Document Details			
Client	**Drainage Services Department**		
Project	**Contract No. DC/2007/24** **Harbour Area Treatment Scheme Stage 2A** **Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun**		
Document Title	**Monthly Environmental Monitoring and Audit Report No. 26** **Covering the Period from 1 February 2012 to 29 February 2012**		
Document No.	**EMA/032**		

Distribution

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Rev.	Date	Description	Prepared	Checked & Reviewed	Approved
B	14 March 2012	Submission to IEC and ER for Further Review	Various	Susana Halliday	Eric Chui
A	12 March 2012	Submission to IEC and ER for Review	Various	Susana Halliday	Eric Chui

LEIGHTON 怡頓 LNS Leighton - LNS Joint Venture ATKINS

Rev. B

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Environmental Certification Sheet – 36

Reference ~~Procedure~~/Document~~/Plan~~

Document~~/Plan/Changes/Information to be~~ Certified/ Verified:	Monthly Environmental Monitoring and Audit Report No.26 (EMA/032, Rev B)
Date of Report:	14 March 2012
Date of correspondence to IEC:	15 March 2012
Date received:	15 March 2012

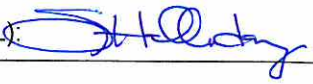
Reference Condition

Clause 4.4 of EP-322/2008/E:

"Three hard copies and one electronic copy of the monthly EM&A Report shall be submitted to the Director within 10 working days after the end of the reporting month. The EM&A Reports shall include a summary of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be verified by the IEC. Additional copies of the submission shall be provided to the Director upon request by the Director."

ET Certification

I hereby certify that the above referenced ~~information~~/document/~~plan~~ complies with the above referenced condition.

Susana Halliday, Environmental Team Leader, (ACL):  Date: 16 March 2012

Our ref KMY/AFK/FY/TK/T261332/22.01/L-0339
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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

15 March 2012
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/2007/24
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun
Condition 4.4 – Submission of Monthly EM&A Report for February 2012 (no. 26)

I refer to the revised Monthly EM&A Report No. 26 (Rev. B) for February 2012 certified by ETL and received on 14 March 2012 via email. Pursuant to Condition 4.4 of Environmental Permit No. EP-322/2008/E, I hereby verify the captioned Report.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr
Independent Environmental Checker

c.c.	AECOM	Mr. Simon Mui	By email
	Leighton – LNS JV	Mr. Stephen Tsang	By email
	Atkins	Ms. Susana Halliday	By email

EXECUTIVE SUMMARY

This is the Twenty-sixth Monthly Environmental Monitoring and Audit Report prepared by Atkins China Ltd (ACL), for Contract No. DC/2007/24 Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun (hereinafter, the Project), in compliance with the Project EM&A Manual under EP No. EP-322/2008/E. The construction works under the Project was commenced on 23 December 2009. This report summarises the findings and results of the EM&A during the reporting period from 1 February 2012 to 29 February 2012.

Environmental Monitoring and Audit Progress

The monthly EM&A programme has been undertaken in accordance with the Project EM&A Manual. A summary of the monitoring activities carried out during this reporting month is listed below:

Noise and air monitoring at designated monitoring stations was undertaken as below table:

Parameter	ID	Description	Date
Noise Monitoring: $L_{eq(30\ mins)}$ during normal Daytime	M3	Kwan Yick Building Phase III	2, 8, 14 and 20 February 2012
	M5	Chuk Lam Ming Tong	6, 13, 22 and 28 February 2012
	M6a	Aegean Terrace	8, 16, 23 and 29 February 2012
	M7a	Wah Ming House	8, 13 and 29 February 2012 (1)
	M8	Wah Lai House	6, 13, 22 and 28 February 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during evening time and daytime of Sundays/ public holidays	M3	Kwan Yick Building Phase III	Daytime of public holiday: 5 and 19 February 2012
	M5	Chuk Lam Ming Tong	Daytime of public holiday :19 February 2012
	M6a	Aegean Terrace	Daytime of public holiday: 12 February 2012
	M8	Wah Lai House	Daytime of public holiday: 26 February 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during night time	M3	Kwan Yick Building Phase III	14, 16 and 28 February 2012
	M5a	Near the entrance of Chuk Lam Ming Tong	10 and 22 February 2012(2)
	M6a	Aegean Terrace	2 and 29 February 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during evening time	M3	Kwan Yick Building Phase III	16 February 2012
	M5a	Near the entrance of Chuk Lam Ming Tong	8 and 22 February 2012
	M6a	Aegean Terrace	2 and 29 February 2012
Air Quality Monitoring: 1-hour and 24-hour TSP	CM_FM1	Western Wholesale Food Market	1-hour : 2, 8, 14, 20 and 24 February 2012 24-hour: 2, 8, 14, 20 and 24 February 2012
	CM_CB1a	The Arcade, Cyberport	1-hour: 6, 10, 16, 22 and 28 February 2012 24-hour:

			2, 8, 14, 20 and 24 February 2012
	CM_WF1a	Wah Ming House	1-hour: 2, 8, 13, 17, 23 and 29 February 2012 24-hour: 2, 8, 14, 20 and 24 February 2012
	CM_AB1a	The Hong Kong Ice and Cold Storage, formally known as Dairy Farm Ice and Cold Storage	1-hour: 6, 10, 16, 22 and 28 February 2012 24-hour: 2, 8, 14, 20 and 24 February 2012
Landscape and Visual	n/a	n/a	28 February 2012
Hazard to Life	n/a	n/a	On-going
Cultural Heritage	n/a	n/a	n/a

Remark: (1) The noise monitoring on 23rd Feb was cancelled due to raining
(2) The noise monitoring on 8th Feb was delayed to 10th Feb due to raining

Site inspections were undertaken jointly with the Contractor and Engineer Representative on 1, 7, 14, 21 and 28 February 2012, with Independent Environmental Checker's participation on 14 February 2012.

Breaches of Action and Limit Levels

During the reporting period of this monthly EM&A Report No. 26, two exceedances in air quality were recorded at CM_AB1a (The Hong Kong Ice and Cold Storage) on 16 and 22 February 2012, one exceedance in air quality was recorded at CM_CB1a (The Arcade, Cyberport) on 16 February 2012, one exceedance in air quality was recorded at CM_WF1a (The Wah Ming House) on 23 February 2012.

Seven non-project related Limit Level (LL) exceedances in noise criteria were recorded on 2, 8, 10, 16, 19, 22 and 29 February 2012. Two non-project related LL exceedances of noise were recorded during the restricted hours (night time) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during the restricted hours (evening time) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). One non-project related LL exceedances of noise was recorded during the restricted hours (public holiday) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). Two non-project related LL exceedances of noise were recorded during the restricted hours (night time) monitoring at station M6a (Aegean Terrace). And one non-project related LL exceedance of noise was recorded during the restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase III). A summary of exceedances is provided in the table below.

Date of Exceedance	Monitoring Location	Exceedance	Details
2 February 2012	M6a, Aegean Terrace	Limit Level exceedance 50.7dB(A) during night time	Exceedance was considered to be non-project related.
8 February 2012	M5a, near the entrance of Chuk Lam Ming Tong	Limit Level exceedance 61.1dB(A) during evening time	Exceedance was considered to be non-project related.
10 February 2012	M5a, near the entrance of Chuk Lam Ming Tong	Limit Level exceedance 59.9dB(A) during night time	Exceedance was considered to be non-project related.

Date of Exceedance	Monitoring Location	Exceedance	Details
16 February 2012	CM_CB1a, The Arcade, Cyberport and CM_AB1a, The Hong Kong Ice and Cold Storage	1-hr TSP (335.0 µg/m^3)/ 1-hr TSP (746.8 µg/m^3)	Action Level exceedance./ Limit Level exceedance. Non-project related.
16 February 2012	M3, Kwan Yick Building Phase III	Limit Level exceedance 67.4dB(A) during night time	Exceedance was considered to be non-project related
19 February 2012	M5a, near the entrance of Chuk Lam Ming Tong	Limit Level exceedance 66.4dB(A) during daytime on public holiday	Exceedance was considered to be non-project related
22 February 2012	M5a, near the entrance of Chuk Lam Ming Tong	Limit Level exceedance 60.2dB(A) during night time	Exceedance was considered to be non-project related
22 February 2012	CM_AB1a, The Hong Kong Ice and Cold Storage	1-hr TSP (568.9 µg/m^3)	Limit Level exceedance. Non-project related
23 February 2012	CM_WF1a, Wah Ming House	1-hr TSP (1845.5 µg/m^3)	Limit Level exceedance. Non-project related
29 February 2012	M6a, Aegean Terrace	Limit Level exceedance 55.1dB(A) during night time	Exceedance was considered to be non-project related.

Complaint Log

There was one air complaints received from EPD via e-mail on 16 February 2012 regarding dust pollution during barging operation at Fung Mat Road site area on 16 February 2012. The Contractor confirmed that there was barging operation carried out during 13 to 15 February 2012. Base on the contractor's record, the materials were wet before loading to the barge. The result of air monitoring on 14 February 2012 showed that the dust levels were complied with the required standard. The details are shown in Appendix M.

Notifications of Summons and Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Environmental Non-compliance

There were no environmental non-compliances recorded during this reporting period.

Reporting Changes

This report has been developed in compliance with the reporting requirements for the subsequent monthly EM&A report as required by the Project EM&A Manual.

Future Key Issues

Aberdeen

1) Blasting for Adit and Tunnel (implement method statement and standard EMP mitigations).
2) Rock Excavation (implement method statement and standard EMP mitigations).

3) Shotcrete and Grouting (implement method statement and standard EMP mitigations).

Wah Fu

1) Blasting for Shaft (implement method statement and standard EMP mitigations).
2) Rock Excavation (implement method statement and standard EMP mitigations).
3) Shotcrete and Grouting (implement method statement and standard EMP mitigations).

Cyberport

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).
3) Grouting and shotcrete (implement method statement and standard EMP mitigations).

Sandy Bay

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Tunnel (implement method statement and standard EMP mitigations).
3) Grouting and shotcrete (implement method statement and standard EMP mitigations).

Sai Ying Pun

1) Shotcrete and Grouting (implement method statement and standard EMP mitigations).
2) Blasting for Shaft (implement method statement and standard EMP mitigations).
3) Rock Excavation (implement method statement and standard EMP mitigations).

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APPENDICES

1 INTRODUCTION

1.1 Basic Project Information

The Harbour Area Treatment Scheme (HATS) Stage 2A Sewage Conveyance System is proposed to collect and convey the pre-treated sewage from eight existing Preliminary Treatment Works (PTW), located along the northern and south-western shoreline of Hong Kong Island, to the Stonecutters Island Sewage Treatment Works (SCISTW) for treatment before final disposal into the western harbour via an existing submarine outfall.

The sewerage tunnels to be constructed under Contract No. DC/2007/24 Harbour Area Treatment Scheme Stage 2A Construction of Sewage Conveyance System from Aberdeen to Sai Yin Pun (hereinafter referred as the Project) run from Aberdeen PTW Production/Drop Shaft towards Sai Ying Pun Junction Shaft. The tunnel has a total length of approximately 7.5km and it has various internal sizes. The transitions are located at the junctions with audits connecting to the drop shafts at Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun. An overall layout plan of the Project is provided in Figure 1.1.

Atkins China Ltd (ACL) was appointed by Leighton-LNS Joint Venture (the Contractor of this Project, hereinafter referred as the Contractor) as the Environmental Team (ET) of this Project, to undertake a Environmental Monitoring and Audit (EM&A) of this Project in accordance with "HATS Stage 2A Environmental Impact Assessment Study – Investigation, Final EM&A Manual" (Register No. AEIAR-121/2008) under Environmental Permit (EP) No. EP-322/2008/E Part D, Condition 4.2.

1.2 Project Organisation and Contact Details

The key parties included:

- Project Proponent – Drainage Services Department
- Contractor – Leighton-LNS JV
- Environmental Authority – Environmental Protection Department
- The Engineer's Representative (ER) – Metcalf & Eddy-AECOM JV
- Independent Environmental Checker (IEC) - Mott MacDonald Hong Kong Ltd.
- Contractor's Environmental Team (ET) – Atkins China Ltd.

Project organisation and contact details are shown in Appendix A.

1.3 Construction Programme

The Contractor's 3-month construction programme is provided in Appendix B.

1.4 Locations of Monitoring Stations

Details of the monitoring stations are provided in Section 3 and relevant figures are shown in Figures 2.1 to 2.7.

2 ENVIRONMENTAL STATUS

2.1 Work undertaken during the Reporting Period

The major construction activities undertaken during this reporting period are summarised below (see Figures 2.1 to 2.7 for the site locations):

Aberdeen

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Shaft (implement method statement and standard EMP mitigations).
3) Grouting and shotcreting (implement method statement and standard EMP mitigations).

Wah Fu

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Shotcrete and Grouting (implement method statement and standard EMP mitigations)
3) Blasting for shaft (implement method statement and standard EMP mitigations).

Cyberport

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Shotcrete, Rock Bolt, Rock Dowel (implement method statement and standard EMP mitigations).
3) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).

Sandy Bay

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).
3) Shotcrete, Rock Bolt, Rock Dowel (Implement method statement and standard EMP mitigations).
4) Installation of gantry crane (implement method statement and standard EMP mitigations)

Sai Ying Pun

1) Grouting and shotcreting (implement method statement and standard EMP mitigations).
2) Installation of noise enclosure (implement method statement and standard EMP mitigations)
3) Blasting for shaft (implement method statement and standard EMP mitigations).
4) Installation of gantry crane (implement method statement and standard EMP mitigations).

2.2 Environmental Permit and License

There were no changes or clarification to the Environmental Permit (EP-322/2008/E) during the reporting period.

Chemical Waste

The Project's registrations as a Chemical Waste Producer are listed in Table 2.1:

Table 2.1 Summary of Registrations as a Chemical Waste Producer

No.	Location	WPN Number	Issue Date
1	Cyberport	5213-171-L2699-01	30 Oct 2009
2	Sandy Bay	5213-171-L2699-05	30 Oct 2009
3	Sai Ying Pun	5111-112-L2702-01	8 Dec 2009
4	Wah Fu	5213-172-L2699-02	30 Oct 2009
5	Aberdeen PTW	5213-173-L2699-04	30 Oct 2009
6	Aberdeen Workshop	5213-173-L2699-03	30 Oct 2009

No disposal of chemical waste was carried out in the reporting period.

Water Discharge Licence

Details of water discharge licences for all the Project locations are listed in Table 2.2:

Table 2.2 Summary of Water Discharge Licences

No.	Location	Licence Number	Issue Date	Validity
1	Cyberport	WT00005534-2009	3 Dec 2009	31 Dec 2014
2	Sandy Bay	WT00005533-2009	3 Dec 2009	31 Dec 2014
3	Sai Ying Pun	WT00005489-2009	1 Dec 2009	30 Nov 2014
4	Wah Fu	WT00005532-2009	3 Dec 2009	31 Dec 2014
5	Aberdeen PTW	WT00005535-2009	3 Dec 2009	31 Dec 2014
6	Aberdeen Workshop	WT00005530-2009	3 Dec 2009	31 Dec 2014

Construction Noise Permit

The statuses of Construction Noise Permits for this Project are shown in Table 2.3:

Table 2.3 Status of Construction Noise Permits

No	Location	Operations	Time	Duration	Remark
1	Cyberport	Rock excavation, drilling, welding, grouting for shaft and tunnel	1900 - 2300 normal day 0700 – 2300 holiday	3 Dec 2011 ~ 1 April 2012	Valid with CNP GW-RS 1042-11
2	Cyberport	Rock excavation, drilling, welding, grouting for shaft and tunnel	2300 -0700 normal day 0700 – 2300 holiday	1 Dec 2011 ~ 1 April 2012	Valid with CNP GW-RS 1041-11
3	Cyberport	Waste water treatment and Exhaust fan	1900-2300 normal day 0700-2300 holiday	3 Sep 2011 ~ 2 Mar 2012	Valid with CNP GW-RS 0698-11
4	Sandy Bay	Rock excavation, drilling, welding grouting for shaft and tunnel and water treatment	1900 – 2300 normal day 0700 – 2300 holiday	1 Nov 2011 ~ 29 Feb 2012	Valid with CNP GW-RS 0956-11

		Rock excavation, drilling, welding grouting for shaft and tunnel	24 hours		
5	SYP	Rock excavation, drilling, welding, grouting for shaft and tunnel	24 hours	16 Dec 2011 ~ 15 Mar 2012	Valid with CNP GW-RS 1171-11
6	Wah Fu	Welding, Grouting and Blower	1900 – 2300normal day 0700 – 2300 holiday	21 Jan 2012 ~ 05 Jul 2012	Valid with CNP GW-RS 1234-11
7	Aberdeen	Rock drill and excavation	1900 – 2300normal day 0700 – 2300 holiday	26 Jan 2012 ~ 05 Jul 2012	Valid with CNP GW-RS 0006-12
8	Aberdeen	Water pump, power generator and AquaSED	2300 to 0700 Anyday	21 Oct 11~ 19 Apr 2012	Valid with CNP GW-RS0959-11

2.3 Environmental Document Submission

A summary of Environmental Certification Sheet submissions within the reporting period under the Project EP is presented in Table 2.4.

Table 2.4 Summary of Environmental Document Submission

No.	Document Title	Date of Submission	Date of Verification/ Approval
1	Monthly Environmental Monitoring and Audit Report No.25, Covering the Period from 1 January 2012 to 31 January 2012 (EMA/031, Rev A)	21 February 2012	21 February 2012

2.4 Environmental Monitoring Locations

There are five noise monitoring stations and four air quality monitoring stations designated for the Project and the relevant locations and sensitive receivers are shown on Figures 2.1 to 2.4 and Figures 2.5 to 2.7 respectively. Descriptions of these monitoring stations are provided in Table 2.5.

Table 2.5 Noise and Air Quality Monitoring Stations Descriptions

Monitoring ID	Description	Uses/ Location of Measurement	Easting	Northing
Noise Monitoring Stations				

M3 (1)	Rooftop (24/F) of Block A, Kwan Yick Building Phase III (Fung Mat Road Site)	Medium-rise domestic premises – private housing estate	832480	816602
M5	Rooftop (4/F) of Chuk Lam Ming Tong (Sandy Bay PTW)	Hospital and clinics - home for the aged	830779	814609
M5a	Near entrance of Chuk Lam Ming Tong (Sandy Bay PTW)	Hospital and clinics - home for the aged	830779	814609
M6a (2), (3)	2m above ground, outside of Aegean Terrace (Cyberport PTW)	Low-rise domestic premises – private housing	831304	813890
M7a (2)	Rooftop (19/F) of Wah Ming House (Wah Fu PTW)	Medium-rise domestic premises – public housing estate	831940	812497
M8 (4)	Roof (39/F) of Wah Lai House (Aberdeen PTW)	High-rise domestic premises – public housing estate	832555	812299
Air Quality Monitoring Stations				
CM_FM1 (5)	Western Wholesale Food Market (Fung Mat Road Site)	Podium	832341	816776
CM_CB1a (2)	The Arcade, Cyberport (Cyberport PTW)	Ground level at children playground, adjacent to Project site office	831298	813514
CM_WF1a (2)	Wah Ming House (Wah Fu PTW)	Roof	831943	812497
CM_AB1a (2), (6)	The Hong Kong Ice and Cold Storage, formally known as Dairy Farm Ice and Cold Storage (Aberdeen PTW)	1.5m raised platform at car park	832873	812158

Notes:
(1) Both baseline and impact noise monitoring are conducted by ET of Contact DC/2007/23. The baseline noise monitoring data will be used as a reference and impact noise monitoring data is adopted in this Report.
(2) Revision to the original monitoring location in Project EM&A Manual was made and was verified by IEC on 19 November 2009 and subsequently approved by EPD on 27 November 2009.
(3) A correction factor of +3dB(A) is added as free field to façade measurement conversion.
(4) Both baseline and impact noise quality monitoring was conducted by ET of this Project. The impact noise monitoring data will be adopted by ET of Contract DC/2008/09.
(5) Baseline air quality monitoring was conducted by ET of Contact DC/2007/23, whereas impact air quality monitoring was conducted by ET of this Project. The baseline air quality monitoring data will be used as a reference. The impact air quality data will be adopted by ET of Contact DC/2007/23.
(6) Both baseline and impact air quality monitoring are conducted by ET of this Project and are adopted by ET of Contract DC/2008/09.

3 EM&A REQUIREMENTS

3.1 Summary of Impact EM&A Requirements

The EM&A for this Project requires quantitative monitoring on noise and air quality (Total Suspended Particulates (TSP)) on regular and ad-hoc basis, in addition to site inspections. A summary of key impact EM&A requirements for this Project is presented in Table 3.1.

Table 3.1 Summary of Impact EM&A Requirements

Parameter	Description	Frequency
Noise	$L_{eq(30min)}$ between 07:00 – 19:00 hours on normal weekdays, $L_{eq(15min)}$ for other time periods and L_{10} and L_{90} (On-site measurement using sound level meter)	Once a week. One set of measurements between 0700 and 1900 hours on normal weekdays. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted periods.
Air Quality	24-hour TSP (On-site measurement using High Volume Sampler) 1-hour TSP (Measured by direct reading methods which are capable of producing comparable results as that by the high volume sampling method) (1) (2)	For 24-hour TSP monitoring, the sampling frequency is at least once in every six-days. For 1-hour TSP monitoring, the sampling frequency is at least three times in every six-days. .
Waste	Routine supervision of construction works	As per site inspection schedule.
Landscape and Visual	Survey of full effectuation of mitigation measures	Once per month
Hazard to Life	Vibration and ground monitoring along boundary of HKCG Depot Vibration level associated with blasting for Tunnel P, shafts and other construction works	On-going
Cultural Heritage	Vibration level at identified historical buildings	On-going

Notes: (1) Except at CM_FM1, where HVS is used for the impact monitoring of 1 hour TSP.
(2) Laser Particle Photometer (hand held) was used. Relevant specification was submitted to IEC for information on 19 October 2009 under Baseline Environmental Monitoring Plan (GEN/023).

3.2 Environmental Quality Performance Limits

Environmental Quality Performance Limits (Action and Limit levels) for noise and air quality have been developed for the Project Baseline Monitoring Report and are summarised in Table 3.2 and Table 3.3 respectively.

Table 3.2 Action and Limit Levels for Impact Noise Monitoring

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75dB(A)(1)
0700-2300 hrs on holidays and 1900-2300 hrs on all other days		60/65/70dB(A)(2)
2300-0700 of next day		45/50/55dB(A)(2)

Note: (1) Between 0700-1900, construction noise limit for school during normal term time is 70dB(A) and 65dB(A) during examination period.
(2) To be selected based on Area Sensitivity Rating

Table 3.3 Action and Limit Levels for Air Quality Monitoring

Monitoring ID	1-hour TSP Level, µg/m³		24-hour TSP Level, µg/m³	
	Action	Limit	Action	Limit
CM_FM1	332 (1)	500	188 (2)	260
CM_CB1a	280 (1)	500	178 (2)	260
CM_WF1a	285 (1)	500	185 (2)	260
CM_AB1a	283 (1)	500	174 (2)	260

Notes: (1) For Baseline Level ≤ 384 µg/m³, Action Level = (Baseline Level*1.3 + Limit Level)/2;
For Baseline Level > 384 µg/m³, Action Level = Limit Level
(2) For Baseline Level ≤ 200 µg/m³, Action Level = (Baseline Level*1.3 + Limit Level)/2;
For Baseline Level > 200 µg/m³, Action Level = Limit Level

3.3 Event Action Plan

Event and Action Plans for noise, air quality as well as visual and landscape aspects have been developed as part of the Baseline Monitoring Report for the Project and the details are provided in Appendix C.

3.4 Environmental Measures and Implementation Status

The mitigation measures listed in the Project EIA Report, EM&A Manual and Environmental Permit as well as relevant implementation status are provided in Appendix D. Based on the site inspection findings, it appears that the Contractor has implemented the required mitigation measures during construction works to date.

4 MONITORING RESULTS

4.1 Monitoring Methodology and QA/QC Procedure

Noise Monitoring

Noise monitoring methodology and QA/QC procedure was detailed in Section 4.1 of Monthly EM&A Report No. 1 (GEN/030 Rev B). No change in noise monitoring methodology and QA/QC procedure was made.

Air Quality

Air quality monitoring methodology and QA/QC procedure was detailed in Section 4.1 of Monthly EM&A Report No. 1 (GEN/030 Rev B). No change in air quality monitoring methodology and QA/QC procedure was made.

Landscape and Visual

Monthly site audit is undertaken to check the design, implementation and maintenance of landscape and visual mitigation measures at all Project work sites.

4.2 Monitoring Equipment

Noise

The equipment used for continuous noise monitoring is listed in Table 4.1.

Table 4.1 Equipment for Noise Monitoring

Equipment	Model
Integrated Sound Level Meters	B&K 2238 Serial no. 2684502
Calibrator	B&K 4231, Serial no. 2656516

Air Quality

The equipment used for air quality monitoring is listed in Table 4.2.

Table 4.2 Equipment for Air Quality Monitoring

Parameter Measured	Equipment
1-Hour Sampling for CM_CB1a, CM_WF1a and CM_AB1a	Sibata Laser Dust Monitor Model LD-3B was used for monitoring stations CM_CB1a, CM_WF1a and CM_AB1a. This portable instrument is capable of providing: • Real time TSP concentration • Adjustable logging intervals from 6 to 600 seconds • Average concentration over logging interval and maximum and

Parameter Measured	Equipment
	average values for entire logging period
24-Hour Sampling for CM_CB1a, CM_WF1a, CM_AB1a and CM_FM1; and 1-Hour Sampling for CM_FM1	A High Volume Sampler Model TE-5170, by Tisch Environmental, Inc., was used for monitoring stations CM_CB1a, CM_WF1a and CM_AB1a. This instrument was equipped with: • Mass flow controller with 20 – 60 SCFM adjustable flow probe • Mechanical timer for recording elapsed-time and 24-hour operation A continuous flow recorder for continuous monitoring

4.3 Equipment Calibration

The calibration frequencies of the monitoring equipment are provided in Table 4.3.

Table 4.3 Equipment Calibration Frequencies

Equipment	Calibration Frequency
Integrated SLM and Calibrator	Every year
High Volume Sampler	Every two months
Laser Dust Monitor	Every year

Copies of the calibration certificates for the equipment are presented in Appendix F.

4.4 Impact Monitoring Schedule from 1 February 2012 to 29 February 2012

The noise and air quality monitoring schedule in reporting period is shown in Appendix G. The visual and landscape monitoring was carried out on 28 February 2012.

Regular site inspections were carried out to assess whether the project's environmental protection and pollution control measures are in compliance with the contract specifications. Inspections were carried out on 1, 7, 14, 21 and 28 February 2012.

4.5 Impact Monitoring Results

Noise Monitoring Results

The noise monitoring results at the monitoring stations are provided in Appendix H. Graphical presentation of the noise monitoring data is shown in Appendix I.

Air Quality Results

The air quality monitoring results at the monitoring stations are presented in Appendix J. Graphical presentation of the air quality monitoring data is provided in Appendix K.

4.6 Weather Condition during Reporting Period

The weather conditions during reporting period are provided in Appendix E.

4.7 Waste Management

A summary of waste flow for January 2012 is outlined in Table 4.4. Inert construction and demolition (C&D) waste (i.e. public fill) was disposed of at Chai Wan Public Fill Barging Point/fill bank at Tseung Kwan O Area 137 (for public fill contains slurry only). Other C&D waste such as paper/ cardboard collected by local waste recycling contractor whilst general refuse was disposed at South East New Territories Landfill.

Table 4.4 Monthly Summary Waste Flow Table during Reporting Period

Month	Actual Quantities of Inert C&D Materials Generated Monthly					
	Total Quantity Generated	Broken Concrete (2)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill
	(in '000 m^4)					
February 2012	9.481	0	0	1.088	8.392	0
Month	**Actual Quantities of C&D Wastes Generated Monthly**					
	Metals	Paper/ cardboard packaging	Plastics (3)	Chemical Waste	Others, e.g. general refuse	
	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^4)	
February 2012	0	0.039	0.007	0	0.012	

Notes:
(1) The waste flow table will also include C&D materials that are specified in the Contract to be imported for use at the Site.
(2) Broken concrete for recycling into aggregates.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) Assumption: 1m^3 of Inert C&D Materials weigh 1.9 tonnes and 1m^3 of C&D Wastes weigh 1.6 tonnes

4.8 Landscape and Visual

The monthly site audit was undertaken on 28 February 2012 to check the design, implementation and maintenance of landscape and visual mitigation measures, as laid out in the Project EM&A Manual, at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun. The landscape and visual monitoring report is attached in Appendix L.

4.9 Hazard to Life

324 ground settlement markers, 111 structural settlement markers and 72 piezometers were installed for monitoring. No vibration monitoring was carried out at this month.

No structural settlement was found.

4.10 Cultural Heritage

Vibration of historical buildings and structures was not carried out during the reporting period as no tunneling/ blasting works was carried out.

5 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

5.1 Environmental Exceedance

During the reporting period of this monthly EM&A Report No. 26, two exceedances in air quality were recorded at CM_AB1a (The Hong Kong Ice and Cold Storage) on 16 and 22 February 2012, one exceedance in air quality was recorded at CM_CB1a (The Arcade, Cyberport) on 16 February 2012, one exceedance in air quality was recorded at CM_WF1a (The Wah Ming House) on 23 February 2012. Seven non-project related Limit Level (LL) exceedances in noise criteria were recorded on 2, 8, 10, 16, 19, 22 and 29 February 2012. Two non-project related LL exceedances of noise were recorded during the restricted hours (night time) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during the restricted hours (evening time) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). One non-project related LL exceedances of noise was recorded during the restricted hours (public holiday) monitoring at station M5a (near the entrance of Chuk Lam Ming Tong). Two non-project related LL exceedances of noise were recorded during the restricted hours (night time) monitoring at station M6a (Aegean Terrace). And one non-project related LL exceedance of noise was recorded during the restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase III).

Besides, all landscape and visual mitigation measures listed out in the Project EM&A Manual has been implemented CM2 at Cyberport site, CM2 at Aberdeen Site, and, CM2 and CM3 at the Sandy Bay site.

Formation of stagnant water was still observed at the Cyberport site since the audit undertaken in July 2011 and was slightly drying up but the area was still damp. This condition might affect the roots of the retaining tree T048(R).

The retained trees T036(R), T037(R), T020(R), T059(R) and T061(R) at Sandy Bay site were confirmed dead by the Contractor's tree consultant they were felled and removed on 23 February 2012. The Contractor was advised to provide compensation trees as soon as possible. Also the transplanted trees T004 (T) and T005 (T) were confirmed dead by the Contractor's tree consultant in December 2011 and they were felled and removed on 23 February 2012.

The retained trees T028(R) and T038(R) exhibited some deterioration and damage to the branches and had dried leaves falling-off from the affected areas since the audit undertaken in September 2011. In addition to this, tree tag and identification for retained tree T038(R) had not yet be provided. The retained tree T053(R) is also exhibiting deterioration which was observed since the audit undertaken in November.

Retained trees T076(R) and T079(R) in Aberdeen exhibited deterioration and some stems and leaves were dying since audit undertaken in November 2011. It was also observed that construction materials were closely stored in the root area of the retained tree T081(R) and this might affect the health condition of the tree. The two outstanding untagged trees which were spotted during the site audit undertaken in November 2011 within the boundary of workshop area in the

Aberdeen site have not yet been tagged. Moreover, an additional tree was spotted by ERM near the site entrance gate without a proper identification tag.

