-18	0%																									[Blue bar]																																		
Commissioning of	3/Jul/16	01-May-18	30-May-18	100%	30-Jul-18	29-Aug-18	0%																									[Blue bar]																																		
FSD Submission		03-Apr-18	16-Apr-18	100%	03-Aug-18	14-Sep-18	0%																									[Blue bar]																																		
FSD Inspection		16-Apr-18	28-Apr-18	100%	17-Sep-18	28-Sep-18	0%																									[Blue bar]																																		
Miscellaneous Works (H2S etc.)		19-Mar-18	30-Apr-18	100%	03-Jul-18	30-Sep-18	20%																									[Blue bar]																																		
<b>Remaining Works (External)</b>																																																																		
External Staircase	6/Jan/16	01-Apr-18	30-Jun-18	100%	01-Apr-18	28-Apr-18	100%																									[Green bar]																																		
Landscaping Work	6/Jan/16	01-Jul-18	30-Sep-18	100%	01-Jul-18	30-Sep-18	0%																									[Green bar]																																		
Design and Built of Sea Wall (damaged)	01-Oct-17	18-Nov-18	100%	01-Oct-17	13-Jun-18	100%																									[Green bar]																																			
Drainage and Road widening Bridge System - 1 Set	6/Jan/16	01-Oct-18	30-Dec-18	100%	25-Jun-18	23-Sep-18	20%																									[Green bar]																																		

LEGEND : █ Civil Works █ E&M Works

---

---

**APPENDIX C  
MONITORING REQUIREMENTS**

---

---

## APPENDIX C – Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Monitored by	Locations of Measurement
Air Quality	1-hour TSP	3 times / 6-day	DC/2009/24	<b>CM_CB1a<sup>(1)</sup></b> : The Arcade, Cyberport <b>CM_WF1a<sup>(1)</sup></b> : Wah Ming House, Wah Fu Estate <b>CM_AB1b<sup>(2)</sup></b> : Works Site Boundary of Aberdeen PTW
	24-hour TSP	Once / 6-day		
Noise	$L_{eq}$ (30 min.) dB(A) (0700 to 1900 hrs. on weekdays) / $L_{eq}$ (5 min.) dB(A) (During restricted hours)	Once / week	DC/2009/24	M6a <sup>(1)</sup> (Cyberport PTW): Aegean Terrace M7a <sup>(1)</sup> (Wah Fu PTW): Wah Ming House M8 (Aberdeen PTW): Wah Lai House M9 (Ap Lei Chau PTW): Mei Chun Court, South Horizons

Remarks:

- 1: Refer to the monthly report of DC/2007/24, revision to the original monitoring location in EM&A Manual was made and was verified by IEC on 19 November 2009 and subsequently approved by EPD on 27 November 2009.
- 2: Relocation of the air quality monitoring station was verified by IEC on 15 July 2014; and approved by ER on 22 July 2014 and approved by EPD on 5 December 2014.

---

---

**APPENDIX D  
ACTION AND LIMIT LEVELS**

---

---



## Appendix D Action and Limit Levels

**Table D-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP**

Monitoring Stations	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour	24-hour	1-hour	24-hour
CM_CB1a	280	178	500	260
CM_WF1a	285	185		
CM_AB1b	283	174		

**Table D-2 Action and Limit Level for Construction Noise**

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
M5 M6a M7a M8 M9	0700-1900 hours on normal weekdays	When one documented complaint is received	75 <sup>(1)</sup>

Remark: 1: 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.

