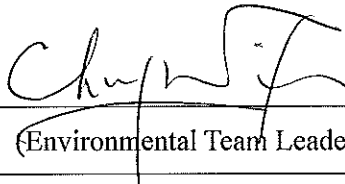


**Contract No. DC/2009/24
HATS Stage 2A – Upgrading of
Preliminary Treatment Works at
Sandy Bay, Cyberport, Wah Fu,
Aberdeen and Ap Lei Chau**

**Quarterly Environmental
Monitoring and Audit Report
April to June 2015**

(Version 1.0)

Certified By	 (Environmental Team Leader)
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REMARKS:

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

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

CINOTECH CONSULTANTS LTD

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



Our ref SFB/AFK/TK/bw/T261332/22.01/L-0940
T 2828 5757
E Anne.Kerr@mottmac.com.hk
Your ref -

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

29 July 2015
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
Submission of 14th Quarterly EM&A Report for April to June 2015 (Version 1.0)**

We refer to the revised Quarterly EM&A Report for April to June 2015 (version 1.0) received on 28 July 2015 and we confirm that we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr
Independent Environmental Checker

c.c.	Ove Arup & Partners HK Ltd.	Mr. Ted Y F Tang	Fax: 2370 4377
	Leader - JEC Joint Venture	Mr. Kelvin Cheung / Mr. Patrick Wong	By email
	Cinotech Consultants Ltd.	Dr. Priscilla Choy	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 14th Quarterly 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/2009/24 HATS Stage 2A with same Environmental Permit (Permit No. EP-322/2008/G) for April to June 2015.
2. The site activities undertaken for in the reporting quarter included:

April 2015:

- Wah Fu PTW – Plant operation, Construction for the FSGT structure, Installation of E&M equipment;
- Ap Lei Chau PTW – Plant operation, FSGT building construction, Construction of dry/wet well, Installation of E&M equipment;
- Aberdeen PTW – Plant operation, Construction for the FSGT structure, Flume channel and chamber construction;
- Sandy Bay PTW – Odour pipe construction, Construction of staircase; and
- Cyberport PTW–Installation of DO unit, Chamber construction.

May 2015:

- Wah Fu PTW – Plant operation, Construction for the FSGT structure, Installation of E&M equipment;
- Ap Lei Chau PTW – Plant operation, FSGT building construction, Construction of dry/wet well & rising main, Installation of E&M equipment;
- Aberdeen PTW – Plant operation, Chamber, seawater pipe and rising main no.2 construction, Flume channel and chamber construction, Seawater pipeline laying;
- Sandy Bay PTW – Odour pipe construction, Construction of staircase, Reinstatement works; and
- Cyberport PTW – Chamber construction, Construction of temporary rising main, Construction of inlet, outlet pipeline & flume channel.

June 2015:

- Wah Fu PTW – Inlet Chamber construction, Temporary submersible pump and pumping pipe for early flow turning, Screenings handling equipment installation, Cable tray and cabling works for early flow turning, Installation of the activated carbon filter equipment;
- Ap Lei Chau PTW – Side wall of wet and dry well construction, DN900 Rising Main No. 1 installation and flowmeter chamber construction, Screenings handling equipment installation, Skip turning chairs installation, Effluent pumps and associated pipework installation, Cable tray and cabling work for early flow turning;
- Aberdeen PTW – Construction of De-silting Chamber and Sea Water Pumping Station construction, New DOU and associated equipment, Install level sensors at drop shaft area, E&M temporary provision for early flow turning;
- Sandy Bay PTW – N/A (Works completed); and
- Cyberport PTW – Sheet piling for DN700 outlet pipe construction, New DOU and associated equipment, Temporary cabling for drop shaft level sensors.

Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2007/24 and DC/2009/24 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

4. The monitoring of air quality monitoring station at Wah Ming House, Wah Fu Estate (CM_WF1a) and noise monitoring station at Aegean Terrace (M6a), Wah Ming House (M7a) and Wah Ling House (M8) was handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in July 2014. The noise monitoring station at Mei Chun Court, South Horizons (M9) was handed over to Contract No. DC/2009/24 from Contract No. DC/2008/09 on 28 July 2014. The air quality and noise monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from July 2014.
5. Furthermore, the monitoring of air quality monitoring station at The Arcade, Cyberport (CM_CB1a) and The Hong Kong Ice and Cold Storage (CM_AB1a) were handed over to Contract No. DC/2009/24 from Contract No. DC/2007/24 in August 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality in the vicinity of the sensitive receivers starting from August 2014.
6. However, the air quality monitoring at CM_AB1a had been rejected and could not be continued, the proposed location (CM_AB1b – Works Site Boundary of Aberdeen PTW) was approved by ER on 22 July 2014 and approved by EPD on 5 December 2014. The air quality monitoring stations was set up by Cinotech Consultants Limited (ET for this project) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from August 2014. The location of CM_AB1b is shown in **Figure 1c-2**.
7. Summary of the non-compliance of the reporting quarter is tabulated in **Table I**.

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

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
CM_CB1a	1-hr TSP	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_AB1b	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

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

24-hour TSP Monitoring

9. No 24-hour TSP monitoring at CM_CB1a were conducted on 6 April, 26 May & 1 June 2015 due to the interruption of power supply of High Volume Sampler at CM_CB1a.
10. Due to the interruption of power supply of High Volume Sampler at CM_AB1b on 11 & 29 June 2015, the 24-hour TSP monitoring was rescheduled and conducted on 12 June & 2 July 2015 respectively. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Environmental Complaint and Prosecution

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

Environmental Licenses and Permits

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

Future Key Issues:

14. Major site activities for the coming two months include:
- Wah Fu PTW: Inlet Chamber construction, FRP installation work above the flow channel, Screenings handling equipment installation, Cable tray and cabling works for early flow turning;
 - Aberdeen PTW: Water proofing application to the De-silting Chamber and Sea Water Pumping Station construction, FRP cover installation to the de-silting chamber and sea water pumping station, New DOU and associated equipment, Install level sensors at drop shaft area, E&M temporary provision for early flow turning, Pre-bored socket H-Pile;
 - Ap Lei Chau PTW: Side wall of wet and dry well construction, Fabrication of the temporary decking above the dry well, DN900 Rising Main No. 1 installation and flowmeter chamber construction, Screenings handling equipment installation, Skip turning chairs installation, Effluent pumps and associated pipework installation, Cable tray and cabling work for early

- flow turning, Backfilling work to the tie in pit;
- Sandy Bay PTW: N/A; and
 - Cyberport PTW: Trench-less excavation, Temporary cabling for drop shaft level sensor.
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 10th October 2012 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.4 Leader and JEC Joint Venture (hereafter called the LJJV) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/24 “Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau”.
- 1.5 Cinotech Consultants Limited was commissioned by LJJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP.
- 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 14th quarterly EM&A report summarizing the EM&A works conducted for the Project in April to June 2015.

2 PROJECT CHARACTERISTICS

Project Organization and Contacts of Key Management

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

Construction Programme and Synopsis of Work

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

April 2015:

- Wah Fu PTW – Plant operation, Construction for the FSGT structure, Installation of E&M equipment;
- Ap Lei Chau PTW – Plant operation, FSGT building construction, Construction of dry/wet well, Installation of E&M equipment;
- Aberdeen PTW – Plant operation, Construction for the FSGT structure, Flume channel and chamber construction;
- Sandy Bay PTW – Odour pipe construction, Construction of staircase; and
- Cyberport PTW – Installation of DO unit, Chamber construction.

May 2015:

- Wah Fu PTW – Plant operation, Construction for the FSGT structure, Installation of E&M equipment;
- Ap Lei Chau PTW – Plant operation, FSGT building construction, Construction of dry/wet well & rising main, Installation of E&M equipment;
- Aberdeen PTW – Plant operation, Chamber, seawater pipe and rising main no.2 construction, Flume channel and chamber construction, Seawater pipeline laying;
- Sandy Bay PTW – Odour pipe construction, Construction of staircase, Reinstatement works; and
- Cyberport PTW – Chamber construction, Construction of temporary rising main, Construction of inlet, outlet pipeline & flume channel.

June 2015:

- Wah Fu PTW – Inlet Chamber construction, Temporary submersible pump and pumping pipe for early flow turning, Screenings handling equipment installation, Cable tray and cabling works for early flow turning, Installation of the activated carbon filter equipment;
- Ap Lei Chau PTW – Side wall of wet and dry well construction, DN900 Rising Main No. 1 installation and flowmeter chamber construction, Screenings handling equipment installation, Skip turning chairs installation, Effluent pumps and associated pipework installation, Cable tray and cabling work for early flow turning;
- Aberdeen PTW – Construction of De-silting Chamber and Sea Water Pumping Station construction, New DOU and associated equipment, Install level sensors at drop shaft area, E&M temporary provision for early flow turning;

- Sandy Bay PTW – N/A (Works completed); and
- Cyberport PTW – Sheet piling for DN700 outlet pipe construction, New DOU and associated equipment, Temporary cabling for drop shaft level sensors.

3. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

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

Monitoring Methodology and Calibration Details

- 3.2 Monitoring works/equipments were conducted/calibrated regularly in accordance with the Project Specific EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports of DC/2007/24 and this Project.

Environmental Quality Performance Limits (Action and Limit Levels)

- 3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix D**.

Environmental Mitigation Measures

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

4. MONITORING RESULTS

Weather Conditions

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

Air Quality

1-hr TSP Monitoring and 24-hr TSP Monitoring

- 4.2 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.
- 4.3 **Table 4.1** summarizes the dust monitoring results which were extracted from the monthly reports for the Contract DC/2007/24 and this Project.
- 4.4 The detailed monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to Appendix E of quarterly report of Contract DC/2007/24 and **Appendix E** of this report.

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

Reporting Months	Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP					
April 2015	CM_CB1a	117	65-219	280	500
	CM_WF1a	132	81-257	285	
	CM_AB1b	134	92-236	283	
May 2015	CM_CB1a	76	29-194	280	
	CM_WF1a	99	45-215	285	
	CM_AB1b	64	44-81	283	
June 2015	CM_CB1a	81	59-113	280	
	CM_WF1a	81	64-98	285	
	CM_AB1b	84	75-92	283	
24 hours TSP					
April 2015	CM_CB1a	56 ⁽¹⁾	30-77 ⁽¹⁾	178	260
	CM_WF1a	42	29-52	185	
	CM_AB1b	83	66-106	174	
May 2015	CM_CB1a	31 ⁽²⁾	18-43 ⁽²⁾	178	
	CM_WF1a	38	23-52	185	
	CM_AB1b	52	41-71	174	
June 2015	CM_CB1a	38 ⁽³⁾	30-53 ⁽³⁾	178	
	CM_WF1a	31	24-45	185	
	CM_AB1b	55	32-69	174	

Remark (1): 24-hour TSP value recorded on 6 April 2015 was found invalid due to the interruption of power supply of High Volume Sampler at CM_CB1a.

(2): 24-hour TSP value recorded on 26 May 2015 was found invalid due to the interruption of power supply of High Volume Sampler at CM_CB1a.

(3): 24-hour TSP value recorded on 1 June 2015 was found invalid due to the interruption of power supply of High Volume Sampler at CM_CB1a.

Noise

- 4.5 All construction noise monitoring was conducted as scheduled in the reporting quarter.
- 4.6 No Action/Limit Level exceedance was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix K**.
- 4.7 **Table 4.2** summarizes the noise monitoring results which were extracted from the monthly reports for the Contract DC/2007/24 and this Project.
- 4.8 The construction noise monitoring at the designated locations was conducted by the ET of Contract: DC/2007/24 and this Project as scheduled in the reporting quarter. The monitoring results and graphical presentation are provided in Appendix D of the quarterly report for Contract DC/2007/24 and **Appendix F** of this report.

Table 4.2 Summary of Noise Monitoring Result in Reporting Quarter

Reporting Months	Noise Quality Monitoring Station	Range, dB(A) Leq(30 min.)	Limit Level, dB(A) Leq(30 min.)
April 2015	M5	60-64	75.0
	M6a	54-64 ⁽¹⁾	
	M7a	53-63	
	M8	59-67	
	M9	54-62	
May 2015	M5	60-64	
	M6a	41-59 ⁽¹⁾	
	M7a	54-68	
	M8	64-69	
	M9	50-66	
June 2015	M5	61-64	
	M6a	41-58 ⁽¹⁾	
	M7a	53-56	
	M8	60-67	
	M9	43-56	

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

5 ENVIRONMENTAL AUDIT

Implementation Status of Environmental Mitigation Measures

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

Site Audit Summary

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

Table 5.1 ET’s Observations and Recommendations of Site Audits

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	150402-R03	Properly clear the ponding water at Abd-PTW.	The ponding water was cleared at Abd-PTW.
	150410-001	The water quality of the WetSep at Abd-PTW should be fulfilled the requirement of the WPCO’s wastewater discharge license. The Contractor was reminded to provide the maintenance of the WetSep and keep it in a good condition.	The maintenance of the WetSep at Abd-PTW was provided by the Contractor and the water quality of the WetSep was fulfilled the requirement of the WPCO’s wastewater discharge license.
	150410-R04	Properly clear the stagnant water at Abd-PTW.	The stagnant water was cleared at Abd-PTW.
	150522-001	The water quality of the WetSep at ALC-PTW should be fulfilled the requirement of the WPCO’s wastewater discharge license before discharging out. The Contractor was reminded to clear the stagnant water of the Wet Sep at ALC-PTW regularly.	Please refer to 150529-001.
	150529-001	The water quality of the sediment tank at Cyberport-PTW and the water quality of the WetSep at ALC-PTW and Abd-PTW should be fulfilled the requirement of the WPCO’s wastewater discharge license before discharging out. The Contractor was reminded to clear the stagnant water of the Wet Sep at ALC-PTW regularly and ensure the adequate capacity of the wastewater treatment facility is provided properly.	Please refer to 150605-001.