It was also observed that machine truck lift was closely parked at transplanted tree T003 (T) in the audit undertaken in January 2011 has not been relocated.

According to the Contractor's monitoring data, no exceedance in structural settlement monitoring results was recorded during the reporting period.

5.2 Site Inspections and Audit

A joint site inspection with the IEC and the Contractor was undertaken on 14 February 2012. All the works areas were observed to be generally complied with the environmental mitigation requirements and no particular water quality impacts found.

Records of site inspections observations and corrective actions during the reporting period are provided in Appendix N. Following the environmental inspections, the Contractor has undertaken remedial actions to improve the implementation of mitigation measures.

The Contractor has prepared a Waste Management Plan for the project, although it is not an EP requirement. During the site inspection, the Contractor was seen to have implemented good site practices and mitigation measures as stated in the EM&A Manual.

5.3 Environmental Complaint and Prosecution

One complaint was received in relation to air quality in Sai Ying Pun on 16th Feb 2012. Details of the compliant are shown in Appendix M. The summary of environmental complaints is shown in Table 5.1.

Table 5.1 Summary of Environmental Complaints

Total No. of Complaints Received	No. of Complaints Received during Reporting Period	No. of Active Complaints	No. of Inactive Closed Complaints
5	1	0	6

No notifications of summons or prosecutions were received in relation to environmental impact during the reporting period (see Table 5.2).

Table 5.2 Summary of Notifications of Summons and Prosecutions

Total No. of Notifications of Summons / Prosecutions Received	No. of Notifications of Summons / Prosecutions Received during Reporting Period	Status of Notifications of Summons / Prosecutions
0	0	N/A

6 FORECAST AND SCHEDULE

6.1 Key Issues for the Coming Months

The key issues with respect to the works in the forthcoming 2 months include:

Aberdeen

1) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).
2) Rock Excavation (implement method statement and standard EMP mitigations).
3) Shotcrete and Grouting (implement method statement and standard EMP mitigations).

Wah Fu

1) Blasting for Shaft (implement method statement and standard EMP mitigations).
2) Rock Excavation (implement method statement and standard EMP mitigations).
3) Shotcrete and Grouting (implement method statement and standard EMP mitigations).

Cyberport

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).
3) Grouting and shotcreting (implement method statement and standard EMP mitigations).

Sandy Bay

1) Rock Excavation (implement method statement and standard EMP mitigations).
2) Blasting for Tunnel and Adit (implement method statement and standard EMP mitigations).
3) Grouting and shotcreting (implement method statement and standard EMP mitigations).

Sai Ying Pun

1) Shotcrete and Grouting (implement method statement and standard EMP mitigations).
2) Blasting for Shaft (implement method statement and standard EMP mitigations).
3) Rock Excavation (implement method statement and standard EMP mitigations).

6.2 Monitoring Schedules for the Next Month

The proposed schedule for noise monitoring from 1 March 2012 to 31 March 2012 is provided in Appendix G.

7 CONCLUSION

This is the Twenty-sixth Monthly EM&A Report prepared by Atkins China Ltd (ACL) for Contract No. DC/2007/24 Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun. This Report summarises the results and findings of the EM&A during the reporting period from 1 to 29 February 2012.

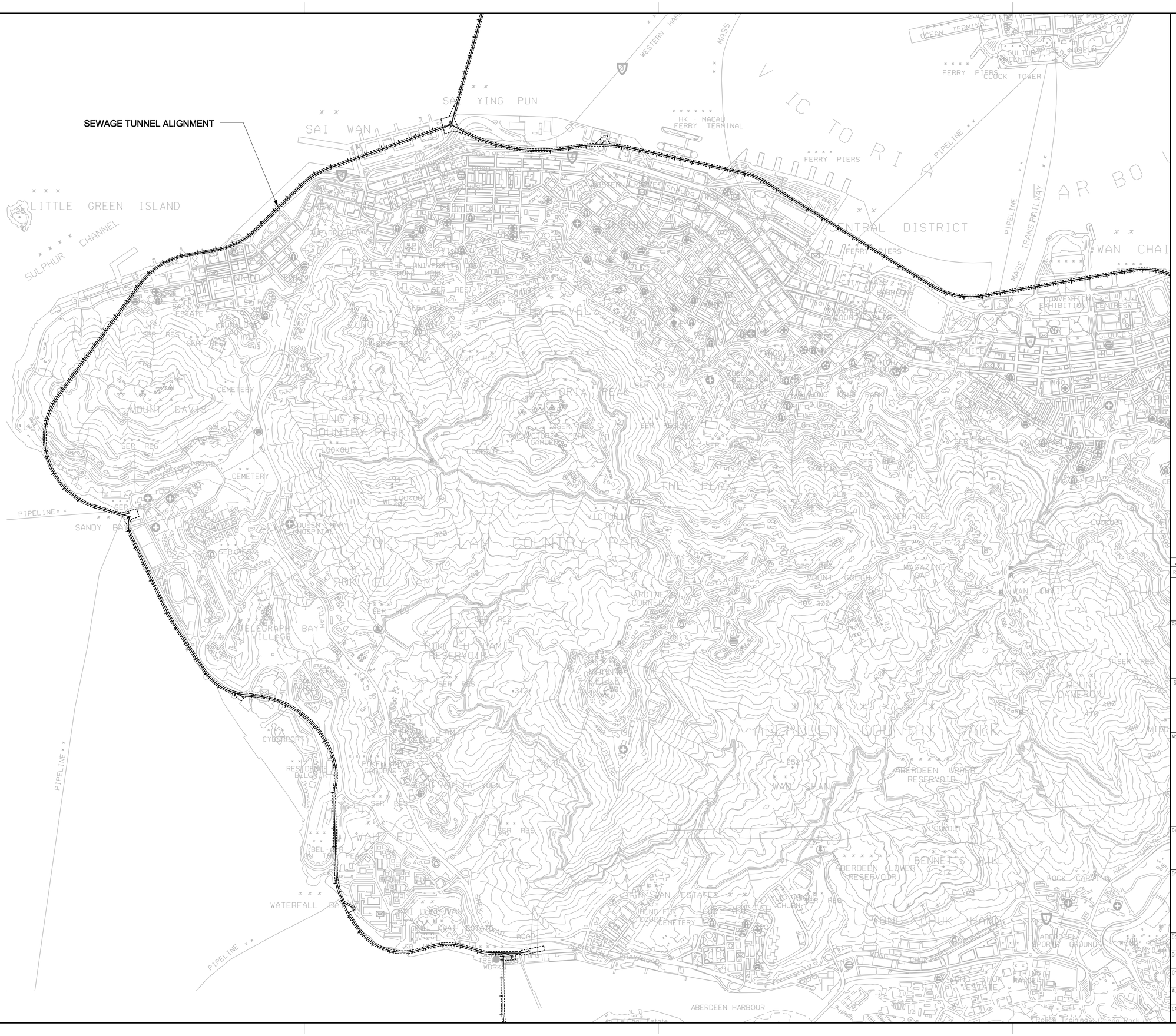
During the reporting period of this monthly EM&A Report No. 26, ten non-project related Limit Level (LL) exceedances in noise criteria were recorded on 2, 8, 10, 16, 19, 22 and 29 February 2012.

There was no environmental, non-compliance attributable to the Project works during the reporting period. Also, no prosecution or summons was received during the reporting period. There was one complaint regarding air quality in Sai Ying Pun received on 16th Feb 2012. Mitigation Measures stated in the Project EIA have been implemented.

The landscape and visual site audit was undertaken on 28 February 2012 to check the design, implementation and maintenance of L&V mitigation measures at work sites. All landscape and visual mitigation measures listed out in the Project EM&A Manual have been implemented except CM2 at Cyberport, CM2 at Aberdeen and, CM2 and CM3 at Sandy Bay site.

Overall, environmental impacts arising from the Project construction activities have been controlled and properly rectified.

FIGURES



Rev	Description	Date	Dgn	Chk	Auth
A	FIRST ISSUE	03/02	SC	SB	EC

渠務署
DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

Project title

CONTRACT NO. DC/2007/24
HARBOUR AREA TREATMENT SCHEME STAGE 2A
CONSTRUCTION OF SEWAGE CONVEYANCE SYSTEM
FROM ABERDEEN TO SAI YING PUN

Supervising Officer

AECOM

Metcalf & Eddy – AECOM Joint Venture

Main Contractor

LEIGHTON 禮頓 | LNS

Leighton - LNS Joint Venture

Designer

ATKINS

Drawing title

OVERALL LAYOUT PLAN

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Authorised: EC	Figure No.: 1.1
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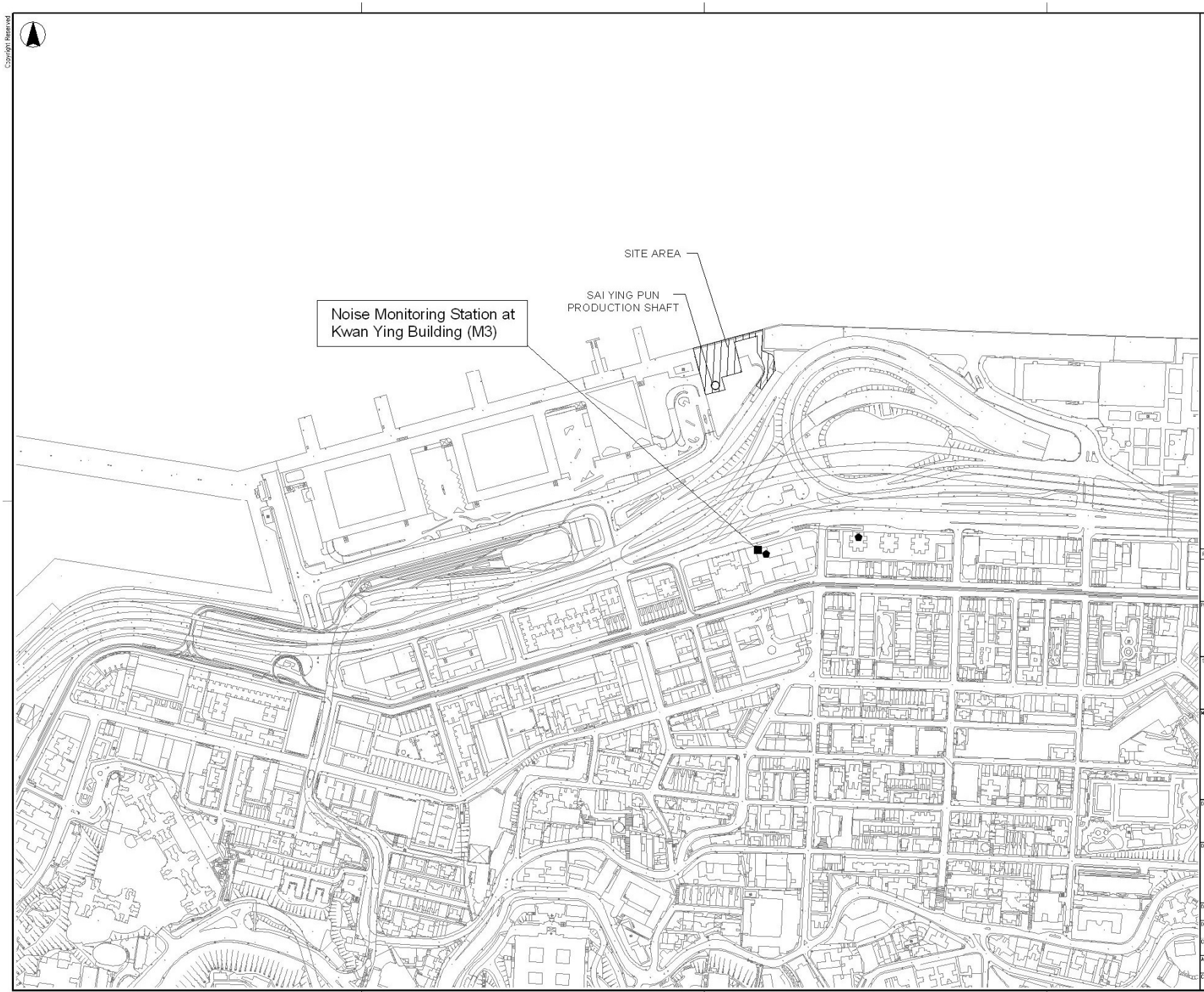

LEGEND
- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT
HARBOUR AREA TREATMENT SCHEME DIVISION

Project Title
CONTRACT NO. DC/2007/24
HARBOUR AREA TREATMENT SCHEME STAGE 2A
CONSTRUCTION OF SEWAGE CONVEYANCE SYSTEM
FROM ABERDEEN TO SAI YING PUN

Supervising Officer: AECOM
Metcalf & Eddy – AECOM Joint Venture

Main Contractor: Leighton - LNS Joint Venture

Designer: ATKINS

Drawing Title
CONSTRUCTION NOISE
MONITORING STATION
AT FUNG MAT ROAD SITE

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Authorised | Drawing No. 2.1 | Rev. A
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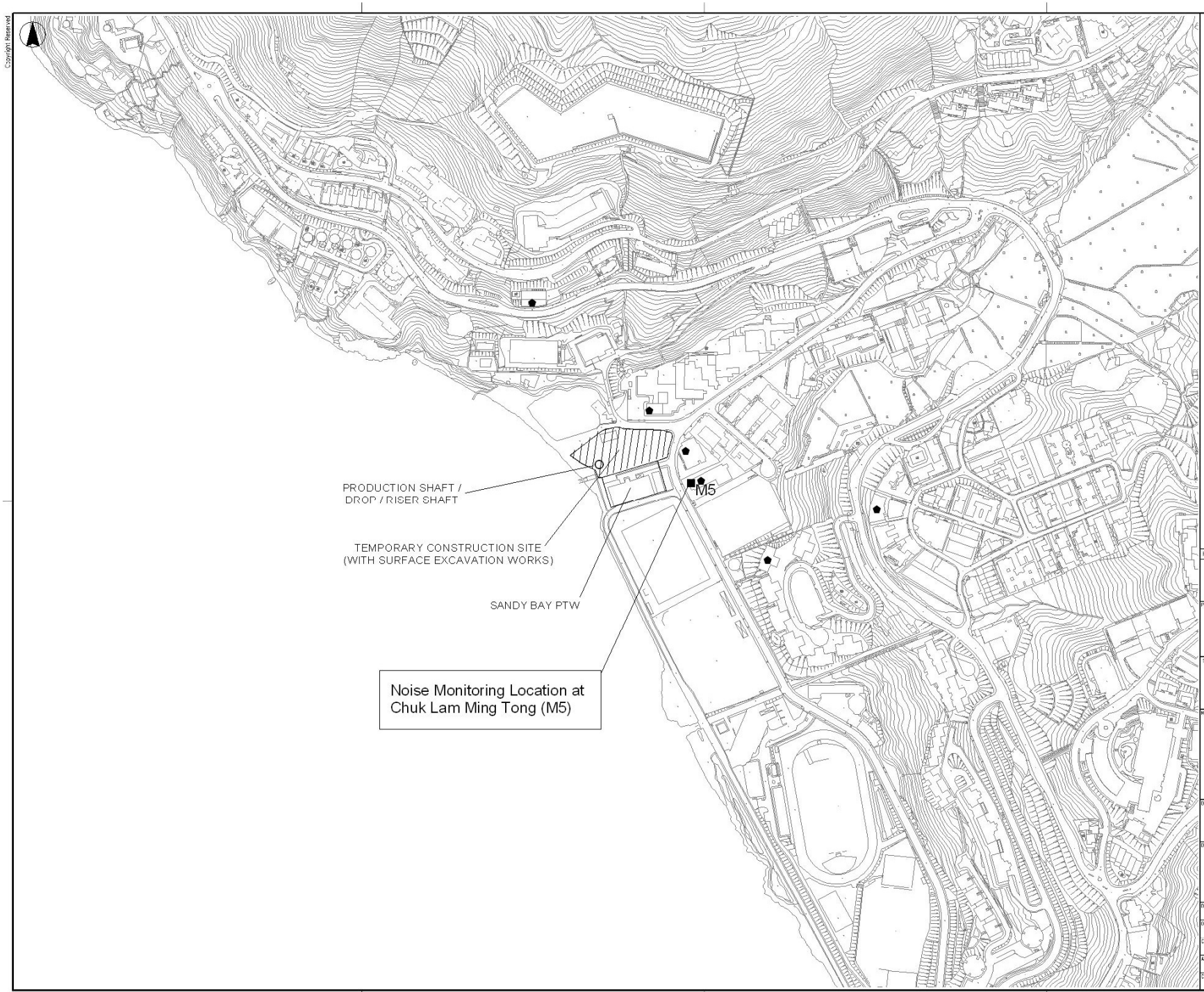

LEGEND

- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

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FROM ABERDEEN TO SAI YING PUN

Supervising Officer

AECOM

Metcalf & Eddy – AECOM Joint Venture

Main Contractor

Leighton - LNS Joint Venture

Designer

ATKINS

Drawing Title

CONSTRUCTION NOISE
MONITORING STATION
AT SANDY BAY PTW

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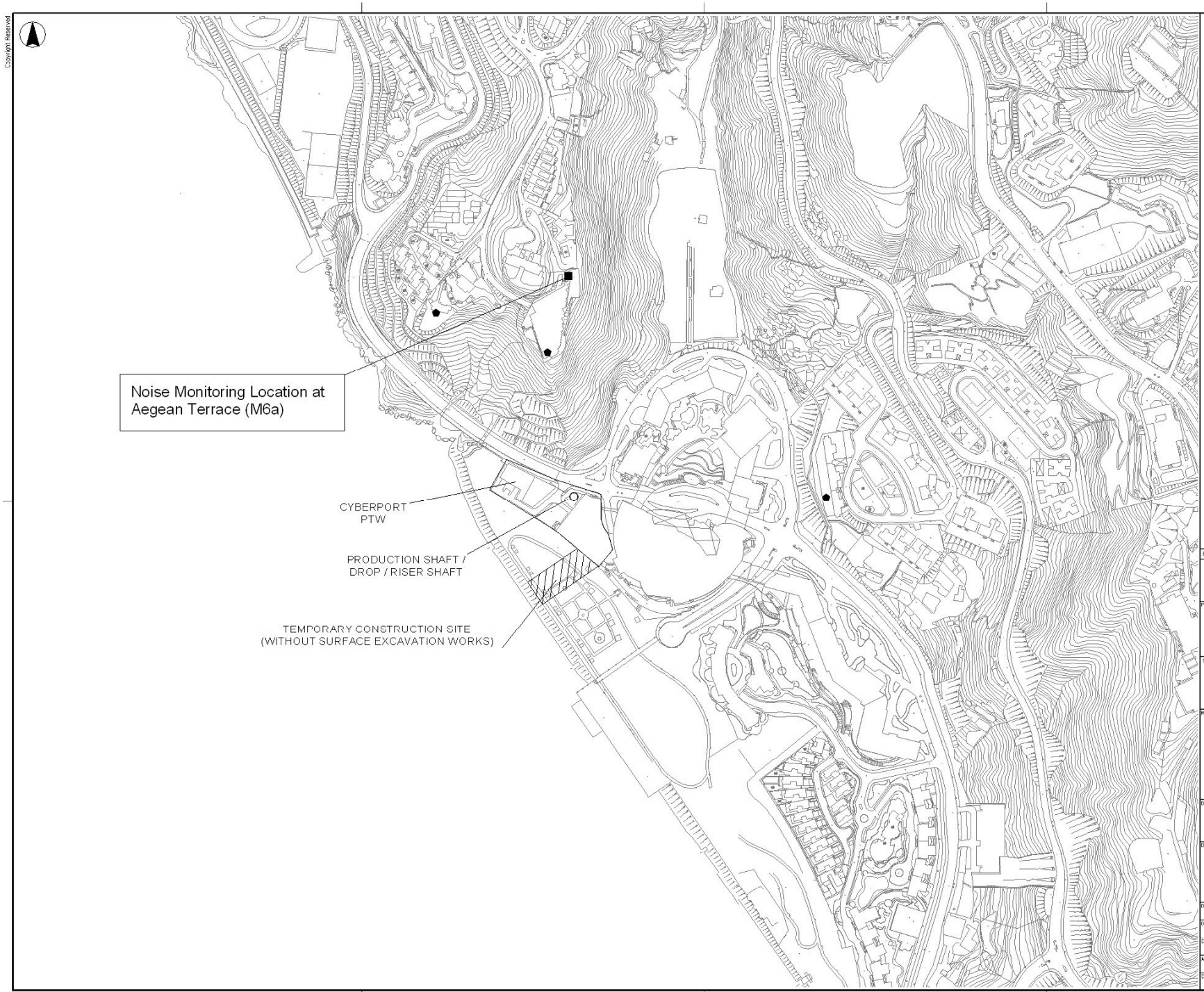

LEGEND

- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

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CONSTRUCTION OF SEWAGE CONVEYANCE SYSTEM FROM ABERDEEN TO SAI YING PUN

Supervising Officer

AECOM

Metcalf & Eddy – AECOM Joint Venture

Main Contractor

Leighton - LNS Joint Venture

Designer

ATKINS

Drawing title

CONSTRUCTION NOISE MONITORING STATION AT CYBERPORT PTW

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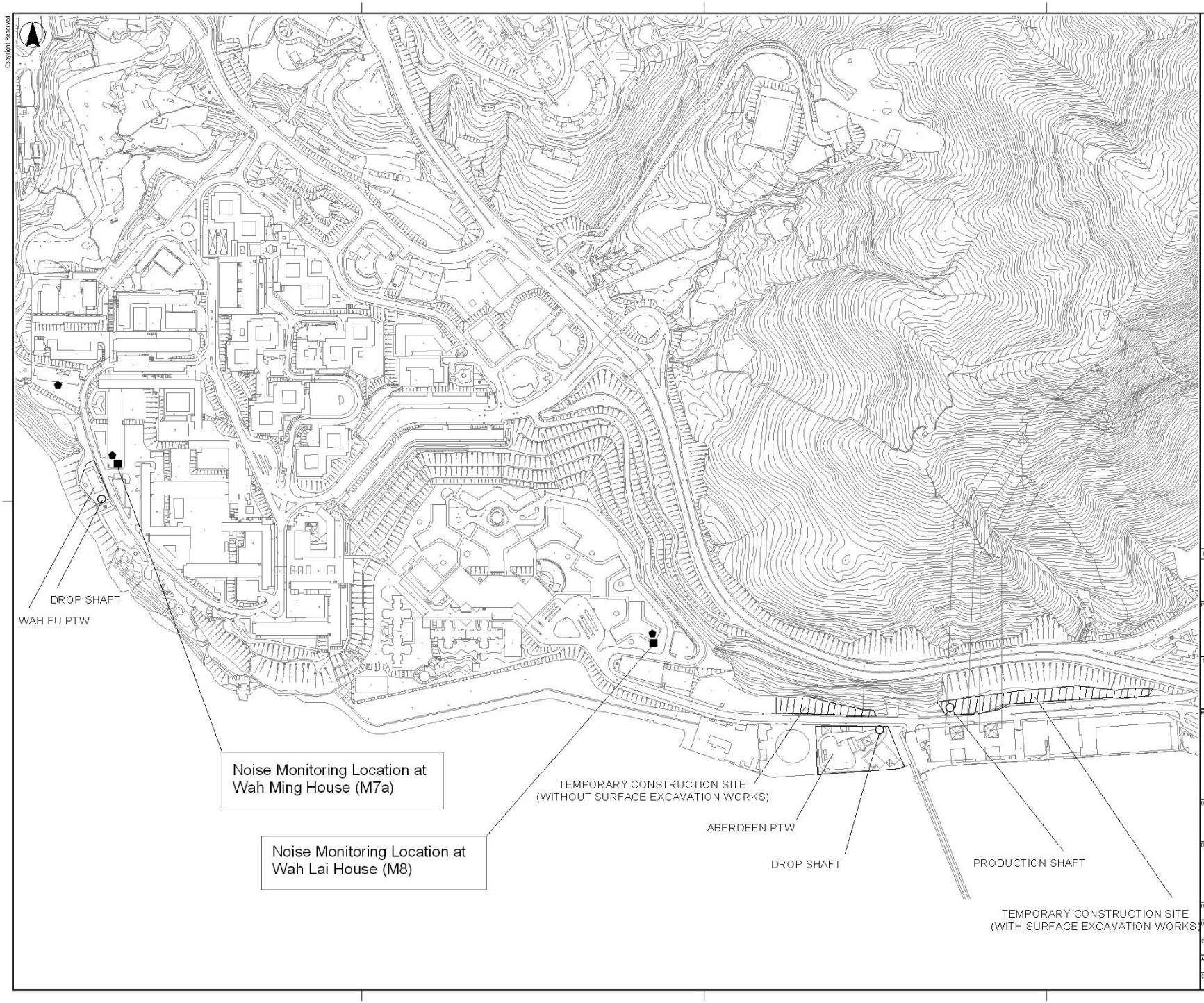

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Supervising Officer
AECOM
Metcalf & Eddy – AECOM Joint Venture

Main Contractor
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Drawing title
CONSTRUCTION NOISE MONITORING STATION AT WAH FU AND ABERDEEN PTW

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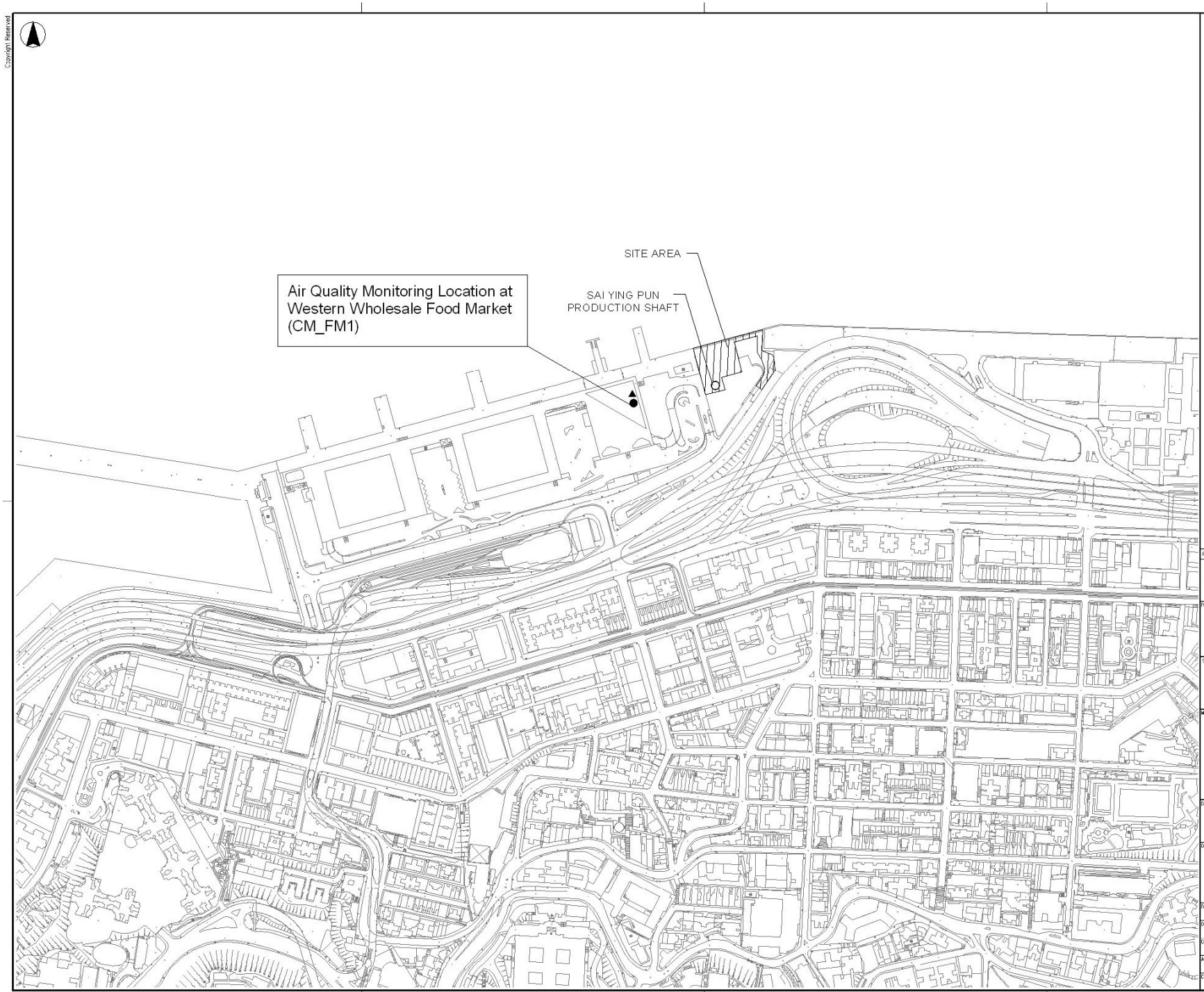

LEGEND
- ▲ AIR SENSITIVE RECEIVERS
- ● DUST MONITORING STATION

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

土木工程拓展署
DRAINAGE SERVICES DEPARTMENT
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Drawing Title
CONSTRUCTION DUST
MONITORING STATION
AT FUNG MAT ROAD SITE

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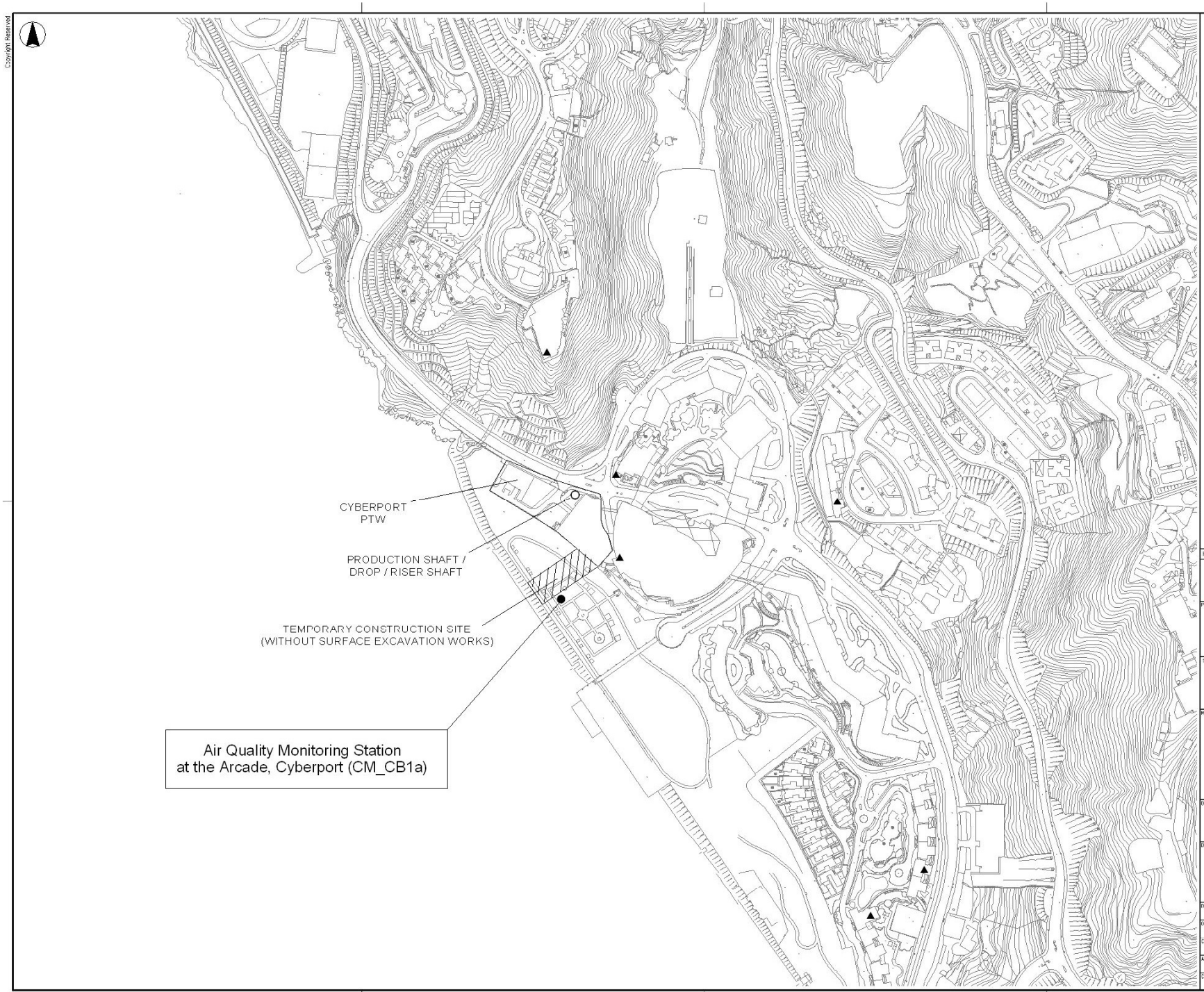

