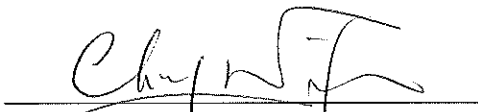


Leader and JEC Joint Venture

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

**Monthly Environmental
Monitoring and Audit Report
July 2014**

(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.

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

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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

19 August 2014
By Post

Attn: Mr. Danny Tang

Dear Sir,

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

Contract No. DC/2009/24
Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau
Condition 4.4 – Submission of Monthly EM&A Report for July 2014 (no. 31)

I refer to the revised Monthly EM&A for July 2014 (version 1.0) submitted by ET on 18 August 2014 via email. Pursuant to Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



Dr. Anne F Kerr
Independent Environmental Checker

c.c. Ove Arup & Partners HK Ltd.
Leader - JEC Joint Venture
Cinotech Consultants Ltd.

Mr. Ted Y F Tang
Mr. Patrick Wong
Dr. Priscilla Choy

Fax: 2370 4377
By email
By email

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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 31st Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants 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/2007/24 and DC/2008/09 HATS Stage 2A with same Environmental Permit (Permit No. EP-322/2008/G) for July 2014.
2. The site activities undertaken for in the reporting month included:
 - Wah Fu PTW – Plant operation, Construction for the FSGT structure;
 - Ap Lei Chau PTW – Plant operation, FSGT building construction, Pipe pile construction;
 - Aberdeen PTW – Plant operation, Construction for the FSGT structure, Flume channel and chamber construction, Rising Main construction;
 - Sandy Bay PTW – Reinstatement works for boundary wall; and
 - Cyberport PTW– Installation of fine screen, Installation of DO unit, Inspection trench & trial pit excavation.

Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2007/24 and DC/2008/09 under HATS 2A with same 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 (Aberdeen PTW)

4. Since 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 air quality and noise monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from July 2014. The environmental monitoring schedule for the next reporting month is shown in **Appendix C**.
5. Summary of the non-compliance of the reporting month is tabulated in **Table I**.

Table I Summary Table for Non-compliance Recorded in the Reporting Month

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	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A

CM_WF1a	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
CM_AB1a	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
M5	Noise (Day Time)	0	0	0	0	N/A
M6a		0	0	0	0	N/A
M7a		0	0	0	0	N/A
M8		0	0	0	0	N/A
M9		0	0	0	0	N/A

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

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

Environmental Licenses and Permits

9. 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.

Environmental Mitigation Implementation Schedule

10. According to the EIA Report Section 3.74, 4.56, 6.384, 9.154 and 13.44, air quality, noise, water quality, waste management and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix K**.

Key Information in the Reporting Month

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

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Status of submissions under EP	1	Environmental Monitoring and Audit Monthly Report – June 2014	Submitted to EPD on 15 July 2014	No comment	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

Summary of Complaints and Prosecutions

12. No environmentally related summons, prosecutions or complaints were received for the Project in the reporting month.
13. There was no environmental prosecution or notification of summons received while three complaints were already received since the Project commencement. The Complaint Log is presented in **Appendix K**.

Future Key Issues:

14. Major site activities for the coming two months include:
- Wah Fu PTW: FSGT structure construction, Plant operation;
 - Aberdeen PTW: Construction of FSGT structure, E&M equipment installation, Plant operation, Rising main construction, Flume channel and chamber construction;
 - Ap Lei Chau PTW: Plant operation, Construction of FSGT structure, Relocation of nightsoil discharge point, ELS for wet/dry well;
 - Sandy Bay PTW: Staircase construction, Reinstatement of boundary wall, Odour pipe/drawpit/ ducting construction; and
 - Cyberport PTW: Installation of fine screen, Installation of DO unit, Trial pit excavation, Trial run for TTA in share access.
15. 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 9th May 2014 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.
- 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 31st monthly EM&A report summarizing the EM&A works conducted for the Project in July 2014.

Project Organizations

- 1.9 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.
Drainage Services Department	Project Proponent	Mr. P. K. Kwok	Senior Engineer 2	2159 3403
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
Cinotech	Environmental	Dr. Priscilla Choy	ET Leader	2151 2089

Party	Role	Name	Position	Phone No.
	Team	Ms. Janet Wai	Project Coordinator & Audit Team Leader	2151 2078
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
		Mr. Patrick Wong	Environmental Officer	9019 7270

Construction Programme

1.10 The site activities undertaken in the reporting month included:

- Wah Fu PTW – Plant operation, Construction for the FSGT structure;
- Ap Lei Chau PTW – Plant operation, FSGT building construction, Pipe pile construction;
- Aberdeen PTW – Plant operation, Construction for the FSGT structure, Flume channel and chamber construction, Rising Main construction;
- Sandy Bay PTW – Reinstatement works for boundary wall; and
- Cyberport PTW– Installation of fine screen, Installation of DO unit, Inspection trench & trial pit excavation.

Summary of EM&A Requirements

1.11 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.

1.13 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for the Project in July 2014. For the methodology and QA/QC procedures of the monitoring parameters, please refer to the monthly report for the Contract DC/2007/24 and DC/2008/09.

2. AIR QUALITY

Monitoring Requirements

- 2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

- 2.2 Three designated monitoring stations, CM_CB1a, CM_WF1a and CM_AB1a were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations and the responsible ETs who are carrying out the impact air quality monitoring. The monitoring locations which are also depicted in **Figure 1**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Station	Monitored by	Location of Measurement
CM_CB1a ⁽¹⁾	DC/2007/24	The Arcade, Cyberport
CM_WF1a ⁽¹⁾⁽²⁾	DC/2009/24	Wah Ming House, Wah Fu Estate
CM_AB1a	DC/2007/24	The Hong Kong Ice and Cold Storage, formerly known as Dairy Farm Ice and Cold Storage

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: The air quality monitoring station was handed over to this project starting from July 2014 and the air quality monitoring was carried out by the ET of this project from July 2014.

Monitoring Equipment

- 2.3 The details of the equipment used in the impact air monitoring programme could be referred to Section 4.2 of the monthly report of Contact No. DC/2007/24.

Monitoring Parameters, Frequency and Duration

- 2.4 **Table 2.2** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedules could be found in Appendix G in the monthly report for the Contract DC/2007/24.

Table 2.2 Impact Dust Monitoring Parameters, Frequency and Duration

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
	24-hour TSP	0000-2400 hrs	once in every 6 days

Monitoring Methodology and QA/QC Procedure

- 2.5 Weather data was recorded during the monitoring period and is shown in **Appendix D**. The

data was obtained from the Meteorological Observations from Hong Kong Observatory Station. The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staff's observation on the monitoring day.

Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

Measuring Procedures

- 2.6 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:
- Pull up the air sampling inlet cover
 - Change the Mode 0 to BG with once
 - Push Start/Stop switch once
 - Turn the knob to SENSI.ADJ and press it
 - Push Start/Stop switch once
 - Return the knob to the position MEASURE slowly
 - Push the timer set switch to set measuring time
 - Remove the cap and make a measurement

Maintenance/Calibration

- 2.7 The following maintenance/calibration was required for the direct dust meters:
- Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

- 2.8 High volume (HVS) samplers (Model no. TE-5170 and GS-2310105-1) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Operating/Analytical Procedures

- 2.9 Operating/analytical procedures for the operation of HVS were as follows:
- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
 - No two samplers were placed less than 2 meters apart.
 - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
 - A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
 - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
 - No furnaces or incineration flues were nearby.

- Airflow around the sampler was unrestricted.
 - The sampler was more than 20 meters from the drip line.
 - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.10 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.11 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3 µm diameter.
- 2.12 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.13 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.14 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 2.15 The shelter lid was closed and secured with the aluminum strip.
- 2.16 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- 2.17 After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.
- 2.18 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

- 2.19 The following maintenance/calibration was required for the HVS:
- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- 2.20 High volume samplers were calibrated at bi-monthly intervals using Calibration Kit (Thermo Andersen; Model no. G25A) throughout all stages of the air quality monitoring.

- 2.21 The monitoring methodology and QA/QC procedures of CM_CB1a & CM_AB1a are presented in the Section 4.1 and 4.3 of monthly report for Contract DC/2007/24.

Results and Observations

- 2.22 **Table 2.3** summarizes the monitoring results at CM_CM1a, CM_WF1a and CM_AB1a in the reporting month.

Table 2.3 Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month

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				
CM_CB1a	68	38.2-103.0	280	500
CM_WF1a	70	13.3-220.4	285	
CM_AB1a	54	10.2-97.9	283	
24 hours TSP				
CM_CB1a	35	11-57	178	260
CM_WF1a	33	19-50	185	
CM_AB1a	36	5-59	174	

- 2.23 The details of exceedances in the reporting month are presented in the Section 5 of the monthly report for DC /2007/24 and Section 6 of the monthly report for this report.
- 2.24 The detailed monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to Appendix J of monthly report of Contract DC/2007/24 and Appendix E of monthly report of this report.
- 2.25 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.
- 2.26 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.
- 2.27 The identified dust sources at the monitoring stations were mainly from operation of tower crane and gantry, lining works under construction shaft, loading and loading concrete.

3 NOISE

Monitoring Requirements

- 3.1 Five noise monitoring stations, namely M5, M6a, M7a, M8 and M9 were designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

- 3.2 Noise monitoring was conducted at five designated monitoring stations as listed in **Table 3.1**.

Table 3.1 Location of Noise Monitoring Stations

Monitoring Station	Monitored By	Location of Measurement
M5 (Sandy Bay PTW)	DC/2007/24	Chuk Lam Ming Tong
M6a ⁽¹⁾ (Cyberport PTW)	DC/2009/24	Aegean Terrace
M7a ⁽¹⁾ (Wah Fu PTW)		Wah Ming House
M8 (Aberdeen PTW)		Wah Lai House
M9 ⁽²⁾ (Ap Lei Chau PTW)	DC/2008/09	Mei Chun Court, South Horizons
M9 ⁽³⁾ (Ap Lei Chau PTW)	DC/2009/24	

Remark 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.

Remark 2: The noise monitoring was carried out by the ET of DC/2008/09 before 28 July 2014.

Remark 3: The noise monitoring was handed over to this project from 28 July 2014 and carried out by the ET this project starting from 28 July 2014.

Monitoring Equipment

- 3.3 The details of the equipment used in the impact noise monitoring programme could be referred to Section 4.2 of the monthly report of Contact No. DC/2007/24 and Section 2.2 of the monthly report of Contact No. DC/2008/09.

Monitoring Parameters, Frequency and Duration

- 3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedules could be found in Appendix G in the monthly report for the Contract DC/2007/24 and Appendix D in the monthly report for the Contract DC/2008/09.

- 3.5 As advised by the Contractor, no construction work under this project was conducted during the restricted hours in reporting month.

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency
---------------------	-----------	--------	-----------

M5 M6a M7a M8 M9	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs. on normal weekdays	Once per week
M5 M6a M7a M8 M9	$L_{eq}(5 \text{ min.})$ dB(A)	During restricted hours	Weekly monitoring to be conducted during the construction works

Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was generally set on a tripod at a height of 1.2 m above the ground, depending to the actual monitoring condition.
- For free field measurement (if any), the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
 Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

3.6 The monitoring methodology and QA/QC procedure of M5 and M9 could be referring to the monthly reports for Contract DC/2007/24 and DC/2008/09.

Maintenance and Calibration

3.7 The microphone head of the sound level meter and calibrator was cleaned with soft cloth regularly. The meters were sent to the supplier to check and calibrate on a yearly interval.

Results and Observations

3.8 **Table 3.3** summarizes the monitoring results at M5, M6a, M7a, M8 and M9 in reporting month.

Table 3.3 Summary the Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays		
Monitoring Station	Range, dB(A) L _{eq} (30 min.)	Limit Level, dB(A) L _{eq} (30 min.)
M5	61-64	75.0
M6a	52-55 ⁽¹⁾	
M7a	67-69	
M8	65-68	
M9 ⁽²⁾	43-57	

Remark: (1) Free-field measurement, +3dB correction.

(2) The noise monitoring was carried out by the ET of DC/2008/09 before 28 July 2014. The noise monitoring was handed over to this project from 28 July 2014 and carried out by the ET of this project starting from 28 July 2014. The monitoring result prior to 28 July 2014 could be found in Appendix F of the monthly report for Contract DC/2008/09 while the monitoring data on 28 July 2014 could be found in Appendix F of the monthly report for this project.

- 3.9 The construction noise monitoring at the designated locations was conducted by the ET of Contract: DC/2007/24, DC/2008/09 and this project as scheduled in the reporting month. The monitoring results and graphical presentation are provided in Appendix H and I of the monthly report for Contract DC/2007/24, Appendix E of the monthly report for this project and Appendix F of the monthly report for Contract DC/2008/09.
- 3.10 The noise monitoring of M9 was carried out by the ET of DC/2008/09 before 28 July 2014. The noise monitoring of M9 was handed over to this project from 28 July 2014 and carried out by the ET of this project starting from 28 July 2014. The monitoring result of M9 prior to 28 July 2014 could be found in Appendix F of the monthly report for Contract DC/2008/09 while the monitoring data on 28 July 2014 could be found in Appendix E of the monthly report for this project.
- 3.11 No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix G**.
- 3.12 The major noise sources identified at the designated noise monitoring stations were from road traffic noise, concrete loading, lining works.

4 ENVIRONMENTAL AUDIT**Site Audits**

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.2 Environmental site audits were conducted on 4, 11, 18, 25 and 29 July 2014. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of mitigation measures for Air Quality, Noise, Water Quality, Waste Management, Landscape and Visual are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix H**.

Review of Environmental Monitoring Procedures

- 4.5 The monitoring works conducted by the monitoring team of Contract DC/2007/24, DC/2008/09 and this project. The monitoring procedures were reviewed by their ETs.

Status of Environmental Licensing and Permitting

- 4.6 All permits/licenses obtained for the Contract DC/2009/24 are summarized in **Table 4.1**.

Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/24

Permit Number	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT000116 29-2012	N/A	31/1/2017	Location: Sandy Bay PTW	Valid
WT000116 33-2012	N/A	31/1/2017	Location: Cyber Port PTW	
WT000116 32-2012	N/A	31/1/2017	Location: Ap Lei Chau	
WT000162 42-2013	N/A	31/3/2017	Location: Aberdeen PTW	
WT000168 37-2013	N/A	31/8/2018	Location: Wah Fu PTW	
WT000116 27-2012	N/A	31/1/2017	Location: Wah Fu PTW	Expiry
Notification of Works Under APCO				
334694	6/9/2011	N/A	All PTWs	N/A
Registered Chemical Waste Producer				
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	
Special Waste Admission Ticket				
11196	24/2/2014	23/5/2014	Location: Ap Lei Chau	Expiry
11195	24/2/2014	23/5/2014	Location: Aberdeen PTW	
11197	24/2/2014	23/5/2014	Location: Wah Fu PTW	
11379	24/5/2014	23/8/2014	Location: Wah Fu PTW	Valid

Status of Waste Management

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix I**.

Implementation Status of Environmental Mitigation Measures

- 4.8 Details of the implementation of mitigation measures are provided in the **Appendix K**.
- 4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Table 4.2**.

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Ref. Number	Observations	Follow Up Action
Water Quality	140627-001	The flow meter of the sediment tank at Wah Fu-PTW and the pH meter of the sediment tank at ALC-PTW were mal-functioned. The Contractor was reminded to provide the maintenance of the sediment tanks to ensure the water quality of the sediment tank is fulfilled the requirement of the WPCO's wastewater discharge license before discharging out.	Please refer to 140704-001.

	140704-O01	The pH meter of the sediment tank at ALC-PTW and Abd-PTW were mal-functioned. The Contractor was reminded to provide the maintenance of the sediment tanks to ensure the water quality of the sediment tank is fulfilled the requirement of the WPCO's wastewater discharge license before discharging out.	The maintenance of the sediment tanks was provided by the Contractor. The pH meter of the sediment tank at ALC-PTW and Abd-PTW are functioning now.
	140704-R02	Properly clear the slurry water at Abd-PTW.	The slurry water was cleared properly at Abd-PTW.
	140725-O01	The wet sep at ALC-PTW was mal-functioned. The Contractor was reminded to provide the maintenance of the wet sep or additional wastewater treatment facility if the timely maintenance of the wet sep cannot provide.	The maintenance of the wet sep at ALC-PTW was provided by the Contractor. The wet sep is functioned now at ALC-PTW.
	140725-O02	The bunding should be provided at ALC-PTW to prevent the muddy water runoff to the access road.	The bunding was provided at ALC-PTW.
	140725-R04	Properly clear the stagnant water at Cyberport-PTW and ALC-PTW.	Please refer to 140729-R01.
	140729-R01	Properly clear the stagnant water at Cyberport-PTW and ALC-PTW.	The stagnant water was cleared at Cyberport-PTW and ALC-PTW.
Air Quality	140711-R01	The dusty materials should be cleared properly or covered by impervious materials at ALC-PTW and Abd-PTW.	Please refer to 140718-R02.
	140718-R01	The generator should be kept in a good condition at ALC-PTW to prevent the black smoke emission. The Contractor was reminded to provide the maintenance of the generator.	The maintenance of the generator at ALC-PTW was provided by the Contractor.
	140718-R02	The dusty materials should be cleared properly or covered by impervious materials at ALC-PTW and Abd-PTW.	The dusty material was cleared properly at Abd-PTW and covered by impervious materials at ALC-PTW.
	140725-R05	Properly clear the dusty material at ALC-PTW and Abd-PTW.	The dusty material was cleared at ALC-PTW and Abd-PTW.
	140729-R02	Properly clear the dusty material at Abd-PTW.	The dusty material was cleared and sprayed water at Abd-PTW.
Waste/ Chemical Management	140718-R04	The chemical container should be provided with the drip tray at Abd-PTW.	The chemical container was removed and not observed at Abd-PTW.

	140725-O03	The oil leakage of breaker tip was observed at Abd-PTW. The Contractor was reminded to provide the appropriate measure to avoid the oil spillage and clear the oil stain properly.	The breaker tip was removed and not observed at Abd-PTW.
Noise	--	--	--
Landscape and Visual	140711-R02	The construction materials should be placed far away from the tree protection area at ALC-PTW.	Please refer to 140718-R03.
	140718-R03	The construction materials should be placed far away from the tree protection area at ALC-PTW.	The construction materials was placed far away from the tree protection area at ALC-PTW.
Permit/ Licenses	--	--	--

Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix J**.

1-hr TSP

4.11 No Action/Limit Level exceedance was recorded.

24-hr TSP

4.12 No Action/Limit Level exceedance was recorded.

Construction Noise

4.13 No Action/Limit Level exceedance was recorded.

Landscape and Visual

4.14 No non-compliance was recorded.

Summary of Complaints and Prosecutions

4.15 There was no environmental prosecution or notification of summons received while three complaints were already received since the Project commencement. The Complaint Log is presented in **Appendix L**.

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

5.1 Key environmental issues in the coming month 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;
- Maintenance of de-silting facilities and drainage system such as U-channels;
- Blockage of U-channel by accumulated silt;
- Ponding water generated in pre-drillings;
- Dust generation should be mitigated by adequate water spraying, especially in dry days;
- 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.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedules for the next month could be found in the Appendix G and Appendix C of the monthly report of Contracts DC/2007/24 and this report respectively.

Construction Program for the Next Month

5.3 The tentative construction program is provided in **Appendix M**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise Monitoring

- 6.4 The noise monitoring of M9 was carried out by the ET of DC/2008/09 before 28 July 2014. The noise monitoring of M9 was handed over to this project from 28 July 2014 and carried out by the ET of this project starting from 28 July 2014. The monitoring result of M9 prior to 28 July 2014 could be found in Appendix F of the monthly report for Contract DC/2008/09 while the monitoring data on 28 July 2014 could be found in Appendix F of the monthly report for this project.

- 6.5 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Audit

- 6.6 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

- 6.7 No environmentally related summons, prosecutions or complaints were received in the reporting month.

Recommendations

- 6.8 According to the environmental audit performed in the reporting month, the following recommendations were made:

Water Impact

- To provide the maintenance of the sediment tank and wet sep regularly and make sure the equipment of the sediment tank and wet sep are non-malfunctioned;
- To provide the bunding to prevent the water overflow; and
- To avoid accumulation of stagnant / ponding water on site.

Air Quality

- To remain good site practice on handling excavated or dusty material for dust suppression (e.g. stockpiles of material shall be covered by tarpaulin);
- To provide the maintenance of the generator regularly and make sure the equipment of the generator in a good condition to prevent the black smoke emission.

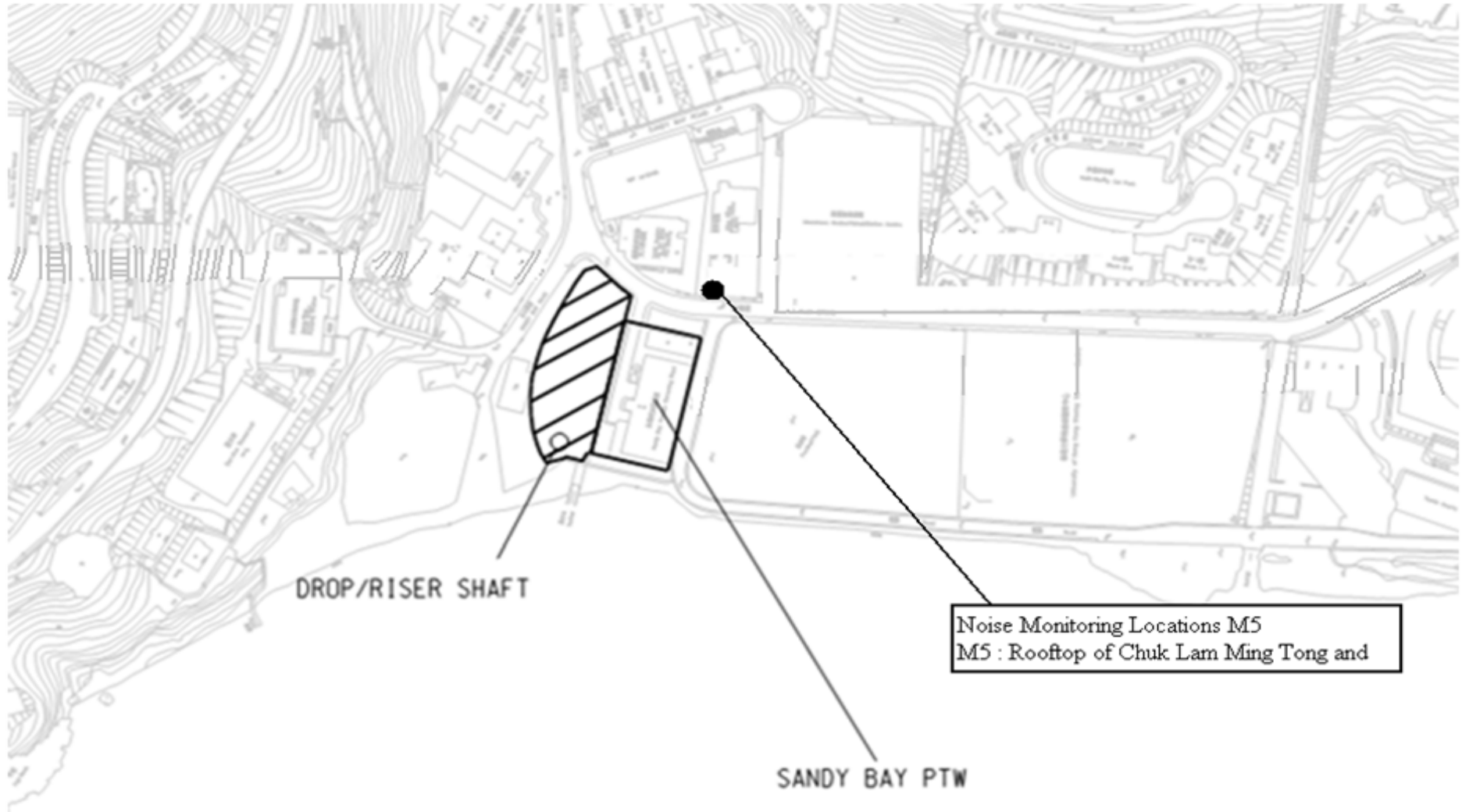
Waste/Chemical Management

- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment; and
- To provide proper and sufficient storage area or drip trays for oil containers on site.

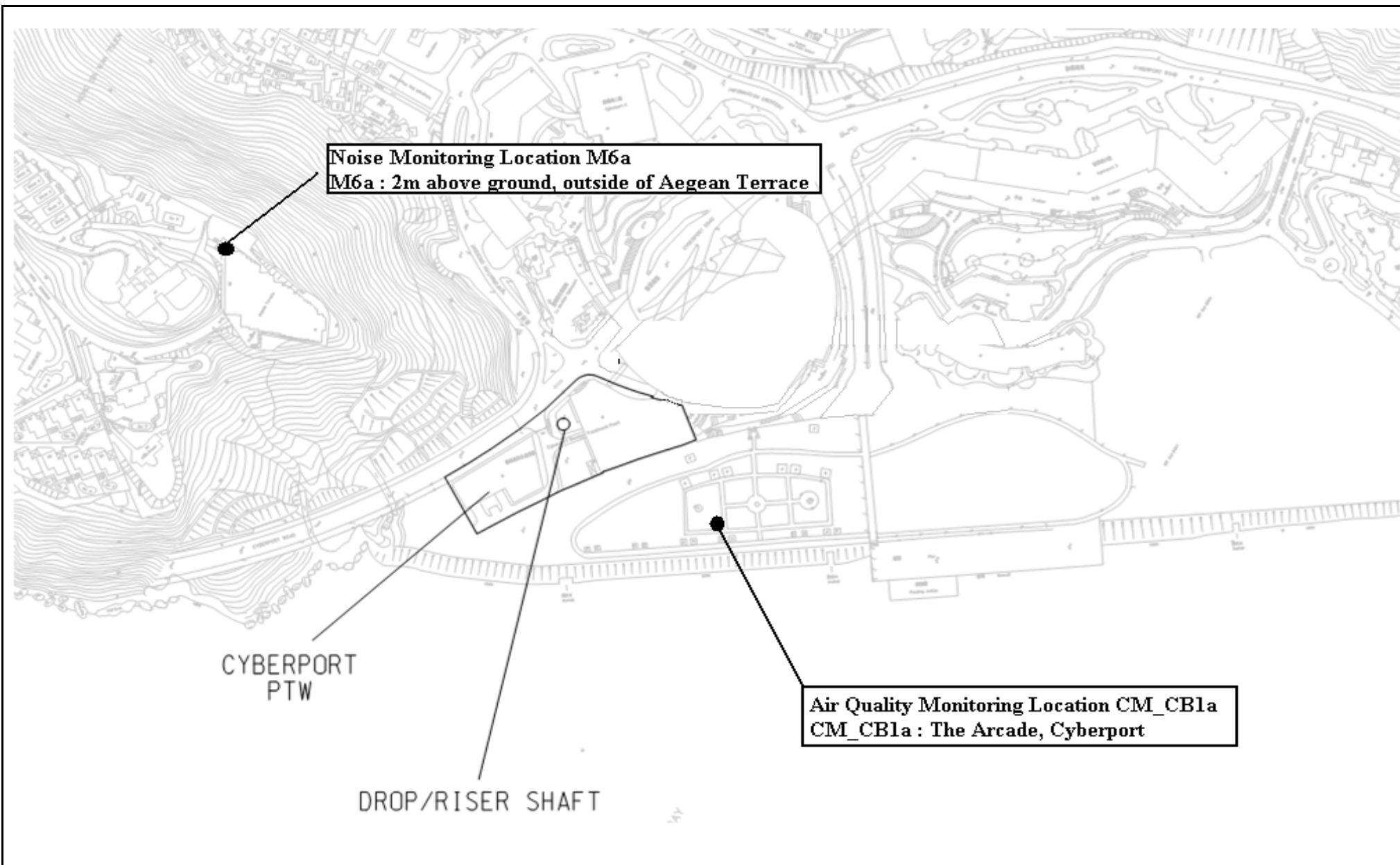
Landscape and Visual

- To avoid any heavy materials placed into tree protection zone.