	150605-O01	The water quality of the sediment tank at Cyberport-PTW and the water quality of the WetSep at Abd-PTW should be fulfilled the requirement of the WPCO’s wastewater discharge license before discharging out. The Contractor was reminded to ensure the adequate capacity of the wastewater treatment facility is provided properly.	Please refer to 150612-O01.
	150612-O01	The water quality of the WetSep at Abd-PTW should be fulfilled the requirement of the WPCO’s wastewater discharge license before discharging out. The Contractor was reminded to clear the stagnant water regularly.	The water quality of the WetSep at Abd-PTW was fulfilled the requirement of the WPCO’s wastewater discharge license before discharging out. The stagnant water was cleared.
	150619-O01	The mud trail was observed at the site entrance of Abd-PTW. The Contractor was reminded to clear the dust and silt regularly and enhanced the wheel washing facility.	The mud trail was not observed at the site entrance of Abd-PTW. The dust and silt were cleared by the Contractor.
	150626-R01	Properly clear the stagnant water and oil stained water on the access road at ALC-PTW.	The stagnant water and oil stained water on the access road were cleared by the Contractor at ALC-PTW.
Air Quality	150402-R01	The maintenance of the generator should be provided to prevent the dark smoke emission at ALC-PTW.	The maintenance of the generator at ALC-PTW was provided by the Contractor.
	150402-R02	Properly clear the dusty material or debris at ALC-PTW.	Please refer to 150410-R02.
	150410-R02	Properly clear the dusty material or debris and cover the dusty material with the impervious material at ALC-PTW.	The dusty material and debris were cleared and some of the dusty material were covered with the impervious material at ALC-PTW.
	150410-R03	The mixing activity should be done in the proper enclosed area at ALC-PTW.	The mixing activity was not observed at ALC-PTW.
	150417-R03	Properly clear the debris at ALC-PTW and cover the dusty material with the impervious material or spray water to the dusty material regularly at Abd-PTW.	The debris was cleared at ALC-PTW and dusty material was covered with the impervious material at Abd-PTW.
	150417-R04	The concrete breaking should be sprayed with water at Abd-PTW.	The concrete breaking was not observed at Abd-PTW.
	150424-R02	Properly clear the dusty material at ALC-PTW.	The dusty material was cleared at ALC-PTW.
	150430-R01	The dusty material should be covered with the impervious material at Wah Fu-PTW.	The dusty material was covered with the impervious material at Wah Fu-PTW.
	150508-R04	Properly clear the dusty material at ALC-PTW and Abd-PTW.	The dusty material was cleared at ALC-PTW and Abd-PTW.
	150515-R03	Properly clear the broken sand bags at ALC-PTW.	Please refer to 150522-R02.

	150522-R02	Properly clear the broken sand bags at ALC-PTW.	Please refer to 150529-R03.
	150529-R03	Properly clear the broken sand bags at ALC-PTW.	Please refer to 150605-R02.
	150605-R02	Properly clear the broken sand bags and dusty material at ALC-PTW.	The broken sand bags and dusty materials were cleared at ALC-PTW.
	150619-O01	The mud trail was observed at the site entrance of Abd-PTW. The Contractor was reminded to clear the dust and silt regularly and enhanced the wheel washing facility.	The mud trail was not observed at the site entrance of Abd-PTW. The dust and silt were cleared by the Contractor.
	150626-R02	Properly clear the broken sand bags at Abd-PTW.	The follow up action will be reported during site inspections in July 2015.
Waste/ Chemical Management	150417-R01	Properly clear the oil stain at Wah Fu-PTW and ALC-PTW.	The oil stain was cleared at Wah Fu-PTW and ALC-PTW.
	150417-R02	The chemical containers should be provided with the drip tray at Wah Fu-PTW.	The chemical containers were not observed at Wah Fu-PTW.
	150424-O01	The oil leakage was observed from the excavator at Abd-PTW. The Contractor was reminded to provide the maintenance and keep it in a good condition.	The oil leakage was not observed from the excavator at Abd-PTW.
	150508-O01	The oil leakage was observed from the excavators at Cyberport-PTW and Abd-PTW. The Contractor was reminded to provide the maintenance of them and keep them in a good condition.	The oil leakage was not observed from the excavators at Cyberport-PTW and Abd-PTW.
	150508-R02	The maintenance of the drip tray of the generator at Cyberport-PTW should be provided.	Please refer to 150515-R02.
	150508-R03	Properly sort out the construction waste at ALC-PTW.	The construction waste was not observed at ALC-PTW.
	150515-R01	The chemical containers should be provided with the drip trays at Wah Fu-PTW.	The chemical containers were removed and not observed at Wah Fu-PTW.
	150515-R02	The maintenance of the drip tray of the generator at Cyberport-PTW should be provided.	The maintenance of the drip tray of the generator at Cyberport-PTW was provided by the Contractor.
	150522-R03	The chemical containers should be provided with the drip trays at ALC-PTW and Abd-PTW.	Please refer to 150529-R04.
	150529-O02	The oil leakage was observed from the excavator at Abd-PTW. The Contractor was reminded to provide the maintenance and keep it in a good condition.	The oil leakage was not observed from the excavator at Abd-PTW.

	150529-R04	The chemical containers should be provided with the drip trays at ALC-PTW.	Please refer to 150605-R03.
	150605-R03	The chemical containers should be provided with the drip trays at ALC-PTW.	The chemical containers were not observed at ALC-PTW.
	150626-R01	Properly clear the stagnant water and oil stained water on the access road at ALC-PTW.	The stagnant water and oil stained water on the access road were cleared by the Contractor at ALC-PTW.
	150626-R03	The general refuse should be disposed properly at Abd-PTW.	The general refuse was disposed properly at Abd-PTW.
Landscape and Visual	--	--	--
Noise	--	--	--
Permit/ Licenses	--	--	--

Status of Environmental Licensing and Permitting

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

Advice on Waste Management Status

5.4 The amount of wastes generated by the activities of the Project in the reporting period was attached in the appendices of the monthly reports for April to June 2015 and was shown in **Appendix I**.

6. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**Summary of Exceedances**

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

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

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

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

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

7 ENVIRONMENTAL COMPLAINTS

- 7.1 No environmentally complaint was received for the Project in the reporting quarter. The updated Complaint Log is attached in **Appendix J**.

8 NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

9. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

9.1 Key environmental issues for the coming months include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadworks, excavation works and loading and unloading dusty materials on-site;
- Noise nuisance from operation of equipment and machinery on-site;
- Provision well maintenance on the storage facilities of chemicals/fuel and chemical waste/waste oil on-site;
- 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.

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

Water Impact

- To avoid accumulation of stagnant/ oil stained water on site;
- To avoid formation of mud trail near the site entrance; and
- To ensure the water quality of the sediment tank/ WetSep to fulfill the requirement of the WPCO's wastewater discharge license before discharging out.

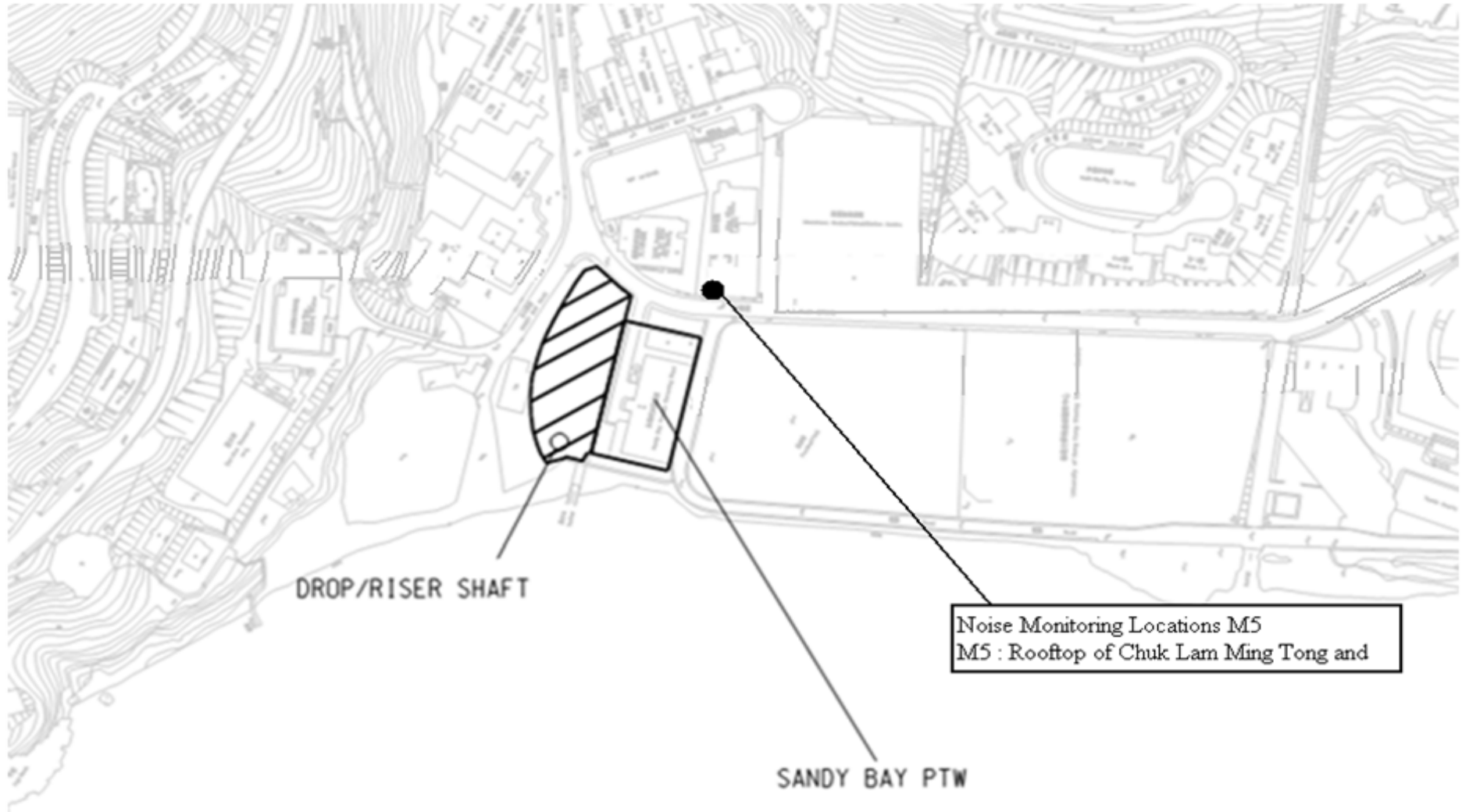
Air Quality

- 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 to prevent the dark smoke emission;
- To provide the proper enclosed area for mixing activity; and
- To spray with water during the main dust-generating activity.

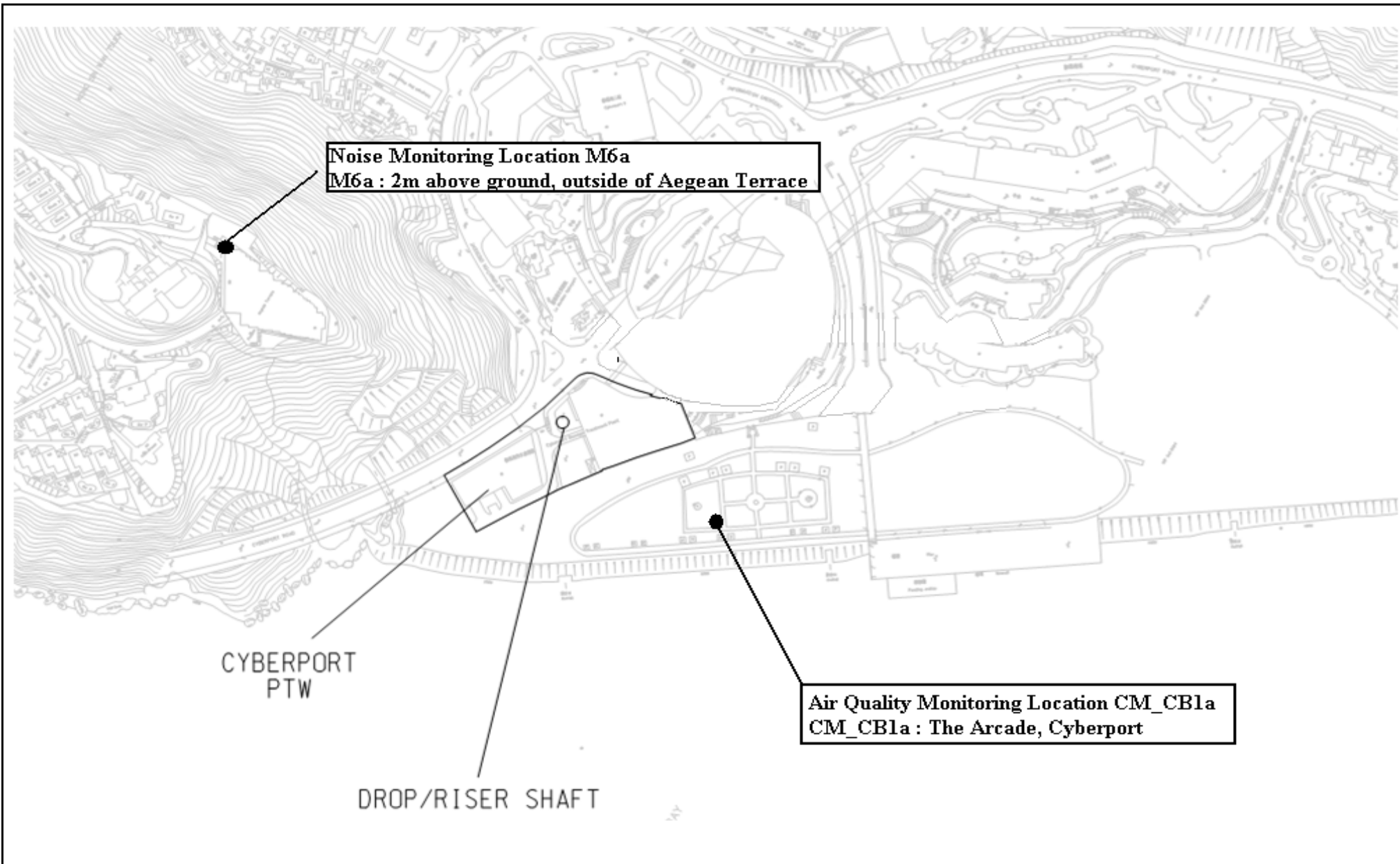
Waste/Chemical Management

- To provide the maintenance of the PME to prevent the oil leakage; and
- To provide proper and sufficient storage area or drip trays for chemical containers on site.