---

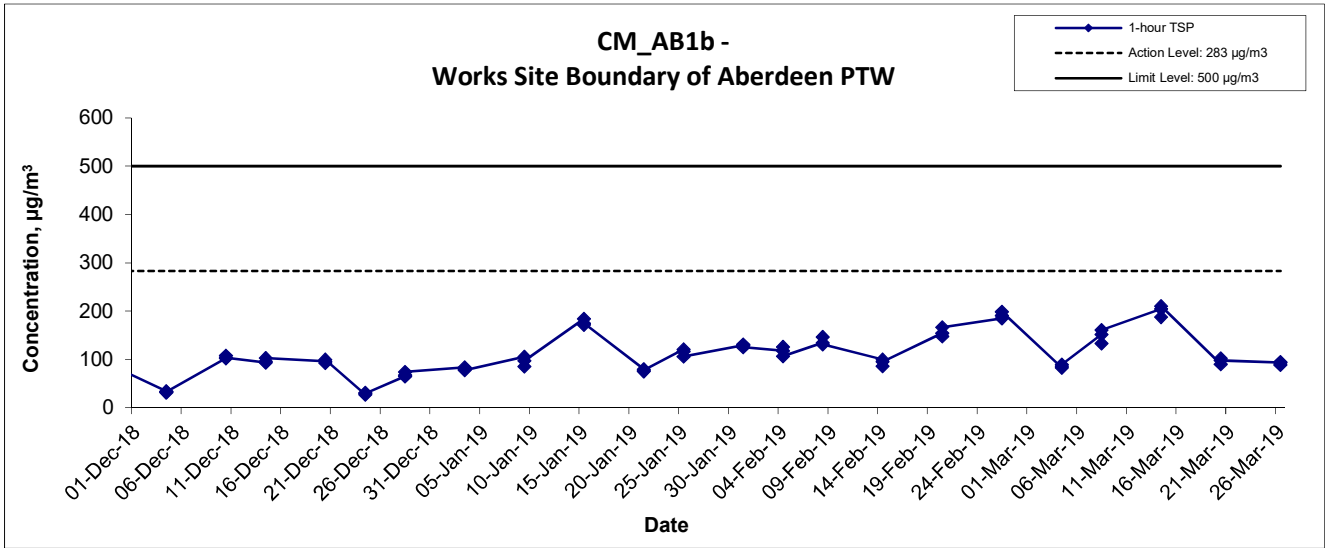
---

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

---

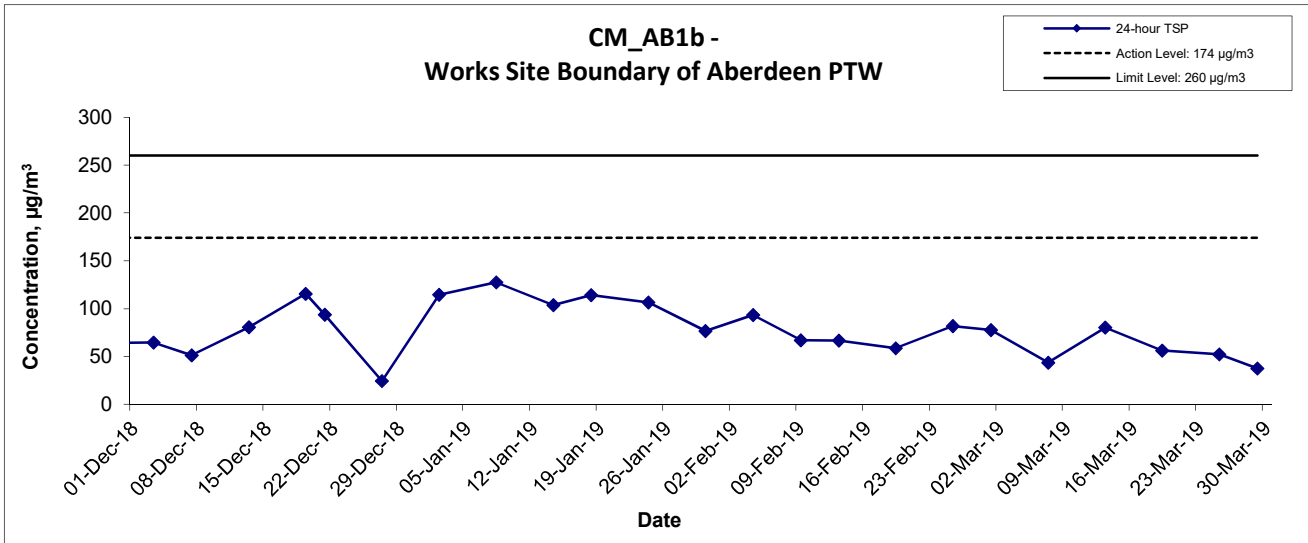
---


### 1-hr TSP Concentration Levels



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11060	
	Date Mar 19	Appendix E	

### 24-hr TSP Concentration Levels



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11060	
	Date Mar 19	Appendix E	