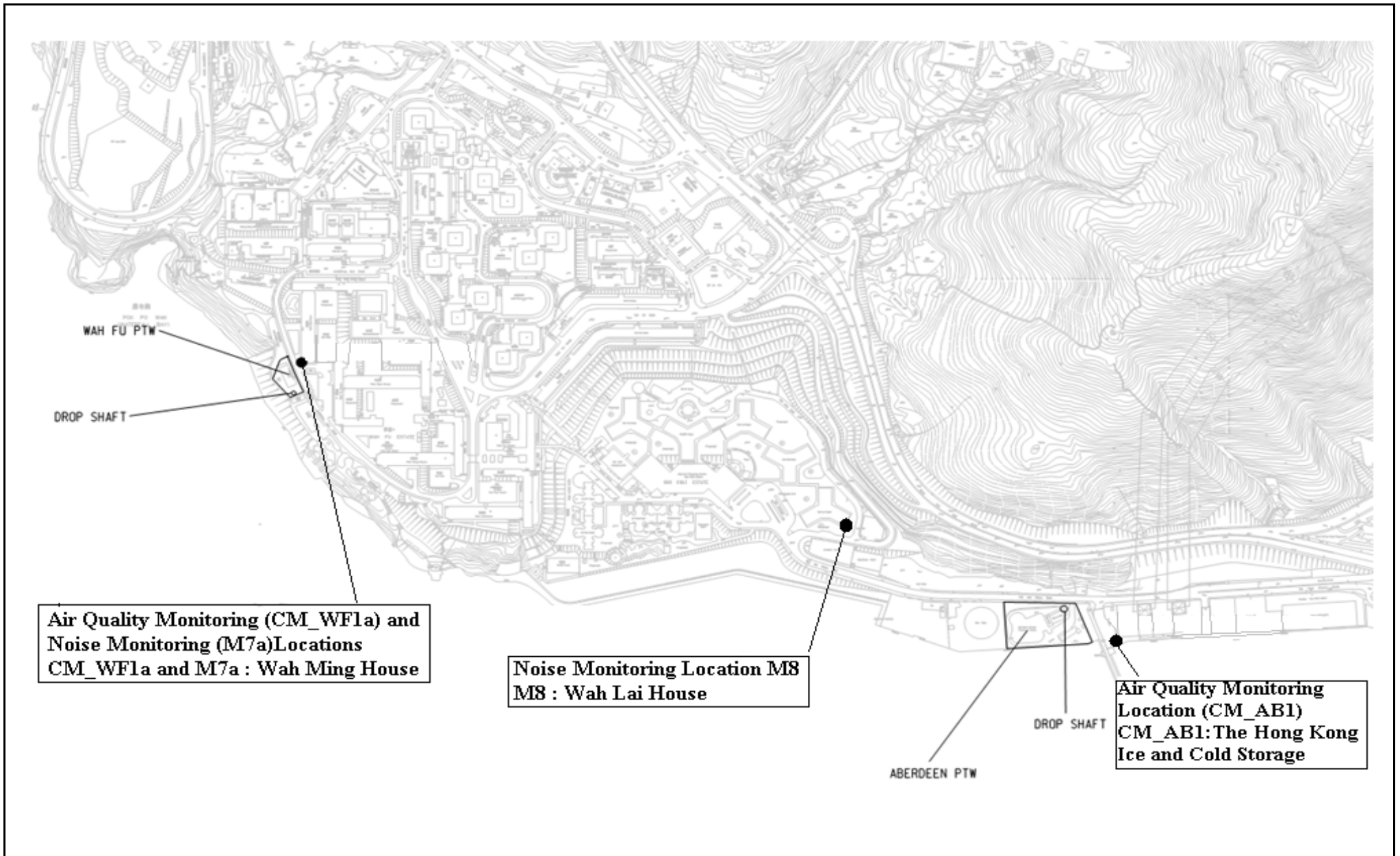
FIGURES



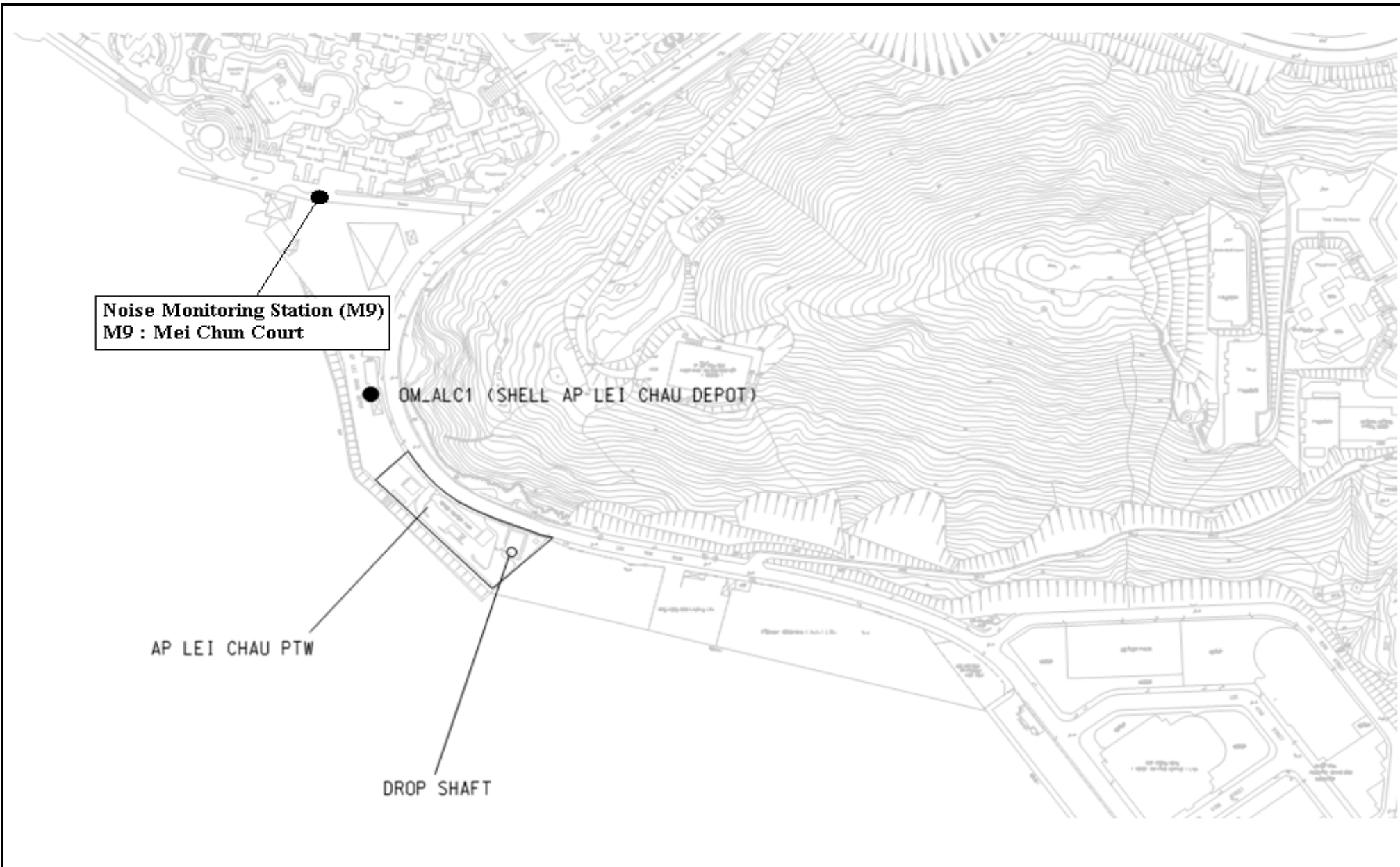
Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Sandy Bay PTW and Locations of Noise Monitoring Stations	Date	Figure	
		01/2012	1a	



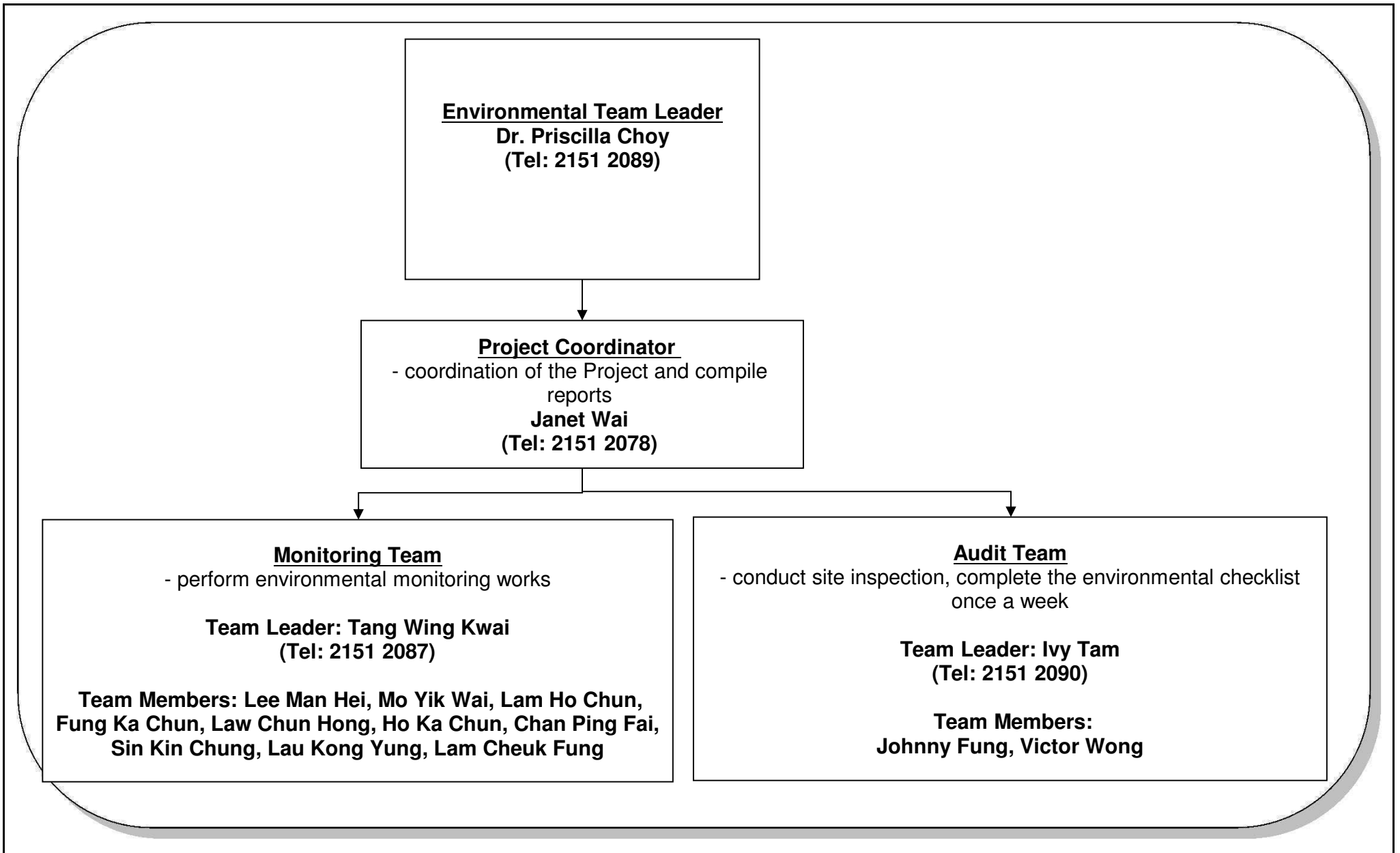
Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Cyberport PTW and Locations of Air Quality and Noise Monitoring Stations	Date	Figure	
		01/2012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



Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	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	
		1/2012	1C	



Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	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	CINOTECH
		Date	Jul-13	Figure	2	

**APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY AND NOISE**

Appendix A Action and Limit Levels

Table A-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_AB1a	283	174		

Table A-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 ⁽¹⁾

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

**APPENDIX B
COPIES OF CALIBRATION
CERTIFICATES**

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA11060/69/0001

Station CM_WF1a - Wah Ming House Operator: WK
 Date: 4-Jul-14 Next Due Date: 3-Sep-14
 Equipment No.: A-01-69 Serial No. 3222

Ambient Condition			
Temperature, Ta (K)	303.2	Pressure, Pa (mmHg)	755.6

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0588	Intercept, bc	-0.0461
Last Calibration Date:	30-Sep-13	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	29-Sep-14	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	9.7	3.08	53.14	6.4	2.50
2	8.3	2.85	49.22	5.6	2.34
3	6.4	2.50	43.31	4.5	2.10
4	4.3	2.05	35.64	3.1	1.74
5	2.8	1.65	28.91	2.0	1.40

By Linear Regression of Y on X

Slope, $m_w =$ 0.0454 Intercept, $b_w =$ 0.1070
 Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; $W = (m_w \times Qstd + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.34

Remarks: _____

Conducted by: W.K. Tang Signature: Kiwai
 Checked by: for Signature: _____

Date: 4/7/14
 Date: 4 July 2014

TEST REPORT

Description	Calibration Orifice	Manufacturer	TISCH
Serial No.	0993	Temperature, Ta (K)	300.8
Model No.	TE-5025A	Pressure, Pa (mmHg)	759.3
Date	30 September 2013	Equipment No.:	A-04-04

Plate	Diff.Vol (m ³)	Diff.Time (min)	Diff.Hg (mm)	Diff.H ₂ O (in.)
1	1.00	1.4103	3.4	2.00
2	1.00	0.9980	6.8	4.00
3	1.00	0.8970	8.5	5.00
4	1.00	0.8540	9.4	5.50
5	1.00	0.7060	13.6	8.00

DATA TABULATION

Vstd	(X axis) Qstd	(Y axis)
0.9853	0.6986	1.4069
0.9808	0.9828	1.9897
0.9786	1.0910	2.2245
0.9775	1.1446	2.3331
0.9720	1.3768	2.8138

Y axis= SQRT[H₂O(Pa/760)(298/Ta)]

Qstd Slope (m) = 2.07768

Intercept (b) = -0.04613

Coefficient (r) = 0.99997

Va	(X axis) Qa	(Y axis)
0.9955	0.7059	0.8901
0.9910	0.9930	1.2589
0.9888	1.1023	1.4074
0.9876	1.1565	1.4761
0.9821	1.3911	1.7803

Y axis= SQRT[H₂O(Ta/Pa)]

Qa Slope (m) = 1.30101

Intercept (b) = -0.02919

Coefficient (r) = 0.99997

CALCULATIONS

Vstd=Diff. Vol[(Pa-Diff.Hg)/760](298/Ta)

Qstd=Vstd/Time

Va=Diff.Vol[(Pa-Diff.Hg)/Pa]

Qa=Va/Time

For subsequent flow rate calculations:

Qstd=1/m{[SQRT(H₂O(Pa/760)(298/Ta))]-b}

Qa=1/m{[SQRT H₂O(Ta/Pa)]-b}

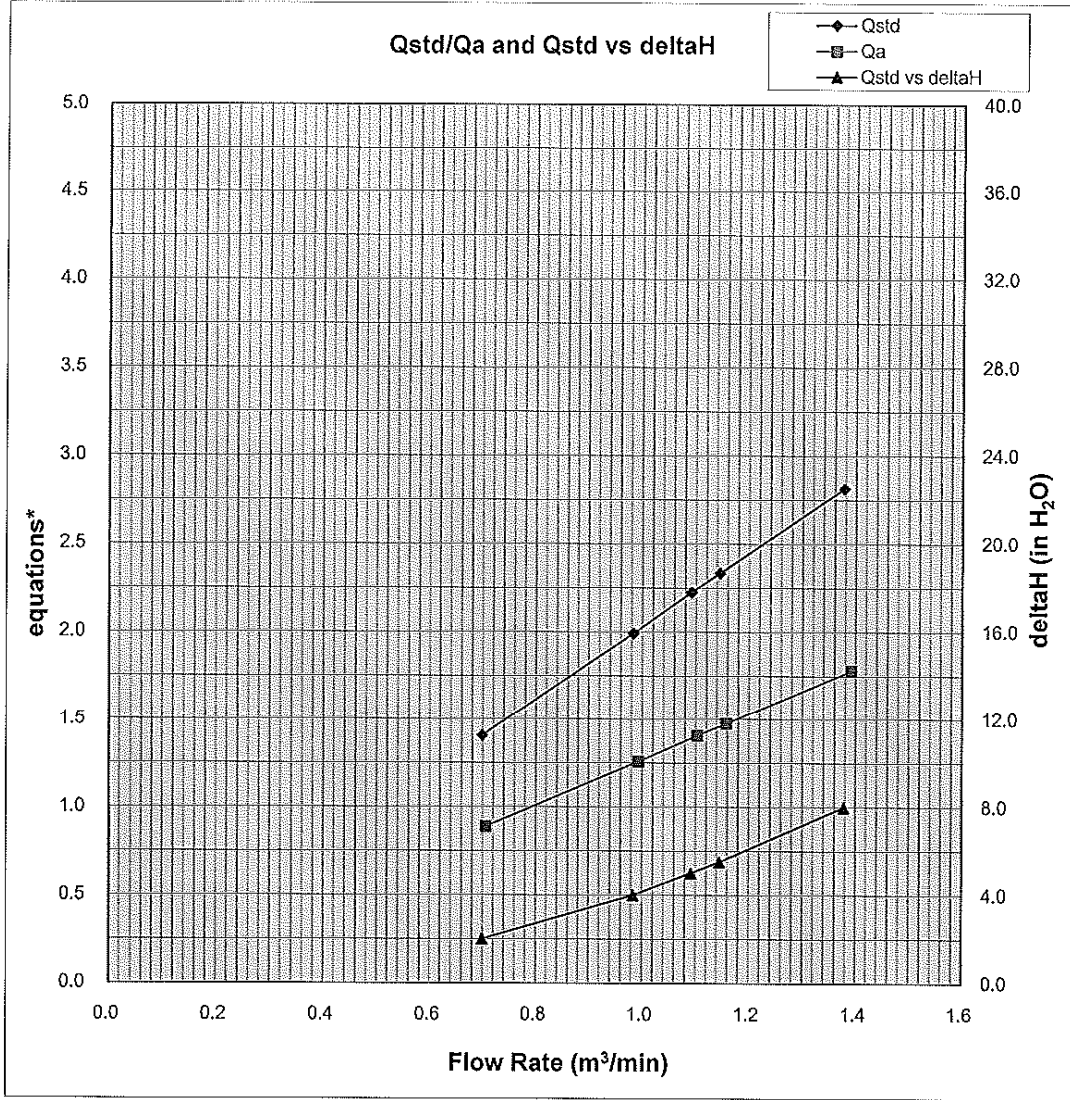
PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT



Y-axis equations:

Qstd series: $\text{SQRT}[\Delta H(\text{Pa}/\text{Pstd})(\text{Tstd}/\text{Ta})]$

Qa series: $\text{SQRT}[\Delta H(\text{Ta}/\text{Pa})]$

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/140630/2
Date of Issue:	2014-07-02
Date Received:	2014-06-30
Date Tested:	2014-06-30
Date Completed:	2014-07-02
Next Due Date:	2014-09-01

ATTN: Mr. W. K. Tang

Page: 1 of 1

Certificate of Calibration

Item for Calibration:

Description : Laser Dust Monitor
 Manufacturer : Sibata
 Model No. : LD-3B
 Serial No. : 095050
 Sensitivity (K) 1 CPM : 0.001 mg/m³
 Sen. Adjustment Scale Setting : 577 CPM
 Equipment No. : A-02-09

Test Conditions:

Room Temperature : 23 degree Celsius
 Relative Humidity : 61%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0029
-------------------------	--------

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
 Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/140630/3
Date of Issue:	2014-07-02
Date Received:	2014-06-30
Date Tested:	2014-06-30
Date Completed:	2014-07-02
Next Due Date:	2014-09-01

ATTN: Mr. W. K. Tang

Page: 1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095029
Sensitivity (K) 1 CPM	: 0.001 mg/m ³
Sen. Adjustment Scale Setting	: 551 CPM
Equipment No.	: A-02-10

Test Conditions:

Room Temperature	: 23 degree Celsius
Relative Humidity	: 61%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0028
-------------------------	--------

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/140606/2
Date of Issue:	2014-06-09
Date Received:	2014-06-06
Date Tested:	2014-06-06
Date Completed:	2014-06-09
Next Due Date:	2014-08-08

ATTN: Mr. W.K. Tang

Page: 1 of 1

Certificate of Calibration

Item for Calibration:

Description : Dust Monitor
 Manufacturer : Met One Instruments
 Model No. : AEROCET-531
 Serial No. : N6733
 Flow rate : 0.1 cfm
 Zero Count Test : 0 mg (The result of the 2-minute sample)
 Equipment No. : A-02-12

Test Conditions:

Room Temperature : 21 degree Celsius
 Relative Humidity : 64%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	1.109
-------------------------	-------

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
 Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/130919/1
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20

ATTN: Mr. W.K. Tang

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 12553
Microphone No.	: 35222
Equipment No.	: N-08-02

Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 57%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:


In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/140104
Date of Issue:	2014-01-05
Date Received:	2014-01-04
Date Tested:	2014-01-04
Date Completed:	2014-01-05
Next Due Date:	2015-01-04

ATTN: Mr. W. K. Tang

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 14303
Microphone No.	: 35222
Equipment No.	: N-08-05

Test conditions:

Room Temperature	: 19 degree Celsius
Relative Humidity	: 52%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

Remark: 1) This report supersedes the one dated 2012/01/21 with certificate number C/N/120120/1.

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/130830/2
Date of Issue:	2013-08-31
Date Received:	2013-08-30
Date Tested:	2013-08-30
Date Completed:	2013-08-31
Next Due Date:	2014-08-30

ATTN: Mr. W.K. Tang

Page: 1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 21459
Microphone No.	: 43676
Equipment No.	: N-08-08

Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 69%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/130919/3
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20

ATTN: Mr. W.K. Tang

Page: 1 of 1

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 10929
Equipment No.	: N-09-01

Test conditions:

Room Temperature	: 22 degree Celsius
Relative Humidity	: 57%

Methodology:

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

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131004/1
Date of Issue:	2013-10-05
Date Received:	2013-10-04
Date Tested:	2013-10-04
Date Completed:	2013-10-05
Next Due Date:	2014-10-04

ATTN: Mr. W.K. Tang

Page: 1 of 1

Item for calibration:

Description : Acoustical Calibrator
Manufacturer : SVANTEK
Model No. : SV30A
Serial No. : 24803
Equipment No. : N-09-03

Test conditions:

Room Temperature : 21 degree Celsius
Relative Humidity : 57%

Methodology:

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

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE

Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131004/3
Date of Issue:	2013-10-05
Date Received:	2013-10-04
Date Tested:	2013-10-04
Date Completed:	2013-10-05
Next Due Date:	2014-10-04

ATTN: Mr. W.K. Tang

Page: 1 of 1

Item for calibration:

Description : Acoustical Calibrator
Manufacturer : SVANTEK
Model No. : SV30A
Serial No. : 24780
Equipment No. : N-09-05

Test conditions:

Room Temperature : 21 degree Celsius
Relative Humidity : 57%

Methodology:

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

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE

Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/131108/1
Date of Issue:	2013-11-09
Date Received:	2013-11-08
Date Tested:	2013-11-08
Date Completed:	2013-11-09
Next Due Date:	2014-11-08

ATTN: Mr. W.K. Tang

Page: 1 of 1

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2326353
Project No.	: C13
Equipment No.	: N-02-01

Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 52 %


Methodology:

The sound calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
Laboratory Manager

TEST REPORT

APPLICANT: Cinotech Consultants Limited
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/130830/4-v1
Date of Issue:	2014-03-07
Date Received:	2013-08-30
Date Tested:	2013-08-30
Date Completed:	2013-08-31
Next Due Date:	2014-08-30

ATTN: Mr. W.K. Tang

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

Test conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 64%

Methodology:

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

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE

Laboratory Manager

**APPENDIX C
ENVIRONMENTAL MONITORING
SCHEDULE**

Contract No. DC/2009/24
HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau
Impact Air Quality and Noise Monitoring for July 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
					1 hr TSP (CM_WF1a) Noise (M8)	24 hrs TSP(CM_WF1a)
6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul
				1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8)	24 hrs TSP(CM_WF1a)	
13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul
			1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8)	24 hrs TSP(CM_WF1a)		
20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul
		1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8)	24 hrs TSP(CM_WF1a)			
27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug
	1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8, M9)	24 hrs TSP(CM_WF1a)			1 hr TSP (CM_WF1a)	

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

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)
 CM_WF1a - Wah Ming House

Noise Monitoring Station
 M6a - Aegean Terrace
 M7a - Wah Ming House
 M8 - Wah Lai House
 M9 - Mei Chun Court

Contract No. DC/2009/24

**HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau
Tentative Impact Air Quality and Noise Monitoring for August 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Aug	2-Aug
					1 hr TSP (CM_WF1a)	
3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug
	24 hrs TSP(CM_WF1a)	1 hr TSP (CM_AB1b & CB1a) 24 hrs TSP(CM_AB1b & CB1a)		1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8 & M9)		24 hrs TSP(CM_WF1a)
10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug
	1 hr TSP (CM_AB1b & CB1a) 24 hrs TSP(CM_AB1b & CB1a)		1 hr TSP (CM_WF1a) Noise (M7a)		1 hr TSP (CM_AB1b & CB1a) 24 hrs TSP(CM_WF1a) Noise (M6a, M8 & M9)	24 hrs TSP(CM_AB1b & CB1a)
17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug
		1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8 & M9)		1 hr TSP (CM_AB1b & CB1a) 24 hrs TSP(CM_WF1a)	24 hrs TSP(CM_AB1b & CB1a)	
24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug
	1 hr TSP (CM_WF1a) Noise (M6a, M7a, M8, M9)		1 hr TSP (CM_AB1b & CB1a) 24 hrs TSP(CM_WF1a)	24 hrs TSP(CM_AB1b & CB1a)	1 hr TSP (CM_WF1a)	

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

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)