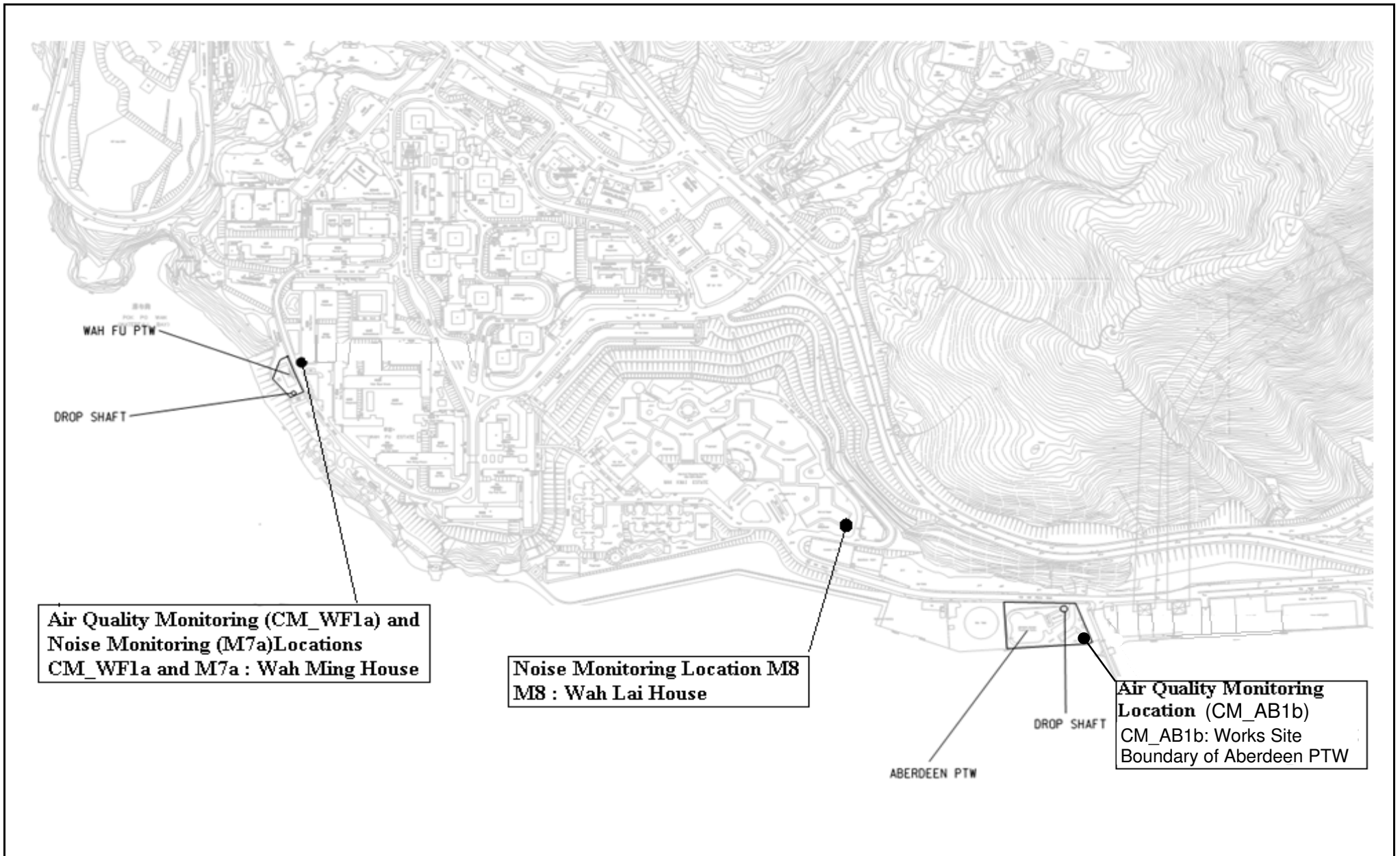
FIGURES



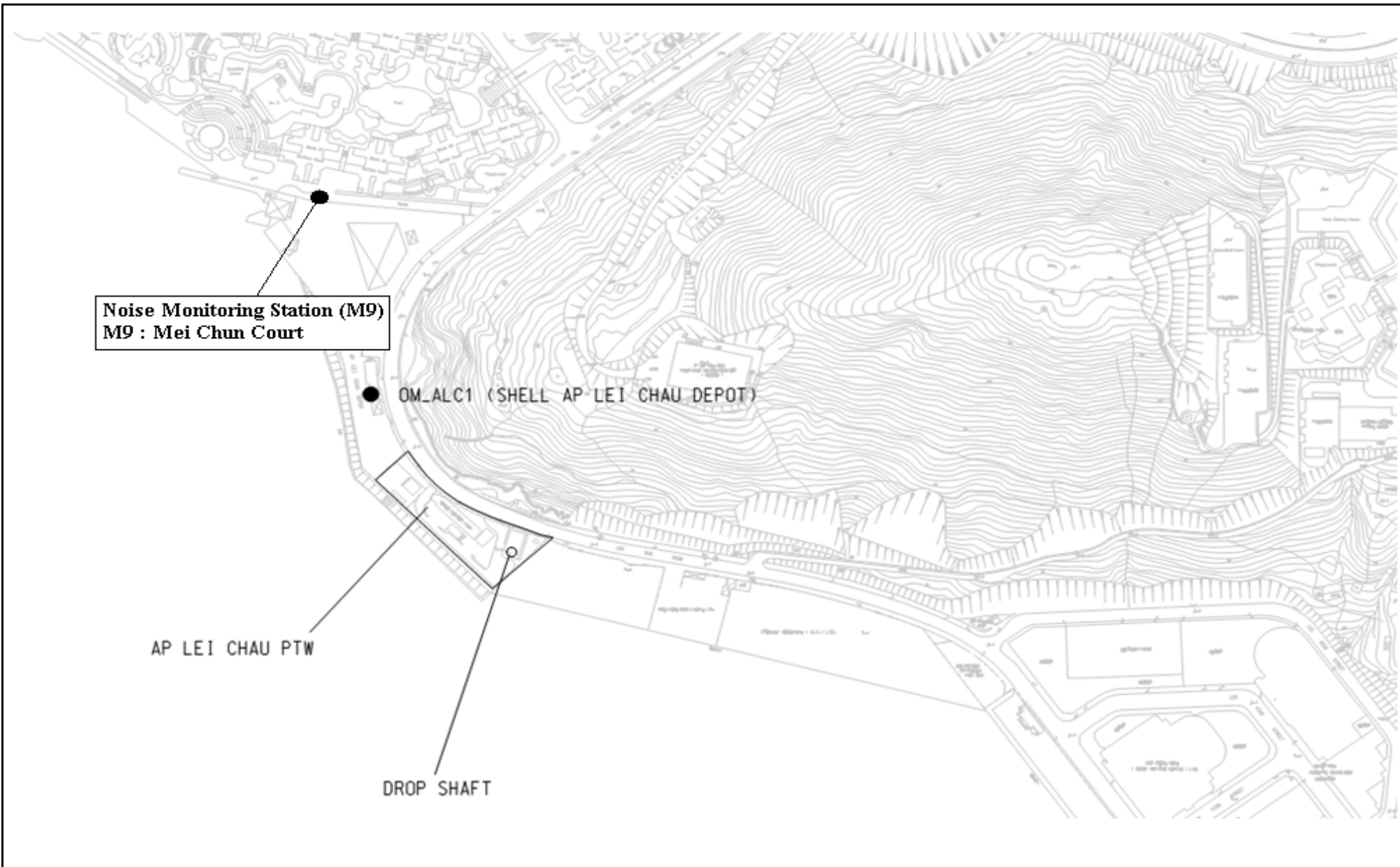
Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Sandy Bay PTW and Locations of Noise Monitoring Stations	Date	Figure	
		01/2012	1a	



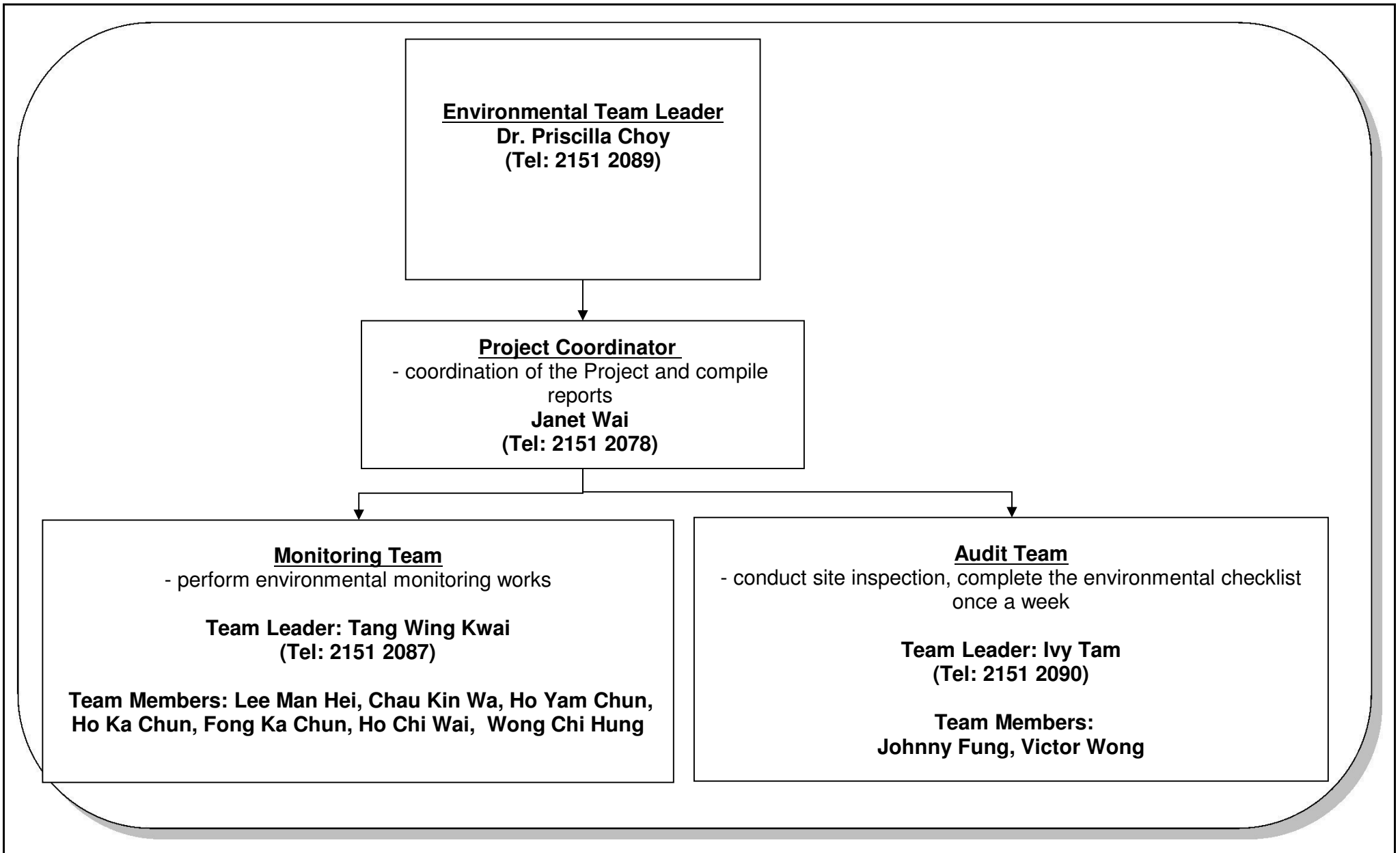
Title	Contract No: DC/2009/24	Scale	Project	CINOTECH
	HATS 2A - Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau	N.T.S	No. MA11060	
	General Location Plan of Cyberport PTW and Locations of Air Quality and Noise Monitoring Stations	Date	Figure	
		01/2012	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	
		07/2014	1C-2	



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	



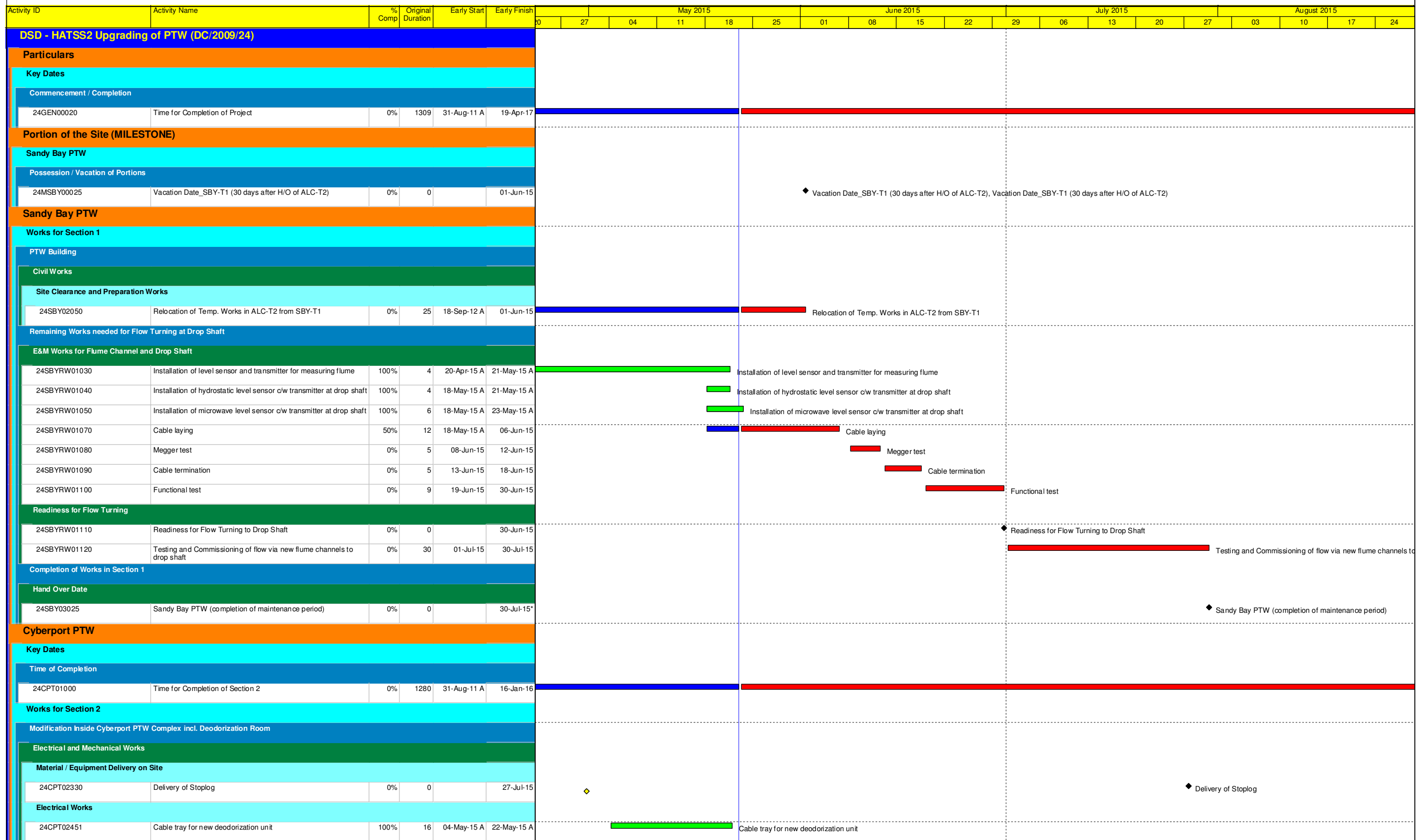
Title	Contract No. DC/2009/24 HATS Stage 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau ET's Organization Chart	Scale	N.T.S	Project No.	MA11060	CINOTECH
		Date	Mar-15	Figure	2	