---

---

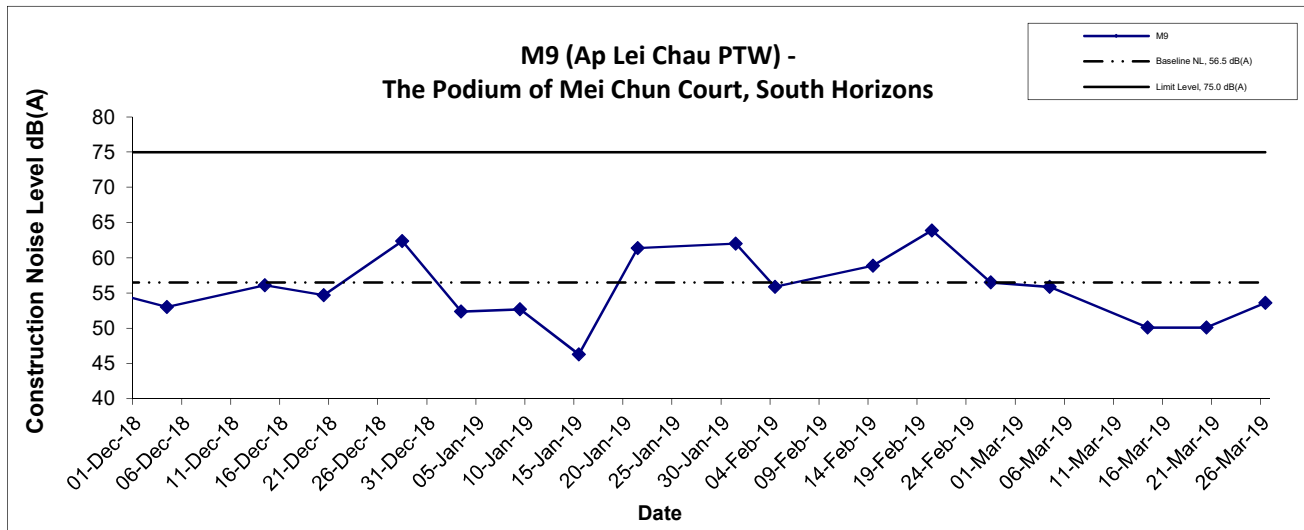
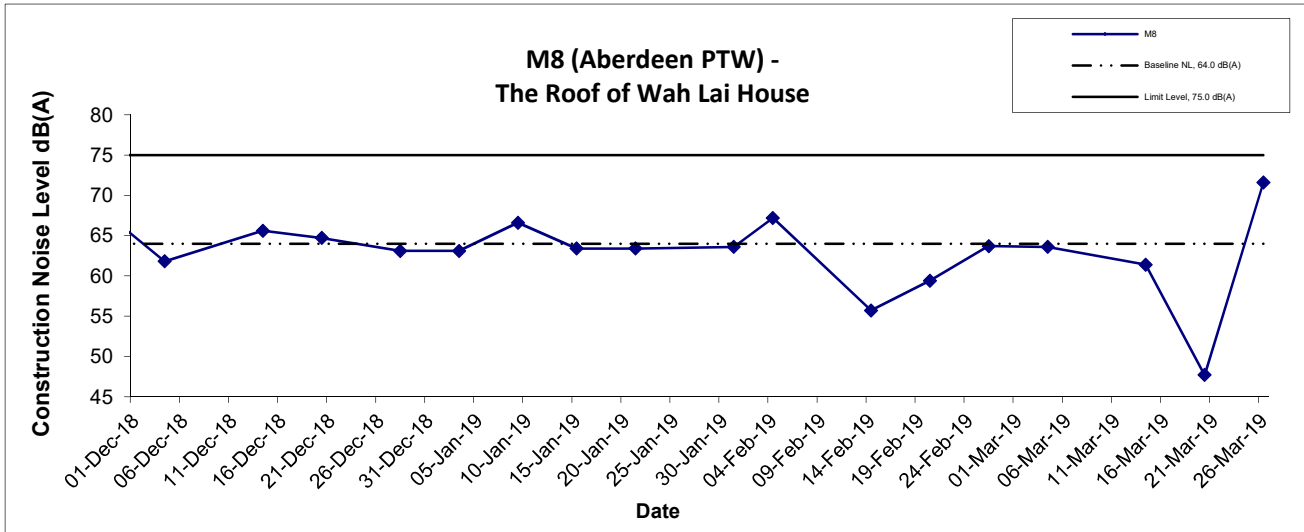
**APPENDIX F  
GRAPHICAL PRESENTATION OF  
NOISE MONITORING RESULTS**

---

---

## Noise Levels

**(0700-1900 hrs on Normal Weekdays)**



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Abredeen and Ap Lei Chau Graphical Presentation of Noise Monitoring Result	Scale N.T.S	Project No. MA11060	匯力 consulting . testing . research
	Date Mar-19	Appendix F	