CM_CB1a - The Arcade, Cyberport

CM_WF1a - Wah Ming House

CM_AB1b - Works Site Boundary of Aberdeen PTW

Noise Monitoring Station

M6a - Aegean Terrace

M7a - Wah Ming House

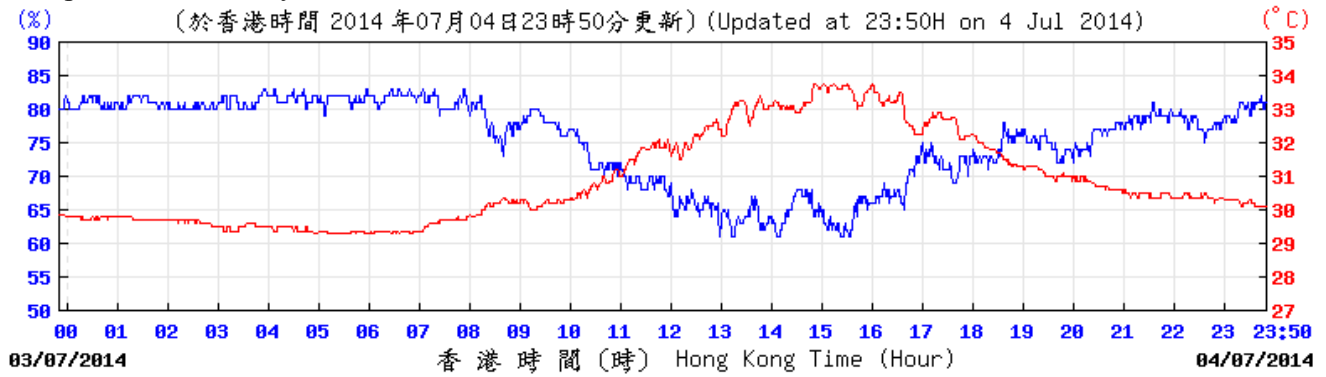
M8 - Wah Lai House

M9 - Mei Chun Court

**APPENDIX D
METEOROLOGICAL DATA ON
MONITORING DATES**

Appendix A
Meteorological Data Recorded from HKO Station (4 July 2014)
 (Source: www.hko.gov.hk)

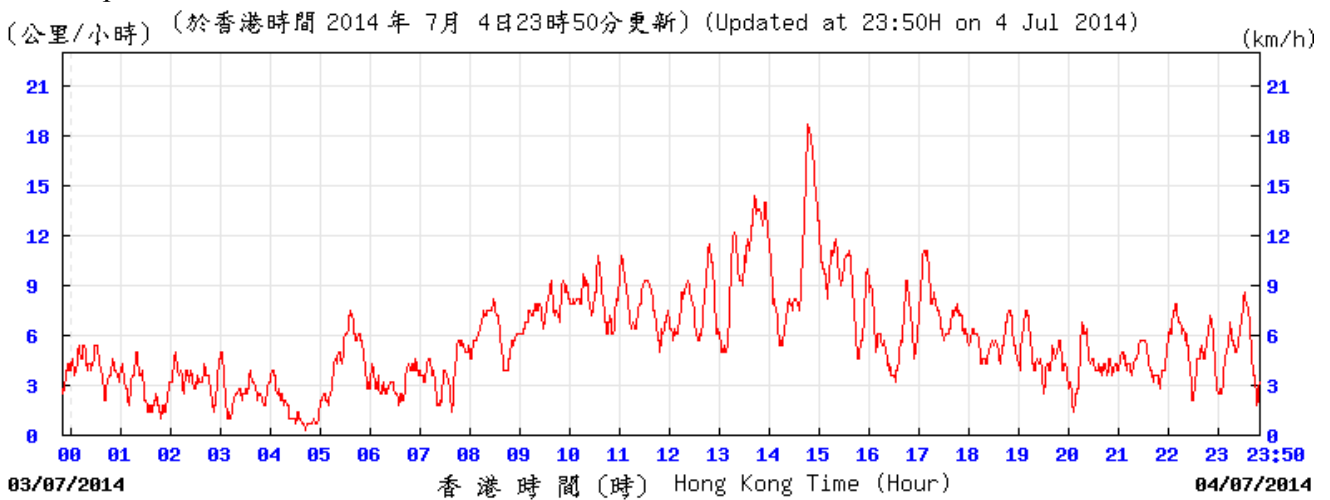
Temperature/Humidity:



HKOC

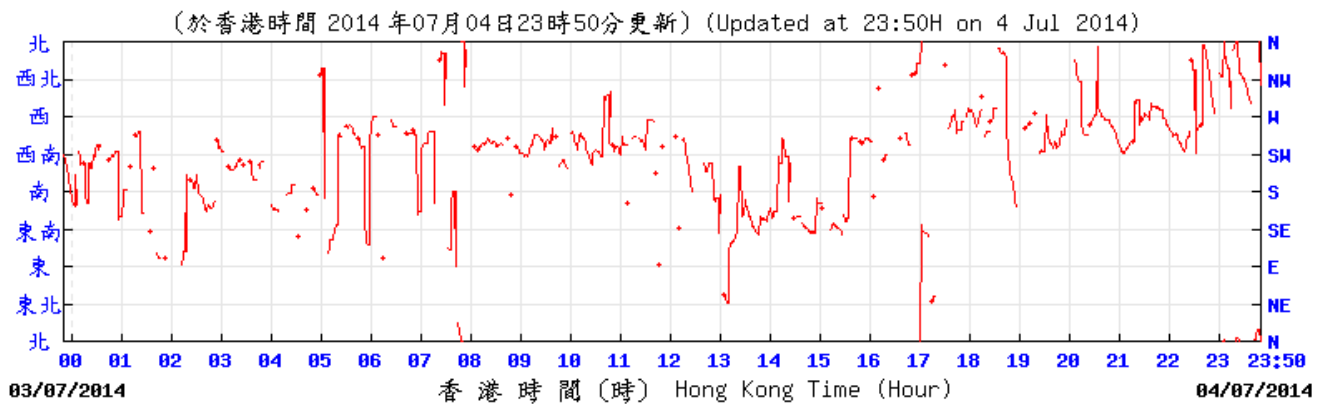
© 香港天文台 Hong Kong Observatory

Wind Speed and Direction:



HKS

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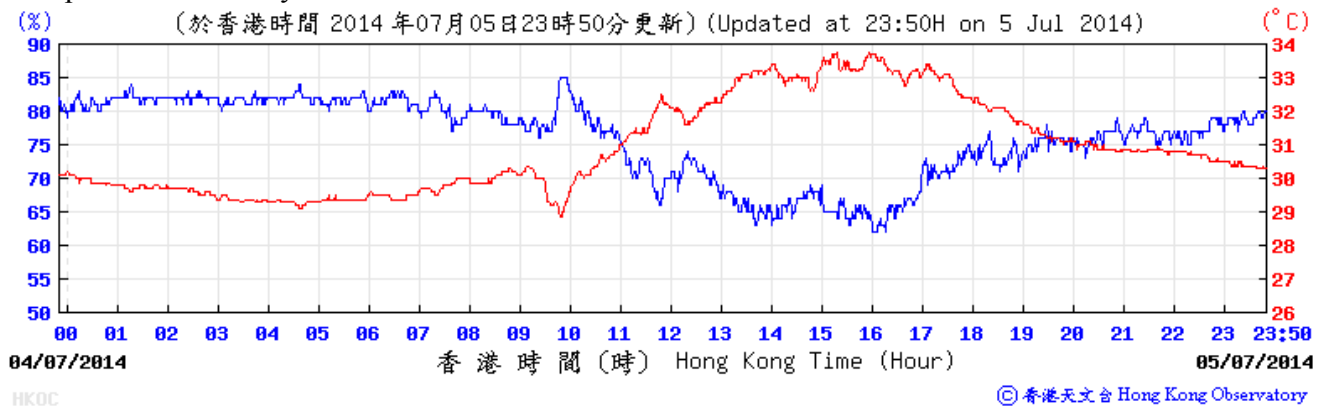
HKS

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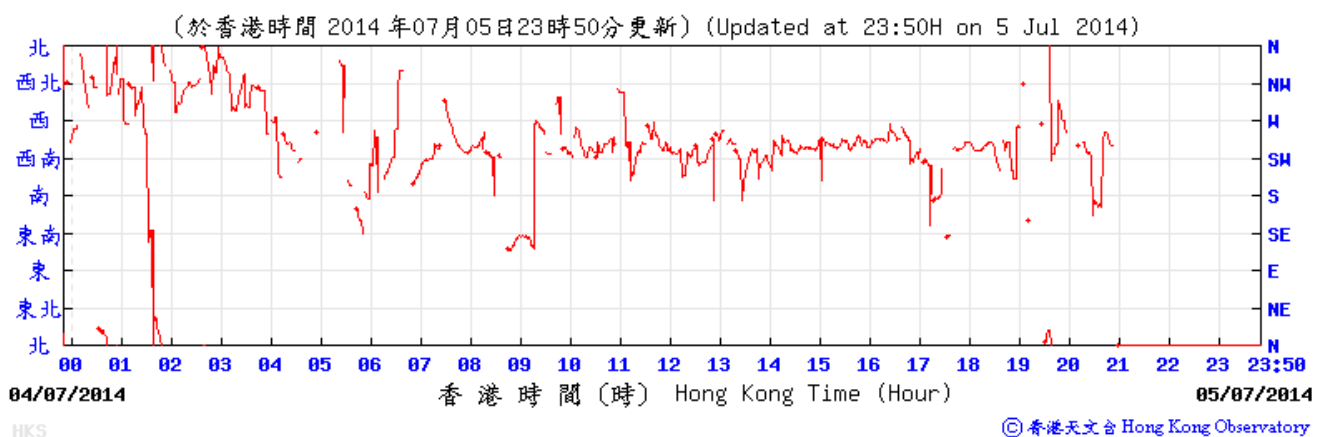
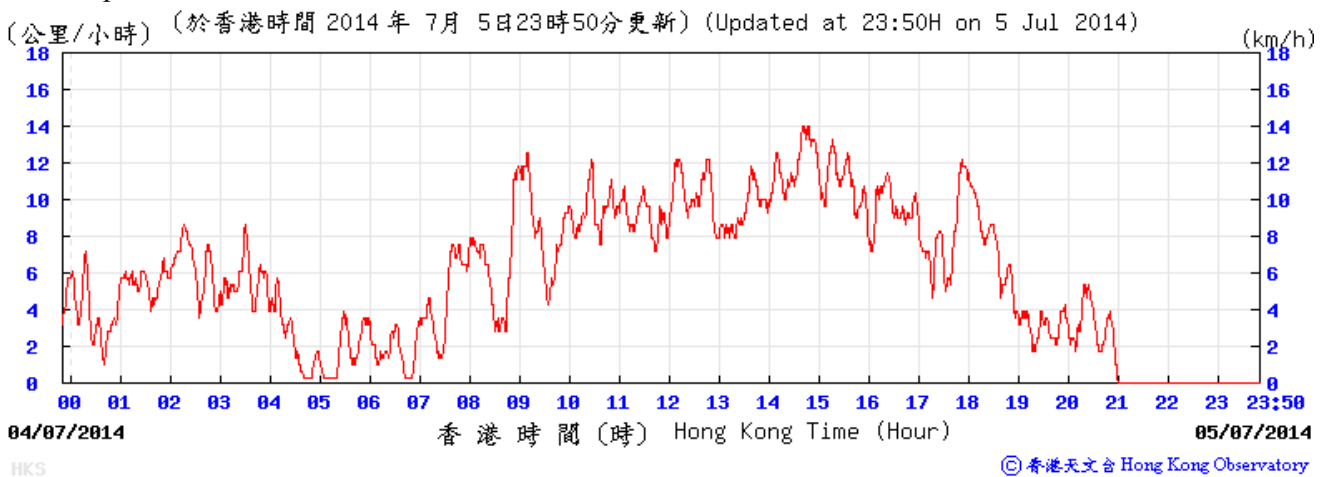
Meteorological Data Recorded from HKO Station (5 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



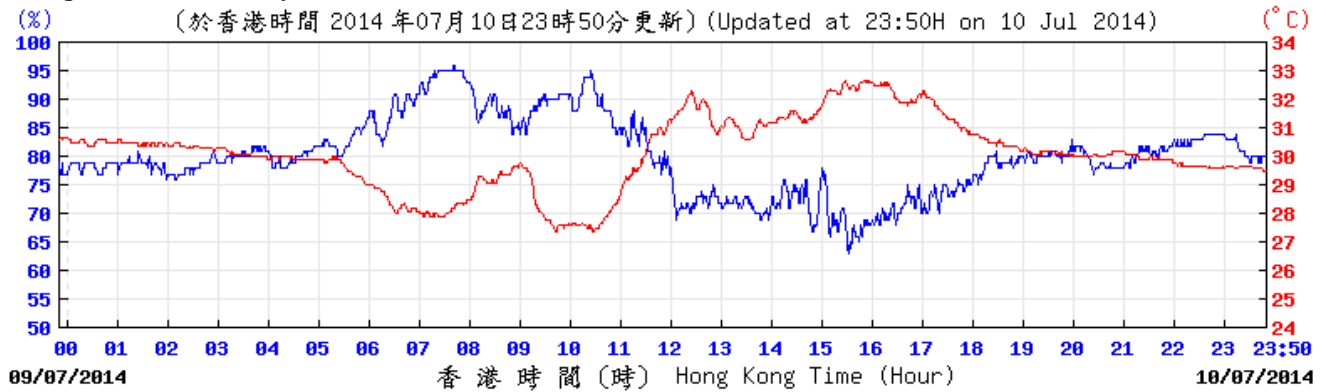
Wind Speed and Direction:



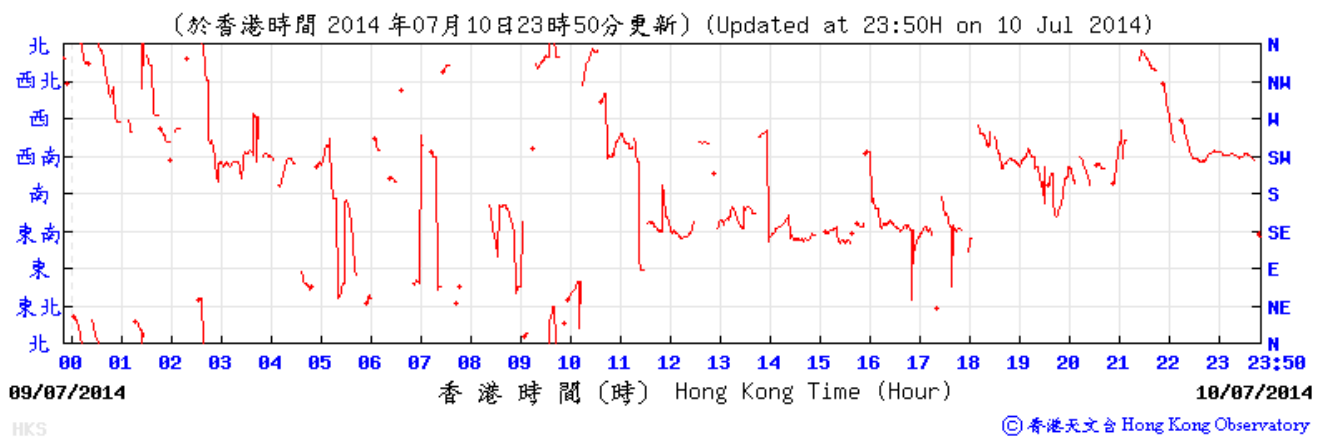
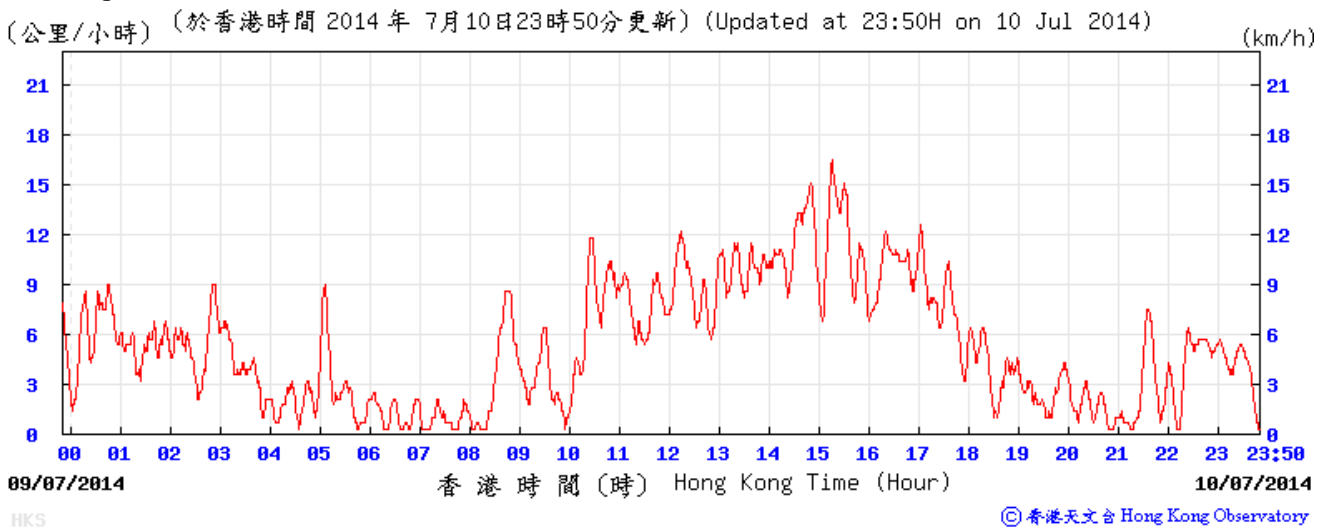
Meteorological Data Recorded from HKO Station (10 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



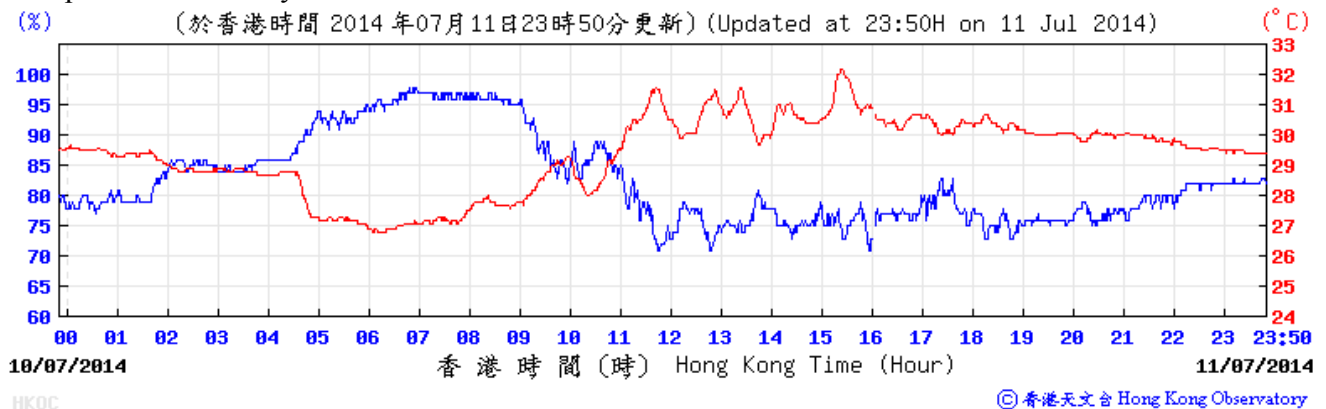
Wind Speed and Direction:



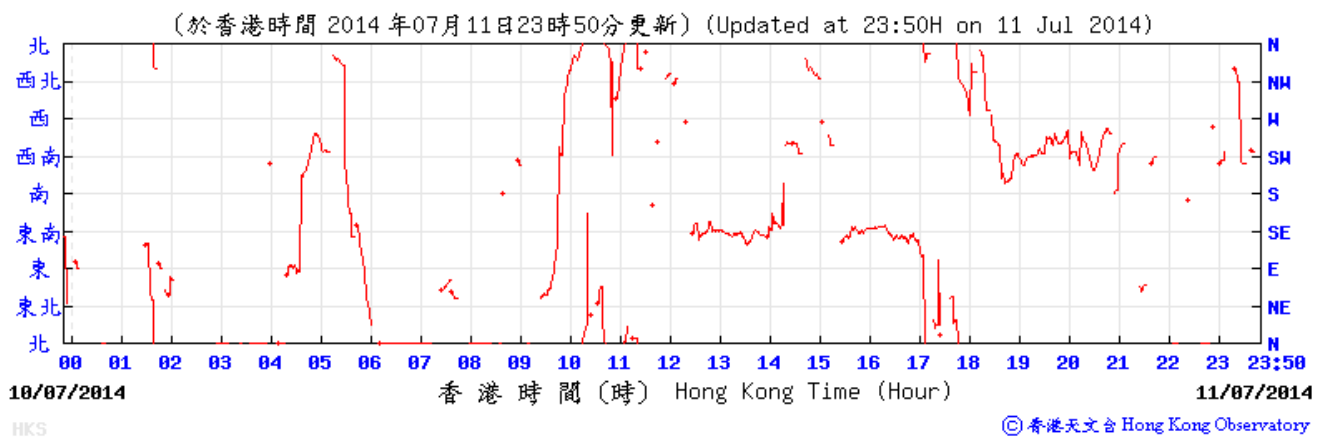
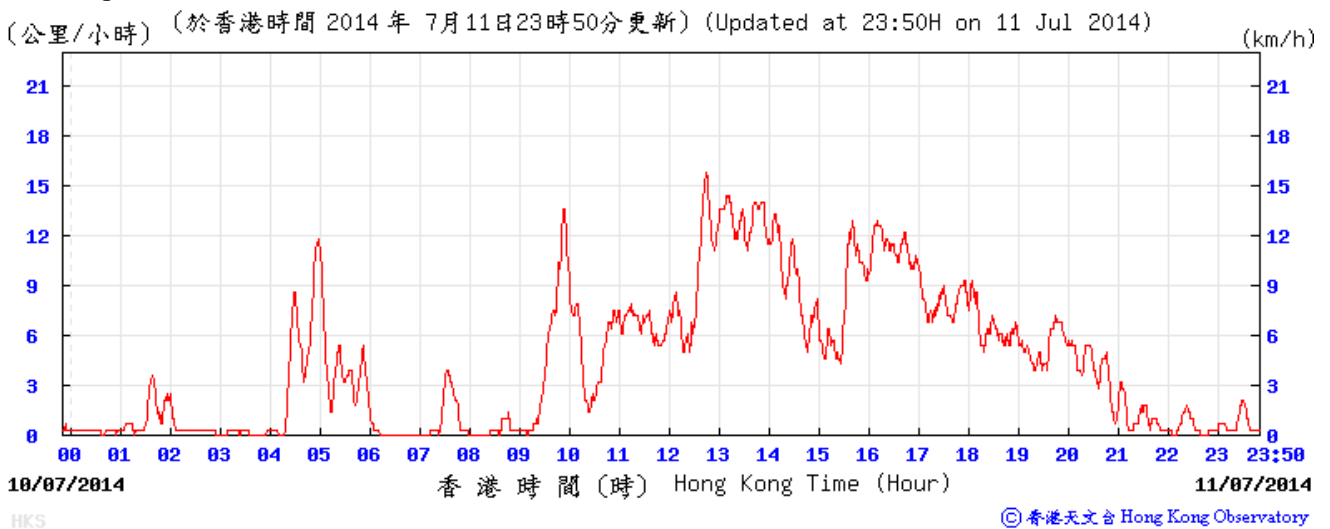
Meteorological Data Recorded from HKO Station (11 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



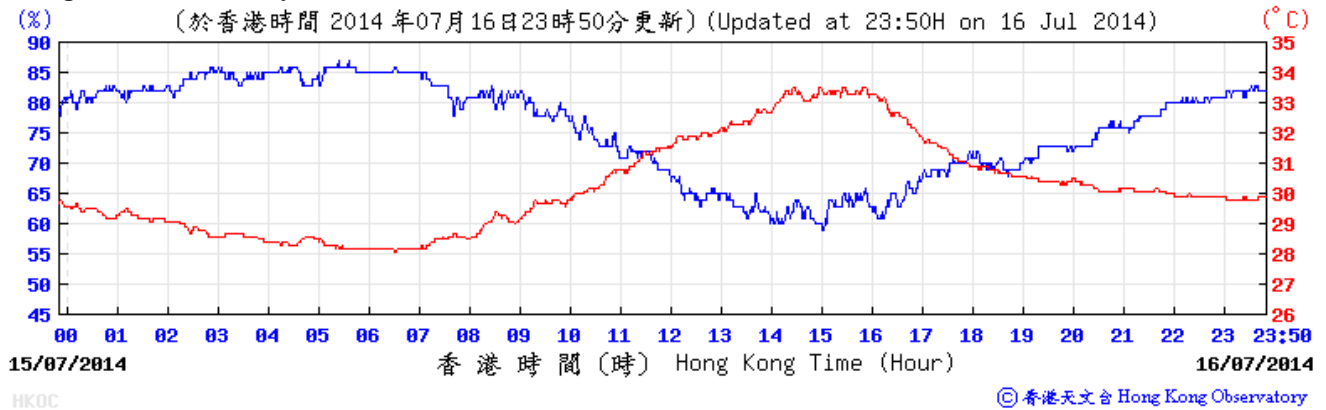
Wind Speed and Direction:



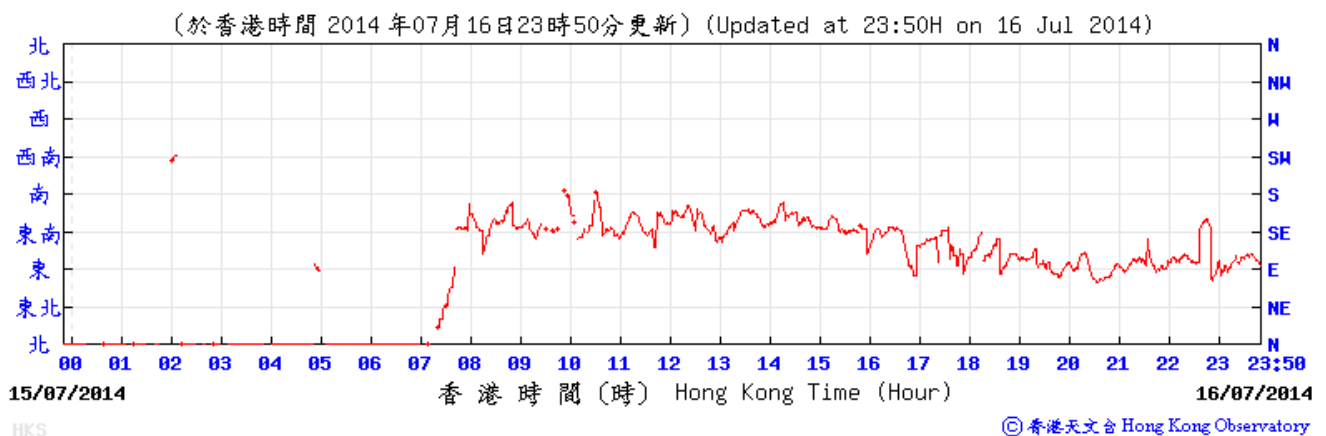
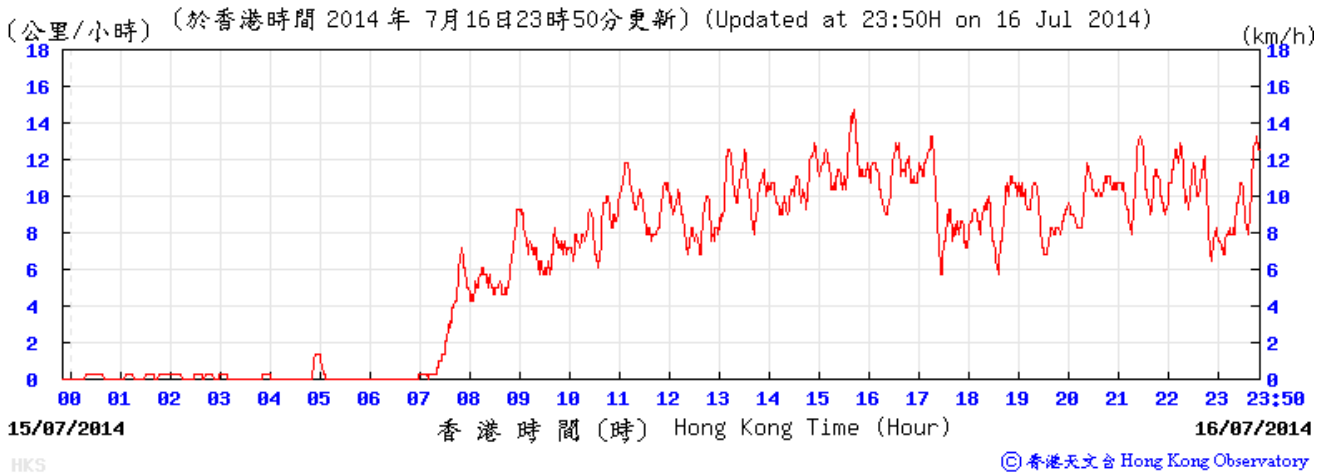
Meteorological Data Recorded from HKO Station (16 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



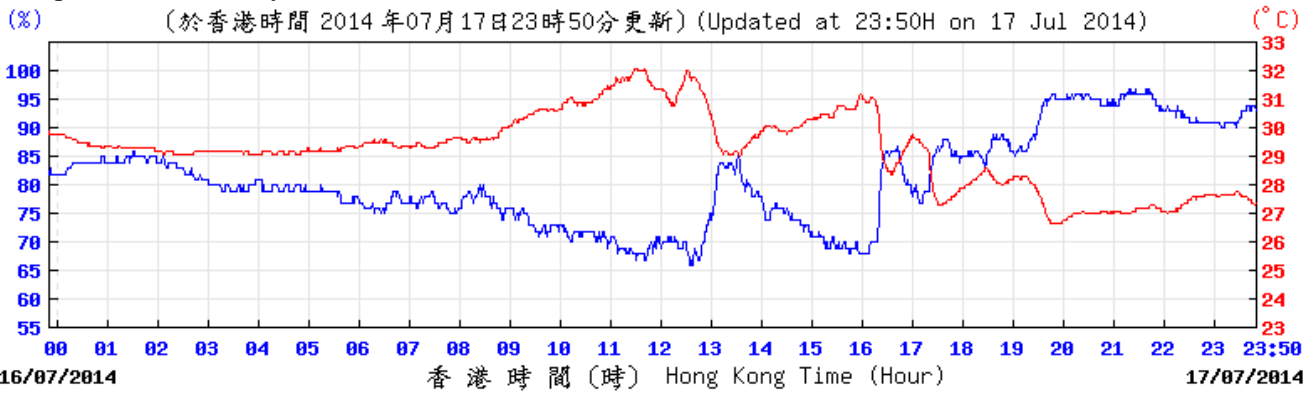
Wind Speed and Direction:



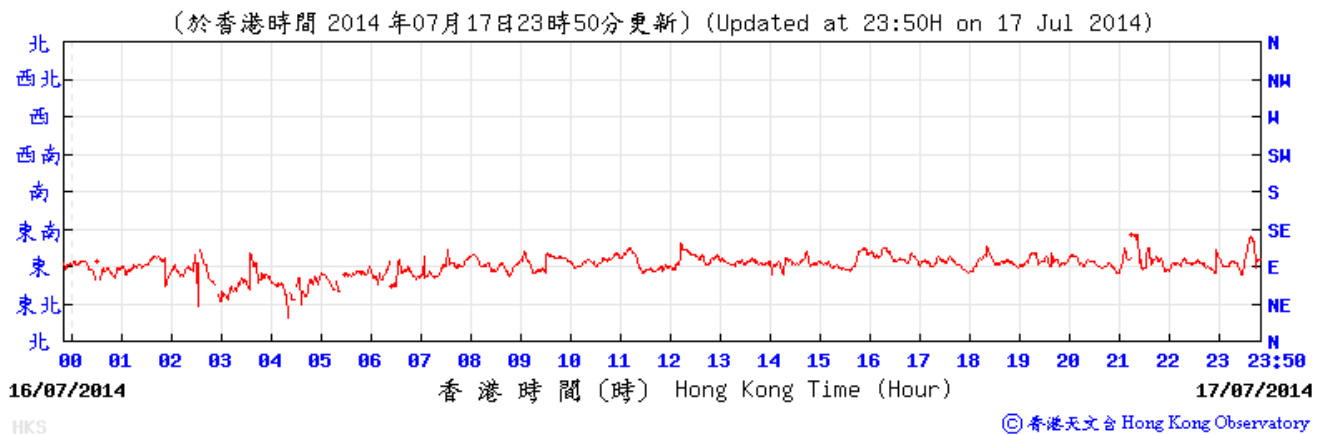
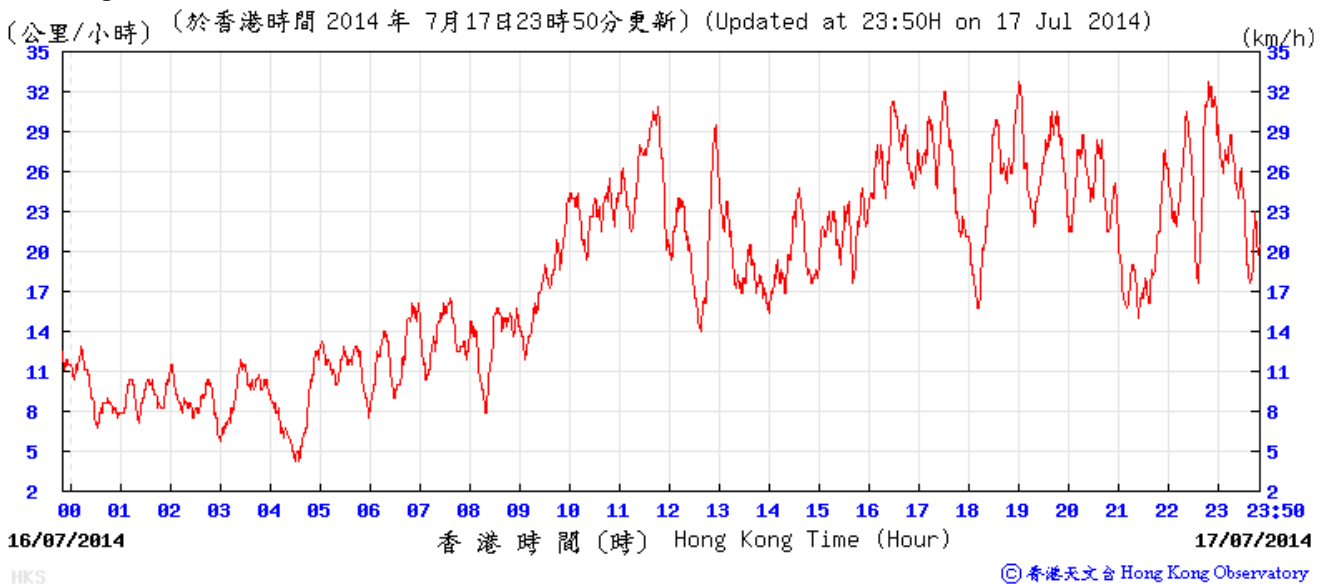
Meteorological Data Recorded from HKO Station (17 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



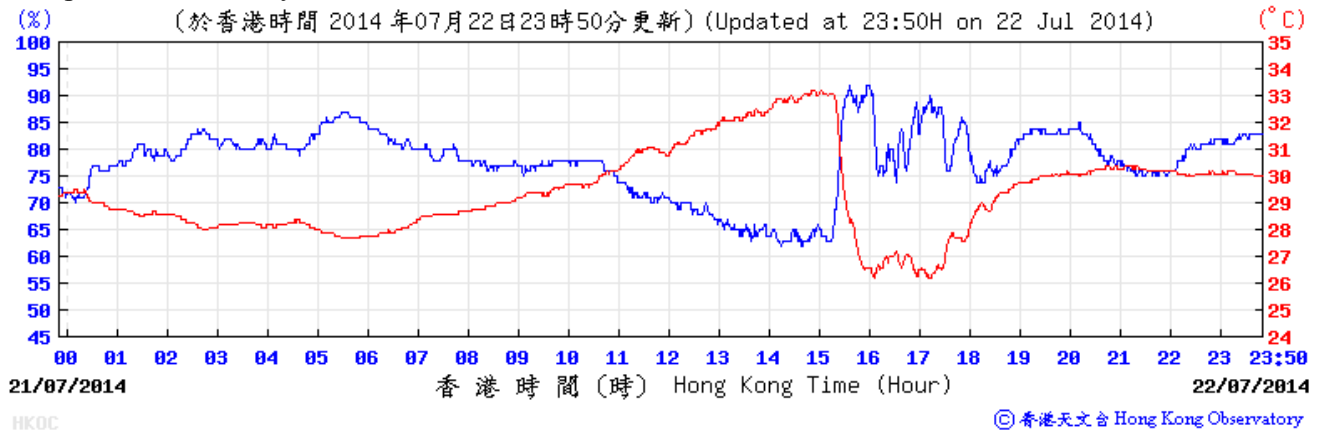
Wind Speed and Direction:



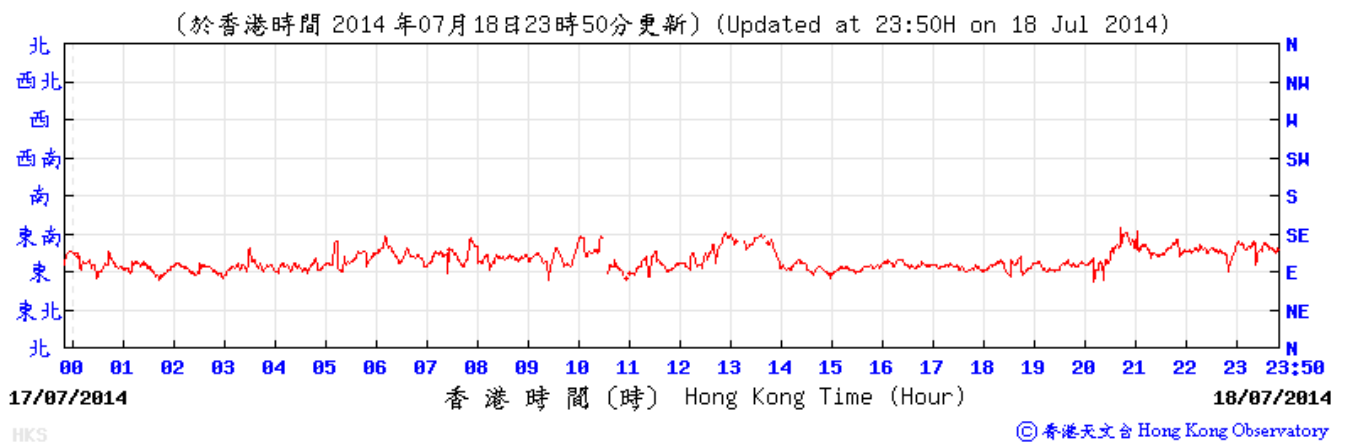
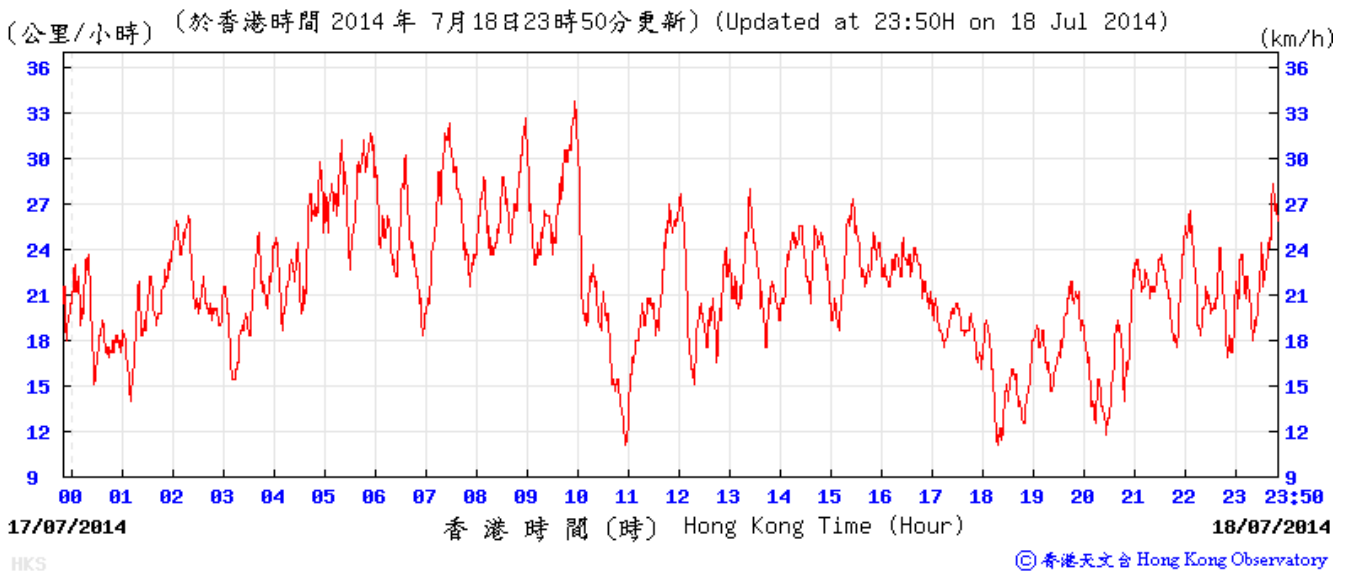
Meteorological Data Recorded from HKO Station (18 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:

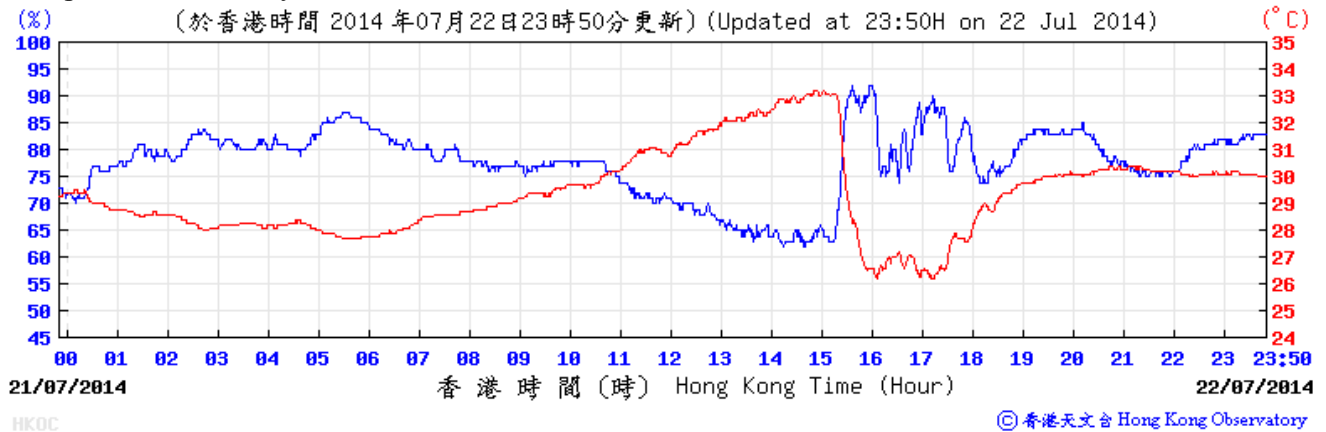


Wind Speed and Direction:

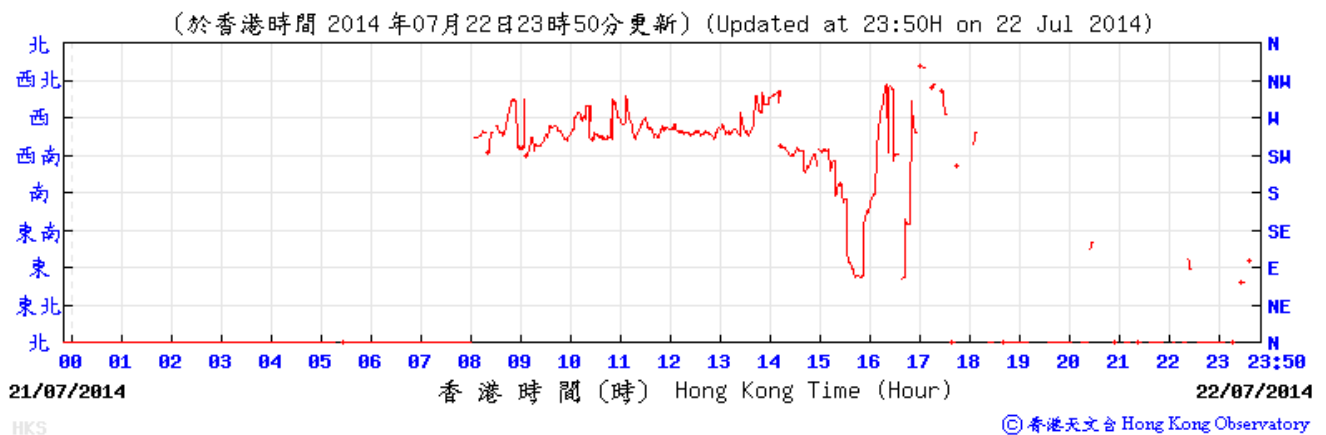
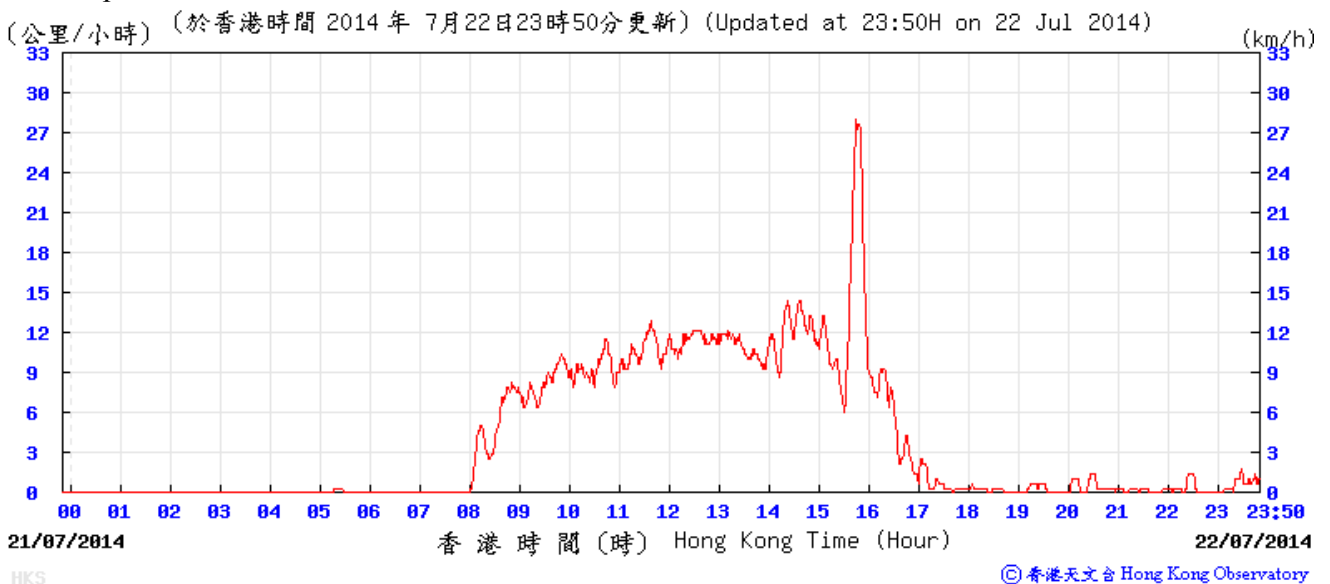


Meteorological Data Recorded from HKO Station (22 July 2014)
 (Source: www.hko.gov.hk)

Temperature/Humidity:



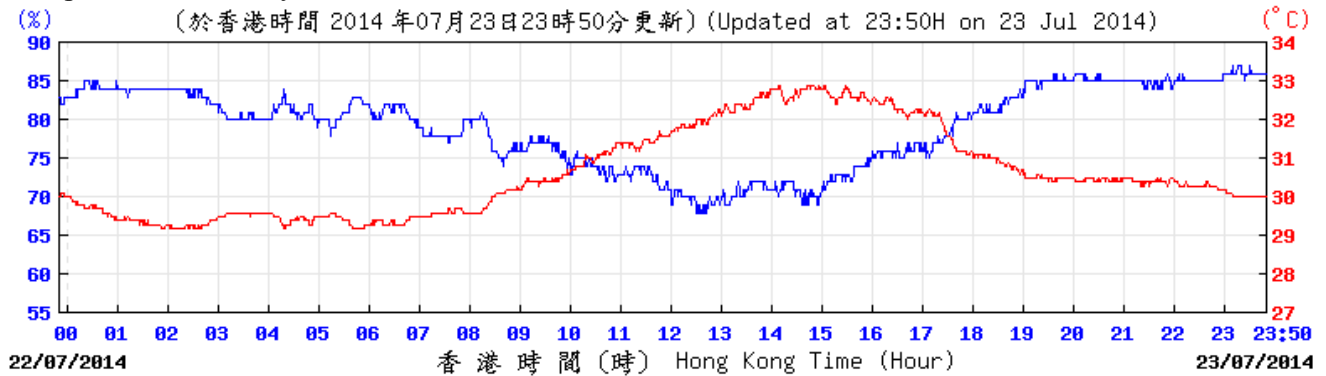
Wind Speed and Direction:



Meteorological Data Recorded from HKO Station (23 July 2014)

(Source: www.hko.gov.hk)

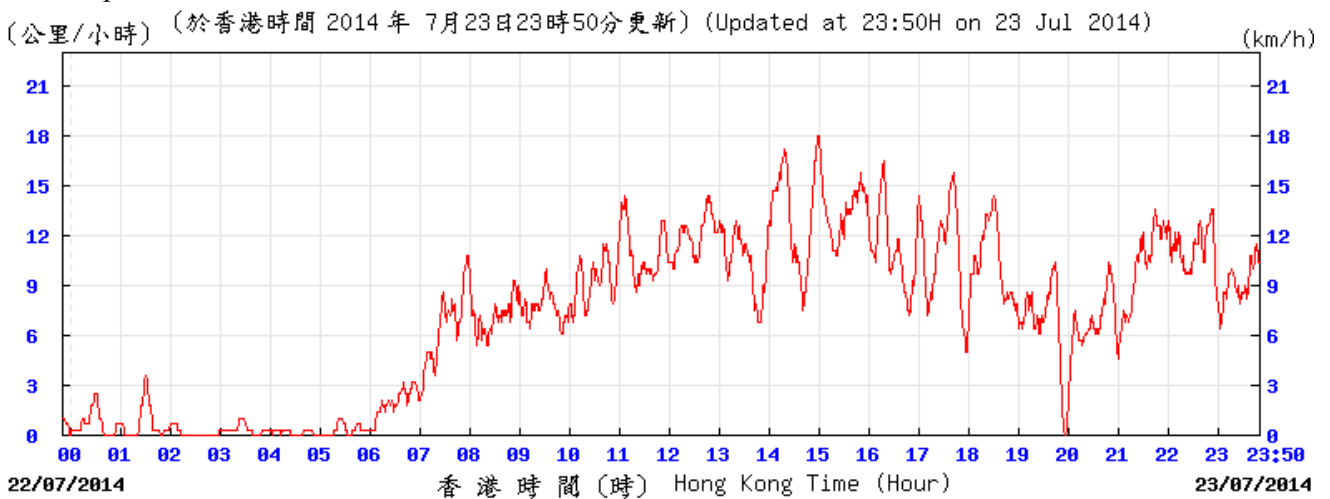
Temperature/Humidity:



HKOC

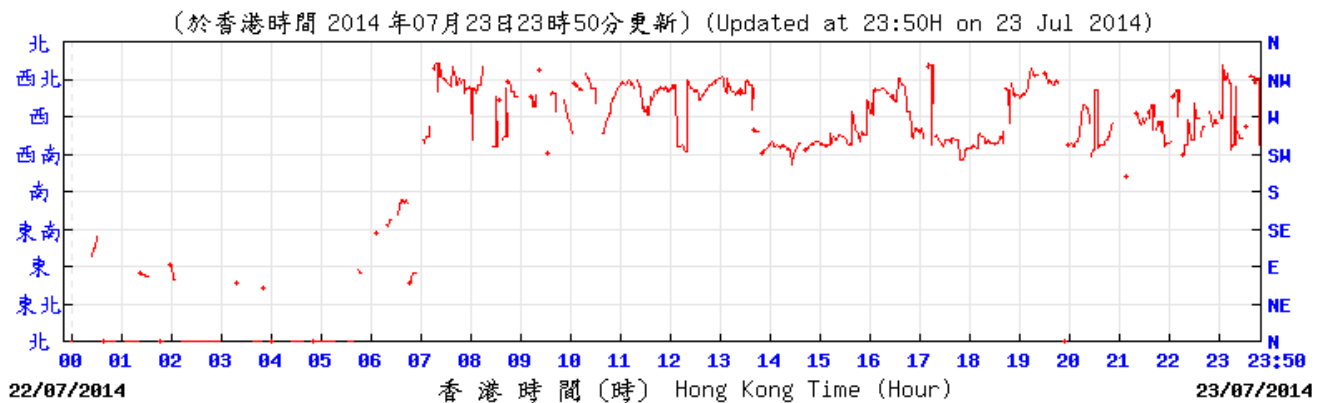
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Wind Speed and Direction:



HKS

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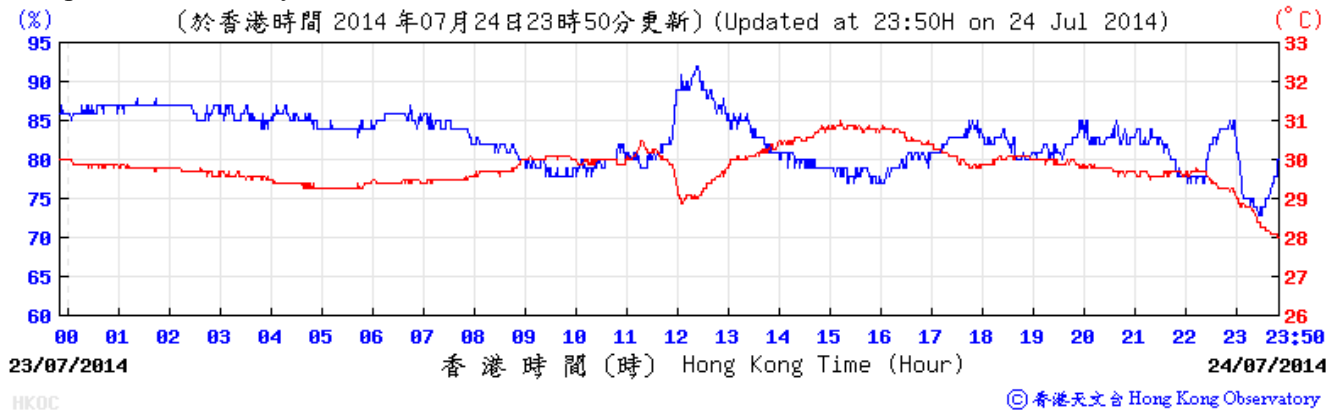


HKS

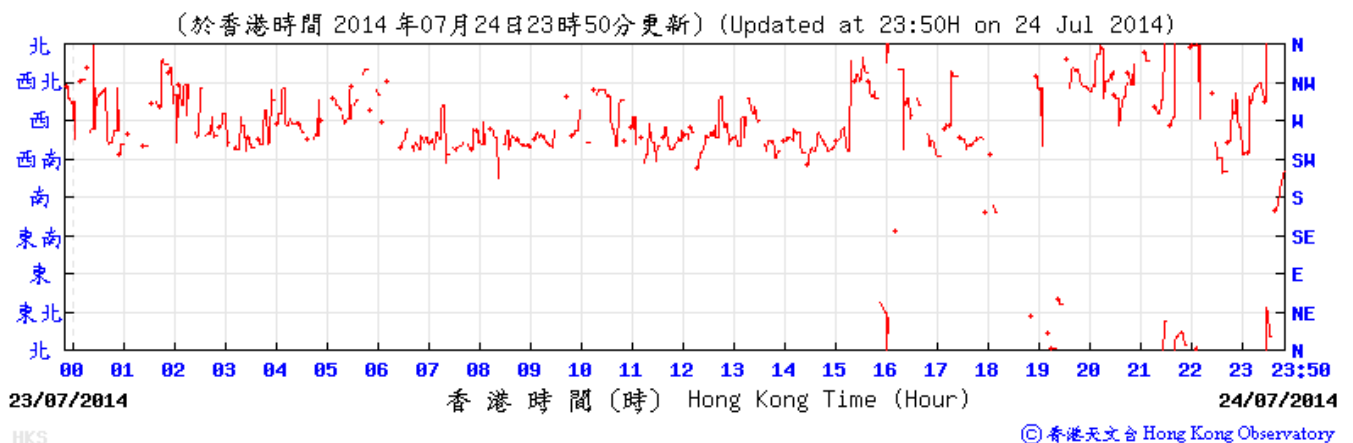
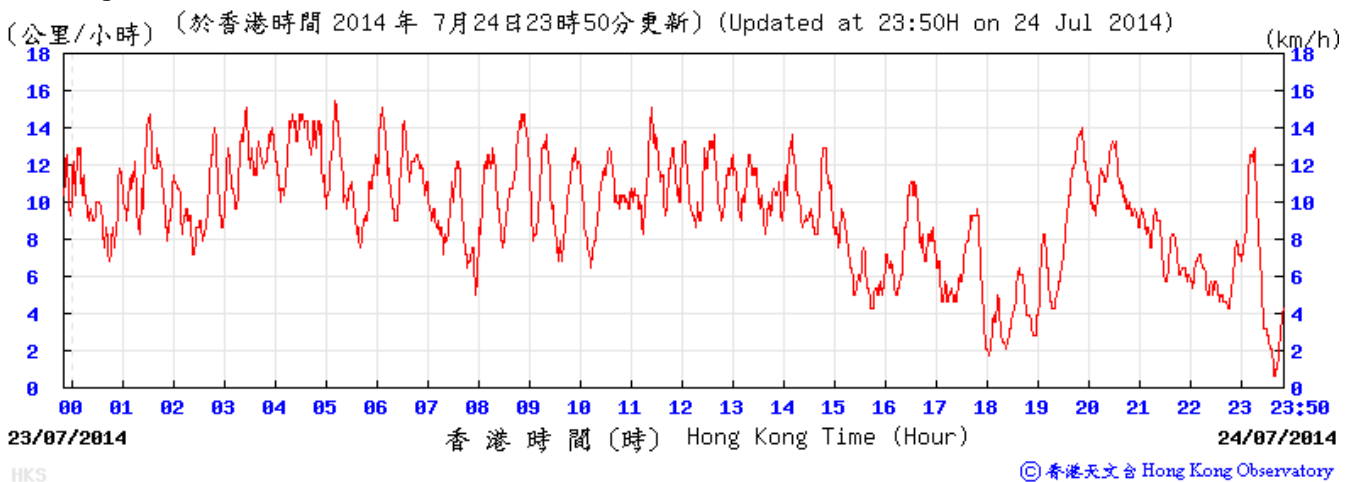
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Meteorological Data Recorded from HKO Station (24 July 2014)
 (Source: www.hko.gov.hk)

Temperature/Humidity:



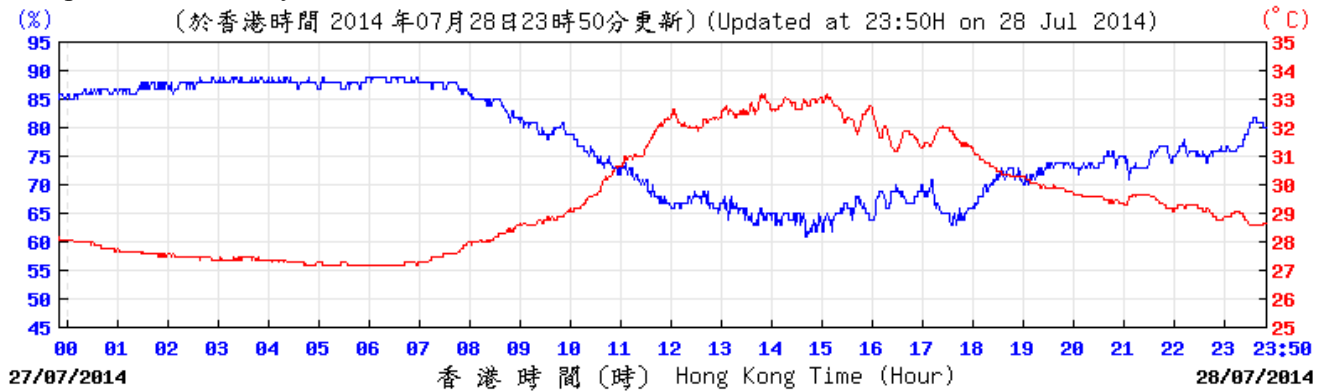
Wind Speed and Direction:



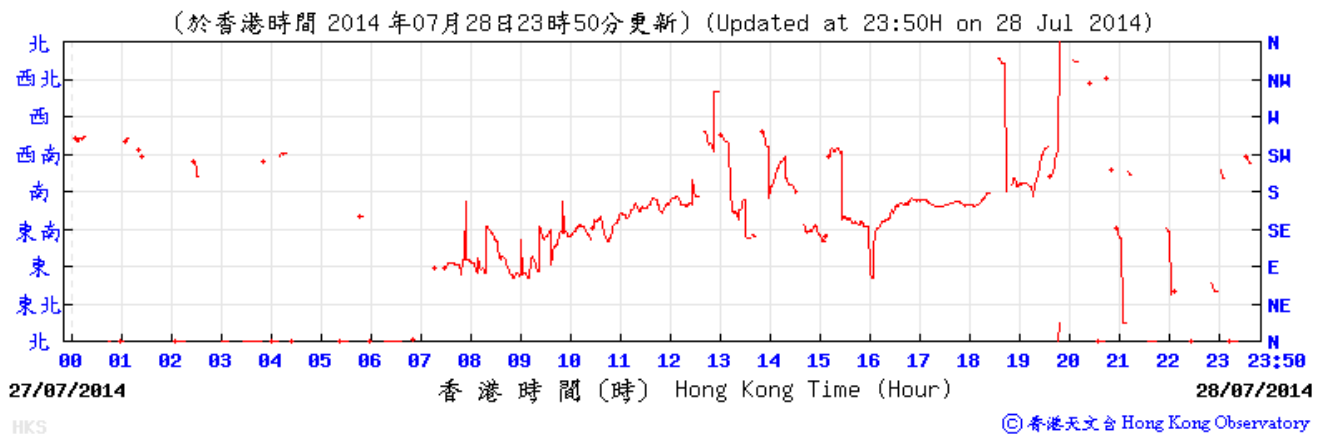
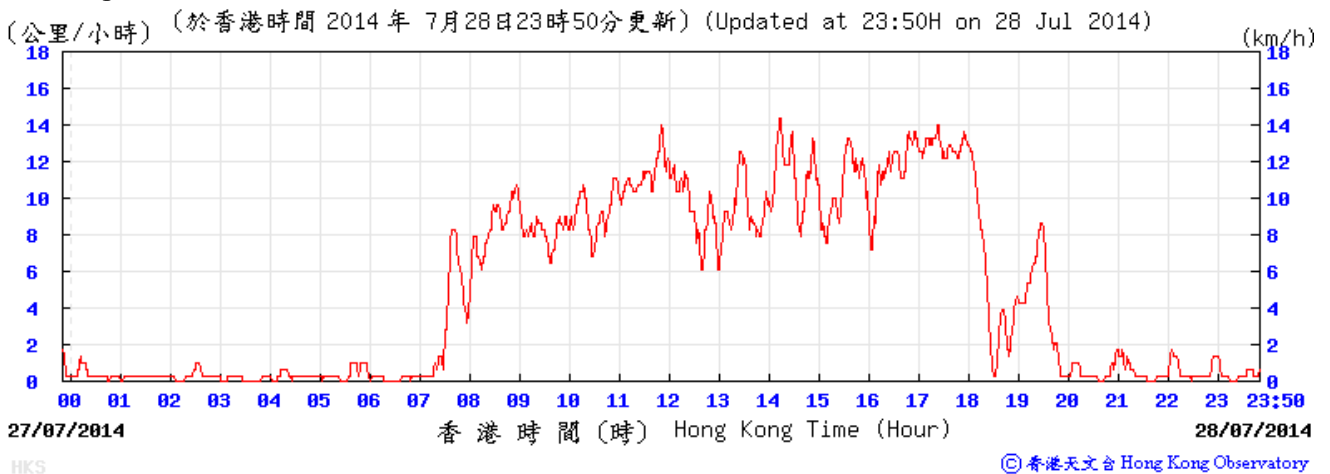
Meteorological Data Recorded from HKO Station (28 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:

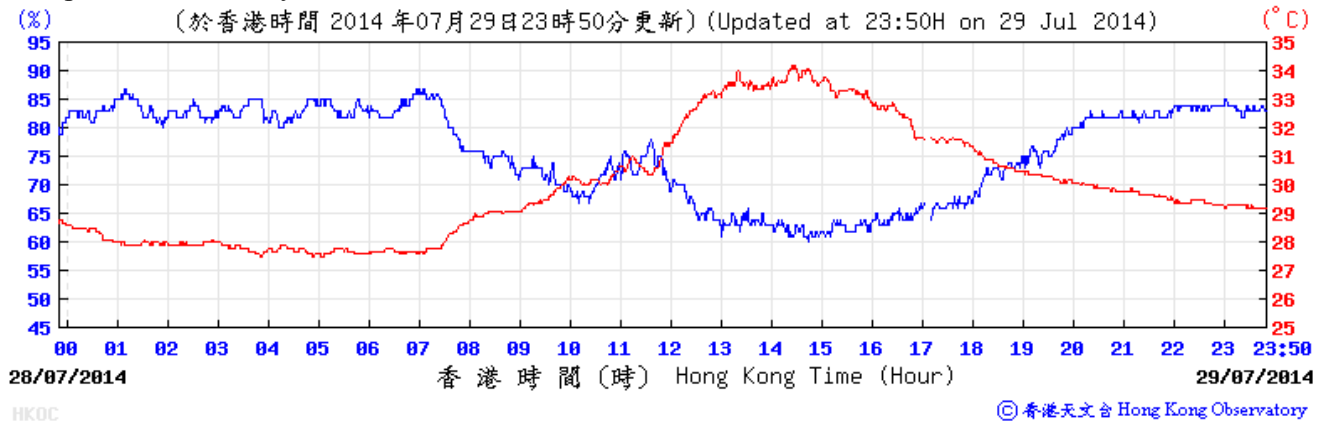


Wind Speed and Direction:

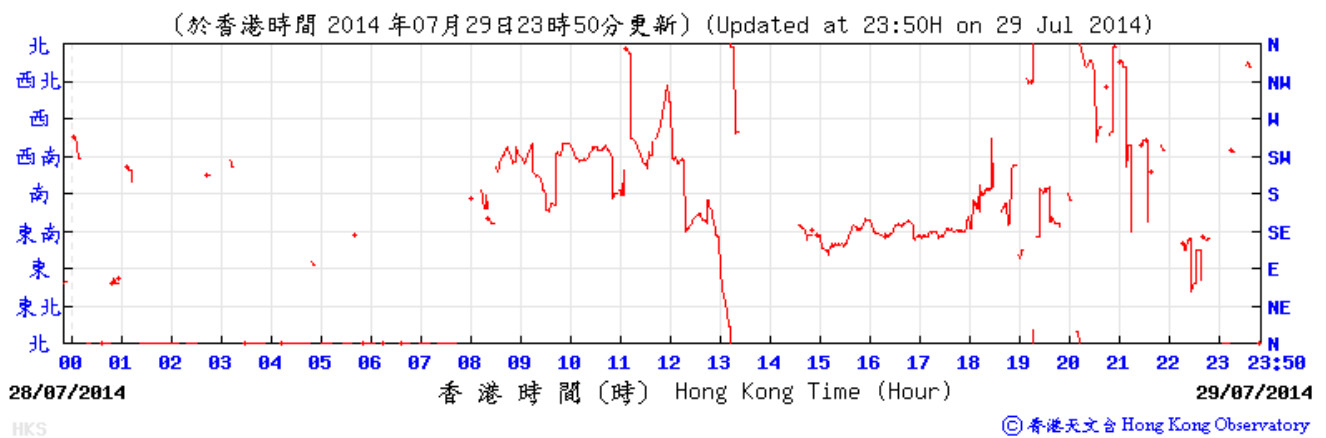
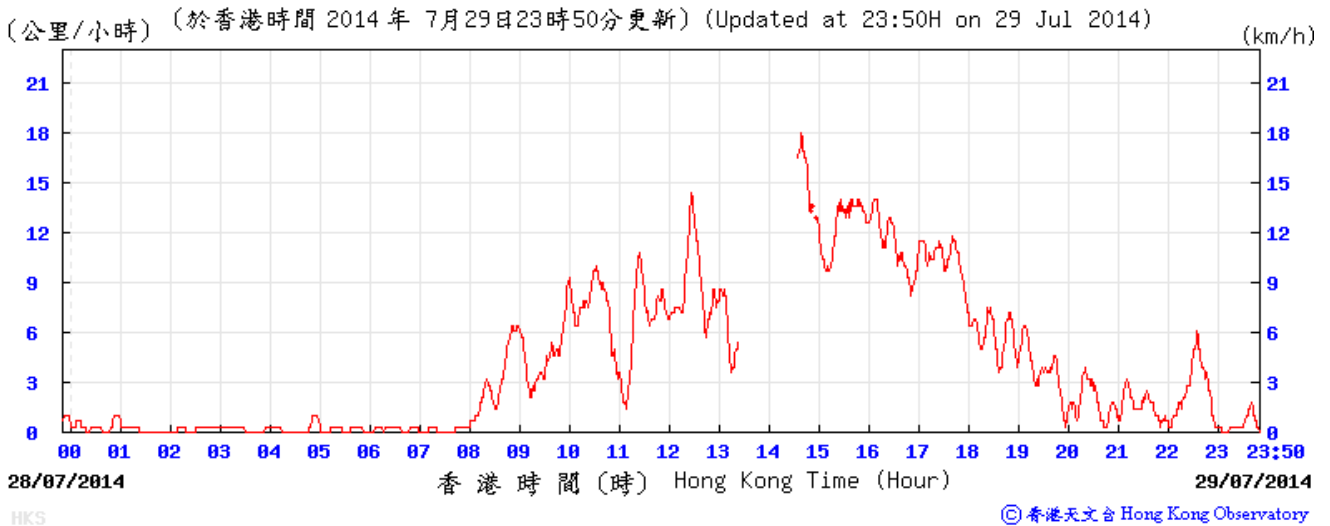


Meteorological Data Recorded from HKO Station (29 July 2014)
 (Source: www.hko.gov.hk)

Temperature/Humidity:



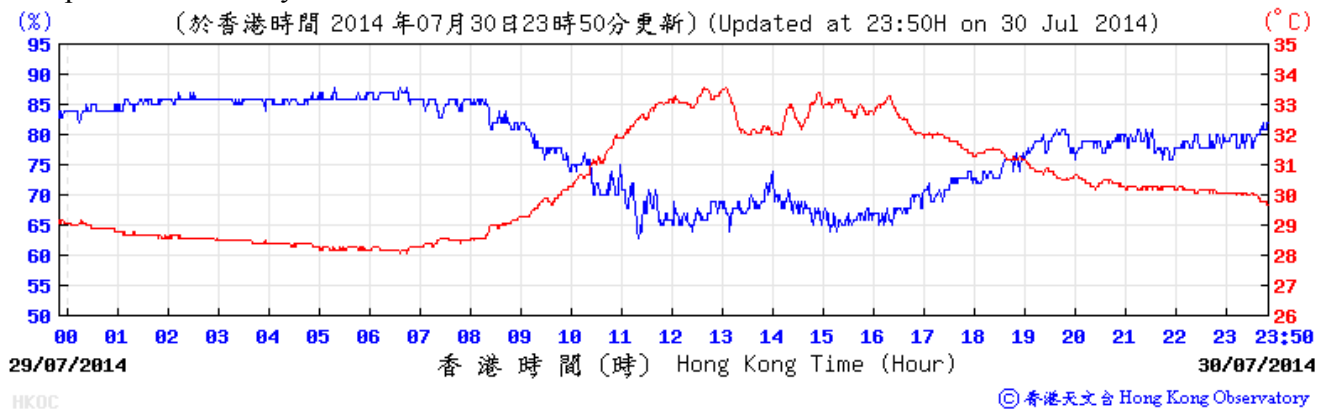
Wind Speed and Direction:



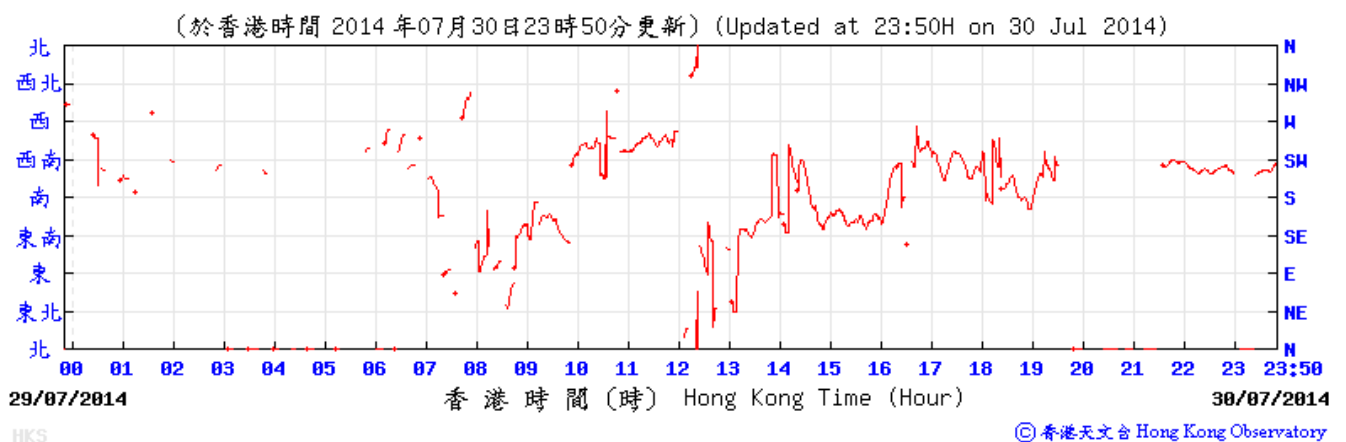
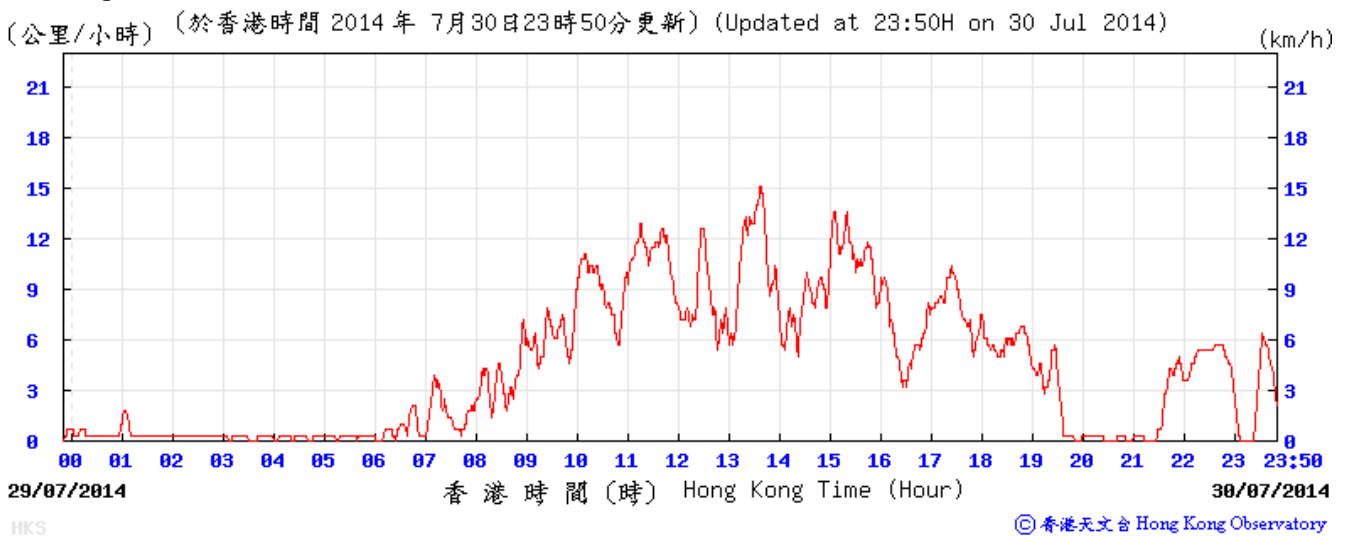
Meteorological Data Recorded from HKO Station (30 July 2014)

(Source: www.hko.gov.hk)

Temperature/Humidity:



Wind Speed and Direction:



**APPENDIX E
AIR QUALITY MONITORING RESULTS
AND GRAPHICAL PRESENTATIONS**

Appendix E - 1-hour TSP Monitoring Results

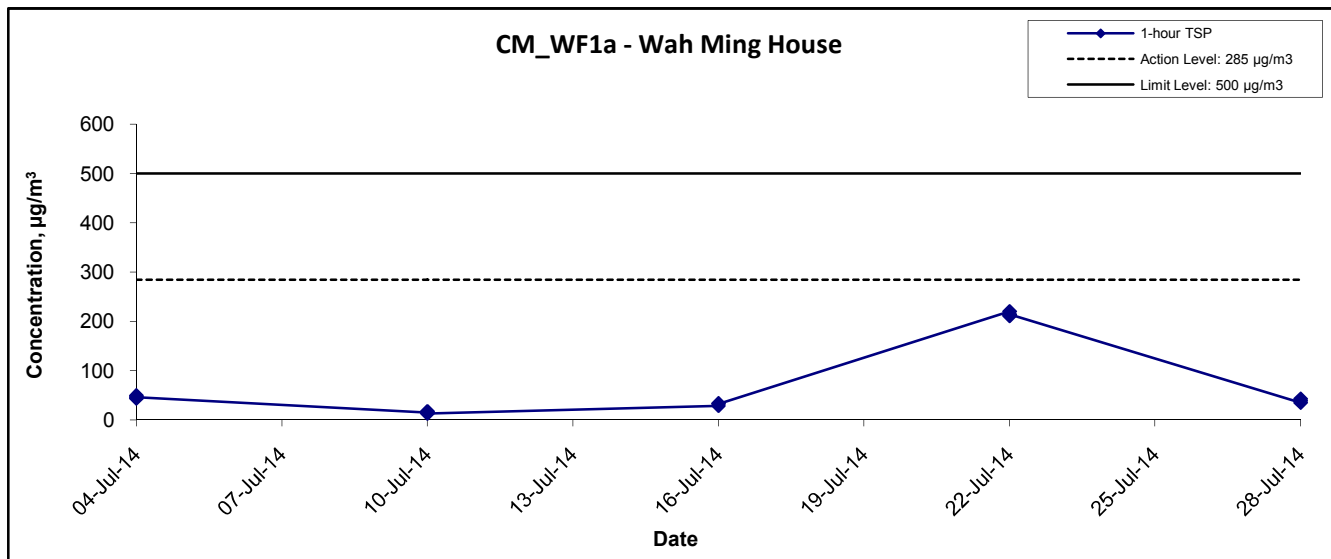
Location CM_WF1a - Wah Ming House			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
4-Jul-14	9:40	Sunny	43.8
4-Jul-14	10:40	Sunny	49.8
4-Jul-14	13:00	Sunny	46.6
10-Jul-14	14:00	Sunny	15.5
10-Jul-14	15:00	Sunny	17.7
10-Jul-14	16:00	Sunny	13.3
16-Jul-14	14:50	Sunny	28.8
16-Jul-14	15:50	Sunny	33.9
16-Jul-14	16:50	Sunny	32.8
22-Jul-14	15:00	Cloudy	220.4
22-Jul-14	16:00	Cloudy	211.7
22-Jul-14	17:00	Cloudy	214.3
28-Jul-14	9:00	Sunny	35.4
28-Jul-14	10:00	Sunny	39.4
28-Jul-14	11:00	Sunny	43.0
Average			69.8
Maximum			220.4
Minimum			13.3