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

Appendix A - Contact Details of the Project Organization

Party	Role	Name	Position	Phone No.
Drainage Services Department	Project Proponent	Mr. Vincent Y. K. Wong	Senior Engineer 2	2159 3406
Ove Arup & Partners Hong Kong Ltd	Engineer's Representative	Mr. Ted Tang	Principal Resident Engineer	2370-4311
	Coordinator	Ms. Natalie Kwok	Resident Engineer	6794 8844
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		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

APPENDIX B
CONSTRUCTION PROGRAMME



Start Date: 25-Jun-11
 Finish Date: 19-Apr-18
 Date Date: 23-May-15
 Run Date: 29-May-15

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

HATSS2A Contract No. DC/2009/24

3 MONTHS ROLLING PROGRAMME

MAY 2015

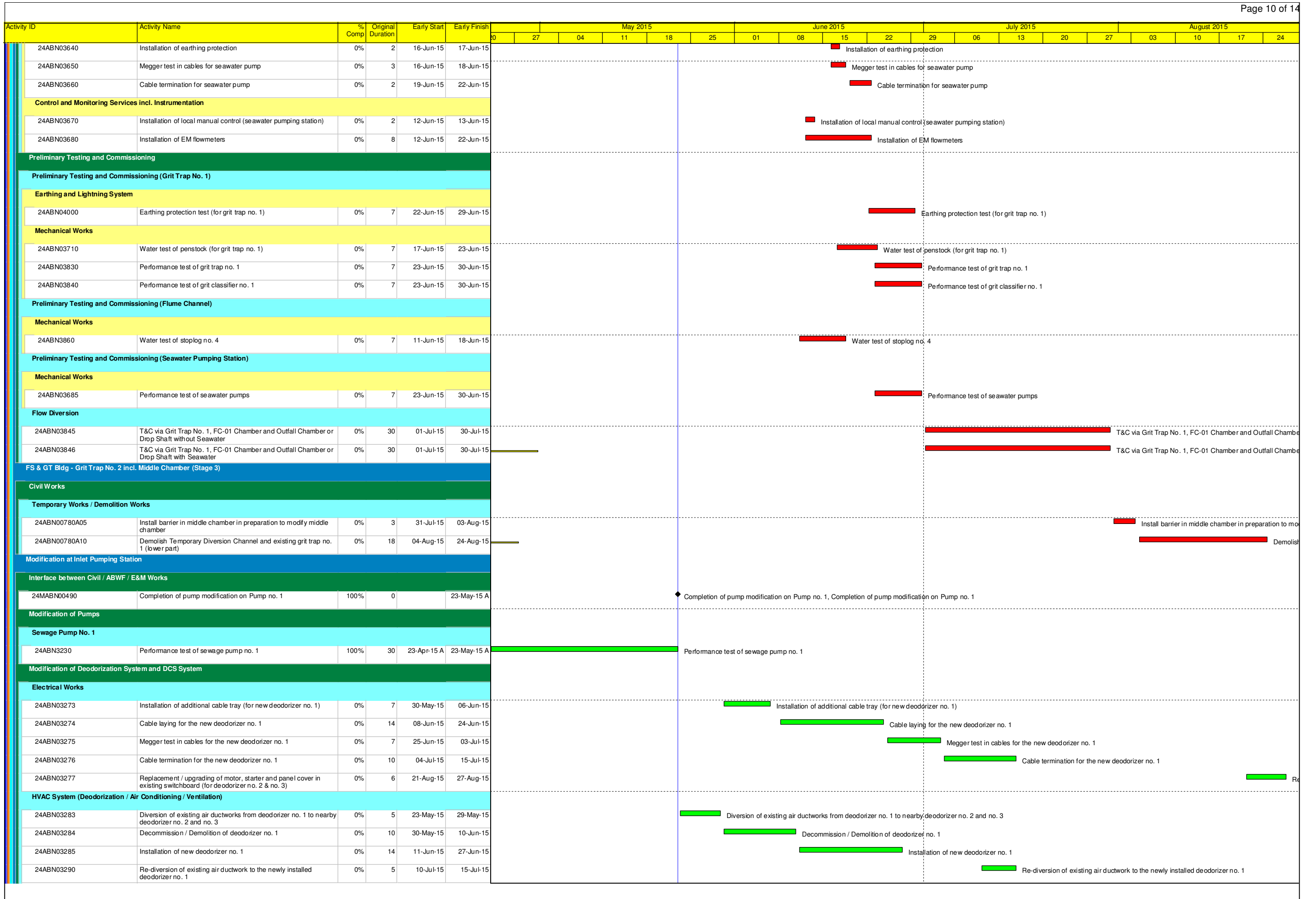
DETAILED WORKS PROGRAMME - DC/2009/24			
Date	Revision	Checked	Approved
30-Mar-12	DWP - REVISION 0		
14-Dec-12	DWP - REVISION 2		
17-Jun-14	DWP - REVISION 3 (S5, 6 & 7)		
23-May-15	UDWP - REVISION 3		

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015							
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24		
24CPT02452	Cable laying for new deodorization unit	0%	12	18-May-15 A	06-Jun-15																					
24CPT02453	Megger test in cables of new deodorization unit	0%	6	08-Jun-15	13-Jun-15																					
24CPT02454	Cable termination for new deodorization unit	0%	6	15-Jun-15	22-Jun-15																					
HVAC System (Deodorization / Air Conditioning / Ventilation)																										
24CPT02491	Installation of accessories for deodorization system	0%	33	04-May-15 A	12-Jun-15																					
24CPT02500	Installation of air ductwork and temporary ductwork to drop shaft	0%	17	02-Jun-15	22-Jun-15																					
Control and Monitoring Services incl. Instrumentation																										
24CPT02529	Installation of supports / hangers for instrumentations	0%	4	23-May-15*	28-May-15																					
24CPT02530	Installation of instrumentations	0%	6	02-Jun-15	08-Jun-15																					
24CPT02571	Install cable tray for weather and H2S monitoring station	0%	19	23-May-15	15-Jun-15																					
24CPT02572	Cable laying for weather and H2S monitoring station	0%	13	16-Jun-15	02-Jul-15																					
24CPT02573	Megger test in cables of weather and H2S monitoring station	0%	7	03-Jul-15	10-Jul-15																					
24CPT02574	Cable termination for weather and H2S monitoring station	0%	7	11-Jul-15	18-Jul-15																					
24CPT02575	Installation of weather monitoring station	0%	14	23-May-15	09-Jun-15																					
24CPT02576	Installation of H2S monitoring station	0%	33	10-Jun-15	20-Jul-15																					
Earthing and Lightning System																										
24CPT02580	Modification and installation of earthing and lightning system for newly installed equipment	0%	14	23-May-15	09-Jun-15																					
Preliminary Testing and Commissioning																										
HVAC System (Deodorization / Air Conditioning / Ventilation)																										
24CPT02502	Functional test of deodorization system	0%	7	23-Jun-15	30-Jun-15																					
Earthing and Lightning System																										
24CPT02630	Earthing and lightning test	0%	14	10-Jun-15	26-Jun-15																					
External Works including Temporary Works for Flow Turning to Drop Shaft																										
Enhancement / Temporary Works for Flow Turning																										
24CPT01060	Construction of enhancement / temporary works	95%	31	23-Mar-15 A	05-Jun-15																					
24CPT01062	Installation of hydrostatic pressure level transmitter at drop shaft	0%	14	23-May-15	09-Jun-15																					
24CPT01064	Installation of level sensor at drop shaft	0%	14	30-May-15	15-Jun-15																					
24CPT01070	Readiness for Flow Turning to Drop Shaft	0%	0		30-Jun-15*																					
DN 700 Overflow Pipe (13m)																										
24CPT01260	Sheetpiling for laying of overflow pipe	100%	6	13-Apr-15 A	29-Apr-15 A																					
24CPT01270	Excavation and ELS installation	0%	14	30-Apr-15 A	09-Jun-15																					
24CPT01280	Blinding Layer	0%	1	10-Jun-15	10-Jun-15																					
24CPT01290	Pipeline Installation (DN700 Overflow Pipe)	0%	6	11-Jun-15	17-Jun-15																					
24CPT01300	TTA Stage 2	100%	1	23-Apr-15 A	23-Apr-15 A																					
24CPT01310	Coring hole on existing box culvert for pipe connection	0%	21	23-May-15	17-Jun-15																					
24CPT01320	Reinstatement of box culvert opening	0%	10	18-Jun-15	30-Jun-15																					
24CPT01330	Air testing of DN700 Overflow Pipe	0%	3	02-Jul-15	04-Jul-15																					
24CPT01340	Fill pipe bedding and removal of ELS	0%	7	06-Jul-15	13-Jul-15																					
DN 700 Inlet Pipe (18m)																										
24CPT01360	TTA Stage 2	100%	1	23-Apr-15 A	23-Apr-15 A																					
24CPT01370	Remove paving and trial trenching for sheetpiling	100%	5	24-Apr-15 A	29-Apr-15 A																					
24CPT01380	Sheetpiling works	100%	10	30-Apr-15 A	13-May-15 A																					
24CPT01390	Excavation and ELS installation	0%	21	18-May-15 A	30-Jun-15																					
24CPT01400	Blinding Layer	0%	1	02-Jul-15	02-Jul-15																					
24CPT01410	Pipeline Installation (DN700 Overflow Pipe)	0%	7	03-Jul-15	10-Jul-15																					
24CPT01420	Coring hole on existing box culvert for pipe connection	0%	21	15-Jun-15	10-Jul-15																					

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015						
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	
24CPTEX01430	Reinstatement of box culvert opening	0%	14	11-Jul-15	27-Jul-15																				Reinstatement of box culvert opening
24CPTEX01440	Air testing of DN700 Overflow Pipe	0%	3	28-Jul-15	30-Jul-15																				Air testing of DN700 Overflow Pipe
24CPTEX01445	U/G Airduct and cable duct installation	0%	25	02-Jul-15	30-Jul-15																				U/G Airduct and cable duct installation
24CPTEX01450	Fill pipe bedding and removal of ELS	0%	7	31-Jul-15	07-Aug-15																				Fill pipe bedding and removal of ELS
Flume Channel (Remaining 5m)																									
24CPTEX01460	Erect external formwork for base slab	0%	2	08-Aug-15	10-Aug-15																				Erect external formwork for base slab
24CPTEX01470	Rebar fixing for base slab of flume channel	0%	4	11-Aug-15	14-Aug-15																				Rebar fixing for base slab of flume channel
24CPTEX01480	Erect internal formwork with kicker of flume channel	0%	3	15-Aug-15	18-Aug-15																				Erect internal formwork with kicker of flume channel
24CPTEX01490	Concreting of base slab	0%	1	19-Aug-15	19-Aug-15																				Concreting of base slab
24CPTEX01500	Remove formwork and make good C.J.	0%	4	20-Aug-15	24-Aug-15																				Remove formwork and make good C.J.
24CPTEX01585	U/G Airduct and cable duct installation	0%	50	31-Jul-15	26-Sep-15																				U/G Airduct and cable duct installation
E&M Works																									
24CPTEX01620	Installation of penstock	0%	20	23-May-15	16-Jun-15																				Installation of penstock
24CPTEX01630	Installation of stoplogs	0%	15	28-Jul-15	13-Aug-15																				Installation of stoplogs
24CPTEX01640	Water test for penstock & stoplog	0%	14	14-Aug-15	29-Aug-15																				Water test for penstock & stoplog
DN 700 By-Pass Pipe line																									
Relocation of existing Chemical Storage and Facilities by DSD/ST2																									
24CPTEX01700	TTA Stage 3	0%	1	02-Jul-15	02-Jul-15																				TTA Stage 3
24CPTEX01710	Relocation of existing Chemical Storage and Facilities by DSD/ST2	0%	30	02-Jul-15	31-Jul-15																				Relocation of existing Chemical Storage and Facilities by DSD/ST2
DN 700 By-Pass Pipeline between Manhole MH-E & MH-F																									
24CPTEX01720	Sheetpiling works	0%	14	01-Aug-15	17-Aug-15																				Sheetpiling works
24CPTEX01730	Excavation and ELS installation	0%	21	18-Aug-15	10-Sep-15																				Excavation and ELS installation
Wah Fu PTW																									
Key Dates																									
Time of Completion																									
24WUFU1010	Time for Completion of Section 4	0%	1255	31-Aug-11 A	20-Aug-16																				Time for Completion of Section 4
24WUFU1012	Claim for Additional Extension of Time - under review	0%	398	23-Mar-15 A	20-Aug-16																				Claim for Additional Extension of Time - under review
Statutory and Utility Applications and Approvals																									
Hong Kong Electric (HEC)																									
24WUFU1114	Prepare / Submit Application form to HEC	0%	26	01-Aug-15	31-Aug-15																				Prepare / Submit Application form to HEC
Environmental Protection Department (EPD)																									
24WUFU1119	Statutory submission to EPD (Chimney Design)	0%	60	23-May-15	04-Aug-15																				Statutory submission to EPD (Chimney Design)
24WUFU1120	Comment & re-submission to EPD	0%	30	05-Aug-15	08-Sep-15																				Comment & re-submission to EPD
Interface and Liaison																									
Interface with other contractors																									
24MWFU00170	Liaison with SCS Contractor for the Connection of Flume Channels to the drop shaft	0%	60	02-Nov-14 A	21-Jul-15																				Liaison with SCS Contractor for the Connection of Flume Channels to the drop shaft
Interface with ST2/DSD																									
24MWFU00130	Application of PMAC/SWAC for Demolition of Temp. Treatment Facilities and Store	0%	0	01-Jul-15																					Application of PMAC/SWAC for Demolition of Temp. Treatment Facilities and Store
24MWFU00140	Proposed Approval date of PMAC/SWAC for Demolition of Temp. Treatment Facilities and Store	0%	0	07-Jul-15																					Proposed Approval date of PMAC/SWAC for Demolition of Temp. Treatment Facilities and Store
Works for Section 4																									
Screen and Grit Trap Building																									
Interface between Civil / ABWF / E&M Works																									
24MWFU00220	Partial completion of architectural works in preparation to start E&M works	100%	0	30-Apr-15 A																					Partial completion of architectural works in preparation to start E&M works
24MWFU00230	Completion of New Treatment Facilities to demolish temporary treatment facilities	0%	0	14-Jul-15																					Completion of New Treatment Facilities to demolish temporary treatment facilities
Civil Works																									
Finishing Works																									