LEGEND
▲ AIR SENSITIVE RECEIVERS
● DUST MONITORING STATION
0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

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HARBOUR AREA TREATMENT SCHEME DIVISION

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Drawing title
CONSTRUCTION DUST
MONITORING STATION AT
CYBERPORT PTW

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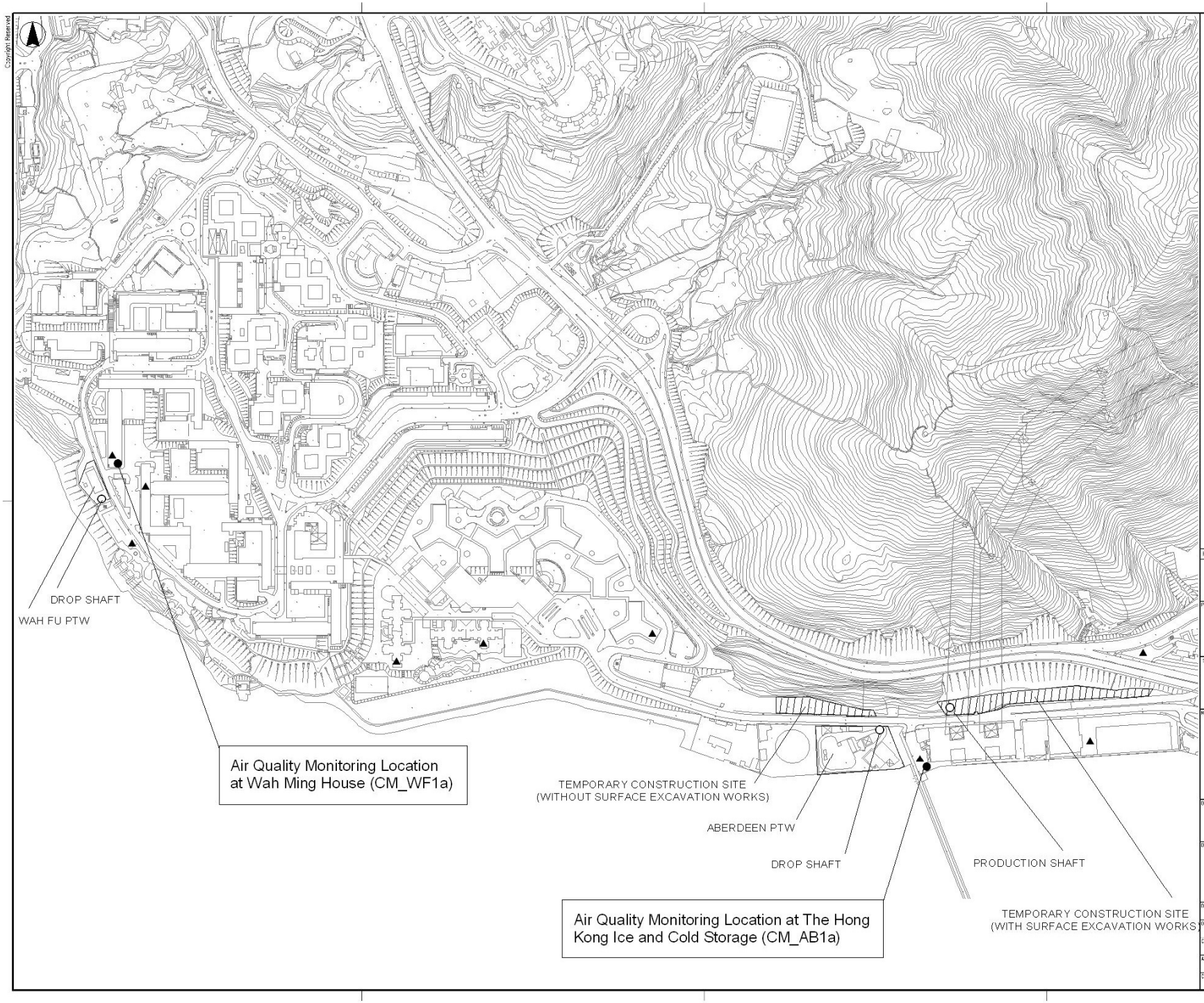

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Designer
ATKINS

Drawing title
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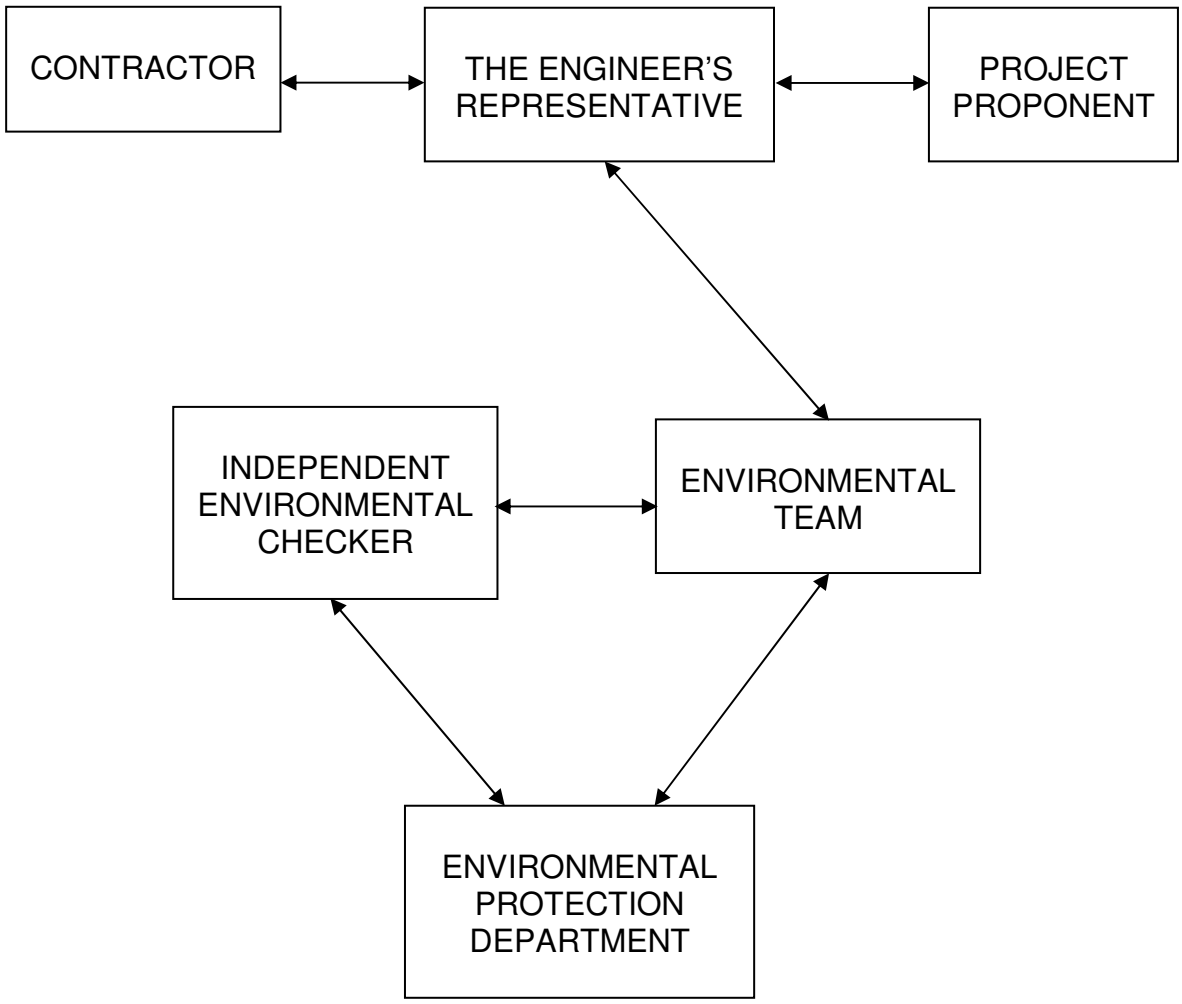
APPENDIX A

PROJECT ORGANISATION AND CONTACT DETAILS

Project Organisation



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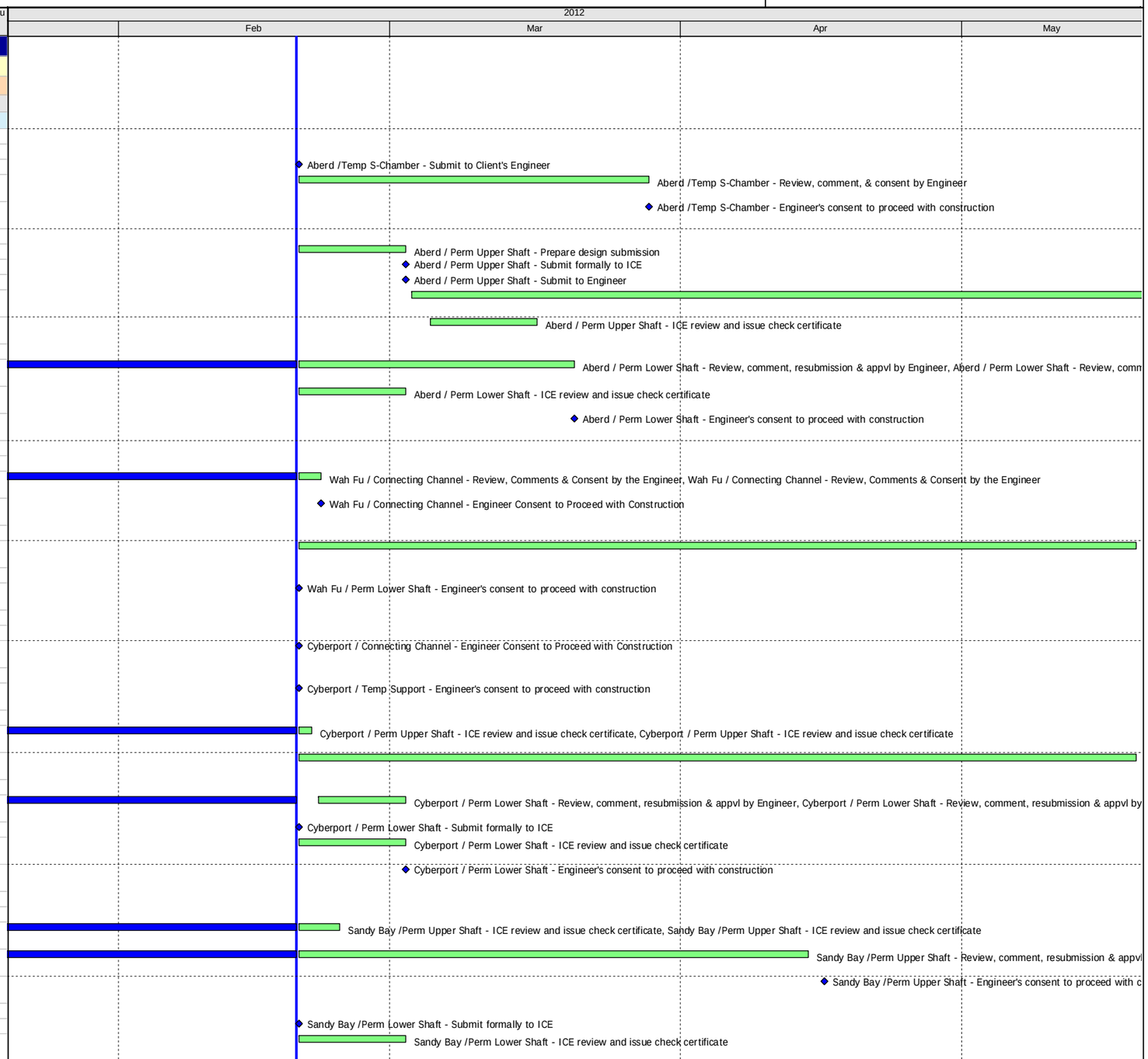
APPENDIX B

THE CONTRACTOR'S 3-MONTH CONSTRUCTION PROGRAMME

Data Date: 20-Feb-12
Print Date: 20-Feb-12 12:48

THREE MONTH ROLLING PROGRAMME (TM31)
STATUS as at 20 February 2012

Activity ID	Activity Name	Orig Dur	Rem Dur	Forecast Start (20-Feb-12)	Forecast Finish (20-Feb-12)	% Compl	Total Float	u
Updated 2012-02-20 HATS2A - MONTHLY PROGRESS UPDATE (Feb 2012) - Rev.C5.3								
CONTRACT NO. DC/2007/24								
DESIGN WORKS								
DESIGN, SUBMISSION and APPROVAL								
DROP SHAFT - TEMPORARY and PERMANENT WORKS DESIGN								
ABERDEEN - Drop Shaft and Production Shaft								
Temporary Works - Scum Chamber and Connection Channel Excavation								
9656	Aberd /Temp S-Chamber - Submit to Client's Engineer	0	0		20-Feb-12	0%	304	
9591	Aberd /Temp S-Chamber - Review, comment, & consent by Engineer	28	28	20-Feb-12	28-Mar-12	0%	304	
9658	Aberd /Temp S-Chamber - Engineer's consent to proceed with construction	0	0		28-Mar-12	0%	304	
Permanent Works - Upper Shaft, Scum Chamber & Connection Channel								
9667	Aberd / Perm Upper Shaft - Prepare design submission	10	10	20-Feb-12	02-Mar-12	0%	271	
9770	Aberd / Perm Upper Shaft - Submit formally to ICE	0	0		02-Mar-12	0%	321	
9772	Aberd / Perm Upper Shaft - Submit to Engineer	0	0		02-Mar-12	0%	271	
9671	Aberd / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90	90	03-Mar-12	31-May-12	0%	403	
9669	Aberd / Perm Upper Shaft - ICE review and issue check certificate	10	10	05-Mar-12	16-Mar-12	0%	321	
Permanent Works - Lower Shaft								
9679	Aberd / Perm Lower Shaft - Review, comment, resubmission & appvl by Engineer	90	30	10-Sep-10 A	20-Mar-12	67%	430	
9677	Aberd / Perm Lower Shaft - ICE review and issue check certificate	10	10	20-Feb-12	02-Mar-12	0%	302	
9788	Aberd / Perm Lower Shaft - Engineer's consent to proceed with construction	0	0		20-Mar-12	0%	290	
WAH FU - Dropt Shaft								
Temporary Works - Connection Channel Excavation								
9561	Wah Fu / Connecting Channel - Review, Comments & Consent by the Engineer	28	3	30-Oct-09 A	22-Feb-12	59%	554	
9662	Wah Fu / Connecting Channel - Engineer Consent to Proceed with Construction	0	0		22-Feb-12	0%	376	
Permanent Works - Upper Shaft, Scum Chamber and Connection Channel								
9695	Wah Fu / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90	90	20-Feb-12	19-May-12	0%	440	
Permanent Works - Lower Shaft								
9830	Wah Fu / Perm Lower Shaft - Engineer's consent to proceed with construction	0	0		20-Feb-12	0%	277	
CYBER PORT - Droft Shaft								
Temporary Works - Connection Channel Excavation								
9836	Cyberport / Connecting Channel - Engineer Consent to Proceed with Construction	0	0		20-Feb-12	0%	396	
Temporary Works - Temporary Support for Rock Excavation								
9854	Cyberport / Temp Support - Engineer's consent to proceed with construction	0	0		20-Feb-12	0%	179	
Permanent Works - Upper Shaft, Scum Chamber and Connection Channel								
9725	Cyberport / Perm Upper Shaft - ICE review and issue check certificate	10	2	13-Jul-10 A	21-Feb-12	80%	337	
9727	Cyberport / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90	90	20-Feb-12	19-May-12	0%	411	
Permanent Works - Lower Shaft								
9737	Cyberport / Perm Lower Shaft - Review, comment, resubmission & appvl by Engineer	90	10	10-Sep-10 A	02-Mar-12	89%	448	
9886	Cyberport / Perm Lower Shaft - Submit formally to ICE	0	0		20-Feb-12	0%	302	
9735	Cyberport / Perm Lower Shaft - ICE review and issue check certificate	10	10	20-Feb-12	02-Mar-12	0%	302	
9890	Cyberport / Perm Lower Shaft - Engineer's consent to proceed with construction	0	0		02-Mar-12	0%	302	
SANDY BAY - Dropt Shaft and Production Shaft								
Permanent Works - Upper Shaft, Scum Chamber & Connection Channel								
9761	Sandy Bay /Perm Upper Shaft - ICE review and issue check certificate	10	5	13-Jul-10 A	24-Feb-12	50%	289	
9763	Sandy Bay /Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90	55	13-Jul-10 A	14-Apr-12	39%	377	
9942	Sandy Bay /Perm Upper Shaft - Engineer's consent to proceed with construction	0	0		16-Apr-12	0%	257	
Permanent Works - Lower Shaft								
9956	Sandy Bay /Perm Lower Shaft - Submit formally to ICE	0	0		20-Feb-12	0%	110	
9771	Sandy Bay /Perm Lower Shaft - ICE review and issue check certificate	10	10	20-Feb-12	02-Mar-12	0%	110	



Current Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work
Baseline WPOD

Contract No DC/2007/24
HATS - Harbour Area Treatment Scheme (Stage 2A)
Leighton - LNS Joint Venture

LEIGHTON 禮頓
LNS 禮頓 - 利安聯營
Harbour Area Treatment Scheme

Date	Revision	Checked	Approved
20-Sep-11	Three Months Rolling Prog (TM26)	AT	AGA
20-Oct-11	Three Months Rolling Prog (TM27)	AT	AGA
20-Nov-11	Three Months Rolling Prog (TM28)	AT	DW
20-Dec-11	Three Months Rolling Prog (TM29)	AT	AM
20-Jan-12	Three Months Rolling Prog (TM30)	AT	AM
20-Feb-12	Three Months Rolling Prog (TM31)	AT	AM

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THREE MONTH ROLLING PROGRAMME (TM31)
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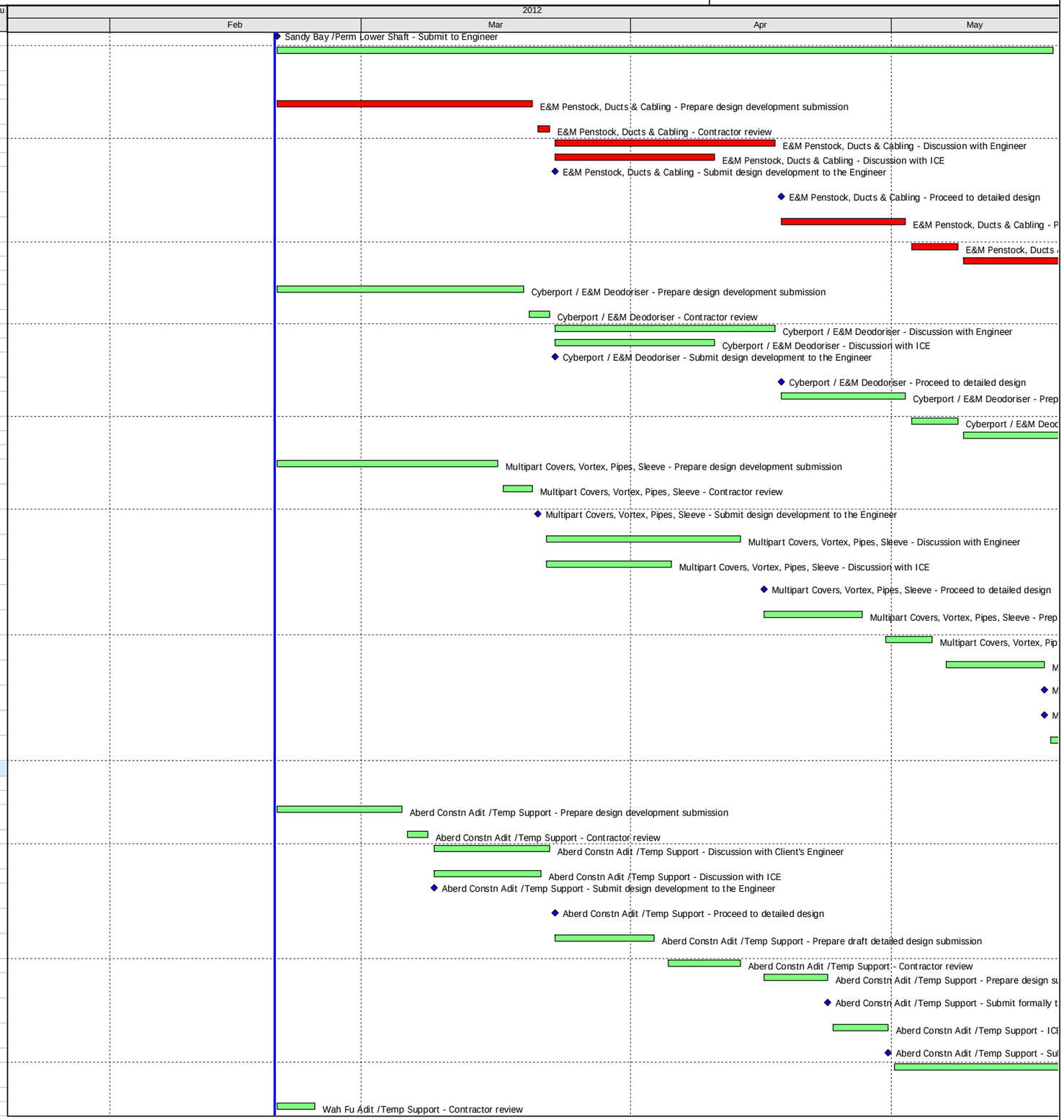
Activity ID	Activity Name	Orig Dur	Rem Dur	Forecast Start (20-Feb-12)	Forecast Finish (20-Feb-12)	% Compl	Total Float
9958	Sandy Bay /Perm Lower Shaft - Submit to Engineer	0	0		20-Feb-12	0%	56
9773	Sandy Bay /Perm Lower Shaft - Review, comment, resubmission & appvl by Engineer	90	90	20-Feb-12	19-May-12	0%	83
E&M - Electrical and Mechanical Works							
Permanent Works - E&M Penstock, Ducts, Cabling & Control							
9716	E&M Penstock, Ducts & Cabling - Prepare design development submission	22	22	20-Feb-12	20-Mar-12	0%	-7
9791	E&M Penstock, Ducts & Cabling - Contractor review	2	2	21-Mar-12	22-Mar-12	0%	-9
9996	E&M Penstock, Ducts & Cabling - Discussion with Engineer	15	15	23-Mar-12	17-Apr-12	0%	-8
9994	E&M Penstock, Ducts & Cabling - Discussion with ICE	10	10	23-Mar-12	10-Apr-12	0%	-3
9992	E&M Penstock, Ducts & Cabling - Submit design development to the Engineer	0	0	23-Mar-12		0%	-8
9998	E&M Penstock, Ducts & Cabling - Proceed to detailed design	0	0	18-Apr-12		0%	-8
9793	E&M Penstock, Ducts & Cabling - Prepare draft detailed design submission	10	10	18-Apr-12	02-May-12	0%	-8
10000	E&M Penstock, Ducts & Cabling - Contractor review	5	5	03-May-12	08-May-12	0%	-9
9795	E&M Penstock, Ducts & Cabling - Prepare design submission	10	10	09-May-12	22-May-12	0%	-8
Permanent Works - E&M Interim Deodoriser @ Cyberport (By JEC)							
9720	Cyberport / E&M Deodoriser - Prepare design development submission	21	21	20-Feb-12	19-Mar-12	0%	258
9801	Cyberport / E&M Deodoriser - Contractor review	3	3	20-Mar-12	22-Mar-12	0%	304
10012	Cyberport / E&M Deodoriser - Discussion with Engineer	15	15	23-Mar-12	17-Apr-12	0%	257
10010	Cyberport / E&M Deodoriser - Discussion with ICE	10	10	23-Mar-12	10-Apr-12	0%	262
10008	Cyberport / E&M Deodoriser - Submit design development to the Engineer	0	0	23-Mar-12		0%	257
10014	Cyberport / E&M Deodoriser - Proceed to detailed design	0	0	18-Apr-12		0%	257
9803	Cyberport / E&M Deodoriser - Prepare draft detailed design submission	10	10	18-Apr-12	02-May-12	0%	257
10016	Cyberport / E&M Deodoriser - Contractor review	5	5	03-May-12	08-May-12	0%	305
9805	Cyberport / E&M Deodoriser - Prepare design submission	10	10	09-May-12	22-May-12	0%	257
Permanent Works - Misc Multipart Covers, Vortex, Reserve Pipes, Sleeves							
9722	Multipart Covers, Vortex, Pipes, Sleeve - Prepare design development submission	20	20	20-Feb-12	16-Mar-12	0%	214
9811	Multipart Covers, Vortex, Pipes, Sleeve - Contractor review	3	3	17-Mar-12	20-Mar-12	0%	257
10024	Multipart Covers, Vortex, Pipes, Sleeve - Submit design development to the Engineer	0	0	21-Mar-12		0%	215
10028	Multipart Covers, Vortex, Pipes, Sleeve - Discussion with Engineer	14	14	22-Mar-12	13-Apr-12	0%	215
10026	Multipart Covers, Vortex, Pipes, Sleeve - Discussion with ICE	10	10	22-Mar-12	05-Apr-12	0%	219
10030	Multipart Covers, Vortex, Pipes, Sleeve - Proceed to detailed design	0	0	16-Apr-12		0%	215
9813	Multipart Covers, Vortex, Pipes, Sleeve - Prepare draft detailed design submission	10	10	16-Apr-12	27-Apr-12	0%	215
10032	Multipart Covers, Vortex, Pipes, Sleeve - Contractor review	5	5	30-Apr-12	05-May-12	0%	254
9815	Multipart Covers, Vortex, Pipes, Sleeve - Prepare design submission	10	10	07-May-12	18-May-12	0%	215
10034	Multipart Covers, Vortex, Pipes, Sleeve - Submit formally to ICE	0	0		18-May-12	0%	264
10036	Multipart Covers, Vortex, Pipes, Sleeve - Submit to Engineer	0	0		18-May-12	0%	215
9819	Multipart Covers, Vortex, Pipes, Sleeve - Review, comment, resubmission & appvl by Engineer	90	90	19-May-12	16-Aug-12	0%	315
MAIN TUNNELS							
Temporary Works - Tunnel M, N, P1 & P2 (Sai Ying Pun to Aberdeen)							
Temporary Support - Aberdeen Construction Adit							
9602	Aberd Constn Adit /Temp Support - Prepare design development submission	11	11	20-Feb-12	05-Mar-12	0%	230
9533	Aberd Constn Adit /Temp Support - Contractor review	3	3	06-Mar-12	08-Mar-12	0%	275
10060	Aberd Constn Adit /Temp Support - Discussion with Client's Engineer	10	10	09-Mar-12	22-Mar-12	0%	231
10058	Aberd Constn Adit /Temp Support - Discussion with ICE	9	9	09-Mar-12	21-Mar-12	0%	232
9604	Aberd Constn Adit /Temp Support - Submit design development to the Engineer	0	0	09-Mar-12		0%	231
10062	Aberd Constn Adit /Temp Support - Proceed to detailed design	0	0	23-Mar-12		0%	231
9821	Aberd Constn Adit /Temp Support - Prepare draft detailed design submission	8	8	23-Mar-12	03-Apr-12	0%	231
10064	Aberd Constn Adit /Temp Support - Contractor review	5	5	05-Apr-12	13-Apr-12	0%	273
9829	Aberd Constn Adit /Temp Support - Prepare design submission	6	6	16-Apr-12	23-Apr-12	0%	230
10066	Aberd Constn Adit /Temp Support - Submit formally to ICE	0	0		23-Apr-12	0%	230
9831	Aberd Constn Adit /Temp Support - ICE review and issue check certificate	5	5	24-Apr-12	30-Apr-12	0%	230
10068	Aberd Constn Adit /Temp Support - Submit to Engineer	0	0		30-Apr-12	0%	230
9833	Aberd Contsn Adit /Temp Support - Review, comment, & consent by Engineer	28	28	01-May-12	28-May-12	0%	339
Temporary Works - Wah Fu Adit and Shaft Junction							
10078	Wah Fu Adit /Temp Support - Contractor review	5	5	20-Feb-12	24-Feb-12	0%	365