Appendix E - 24-hour TSP Monitoring Results

Location CM_WF1a - Wah Ming House

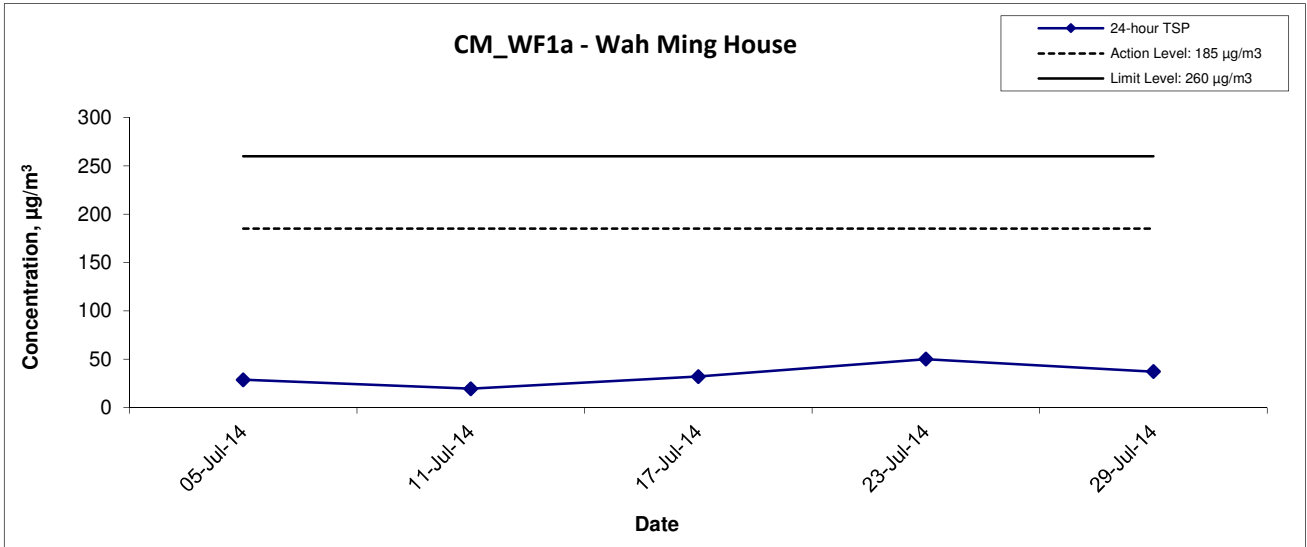
Start Date	Start Time	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate Weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)	Filter ID no.
				Initial	Final		Initial	Final		Initial	Final				
5-Jul-14	9:00	Sunny	303.1	3.1814	3.2314	0.0500	1134.6	1158.6	24.0	1.21	1.21	1.21	1744.1	28.7	1405031093
11-Jul-14	9:00	Sunny	300.3	3.2732	3.3071	0.0339	1158.6	1182.6	24.0	1.22	1.22	1.22	1750.9	19.4	1406021064
17-Jul-14	9:00	Cloudy	301.4	3.2310	3.2869	0.0559	1200.2	1224.2	24.0	1.22	1.22	1.22	1751.0	31.9	1406021054
23-Jul-14	9:00	Sunny	303.3	3.2118	3.2988	0.0870	1224.2	1248.2	24.0	1.21	1.21	1.21	1739.5	50.0	1406021080
29-Jul-14	9:00	Sunny	302.3	3.2621	3.3270	0.0649	1248.2	1272.2	24.0	1.21	1.21	1.21	1748.2	37.1	1406021073
													Min	19.4	
													Max	50.0	
													Average	33.4	

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	CINOTECH
	Date Jul 14	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	CINOTECH
	Date Jul 14	Appendix E	

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

Appendix F - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

Location M6a (Cyberport PTW) Outside of Aegean Terrace							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
10-Jul-14	11:30	Sunny	54.7	55.9	47.3	57.3	54.7 Measured ≤ Baseline
16-Jul-14	13:10	Sunny	54.8	55.4	48.5		54.8 Measured ≤ Baseline
22-Jul-14	11:15	Cloudy	59.4	61.5	53.3		55.2
28-Jul-14	15:45	Sunny	52.4	53.9	50.0		52.4 Measured ≤ Baseline

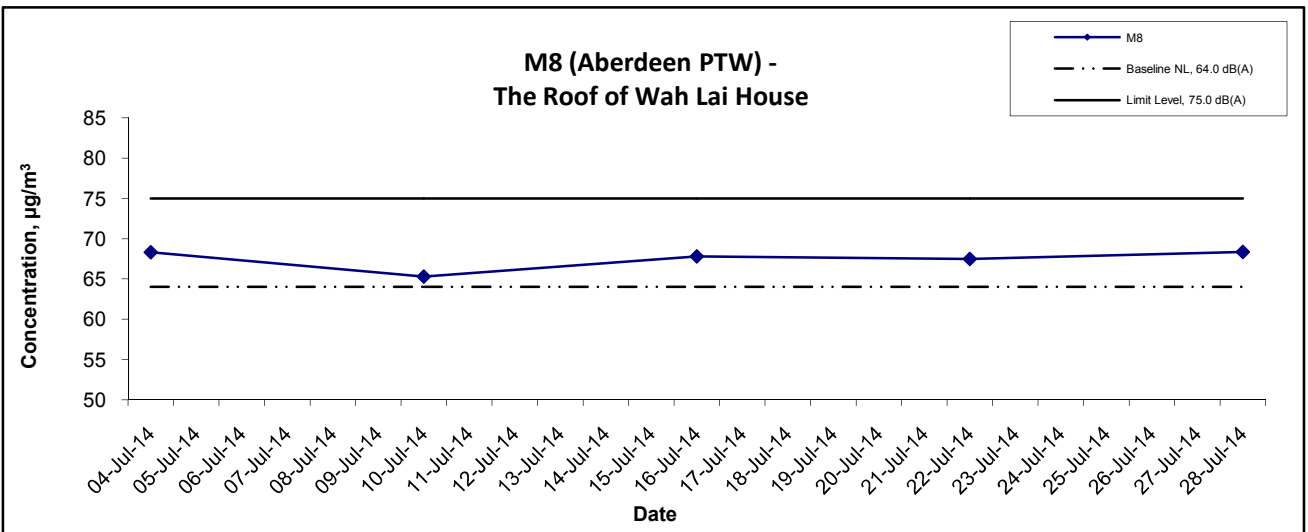
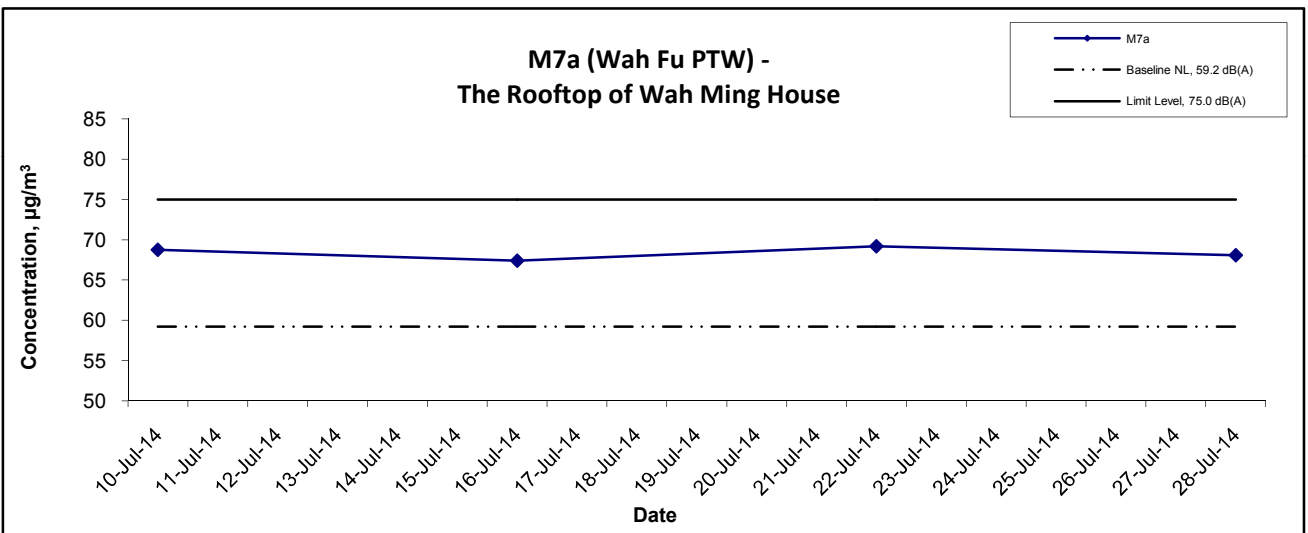
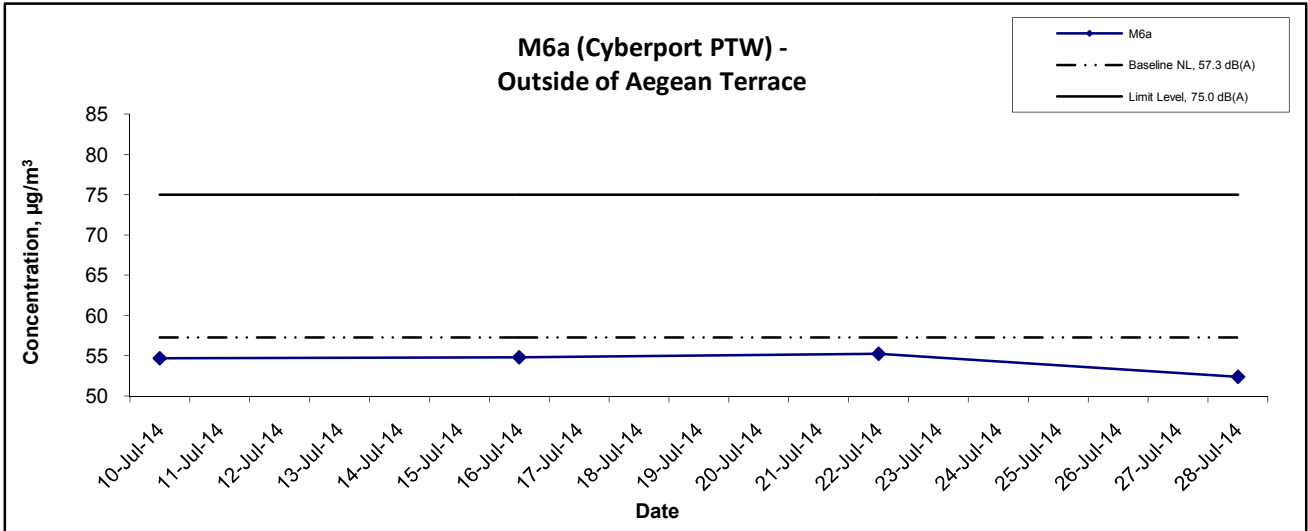
Location M7a (Wah Fu PTW) The rooftop of Wah Ming House							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
10-Jul-14	14:00	Sunny	69.2	70.4	68.0	59.2	68.7
16-Jul-14	15:30	Sunny	68.0	68.9	66.3		67.4
22-Jul-14	15:05	Cloudy	69.6	70.9	68.1		69.2
28-Jul-14	11:10	Sunny	68.6	69.2	67.4		68.1

Location M8 (Aberdeen PTW) The rooftop of Wah Lai House							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
4-Jul-14	15:15	Sunny	69.7	70.8	68.1	64.0	68.3
10-Jul-14	11:30	Sunny	67.7	69.2	65.9		65.3
16-Jul-14	14:05	Sunny	69.3	70.6	67.6		67.8
22-Jul-14	14:00	Cloudy	69.1	70.5	67.4		67.5
28-Jul-14	14:05	Sunny	69.7	71.2	67.7		68.3

Location M9 (Ap Lei Chau PTW) The Podium of Mei Chun Court, South Horizons							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
28-Jul-14	13:10	Sunny	56.2	58.5	52.6	56.5	56.2 Measured ≤ Baseline

Noise Levels

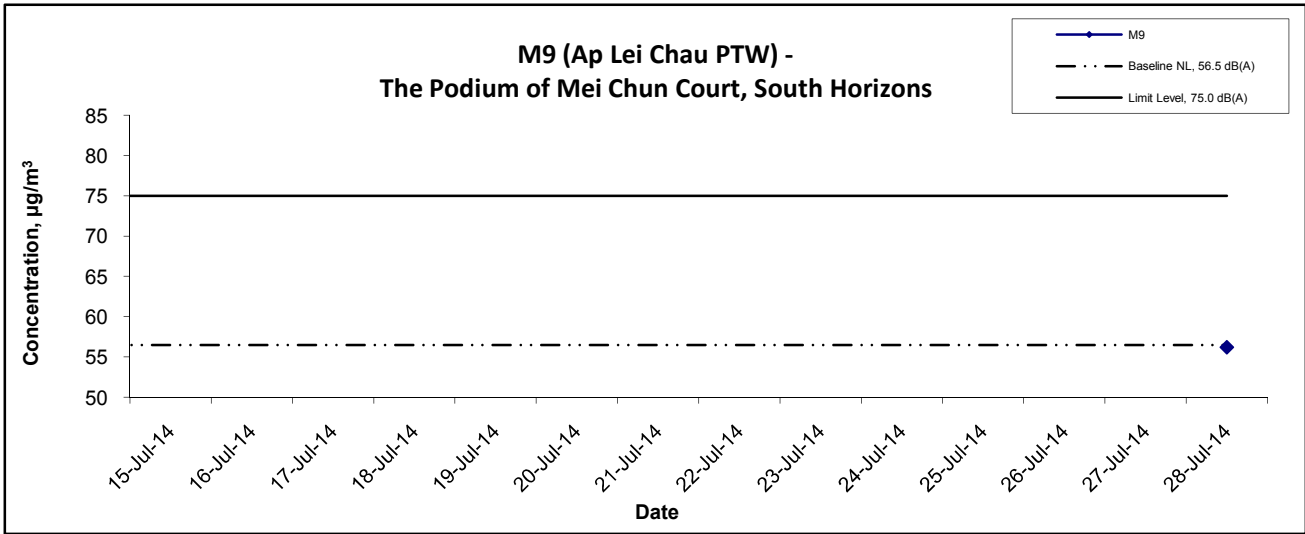
(0700-1900 hrs on Normal Weekdays)



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	CINOTECH
	Date	Jul 14	Appendix	F	

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	
	Date Jul 14	Appendix F	

**APPENDIX G
SUMMARY OF EXCEEDANCE**

APPENDIX G – SUMMARY OF EXCEEDANCE

Reporting Month: July 2014

- a) Exceedance Report for 1-hr TSP (0)**
- b) Exceedance Report for 24-hr TSP (0)**
- c) Exceedance Report for Construction Noise on normal week days (0)**

**APPENDIX H
SITE AUDIT SUMMARY**

Contract No: DC/2009/24

HATS 2A - Upgrading of PTWs at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau

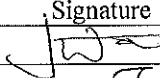

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140704
Date	4 July 2014 (Friday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140704-O01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> The pH meter of the sediment tank at ALC-PTW and Abd-PTW were mal-functioned. The Contractor was reminded to provide the maintenance of the sediment tanks to ensure the water quality of the sediment tank is fulfilled the requirement of the WPCO's wastewater discharge license before discharging out. 	A 5iv
140704-R02	<ul style="list-style-type: none"> Properly clear the slurry water at Abd-PTW. <p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit sessions: On previous audit session (Ref. No. 140627), outstanding item 140627-O01 is required to be followed up and remarked as 140704-O01 which will be reviewed in next weekly site inspection (Ref No. 140711). <p>Remark:</p> <ul style="list-style-type: none"> N/A 	A 11

	Name	Signature	Date
Recorded by	Janet Wai		4 July 2014
Checked by	Dr. Priscilla Choy		4 July 2014

Contract No: DC/2009/24

HATS 2A - Upgrading of PTWs at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau

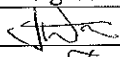

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140711
Date	11 July 2014 (Friday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140711-R02	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part B - Landscape and Visual</p> <ul style="list-style-type: none"> The construction materials should be placed far away from the tree protection area at ALC-PTW. 	B 1
140711-R01	<p>Part C - Air Quality</p> <ul style="list-style-type: none"> The dusty materials should be cleared properly or covered by impervious materials at ALC-PTW and Abd-PTW. <p>Part D - Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E - Waste / Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit sessions: On previous audit session (Ref. No. 140704), all environmental deficiencies were improved by the Contractor. <p>Remark:</p> <ul style="list-style-type: none"> N/A 	C 6

	Name	Signature	Date
Recorded by	Janet Wai		11 July 2014
Checked by	Dr. Priscilla Choy		11 July 2014

HATS 2A - Upgrading of PTWs at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140718
Date	18 July 2014 (Friday)
Time	09:30 – 11:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140718-R03	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> The construction materials should be placed far away from the tree protection area at ALC-PTW. 	B 1
140718-R01	<p>Part C - Air Quality</p> <ul style="list-style-type: none"> The generator should be kept in a good condition at ALC-PTW to prevent the black smoke emission. The Contractor was reminded to provide the maintenance of the generator. 	C 14
140718-R02	<ul style="list-style-type: none"> The dusty materials should be cleared properly or covered by impervious materials at ALC-PTW and Abd-PTW. 	C 6
140718-R04	<p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The chemical container should be provided with the drip tray at Abd-PTW. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit sessions: On previous audit session (Ref. No. 140711), outstanding item 140711-R01 & 140711-R02 are required to be followed up and remarked as 140718-R02 & 140718-R03 which will be reviewed in next weekly site inspection (Ref No. 140725). <p>Remark:</p> <ul style="list-style-type: none"> N/A 	E 7ii

	Name	Signature	Date
Recorded by	Janet Wai		18 July 2014
Checked by	Dr. Priscilla Choy		18 July 2014

Contract No: DC/2009/24

HATS 2A - Upgrading of PTWs at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau

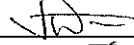

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140725
Date	25 July 2014 (Friday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140725-O01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> The wet sep at ALC-PTW was mal-functioned. The Contractor was reminded to provide the maintenance of the wet sep or additional wastewater treatment facility if the timely maintenance of the wet sep cannot provide. 	A 5iv
140725-O02	<ul style="list-style-type: none"> The bunding should be provided at ALC-PTW to prevent the muddy water runoff to the access road. 	A 2
140725-R04	<ul style="list-style-type: none"> Properly clear the stagnant water at Cyberport-PTW and ALC-PTW. 	A 11
	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
140725-R05	<p>Part C - Air Quality</p> <ul style="list-style-type: none"> Properly clear the dusty material at ALC-PTW and Abd-PTW. 	C 6
	<p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
140725-O03	<p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The oil leakage of breaker tip was observed at Abd-PTW. The Contractor was reminded to provide the appropriate measure to avoid the oil spillage and clear the oil stain properly. 	E 7i
	<p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
	<p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit sessions: On previous audit session (Ref. No. 140718), all environmental deficiencies were improved by the Contractor. 	
	<p>Remark:</p> <ul style="list-style-type: none"> N/A 	

	Name	Signature	Date
Recorded by	Janet Wai		25 July 2014
Checked by	Dr. Priscilla Choy		25 July 2014

Contract No: DC/2009/24

HATS 2A - Upgrading of PTWs at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau

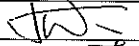

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	140729
Date	29 July 2014 (Tuesday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
140729-R01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> Properly clear the stagnant water at Cyberport-PTW and ALC-PTW. 	A 11
140729-R02	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> Properly clear the dusty material at Abd-PTW. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Others</p> <ul style="list-style-type: none"> Follow-up on previous audit sessions: On previous audit session (Ref. No. 140725), outstanding item 140725-R04 are required to be followed up and remarked as 140729-R01 which will be reviewed in next weekly site inspection (Ref no. 140808) . <p>Remark:</p> <ul style="list-style-type: none"> N/A 	C 6

	Name	Signature	Date
Recorded by	Janet Wai		29 July 2014
Checked by	Dr. Priscilla Choy		29 July 2014

**APPENDIX I
SUMMARY OF AMOUNT OF WASTE
GENERATED**

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 2014 (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 ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[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
JAN	0.433305	0	0	0	0.433305	0	0	0	0	0.06	0.00796	0.2032
FEB	0.040615	0	0	0	0.040615	0	0	0	0	0	0.00334	0.16182
MAR	1.061525	0	0	0	1.061525	0	0	0	0	0	0.00929	0.17807
APR	0.368995	0	0	0	0.368995	0	0	0	0	0	0.00434	0.15738
MAY	0.31617	0	0	0	0.316170	0	0	0	0	0	0.00862	0.15547
JUNE	0.07655	0	0	0	0.07655	0	0	0	0	0.39	0.01304	0.14019
SUB-TOTAL	2.297160	0.000000	0.000000	0.000000	2.297160	0.000000	0.000000	0.000000	0.000000	0.450000	0.046590	0.996130
JULY	0.039665	0	0	0	0.039665	0	0	0	0	0	0.01133	0.15237
AUG	0											
SEPT	0											
OCT	0											
NOV	0											
DEC	0											
TOTAL	7.603770	0.000000	0.000000	0.000000	7.603770	0.000000	17.430000	0.070000	0.070000	0.900000	0.136810	5.787666

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 ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000ton]
8.31	1.544	1.73	0	8.496	0	30	1	1	4	0.956	9.6

- 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 50,000m³. (PS Clause 5(4)(b) refers).
[Delete Note (4) and the table above on the forecast, where inapplicable].
 - * (4) The assumed density (kg/m³) for both C&D material and general refuse.
C&D material 2000kg/m³
General refuse 1.0 tonnes/m³
 - (5) Conversion factors for reporting purpose:
in-situ: rock = 2.5 tonnes/m³ ; soil = 2.0 tonnes/m³
excavated: rock = 2.0 tonnes/m³ ; soil = 1.8 tonnes/m³
broken concrete and bitumen = 2.5 tonnes/m³
C&D Waste = 1.0 tonnes/m³
bentonite slurry = 2.8 tonnes/m³
Paper = 800kg/m³
Chemical = 800kg/m³

APPENDIX J
EVENT ACTION PLANS

APPENDIX J – Event / Action Plans

Table J-1 Event / Action Plan For Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring			
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 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	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 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.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 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

Table J-2 Event / Action Plan For Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> 1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals
Limit Level being exceeded	<ol style="list-style-type: none"> 1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring		until the exceedance is abated	the ER until the exceedance is abated

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

APPENDIX K IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
A	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	N/A
	Vehicle washing facilities should be provided at every vehicle exit point.		^
	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.		^
	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.		^
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^
	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.		*
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^
	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.		^
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	^	
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	Airborne Noise		
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.		^
C	Water Quality		
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.		*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
6.377	<p>Accidental Spillage of Chemicals</p> <p>Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.</p>		^
6.378	<p>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.</p>		*
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"> • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 		*
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"> • The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. • 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. • Stockpiling of construction materials and dusty materials should be covered and located away from any water courses. • 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. 	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	<ul style="list-style-type: none"> Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable. Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea. 		
D	Waste Management		
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	<p>All waste materials should be segregated into categories covering:</p> <ul style="list-style-type: none"> excavated materials suitable for reuse on-site; excavated materials suitable for public filling facilities; remaining C&D waste for landfill; chemical waste; and general refuse for landfill. 	All construction sites	^
9.113	<p>Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.</p> <p>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.</p> <p>Encourage collection of aluminum 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.</p> <p>Any unused chemicals or those with remaining functional capacity shall be recycled.</p> <p>Proper storage and site practices to minimize the potential for damage or contamination of construction materials.</p>	All construction sites	^
9.115	<p>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.</p> <p>Training of site personnel in proper waste management and chemical waste handling procedures.</p>	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
9.115	<p>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.</p> <p>Provision of sufficient waste disposal points and regular collection of waste.</p> <p>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</p>		^
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.		*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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
E	Terrestrial Ecology		
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.		^
F	Landscape and Visual		
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
G	Marine Ecology		
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	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
H	Hazard to Life		
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 L
COMPLAINT LOG**

APPENDIX L – COMPLAINT LOG**Reporting Month:** July 2014**Cumulative complaints received:**

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
CIR#1_121228	DSD's Preliminary Treatment Work (PTW) at Ap Lei Chau	28 th December 2012	The residents of South Horizons and Ap Lei Chau Estate complained about the noise generated from our construction site at Ap Lei Chau PTW. The ETL of the Project was informed of the complaint through the e-mail on 31 st December 2012 and initiated the complaint investigation procedures. According to the information provided by the Contractor, major construction activities that contributed to the noise at Ap Lei Chau during the time of complaint include: general site works and safety works; maintenance and handling of plants; and drilling works for pipe pile wall.	<p>There was no exceedance report received from Contract DC/2008/09 at noise monitoring stations M9 for Ap Lei Chau PTW in December 2012.</p> <p>Resident site staff also revealed that rock excavation works and other construction activities were being carried out at nearby construction sites on 29 & 31 December 2012. After complaint received, the Contractor has taken initiative to minimize noise nuisance to the nearby residents by implementation of mitigation measures as below:</p> <ul style="list-style-type: none"> • Adopting a relatively low-noise construction method – small drilling rig to install the pipe piles; • Equipping noise reducing jacket on the small drilling rig. <p>The Contractor was recommended to continue the following mitigation measures in order to minimize the potential construction noise nuisance to the nearby community:</p> <ul style="list-style-type: none"> • To adopt movable noise barrier; • To use silenced equipment where practicable; • To avoid concurrent uses of noisy equipment near the sensitive area; • To ensure the equipment are maintaining in good operation condition; and • To turned off any idle equipment on site. 	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
CIR#2_130809	DSD's Preliminary Treatment Work (PTW) at Wah Fu	9 th August 2013	<p>One anonymous complainant complained about the noise generated from Contract DC/2009/24 construction site at Wah Fu PTW. The ETL of the Contract was informed of the complaint through the e-mail on 12th August 2013 and initiated the complaint investigation procedures.</p> <p>According to the information provided by the Contractor, major construction activities that contributed to the noise at Wah Fu during the time of complaint include: pipe pile wall construction.</p>	<p>There was no exceedance report received from Contract DC/2007/24 at noise monitoring stations M7a for Wah Fu PTW in August 2013.</p> <p>After complaint received, the Contractor has taken initiative to minimize noise nuisance to the nearby residents by implementation of mitigation measures as below:</p> <ul style="list-style-type: none"> • Properly maintained and operated the construction plant (well-greased, damage and worn parts promptly replaced); • To install movable noise absorption screen located close to the operating PME/noisy works (noise sources); • To enclose or wrap the breaking tip with sound insulating materials to reduce the noise. <p>According to the complaint, the Contractor had enhanced the movable noise barrier by increasing the height of the noise barrier and adding the upper sloped section which could further reduce the noise generated from construction works in Wah Fu PTW.</p>	Closed
CIR#3_131119	DSD's Preliminary Treatment Work (PTW) at Wah Fu	19 th November 2013	<p>One anonymous complainant complained about the noise generated from Contract DC/2009/24 construction site at Wah Fu PTW. The ETL of the Contract was informed of the complaint through the e-mail on 29th November 2013 and initiated the complaint investigation procedures.</p> <p>According to the information provided by the Contractor, major construction activities that contributed to the noise at Wah Fu</p>	<p>There was no exceedance report received from Contract DC/2007/24 at noise monitoring stations M7a for Wah Fu PTW in November 2013.</p> <p>After complaint received, the Contractor has taken initiative to minimize noise nuisance to the nearby residents by implementation of mitigation measures as below:</p> <ul style="list-style-type: none"> • Properly maintained and operated the construction plant (well-greased, damage and worn parts promptly replaced); • To install the erected noise absorption screen located close to the operating PME/noisy works (noise sources). <p>According to the site diary, the Contractor had provided the sound insulating materials to enclose and wrap the breaking tip which could further reduce the noise generated from</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			during the time of complaint include: pipe pile wall construction, grout curtain construction and ELS in progress.	construction works in Wah Fu PTW.	