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015					
						01	08	15	22	29	06	13	20	27	03	10	17	24						
24WFO2250A05	Initial Finishes prior to installation of major E&M Equipment	100%	9	16-Apr-15 A	25-Apr-15 A	Initial Finishes prior to installation of major E&M Equipment																		
Electrical and Mechanical Works																								
Material / Equipment Delivery on Site																								
24WFO2011	Delivery of fine screen conveyor	100%	0		25-Apr-15 A	Delivery of fine screen conveyor, Delivery of fine screen conveyor																		
24WFO2030	Delivery of grit trap	100%	0		23-Apr-15 A	Delivery of grit trap, Delivery of grit trap																		
24WFO3250	Delivery of penstock	100%	0		23-Apr-15 A	Delivery of penstock, Delivery of penstock																		
24WFO3260	Delivery of stoplog	100%	0		29-Apr-15 A	Delivery of stoplog, Delivery of stoplog																		
24WFO3320	Delivery of lifting appliance	100%	0		27-Apr-15 A	Delivery of lifting appliance, Delivery of lifting appliance																		
Major E&M Works prior to Flow Turning																								
24WFO2290B60	Hydrostatic pressure level transmitter at drop shaft	0%	4	30-May-15	03-Jun-15	[Gantt bar]																		
24WFO2290B70	Microwave level sensor at drop shaft	0%	4	04-Jun-15	08-Jun-15	[Gantt bar]																		
24WFO3360	Installation of monorail no. 3 (grit & screening handling area)	100%	7	04-May-15 A	11-May-15 A	Installation of monorail no. 3 (grit & screening handling area)																		
24WFO3400	Installation of penstock 3 & 4 (coarse screen outlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 3 & 4 (coarse screen outlet)																		
24WFO3410	Installation of penstock 5 & 6 (fine screen inlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 5 & 6 (fine screen inlet)																		
24WFO3430	Installation of penstock 1 & 2 (coarse screen inlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 1 & 2 (coarse screen inlet)																		
24WFO3440	Installation of penstock 7 & 8 (fine screen outlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 7 & 8 (fine screen outlet)																		
24WFO3450	Installation of penstock 9 & 10 (grit trap inlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 9 & 10 (grit trap inlet)																		
24WFO3460	Installation of penstock 13 (flow chamber outlet)	100%	7	04-May-15 A	11-May-15 A	Installation of penstock 13 (flow chamber outlet)																		
24WFO3470	Installation of stoplog 5 (flow chamber outlet)	100%	7	04-May-15 A	11-May-15 A	Installation of stoplog 5 (flow chamber outlet)																		
24WFO3480	Installation of screening conveyor 1 & 2	100%	18	30-Apr-15 A	21-May-15 A	Installation of screening conveyor 1 & 2																		
24WFO3490	Installation of screening compactor 1 & 2	100%	12	04-May-15 A	16-May-15 A	Installation of screening compactor 1 & 2																		
24WFO3510	Installation of grit classifier 1 & 2	100%	12	11-May-15 A	23-May-15 A	Installation of grit classifier 1 & 2																		
24WFO3520	Installation of interconnection pipe for grit classifier	0%	14	30-May-15	15-Jun-15	Installation of interconnection pipe for grit classifier																		
24WFO3530	Installation of penstock 11 & 12 (grit trap outlet)	100%	14	04-May-15 A	19-May-15 A	Installation of penstock 11 & 12 (grit trap outlet)																		
Other Works prior to Early Flow Turning																								
Inlet Chamber																								
24WFOC01100	Erect formwork for wall (internal)	0%	4	06-May-15 A	05-Jun-15	Erect formwork for wall (internal)																		
24WFOC01110	Rebar fixing for wall	0%	7	11-May-15 A	05-Jun-15	Rebar fixing for wall																		
24WFOC01120	Erect formwork for wall (external)	0%	4	19-May-15 A	09-Jun-15	Erect formwork for wall (external)																		
24WFOC01130	Concreting for wall	0%	1	10-Jun-15	10-Jun-15	Concreting for wall																		
24WFOC01140	Remove formworks for wall	0%	2	11-Jun-15	12-Jun-15	Remove formworks for wall																		
24WFOC01150	Fill the tie-in bolt hole & apply bituminous paint	0%	3	13-Jun-15	16-Jun-15	Fill the tie-in bolt hole & apply bituminous paint																		
Temporary Works																								
24WFOE01000	Temporary valve, pumps (3 nos) and pipe installation for flow turning	100%	45	23-Mar-15 A	15-Jun-15	Temporary valve, pumps (3 nos) and pipe installation for flow turning																		
24WFOE01010	Installation of temporary pipe to be used as diversion of flow to drop shaft	50%	36	23-Mar-15 A	05-Jun-15	Installation of temporary pipe to be used as diversion of flow to drop shaft																		
24WFOE01020	Installation of temporary stoplog for flow diversion	100%	14	11-May-15 A	23-May-15 A	Installation of temporary stoplog for flow diversion																		
24WFOE01030	Installation of temporary Switchboard including cabling and termination works	20%	39	30-Apr-15 A	19-Jun-15	Installation of temporary Switchboard including cabling and termination works																		
24WFOE01032	Functional Test of equipment at new FSGT Bldg.	0%	11	20-Jun-15	30-Jun-15	Functional Test of equipment at new FSGT Bldg.																		
24WFOE01035	Installation of activated carbon filter (with temp. provision to drop shaft)	0%	26	30-May-15*	30-Jun-15	Installation of activated carbon filter (with temp. provision to drop shaft)																		
24WFOE01040	Completion of works prior to Early Flow Turning to Drop Shaft	0%	0		30-Jun-15	Completion of works prior to Early Flow Turning to Drop Shaft																		
Remaining Works After Early Flow Turning																								
Demolition of Temporary Treatment Plant																								
24WFO2280A10	Decommissioning of temporary treatment facilities and temporary store	0%	11	15-Jul-15	27-Jul-15	Decommissioning of temporary treatment facilities and temporary store																		
24WFO2280A20	Demolition of temporary treatment facilities and temporary store	0%	7	28-Jul-15	04-Aug-15	Demolition of temporary treatment facilities and temporary store																		
Civil Works																								
Up to Roof Slab Construction of Grit Trap Area (+0.320mPD)																								

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015							
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24		
24WFO2300A30	Installation of U/G 200 irrigation water pipe and 200 plant water pipe	0%	18	10-Jul-15	30-Jul-15																				Installation of U/G 200 irrigation water pipe and 200 plant wa	
Completion of Works in Section 4																										
Final Testing and Commissioning																										
24WFO3200	Testing and Commissioning of New Treatment Facilities (Early Flow Turning)	0%	30	01-Jul-15	30-Jul-15																					Testing and Commissioning of New Treatment Facilities (Earl
EoT Claim																										
24WFO3252	Claim for Additional Extension of Time - under review	0%	396	24-Mar-15 A	20-Aug-16																					
Aberdeen PTW																										
Key Dates																										
Time of Completion																										
24ABN00300	Time for Completion of Section 5	0%	1179	31-Aug-11 A	09-Jun-16*																					
24ABN00302	Claim for Additional Extension of Time - under review	0%	394	15-Jan-15 A	09-Jun-16																					
24ABN00310	Time for Completion of Section 6	0%	1309	31-Aug-11 A	19-Apr-17																					
Statutory and Utility Applications and Approvals																										
Environmental Protection Department (EPD)																										
24ABN00434	Statutory submission to EPD (Chimney Design)	0%	21	03-Jul-15	27-Jul-15																					Statutory submission to EPD (Chimney Design)
24ABN00435	Comment & resubmission to EPD	0%	30	28-Jul-15	31-Aug-15																					
Interface and Liaison																										
Interface with ST2/DSD																										
24MABN00170	Application of PMAC/SWAC for Demolition of Temp. Channel	0%	0	17-Jun-15																						◆ Application of PMAC/SWAC for Demolition of Temp. Channel
24MABN00180	Proposed Approval date of PMAC/SWAC for Demolition of Temp. Channel	0%	0		30-Jun-15																					◆ Proposed Approval date of PMAC/SWAC for Demolition of Temp. Channel
Works for Section 5																										
FS & GT Bldg - Grit Trap No. 1, FC-1 & FC-2 Chamber, Flume Channel & Seawater Pumping (Stage 2)																										
Interface between Civil / ABWF / E&M Works																										
Interface between Civil / ABWF / E&M Works (Grit Trap No. 1)																										
24MABN00330	Start of flow diversion from New Fine Screen to Drop Shaft via GT-1, FC-1 & FC2 and Flume Channel with out Seawater	0%	0	01-Jul-15																						◆ Start of flow diversion from New Fine Screen to Drop Shaft via GT-1, FC-1 & FC2 and Flume Channel with out Seawater
24MABN00331	Start of flow diversion from New Fine Screen to Drop Shaft via GT-1, FC-1 & FC2 and Flume Channel with Seawater	0%	0	01-Jul-15																						◆ Start of flow diversion from New Fine Screen to Drop Shaft via GT-1, FC-1 & FC2 and Flume Channel with Seawater
Interface between Civil / ABWF / E&M Works for Flume Channel																										
24MABN00320	Completion of E&M works at flume channel and chambers (stage 2)	0%	0		18-Jun-15																					◆ Completion of E&M works at flume channel and chambers (stage 2)
Interface between Civil / ABWF / E&M Works for Seawater																										
24MABN00510	Completion of structure for seawater pumping station	0%	0		10-Jun-15																					◆ Completion of structure for seawater pumping station
24MABN00520	Completion of E&M work in seawater pumping station	0%	0		30-Jun-15																					◆ Completion of E&M work in seawater pumping station, Completion of E&M work in seawater pumping station
Civil Works																										
Relocation of Rising Main No. 2																										
24ABN3211	Rising main modification connected to sewage pump no. 1	0%	19	23-Apr-15 A	30-Jun-15																					Rising main modification connected to sewage pump no. 1
RC Works for FC-1 Chamber																										
24ABN00745A47	Temporary outfall channel from FC-1 to FC-3	20%	15	18-May-15 A	06-Jun-15																					Temporary outfall channel from FC-1 to FC-3
24ABN00745C45	Installation of air tight multi-part cover at FC-1 chamber	0%	5	08-Jun-15	12-Jun-15																					Installation of air tight multi-part cover at FC-1 chamber
RC Works for FC-2 Chamber																										
24ABN02270A90	Installation of air tight multi-part cover	0%	4	23-May-15	28-May-15																					Installation of air tight multi-part cover
RC Structural Works for Seawater Pumping																										
24ABN02250A20	Installation of 1000Ø pipe from desilting basin to seawater pumping station	0%	6	20-Apr-15 A	29-May-15																					Installation of 1000Ø pipe from desilting basin to seawater pumping station
24ABN02250A30	Formworks for base slab of desilting basin	100%	5	24-Mar-15 A	29-Apr-15 A																					Formworks for base slab of desilting basin
24ABN02250A40	Rebarworks for base slab of desilting basin	100%	4	07-Apr-15 A	29-Apr-15 A																					Rebarworks for base slab of desilting basin
24ABN02250A50	Concrete for base slab of desilting basin	100%	1	30-Apr-15 A	30-Apr-15 A																					Concrete for base slab of desilting basin
24ABN02250A60	Formworks for wall of desilting basin	0%	8	02-May-15 A	29-May-15																					Formworks for wall of desilting basin
24ABN02250A70	Rebarworks for wall of desilting basin	0%	8	07-May-15 A	29-May-15																					Rebarworks for wall of desilting basin



Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015					
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24
Electrical Works																								
24AL003140	Installation of temporary switchboard	0%	7	23-May-15	01-Jun-15																			
24AL003150	Cable tray installation for fine screen no. 2 and inlet / outlet penstock	0%	4	23-May-15	28-May-15																			
24AL003160	Cable tray installation for grit trap no. 2	0%	2	23-May-15	26-May-15																			
24AL003170	Cable tray installation for coarse screen no. 2 and inlet / outlet penstock	0%	2	23-May-15	26-May-15																			
24AL003180	Cable tray installation for screening conveyors no. 1 & no. 2	0%	1	27-May-15	27-May-15																			
24AL003190	Cable tray installation for screening compactors no. 1 & no. 2	0%	1	28-May-15	28-May-15																			
24AL003200	Cable tray installation for grit classifier no. 2	0%	2	29-May-15	30-May-15																			
24AL003210	Cable laying for the initial treatment facilities	0%	6	29-May-15	04-Jun-15																			
24AL003220	Megger test in cables for the initial treatment facilities	0%	2	05-Jun-15	06-Jun-15																			
24AL003230	Cable termination for the initial treatment facilities	0%	2	08-Jun-15	09-Jun-15																			
HVAC System (Deodorization / Air Conditioning / Ventilation)																								
24AL003240	Installation of activated carbon filter (for grit and screening handling equipment)	0%	14	23-May-15	09-Jun-15																			
24AL003250	Installation of air ductwork for activated carbon filter system	0%	14	10-Jun-15	26-Jun-15																			
24AL003260	Cable tray installation for activated carbon filter system	0%	5	10-Jun-15	15-Jun-15																			
24AL003270	Cable laying for activated carbon filter system	0%	14	10-Jun-15	26-Jun-15																			
24AL003280	Megger test in cables for activated carbon filter system	0%	7	27-Jun-15	06-Jul-15																			
24AL003290	Cable termination for activated carbon filter system	0%	5	07-Jul-15	11-Jul-15																			
Control and Monitoring Services incl. Instrumentation																								
24AL003300	Installation of local manual control (coarse screen no. 2)	0%	2	23-May-15	26-May-15																			
24AL003310	Installation of local manual control (fine screen no. 2)	0%	2	27-May-15	28-May-15																			
24AL003320	Installation of local manual control (grit trap no. 2)	0%	2	29-May-15	30-May-15																			
24AL003330	Installation of local manual control (screening conveyor no. 1 & 2)	0%	2	01-Jun-15	02-Jun-15																			
24AL003340	Installation of local manual control (screening compactor no. 1 & 2)	0%	2	03-Jun-15	04-Jun-15																			
24AL003350	Installation of local manual control (grit classifier no. 1 & 2)	0%	2	05-Jun-15	06-Jun-15																			
24AL003360	Installation of level sensor c/w transmitter (fine screen no. 2)	0%	3	08-Jun-15	10-Jun-15																			
24AL003370	Installation of level sensor for level limit sensing (screening conveyor no. 1 & 2)	0%	3	11-Jun-15	13-Jun-15																			
Earthing and Lightning System																								
24AL003390	Installation of earthing protection	0%	7	08-Jun-15	15-Jun-15																			
Preliminary Testing and Commissioning																								
Mechanical Works																								
24AL003400	Water test of penstock and stoplog	0%	7	23-Jun-15	29-Jun-15																			
24AL003410	SAT of coarse screen no. 2	0%	6	10-Jun-15	16-Jun-15																			
24AL003420	SAT of fine screen no. 2	0%	6	10-Jun-15	16-Jun-15																			
24AL003430	SAT of screenings conveyor no. 1 & no. 2	0%	6	10-Jun-15	16-Jun-15																			
24AL003440	SAT of screenings compactor no. 1 & no. 2	0%	6	10-Jun-15	16-Jun-15																			
24AL003450	SAT of grit trap no. 2	0%	6	10-Jun-15	15-Jun-15																			
24AL003460	SAT of grit classifier no. 2	0%	6	10-Jun-15	15-Jun-15																			
24AL003461	Performance test / Functional Test of equipment	0%	14	17-Jun-15	30-Jun-15																			
Electrical Works																								
24AL003470	SAT of temporary switchboard	0%	21	10-Jun-15	06-Jul-15																			
HVAC System (Deodorization / Air Conditioning / Ventilation)																								
24AL003480	SAT of activated carbon filter system	0%	14	13-Jul-15	28-Jul-15																			
Earthing and Lightning System																								
24AL003490	Earthing and lighting test	0%	10	16-Jun-15	27-Jun-15																			

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015			
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10
Civil Works																						
Initial Wet well and Effluent Pumping Station (GL 4-7 / G-I)																						
24ALC00730C18	Preparation works prior to E&M Works	100%	12	20-Apr-15 A	07-May-15 A	Preparation works prior to E&M Works																
24ALC00730C19	Installation of temporary enclosure for Dry Well	0%	36	08-May-15 A	19-Jun-15	Installation of temporary enclosure for Dry Well																
Permanent Flume Channels																						
24ALC00852A20	Backfilling works up to level for base slab of flume channel	100%	30	20-Apr-15 A	02-May-15 A	Backfilling works up to level for base slab of flume channel																
24ALC05510	Formworks for base slab of permanent flume channels	100%	4	04-May-15 A	07-May-15 A	Formworks for base slab of permanent flume channels																
24ALC05520	Rebarworks for base slab of permanent flume channels	100%	4	05-May-15 A	08-May-15 A	Rebarworks for base slab of permanent flume channels																
24ALC05530	Concrete for base slab of permanent flume channels	100%	1	09-May-15 A	09-May-15 A	Concrete for base slab of permanent flume channels																
24ALC05540	Formworks for wall of permanent flume channels	0%	4	11-May-15 A	29-May-15	Formworks for wall of permanent flume channels																
24ALC05550	Rebarworks for wall of permanent flume channels	0%	4	18-May-15 A	29-May-15	Rebarworks for wall of permanent flume channels																
24ALC05560	Concrete for wall of temporary permanent channels	0%	1	30-May-15	30-May-15	Concrete for wall of temporary permanent channels																
24ALC05570	Formworks for top slab/cover of permanent flume channels	0%	4	01-Jun-15	04-Jun-15	Formworks for top slab/cover of permanent flume channels																
24ALC05580	Rebarworks for top slab/cover of permanent flume channels	0%	4	05-Jun-15	09-Jun-15	Rebarworks for top slab/cover of permanent flume channels																
24ALC05590	Concrete for top slab/cover of permanent flume channels	0%	1	10-Jun-15	10-Jun-15	Concrete for top slab/cover of permanent flume channels																
24ALC05600	Waterproofing works on permanent flume channels	0%	3	11-Jun-15	13-Jun-15	Waterproofing works on permanent flume channels																
24ALC05610	Backfilling on permanent flume channels	0%	4	15-Jun-15	18-Jun-15	Backfilling on permanent flume channels																
24ALC05611	Flowtest from Initial fine screen and grit trap building to modified outlet chamber	0%	6	11-Jun-15	17-Jun-15	Flowtest from Initial fine screen and grit trap building to modified outlet chamber																
Tie-Ins, Rising Main and Flow Meter Chamber																						
Installation of Rising Main																						
24ALC4310	Installation of 900mmØ DI rising main pipe	0%	24	23-Apr-15 A	08-Jun-15	Installation of 900mmØ DI rising main pipe																
24ALC4326	Connection of Pipe from Effluent Pumping station to newly installed 900mmØ DI Pipe	0%	8	16-Jun-15	25-Jun-15	Connection of Pipe from Effluent Pumping station to newly installed 900mmØ DI Pipe																
24ALC4330	Installation of electromagnetic flowmeter (2 set for HDD pipe)	0%	16	09-Jun-15	27-Jun-15	Installation of electromagnetic flowmeter (2 set for HDD pipe)																
24ALC4340	Backfilling works to rising main	0%	12	29-Jun-15	13-Jul-15	Backfilling works to rising main																
Construction of Flow Meter Chamber																						
24ALC4190	Formworks for base slab of flow meter chamber	0%	6	23-Apr-15 A	28-May-15	Formworks for base slab of flow meter chamber																
24ALC4200	Rebarworks for base slab of flow meter chamber	0%	4	04-May-15 A	28-May-15	Rebarworks for base slab of flow meter chamber																
24ALC4210	Concrete for base slab of flow meter chamber	0%	4	29-May-15	02-Jun-15	Concrete for base slab of flow meter chamber																
24ALC4220	Formworks for wall of flow meter chamber	0%	6	03-Jun-15	09-Jun-15	Formworks for wall of flow meter chamber																
24ALC4230	Rebarworks for wall of flow meter chamber	0%	5	06-Jun-15	11-Jun-15	Rebarworks for wall of flow meter chamber																
24ALC4240	Concrete for wall of flow meter chamber	0%	1	12-Jun-15	12-Jun-15	Concrete for wall of flow meter chamber																
24ALC4250	Formworks for top slab/cover of flow meter chamber	0%	2	13-Jun-15	15-Jun-15	Formworks for top slab/cover of flow meter chamber																
24ALC4260	Rebarworks for top slab/cover of flow meter chamber	0%	2	16-Jun-15	17-Jun-15	Rebarworks for top slab/cover of flow meter chamber																
24ALC4270	Concrete for top slab/cover of flow meter chamber	0%	2	18-Jun-15	19-Jun-15	Concrete for top slab/cover of flow meter chamber																
24ALC4280	Waterproofing works on flow meter chamber	0%	8	22-Jun-15	30-Jun-15	Waterproofing works on flow meter chamber																
24ALC4290	Backfilling on flow meter chamber	0%	8	02-Jul-15	10-Jul-15	Backfilling on flow meter chamber																
Electrical and Mechanical Works																						
Mechanical Works																						
24ALC04150	Installation of effluent pump no. 3 c/w associated pipework (no dry season limitation in the PS for Pump Replacement)	0%	12	08-May-15 A	13-Jun-15	Installation of effluent pump no. 3 c/w associated pipework (no dry season limitation in the PS for Pump Replacement)																
24ALC04160	Installation of effluent pump no. 4 c/w associated pipework (incl. connection to installed 900Ø pipe to HDD tunnel)	0%	12	22-May-15 A	15-Jun-15	Installation of effluent pump no. 4 c/w associated pipework (incl. connection to installed 900Ø pipe to HDD tunnel)																
Electrical Works																						
24ALC04161	Cable tray installation for power supply on effluent pump no. 3 and 4	0%	8	23-May-15	02-Jun-15	Cable tray installation for power supply on effluent pump no. 3 and 4																
24ALC04162	Cable laying for power supply on effluent pump no. 3 and 4	0%	12	03-Jun-15	16-Jun-15	Cable laying for power supply on effluent pump no. 3 and 4																
24ALC04163	Megger test in cables for power supply on effluent pump no. 3 and 4	0%	2	17-Jun-15	18-Jun-15	Megger test in cables for power supply on effluent pump no. 3 and 4																
24ALC04164	Cable termination for power supply on effluent pump no. 3 and 4	0%	2	19-Jun-15	22-Jun-15	Cable termination for power supply on effluent pump no. 3 and 4																
Control and Monitoring Services incl. Instrumentation																						

Activity ID	Activity Name	% Comp	Original Duration	Early Start	Early Finish	May 2015					June 2015				July 2015				August 2015						
						20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	
24ALC03380	Installation of level sensor c/w transmitter (1 set at flume channel measuring flume)	0%	6	15-Jun-15	22-Jun-15																				
24ALC04165	Installation of local manual control (effluent pumps 3 and 4)	0%	7	23-May-15	01-Jun-15																				
24ALC04166	Installation of level sensor for wet well	0%	10	02-Jun-15	12-Jun-15																				
24ALC04167	Install cable tray for monitoring and control system	0%	6	23-May-15	30-May-15																				
24ALC04168	Cable laying for monitoring and control system	0%	12	01-Jun-15	13-Jun-15																				
24ALC04169	Megger test in cables of monitoring and control system	0%	2	15-Jun-15	16-Jun-15																				
24ALC04171	Cable termination for monitoring and control system	0%	2	17-Jun-15	18-Jun-15																				
Preliminary Testing and Commissioning																									
Mechanical Works																									
24ALC05341	Functional Test of effluent pump 1 and 2	0%	7	23-Jun-15	30-Jun-15																				
Control and Monitoring Services incl. Instrumentation																									
24ALC03485	Testing of Level Sensor at Flume Channel	0%	7	23-Jun-15	30-Jun-15																				
Flow Diversion from Initial Treatment Plant to Drop Shaft / Outfall Chamber																									
24ALC05342	Diversion of flow from Initial fine screen and grit trap building to Tie-In Pit / Outfall Chamber	0%	30	01-Jul-15	30-Jul-15																				
Stage 2 of ALC Upgrade (Completion of Remaining Works)																									
Civil Works																									
Decommission / Demolition of Existing Treatment Plant																									
24ALC00770A10	Decommissioning of existing treatment facilities	0%	21	31-Jul-15	24-Aug-15																				
Completion of Inlet Chamber																									
24ALC00859	Installation of pipe from existing sewer to partial inlet chamber to divert the flow to partial inlet chamber	0%	12	02-Jul-15	15-Jul-15																				
24ALC00860	Excavation and demolition of remaining structure of existing inlet chamber	0%	18	02-Jul-15	22-Jul-15																				
24ALC00861	Construct the remaining of new inlet chamber	0%	30	23-Jul-15	26-Aug-15																				
Completion of Works in Section 7																									
EoT Claim																									
24ALC01781	Claim for Additional Extension of Time - under review	0%	656	01-Apr-15 A	06-Dec-16																				

**APPENDIX C
MONITORING REQUIREMENTS**

APPENDIX C – Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Monitored by	Locations of Measurement
Air Quality	1-hour TSP	3 times / 6-day	DC/2009/24	CM_CB1a⁽¹⁾ : The Arcade, Cyberport CM_WF1a⁽¹⁾ : Wah Ming House, Wah Fu Estate CM_AB1b⁽²⁾ : Works Site Boundary of Aberdeen PTW
	24-hour TSP	Once / 6-day		
Noise	L_{eq} (30 min.) dB(A) (0700 to 1900 hrs. on weekdays) / L_{eq} (5 min.) dB(A) (During restricted hours)	Once / week	DC/2007/24	M5 (Sandy Bay PTW): Chuk Lam Ming Tong
			DC/2009/24	M6a ⁽¹⁾ (Cyberport PTW): Aegean Terrace M7a ⁽¹⁾ (Wah Fu PTW): Wah Ming House M8 (Aberdeen PTW): Wah Lai House M9 (Ap Lei Chau PTW): Mei Chun Court, South Horizons

Remarks:

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

**APPENDIX D
ACTION AND LIMIT LEVELS**

Appendix D Action and Limit Levels

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

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

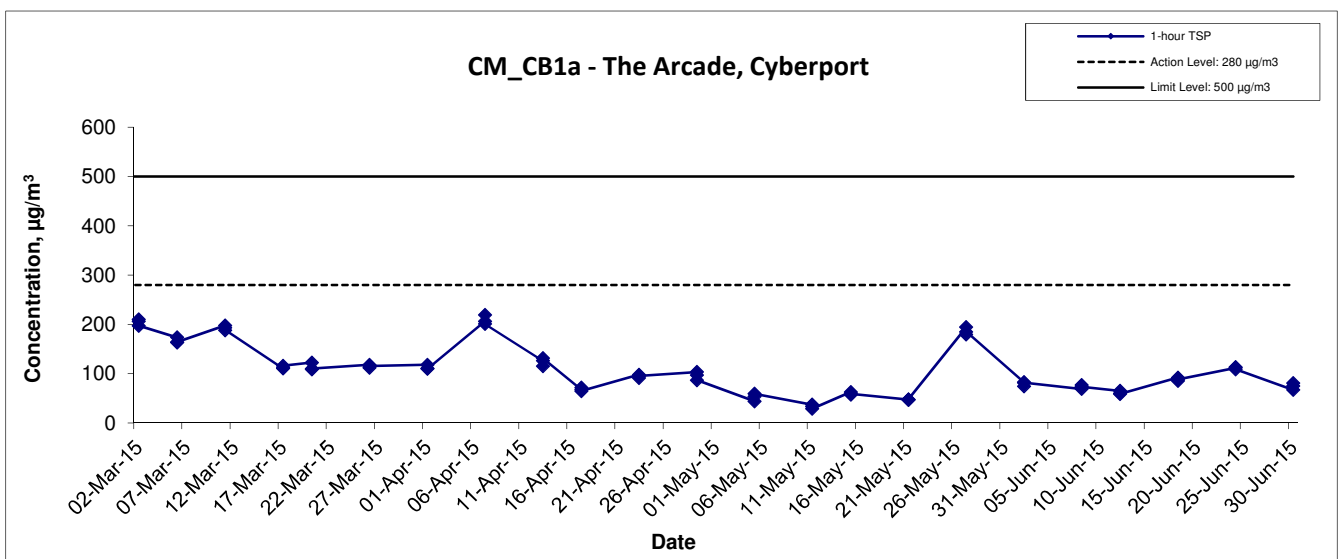
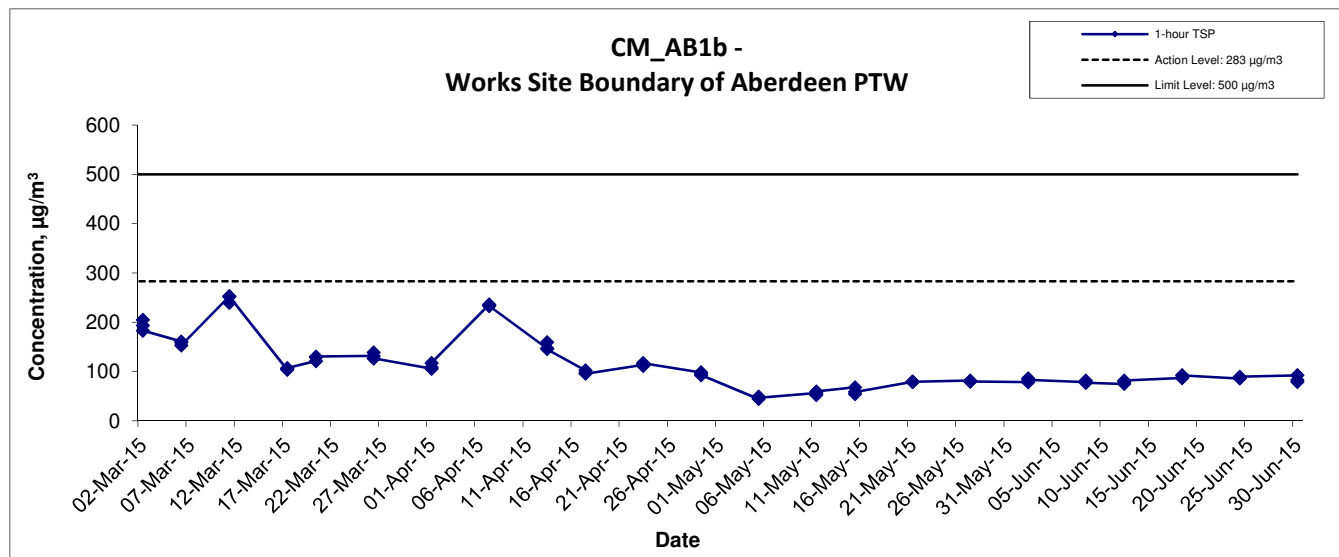
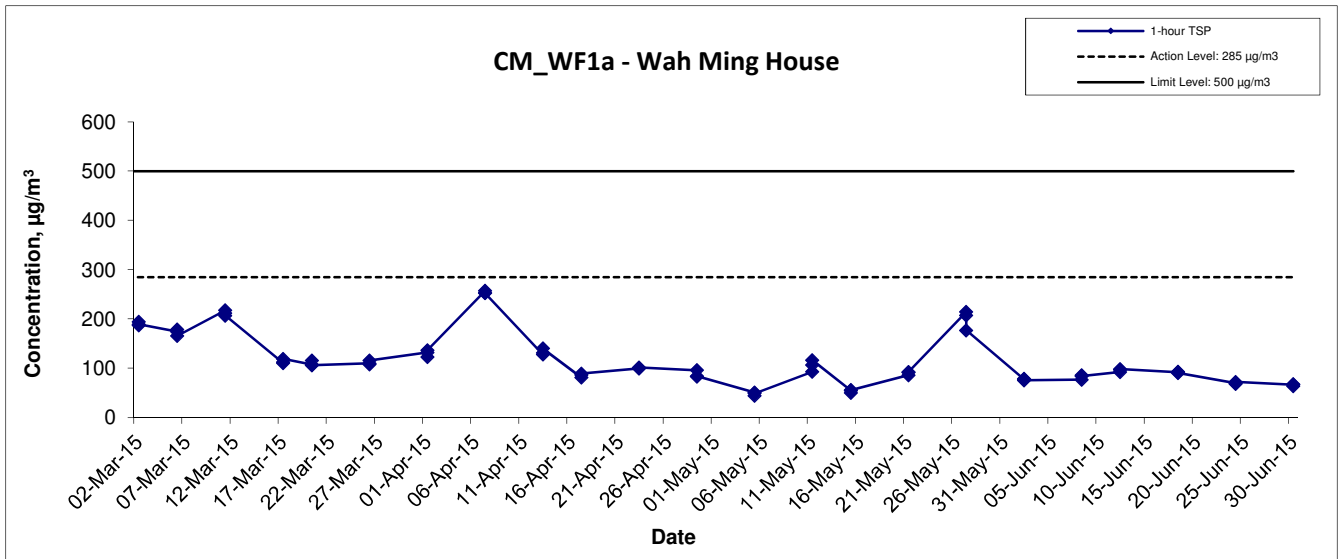
Table D-2 Action and Limit Level for Construction Noise

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

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

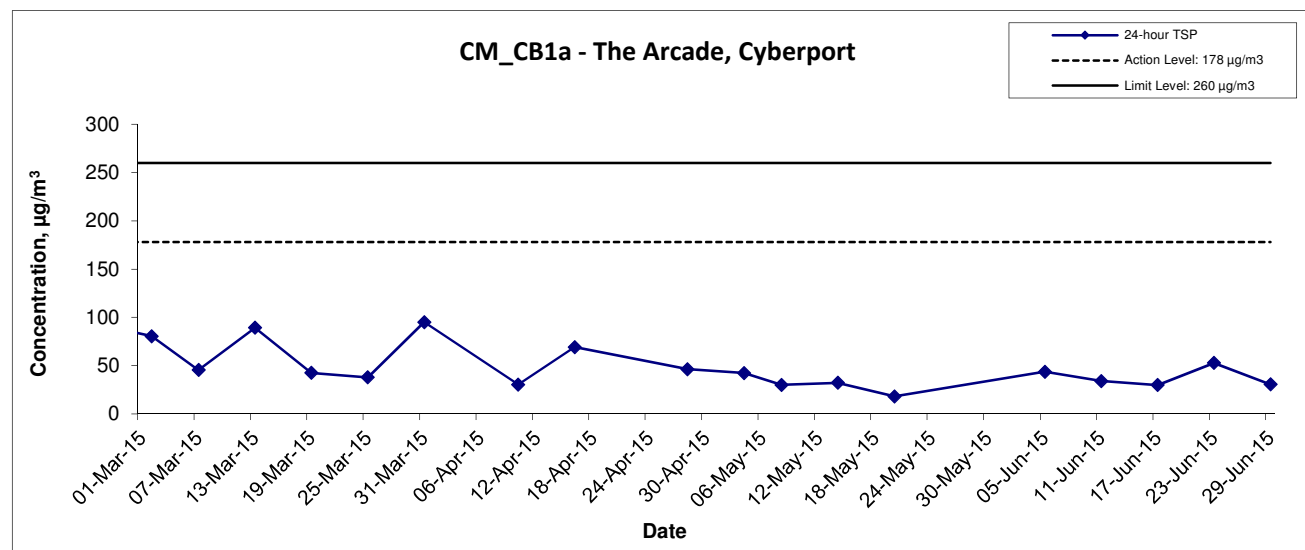
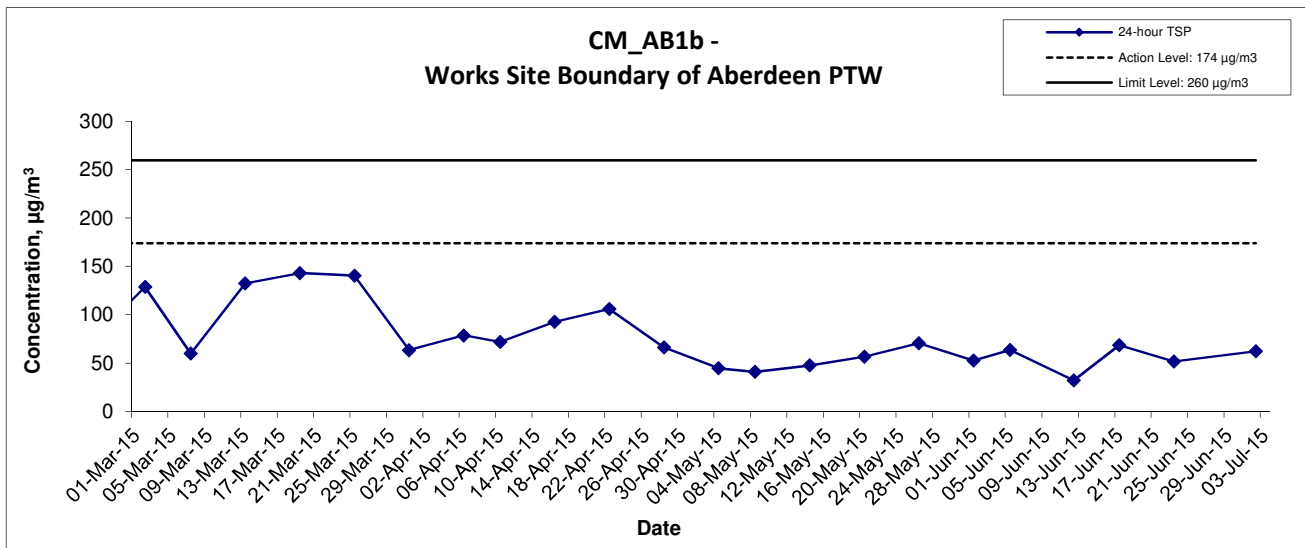
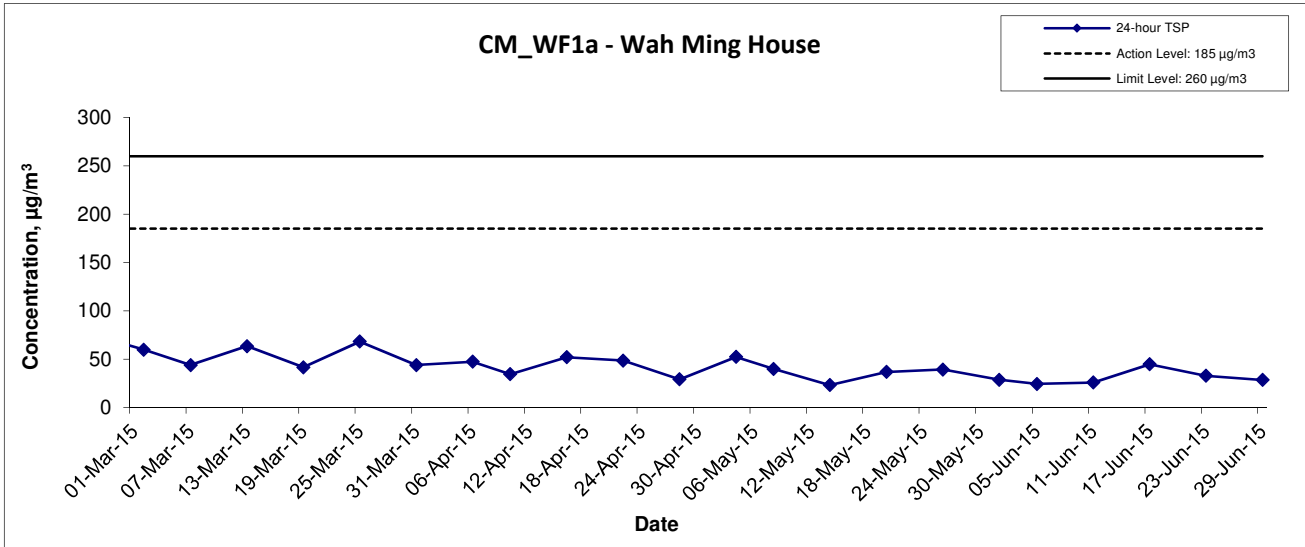
**APPENDIX E
GRAPHICAL PRESENTATION OF AIR
QUALITY MONITORING RESULTS**