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9837	Wah Fu Adit /Temp Support - Prepare design submission	5	5	27-Feb-12	02-Mar-12	0%	307
10080	Wah Fu Adit /Temp Support - Submit formally to ICE	0	0		02-Mar-12	0%	307
9839	Wah Fu Adit /Temp Support - ICE review and issue check certificate	5	5	05-Mar-12	09-Mar-12	0%	307
10082	Wah Fu Adit /Temp Support - Submit to Engineer	0	0		09-Mar-12	0%	307
9841	Wah Fu Adit /Temp Support - Review, comment, & consent by Engineer	28	28	10-Mar-12	06-Apr-12	0%	455
10084	Wah Fu Adit /Temp Support - Engineer's consent to proceed with construction	0	0		10-Apr-12	0%	307
	Temporary Support - Sandy Bay Construction Adit						
9855	Sanday Bay Constn Adit /Temp Support - ICE review and issue check certificate	5	5	20-Feb-12	24-Feb-12	0%	73
10114	Sanday Bay Constn Adit /Temp Support - Submit to Engineer	0	0		24-Feb-12	0%	73
9857	Sanday Bay Constn Adit /Temp Support - Review, comment, & consent by Engineer	28	28	25-Feb-12	23-Mar-12	0%	109
10116	Sanday Bay Constn Adit /Temp Support - Engineer's consent to proceed with construction	0	0		23-Mar-12	0%	72
	Temporary Support - Sai Ying Pun Construction Adit						
9863	SYP Constn Adit /Temp Support - ICE review and issue check certificate	4	4	20-Feb-12	23-Feb-12	0%	1
10132	SYP Constn Adit /Temp Support - Submit to Engineer	0	0		23-Feb-12	0%	1
9865	SYP Constn Adit /Temp Support - Review, comment, & consent by Engineer	28	28	24-Feb-12	22-Mar-12	0%	1
10134	SYP Constn Adit /Temp Support - Engineer's consent to proceed with construction	0	0		22-Mar-12	0%	1
	Permanent Works - Tunnel M, N, P1 & P2 (Sai Ying Pun to Aberdeen)						
	Tunnel Permanent Works - Permanent Lining Supports						
9875	Tunnel SYP-Aberd /Perm Lining - Review, comment, resubmission & appvl by Engineer	90	2	02-Jul-10 A	21-Feb-12	98%	248
9873	Tunnel SYP-Aberd /Perm Lining - ICE review and issue check certificate	10	10	20-Feb-12	02-Mar-12	0%	162
10152	Tunnel SYP-Aberd /Perm Lining - Engineer's consent to proceed with construction	0	0		02-Mar-12	0%	162
	Tunnel Permanent Works - 1st Pass Lining (Sai Ying Pun to Wah Fu)						
9885	Tunnels SYP-Wah Fu /1st Pass Lining - Review, comment, resubmission & appvl by Engineer	90	90	20-Feb-12	19-May-12	0%	52
	Tunnel Permanent Works - Adit and Shaft Junction @ Wah Fu						
9893	Wah Fu Adit & Junction / Perm Works - ICE review and issue check certificate	10	5	13-Jul-10 A	24-Feb-12	50%	191
9895	Wah Fu Adit & Junction / Perm Works - Review, comment, resubmission & appvl by Engr	90	90	20-Feb-12	19-May-12	0%	194
	Tunnel Permanent Works - Adit and Shaft Junction @ Cyberport						
9903	Cyberport Adit & Junction /Perm Works - ICE review and issue check certificate	10	10	20-Feb-12	02-Mar-12	0%	162
10204	Cyberport Adit & Junction /Perm Works - Submit to Engineer	0	0		20-Feb-12	0%	110
9905	Cyberport Adit & Junction /Perm Works - Review, comment, resubmission & appvl by Engr	90	90	20-Feb-12	19-May-12	0%	160
	PROCUREMENT						
	Procurement; Manufacturing; Deliveries						
	Raised Boring for Drop Shafts						
1910	Give Notice to Partner	30	30	10-May-12	20-Jun-12	0%	178
	Stainless Steel Resrve Pipes (200 dia)						
1872	200dia SS Pipes - Stainless Steel Pipes Fabrication & Delivery to site	180	160	22-Sep-11 A	28-Jul-12	11%	11
	Temporary Radio Communication, CCTV Camera & Flood Control System (by FSD)						
1888	Radio Comm, CCTV Camera - Procurements, Fabrication & Delivery to s...	180	160	12-Aug-11 A	29-Jul-12	11%	44
	Temporary Water Supply (By FSD)						
1922	Temp Water Supply to Tunnel - Prepare and submit method statement to the Engineer	30	10	14-Oct-11 A	01-Mar-12	67%	5
1936	Temp Water Supply to Tunnel - Stainless Steel Pipes Design & Drawings Approval	30	30	02-Mar-12	17-Apr-12	0%	4
1875	Temp Water Supply to Tunnel - Review, comments & consent by the Engineer	30	30	02-Mar-12	17-Apr-12	0%	4
1938	Temp Water Supply to Tunnel - Procurements, Fabrication & Delivery to site	120	120	18-Apr-12	15-Aug-12	0%	6
	E & M Works						
	E&M Penstock, Ducks, & Cablings						
1952	Penstocks/Duct/Cabling - Procure Sub-contractor & Award	60	60	22-Feb-12	08-May-12	0%	105
1877	Penstocks/Duct/Cabling - Contract Award	1	1	09-May-12	09-May-12	0%	105
1954	Penstocks/Duct/Cabling - Prepare Design & Drawings	45	45	10-May-12	03-Jul-12	0%	145
	E&M Misc Multi Covers, Vortex Pipes, Reserve Pipes & Sleeve						
1976	Vortex Pipes / Multi Covers - Prepare Design & Drawings	45	45	10-May-12	03-Jul-12	0%	105
	Shaft Lining PC Pipes						
1862	PC Drop Pipes - Fabrication & Delivery	180	150	14-Nov-11 A	18-Jul-12	17%	39
	Typical Lining Forms						
1834	Tunnel Lining Forms - Procure Sub-contractor	60	60	20-Feb-12	05-May-12	0%	-96
1835	Tunnel Lining Forms - Contract Award	1	1	07-May-12	07-May-12	0%	-96

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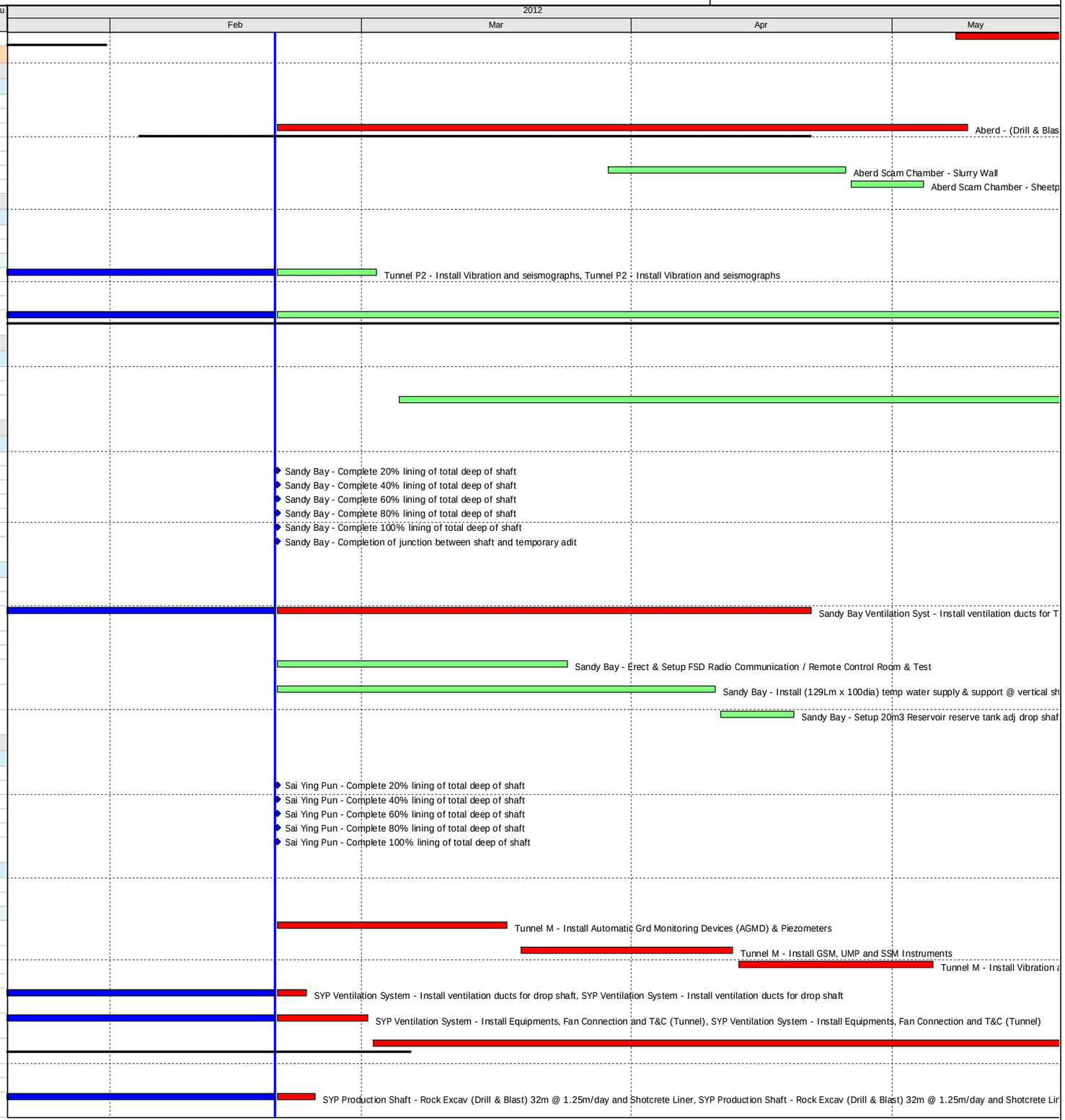
1846	Tunnel Lining Forms - Design & Drawings	60	60	08-May-12	18-Jul-12	0%	-96
CONSTRUCTION							
ABERDEEN							
Construction Works							
Aberdeen Temporary Works - Drop Shaft							
Excavation of Tunnel Adit							
1108	Aberd - (Drill & Blast) Excavation of Tunnel Adit	63	63	20-Feb-12	09-May-12	0%	-105
Aberdeen Permanent Works - Production / Dropshaft							
Scum Chamber							
1421	Aberd Scam Chamber - Slurry Wall	20	20	29-Mar-12	25-Apr-12	0%	361
1422	Aberd Scam Chamber - Sheetpile	6	6	26-Apr-12	04-May-12	0%	361
WAH FU							
Construction Works							
Site Establishment							
Geotechnical Monitoring							
Tunnel P2							
1443	Tunnel P2 - Install Vibration and seismographs	12	11	20-Dec-11 A	02-Mar-12	8%	202
Wah Fu Temporary Works - Dropshaft							
Wah Fu Dropshaft - Rock Excavation							
1618	Wah Fu Dropshaft - Rock excavation to tunnel level (D&B)	245	124	01-Sep-11 A	21-Jul-12	49%	153
CYBERPORT							
Construction Works							
Site Establishment							
Temporary Ventilation System							
1395	Cyberport Ventilation Syst - Install ventilation ducts for Tunnel N	90	90	05-Mar-12	25-Jun-12	0%	107
SANDY BAY							
IPS Interim Payment Schedule Milestones							
Sandy Bay PTW - Production Shaft, Except Excavation							
MS7.1.6.06	Sandy Bay - Complete 20% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS7.1.6.07	Sandy Bay - Complete 40% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS7.1.6.08	Sandy Bay - Complete 60% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS7.1.6.09	Sandy Bay - Complete 80% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS7.1.6.10	Sandy Bay - Complete 100% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS7.1.6.11	Sandy Bay - Completion of junction between shaft and temporary adit	0	0		20-Feb-12	0%	851
Construction Works							
Site Establishment							
Temporary Ventilation Fan							
1403	Sandy Bay Ventilation Syst - Install ventilation ducts for Tunnel M (L=1987m)	120	50	08-Sep-11 A	21-Apr-12*	58%	-98
Sandy Bay Temporary Works - Production / Dropshaft							
Shaft - Excavation of Rock to Tunnel Level Stage 1							
1665	Sandy Bay - Erect & Setup FSD Radio Communication / Remote Control Room & Test	30	30	20-Feb-12	24-Mar-12	0%	189
1705	Sandy Bay - Install (129Lm x 100dia) temp water supply & support @ vertical shaft	40	40	20-Feb-12	10-Apr-12	0%	168
1707	Sandy Bay - Setup 20m3 Reservoir reserve tank adj drop shaft, connect & test	8	8	11-Apr-12	19-Apr-12	0%	168
SAI YING PUN							
IPS Interim Payment Schedule Milestones							
Sai Ying Pun - Production Shaft, Except Excavation							
MS8.1.6.06	Sai Ying Pun - Complete 20% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS8.1.6.07	Sai Ying Pun - Complete 40% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS8.1.6.08	Sai Ying Pun - Complete 60% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS8.1.6.09	Sai Ying Pun - Complete 80% lining of total deep of shaft	0	0		20-Feb-12	0%	851
MS8.1.6.10	Sai Ying Pun - Complete 100% lining of total deep of shaft	0	0		20-Feb-12	0%	851
Construction Works							
Site Establishment							
Geotechnical Monitoring							
Tunnel M							
1468	Tunnel M - Install Automatic Grd Monitoring Devices (AGMD) & Piezometers	24	24	20-Feb-12	17-Mar-12	0%	-137
1453	Tunnel M - Install GSM, UMP and SSM Instruments	18	18	19-Mar-12	12-Apr-12	0%	-137
1455	Tunnel M - Install Vibration and seismographs	18	18	13-Apr-12	05-May-12	0%	-137
Temporary Ventilation Fan							
1411	SYP Ventilation System - Install ventilation ducts for drop shaft	45	4	12-Sep-11 A	23-Feb-12*	91%	-145
1413	SYP Ventilation System - Install Equipments, Fan Connection and T&C (Tunnel)	30	10	27-Dec-11 A	01-Mar-12	67%	-150
1439	SYP Ventilation System - Install ventilation ducts for Tunnel M (L=1710m)	120	120	02-Mar-12	28-Jul-12	0%	-150
Sai Ying Pun Temporary Works - Production Shaft							
Shaft - Excavation of Rock to Tunnel Level							
1432	SYP Production Shaft - Rock Excav (Drill & Blast) 32m @ 1.25m/day and Shotcrete Liner	68	5	24-Nov-11 A	24-Feb-12	93%	-145



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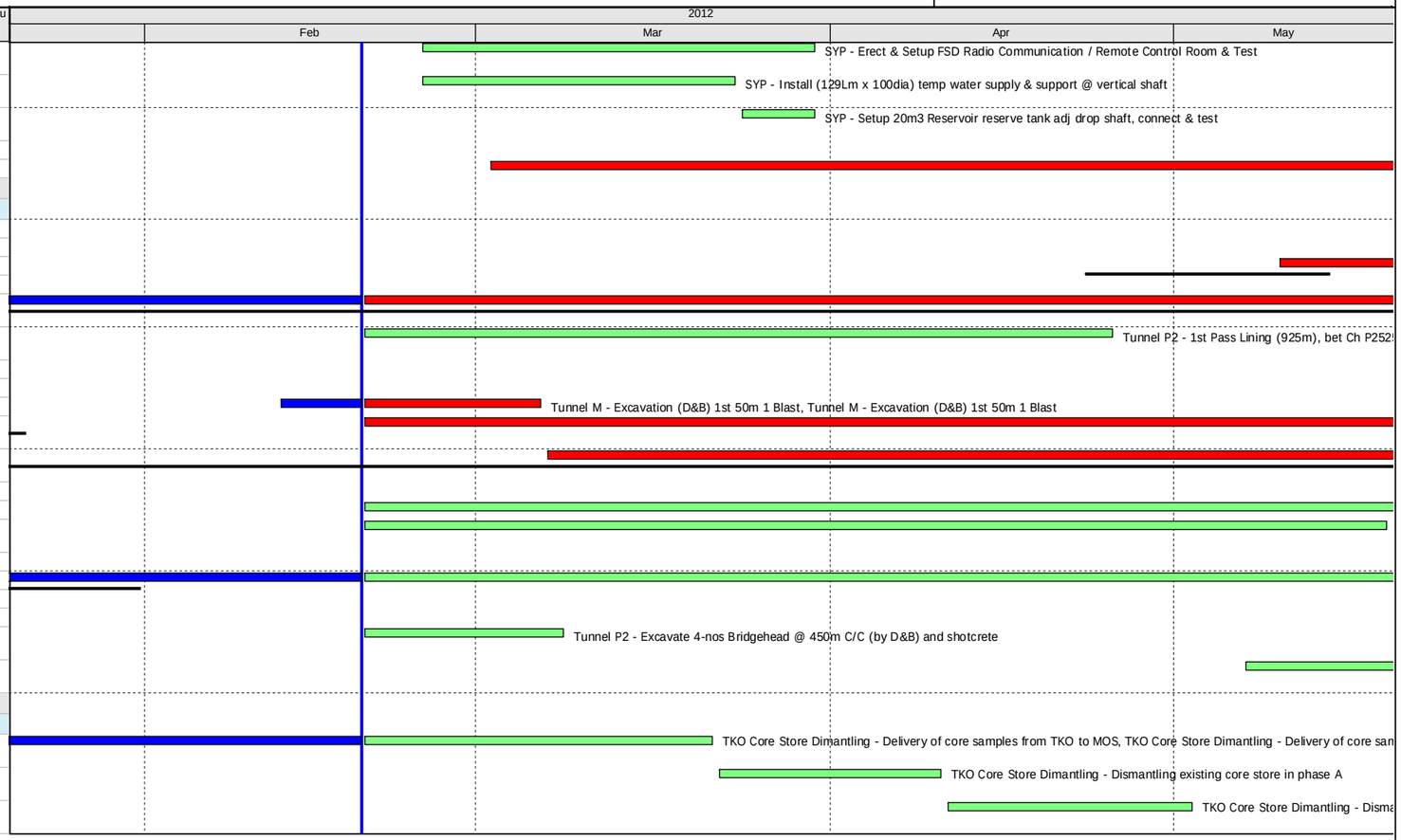
1687	SYP - Erect & Setup FSD Radio Communication / Remote Control Room & Test	30	30	25-Feb-12	30-Mar-12	0%	133
1709	SYP - Install (129Lm x 100dia) temp water supply & support @ vertical shaft	24	24	25-Feb-12	23-Mar-12	0%	115
1711	SYP - Setup 20m3 Reservoir reserve tank adj drop shaft, connect & test	6	6	24-Mar-12	30-Mar-12	0%	115
	Excavation of Tunnel Adit						
1114	Sai Ying Pun - Adit Rock Excavation (Drill & Blast)	63	63	02-Mar-12	21-May-12	0%	-150
	TUNNEL WORKS						
	Construction Works						
	Tunnel P1 & P2						
	Tunnel P1 - Excav (D&B) From Aberd to CH 450 Breakthrough, L=550m						
1330	Tunnel P1 - Excavation (D&B) 1st 50m 1 Blast	17	17	10-May-12	29-May-12	0%	-105
	Tunnel P2 - Excav (D&B) From Cyberport to past Wah Fu CH 450 Breakthrough, L=2,042m						
1340	Tunnel P2 - Excav (D&B) From Cyberport Breakthrough to past Wah Fu Ch 0500	407	318	21-Sep-11 A	19-Mar-13	22%	-105
1341	Tunnel P2 - 1st Pass Lining (925m), bet Ch P2525 to P1600 (Provisional)	53	53	20-Feb-12	25-Apr-12	0%	160
	Tunnel N, M and P2						
	Tunnel M (Drill & Blast) - From Sandy Bay to SYP Breakthrough, L=2,200m						
1348	Tunnel M - Excavation (D&B) 1st 50m 1 Blast	20	14	13-Feb-12 A	06-Mar-12	30%	-112
1460	Tunnel M - Excavation (D&B) from junction of temporary inclined Adit back to shaft	143	143	20-Feb-12	11-Jul-12	0%	-57
1350	Tunnel M - Excavation (D&B) From Sandy Bay to SYP Breakthrough	286	286	07-Mar-12	26-Feb-13	0%	-112
	Tunnel N (Drill & Blast) - From Sandy Bay to Cyberport, L=779m						
1362	Tunnel N - Excavation (D&B) to Cyberport	132	132	20-Feb-12	31-Jul-12	0%	107
1363	Tunnel N - 1st Pass Lining (678m), bet Ch N1178 to N500m Provisional	72	72	20-Feb-12	19-May-12	0%	167
	Tunnel N (Drill & Blast) - From Cyberport to Sandy Bay, L=400m						
1459	Tunnel N - Excavation (D&B) to Sandy Bay	176	174	07-Jan-12 A	11-Aug-12	1%	129
	Temporary Radio Communication Sys and Water Supply (by FSD Requirements)						
	FSD Bridgehead (For Emergency Services)						
1631	Tunnel P2 - Excavate 4-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	16	16	20-Feb-12	08-Mar-12	0%	479
1629	Tunnel N - Excavate 4-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	16	16	07-May-12	24-May-12	0%	140
	MA ON SHAN - CORE STORE						
	Dismantling of existing Core Store at TKO						
10272	TKO Core Store Dimantling - Delivery of core samples from TKO to MOS	27	27	20-Jul-11 A	21-Mar-12	0%	501
10274	TKO Core Store Dimantling - Dismantling existing core store in phase A	13	13	22-Mar-12	10-Apr-12	0%	501
10276	TKO Core Store Dimantling - Dismantling existing core store in phase B	17	17	11-Apr-12	02-May-12	0%	501



APPENDIX C

EVENT AND ACTION PLAN

Event/ Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Event/ Action Plan for Construction Air Quality

Event	Action			
	ET	IEC	ER	Contractor
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Landscape and Visual Impact - Construction Phase

Action Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Non-conformity on one occasion	1. Identify source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial action until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ER and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake remedial measures or any necessary replacement
Repeated Non-conformity	1. Identify source 2. Inform the IEC and the ER 3. Increase monitoring (site audit) frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring (site audit)	1. Check report 2. Check the Contractor's working method 3. Discuss with the ER and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake remedial measures or any necessary replacement

APPENDIX D

MITIGATION MEASURES CHECKLIST

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
3.64	2.55	Air Quality Control	• Watering twice per day within the worksites at North Point PTW, Wan Chai East PTW, Fung Mat Road Site, Sandy Bay PTW, Wah Fu PTW, Aberdeen PTW and SCS worksite at Aberdeen; • Watering 4 times per day within worksites at the Central PTW; • Barging points, if any, should be continuous watering throughout the whole unloading process; and • Watering 8 times per day within worksites at the SCS works area at Wan Chai East and North Point, SCISTW and the Disinfection Facilities of SCISTW.	During Construction	√	
3.74	2.54	Air Quality Control	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. • Skip hoist for material transport should be totally enclosed by impervious sheeting; • 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;	During Construction	√	
3.76	2.58	Air Quality Control	Good housekeeping for SCISTW and PTWs listed below should be followed to ameliorate any odour impact from the plant and these standard practices should be included in the plant operator manual. • Screens should be cleaned regularly to remove any accumulated organic debris • Grit and screening transfer systems should be flushed regularly with water to remove organic debris and grit • Grit and screened materials should be transferred to closed containers to minimize odour escape • Scum and grease collection wells and troughs should be emptied and flushed regularly to prevent putrefaction of accumulated organics • Skim and remove floating solids and grease from primary clarifiers regularly • Frequent sludge withdrawal from tanks is necessary to prevent the production of gases • Sludge cake should be transferred to closed containers • Sludge containers should be flushed with water regularly	During Operation	N/A	
	2.57	Air Quality Control	Fully covered design og the odour sources of the upgraded PTWs and SCISTW and the installation of deodorization system at the exhaust of ventilation system would adequately control potential odour impact.	During Operation	N/A	
3.77	2.59	Air Quality Control	To avoid excessive extraction of the foul air from the drop shafts of the sedimentation tanks and also from the effluent flume structure of SCISTW to deodorization system, the extraction vent(s) of the deodorization system should be located away from the top openings of the drop shafts.	During Design Stage	N/A	
3.80	2.6	Air Quality Control	Commissioning tests for all deodorization system should be included in the Design and Construction Contract Document.	After completion of	N/A	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
4.56-4.61	3.21-3.24	Noise Control	Use of quiet PME, movable barriers and acoustic mats	During Construction	√	
4.67	3.25	Noise Control	Good Site Practice: • 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. • 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.	During Construction	√	
4.63	3.28	Noise Control	Use of acoustic louvers for air supply fans/extraction fans of transfer pumping stations and ventilation fans of deodourization unit at Sandy Bay PTW, Cyberport PTW and Wah Fu PTW	During Operation and Design Stage	N/A	
4.64		Noise Control	The maximum allowable sound power level (SWL) of each new transformer at Sandy Bay PTW shall be limited to 89 dB(A).	During Operation and Design Stage	N/A	
6.349 - 6.375		Water Quality Control	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.	During Construction	√	
6.376		Water Quality Control	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.	During Construction	√	
6.377		Water Quality Control	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) Regulation should be observed and complied with for control of chemical wastes.	During Construction	√	
6.378		Water Quality Control	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	During Construction	√	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
6.379		Water Quality Control	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: • 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.	During Construction	√	
6.380		Water Quality Control	Construction Works in Close Proximity of Storm Drains or Seafront 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. • 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.	During Construction	√	
6.381		Water Quality Control	Temporary Sewage Bypass It is recommended that the temporary sewage bypass required for (i) the modification to the existing pumping station at SCISTW and (ii) the interconnection between the existing main pumping station and the new pumping station on Stonecutters Island, if needed, should be scheduled at the same time as far as practicable in order to minimise the temporary discharge duration. It is also recommended that all the modification and interconnection to the existing facilities (including the modification to the existing NWKPS) should be programmed to avoid temporary sewage bypass in wet or bathing season (March to October) to minimize the potential impacts. Relevant government departments including EPD and LCSD should be informed of the planned sewage bypass prior to any discharge. During the sewage bypass period, water quality monitoring should be carried out at the water sensitive receivers to quantify the water quality impacts and to determine when the baseline water quality conditions are restored. Also, a framework of the response procedures has been formulated to minimize the impact of temporary	During Construction	✓	
6.344		Water Quality Control	Dual power supply, standby facilities for the main treatment units and standby equipment parts / accessories should be provided as far as possible at the SCISTW to minimize the chance of emergency discharge.	During Operation and Design Stage	N/A	
6.344		Water Quality Control	The response procedure and monitoring requirements for emergency discharge as stated in EM&A Manual should be followed.	During Operation	N/A	
6.345		Water Quality Control	Standby unit(s) and dual (backup) power supply would be provided at all the Stage 2 PTWs to reduce the risk of equipment breakdown at the PTWs.	During Operation and Design Stage	N/A	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
6.346		Water Quality Control	In case of total power outage of the dechlorination plant, the uninterruptible power supply (UPS) system to be provided would switch the power supply of the sodium bisulphite dosing pump to a backup battery almost instantaneously, allowing continuous dosage of sodium bisulphite for at least half an hour so that sufficient time can be provided for shutting down the chlorination plant to avoid the possibility of discharge of chlorinated effluent.	During Operation and Design Stage	N/A	
6.347		Water Quality Control	The model predicted that if Stage 2B is not implemented for HATS in 2021 as scheduled, the nutrient contents (both P and N) in the marine water would ultimately increase to exceed the baseline Stage 1 level when the HATS flow is reaching its design capacity of 2.45M m3/day. It is recommended that the future review study for Stage 2B should review the validity of the model predictions provided in this EIA and confirm the need of enhanced nutrient removal for HATS after 2021.	During Operation and Design Stage	N/A	
6.348		Water Quality Control	It should be noted that the mixing zone for TIN predicted for Stage 2B was large with an area of about 30 km2 and the area of exceedance would encroach on the nearby water sensitive receivers (e.g. Ma Wan Fish Culture Zone). This is due to the elevated oxidized nitrogen assumed for the proposed nitrification process at Stage 2B as well as the increased HATS effluent flow assumed for Stage 2B. It is recommended that these water quality issues should be further investigated / assessed under the future EIA for Stage 2B. Further mitigation measures / alternative treatment designs should also be considered under the future EIA for Stage 2B to mitigate / minimize the potential TIN exceedances.	Investigation Stage of Stage 2B	N/A	
9.107	7.8	Waste Management	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise 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.	During Construction	N/A	
9.109	7.10	Waste Management Implication	All waste materials should be segregated into categories covering: • 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.	During Construction	√	
9.113	7.15	Waste Management Implication	Recommendations to achieve waste reduction include:- • Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals; • 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; and • Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	During Construction	√	
9.115	7.14	Waste Management Implication	Recommendations for good site practices during construction activities include:- • 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 • Training of site personnel in proper waste management and chemical waste handling procedures • 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 interceptors	During Construction	√	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
9.125	7.14	Waste Management Implication	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	During Construction	N/A	
9.131	7.26	Waste Management Implication	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.	During Construction	√	
9.133	7.22	Waste Management Implication	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.	During Construction	√	
9.135	7.24	Waste Management Implication	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.	During Construction	√	
9.137	7.28	Waste Management Implication	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.	During Construction	√	
9.142	7.32 ~ 7.33	Waste Management Implication	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.	During Construction	N/A	
9.148	7.36	Waste Management Implication	The sludge tanks should be air-tighten. Rotating brushes or other alternative devises should be installed at the upper frame of the sludge tank washing facilities to provide better cleaning of the surface around the top loading opening of the sludge tanks. Prior to making such provision, the top covers of the sludge transfer tanks should be water cleaned manually after unloading.	During Construction	N/A	
9.150	7.35	Waste Management Implication	Since the air tightness of tankers highly relies on the effectiveness of rubber seals at the loading openings and unloading doors, odour leakage from tankers are commonly resulted from the aging rubber seals. It is recommended to develop a preventive maintenance programme for rubber seals of loading openings and unloading doors of sludge transfer tanks to ensure the tightness of covers and doors. Rubber seals should be regularly replaced within its design life as specified by suppliers.	During Construction	N/A	
10.92		Terrestrial Ecology	All the proposed construction activities would be confined to developed area and wasteland of very low ecological value.	Design stage	√	
10.93		Terrestrial Ecology	To implement effective noise mitigation recommended in Section 4.	During Construction	√	
10.94		Terrestrial Ecology	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, should be implemented.	During Construction	√	
10.95		Terrestrial Ecology	Fences/hoardings should be erected and installed along the boundary of the works areas.	During Construction	√	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
10.96		Terrestrial Ecology	Standard good site practices as suggested in Section 10 should be implemented.	During Construction	√	
10.97		Terrestrial Ecology	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.	During Construction	√	
10.98		Terrestrial Ecology	Provision of compensatory planting of similar native tree species in no less than 1:1 compensatory ratio in terms of quality and quantity.	During Construction	N/A	
11.135		Marine Ecology	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.	During Construction	√	
11.136		Marine Ecology	To avoid/minimize the impact to corals, it is proposed that they are translocated to the eastern end of the existing seawall, which has similar hydrographic parameters and supports healthy growth of the same species and is thus considered as a suitable recipient site (Figure 11.13). Coral translocation should be carried out during the winter season (November- March) in order to avoid disturbance to the transplanted colonies during the spawning period (i.e. July to October).	Pre-construction	N/A	
11.137		Marine Ecology	Dredging works will not be carried out and sheet piles or silt curtains will be used to contain filling material used during demolition/re-construction of the seawall. Water quality modelling predicts that no adverse impact on water quality at the proposed recipient (Figure 11.13) site would occur during construction works. Following this, no construction phase monitoring on translocated coral would be required. However, post-translocation monitoring is suggested to be carried out every 3 months for one year. This would be carried out by a marine ecological specialist that is approved by the Director. Translocation plan for corals will be submitted to the Director for approval prior to the commencement of construction works.	Pre-construction	N/A	
11.139		Marine Ecology	It is recommended that temporary sewage bypass should be programmed to avoid temporary sewage bypass in wet or bathing season (March to October) in order to minimize the potential impacts. Relevant government departments including EPD and LCSD should be informed of the planned sewage bypass prior to any discharge. During the sewage bypass period, water quality monitoring should be carried out at the water sensitive receivers to quantify the water quality impacts and to determine when the baseline water quality conditions are restored. Also, a framework of the response procedures has been formulated to minimize the impact of temporary discharges. Details are provided in the standalone EM&A Manual.	During Construction and Design stage	√	
Table 13.7		Landscape & Visual Impact	• Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. • 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. • Erection of decorative screen hoarding the surrounding setting.	Pre-construction	N/A	
Table 13.8		Landscape & Visual Impact	• Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings. • Shrub and Climbing Plants to soften proposed structures / Roof Greening. • Buffer Tree and Shrub Planting to screen proposed associated structures. • Reinstated of disturbed area	Pre-construction	N/A	
14A.198 & 14A.203		Hazard to Life	Limiting magnitude of ground settlement associated with shafts & tunnels construction, excavation and seawall demolition to 13mm and subject to requirements from relevant authorities.	During Construction	N/A	

EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
14A.199 & 14A.204		Hazard to Life	Limiting of the vibration levels associated with the blasting programme for the Tunnel P, shafts and other construction works (including demolition & reconstruction of seawall, excavation for seawater pump house at the Aberdeen PTW) at the PTW sites to a peak particle velocity of 5mm/s and subject to requirements from relevant authorities. Moving array of sensors will be used as the tunnel is advanced.	During Construction	N/A	
14A.201		Hazard to Life	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	During Construction	√	
14A.206		Hazard to Life	Establish emergency plan and procedures	During Construction	√	
14.C78		Hazard to Life	Ensuring Quality of Chemical Supplier • Only appoint chemical suppliers with satisfactory quality system. • Request the chemical supplier to employ an independent checker to audit the quality and safety management system of the supplier • The chemical supplied to SCISTW can only be produced in designated chemical production plants and delivered directly from designated locations. This measure will be included in the chemical supply contract.	During Construction	√	
Tables 15.8 - 15.11		Cultural Heritage	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	During Blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	√	
15.7		Cultural Heritage	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	During Blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	√	

APPENDIX E

WEATHER CONDITION DURING REPORTING PERIOD

Location	Wong Chuk Hang	
Date	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
1-Feb	80	7.0
2-Feb	80	11.0
3-Feb	90	8.6
4-Feb	80	9.4
5-Feb	80	8.7
6-Feb	80	6.1
7-Feb	330	8.8
8-Feb	110	7.5
9-Feb	120	11.3
10-Feb	320	6.6
11-Feb	50	6.5
12-Feb	110	8.0
13-Feb	070#	7.1#
14-Feb	80	7.9
15-Feb	110	9.8
16-Feb	80	8.4
17-Feb	90	7.8
18-Feb	80	9.0
19-Feb	120	11.0
20-Feb	80	12.0
21-Feb	80	11.5
22-Feb	90	6.1
23-Feb	130	3.6
24-Feb	80	10.5
25-Feb	80	8.4
26-Feb	340	7.4
27-Feb	80	8.8
28-Feb	20	7.5
29-Feb	30	11.1

Location	Green Island	
Date	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
1-Feb	***	22.1
2-Feb	***	23.1
3-Feb	***	20.5
4-Feb	***	27.9
5-Feb	***	28.5
6-Feb	***	19.0
7-Feb	***	21.3
8-Feb	***	24.1
9-Feb	***	35.8
10-Feb	***	23.5#
11-Feb	***	19.9
12-Feb	***	21.8
13-Feb	***	15.1
14-Feb	***	17.3
15-Feb	***	22.6#
16-Feb	***	19.6#
17-Feb	***	17.2#
18-Feb	***	22.3
19-Feb	***	25.3
20-Feb	***	29.0
21-Feb	***	38.6#
22-Feb	***	*****#
23-Feb	***	10.2#
24-Feb	***	24.2#
25-Feb	***	28.1#
26-Feb	***	*****#
27-Feb	***	*****#
28-Feb	***	*****#
29-Feb	***	44.6#

*** unavailable

less than 24 hourly observations a day

APPENDIX F

CALIBRATION CERTIFICATES FOR NOISE AND AIR QUALITY MONITORING EQUIPMENT

輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C115096

Certificate of Calibration

This is to certify that the equipment

Description : Integrating Sound Level Meter

Manufacturer : Bruel & Kjaer

Model No. : 2238

Serial No. : 2684502

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C115096.