---

**APPENDIX G  
IMPLEMENTATION STATUS OF  
ENVIRONMENTAL MITIGATION  
MEASURES (EMIS)**

---

**APPENDIX G IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)**

<b>EIA Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Location of the measure</b>	<b>Implementation Status</b>
<b>A</b>	<b>Air Quality</b>		
3.74	<p>Skip hoist for material transport should be totally enclosed by impervious sheeting.</p> <p>Vehicle washing facilities should be provided at every vehicle exit point.</p> <p>The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore.</p> <p>Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.</p> <p>Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</p> <p>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.</p> <p>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</p> <p>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</p> <p>Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.</p> <p>Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides.</p> <p>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</p>	All construction sites	<p>N/A</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
3.74	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.	All construction sites	^



EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
<b>B</b>	<b>Airborne Noise</b>		
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^
<b>C</b>	<b>Water Quality</b>		
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		*
6.377	Accidental Spillage of Chemicals  Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	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.		*
6.379	<p>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:</p> <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.</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>		^
6.380	<p>Construction Works in Close Proximity of Storm Drains or Seafront:</p> <p>To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable.</p> <ul style="list-style-type: none"> <li>• The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment.</li> <li>• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> <li>• Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.</li> <li>• Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.</li> </ul>	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
<b>D</b>	<b>Waste Management</b>		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> <li>• excavated materials suitable for reuse on-site;</li> <li>• excavated materials suitable for public filling facilities;</li> <li>• remaining C&amp;D waste for landfill;</li> <li>• chemical waste; and</li> <li>• general refuse for landfill.</li> </ul>	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.	All construction sites	^
	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.		^
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		*
9.115	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.	All construction sites	^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.	All construction sites	^
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	interceptors.		
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All construction sites	N/A
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^
9.137	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 approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		^
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

<b>EIA Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Location of the measure</b>	<b>Implementation Status</b>
<b>E</b>	<b>Terrestrial Ecology</b>		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		*
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		*
<b>F</b>	<b>Landscape and Visual</b>		
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	^
	Existing trees to be retained on site should be carefully protected during construction.		^
	Trees unavoidably affected by the works should be transplanted where practical.		^
	Compensatory tree planting should be provided to compensate for felled trees.		^
	Control of night-time lighting.		^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
<b>G</b>	<b>Marine Ecology</b>		
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	*
<b>H</b>	<b>Hazard to Life</b>		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^

Remarks:	^ Compliance of mitigation measure;
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	# Recommendation was made during site audit and to be improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	● Non-compliance but rectified by the contractor;

---

---

**APPENDIX H  
SUMMARY OF ENVIRONMENTAL  
LICENSES AND PERMITS**

---

---

Appendix H - Summary of Environmental Licenses and Permits

Permit Number	Valid Period		Details	Status
	From	To		
<b>Water Discharge License</b>				
WT000116 29-2012	N/A	31/1/2017	Location: Sandy Bay PTW	Expiry
WT000116 33-2012	N/A	31/1/2017	Location: Cyber Port PTW	
WT000116 32-2012	N/A	31/1/2017	Location: Ap Lei Chau	
WT000168 37-2013	N/A	31/8/2018	Location: Wah Fu PTW	
WT000279 53-2017	N/A	31/3/2022	Location: Aberdeen PTW	Valid
<b>Notification of Works Under APCO</b>				
334694	6/9/2011	N/A	All PTWs	N/A
<b>Registered Chemical Waste Producer</b>				
5218-171- L2783-01	14/12/2011	N/A	Location: Sandy Bay PTW	Valid
5218-171- L2783-02	30/12/2011	N/A	Location: Cyber Port PTW	
5218-174- L2783-03	30/12/2011	N/A	Location: Ap Lei Chau	
5218-173- L2783-04	30/12/2011	N/A	Location: Aberdeen PTW	
5218-172- L2783-05	30/12/2011	N/A	Location: Wah Fu PTW	
<b>Special Waste Admission Ticket</b>				
14760	24/11/2018	23/11/2019	Location: Aberdeen PTW	Valid
14759	24/11/2018	23/11/2019	Location: Ap Lei Chau	Valid



---

---

**APPENDIX I  
SUMMARY OF AMOUNT OF WASTE  
GENERATED IN THE REPORTING  
PERIOD**

---

---

Name of Department: DSD

Name of Contract : Harbour Area Treatment Scheme Stage 2A – Upgrading of Preliminary Treatment Works  
at Sandy Bay, Cyberport, Wah Fu, Ap Lei Chau and Aberdeen