1-hr TSP Concentration Levels



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11060	
	Date Jun 15	Appendix E	

24-hr TSP Concentration Levels

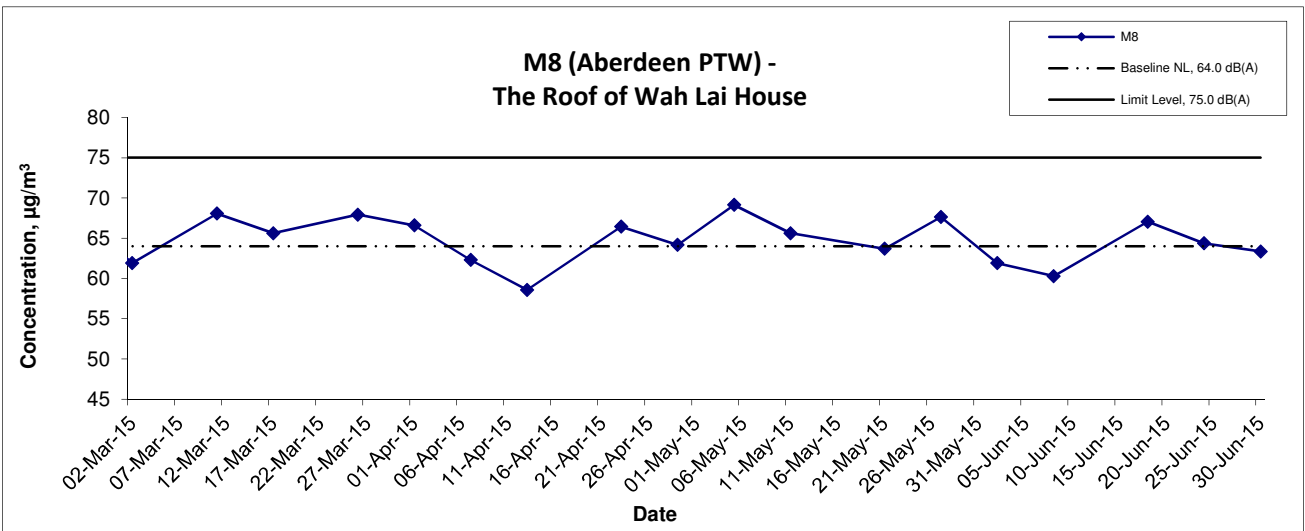
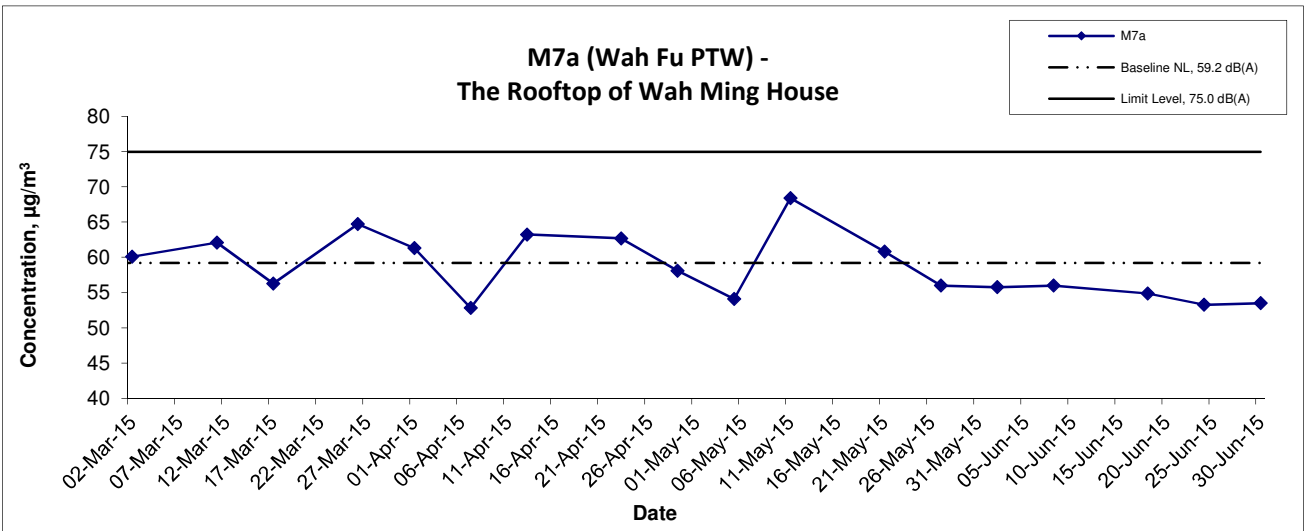
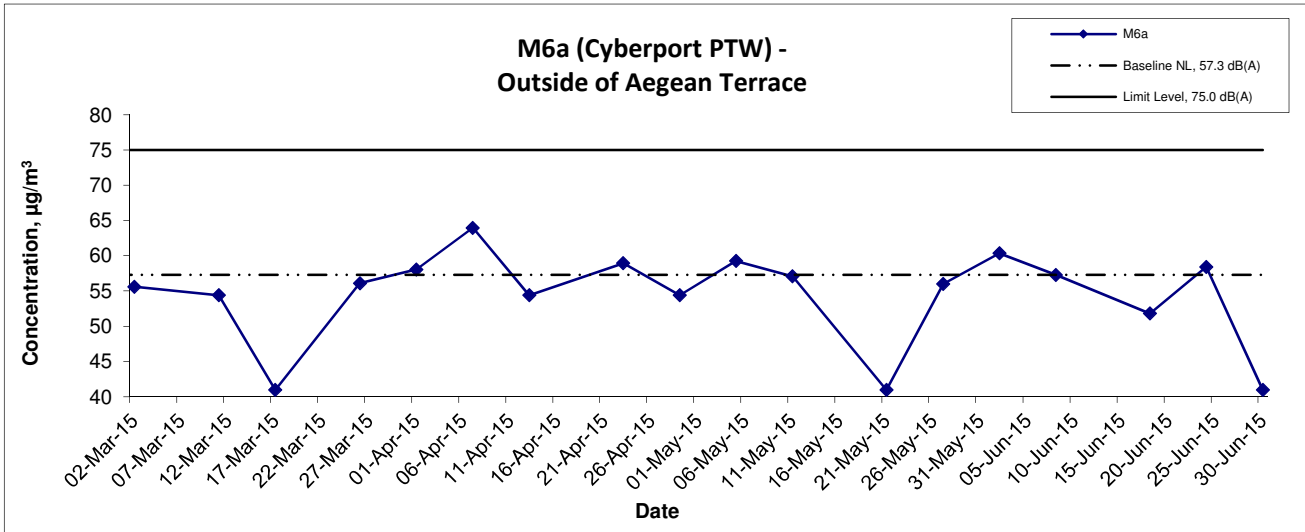


Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Aberdeen and Ap Lei Chau Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11060	
	Date Jun 15	Appendix E	

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

Noise Levels

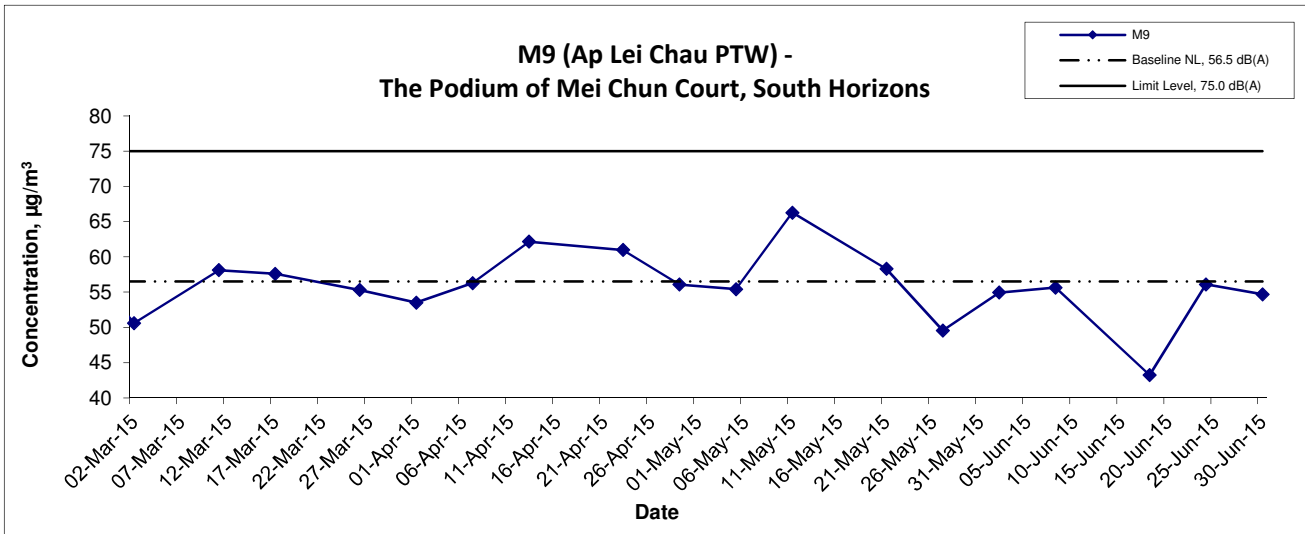
(0700-1900 hrs on Normal Weekdays)



Title Contract No. DC/2009/24 HATS 2A – Upgrading of Preliminary Treatment Works at Sandy Bay, Cyberport, Wah Fu, Abredeen and Ap Lei Chau Graphical Presentation of Noise Monitoring Result	Scale N.T.S Date Jun 15	Project No. MA11060 Appendix F	
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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 Jun 15	Appendix F	

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

APPENDIX G 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.		*
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		*
6.379	<p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> • 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. • 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. 	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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	All waste materials should be segregated into categories covering: <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	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.	All construction sites	^
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		*
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^
	Proper storage and site practices to minimize the potential for damage or contamination of construction materials.		^
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	All construction sites	^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	interceptors.		
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage".	All construction sites	N/A
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		*
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
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	*
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 H
SUMMARY OF ENVIRONMENTAL
LICENSES AND PERMITS**

Appendix H - Summary of Environmental Licenses and Permits

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	
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				
12014	24/2/2015	23/5/2015	Location: Ap Lei Chau	Valid until 23/5/2015
12015	24/2/2015	23/5/2015	Location: Aberdeen PTW	Valid until 23/5/2015
12012	24/2/2015	23/5/2015	Location: Wah Fu PTW	Valid until 23/5/2015
12258	24/5/2015	23/8/2015	Location: Ap Lei Chau	Valid
12257	24/5/2015	23/8/2015	Location: Aberdeen PTW	Valid
12259	24/5/2015	23/8/2015	Location: Wah Fu PTW	Valid

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

Name of Department: DSD

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

Contract No. : DC/2009/24

APPENDIX I MONTHLY SUMMARY WASTE FLOW TABLE FOR 2015 (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
Year2014	4.639730	0.000000	0.000000	0.000000	4.639730	0.000000	0.000000	0.000000	0.000000	0.450000	0.145370	1.832460
JAN	0.921395	0	0	0	0.921395	0	0	0	0	0	0.0112	0.12827
FEB	0.145405	0	0	0	0.145405	0	0	0	0.031	0	0.01901	0.10553
MAR	0.51156	0	0	0	0.51156	0	0	0	0	0	0.01676	0.10203
APR	0.69157	0	0	0	0.69157	0	0	0	0	0	0.02722	0.07945
MAY	0.318355	0	0	0	0.318355	0	0	0	0	0	0.03746	0.08964
JUNE	0.119775	0	0	0	0.119775	0	0	0	0	0	0.0421	0.08198
SUB-TOTAL	2.708060	0.000000	0.000000	0.000000	2.708060	0.000000	0.000000	0.000000	0.031000	0.000000	0.153750	0.586900
JULY	0	0	0	0	0	0	0	0	0	0	0	0
AUG	0	0	0	0	0	0	0	0	0	0	0	0
SEPT	0	0	0	0	0	0	0	0	0	0	0	0
OCT	0	0	0	0	0	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12.614735	0.000000	0.000000	0.000000	12.614735	0.000000	17.430000	0.070000	0.101000	0.900000	0.378010	7.058526

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]
19.77	1.544	1.73	0	16.496	0	30	1	1	4	0.967	9.6

- Notes :
- The performance targets are given in PS Clause 6(14).
 - Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
 - 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

Special waste = 0.6m³ / container

**APPENDIX J
COMPLAINT LOG**

APPENDIX J – COMPLAINT LOG

Reporting Period: April to June 2015

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

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
CIR#4_150330	DSD's Preliminary Treatment Work (PTW) at Wah Fu	30 th March 2015	<p>One anonymous complainant complained about the dark smoke emission 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 30th March 2015 and initiated the complaint investigation procedures. According to the information provided by the Contractor, the sheet pile machine was deployed at Wah Fu PTW for sheet piling installation on the day of complaint. However, no dark smoke emission was observed at Wah Fu PTW during the routine inspection by the Contractor such as the Environmental Officer on the day of complaint. The machine was removed off site after finishing the works.</p>	<p>After complaint received, the Contractor has taken initiative to prevent dark smoke emission to the nearby residents by implementation of mitigation measures as below:</p> <ul style="list-style-type: none"> • Remove the sheet pile machine after finishing the works on 31st March 2015; • Properly maintained and operated the construction plant (well-greased, damage and worn parts promptly replaced). <p>The Contractor was reminded to consider to increase the frequency of checking the darkness of smoke generated from mechanical equipment. With comparison to the shade of smoke to the shades on a Ringelmann Chart or other approved devices to ensure the emitting smoke is lighter than shade 1 on the Ringelmann Chart. The Contractor was also reminded to avoid any dark smoke emission generated from mechanical equipment for more than 6 minutes in any period of 4 hours or for more than 3 minutes continuously at any one time; and remove the carbon deposits from the muffler and keep the mesh at the inlet of the air blower clear frequently which could further prevent the dark smoke emission generated from construction machines of construction works in Wah Fu PTW.</p>	The situation is closed during the reporting quarter.

APPENDIX K
SUMMARY OF EXCEEDANCE

APPENDIX K – SUMMARY OF EXCEEDANCE

Reporting Period: April to June 2015

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