The equipment is supplied by

Co. Name : Atkins China Limited

Address : 5/F., Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

Date of Issue : 8 September 2011

Certified by : K C Lee

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C116334

Certificate of Calibration

This is to certify that the equipment

Description : Acoustical Calibrator

Manufacturer : Bruel & Kjaer

Model No. : 4231

Serial No. : 2656516

RECEIVED
17 NOV 2011
BY:

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C116334.

The equipment is supplied by

Co. Name : Leighton-LNS Joint Venture

Address : 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

Date of Issue : 16 November 2011

Certified by : K C Lee

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Aberdeen
Calibrated by : K.F.Ho
Date : 19/12/2011

Sampler
Model : TE-5170
Serial Number : S/N2099

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1785
Service Date : 25 May 2011
Slope (m) : 2.00506
Intercept (b) : -0.02062
Correlation Coefficient(r) : 0.99999

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1021
Ta(K) : 290

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.436	1.724	58	59.0
2	13 holes	9.8	3.186	1.599	54	54.9
3	10 holes	7.6	2.806	1.410	48	48.8
4	7 holes	5.0	2.276	1.145	39	39.7
5	5 holes	3.0	1.763	0.889	30	30.5

Sampler Calibration Relationship

Slope(m):34.120 Intercept(b): 0.429 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 28/12/2011

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Aberdeen
Calibrated by : K.F.Ho
Date : 15/02/2012

Sampler
Model : TE-5170
Serial Number : S/N2099

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1785
Service Date : 25 May 2011
Slope (m) : 2.00506
Intercept (b) : -0.02062
Correlation Coefficient(r) : 0.99999

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1013
Ta(K) : 292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.411	1.711	59	59.6
2	13 holes	9.7	3.146	1.579	54	54.6
3	10 holes	7.6	2.785	1.399	48	48.5
4	7 holes	5.0	2.259	1.137	39	39.4
5	5 holes	3.0	1.750	0.883	30	30.3

Sampler Calibration Relationship

Slope(m):35.098 Intercept(b): -0.631 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 27/02/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 19/12/2011

Sampler
Model : TE-5170
Serial Number : S/N 2098

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1785
Service Date : 25 May 2011
Slope (m) : 2.00506
Intercept (b) : -0.02062
Correlation Coefficient(r) : 0.99999

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1021
Ta(K) : 290

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.4	3.282	1.647	56	57.0
2	13 holes	9.1	3.070	1.541	51	51.9
3	10 holes	6.8	2.654	1.334	43	43.8
4	7 holes	5.2	2.321	1.168	36	36.6
5	5 holes	2.5	1.609	0.813	21	21.4

Sampler Calibration Relationship

Slope(m):42.351 Intercept(b): -12.948 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan Date: 28/12/2011

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 15/2/2012

Sampler
Model : TE-5170
Serial Number : S/N 2098

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1785
Service Date : 25 May 2011
Slope (m) : 2.00506
Intercept (b) : -0.02062
Correlation Coefficient(r) : 0.99999

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1013
Ta(K) : 292

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.5	3.273	1.643	57	57.6
2	13 holes	9.3	3.081	1.547	53	53.5
3	10 holes	6.9	2.654	1.334	44	44.4
4	7 holes	5.4	2.348	1.181	38	38.4
5	5 holes	2.6	1.629	0.823	23	23.2

Sampler Calibration Relationship

Slope(m):41.813 Intercept(b): -11.144 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 27/02/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Wah Fu Estate
Calibrated by : K.F.Ho
Date : 28/12/2011

Sampler
Model : TE-5170
Serial Number : S/N2100

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1785
Service Date : 25 May 2011
Slope (m) : 2.00506
Intercept (b) : -0.02062
Correlation Coefficient(r) : 0.99999

Standard Condition
Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition
Pa (hpa) : 1022
Ta(K) : 290

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.438	1.725	60	61.1
2	13 holes	9.2	3.088	1.551	53	54.0
3	10 holes	7.6	2.807	1.410	48	48.9
4	7 holes	5.2	2.322	1.168	39	39.7
5	5 holes	3.3	1.850	0.933	30	30.5

Sampler Calibration Relationship

Slope(m):38.312 Intercept(b): -5.166 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 03/01/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location	**:**	**Wah Fu Estate**
Calibrated by	**:**	**K.F.Ho**
Date	**:**	**27/02/2012**

Sampler

Model	**:**	**TE-5170**
Serial Number	**:**	**S/N 2100**

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1785**
Service Date	**:**	**25 May 2011**
Slope (m)	**:**	**2.00506**
Intercept (b)	**:**	**-0.02062**
Correlation Coefficient(r)	**:**	**0.99999**

Standard Condition

Pstd (hpa)	**:**	**1013**
Tstd (K)	**:**	**298.18**

Calibration Condition

Pa (hpa)	**:**	**1016**
Ta(K)	**:**	**284**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.2	3.427	1.720	59	60.4
2	13 holes	9.0	3.072	1.543	52	53.3
3	10 holes	7.5	2.805	1.409	47	48.1
4	7 holes	5.0	2.290	1.152	38	38.9
5	5 holes	3.2	1.832	0.924	29	29.7

Sampler Calibration Relationship

Slope(m):38.211 Intercept(b): 5.482 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 01/03/2012

High-Volume TSP Sampler

5-Point Calibration Record

Location	**:**	**Sai Ying Pun**
Calibrated by	**:**	**K.T.Ho**
Date	**:**	**19/01/2012**

Sampler

Model	**:**	**TE-5170**
Serial Number	**:**	**S/N 2146**

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1785**
Service Date	**:**	**25 May 2011**
Slope (m)	**:**	**2.00506**
Intercept (b)	**:**	**-0.020620**
Correlation Coefficient(r)	**:**	**0.99999**

Standard Condition

Pstd (hpa)	**:**	**1013**
Tstd (K)	**:**	**298.18**

Calibration Condition

Pa (hpa)	**:**	**1014**
Ta(K)	**:**	**292**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.413	1.712	60	60.6
2	13 holes	9.8	3.164	1.588	55	55.6
3	10 holes	8.1	2.877	1.445	50	50.5
4	7 holes	4.8	2.215	1.115	38	38.4
5	5 holes	2.9	1.721	0.869	29	29.3

Sampler Calibration Relationship

Slope(m):36.900 Intercept(b): -2.762 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 26/01/20121

Summary of Calibration Date of Monitoring Equipment:

Equipment	Description	ID	Latest Calibration Date	Next Calibration Date
Integrated Sound Level Meters	B&K 2238	2684502	8th September 2011	7th September 2012
Calibrator for Sound Level Meters	B&K 4231	2385180	26th September 2011	25th September 2012
Calibrator for Sound Level Meters	B&K 4231	2656516	16th November 2011	15th November 2012
Laser Dust Monitor	LD-3B-001	974350	17th October 2011	16th October 2012
Laser Dust Monitor	LD-3B-002	934393	18th October 2011	17th October 2012
High Volume Sampler	TE-5170	2098 (Cyberport PTW)	19th December 2011	18th February 2012
			15th February 2012	14th April 2012
High Volume Sampler	TE-5170	2099 (Aberdeen PTW)	19th December 2011	18th February 2012
			15th February 2012	14th April 2012
High Volume Sampler	TE-5170	2100 (Wah Fu PTW)	28th December 2011	27th February 2012
			27th February 2012	26th April 2012
High Volume Sampler	TE-5170	2146 (Fung Mat Road Site)	19th January 2012	18th March 2012

EQUIPMENT CALIBRATION RECORD

Type :	Laser Dust Monitor
Manufacturer / Brand :	SIBATA
Model No.:	LD-3B
Equipment No.:	LD-3B-001
Sensitivity Adjustment Scale Setting :	640 CPM

Operator:

Standard Equipment

Equipment :	MFC High Volume Air Sampler
Venue :	Ice Factory (Aberdeen)
Model No.:	TE-5170 Total Suspended Particulated
Serial No.:	2099

Last Calibration Date 19/10/2010

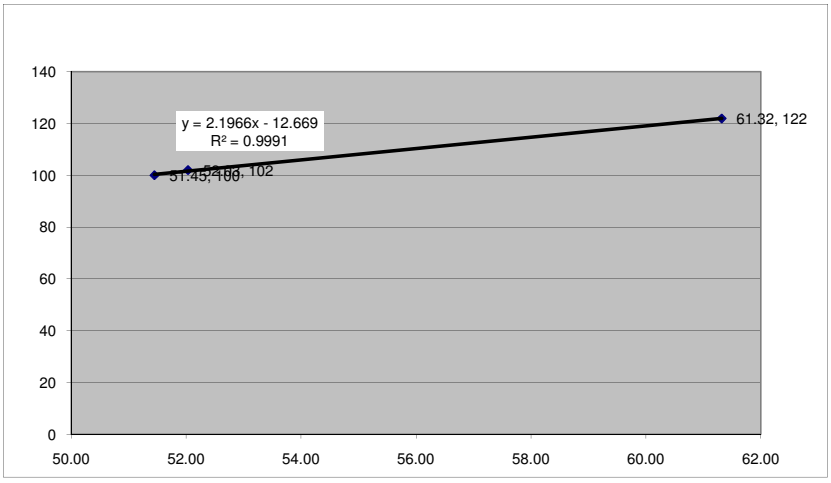
Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration) :	640 CPM
Sensitivity Adjustment Scale Setting (After Calibration) :	640 CPM

Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (ug/m3) Y-axis	Total Count	Count/Minute X-axis
				Temp (C)	R.H. (%)			
1	17-Oct-11	15:10	16:10	24.3	70%	100	3087	51.45
2	17-Oct-11	16:17	17:17	24.3	70%	102	3122	52.03
3	17-Oct-11	17:20	18:20	24.3	70%	122	3679	61.32

Be Linear Regression of Y or X
Slope (K-factor): 2.1966
Correlation coefficient : 0.9991

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2011

Checked by: Keith Chau Signature: Date: 10/21/2011

EQUIPMENT CALIBRATION RECORD

Type :	Laser Dust Monitor
Manufacturer / Brand :	SIBATA
Model No.:	LD-3B
Equipment No.:	LD-3B-002
Sensitivity Adjustment Scale Setting :	622 CPM

Operator:

Standard Equipment

Equipment :	MFC High Volume Air Sampler
Venue :	Wah Ming House, Wah Fu Estate
Model No.:	TE-5170 Total Suspended Particulated
Serial No.:	2100

Last Calibration Date 19/10/2010

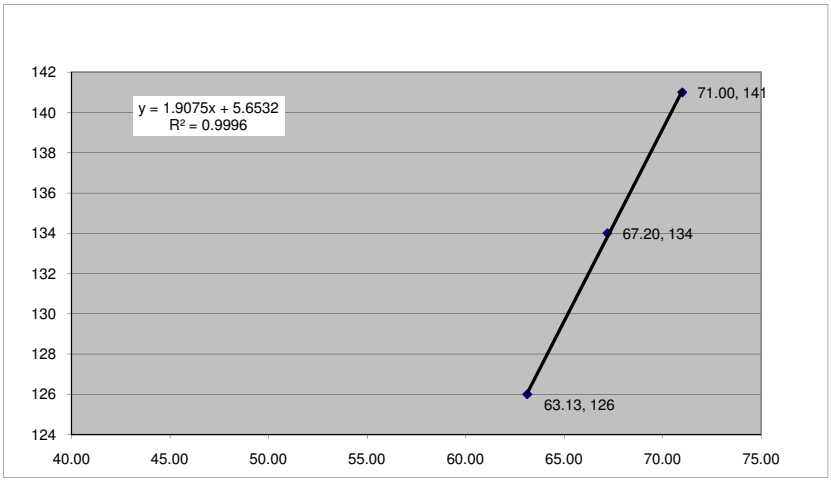
Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration) :	622 CPM
Sensitivity Adjustment Scale Setting (After Calibration) :	622 CPM

Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (ug/m3) Y-axis	Total Count	Count/Minute X-axis
				Temp (C)	R.H. (%)			
1	18-Oct-11	13:27	14:27	24.3	70%	126	3788	63.13
2	18-Oct-11	14:30	15:30	24.3	70%	141	4260	71.00
3	18-Oct-11	15:34	16:34	24.3	70%	134	4032	67.20

Be Linear Regression of Y or X
Slope (K-factor): 1.9075
Correlation coefficient : 0.9996

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2011

Checked by: Keith Chau Signature: Date: 10/21/2011

APPENDIX G

MONITORING SCHEDULE FOR THE PRESENT AND NEXT REPORTING PERIOD

Monitoring Schedule during the Reporting Period

Parameter	Monitoring Station	Date
Noise	M3, Normal Daytime	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 and 20-Feb-12
	M3, Holiday Daytime	5-Feb-12 and 19-Feb-12
	M3, Evening Time	16-Feb-12
	M3, Night-time	14-Feb-12 ; 16-Feb-12 and 28-Feb-12
	M5, Normal Daytime	6-Feb-12 ; 13-Feb-12 ; 22-Feb-12 and 28-Feb-12
	M5a, Holiday Daytime	19-Feb-12
	M5a, Evening Time	8-Feb-12 and 22-Feb-12
	M5a, Night-time	10-Feb-12 and 22-Feb-12
	M6a, Normal Daytime	8-Feb-12 ; 16-Feb-12 ; 23-Feb-12 and 29-Feb-12
	M6a, Holiday Daytime	12-Feb-12
	M6a, Evening Time	2-Feb-12 and 29-Feb-12
	M6a, Night-time	2-Feb-12 and 29-Feb-12
	M7a,Normal Daytime	8-Feb-12 ; 13-Feb-12 and 29-Feb-12
	M8,Normal Daytime	6-Feb-12 ; 13-Feb-12 ; 22-Feb-12 and 28-Feb-12
	M8, Holiday Daytime	26-Feb-12
Air: 1-hr TSP	CM_FM1	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 ; 20-Feb-12 and 24-Feb-12
	CM_CB1a	6-Feb-12 ; 10-Feb-12 ; 16-Feb-12 ; 22-Feb-12 and 28-Feb-12
	CM_WF1a	2-Feb-12 ; 8-Feb-12 ; 13-Feb-12 ; 17-Feb-12 ; 23-Feb-12 and 29-Feb-12
	CM_AB1a	6-Feb-12 ; 10-Feb-12 ; 16-Feb-12 ; 22-Feb-12 and 28-Feb-12
Air: 24-hrs TSP	CM_FM1	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 ; 20-Feb-12 and 24-Feb-12
	CM_CB1a	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 ; 20-Feb-12 and 24-Feb-12
	CM_WF1a	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 ; 20-Feb-12 and 24-Feb-12
	CM_AB1a	2-Feb-12 ; 8-Feb-12 ; 14-Feb-12 ; 20-Feb-12 and 24-Feb-12

Proposed Monitoring Schedule for Coming Reporting Period

Parameter	Monitoring Station	Date
Noise	M3, Normal Daytime	2-Mar-12 ; 8-Mar-12 ; 14-Mar-12 ; 20-Feb-12 and 26-Mar-12
	M3, Holiday Daytime	4-Mar-12 ; 18-Mar-12 and 25-Mar-12
	M3, Evening Time	13-Mar-12 ; 15-Mar-12 and 27-Mar-12
	M3, Night-time	15-Mar-12
	M5, Normal Daytime	5-Mar-12 ; 15-Mar-12 ; 21-Mar-12 and 27-Mar-12
	M5a, Evening Time	6-Mar-12 and 22-Mar-12
	M5a, Night-time	6-Mar-12 and 22-Mar-12
	M5a, Holiday Daytime	18-Mar-12
	M6a, Normal Daytime	6-Mar-12 ; 12-Mar-12 ; 22-Mar-12 and 28-Mar-12
	M6a, Holiday Daytime	11-Mar-12
	M6a, Evening Time	28-Mar-12
	M6a, Night-time	28-Mar-12
	M7a, Normal Daytime	6-Mar-12 ; 12-Mar-12 ; 22-Mar-12 and 28-Mar-12
	M8, Normal Daytime	5-Mar-12 ; 15-Mar-12 ; 21-Mar-12 and 27-Mar-12
	M8, Holiday Daytime	4-Mar-12
Air: 1-hr TSP	CM_FM1	1-Mar-12 ; 7-Mar-12 ; 13-Mar-12 ; 19-Mar-12 ; 23-Mar-12 and 29-Mar-12
	CM_CB1a	5-Mar-12 ; 9-Mar-12 ; 15-Mar-12 ; 21-Mar-12 and 27-Mar-12
	CM_WF1a	6-Mar-12 ; 12-Mar-12 ; 16-Mar-12 ; 22-Mar-12 and 28-Mar-12
	CM_AB1a	5-Mar-12 ; 9-Mar-12 ; 15-Mar-12 ; 21-Mar-12 and 27-Mar-12
Air: 24-hrs TSP	CM_FM1	1-Mar-12 ; 7-Mar-12 ; 13-Mar-12 ; 19-Mar-12 ; 23-Mar-12 and 29-Mar-12
	CM_CB1a	1-Mar-12 ; 7-Mar-12 ; 13-Mar-12 ; 19-Mar-12 ; 23-Mar-12 and 29-Mar-12
	CM_WF1a	1-Mar-12 ; 7-Mar-12 ; 13-Mar-12 ; 19-Mar-12 ; 23-Mar-12 and 29-Mar-12
	CM_AB1a	1-Mar-12 ; 7-Mar-12 ; 13-Mar-12 ; 19-Mar-12 ; 23-Mar-12 and 29-Mar-12

APPENDIX H

NOISE MONITORING RESULT

Daytime Noise Monitoring Results -- Normal weekday

Station M3, Kwan Yick building(*)

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
2-Feb-12	10:23	10:53	Fine	67.2	68.6	65.6	-	Traffic Noise	-	17.0	0.2	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
8-Feb-12	13:20	13:50	Cloudy	67.9	69.3	66.1	-	Traffic Noise	-	16.0	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
14-Feb-12	14:25	14:55	Fine	67.1	68.5	65.3	No outdoor construction	Traffic Noise	-	16.0	0.2	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
20-Feb-12	9:20	9:50	Fine	67.4	68.8	65.5	-	Traffic Noise	-	16.0	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
			Min.	**67.1**									
			Max.	**67.9**									

Remark: (*): The data were provided by Contract No. DC/2007/23. Calibration certificates for the noise meter(s) and calibrator(s) used were included in the corresponding Monthly EM&A Report for this Contract

Station M5, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
6-Feb-12	10:07	10:37	Cloudy	62.4	64.4	58.0	Welding and rock out	Road traffic noise	N.A	18.5	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
13-Feb-12	11:24	11:54	Fine	66.8	69.3	56.7	Welding and rock out	Road traffic noise	N.A	19.1	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
22-Feb-12	14:00	14:30	Cloudy	63.2	65.1	58.2	Blasting	Road traffic noise	N.A	18.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
28-Feb-12	13:30	14:00	Cloudy	60.1	62.0	56.1	Rock out and loading	Road traffic noise	N.A	13.0	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**60.1**									
			Max.	**66.8**									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq *	L10	L90							
8-Feb-12	10:25	10:55	Fine	59.7	57.5	51.0	Loading and grouting	Loading from the construction site near Cyberport PTW	Free-field measurement, +3dB correction.	12.3	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
16-Feb-12	10:05	10:35	Drizzle	69.0	73.0	74.0	Rock out	Loading from the construction site near Cyberport PTW	Free-field measurement, +3dB correction.	16.1	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
23-Feb-12	11:00	11:30	Cloudy	58.9	61.9	54.0	Rock Bolt and installing blasting door in tunnel	Loading from the construction site near Cyberport PTW	Free-field measurement, +3dB correction.	19.9	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
29-Feb-12	14:36	15:06	Cloudy	55.4	56.9	51.0	Rock Bolt and rock out	Loading from the construction site near Cyberport PTW	Free-field measurement, +3dB correction.	14.7	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**55.4**									
			Max.	**69.0**									

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

Station M7a, Wah Ming House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
8-Feb-12	9:27	9:57	Cloudy	72.8	74.1	70.3	Grouting works	N.A	N.A	12.3	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
13-Feb-12	9:43	10:13	Fine	74.1	75.0	72.1	Loading activities	N.A	N.A	19.1	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
29-Feb-12	1:34	2:04	Cloudy	70.4	72.0	67.4	Drilling	N.A	N.A	14.7	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**70.4**									
			Max.	**74.1**									

Remark: The noise monitoring on 23 Feb was cancelled due to raining

Station M8, Wah Lai House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
6-Feb-12	10:47	11:17	Cloudy	65.9	67.3	63.5	Operation of mobile crane	Road Traffic noise from Shek Pai Wan Road	N.A	18.5	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
13-Feb-12	10:42	11:12	Sunny	66.1	67.3	63.8	Drilling	Road Traffic noise from Shek Pai Wan Road	N.A	19.1	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
22-Feb-12	10:08	10:38	Cloudy	66.4	67.6	64.8	Grouting	Road Traffic noise from Shek Pai Wan Road	N.A	18.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
28-Feb-12	15:10	15:40	Cloudy	66.8	68.6	64.3	Operation of mobile crane	Road Traffic noise from Shek Pai Wan Road	N.A	13.0	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**65.9**									
			Max.	**66.8**									

Restricted Hours Noise Monitoring Results -- Daytime on Public Holiday

Station M3, Kwan Yick building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
5-Feb-12	11:05	11:20	Fine	67.3	68.9	65.0	No outdoor construction noise	Mainly traffic noise	-	17.4	<5	B&K 2238 S/N: 2684502	B&K 4231 S/N: 2656516
19-Feb-12	13:45	14:00	Fine	66.4	68.3	63.9	No outdoor construction noise	Mainly traffic noise	-	16.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
			Min.	66.4									
			Max.	67.3									

Remark: The data (19 Feb) was provided by Contract No. DC/2007/23. Calibration certificates for the noise meter(s) and calibrator(s) used were included in the corresponding Monthly EM&A Report for this Contract

Station M5a, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
19-Feb-12	8:00	8:15	Fine	66.6	66.9	52.3	No major construction works	Road traffic noise at San Wan Drive	N.A	14.3	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	66.6									
			Max.	66.6									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
12-Feb-12	13:40	13:55	Fine	55.9	58.0	52.4	No major construction works	Local traffics of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	16.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	55.9									
			Max.	55.9									

Station M8, Wah Lai House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
26-Feb-12	11:35	11:50	Cloudy	61.7	62.7	50.6	No major constructin works	Road Traffic noise from Shek Pai Wan Road	N.A	13.6	0.0	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	61.7									
			Max.	61.7									

Restricted Hours Noise Monitoring Results -- Evening time

Station M3, Kwan Yick building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
16-Feb-12	22:45	23:00	Fine	67.5	68.7	65.4	No major construction works	Road traffic noise from Western Harbour Crossing, engine of turbojet and digging process at sea near the tunnel.	N.A	14.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	67.5									
			Max.	67.5									

Station M5a, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
8-Feb-12	22:45	23:00	Cloudy	61.1	59.1	48.9	Blasting	Road traffic at San Wan Drive	According to contractor, general construction works was in process accordance to CNP.	12.3	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
22-Feb-12	22:45	23:00	Cloudy	59.8	59.1	48.9	Works in shaft	Road traffic at San Wan Drive	According to contractor, general construction works was in process accordance to CNP.	18.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	59.8									
			Max.	61.1									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
2-Feb-12	22:45	23:00	Cloudy	50.9	51.2	48.8	Loading with gantry	Local traffics of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	16.0	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
29-Feb-12	22:45	23:00	Cloudy	57.1	57.5	53.0	Grouting and loading	Local traffics of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field	14.7	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	50.9									
			Max.	57.1									

Restricted Hours Noise Monitoring Results -- Night time

Station M3, Kwa Yick Building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 15 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
14-Feb-12	23:08	23:23	Fine	62.1	63.8	60.1	No outdoor construction noise	Mainly traffic noise	-	16.0	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
16-Feb-12	23:00	23:15	Fine	67.4	68.9	65.2	No outdoor construction noise	Mainly traffic noise	-	14.2	<5	B&K 2238 S/N: 2684502	B&K 4231 S/N: 2656516
28-Feb-12	23:08	23:23	Cloudy	65.4	67.3	63.2	No outdoor construction noise	Mainly traffic noise	-	16.0	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
			Min.	**62.1**									
			Max.	**67.4**									

[1] The data (M3_Night Time) of 14 and 28 Feb were provided by Contract No. DC/2007/23. Calibration certificates for the noise meter(s) and calibrator(s) used were included in the corresponding Monthly EM&A Report for this Contract

Station M5a, Chuk Lam Ming Tong

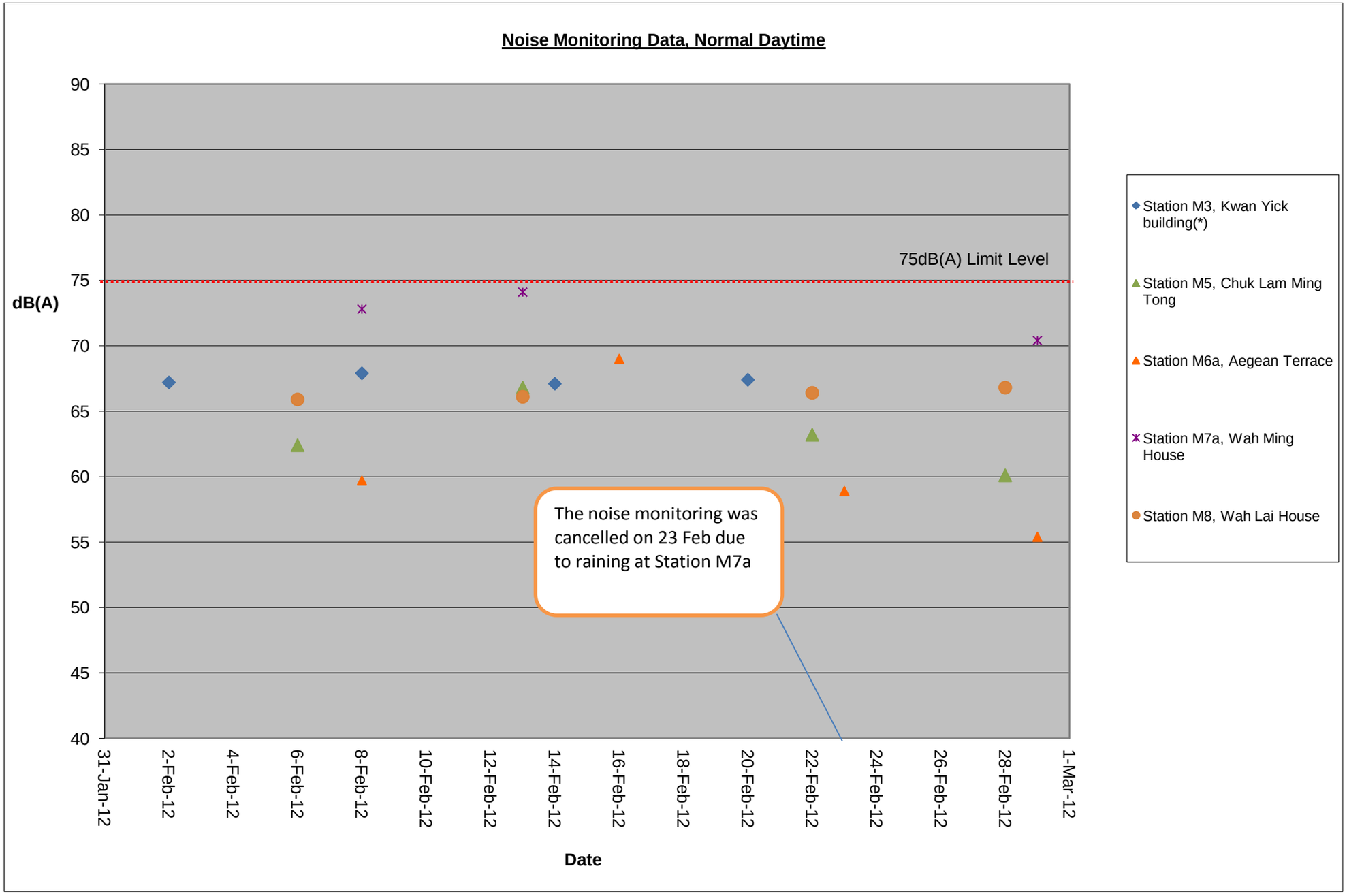
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
10-Feb-12	23:00	23:15	Cloudy	59.9	59.8	51.5	Works inside noise enclosure	Traffic noise at San Wan Drive	N.A	14.8	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
22-Feb-12	23:00	23:15	Cloudy	60.2	59.8	51.5	Works inside noise enclosure	Traffic noise at San Wan Drive	N.A	18.2	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**59.9**									
			Max.	**60.2**									