Contract No. : DC/2009/24

**APPENDIX I MONTHLY SUMMARY WASTE FLOW TABLE FOR 2019 (YEAR)**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Special Waste
	[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> ]	[in '000ton]
Year2012	1.002910	0.000000	0.000000	0.000000	1.002910	0.000000	6.680000	0.070000	0.070000	0.100000	0.014000	2.406456
Year2013	4.264035	0.000000	0.000000	0.000000	4.264035	0.000000	10.750000	0.000000	0.000000	0.350000	0.064890	2.232710
Year2014	4.639730	0.000000	0.000000	0.000000	4.639730	0.000000	0.000000	0.000000	0.000000	0.450000	0.145370	1.832460
Year2015	5.361825	0.000000	0.000000	0.000000	5.361825	0.000000	0.000000	0.000000	0.031000	0.050000	0.461870	1.082870
Year 2016	5.172790	0.000000	0.000000	0.060000	5.112790	0.000000	0.000000	0.000000	0.000000	0.000000	0.757580	0.980878
Year 2017	2.542090	0.000000	0.000000	0.000000	2.542090	0.000000	0.000000	0.000000	0.000000	0.000000	0.616240	1.742880
Year 2018	22.983380	0.000000	0.000000	0.060000	22.923380	0.000000	17.430000	0.070000	0.101000	0.950000	2.059950	10.278254
JAN	0.11318256	0	0	0	0.11318256	0	0	0	0	0	0.0970331	0.18752
FEB	0	0	0	0	0	0	0	0	0	0	0.0113293	0.19637
MAR	0.66151426	0	0	0	0.66151426	0	0	0	0	0	0.0227694	0.18157
APR	0	0	0	0	0	0	0	0	0	0	0	0
MAY	0	0	0	0	0	0	0	0	0	0	0	0
JUNE	0	0	0	0	0	0	0	0	0	0	0	0
SUB-TOTAL	0.774697	0.000000	0.000000	0.000000	0.774697	0.000000	0.000000	0.000000	0.000000	0.000000	0.131132	0.565460
JULY	0	0	0	0	0	0	0	0	0	0	0	0
AUG	0	0	0	0	0	0	0	0	0	0	0	0
SEPT	0	0	0	0	0	0	0	0	0	0	0	0
OCT	0	0	0	0	0	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0.774697	0.000000	0.000000	0.000000	0.774697	0.000000	0.000000	0.000000	0.000000	0.000000	0.131132	0.565460

Forecast of Total Quantities of C&D materials to be Generated from the Contracts *											
Total Quantity Generated	Hard Rock and Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Special Waste
[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> ]	[in '000ton]
28.774	1.544	1.73	0.06	25.44	0	30	1	1	4	2.77	12.2

Notes :

- (1) The performance targets are given in PS Clause 6(14).
- (2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
- (3) The contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where to 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 5(4)(b) refers).  
[Delete Note (4) and the table above on the forecast, where inapplicable].

\* (4) The assumed density (kg/m<sup>3</sup>) for both C&D material and general refuse.

C&D material 2000kg/m<sup>3</sup>  
General refuse 1.0 tonnes/m<sup>3</sup>

- (5) Conversion factors for reporting purpose:  
in-situ: rock = 2.5 tonnes/m<sup>3</sup> ; soil = 2.0 tonnes/m<sup>3</sup>  
excavated: rock = 2.0 tonnes/m<sup>3</sup> ; soil = 1.8 tonnes/m<sup>3</sup>  
broken concrete and bitumen = 2.5 tonnes/m<sup>3</sup>  
C&D Waste = 1.0 tonnes/m<sup>3</sup>  
bentonite slurry = 2.8 tonnes/m<sup>3</sup>  
Paper = 800kg/m<sup>3</sup>  
Chemical = 800kg/m<sup>3</sup>  
Special waste = 0.6m<sup>3</sup> / container

---

---

**APPENDIX J  
COMPLAINT LOG**

---

---

**APPENDIX J – COMPLAINT LOG**

**Reporting Period:** January to March 2019

**Remarks:** No environmental complaint was received in the reporting quarter.

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

---

---

**APPENDIX K**  
**SUMMARY OF EXCEEDANCE**

---

---

## **APPENDIX K – SUMMARY OF EXCEEDANCE**

**Reporting Period:** January to March 2019

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise on normal week days (NIL)**