Remarks: No environmental complaint was received in July 2014.

APPENDIX M
CONSTRUCTION PROGRAMME

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014		
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13
DSD - HATSS2 Upgrading of PTW (DC/2009/24)																						
Particulars																						
Key Dates																						
Commencement / Completion																						
24GEN00020	Time for Completion of Project	0%	1309	31-Aug-11 A	23-Oct-16																	
Portion of the Site (MILESTONE)																						
Sandy Bay PTW																						
Possession / Vacation of Portions																						
24MSBY00025	Vacation Date_SBY-T1 (30 days after H/O of ALC-T2)	0%	0		31-Jul-14	◆ Vacation Date_SBY-T1 (30 days after H/O of ALC-T2), Vacation Date_SBY-T1 (30 days after H/O of ALC-T2)																
Cyberport PTW																						
Possession / Vacation of Portions																						
24MCPT00005	Partial H/O of CP-1 Area	100%	0	30-Jun-14 A		◆ Partial H/O of CP-1 Area, Partial H/O of CP-1 Area																
24MCPT00010	H/O Date_CP-1 (1035 days after start)	0%	0	24-Jul-14		◆ H/O Date_CP-1 (1035 days after start)																
Wah Fu PTW																						
Possession / Vacation of Portions																						
24MWFU00030	H/O Date_WF-2 (914 days after start)	0%	0	24-Jul-14		◆ H/O Date_WF-2 (914 days after start)																
Civil & Geo. Submission																						
Contractor's Design, Submission / Approval & Procurement																						
Technical Information & Drawings																						
Cyberport																						
Major Technical Data / Civil Works Design																						
24DCPT00294	Review / Resubmit of Design for Flume Channels	0%	28	28-Jul-13 A	20-Aug-14	Review / Resubmit of Design for Flume Channels																
24DCPT00295	Approval of Design for Flume Channels	0%	14	21-Aug-14	03-Sep-14	Approval of Design for Flume Channels																
24DCPT00300	Prepare / Submission of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation	0%	40	24-Apr-14 A	24-Jul-14	Prepare / Submission of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation																
24DCPT00310	Review / Approval of ICE Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation	0%	20	25-Jul-14	13-Aug-14	Review / Approval of ICE Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation																
24DCPT00320	Comments / Approval of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation	0%	28	14-Aug-14	10-Sep-14	Comments / Approval of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation																
24DCPT00330	Review / Resubmit of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation	0%	28	11-Sep-14	08-Oct-14	Review / Resubmit of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation																
24DCPT00340	Approval of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation	0%	14	09-Oct-14	22-Oct-14	Approval of Design for pipe trench from drop shaft to existing CPT PTW for odour pipe installation																
24DCPT00346	Prepare / Submission of Design for permanent concrete plinth for new deodorization unit	0%	30	01-Mar-14 A	25-Jul-14	Prepare / Submission of Design for permanent concrete plinth for new deodorization unit																
24DCPT00347	Review / Approval of ICE Design for permanent concrete plinth for new deodorization unit	0%	14	26-Jul-14	08-Aug-14	Review / Approval of ICE Design for permanent concrete plinth for new deodorization unit																
24DCPT00348	Comments / Approval of Design for permanent concrete plinth for new deodorization unit	0%	14	09-Aug-14	22-Aug-14	Comments / Approval of Design for permanent concrete plinth for new deodorization unit																
24DCPT00349	Review / Resubmit of Design for permanent concrete plinth for new deodorization unit	0%	14	23-Aug-14	05-Sep-14	Review / Resubmit of Design for permanent concrete plinth for new deodorization unit																
24DCPT00350	Approval of Design for permanent concrete plinth for new deodorization unit	0%	7	06-Sep-14	12-Sep-14	Approval of Design for permanent concrete plinth for new deodorization unit																
Method Statement																						
24DCPT02160	Prepare / Submission of Method Statement for Trench, Chambers and Channels	0%	60	23-Feb-14 A	31-Jul-14	Prepare / Submission of Method Statement for Trench, Chambers and Channels																
24DCPT02170	Comments / Approval of Method Statement for Trench, Chambers and Channels	0%	28	24-Jul-14	20-Aug-14	Comments / Approval of Method Statement for Trench, Chambers and Channels																
24DCPT02180	Review / Resubmit of Method Statement for Trench, Chambers and Channels	0%	14	21-Aug-14	03-Sep-14	Review / Resubmit of Method Statement for Trench, Chambers and Channels																
24DCPT02190	Approval of Method Statement for Trench, Chambers and Channels	0%	14	04-Sep-14	17-Sep-14	Approval of Method Statement for Trench, Chambers and Channels																
24DCPT02200	Prepare / Submission of Method Statement for pipe trench for odour pipe installation	0%	60	24-May-14 A	21-Aug-14	Prepare / Submission of Method Statement for pipe trench for odour pipe installation																
24DCPT02210	Comments / Approval of Method Statement for pipe trench for odour pipe installation	0%	28	24-Jul-14	20-Aug-14	Comments / Approval of Method Statement for pipe trench for odour pipe installation																
24DCPT02220	Review / Resubmit of Method Statement for pipe trench for odour pipe installation	0%	14	21-Aug-14	03-Sep-14	Review / Resubmit of Method Statement for pipe trench for odour pipe installation																

Start Date: 25-Jun-11
 Finish Date: 23-Oct-17
 Date Date: 23-Jul-14
 Run Date: 25-Jul-14

- Primary Baseline
- Actual Work
- Critical Remaining Work
- ◆ Baseline Milestone
- Current Bar Labels
- ◆ Milestone

HATSS2A Contract No. DC/2009/24

3 MONTHS ROLLING PROGRAMME

JULY 2014

DETAILED WORKS PROGRAMME - DC/2009/24			
Date	Revision	Checked	Approved
30-Mar-12	DWP - REVISION 0		
14-Dec-12	DWP - REVISION 2		
17-Jun-14	DWP - REVISION 3 (S5, 6 & 7)		
23-Jul-14	UDWP - REVISION 3		

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014					
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	
24DABN00180	Review / Resubmit of Piling Works Design for Workshop & Admin Building	0%	28	22-Dec-11 A	25-Jul-14	Review / Resubmit of Piling Works Design for Workshop & Admin Building																			
24DABN00190	Approval of Piling Works Design for Workshop & Admin Building	0%	14	24-Mar-12 A	01-Aug-14	Approval of Piling Works Design for Workshop & Admin Building																			
24DABN00230	Review / Resubmit of RC Design (Workshop & Admin Building)	0%	28	07-Feb-12 A	13-Aug-14	Review / Resubmit of RC Design (Workshop & Admin Building)																			
24DABN00240	Approval of RC Design (Workshop & Admin Building)	0%	14	18-Jul-12 A	20-Aug-14	Approval of RC Design (Workshop & Admin Building)																			
24DABN00250	Prepare / Submission of Design for Finishing Works (Workshop & Admin Building)	0%	40	21-Aug-14	29-Sep-14	Prepare / Submission of Design for Finishing Works (Workshop & Admin Building)																			
24DABN00260	Review / Approval of ICE Design for Finishing Works (Workshop & Admin Building)	0%	20	30-Sep-14	19-Oct-14	Review / Approval of ICE Design for Finishing Works (Workshop & Admin Building)																			
24DABN00270	Comments / Approval of Design for Finishing Works (Workshop & Admin Building)	0%	28	20-Oct-14	16-Nov-14	Comments / Approval of Design for Finishing Works (Workshop & Admin Building)																			
24DABN00300	Prepare / Submission of RC Design (Seawater Pumping Station)	0%	40	21-Aug-14*	29-Sep-14	Prepare / Submission of RC Design (Seawater Pumping Station)																			
24DABN00310	Review / Approval of ICE RC Design (Seawater Pumping Station)	0%	20	30-Sep-14	19-Oct-14	Review / Approval of ICE RC Design (Seawater Pumping Station)																			
24DABN00320	Comments / Approval of RC Design (Seawater Pumping Station)	0%	28	20-Oct-14	16-Nov-14	Comments / Approval of RC Design (Seawater Pumping Station)																			
24DABN00380	Review / Resubmit of RC Design of Flume Channels & Chambers	0%	28	13-Jul-13 A	25-Jul-14	Review / Resubmit of RC Design of Flume Channels & Chambers																			
24DABN00390	Approval of RC Design of Flume Channels & Chambers	0%	14	26-Jul-14	08-Aug-14	Approval of RC Design of Flume Channels & Chambers																			
24DABN00450	Prepare / Submission of Design for Roadworks	0%	40	21-Aug-14	29-Sep-14	Prepare / Submission of Design for Roadworks																			
24DABN00460	Review / Approval of ICE Design for Roadworks	0%	20	30-Sep-14	19-Oct-14	Review / Approval of ICE Design for Roadworks																			
24DABN00470	Comments / Approval of Design for Roadworks	0%	28	20-Oct-14	16-Nov-14	Comments / Approval of Design for Roadworks																			
Method Statement for Major Works																									
24DABN02180	Review / Resubmit of Method Statement for Trench, Chambers and Channels	0%	14	15-May-14 A	06-Aug-14	Review / Resubmit of Method Statement for Trench, Chambers and Channels																			
24DABN02190	Approval of Method Statement for Trench, Chambers and Channels	0%	14	07-Aug-14	20-Aug-14	Approval of Method Statement for Trench, Chambers and Channels																			
Material Submission / Approval																									
24DABN02360	Prepare / Submission of Material approval for Roller Shutter	0%	60	02-Oct-14	30-Nov-14	Prepare / Submission of Material approval for Roller Shutter																			
Ap Lei Chau																									
Major Tech. Data / Civil Works Design																									
24DALC00130	Review / Resubmit of RC Design (Screening & Degritting Facilities and Effluent Pumping Station)	0%	28	01-Mar-14 A	20-Aug-14	Review / Resubmit of RC Design (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00140	Approval of RC Design (Screening & Degritting Facilities and Effluent Pumping Station)	0%	14	21-Aug-14	03-Sep-14	Approval of RC Design (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00150	Prepare / Submission of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)	0%	40	24-Jul-14	01-Sep-14	Prepare / Submission of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00160	Review / Approval of ICE for Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)	0%	20	02-Sep-14	21-Sep-14	Review / Approval of ICE for Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00170	Comments / Approval of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)	0%	28	22-Sep-14	19-Oct-14	Comments / Approval of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00180	Review / Resubmit of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)	0%	28	20-Oct-14	16-Nov-14	Review / Resubmit of Finishing Works (Screening & Degritting Facilities and Effluent Pumping Station)																			
24DALC00200	Prepare / Submission of Design for Flume Channels & Chamber	0%	40	04-Sep-14	13-Oct-14	Prepare / Submission of Design for Flume Channels & Chamber																			
24DALC00210	Review / Approval of ICE for Design of Flume Channels & Chamber	0%	20	14-Oct-14	02-Nov-14	Review / Approval of ICE for Design of Flume Channels & Chamber																			
Method Statement for Major Works																									
24DALC02100	Review / Resubmit of Method Statement for Structural Works	100%	14	22-Oct-13 A	09-Jul-14 A	Review / Resubmit of Method Statement for Structural Works																			
24DALC02110	Approval of Method Statement for Structural Works	0%	14	15-Feb-14 A	30-Jul-14	Approval of Method Statement for Structural Works																			
24DALC02120	Prepare / Submission of Method Statement for Finishing works	0%	60	24-Jul-14	21-Sep-14	Prepare / Submission of Method Statement for Finishing works																			
24DALC02130	Comments / Approval of Method Statement for Finishing works	0%	28	22-Sep-14	19-Oct-14	Comments / Approval of Method Statement for Finishing works																			
24DALC02140	Review / Resubmit of Method Statement for Finishing works	0%	14	20-Oct-14	02-Nov-14	Review / Resubmit of Method Statement for Finishing works																			
24DALC02160	Prepare / Submission of Method Statement for Flume Channel	0%	60	14-Oct-14	12-Dec-14	Prepare / Submission of Method Statement for Flume Channel																			
Order / Manufacturing / Shipment / Delivery																									
24DALC02610	Manufacturing of FRP covers/ flooring	0%	90	06-May-13 A	21-Sep-14	Manufacturing of FRP covers/ flooring																			
24DALC02620	Delivery of FRP covers/ flooring	0%	30	22-Sep-14	21-Oct-14	Delivery of FRP covers/ flooring																			
Electrical and Mechanical Submission																									
Contractor's Design, Submission / Approval and Procurement																									
Technical Information & Drawings																									
Cyberport																									
Major Technical Data / E&M Works Design																									
24DCPT03420	Review / Resubmit of Control Philosophy	0%	10	08-Feb-12 A	25-Jul-14	Review / Resubmit of Control Philosophy																			

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014					
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	
24DCPT03430	Approval of Control Philosophy	100%	10	10-May-12 A	27-Jul-14	Approval of Control Philosophy																			
24DCPT03470	Review / Resubmit of DCS Detail Design	100%	10	13-May-14 A	04-Jul-14 A	Review / Resubmit of DCS Detail Design																			
24DCPT03480	Approval of DCS Detail Design	0%	10	05-Jul-14 A	06-Aug-14	Approval of DCS Detail Design																			
Order / Manufacturing / Shipment / Delivery																									
24PCPT01040	Manufacturing of Penstock	0%	140	26-Jan-14 A	08-Sep-14	Manufacturing of Penstock																			
24PCPT01050	Packaging / Delivery of Penstock	0%	30	09-Sep-14	08-Oct-14	Packaging / Delivery of Penstock																			
24PCPT01070	Manufacturing of Stoplog	0%	140	26-Jan-14 A	10-Oct-14	Manufacturing of Stoplog																			
24PCPT01080	Packaging / Delivery of Stoplog	0%	30	11-Oct-14	09-Nov-14	Packaging / Delivery of Stoplog																			
24PCPT01105	FAT of Deodorization System	0%	30	31-May-14 A	29-Jul-14	FAT of Deodorization System																			
24PCPT01110	Packaging / Delivery of Deodorization System	0%	30	30-Jul-14	28-Aug-14	Packaging / Delivery of Deodorization System																			
24PCPT01120	Placing of Order on Control Panel	0%	10	29-Aug-14*	07-Sep-14	Placing of Order on Control Panel																			
24PCPT01130	Manufacturing of Control Panel	0%	50	08-Sep-14	27-Oct-14	Manufacturing of Control Panel																			
24PCPT01160	Manufacturing of Instruments	100%	110	18-Nov-13 A	05-Jul-14 A	Manufacturing of Instruments																			
24PCPT01170	Packaging / Delivery of Instruments	0%	30	06-Jul-14 A	04-Aug-14	Packaging / Delivery of Instruments																			
24PCPT01190	Manufacturing of DCS Control System	100%	75	18-Nov-13 A	21-Aug-14	Manufacturing of DCS Control System																			
24PCPT01200	FAT for DCS Control System	0%	6	22-Aug-14	27-Aug-14	FAT for DCS Control System																			
24PCPT01210	Packaging / Delivery of DCS Control System	0%	1	28-Aug-14	28-Aug-14	Packaging / Delivery of DCS Control System																			
24PCPT01230	Manufacturing of Weather & H2S Monitoring Station	0%	140	13-Nov-13 A	20-Aug-14	Manufacturing of Weather & H2S Monitoring Station																			
24PCPT01240	Packaging / Delivery of Weather & H2S Monitoring Station	0%	30	21-Aug-14	19-Sep-14	Packaging / Delivery of Weather & H2S Monitoring Station																			
24PCPT01245	Manufacturing of Miscellaneous E&M Items	60%	90	08-Mar-14 A	25-Aug-14	Manufacturing of Miscellaneous E&M Items																			
24PCPT01246	Packaging / Delivery of Miscellaneous E&M Items	0%	30	26-Aug-14	24-Sep-14	Packaging / Delivery of Miscellaneous E&M Items																			
Wah Fu																									
Major Technical Data / E&M Works Design																									
24DWFU04080	Prepare / Submit to ICE the Electrical Protection Equipment Calculation	0%	20	24-Jul-14	12-Aug-14	Prepare / Submit to ICE the Electrical Protection Equipment Calculation																			
24DWFU04090	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation	0%	12	13-Aug-14	24-Aug-14	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation																			
24DWFU04100	Comments / Approval of Electrical Protection Equipment Calculation	0%	28	25-Aug-14	21-Sep-14	Comments / Approval of Electrical Protection Equipment Calculation																			
24DWFU04110	Review / Resubmit of Electrical Protection Equipment Calculation	0%	15	22-Sep-14	06-Oct-14	Review / Resubmit of Electrical Protection Equipment Calculation																			
24DWFU04120	Approval of Electrical Protection Equipment Calculation	0%	15	07-Oct-14	21-Oct-14	Approval of Electrical Protection Equipment Calculation																			
24DWFU04160	Review / Resubmit of Control Philosophy	100%	15	08-Feb-12 A	26-Jul-14	Review / Resubmit of Control Philosophy																			
24DWFU04170	Approval of Control Philosophy	0%	15	08-May-12 A	02-Aug-14	Approval of Control Philosophy																			
24DWFU04180	Prepare / Submit to ICE the DCS Detail Design	0%	20	03-Aug-14	22-Aug-14	Prepare / Submit to ICE the DCS Detail Design																			
24DWFU04190	Review / Approval of ICE and Submitted to Client the DCS Detail Design	0%	12	23-Aug-14	03-Sep-14	Review / Approval of ICE and Submitted to Client the DCS Detail Design																			
24DWFU04200	Comments / Approval of DCS Detail Design	0%	28	04-Sep-14	01-Oct-14	Comments / Approval of DCS Detail Design																			
24DWFU04210	Review / Resubmit of DCS Detail Design	0%	15	02-Oct-14	16-Oct-14	Review / Resubmit of DCS Detail Design																			
24DWFU04220	Approval of DCS Detail Design	0%	15	17-Oct-14	31-Oct-14	Approval of DCS Detail Design																			
24DWFU04222	Comments / Approval of combined services drawing	50%	30	06-Jun-12 A	30-Jul-14	Comments / Approval of combined services drawing																			
24DWFU04223	Review / Resubmit of combined services drawing	0%	30	31-Jul-14	29-Aug-14	Review / Resubmit of combined services drawing																			
24DWFU04224	Approval of combined services drawing	0%	30	30-Aug-14	28-Sep-14	Approval of combined services drawing																			
24DWFU04226	Review / Approval of ICE and Submitted to Client the Design Drawing for New MCC (Switchboard)	100%	12	22-Sep-12 A	25-Jun-14 A	Review / Approval of ICE and Submitted to Client the Design Drawing for New MCC (Switchboard)																			
24DWFU04228	Review / Resubmit of Design Drawing for New MCC (Switchboard)	100%	15	22-Sep-12 A	02-Jul-14 A	Review / Resubmit of Design Drawing for New MCC (Switchboard)																			
24DWFU04229	Approval of Design Drawing for New MCC (Switchboard)	0%	15	12-Dec-12 A	30-Jul-14	Approval of Design Drawing for New MCC (Switchboard)																			
24DWFU04232	Review / Resubmit of Design Drawing for Miscellaneous E&M Items	0%	30	08-Dec-13 A	01-Sep-14	Review / Resubmit of Design Drawing for Miscellaneous E&M Items																			
24DWFU04233	Approval of Design Drawing for Miscellaneous E&M Items	0%	30	02-Sep-14	01-Oct-14	Approval of Design Drawing for Miscellaneous E&M Items																			
Equipment Submission/Approval																									
24DWFU03821	Prepare / Submission of Miscellaneous E&M Items	0%	40	02-Oct-14	10-Nov-14	Prepare / Submission of Miscellaneous E&M Items																			
Order / Manufacturing / Shipment / Delivery																									

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014					
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	
24PWFU01190	Manufacturing of Coarse Screen	0%	145	08-May-13 A	31-Aug-14	Manufacturing of Coarse Screen																			
24PWFU01200	Packaging / Delivery of Coarse Screen	0%	30	01-Sep-14	30-Sep-14	Packaging / Delivery of Coarse Screen																			
24PWFU01220	Manufacturing of Fine Screen	0%	145	08-May-13 A	09-Aug-14	Manufacturing of Fine Screen																			
24PWFU01225	FAT of Fine Screen	0%	90	10-Aug-14	07-Nov-14	FAT of Fine Screen																			
24PWFU01232	Manufacturing of Fine Screen Conveyor	0%	145	13-Jun-14 A	04-Nov-14	Manufacturing of Fine Screen Conveyor																			
24PWFU01280	Manufacturing of Grit Removal Facilities	0%	175	22-Jul-13 A	10-Sep-14	Manufacturing of Grit Removal Facilities																			
24PWFU01290	Packaging / Delivery of Grit Removal Facilities	0%	30	11-Sep-14	10-Oct-14	Packaging / Delivery of Grit Removal Facilities																			
24PWFU01340	Manufacturing of Penstock	0%	140	13-May-14 A	29-Sep-14	Manufacturing of Penstock																			
24PWFU01350	Packaging / Delivery of Penstock	0%	30	30-Sep-14	29-Oct-14	Packaging / Delivery of Penstock																			
24PWFU01370	Manufacturing of Stoplog	0%	140	13-Jun-14 A	30-Oct-14	Manufacturing of Stoplog																			
24PWFU01405	FAT of Deodorization System	0%	90	23-Jun-14 A	20-Sep-14	FAT of Deodorization System																			
24PWFU01410	Packaging / Delivery of Deodorization System	0%	30	21-Sep-14	20-Oct-14	Packaging / Delivery of Deodorization System																			
24PWFU01430	Manufacturing of MCC (Switchboard) Panel	0%	190	21-Jun-13 A	15-Aug-14	Manufacturing of MCC (Switchboard) Panel																			
24PWFU01440	FAT for MCC (Switchboard) Panel	0%	10	16-Aug-14	25-Aug-14	FAT for MCC (Switchboard) Panel																			
24PWFU01450	Packaging / Delivery of MCC (Switchboard) Panel	0%	30	26-Aug-14	24-Sep-14	Packaging / Delivery of MCC (Switchboard) Panel																			
24PWFU01460	Placing of Order on Control Panel	0%	10	01-Sep-14*	10-Sep-14	Placing of Order on Control Panel																			
24PWFU01470	Manufacturing of Control Panel	0%	50	11-Sep-14	30-Oct-14	Manufacturing of Control Panel																			
24PWFU01490	Placing of Order on Instruments	0%	10	24-Jul-14*	02-Aug-14	Placing of Order on Instruments																			
24PWFU01500	Manufacturing of Instruments	0%	110	03-Aug-14	20-Nov-14	Manufacturing of Instruments																			
24PWFU01530	Manufacturing of DCS Control System	0%	75	03-Jun-14 A	16-Aug-14	Manufacturing of DCS Control System																			
24PWFU01540	FAT for DCS Control System	0%	30	17-Aug-14	15-Sep-14	FAT for DCS Control System																			
24PWFU01550	Packaging / Delivery of DCS Control System	0%	30	16-Sep-14	15-Oct-14	Packaging / Delivery of DCS Control System																			
24PWFU01570	Manufacturing of Lifting Appliance	0%	80	13-Jun-14 A	31-Aug-14	Manufacturing of Lifting Appliance																			
24PWFU01580	Packaging / Delivery of Lifting Appliance	0%	30	01-Sep-14	30-Sep-14	Packaging / Delivery of Lifting Appliance																			
24PWFU01630	Manufacturing of Emergency Generator Set	20%	200	07-Apr-13 A	20-Sep-14	Manufacturing of Emergency Generator Set																			
24PWFU01640	Packaging / Delivery of Emergency Generator Set	0%	30	21-Sep-14	20-Oct-14	Packaging / Delivery of Emergency Generator Set																			
Aberdeen																									
Major Technical Data / E&M Works Design																									
24DABN03780	Prepare / Submit to ICE the Electrical Protection Equipment Calculation	0%	20	26-May-14 A	24-Jul-14	Prepare / Submit to ICE the Electrical Protection Equipment Calculation																			
24DABN03790	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation	0%	12	25-Jul-14	05-Aug-14	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation																			
24DABN03800	Comments / Approval of Electrical Protection Equipment Calculation	0%	28	06-Aug-14	02-Sep-14	Comments / Approval of Electrical Protection Equipment Calculation																			
24DABN03810	Review / Resubmit of Electrical Protection Equipment Calculation	0%	15	19-Aug-14	02-Sep-14	Review / Resubmit of Electrical Protection Equipment Calculation																			
24DABN03820	Approval of Electrical Protection Equipment Calculation	0%	15	03-Sep-14	17-Sep-14	Approval of Electrical Protection Equipment Calculation																			
24DABN03860	Review / Resubmit of Control Philosophy	0%	15	06-Jun-12 A	30-Jul-14	Review / Resubmit of Control Philosophy																			
24DABN03870	Approval of Control Philosophy	0%	15	05-Apr-14 A	14-Aug-14	Approval of Control Philosophy																			
24DABN03880	Prepare / Submit to ICE the DCS Detail Design	0%	20	15-Aug-14	03-Sep-14	Prepare / Submit to ICE the DCS Detail Design																			
24DABN03890	Review / Approval of ICE and Submitted to Client the DCS Detail Design	0%	12	04-Sep-14	15-Sep-14	Review / Approval of ICE and Submitted to Client the DCS Detail Design																			
24DABN03900	Comments / Approval of DCS Detail Design	0%	28	16-Sep-14	13-Oct-14	Comments / Approval of DCS Detail Design																			
24DABN03910	Review / Resubmit of DCS Detail Design	0%	15	14-Oct-14	28-Oct-14	Review / Resubmit of DCS Detail Design																			
24DABN03923	Review / Resubmit of combined services drawing	25%	30	05-Sep-12 A	24-Jul-14	Review / Resubmit of combined services drawing																			
24DABN03924	Approval of combined services drawing	25%	30	10-Oct-12 A	25-Jul-14	Approval of combined services drawing																			
24DABN03930	Prepare / Submit the Design Drawing for Miscellaneous E&M Items	0%	60	26-Jul-14	23-Sep-14	Prepare / Submit the Design Drawing for Miscellaneous E&M Items																			
24DABN03931	Comments / Approval of Design Drawing for Miscellaneous E&M Items	0%	30	24-Sep-14	23-Oct-14	Comments / Approval of Design Drawing for Miscellaneous E&M Items																			
Order / Manufacturing / Shipment / Delivery																									
24PABN01170	Manufacturing of Seawater Pump	0%	335	13-May-13 A	20-Nov-14	Manufacturing of Seawater Pump																			
24PABN01370	Packaging / Delivery of Instruments	0%	30	25-Jun-13 A	25-Jul-14	Packaging / Delivery of Instruments																			