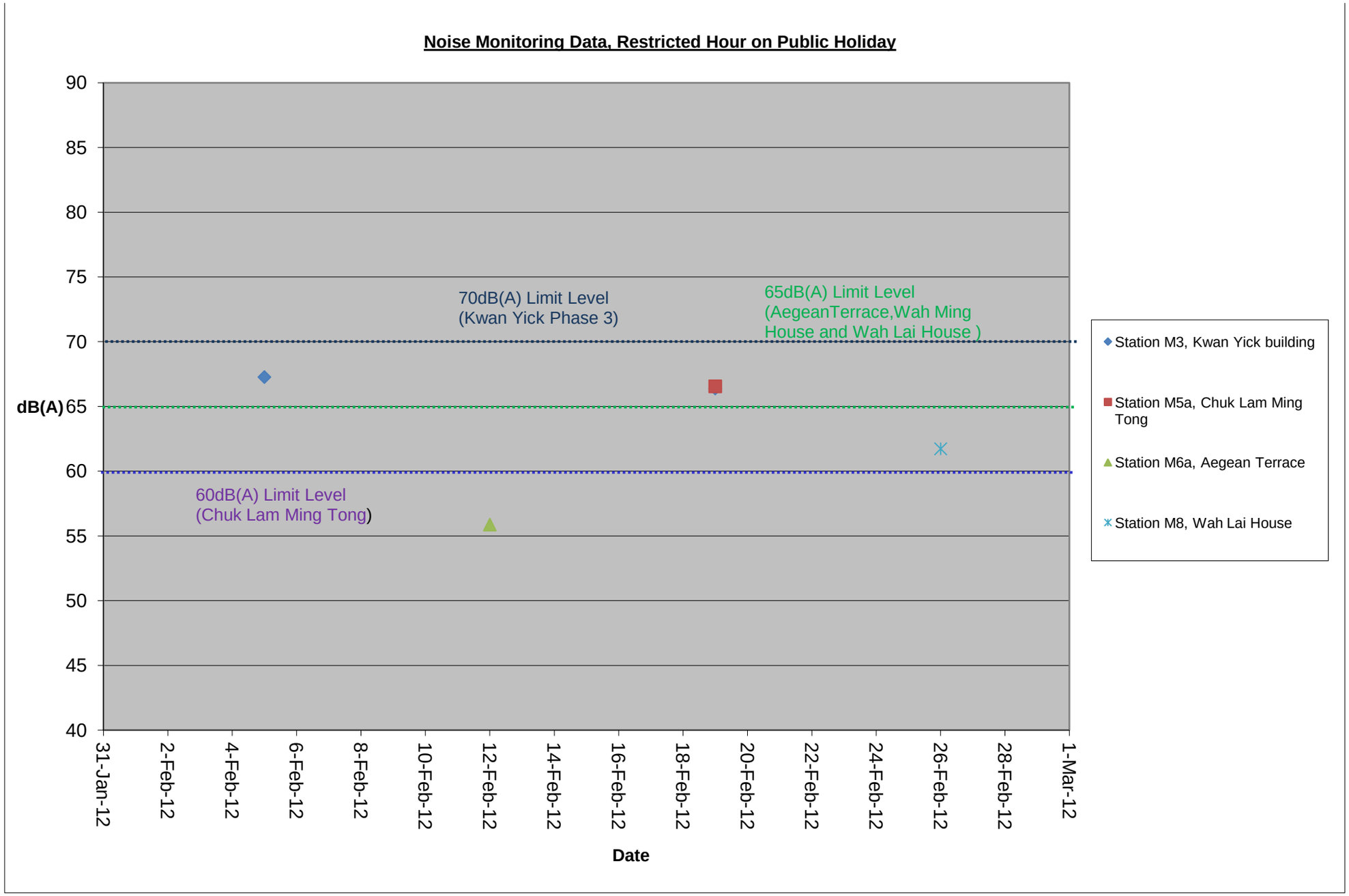
Station M6a, Aegean Terrace

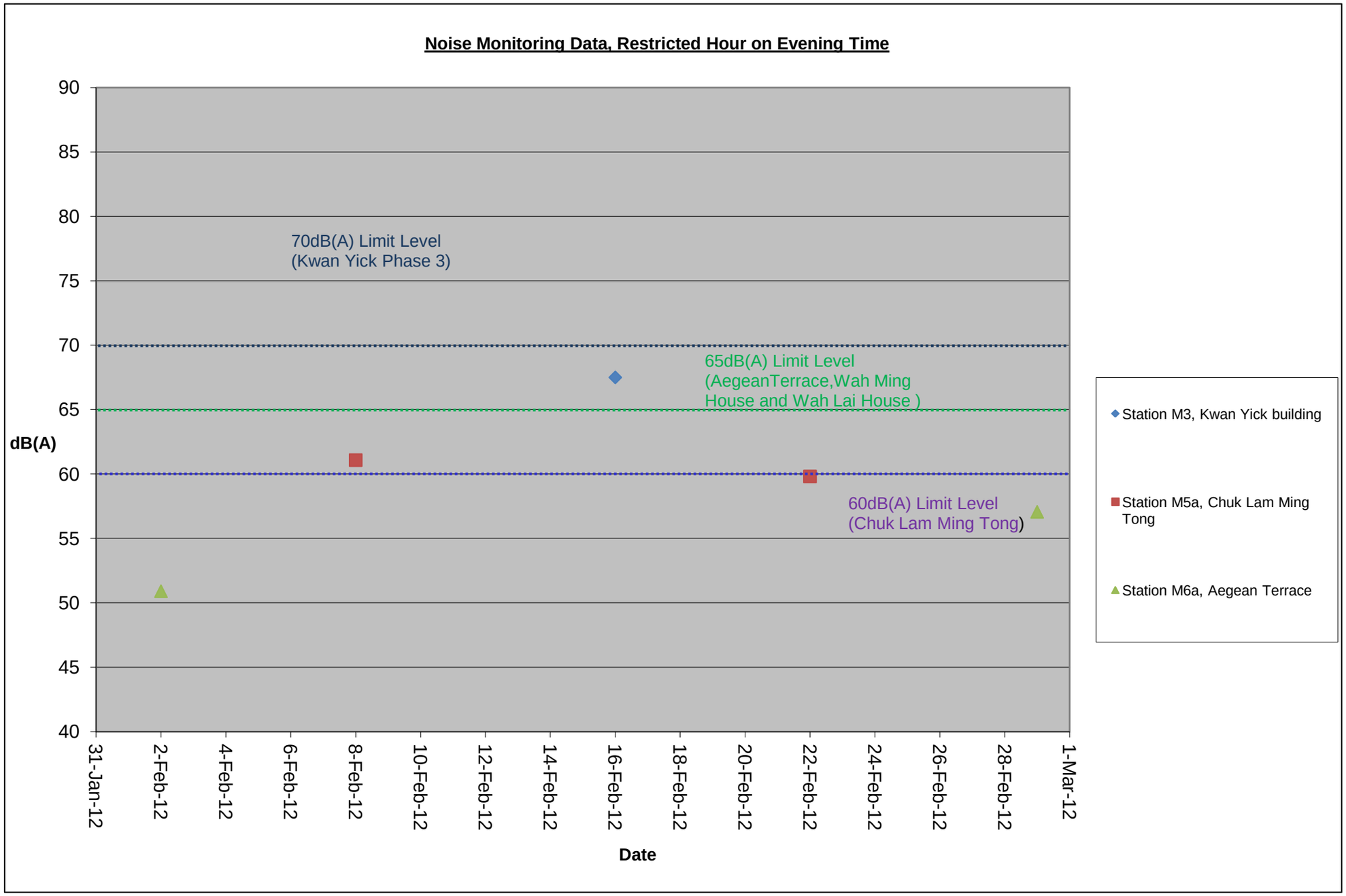
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (℃)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
2-Feb-12	23:00	23:15	Cloudy	50.7	51.3	47.8	No major constructin works	Local traffic of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	16.0	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
29-Feb-12	23:00	23:15	Cloudy	55.1	56.1	52.1	Grouting in tunnel	Local traffic of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	14.7	<5	B&K 2238 S/N : 2684502	B&K 4231 S/N: 2656516
			Min.	**50.7**									
			Max.	**55.1**									

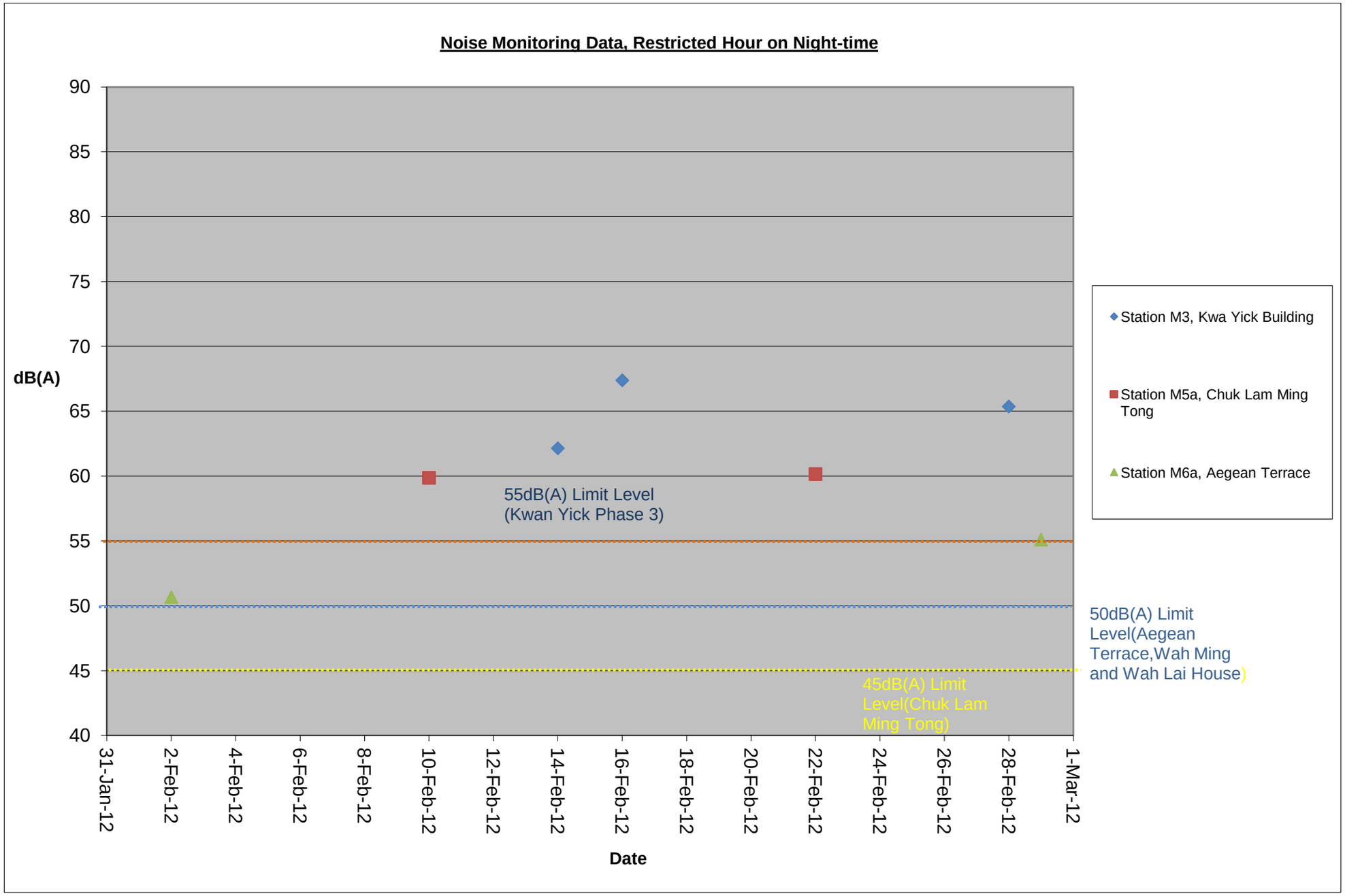
APPENDIX I

GRAPHICAL PRESENTATION OF NOISE MONITORING DATA


Noise Monitoring Data, Normal Daytime
dB(A)
90
85
80
75
70
65
60
55
50
45
40
75dB(A) Limit Level
The noise monitoring was cancelled on 23 Feb due to raining at Station M7a
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Station M3, Kwan Yick building(*)
Station M5, Chuk Lam Ming Tong
Station M6a, Aegean Terrace
Station M7a, Wah Ming House
Station M8, Wah Lai House


Noise Monitoring Data, Restricted Hour on Public Holiday
90
85
80
75
70
dB(A) 65
60
55
50
45
40
70dB(A) Limit Level
(Kwan Yick Phase 3)
65dB(A) Limit Level
(AegeanTerrace,Wah Ming
House and Wah Lai House)
60dB(A) Limit Level
(Chuk Lam Ming Tong)
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Station M3, Kwan Yick building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace
Station M8, Wah Lai House


Noise Monitoring Data, Restricted Hour on Evening Time
90
85
80
75
70
65
60
55
50
45
40
dB(A)
70dB(A) Limit Level
(Kwan Yick Phase 3)
65dB(A) Limit Level
(AegeanTerrace,Wah Ming
House and Wah Lai House)
60dB(A) Limit Level
(Chuk Lam Ming Tong)
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Station M3, Kwan Yick building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace


Noise Monitoring Data, Restricted Hour on Night-time
90
85
80
75
70
65
60
55
50
45
40
dB(A)
55dB(A) Limit Level
(Kwan Yick Phase 3)
50dB(A) Limit Level(Aegean Terrace,Wah Ming and Wah Lai House)
45dB(A) Limit Level(Chuk Lam Ming Tong)
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Station M3, Kwa Yick Building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace

APPENDIX J

AIR QUALITY MONITORING RESULT

1-hour TSP Monitoring Results

Station CM_FM1, Western Wholesale Food Market

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed (m/s)	Sampler ID	Filter ID
2-Feb-12	8:00	9:00	Cloudy	167.1	331.9	500	Operation of mobile crane and grouting	16	<5	Western Wholesale Food Market	918
2-Feb-12	15:15	16:15	Cloudy	95.9	331.9	500	Operation of mobile crane and grouting	16	<5	Western Wholesale Food Market	920
2-Feb-12	16:42	17:42	Cloudy	120.6	331.9	500	Operation of mobile crane and grouting	16	<5	Western Wholesale Food Market	921
8-Feb-12	8:00	9:00	Cloudy	188.0	331.9	500	Drilling	12.3	<5	Western Wholesale Food Market	926
8-Feb-12	14:00	15:00	Cloudy	64.0	331.9	500	Drilling	12.3	<5	Western Wholesale Food Market	927
8-Feb-12	15:13	16:13	Cloudy	103.6	331.9	500	Drilling	12.3	<5	Western Wholesale Food Market	928
14-Feb-12	8:00	9:00	Cloudy	110.5	331.9	500	Drilling	19.4	<5	Western Wholesale Food Market	933
14-Feb-12	13:10	14:10	Cloudy	59.4	331.9	500	Drilling	19.4	<5	Western Wholesale Food Market	934
14-Feb-12	14:20	15:20	Cloudy	74.6	331.9	500	Drilling	19.4	<5	Western Wholesale Food Market	935
20-Feb-12	8:00	9:00	Cloudy	313.6	331.9	500	Operation of forklift and hoist	15	<5	Western Wholesale Food Market	939
20-Feb-12	9:30	10:30	Cloudy	113.7	331.9	500	Operation of forklift and hoist	15	<5	Western Wholesale Food Market	941
20-Feb-12	14:20	15:20	Cloudy	97.2	331.9	500	Operation of forklift and hoist	15	<5	Western Wholesale Food Market	942
24-Feb-12	8:00	9:00	Cloudy	98.0	331.9	500	Works in shaft	17.8	<5	Western Wholesale Food Market	947
24-Feb-12	9:22	10:22	Cloudy	44.2	331.9	500	Works in shaft	17.8	<5	Western Wholesale Food Market	948
24-Feb-12	10:40	11:40	Cloudy	34.5	331.9	500	Works in shaft	17.8	<5	Western Wholesale Food Market	949
			Min.	**34.5**							
			Max.	**313.6**							
			Average	**112**							

Station CM_CB1a, The Arcade, Cyberport

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed (m/s)	Sampler ID	Filter ID
6-Feb-12	9:22	10:22	Cloudy	251.5	279.9	500	Loading	18.5	<5	LD-3B-001	N/A
6-Feb-12	10:22	11:22	Cloudy	169.1	279.9	500	Loading	18.5	<5	LD-3B-001	N/A
6-Feb-12	11:22	12:22	Cloudy	174.6	279.9	500	Loading	18.5	<5	LD-3B-001	N/A
10-Feb-12	13:00	14:00	Fine	231.7	279.9	500	Drilling	14.8	<5	LD-3B-001	N/A
10-Feb-12	14:00	15:00	Fine	259.2	279.9	500	Drilling	14.8	<5	LD-3B-001	N/A
10-Feb-12	15:00	16:00	Fine	275.7	279.9	500	Drilling	14.8	<5	LD-3B-001	N/A
16-Feb-12	9:20	10:20	Fine	227.3	279.9	500	Rock out	14.8	<5	LD-3B-001	N/A
16-Feb-12	10:20	11:20	Fine	335.0	279.9	500	Rock out	14.8	<5	LD-3B-001	N/A
16-Feb-12	11:20	12:20	Fine	203.2	279.9	500	Rock out	14.8	<5	LD-3B-001	N/A
22-Feb-12	13:00	14:00	Cloudy	195.5	279.9	500	Rock Bolt	18.2	<5	LD-3B-001	N/A
22-Feb-12	14:00	15:00	Cloudy	197.7	279.9	500	Rock Bolt	18.2	<5	LD-3B-001	N/A
22-Feb-12	15:00	16:00	Cloudy	209.8	279.9	500	Rock Bolt	18.2	<5	LD-3B-001	N/A
28-Feb-12	9:06	10:06	Rainy	47.2	279.9	500	Rock out and drilling	13	<5	LD-3B-001	N/A
28-Feb-12	10:06	11:06	Rainy	56.0	279.9	500	Rock out and drilling	13	<5	LD-3B-001	N/A
28-Feb-12	11:06	12:06	Rainy	87.9	279.9	500	Rock out and drilling	13	<5	LD-3B-001	N/A
			Min.	**47.2**							
			Max.	**335.0**							
			Average	**195**							

Station CM_WF1a, The Wah Ming House

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed (m/s)	Sampler ID	Filter ID
2-Feb-12	9:05	10:05	Cloudy	166.9	284.5	500	Drilling and gounting	16	<5	LD-3B-002	N/A
2-Feb-12	10:05	11:05	Cloudy	149.7	284.5	500	Drilling and gounting	16	<5	LD-3B-002	N/A
2-Feb-12	11:05	12:05	Cloudy	146.9	284.5	500	Drilling and gounting	16	<5	LD-3B-002	N/A
8-Feb-12	8:55	9:55	Cloudy	163.1	284.5	500	Drilling	12.3	<5	LD-3B-002	N/A
8-Feb-12	9:55	10:55	Cloudy	161.2	284.5	500	Drilling	12.3	<5	LD-3B-002	N/A
8-Feb-12	10:55	11:55	Cloudy	145.0	284.5	500	Drilling	12.3	<5	LD-3B-002	N/A
13-Feb-12	9:07	10:07	Fine	250.8	284.5	500	Drilling	19.1	<5	LD-3B-002	N/A
13-Feb-12	10:07	11:07	Fine	191.7	284.5	500	Drilling	19.1	<5	LD-3B-002	N/A
13-Feb-12	11:07	12:07	Fine	104.9	284.5	500	Drilling	19.1	<5	LD-3B-002	N/A
17-Feb-12	9:30	10:30	Fine	87.7	284.5	500	Drilling	14.9	<5	LD-3B-002	N/A
17-Feb-12	10:30	11:30	Fine	80.1	284.5	500	Drilling	14.9	<5	LD-3B-002	N/A
17-Feb-12	11:30	12:30	Fine	86.8	284.5	500	Drilling	14.9	<5	LD-3B-002	N/A
23-Feb-12	9:18	10:18	Hazy	376.7	284.5	500	Works in shaft	19.9	<5	LD-3B-002	N/A
23-Feb-12	10:18	11:18	Hazy	305.2	284.5	500	Works in shaft	19.9	<5	LD-3B-002	N/A
23-Feb-12	11:18	12:18	Hazy	1845.5	284.5	500	Works in shaft	19.9	<5	LD-3B-002	N/A
29-Feb-12	13:15	14:15	Cloudy	51.5	284.5	500	Drilling	14.7	<5	LD-3B-002	N/A
29-Feb-12	14:15	15:15	Cloudy	51.5	284.5	500	Drilling	14.7	<5	LD-3B-002	N/A
29-Feb-12	15:15	16:15	Cloudy	54.4	284.5	500	Drilling	14.7	<5	LD-3B-002	N/A
			Min.	**51.5**							
			Max.	**1845.5**							
			Average	**246**							

Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed (m/s)	Sampler ID	Filter ID
6-Feb-12	13:00	14:00	Cloudy	251.5	282.5	500	Operation of mobile crane, excavator	18.5	<5	LD-3B-001	N/A
6-Feb-12	14:00	15:00	Cloudy	169.1	282.5	500	Operation of mobile crane, excavator	18.5	<5	LD-3B-001	N/A
6-Feb-12	15:00	16:00	Cloudy	174.6	282.5	500	Operation of mobile crane, excavator	18.5	<5	LD-3B-001	N/A
10-Feb-12	9:03	10:03	Fine	231.7	282.5	500	No major construction works	14.8	<5	LD-3B-001	N/A
10-Feb-12	10:03	11:03	Fine	259.2	282.5	500	No major construction works	14.8	<5	LD-3B-001	N/A
10-Feb-12	11:03	12:03	Fine	275.7	282.5	500	No major construction works	14.8	<5	LD-3B-001	N/A
16-Feb-12	13:00	14:00	Fine	227.3	282.5	500	Driling	14.8	<5	LD-3B-001	N/A
16-Feb-12	14:00	15:00	Fine	335.0	282.5	500	Driling	14.8	<5	LD-3B-001	N/A
16-Feb-12	15:00	16:00	Fine	203.2	282.5	500	Driling	14.8	<5	LD-3B-001	N/A
22-Feb-12	9:21	10:21	Cloudy	195.5	282.5	500	Grouting	18.2	<5	LD-3B-001	N/A
22-Feb-12	10:21	11:21	Cloudy	197.7	282.5	500	Grouting	18.2	<5	LD-3B-001	N/A
22-Feb-12	11:21	12:21	Cloudy	209.8	282.5	500	Grouting	18.2	<5	LD-3B-001	N/A
28-Feb-12	13:01	14:01	Cloudy	47.2	282.5	500	Works in tunnel	13	<5	LD-3B-001	N/A
28-Feb-12	14:01	15:01	Cloudy	56.0	282.5	500	Works in tunnel	13	<5	LD-3B-001	N/A
28-Feb-12	15:01	16:01	Cloudy	87.9	282.5	500	Works in tunnel	13	<5	LD-3B-001	N/A
			Min.	**47.2**							
			Max.	**335.0**							
			Average	**195**							

24-hour TSP Monitoring Results

Station CM_FM1, Western Wholesale Food Market

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
2-Feb-12	17:50	3-Feb-12	17:50	Cloudy	2.7934	2.946	3600.07	3624.07	24.00	1.2166	1.2166	1.2166	87	188.5	260	Operation of mobile crane and grouting	Western Wholesale Food Market	922
8-Feb-12	16:21	9-Feb-12	16:21	Cloudy	2.7772	3.0025	3627.07	3651.07	24.00	1.2232	1.2232	1.2232	128	188.5	260	Loading and drilling	Western Wholesale Food Market	929
14-Feb-12	15:33	15-Feb-12	15:33	Cloudy	2.7845	2.8822	3654.07	3678.07	24.00	1.2072	1.2072	1.2072	56	188.5	260	Loading and drilling	Western Wholesale Food Market	936
20-Feb-12	12:48	21-Feb-12	12:48	Cloudy	2.7518	2.8784	3681.06	3705.06	24.00	1.2169	1.2169	1.2169	72	188.5	260	Operation of forklift, hoist and loading	Western Wholesale Food Market	943
24-Feb-12	13:00	25-Feb-12	13:00	Cloudy	2.7492	2.8155	3708.05	3732.05	24.00	1.2075	1.2075	1.2075	38	188.5	260	Operation of excavator and loading	Western Wholesale Food Market	951
												Min.	**38**					
												Max.	**128**					
												Average	**76**					

Station CM_CB1a, The Arcade, Cyberport

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
2-Feb-12	8:19	3-Feb-12	8:19	Cloudy	2.7756	2.9097	3735.90	3759.90	24.00	1.2206	1.2206	1.2206	76	178.1	260	No major construction works	Arcade	917
8-Feb-12	8:19	9-Feb-12	8:19	Cloudy	2.8048	2.9594	3759.90	3783.90	24.00	1.2264	1.2264	1.2264	88	178.1	260	Rock out	Arcade	923
14-Feb-12	8:19	15-Feb-12	8:19	Hazy	2.7729	2.8871	3753.89	3777.89	24.00	1.2123	1.2123	1.2123	65	178.1	260	Drilling and grouting	Arcade	931
20-Feb-12	8:19	21-Feb-12	8:19	Cloudy	2.7731	2.8748	3801.89	3825.89	24.00	1.1934	1.1934	1.1934	59	178.1	260	Drilling and rock bolt	Arcade	937
24-Feb-12	8:19	25-Feb-12	8:19	Cloudy	2.7601	2.8323	3825.89	3849.89	24.00	1.1850	1.1850	1.1850	42	178.1	260	Drilling and rock bolt	Arcade	945
												Min.	**42**					
												Max.	**87.5**					
												Average	**66.1**					

Station CM_WF1a, The Wah Ming House

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
2-Feb-12	8:00	3-Feb-12	8:00	Cloudy	2.7851	2.9085	3373.07	3397.07	24.00	1.0663	1.0663	1.0663	80	185.3	260	Grouting	Wah Fu	919
8-Feb-12	8:00	9-Feb-12	8:00	Cloudy	2.7981	2.9418	3397.35	3421.35	24.00	1.1525	1.1525	1.1525	87	185.3	260	Grouting	Wah Fu	925
14-Feb-12	8:00	15-Feb-12	8:00	Cloudy	2.7981	2.9418	3397.35	3421.35	24.00	1.1525	1.1525	1.1525	87	185.3	260	Grouting	Wah Fu	925
20-Feb-12	8:00	21-Feb-12	8:00									HVS failure						
24-Feb-12	8:00	25-Feb-12	8:00	Cloudy	2.7873	2.8534	3445.35	3469.35	24.00	1.1373	1.1373	1.1373	40	185.3	260	Rock bolt and Rock out	Wah Fu	946
												Min.	**40**					
												Max.	**87**					
												Average	**73**					

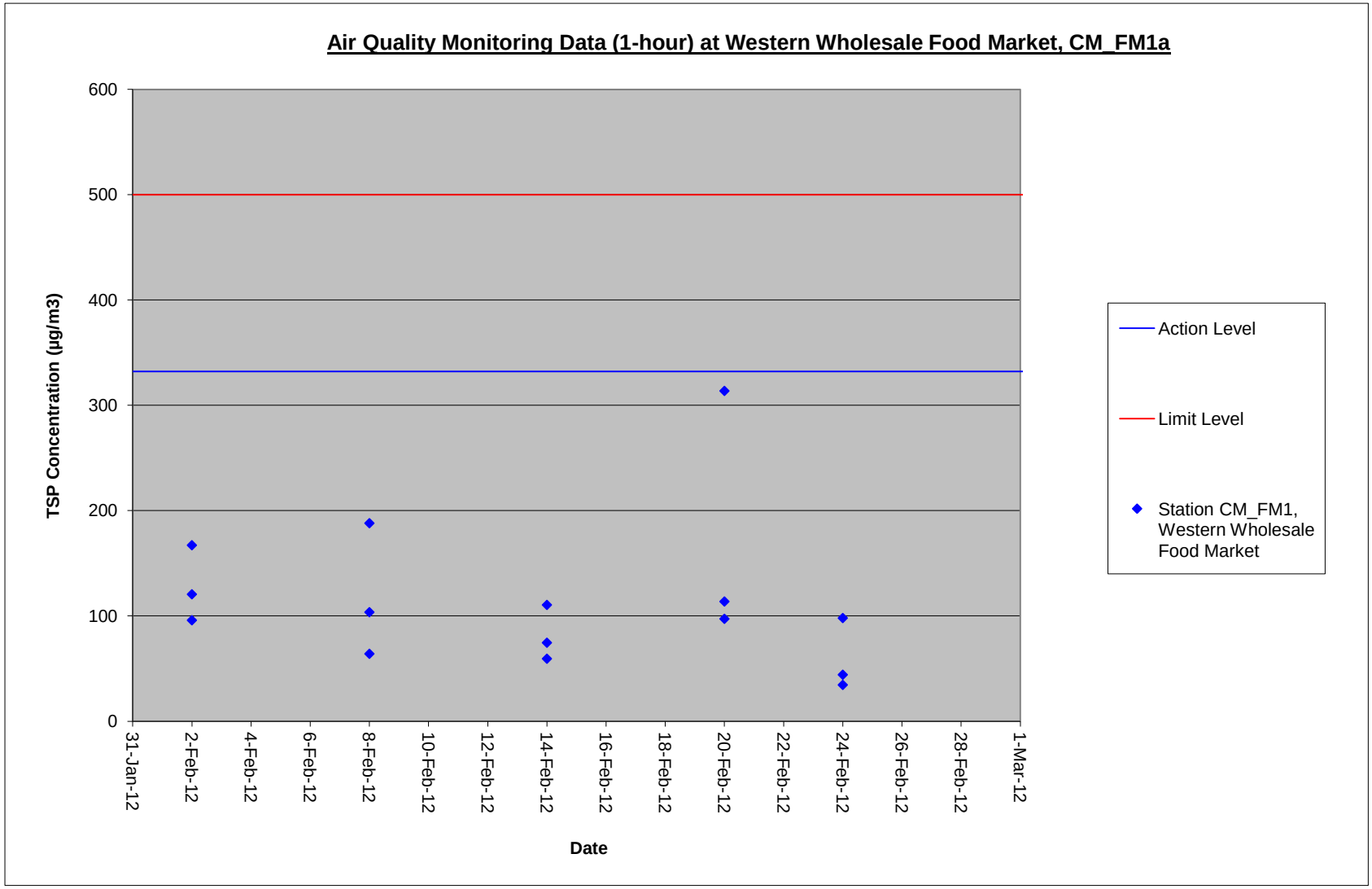
Remark: No data was obtained of TSP monitoring on 20 Feb due to HVS failure

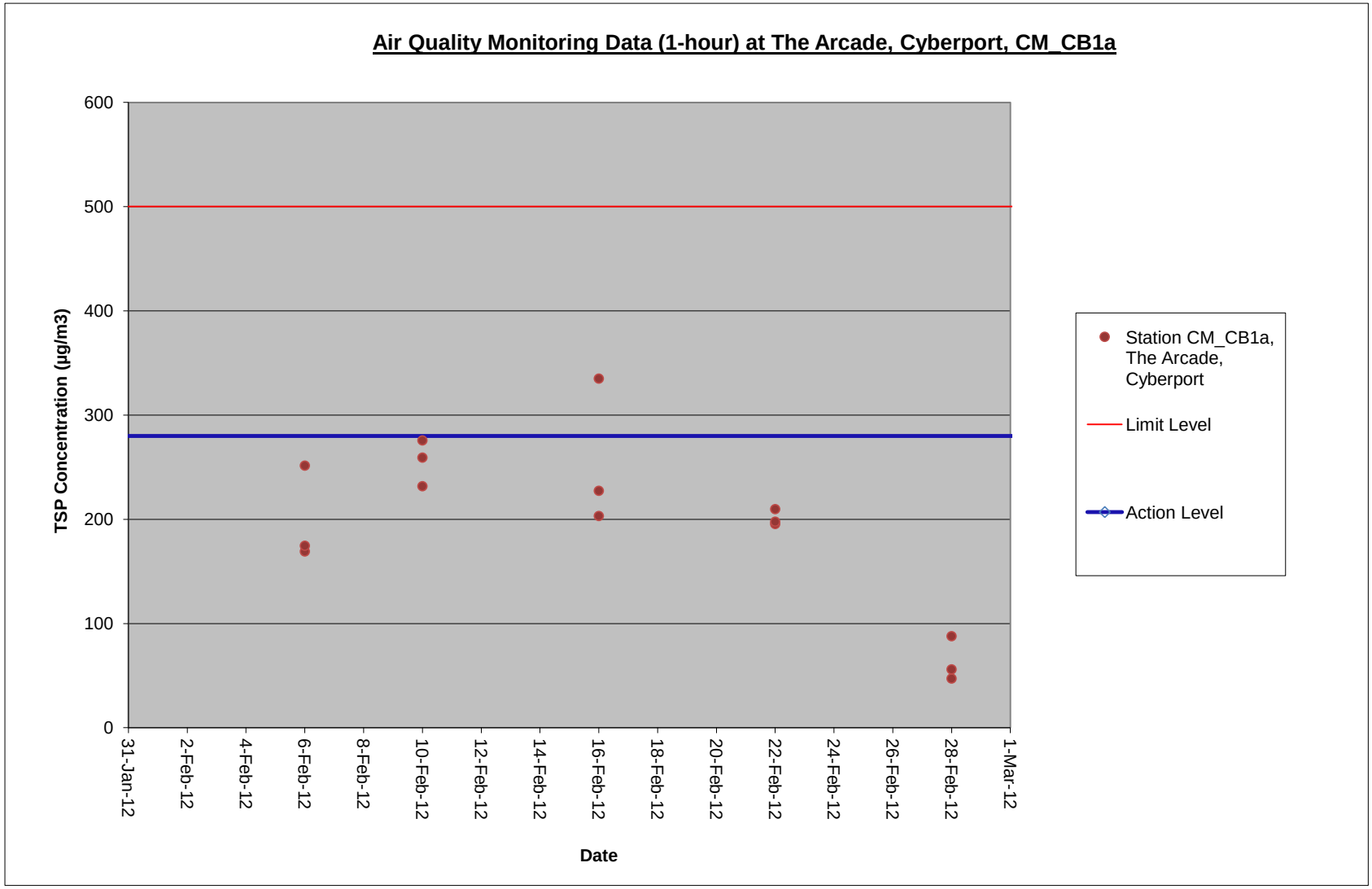
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)

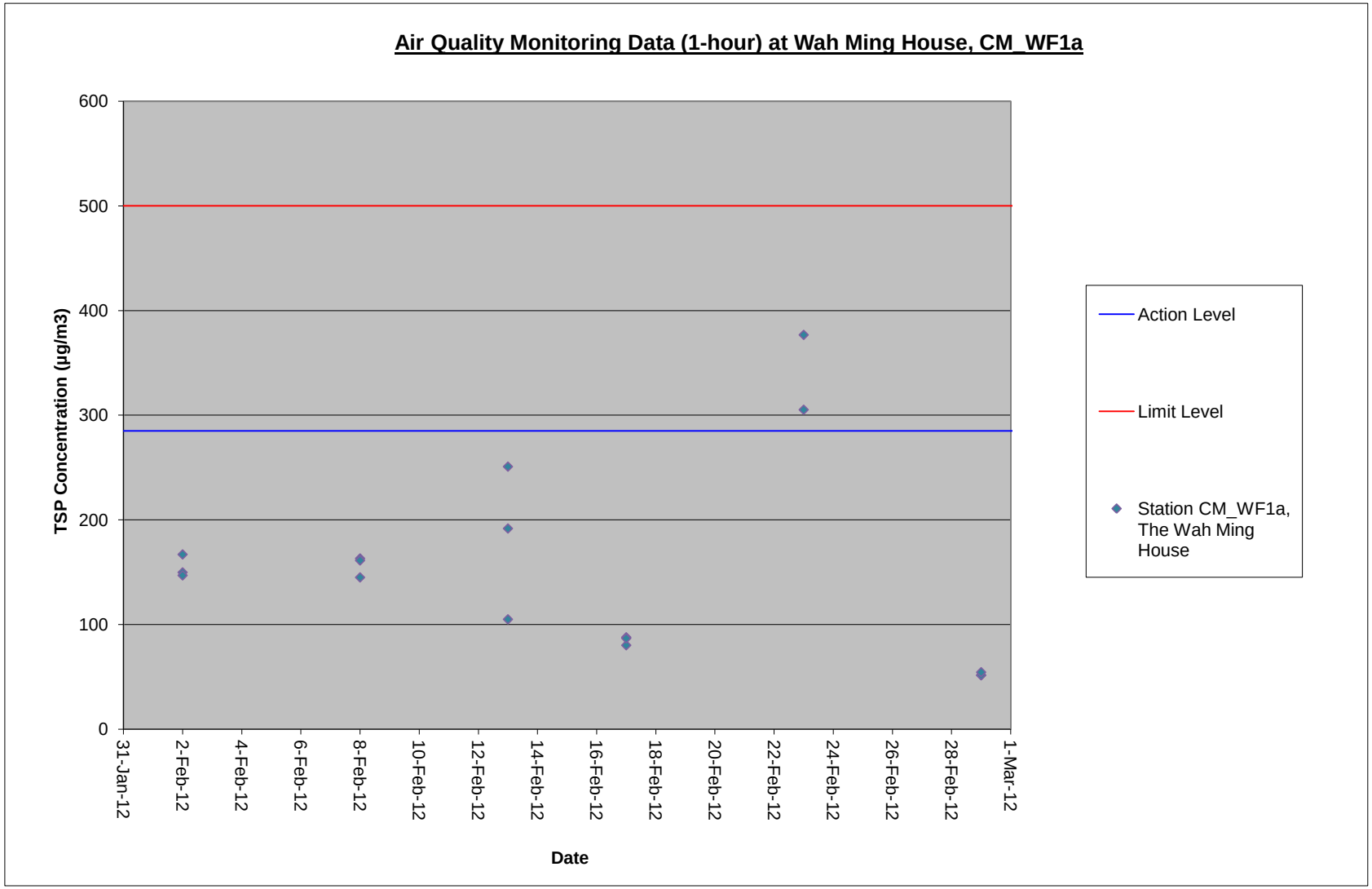
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
2-Feb-12	8:09	3-Feb-12	8:09	Cloudy	2.8029	2.9575	3667.71	3691.71	24.00	1.1528	1.1528	1.1528	93	174.2	260	Loading	Ice Factory	916
8-Feb-12	8:09	9-Feb-12	8:09	Cloudy	2.8069	2.9653	3691.71	3715.71	24.00	1.1602	1.1602	1.1602	95	174.2	260	Loading and rock out	Ice Factory	924
14-Feb-12	8:09	15-Feb-12	8:09	Hazy	2.7807	2.9019	3715.70	3739.70	24.00	1.1423	1.1423	1.1423	74	174.2	260	Loading and rock out	Ice Factory	930
20-Feb-12	8:09	21-Feb-12	8:09	Cloudy	2.779	2.9048	3739.70	3763.70	24.00	1.1512	1.1512	1.1512	76	174.2	260	Works in shaft	Ice Factory	938
24-Feb-12	8:09	25-Feb-12	8:09	Cloudy	2.7752	2.8421	3763.72	3787.72	24.00	1.1410	1.1410	1.1410	41	174.2	260	Works in shaft	Ice Factory	944
												Min.	**41**					
												Max.	**95**					
												Average	**76**					

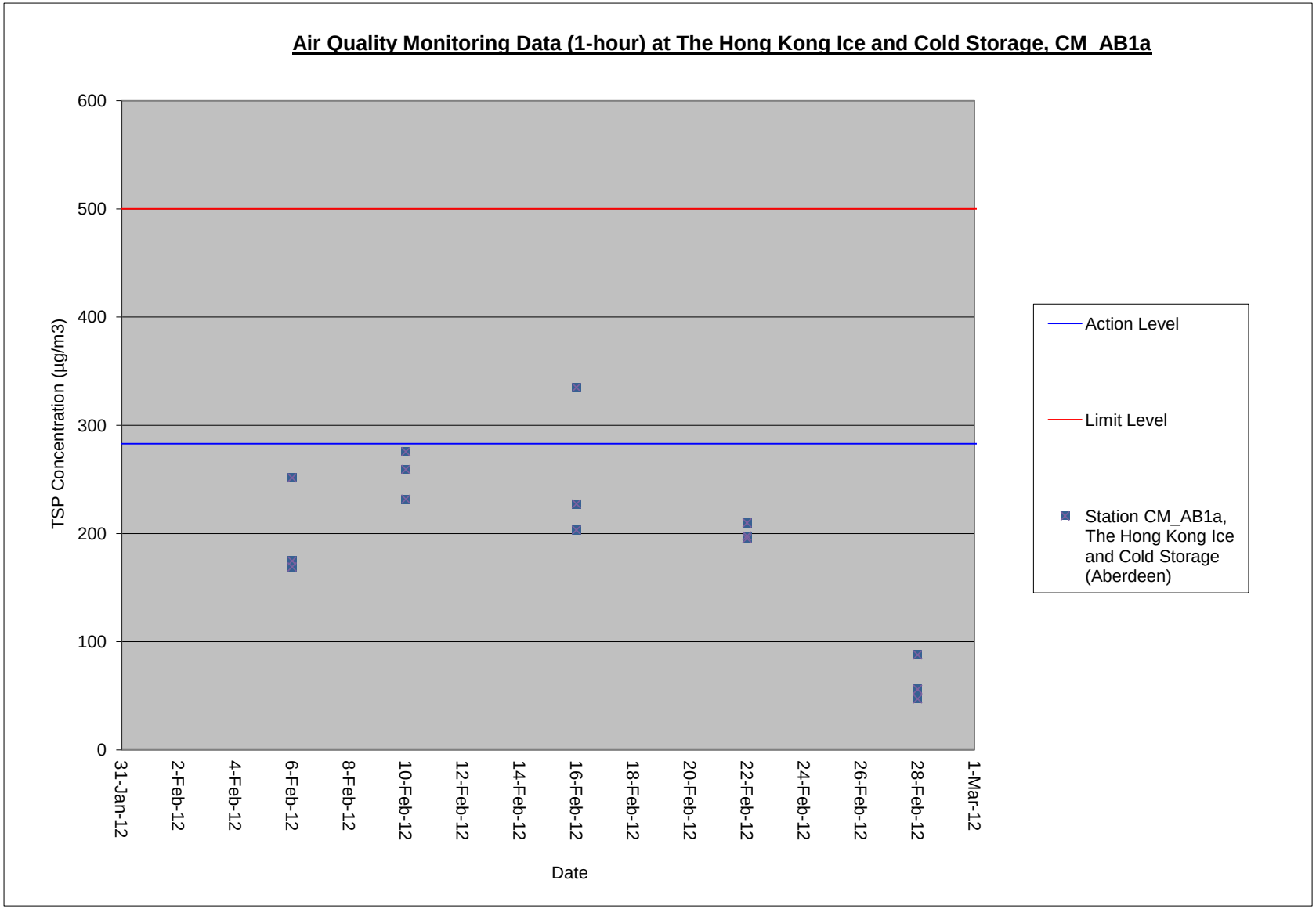
APPENDIX K

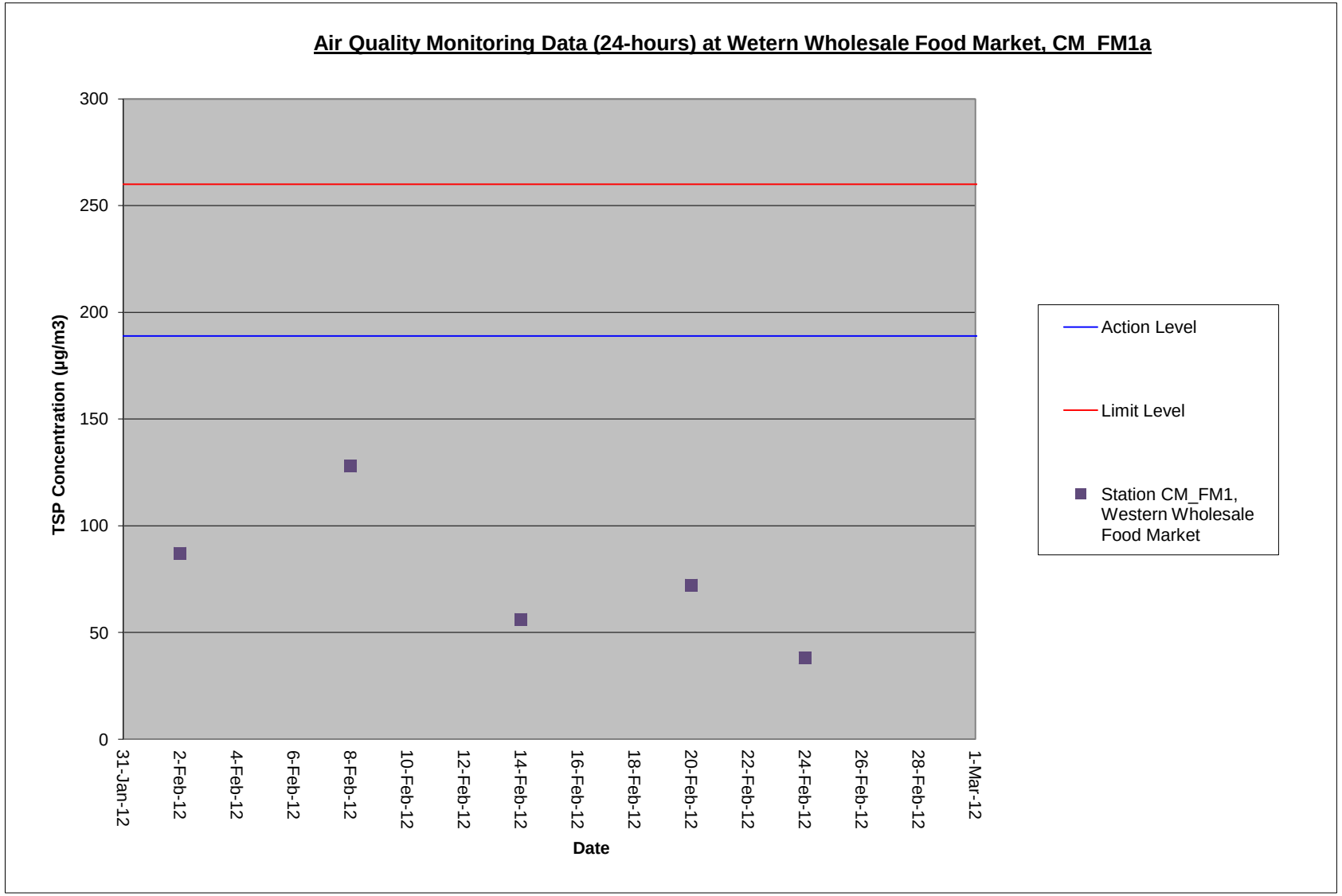
GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING DATA

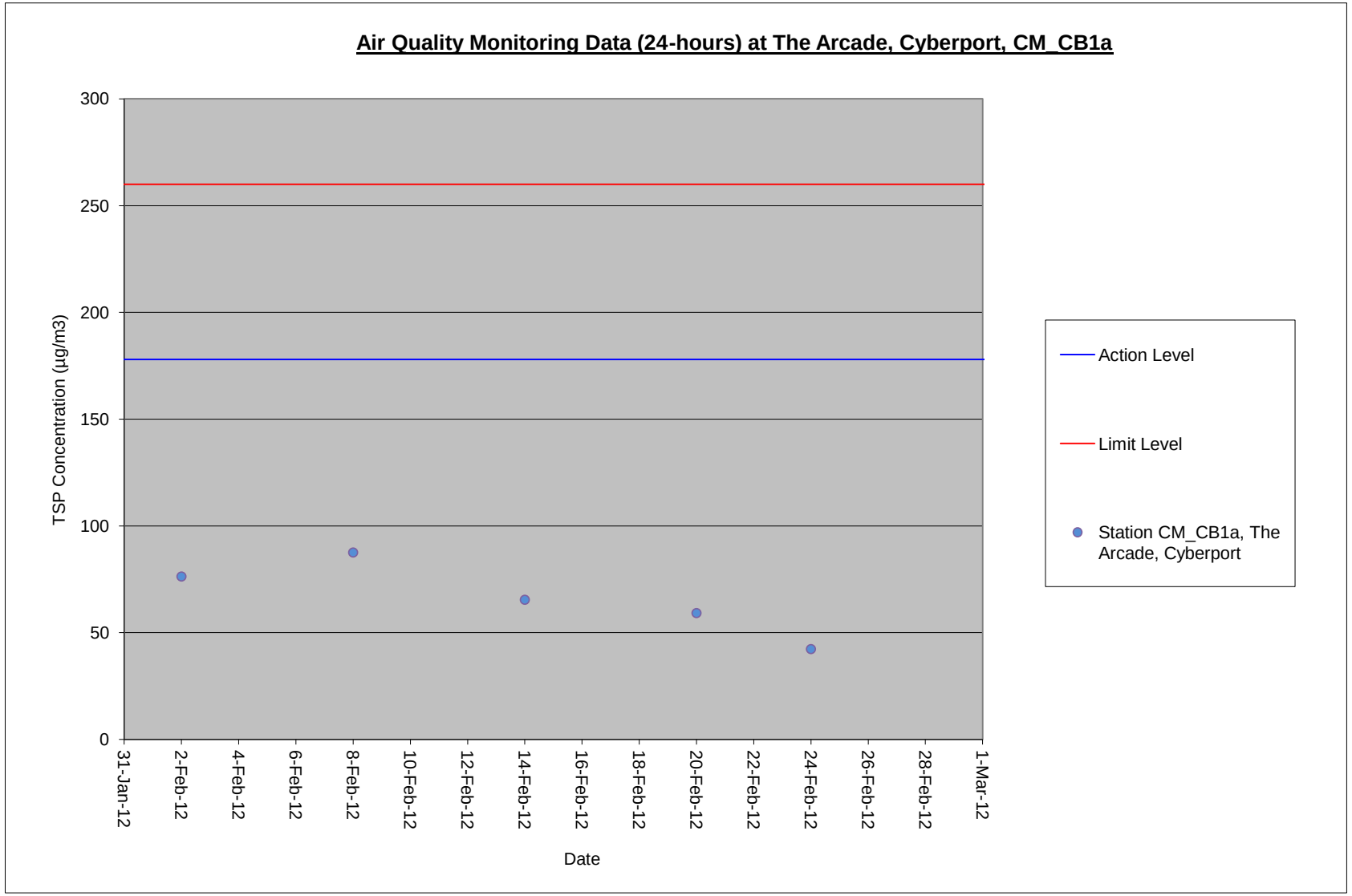

Air Quality Monitoring Data (1-hour) at Western Wholesale Food Market, CM_FM1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_FM1, Western Wholesale Food Market

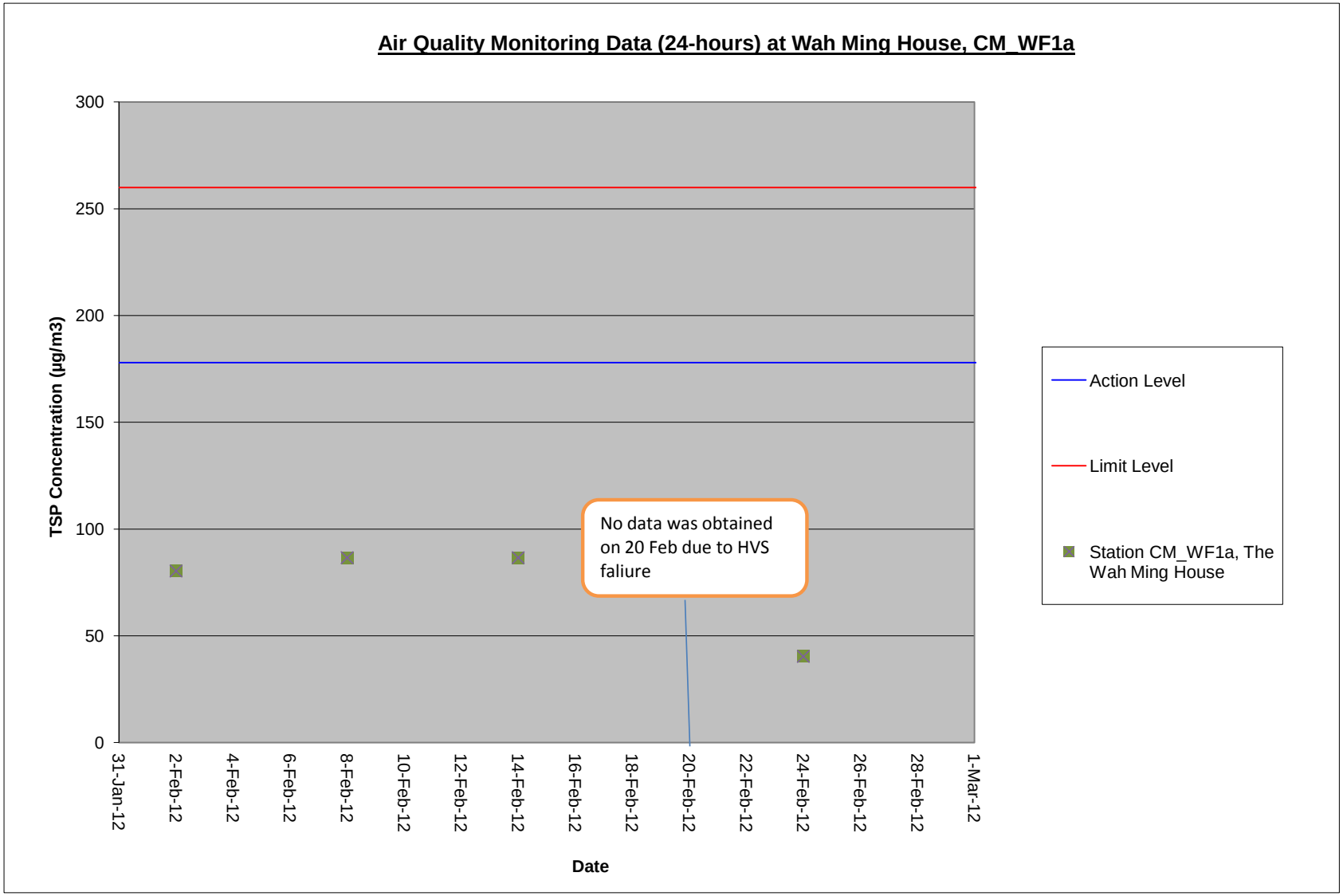

Air Quality Monitoring Data (1-hour) at The Arcade, Cyberport, CM_CB1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Station CM_CB1a, The Arcade, Cyberport
Limit Level
Action Level

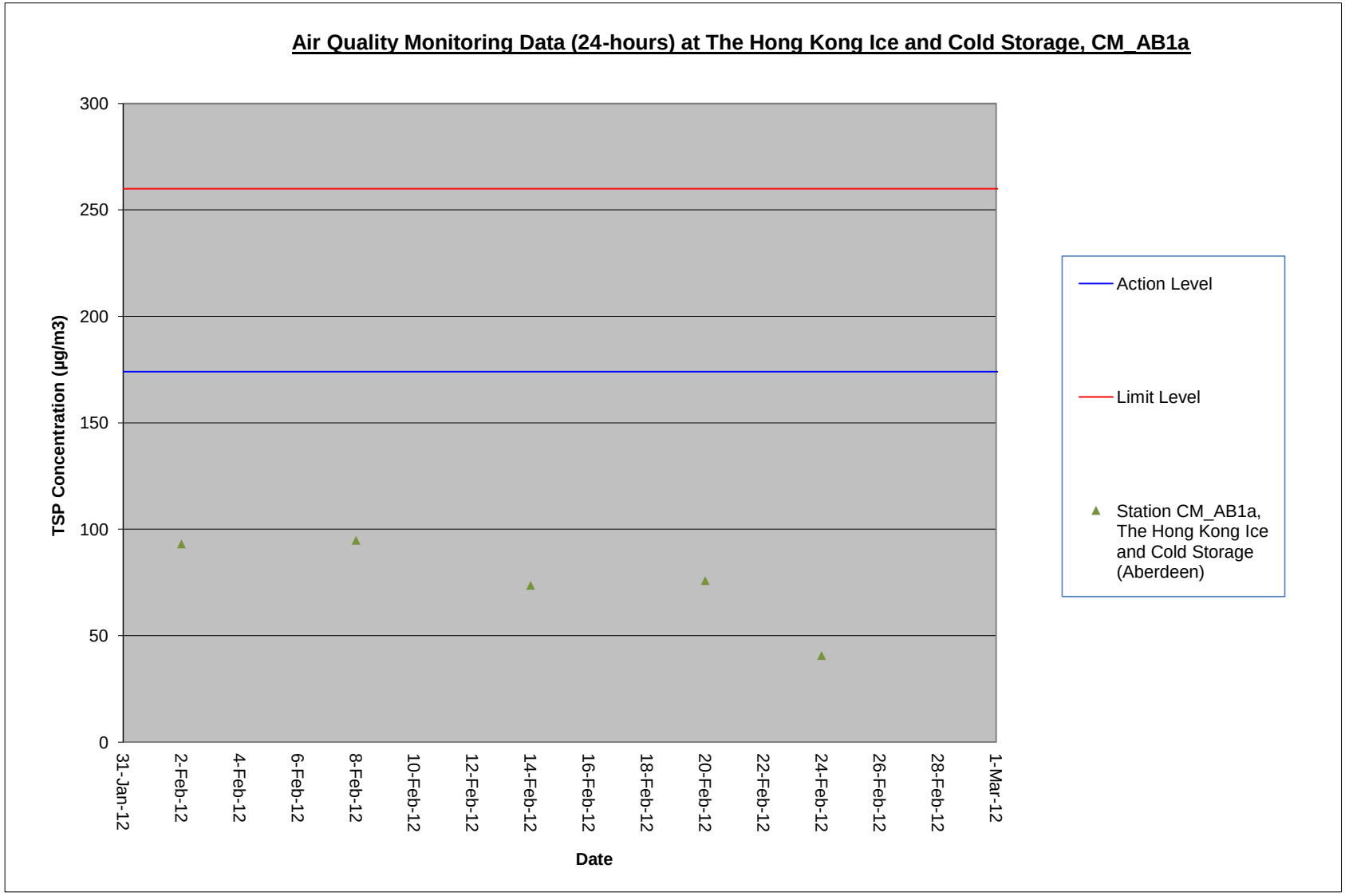

Air Quality Monitoring Data (1-hour) at Wah Ming House, CM_WF1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_WF1a, The Wah Ming House


Air Quality Monitoring Data (1-hour) at The Hong Kong Ice and Cold Storage, CM_AB1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)


Air Quality Monitoring Data (24-hours) at Wetern Wholesale Food Market, CM_FM1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_FM1, Western Wholesale Food Market


Air Quality Monitoring Data (24-hours) at The Arcade, Cyberport, CM_CB1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_CB1a, The Arcade, Cyberport


Air Quality Monitoring Data (24-hours) at Wah Ming House, CM_WF1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
No data was obtained on 20 Feb due to HVS faliure
Action Level
Limit Level
Station CM_WF1a, The Wah Ming House


Air Quality Monitoring Data (24-hours) at The Hong Kong Ice and Cold Storage, CM_AB1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
31-Jan-12
2-Feb-12
4-Feb-12
6-Feb-12
8-Feb-12
10-Feb-12
12-Feb-12
14-Feb-12
16-Feb-12
18-Feb-12
20-Feb-12
22-Feb-12
24-Feb-12
26-Feb-12
28-Feb-12
1-Mar-12
Date
Action Level
Limit Level
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)

APPENDIX L

LANDSCAPE AND VISUAL MONITORING REPORT

REPORT

Leighton – LNS Joint Venture

Contract No. DC/2007/24 Harbour Area Treatment Scheme Stage 2A - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun: *26th Monthly Landscape & Visual Monitoring Report*

February 2012

Environmental Resources Management
21/F Lincoln House
979 King's Road
Taikoo Place
Island East, Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
http://www.erm.com

REPORT

Leighton – LNS Joint Venture

Contract No. DC/2007/24 Harbour Area Treatment Scheme Stage 2A - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun: *26th Monthly Landscape & Visual Monitoring Report*

February 2012

Reference 0109356

For and on behalf of ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed:

Position: Partner

Certified by:

Registered Landscape Architect,
Christina Ip

Date: 05 March 2012

CONTENTS

1 IMPACT LANDSCAPE AND VISUAL MONITORING

1.1 INTRODUCTION

The construction works of *DC/2007/24 of Harbour Area Treatment Scheme Stage 2A (HATS2A) - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun* (the Project) commenced on 23 December 2009. This is the twenty-sixth monthly impact landscape and visual (L&V) monitoring report presenting the monthly L&V site audit findings conducted during the period from 1 to 29 February 2012.

1.2 MONITORING PARAMETERS

According to the EM&A Manual, the L&V monitoring should include checking of the design and auditing of the implementation and maintenance of L&V mitigation measures to ensure that they are undertaken in accordance with the recommendations of the approved EIA Report (*EIA-148/2008*).

The twenty-sixth monthly site audit was undertaken on 28 February 2012 to check the design, implementation and maintenance of the L&V mitigation measures at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun.

The proposed L&V mitigation measures during the construction phase recommended in the approved EIA Report (*EIA-148/2008*) are listed in *Table 1.1* and shown in *Annex A*.

Table 1.1 Proposed Landscape Mitigation Measures for Construction Phase

ID No.	Landscape and Visual Mitigation Measures	Sites
CM1	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun
CM2	Existing trees to be retained on site should be carefully protected during construction.	Aberdeen, Wah Fu, Cyberport, Sandy Bay
CM3	Trees unavoidably affected by the works should be transplanted where practical.	Aberdeen, Cyberport, Sandy Bay
CM4	Compensatory tree planting should be provided to compensate for felled trees.	Aberdeen, Cyberport, Sandy Bay
CM5	Control of night-time lighting.	Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun
CM6	Erection of decorative screen hoarding compatible with the surrounding setting.	Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun

1.3 SITE AUDIT FINDINGS AND OBSERVATIONS

The findings and observations of the site audit are recorded and summarised in *Annex B*.

2 CONCLUSIONS

The twenty-sixth monthly landscape and visual site audit was undertaken on 28 February 2012 to check the design, implementation and maintenance of L&V mitigation measures at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun under the Contract *DC/2007/24 of Harbour Area Treatment Scheme Stage 2A (HATS2A) - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun*.

2.1 FOLLOW-UP ACTIONS TAKEN AFTER PREVIOUS SITE AUDIT

Cyberport Site

The build up of stagnant water around retained tree T048(R) was slightly drying up during this month site audit at the Cyberport site. The Contractor has provided a water pump to divert the water from the affected area.