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014		
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13
Ap Lei Chau																						
Major Technical Data / E&M Works Design																						
24DALC03780	Prepare / Submit to ICE the Electrical Protection Equipment Calculation	0%	20	16-Aug-14	04-Sep-14																	Prepare / Submit to ICE the Electrical Protection Equipment Calculation
24DALC03790	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation	0%	12	05-Sep-14	16-Sep-14																	Review / Approval of ICE and Submitted to Client the Electrical Protection Equipment Calculation
24DALC03800	Comments / Approval of Electrical Protection Equipment Calculation	0%	28	17-Sep-14	14-Oct-14																	Comments / Approval of Electrical Protection Equipment Calculation
24DALC03810	Review / Resubmit of Electrical Protection Equipment Calculation	0%	15	15-Oct-14	29-Oct-14																	Review / Resubmit of Electrical Protection Equipment Calculation
24DALC03860	Review / Resubmit of Control Philosophy	100%	15	07-Jan-12 A	25-Jul-14																	Review / Resubmit of Control Philosophy
24DALC03870	Approval of Control Philosophy	0%	15	27-Apr-12 A	26-Jul-14																	Approval of Control Philosophy
24DALC03880	Prepare / Submit to ICE the DCS Detail Design	0%	20	27-Jul-14	15-Aug-14																	Prepare / Submit to ICE the DCS Detail Design
24DALC03890	Review / Approval of ICE and Submitted to Client the DCS Detail Design	0%	12	16-Aug-14	27-Aug-14																	Review / Approval of ICE and Submitted to Client the DCS Detail Design
24DALC03900	Comments / Approval of DCS Detail Design	0%	28	28-Aug-14	24-Sep-14																	Comments / Approval of DCS Detail Design
24DALC03910	Review / Resubmit of DCS Detail Design	0%	15	25-Sep-14	09-Oct-14																	Review / Resubmit of DCS Detail Design
24DALC03920	Approval of DCS Detail Design	0%	15	10-Oct-14	24-Oct-14																	Approval of DCS Detail Design
24DALC03923	Review / Resubmit of combined services drawing	0%	30	07-Jul-12 A	25-Jul-14																	Review / Resubmit of combined services drawing
24DALC03924	Approval of combined services drawing	0%	30	25-Jul-12 A	24-Aug-14																	Approval of combined services drawing
Order / Manufacturing / Shipment / Delivery																						
24PALC01130	Manufacturing of Grit Classifier	0%	145	18-Sep-12 A	22-Aug-14																	Manufacturing of Grit Classifier
24PALC01140	Packaging / Delivery of Grit Classifier	0%	30	23-Aug-14	21-Sep-14																	Packaging / Delivery of Grit Classifier
24PALC01160	Manufacturing of Effluent Pump	0%	335	01-Apr-13 A	20-Mar-15																	Manufacturing of Effluent Pump
24PALC01250	Placing of Order on Deodorization System	0%	10	24-Jul-14*	02-Aug-14																	Placing of Order on Deodorization System
24PALC01260	Manufacturing of Deodorization System	0%	160	03-Aug-14	09-Jan-15																	Manufacturing of Deodorization System
24PALC01320	Placing of Order on Control Panel	0%	10	24-Jul-14	02-Aug-14																	Placing of Order on Control Panel
24PALC01330	Manufacturing of Control Panel	0%	50	03-Aug-14	21-Sep-14																	Manufacturing of Control Panel
24PALC01340	Packaging / Delivery of Control Panel	0%	15	22-Sep-14	06-Oct-14																	Packaging / Delivery of Control Panel
24PALC01350	Placing of Order on Instruments	0%	10	24-Jul-14	02-Aug-14																	Placing of Order on Instruments
24PALC01360	Manufacturing of Instruments	0%	110	03-Aug-14	20-Nov-14																	Manufacturing of Instruments
Sandy Bay PTW																						
Works for Section 1																						
PTW Building																						
Civil Works																						
Site Clearance and Preparation Works																						
24SBY02050	Relocation of Temp. Works in ALC-T2 from SBY-T1	0%	25	18-Sep-12 A	31-Jul-14																	Relocation of Temp. Works in ALC-T2 from SBY-T1
Modification Works in PTW Building																						
24SBY02576	Installation of handrail/railings on new staircase	0%	12	24-Jul-14	06-Aug-14																	Installation of handrail/railings on new staircase
Flume Channels and Chambers																						
Interface between Civil / ABWF / E&M Works																						
24MSBY00080	Completion of E&M works at flume channel	0%	0		20-Aug-14																	Completion of E&M works at flume channel
Civil Works (incl. footing of existing fence modification)																						
24SBY02707	Modification of Existing Effluent Chamber connected to new Flume Chamber	0%	12	24-Jul-14	06-Aug-14																	Modification of Existing Effluent Chamber connected to new Flume Chamber
24SBY02708	Drawpits and cable ducts	0%	12	24-Jul-14	06-Aug-14																	Drawpits and cable ducts
24SBY02709	Installation of air tight multi-part cover in flume channels and chambers	0%	12	24-Jul-14	06-Aug-14																	Installation of air tight multi-part cover in flume channels and chambers
Electrical and Mechanical Works																						
24SBY02750A	Installation of hydrostatic pressure level transmitter at drop shaft	0%	2	07-Aug-14	08-Aug-14																	Installation of hydrostatic pressure level transmitter at drop shaft
24SBY02750B	Installation of level sensor at drop shaft	0%	2	09-Aug-14	11-Aug-14																	Installation of level sensor at drop shaft
24SBY02750C	Installation of level sensor c/w transmitter at flume channel measuring flume	0%	2	12-Aug-14	13-Aug-14																	Installation of level sensor c/w transmitter at flume channel measuring flume
24SBY02750D	Cable laying via cable ducts and drawpits going to control room (including termination)	0%	6	14-Aug-14	20-Aug-14																	Cable laying via cable ducts and drawpits going to control room (including termination)

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014					October 2014				
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	
24WFOU2230A53	Rebarworks for Pile Cap (GL 3-7)	0%	25	25-Jun-14 A	30-Jul-14	Rebarworks for Pile Cap (GL 3-7)																			
24WFOU2230A54	Concrete Works for Pile Cap (GL 3-7)	0%	1	31-Jul-14	31-Jul-14	Concrete Works for Pile Cap (GL 3-7)																			
RC Structural Works																									
24WFOU22235	Removal of temporary platforms	0%	15	24-Jul-14	09-Aug-14	Removal of temporary platforms																			
24WFOU22240A10	Formworks for chambers (GL 1-3)	100%	30	28-May-14 A	23-Jul-14 A	Formworks for chambers (GL 1-3)																			
24WFOU22240A20	Rebarworks for chambers (GL 1-3)	100%	6	14-May-14 A	23-Jul-14 A	Rebarworks for chambers (GL 1-3)																			
24WFOU22240A30	Concrete Works for chambers (GL 1-3)	0%	1	11-Aug-14	11-Aug-14	Concrete Works for chambers (GL 1-3)																			
24WFOU22240A40	Formworks for Column, Wall and Roof Slab at Elev. +21.80	0%	30	12-Aug-14	16-Sep-14	Formworks for Column, Wall and Roof Slab at Elev. +21.80																			
24WFOU22240A50	Rebarworks for Column, Wall and Roof Slab at Elev. +21.80	0%	8	06-Sep-14	16-Sep-14	Rebarworks for Column, Wall and Roof Slab at Elev. +21.80																			
24WFOU22240A60	Concrete for Column, Wall and Roof Slab at Elev. +21.80	0%	9	17-Sep-14	26-Sep-14	Concrete for Column, Wall and Roof Slab at Elev. +21.80																			
24WFOU22240A70	Formworks for chambers (GL 3-5)	0%	28	01-Aug-14	02-Sep-14	Formworks for chambers (GL 3-5)																			
24WFOU22240A80	Rebarworks for chambers (GL 3-5)	0%	7	29-Aug-14	05-Sep-14	Rebarworks for chambers (GL 3-5)																			
24WFOU22240A90	Concrete Works for chambers (GL 3-5)	0%	1	06-Sep-14	06-Sep-14	Concrete Works for chambers (GL 3-5)																			
24WFOU22240B11	Formworks for Column, Wall and Roof Slab at Elev. +20.32	0%	30	08-Sep-14	15-Oct-14	Formworks for Column, Wall and Roof Slab at Elev. +20.32																			
24WFOU22240B12	Rebarworks for Column, Wall and Roof Slab at Elev. +20.32	0%	7	08-Oct-14	15-Oct-14	Rebarworks for Column, Wall and Roof Slab at Elev. +20.32																			
24WFOU22240B13	Concrete for Column, Wall and Roof Slab at Elev. +20.32	0%	1	16-Oct-14	16-Oct-14	Concrete for Column, Wall and Roof Slab at Elev. +20.32																			
24WFOU22240B30	Waterproofing works on Wall	0%	17	17-Oct-14	05-Nov-14	Waterproofing works on Wall																			
24WFOU22240B90	Formworks for Stairs	0%	29	27-Sep-14	01-Nov-14	Formworks for Stairs																			
24WFOU22240C30	Modification of existing outfall chamber to new chamber	0%	45	17-Oct-14	08-Dec-14	Modification of existing outfall chamber to new chamber																			
Finishing Works (Internal and External)																									
24WFOU22250A10	Ceiling Finishes (Painting)	0%	19	17-Oct-14	07-Nov-14	Ceiling Finishes (Painting)																			
24WFOU22250A50	Installation of Glass Block Window	0%	31	17-Oct-14	21-Nov-14	Installation of Glass Block Window																			
Electrical and Mechanical Works																									
Material / Equipment Delivery on Site																									
24WFOU2000	Delivery of coarse screen	0%	0		30-Sep-14																			30-Sep-14	Delivery of coarse screen
24WFOU2030	Delivery of grit trap	0%	0		10-Oct-14																			10-Oct-14	Delivery of grit trap
24WFOU3270	Delivery of deodorization system	0%	0		20-Oct-14																			20-Oct-14	Delivery of deodorization system
24WFOU3280	Delivery of MCC	0%	0		24-Sep-14																			24-Sep-14	Delivery of MCC
24WFOU3310	Delivery of DCS control system	0%	0		15-Oct-14																			15-Oct-14	Delivery of DCS control system
24WFOU3320	Delivery of lifting appliance	0%	0		30-Sep-14																			30-Sep-14	Delivery of lifting appliance
24WFOU3330	Delivery of emergency generator set	0%	0		20-Oct-14																			20-Oct-14	Delivery of emergency generator set
Mechanical Works																									
24WFOU3350	Installation of monorail no. 1 & 2 (coarse and fine screen area)	0%	28	17-Oct-14	18-Nov-14	Installation of monorail no. 1 & 2 (coarse and fine screen area)																			
Plumbing Services																									
24WFOU3890	Installation of FRP water tank	0%	14	17-Oct-14	01-Nov-14	Installation of FRP water tank																			
Aberdeen PTW																									
Key Dates																									
Time of Completion																									
24ABN00300	Time for Completion of Section 5	0%	1179	31-Aug-11 A	28-Dec-15	Time for Completion of Section 5																			
24ABN00310	Time for Completion of Section 6	0%	1309	31-Aug-11 A	23-Oct-16	Time for Completion of Section 6																			
Interface and Liaison																									
Interface with ST2/DSD																									
24MABN00190	Coordinate with DSD/ST2 regarding design requirement for Temp. Office at ABN	0%	60	24-May-14 A	21-Sep-14	Coordinate with DSD/ST2 regarding design requirement for Temp. Office at ABN																			
Works for Section 5																									
FS & GT Bldg - Fine Screen and Inlet Chamber (Stage 1)																									
Civil Works																									

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014					
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	
Temporary Works / Demolition Works																									
24ABN00710A21A	Foundation and Base slab for the temp. office for DSD/ST2	0%	6	04-Oct-14	10-Oct-14																				
24ABN00710A21B	Installation of Structure (incl. enclosure)	0%	12	11-Oct-14	24-Oct-14																				
FS & GT Bldg - Grit Trap No. 1 and FC-1 Chamber (Stage 2)																									
Civil Works																									
RC Structural Works for Grit Trap No. 1																									
24ABN00775B30	Fomworks for base slab of grit trap no. 1 and chambers	0%	12	16-Jun-14 A	18-Aug-14																				
24ABN00775B40	Rebarworks for base slab of grit trap no. 1 and chambers	0%	12	16-Jun-14 A	01-Sep-14																				
24ABN00775B50	Concrete for base slab of grit trap no. 1 and chambers	0%	1	02-Sep-14	02-Sep-14																				
24ABN00775B60	Fomworks for wall of grit trap no. 1 and chambers	0%	12	03-Sep-14	17-Sep-14																				
24ABN00775B70	Rebarworks for wall of grit trap no. 1 and chambers	0%	12	18-Sep-14	03-Oct-14																				
24ABN00775B80	Concrete for wall of grit trap no. 1 and chambers	0%	1	04-Oct-14	04-Oct-14																				
24ABN00775B90	Fomworks for top slab of grit trap no. 1 and chambers	0%	12	06-Oct-14	18-Oct-14																				
24ABN00775C10	Rebarworks for top slab of grit trap no. 1 and chambers	0%	12	20-Oct-14	01-Nov-14																				
Temporary Works / Demolition Works																									
24ABN00745B15	Demolition of temporary inlet chamber and removal of gravity pipe	0%	28	26-Jul-14	27-Aug-14																				
RC Works for FC-1 Chamber																									
24ABN00745A20	Fomworks for base slab of chamber FC-1	100%	4	03-Jun-14 A	10-Jul-14 A																				
24ABN00745A30	Rebarworks for base slab of chamber FC-1	100%	7	06-Jun-14 A	11-Jul-14 A																				
24ABN00745A40	Concrete for base slab of chamber FC-1	100%	4	12-Jul-14 A	12-Jul-14 A																				
24ABN00745A45	Installation of 1800Ø pipe from FC-1 to FC-2	20%	30	14-Jul-14 A	25-Sep-14																				
24ABN00745A47	Installation of permanent 1800Ø dia pipe from FC-1 to FC-3	0%	15	26-Sep-14	15-Oct-14																				
24ABN00745A50	Fomworks for wall of chamber FC-1	80%	20	14-Jul-14 A	13-Sep-14																				
24ABN00745A60	Rebarworks for wall of chamber FC-1	80%	15	14-Jul-14 A	06-Sep-14																				
24ABN00745A70	Concrete for wall of chamber FC-1	0%	6	08-Sep-14	15-Sep-14																				
24ABN00745C42	Modification of works on FC-3 chamber (connection of 1800Ø pipe)	0%	30	16-Oct-14	19-Nov-14																				
Electrical and Mechanical Works																									
Mechanical Works																									
24ABN03851	Installation of penstock no. 17 (flow chamber outlet)	0%	15	16-Sep-14	04-Oct-14																				
FS & GT Bldg - Flume Channels and Chambers (Stage 4)																									
Interface between Civil / ABWF / E&M Works																									
24MABN00310	Completion of flume channel wall in preparation for the installation of stoplog and penstock (stage 2)	0%	0		15-Aug-14																				
Civil Works																									
RC Works for Flume Channel (1st stage)																									
24ABN02260A20	Fomworks for base slab of flume channels	100%	12	12-May-14 A	03-Jul-14 A																				
24ABN02260A30	Rebarworks for base slab of flume channels	100%	12	16-Jun-14 A	03-Jul-14 A																				
24ABN02260A40	Concrete for base slab of flume channels	100%	1	04-Jul-14 A	04-Jul-14 A																				
24ABN02260A50	Fomworks for wall of flume channels	40%	24	05-Jul-14 A	30-Jul-14																				
24ABN02260A60	Rebarworks for wall of flume channels	40%	24	14-Jul-14 A	14-Aug-14																				
24ABN02260A70	Concrete for wall of flume channels	0%	1	15-Aug-14	15-Aug-14																				
24ABN02260A80	Fomworks for top slab of flume channels	0%	14	16-Aug-14	01-Sep-14																				
24ABN02260A90	Rebarworks for top slab of flume channels	0%	14	02-Sep-14	18-Sep-14																				
24ABN02260B10	Concrete for top slab of flume channels	0%	1	19-Sep-14	19-Sep-14																				
24ABN02260B20	Waterproofing on flume channels	0%	3	20-Sep-14	23-Sep-14																				
24ABN02260B30	Backfilling works on flume channels	0%	3	24-Sep-14	26-Sep-14																				
RC Works for Flume Channel (2nd stage)																									

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014				
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27
24ABN02260C05	ELS / Excavation for the construction of Flume Channels	0%	40	27-Sep-14	14-Nov-14																			
Modification at Inlet Pumping Station																								
Interface between Civil / ABWF / E&M Works																								
24MABN0430	Completion of pump modification on Pump no. 3	0%	0		28-Sep-14																			
24MABN0440	Start of pump modification on Pump no. 2	0%	0	29-Sep-14																				
24MABN0470	Start Date of Pump Modification for Pump No. 1 (Sep 2014)	0%	0	01-Sep-14*																				
24MABN0480	Start of pump modification on Pump no. 1	0%	0	01-Sep-14																				
Modification of Pumps																								
Sewage Pump No. 3																								
24ABN3060	Decommissioning / Demolish sewage pump no. 3 c/w pipework branch	100%	6	17-Jun-14 A	23-Jun-14 A																			
24ABN3061	Plinth modification for the installation of new sewage pump no. 3	0%	10	19-Jun-14 A	04-Aug-14																			
24ABN3070	Modification / upgrading of existing power supply	0%	12	24-Jun-14 A	06-Aug-14																			
24ABN3080	Installation of new sewage pump no. 3	0%	4	05-Aug-14	08-Aug-14																			
24ABN3090	Installation of new pipework and associated valves and flowmeter	0%	16	09-Aug-14	27-Aug-14																			
24ABN3100	Power connection	0%	2	28-Aug-14	29-Aug-14																			
24ABN3110	Performance test of sewage pump no. 3	0%	30	30-Aug-14	28-Sep-14																			
Sewage Pump No. 2																								
24ABN3120	Decommissioning / Demolish sewage pump no. 2 c/w pipework branch	0%	6	29-Sep-14	07-Oct-14																			
24ABN3121	Plinth modification for the installation of new sewage pump no. 2	0%	10	03-Oct-14	14-Oct-14																			
24ABN3130	Modification / upgrading of existing power supply	0%	12	08-Oct-14	21-Oct-14																			
24ABN3140	Installation of new sewage pump no. 2	0%	4	15-Oct-14	18-Oct-14																			
24ABN3150	Installation of new pipework and associated valves and flowmeter	0%	16	20-Oct-14	06-Nov-14																			
Modification of Deodorization System and DCS System																								
Electrical Works																								
24ABN03271	Replacement / upgrading of motor, starter and panel cover in existing switchboard (for deodorizer no. 1)	0%	3	05-Sep-14	08-Sep-14																			
24ABN03272	Removal of existing aged cables (for deodorizer no. 1)	0%	5	10-Sep-14	15-Sep-14																			
24ABN03273	Installation of additional cable tray (for new deodorizer no. 1)	0%	7	16-Sep-14	23-Sep-14																			
24ABN03274	Cable laying for the new deodorizer no. 1	0%	14	24-Sep-14	11-Oct-14																			
24ABN03275	Megger test in cables for the new deodorizer no. 1	0%	7	13-Oct-14	20-Oct-14																			
24ABN03276	Cable termination for the new deodorizer no. 1	0%	10	21-Oct-14	31-Oct-14																			
HVAC System (Deodorization / Air Conditioning / Ventilation)																								
24ABN03283	Diversion of existing air ductworks from deodorizer no. 1 to nearby deodorizer no. 2 and no. 3	0%	5	30-Aug-14	04-Sep-14																			
24ABN03284	Decommission / Demolition of deodorizer no. 1	0%	10	05-Sep-14	17-Sep-14																			
24ABN03285	Installation of new deodorizer no. 1	0%	14	18-Sep-14	06-Oct-14																			
Completion of Works in Section 5																								
Submission of Manuals																								
24ABN3990	Preparation / Submission of draft O&M manual	0%	90	21-Oct-14	18-Jan-15																			
Works for Section 6																								
Workshop and Administration Building																								
Civil Works																								
Foundation Works																								
24ABN02200A21	Setting-Up and Location	0%	6	20-Sep-14	26-Sep-14																			
24ABN02200A22	Piling Works (Stage 1 - 10 nos) - 1 set of equipment at 4 days per pile	0%	52	27-Sep-14	28-Nov-14																			
Ap Lei Chau PTW																								
Key Dates																								
Time of Completion																								

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	July 2014					August 2014					September 2014				October 2014						
						23	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27		
24ALC00300	Time for Completion of Section 7	0%	1264	31-Aug-11 A	19-Sep-16																					
Works for Section 7																										
Stage 1 of ALC Upgrade - Initial Treatment Plant																										
Interface between Civil / ABWF / E&M Works																										
24MALC00220	Completion of structural works in preparation for finishing works	0%	0		27-Sep-14																				◆	Completion of structural works in preparation for finishing works
24MALC00230	Partial completion of finishing works in preparation for E&M works	0%	0		17-Oct-14																				◆	Partial completion of finishing works
Civil Works																										
Site Clearance and Preparation Works																										
24ALC00702A30	Excavation Permit Application / Approval	20%	93	02-May-14 A	21-Aug-14																					Excavation Permit Application / Approval
24ALC00702A40	Relocation of Site Entrance and Share Access	0%	59	22-Aug-14	01-Nov-14																					
Relocation and Demolition Works																										
24ALC00726	Relocation of existing waste discharge at ALC-2	100%	24	03-Jun-14 A	30-Jun-14 A																					Relocation of existing waste discharge at ALC-2
Foundation Works																										
Remaining Half of Initial Treatment Facilities																										
24ALC00730C10	Pipe pile walls installation including grouting works	0%	60	02-Jul-14 A	10-Sep-14																					Pipe pile walls installation including grouting works
24ALC00730C11	Excavation for initial treatment plant GL 6-7 / G-J	0%	20	11-Sep-14	06-Oct-14																					Excavation for initial treatment plant GL 6-7 / G-J
24ALC00730C12	Formworks for pile cap of wet well at GL 6-7 / G-J	0%	12	07-Oct-14	20-Oct-14																					Formworks for pile cap of wet well at GL 6-7 / G-J
24ALC00730C13	Rebarworks for pile cap of wet well at GL 6-7 / G-J	0%	12	14-Oct-14	27-Oct-14																					Rebarworks for pile cap of wet well at GL 6-7 / G-J
RC Structural Works																										
1st Half of Initial Treatment Facilities																										
24ALC00730A85	Preparation works prior to E&M Installation	0%	30	12-May-14 A	16-Aug-14																					Preparation works prior to E&M Installation
24ALC00740A10	Formworks for column of grit trap and fine screen area at GL 1-4 / G-J	0%	11	24-Jul-14	05-Aug-14																					Formworks for column of grit trap and fine screen area at GL 1-4 / G-J
24ALC00740A20	Rebarworks for column of grit trap and fine screen area at GL 1-4 / G-J	0%	6	30-Jul-14	05-Aug-14																					Rebarworks for column of grit trap and fine screen area at GL 1-4 / G-J
24ALC00740A30	Concrete for column of grit trap and fine screen area at GL 1-4 / G-J	0%	2	06-Aug-14	07-Aug-14																					Concrete for column of grit trap and fine screen area at GL 1-4 / G-J
24ALC00740A40	Formworks for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15	0%	14	08-Aug-14	23-Aug-14																					Formworks for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15
24ALC00740A50	Rebarworks for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15	0%	7	16-Aug-14	23-Aug-14																					Rebarworks for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15
24ALC00740A60	Concrete for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15	0%	2	21-Aug-14	22-Aug-14																					Concrete for floor beam and slab of screening compactor area at GL 1-4 / G-J elev. 6.15
24ALC00740A70	Formworks for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J	0%	24	24-Jul-14	20-Aug-14																					Formworks for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J
24ALC00740A80	Rebarworks for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J	0%	10	09-Aug-14	20-Aug-14																					Rebarworks for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J
24ALC00740A90	Concrete for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J	0%	2	21-Aug-14	22-Aug-14																					Concrete for wall at fine screen and grit trap area incl. screening and grit handling at GL 2-4 / G-J
24ALC00740B10	Formworks for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65	0%	24	23-Aug-14	20-Sep-14																					Formworks for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65
24ALC00740B20	Rebarworks for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65	0%	8	12-Sep-14	20-Sep-14																					Rebarworks for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65
24ALC00740B30	Concrete for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65	0%	6	22-Sep-14	27-Sep-14																					Concrete for roof beam and slab of grit trap and fine screen area at GL 1-4 / G-J elev. 13.65
Modification of Inlet Chamber (Partial)																										
24ALC00857	Construction initial inlet chamber (incl. temp. wall)	100%	30	02-May-14 A	28-Jun-14 A																					Construction initial inlet chamber (incl. temp. wall)
24ALC00858	Diversion of waste discharge to partial inlet chamber	100%	7	15-Jul-14 A	22-Jul-14 A																					Diversion of waste discharge to partial inlet chamber
Modification of Outfall Chamber																										
24ALC00900	Diverted the flow from Fine Screen Building to LHS of measuring flume channel	0%	2	24-Jul-14	25-Jul-14																					Diverted the flow from Fine Screen Building to LHS of measuring flume channel
24ALC00901	Fabricate steel tank with Ø800 mm steel pipe	0%	12	07-Aug-14	20-Aug-14																					Fabricate steel tank with Ø800 mm steel pipe
24ALC00902	Install the steel tank with Ø800mm steel pipe into RHS measuring flume channel and Ø900mm submarine outfall	0%	4	21-Aug-14	25-Aug-14																					Install the steel tank with Ø800mm steel pipe into RHS measuring flume channel and Ø900mm submarine outfall
24ALC00903	Seal up between Ø800mm pipe and Ø900mm pipe measuring flume channel and steel tank	0%	2	26-Aug-14	27-Aug-14																					Seal up between Ø800mm pipe and Ø900mm pipe measuring flume channel and steel tank
24ALC00904	Driving sheet pile for the existing terminal manhole	0%	6	26-Aug-14	01-Sep-14																					Driving sheet pile for the existing terminal manhole
24ALC00905	Demolition and excavation for the terminal manhole by saw cutting method up to 500mm underneath 1st layer waling	0%	4	02-Sep-14	05-Sep-14																					Demolition and excavation for the terminal manhole by saw cutting method up to 500mm underneath 1st layer waling
24ALC00906	Installation of 1st layer waling & strutting	0%	6	06-Sep-14	13-Sep-14																					Installation of 1st layer waling & strutting
24ALC00907	Demolition and excavation for the terminal manhole by saw cutting method up to 500mm underneath 2nd layer waling	0%	4	15-Sep-14	18-Sep-14																					Demolition and excavation for the terminal manhole by saw cutting method up to 500mm underneath 2nd layer waling
24ALC00908	Installation of 2nd layer waling & strutting	0%	6	19-Sep-14	25-Sep-14																					Installation of 2nd layer waling & strutting