Sandy Bay Site

The retained trees T036(R), T037(R), T020(R), T061(R) and transplanted trees T004 (T) and T005 (T) at Sandy Bay site were confirmed dead by the Contractor's tree consultant on 7 December 2011. The Contractor felled and removed all dead trees on 23 February 2012. Retained trees T028(R), T038(R) and T053(R) were still showing deterioration and damages on its stems and foliage since the audit undertaken in September 2011. It was also observed that the missing tag and identification for tree T038(R) have not yet been replaced.

Aberdeen Site

The conditions of the retained trees T076(R) and T079(R) have been deteriorating since the audit in November 2011. The machine truck lift that was observed closely parked at the transplanted tree T003(T) has not yet been relocated. The two outstanding untagged trees spotted during the audit undertaken in November 2011 have not yet been provided and need to be identified as soon as possible.

For general tree issues identified from previous site audits (i.e. poor health condition of transplanted trees and retained trees), follow up actions remain outstanding at the Sandy Bay, Cyberport and Aberdeen sites.

2.2 OBSERVATIONS AND RECOMMENDATIONS

All L&V mitigation measures presented in *Table 1.1* have been implemented in full except for CM2 at Cyberport site, CM2 at Aberdeen site, and CM2 and CM3 at the Sandy Bay site.

Cyberport Site

The formation of stagnant water at the Cyberport site observed since the audit undertaken in July 2011 was slightly drying up but the area was still damp. This condition might affect the roots of the retaining tree T048(R). The Contractor was advised to closely monitor the area and keep using the water pump to divert the water away from the area.

Sandy Bay Site

The retained trees T036(R), T037(R), T020(R), T059(R) and T061(R) were confirmed dead by the Contractor's tree consultant and they were felled and removed on 23 February 2012. The Contractor was advised to provide compensation trees as soon as possible.

The retained trees T028(R) and T038(R) exhibited deterioration and damage to the branches and had dried leaves falling-off from the affected areas since the audit undertaken in September 2011. In addition to this, tree tag and identification for retained tree T038(R) has not yet be provided. It was also observed that retained tree T053(R) was still exhibiting deterioration since the audit undertaken in November 2011. The Contractor was recommended to schedule trimming on the affected trees and take necessary mitigation measures to improve the overall health condition of all retained trees. The Contractor was also advised to replace the identification tag of the retained tree T038(R) immediately.

The transplanted trees T004 (T) and T005 (T) were confirmed dead by the Contractor's tree consultant in December 2011 and they were felled and removed on 23 February 2012. The Contractor was advised to provide compensation trees as soon as possible

Aberdeen Site

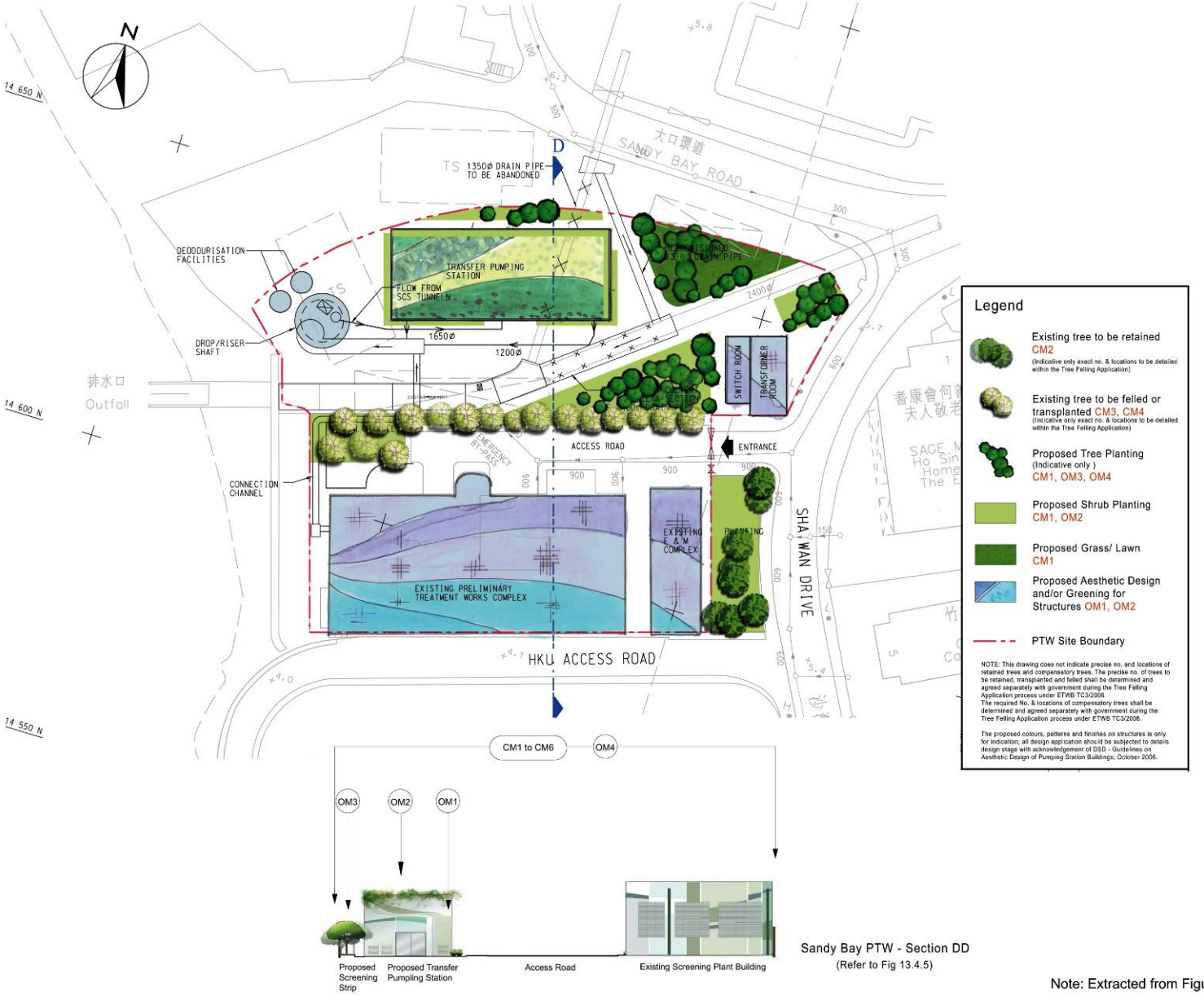
The conditions of the retained trees T076(R) and T079(R) were deteriorating and some stems and leaves were dying. The Contractor was advised to take appropriate actions such as regularly watering and trimming of all retained trees to improve and restore the health condition of trees. It was also observed that construction materials were closely stored in the root area of the retained tree T0801(R) and this might affect the health condition of the tree. The Contractor was advised to remove all construction materials away from the roots of the retained tree.

The two outstanding untagged trees which were spotted during the site audit undertaken in November 2011 within the boundary of workshop area in the Aberdeen site have not yet been tagged. Moreover, an additional tree was spotted by ERM near the site entrance gate without a proper identification tag. The Contractor was advised to double check the identifications of the trees in the original tree survey report and properly tag all trees immediately.

The machine truck lift that was found parked closely near the transplanted tree T003(T) in the audit undertaken in January 2011 has not been relocated. The truck might hit the branches and other parts of this tree and damage the tree. The Contractor was advised to move the truck away from the tree and ensure that the operation of the truck lift will not damage the transplanted trees.

Annex A

Landscape Mitigation Measures (Reference to Approved EIA Report (EIA-148/2008))



Note: Extracted from Figures 13.4.5 & 13.4.12 of EIA-148/2008.

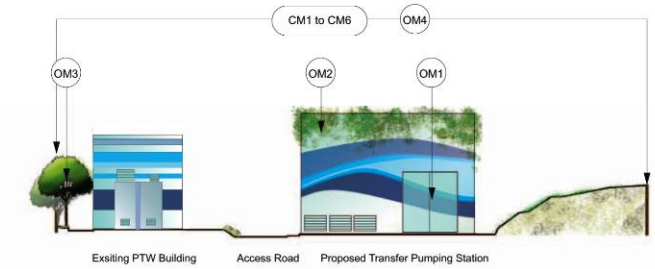
Figure 1.1

Landscape Mitigation Measure in Sandy Bay

FILE: 0109356-ILV-SB-Fig1.1
DATE: 30 March 2010

Environmental Resources Management

ERM



Cyberport PTW - Section EE
(Refer to Fig 13.4.6)

Note: Extracted from Figures 13.4.6 & 13.4.13 of EIA-148/2008.

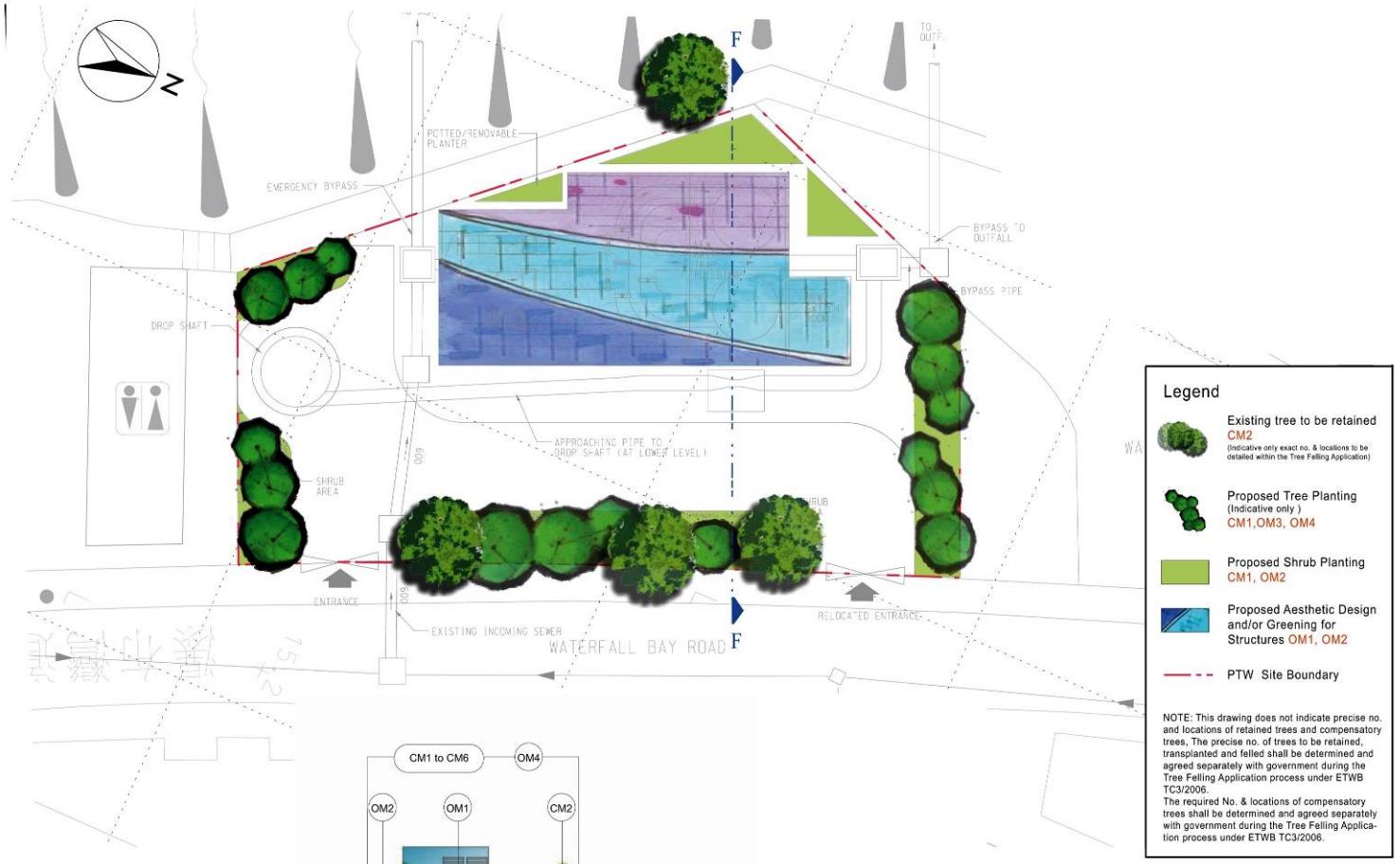
Figure 1.2

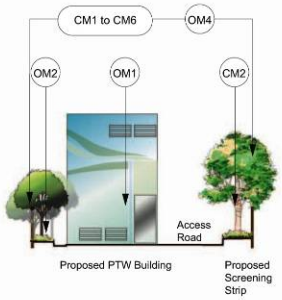
Landscape Mitigation Measure in Cyberport

FILE: 0109356-ILV-CP-Fig1.2.cdr
DATE: 30 March 2010

Environmental Resources Management

ERM





Wah Fu PTW - Section FF
(Refer to Fig 13.4.7)

Note: Extracted from Figures 13.4.7 & 13.4.13 of EIA-148/2008.

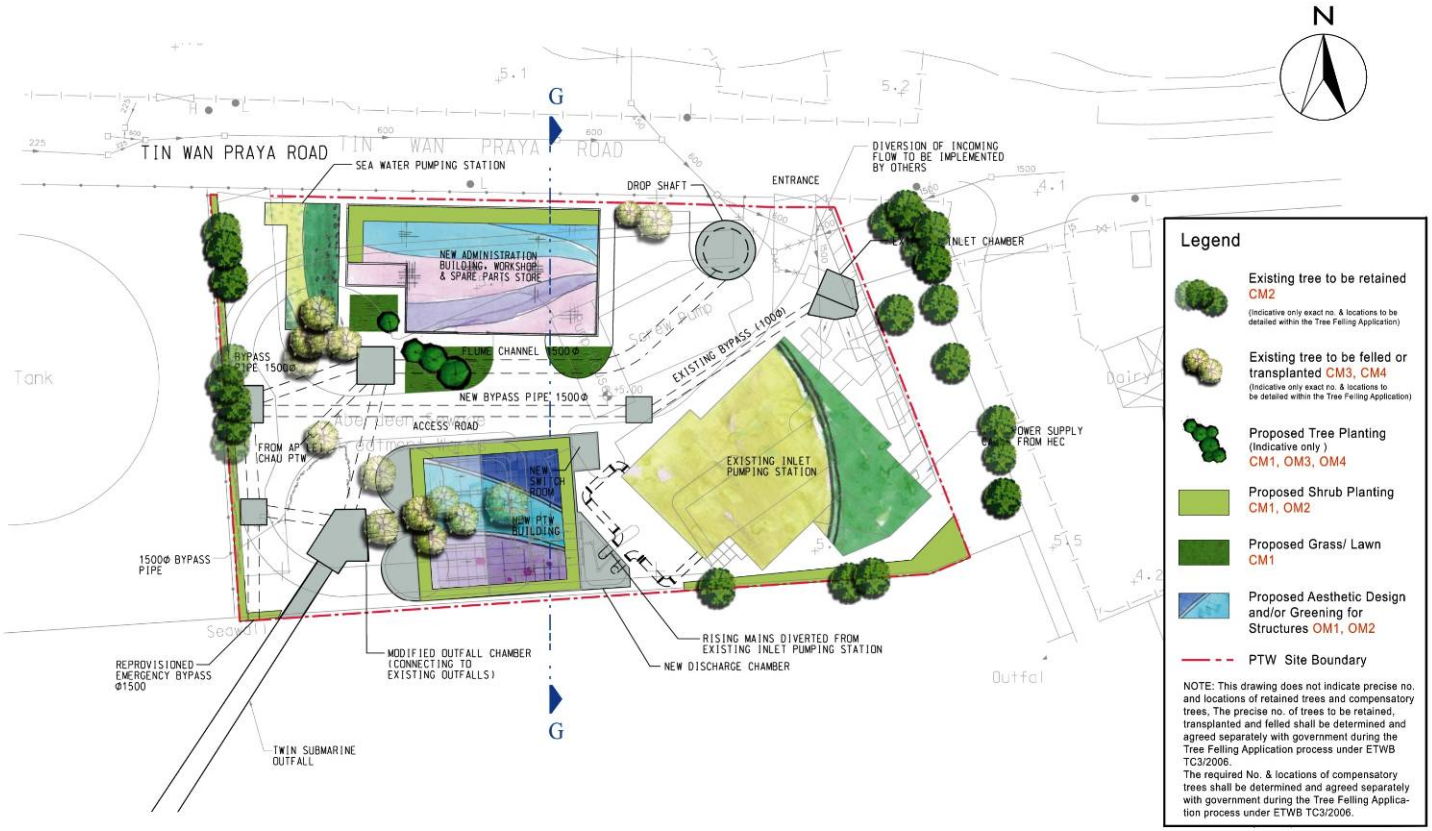
Figure 1.3

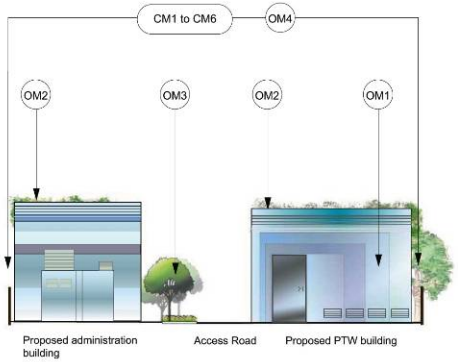
Landscape Mitigation Measure in Wah Fu

FILE: 0109356-ILV-WF-Fig1.3.cdr
DATE: 30 March 2010

Environmental Resources Management

ERM





Aberdeen PTW - Section GG
(Refer to Fig 13.4.8)

Note: Extracted from Figures 13.4.8 & 13.4.14 of EIA-148/2008.

Figure 1.4

Landscape Mitigation Measure in Aberdeen

FILE: 0109356-ILV-A-Fig1.4.cdr
DATE: 30 March 2010

Environmental Resources Management

ERM

Annex B

Site Inspection Checklist

Harbour Area Treatment Scheme (HATS) Stage 2A
Contract No. DC/2007/24
Construction of Sewage Conveyance from Aberdeen to Sai Ying Pun
Landscape & Visual Monitoring Report

Reporting Period : 1 February to 29 February 2012

Site Inspection Date : 28 February 2012

Inspected By : Jon Binalay

Site	CM1 **Topsoil identified stripped and stored for re-use in the construction of soft landscape works, where practical**	CM2 **Existing trees to be retained on site should be carefully protected during construction**	CM3 **Trees unavoidably affected by the works should be transplanted where practical.**	CM4 **Compensatory tree planting should be provided to compensate for felled trees.**	CM5 **Control of night-time lighting.**	CM6 **Erection of decorative screen hoarding compatible with the surrounding setting.**	**Recommendations**
Sai Ying Pun	No major excavation works were conducted. No stockpile of excavated soil was observed.	Not Applicable - No tree was identified at the Sai Ying Pun Area	Not Applicable - No tree was identified at the Sai Ying Pun Area	Not applicable - No tree was identified at the Sai Ying Pun Area	Night-time lighting was used for 24 hours per day on 1 to 29 February.	Decorative screen hoarding were erected and was compatible to the surrounding setting.	Not required
Sandy Bay	No major excavation works were conducted. No stockpile of excavated soil was observed.	Existing trees have been retained on site, fenced off and protected. T036(R), T037(R) T020(R) and T061(R) were felled and removed from the site (see *Photos 1, 2, 3* and *4*). The conditions of	No tree was transplanted during this reporting month. Transplanted trees T004 (T) and T005(T) were felled and removed from the site (see *Photo 9*).	Not applicable - Compensatory tree planting has not been started.	Night-time lighting was used for 24 hours per day on 1 to 29 February.	Decorative screen hoarding were erected and was compatible to the surrounding setting.	The Contractor was advised to consult their tree consultant regarding the tree compensation for all dead trees T036(R), T037(R), T020(R), T061(R), T059(R), T004 (T) and T005 (T) immediately. The Contractor was also advised to check the damages on the retained trees T028(R), T038(R) and T053(R) and take

Site	CM1 Topsoil identified stripped and stored for re-use in the construction of soft landscape works, where practical	CM2 Existing trees to be retained on site should be carefully protected during construction	CM3 Trees unavoidably affected by the works should be transplanted where practical.	CM4 Compensatory tree planting should be provided to compensate for felled trees.	CM5 Control of night-time lighting.	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Recommendations
		T028(R), T038(R) and T053(R) were deterioratiing and some parts of the trees were damaged. In addition to this, identification tag for tree T038(R) was still missing (see *Photos 5, 6, 7* and *8*)					necessary mitigation measures to improve the overall health condition of the trees. Provided the missing tag of retained tree T038(R) immediately.
Cyberport	No major excavation works were conducted. No stockpile of excavated soil was observed.	Existing trees have been retained on site, fenced off and protected properly. The stagnant water around retained tree T048(R) has been dried. However, the area was still damp. The damp environment might affect the overall health condition of the tree. (See *Photo 10*)	No tree was transplanted during this reporting month.	Not applicable - Compensatory tree planting has not been started.	Night-time lighting was used for 24 hours per day on 1 to 29 February.	Noise enclosure was erected over the shaft. A yellow color was used for the materials of the noise enclosure, similar to the color of the existing STW façade.	Contractor was advised to closely monitor the affected area and continue to use the water pump to drain the water away from the retained tree.
Wah Fu	No major excavation works were conducted. No	Not Applicable - No existing trees were identified to be	Not Applicable - No existing trees were identified to be	Not applicable - No existing trees were	Not applicable - No night-time lighting was used.	Screening was erected and was compatible to the	Not required

Site	CM1 **Topsoil identified stripped and stored for re-use in the construction of soft landscape works, where practical**	CM2 **Existing trees to be retained on site should be carefully protected during construction**	CM3 **Trees unavoidably affected by the works should be transplanted where practical.**	CM4 **Compensatory tree planting should be provided to compensate for felled trees.**	CM5 **Control of night-time lighting.**	CM6 **Erection of decorative screen hoarding compatible with the surrounding setting.**	Recommendations
	stockpile of excavated soil was observed.	affected within the works area.	affected within the works area.	identified to be affected within the works area.		surrounding setting.	
Aberdeen	No major excavation works were conducted. No stockpile of excavated soil was observed.	Existing trees have been retained on site, fenced off and protected properly. The conditions of T076(R) and T079(R) were deteriorating (see *Photos 11* and *12)*. Construction materials were found stored closely at the root area of retained tree T081(R). The two untagged trees identified in previous audits have not yet been tagged. Another untagged tree near the site entrance gate. was identified by ERM (see *Photo 15* and *16*).	All tree transplantation works have been completed and all transplanted trees are properly supported by tripod. The machine truck lift was still parked closely at the transplanted tree T003(T) that might damage the tree. (see *Photo 14*).	Not applicable - Compensatory tree planting has not been started.	Night-time lighting was used until 2030 hours on 1, 2,3,8,9,15,16,22 and 23 February 2012.	Screen hoarding was erected and the grey colour was compatible to the surrounding setting.	The Contractor was advised to to take necessary mitigation measures to improve the health conditions of the retained trees T076(R) and T079 (R). The Contractor was also advised to remove all construction materials stored near to the root areas of retained tree T081(R) immediately. The Contractor was advised to consult their tree consultant to check the identification of untagged trees at the Aberdeen workshop site and provided tag accordingly. The Contractor was highly advised to moved the truck away from the transplanted tree T003(T) to avoid further damage to the tree.

Site	CM1	CM2	CM3	CM4	CM5	CM6	Recommendations
	Topsoil identified stripped and stored for re-use in the construction of soft landscape works, where practical	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.	Erection of decorative screen hoarding compatible with the surrounding setting.	

Sandy Bay site --- Photo 1
Retained trees T036(R) was confirmed dead by the Contractor's tree consultant last December 2011 and it was felled and removed on February 23, 2012. ..

Sandy Bay site --- Photo 2
Retained tree T037(R) was confirmed dead by the Contractor's tree consultant last December 2011 and it was felled and removed on February 23,2012.

Sandy Bay site --- Photo 3
Retained tree T020(R) was confirmed dead by the Contractor's tree Consultant last December 2011 and it was removed on February 23, 2012.

Sandy Bay site --- Photo 4
Retained tree T061(R) was confirmed dead in December 2011 and it was removed on February 23, 2012.

Sandy Bay site --- Photo 5
The retained Tree T028 (R) was still observed deterioration and damages on the branches and leaves.

Sandy Bay site --- Photo 6
The retained Tree T038 (R) was still observed deterioration on its health.

Sandy Bay site --- Photo 7
The retained Tree T053 (R) was still observed some deterioration on its health.

Sandy Bay site --- Photo 8
Tree identification tag is still missing for retained tree T038 (R).

Sandy Bay site --- Photo 9
The transplanted Trees T004 (T) and T005 (T) were confirmed dead In December 2011 and it was removed on February 23, 2012.

Cyberport site --- Photo 10
There was a slight improvement on the formation of stagnant water around retained tree T048(R).

Abeerden site --- Photo 11
The retained tree T076 (R) was still showing deterioration on its stems and leaves..

Abeerden site --- Photo 12
The retained tree T079 (R) was still showing deterioration.

Abeerden Site --- Photo 13
Construction materials were closely stored on the roots of the retained tree T081 (R).

Abeerden site --- Photo 14
Machine truck lift was still observed to be closely park at Transplanted tree T003(T).

Abeerden Site --- Photo 15
Two trees without proper identification tag.

Abeerden site --- Photo 16
Tree without proper identification tag.

(Name: Christina Ip,
Registered Landscape Architect)

APPENDIX M

ENVIRONMENTAL COMPLAINT/ ENQUIRY FORM AND NOTIFICATION OF EXCEEDANCES

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 111

Date of Notification: 3rd February 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 2nd February 2012

Noise Monitoring Location: M6a — Aegean Terrace

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	23:00 – 23:15 hrs on 2nd February 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				50.2 dB(A)	50.3 dB(A)	51.4 dB(A)

* Free-field measurement, +3dB correction

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during night-time noise monitoring at M6a on 2nd February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Cyberport PTW works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS1042-11.

According to the Project Baseline Environmental Monitoring Report (Doc No. GEN/026), the average 5-min baseline noise level was found to be 50.8 dB(A), which already exceeded the Limit Level of 50 dB(A) set out in the Project EM&A Manual. It is also noted that the night-time BGL at M6a ranged from 41.6 dB(A) to 67.0 dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise sources were the local traffics of Aegean Terence.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 3rd February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 3rd February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 112

Date of Notification: 14th February 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 8th Fenruary 2012

Noise Monitoring Location: M5a —near entrance of Chuk Lam Ming Tong

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	22:45 – 23:00 hrs on 8th February 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				60.9 dB(A)	62.3 dB(A)	59.6 dB(A)

* façade measurement

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during evening time noise monitoring at M5a on 8th February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS0956-11.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 6th November 2010 from 22:39 to 22:54 hrs. All PMEs listed under the CNP No. GW-RS0940-10 were ensure to shut down during the measurement. The average 5-min baseline noise level was found to be 60.6dB (A), which already exceeded the Limit Level of 60dB (A) set out in the Project EM&A Manual. It is also noted from the Project Baseline Environmental Monitoring Report (Doc No. GEN/026) that the night-time BGL at M5a (roof of Chuk Lam Ming Tong) ranged from 56.2dB(A) to 63.6dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise sources were road traffic noise at San Wan Drive.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 14th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 14th February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 113

Date of Notification: 14 February 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 10th February 2012

Noise Monitoring Location: M5a —near entrance of Chuk Lam Ming Tong

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	23:00 – 23:15 hrs on 10th February 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				57.2 dB(A)	60.5 dB(A)	61.0 dB(A)

* façade measurement

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during night-time noise monitoring at M5a on 10th February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS0956-11.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 6th November 2010 from 23:00 to 23:15 hrs. All PMEs listed under the CNP No. GW-RS0940-10 were ensure to shut down during the measurement. The average 5-min baseline noise level was found to be 60.5dB (A), which already exceeded the Limit Level of 45dB (A) set out in the Project EM&A Manual. It is also noted from the Project Baseline Environmental Monitoring Report (Doc No. GEN/026) that the night-time BGL at M5 (roof of Chuk Lam Ming Tong) ranged from 54.4dB(A) to 70.2dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise sources were road traffic noise at San Wan Drive.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 14th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 14th February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun
Notifications of Environmental Quality Limits Exceedances Notification No.: 114

Date of Notification: 21 February 2012

Works Inspected: TSP-Data collected from sampling on 16 February 2012

Monitoring Location: The Hong Kong Ice and Cold Storage (CM_AB1a) and The Arcade, Cyberport (CM_CB1a)

Parameter: 1 hour Total Suspended Particulates (1-hr TSP)

Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	AL ($\mu g/m^3$)	LL ($\mu g/m^3$)	MEASURED LEVEL, $\mu g/m^3$
1-hr TSP	CM_AB1a/ CM_CB1a	331.9	500	**320.7** / **227.3**
1-hr TSP	CM_AB1a/ CM_CB1a	331.9	500	**486.5** / **335.0**
1-hr TSP	CM_AB1a/ CM_CB1a	331.9	500	**746.8** / **203.2**

Possible reason for Action or Limit Level Non-compliance:

On 16 February 2012, an exceedances of the Limit Level for 1-hr TSP were recorded at The Hong Kong Ice and Cold Storage (CM_AB1a) and The Arcade, Cyberport (CM_CB1a) air quality monitoring station.

Key works carried out by Contractor during the monitoring period included the following:

For Aberdeen

- Drilling in the shaft

For Cyberport

- Rock out

According to the site observation, no dust emission was found during the monitoring period. The weather conditions were very hazy with very low visibility during the dust sampling time period (9:00-12:00noon of CM_CB1a, 13:00-16:00 of CM_AB1a on 16/2). The exceedances were likely contributed by hazy weather. The photos 1 and 2 were taken at Aberdeen to show that there was very low visibility condition on 16 February 2012.

The nearly TSP record was 24-hr TSP level at CM_AB1a /CM_CB1a on 14 February 2012 was 74 $\mu g/m^3$ and 65 $\mu g/m^3$, respectively. Both of them were below Action Level.

It is concluded that the above exceedances did not result from site activities but are representative of regional low visibility condition.

Actions taken/ to be taken:

As the 1-hr TSP exceedances were not related to project works, no immediate actions are considered necessary.

Inspected by : Jacky Lee Title : Assistant Environmental Consultant

Date : 24th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 24th February 2012

Sent to : PRE, Contractor, CEDD, EPD & IEC

Photos 1 and 2 The hazy condition during monitoring at Aberdeen	
	

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 115

Date of Notification: 21st February 2012

Works Inspected: Data collected from normal weekday night time (between 23:00-07:00 hrs of next day) noise monitoring on 26th February 2012

Noise Monitoring Location: M3 — Kwan Yick Building Phase III

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	23:00 – 23:15 hrs on 27th January 2012		
23:00–07:00 hrs Normal weekday	1 complaint	55dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				67.8 dB(A)	67.1 dB(A)	67.2 dB(A)

* façade measurement

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during nighttime noise monitoring at M3 on 16th February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Fung Mat Road works site during noise monitoring period included hydraulic extractor, bentonite filtering plant and generator as listed in Construction Noise Permit (CNP) No. GW-RS1171-11.

A background noise level (BGL) monitoring was conducted on 2nd July 2010 from 23:02 – 23:17 hrs, as requested by EPD. All PMEs listed under the CNP No. GW-RS0435-10 were shut down during the BGL measurement. The 5-min BGL was found to be 66.6dB (A), which already exceeded the Limit Level of 55dB (A) set out in the Project EM&A Manual. It is also noted from the Project Baseline Environmental Monitoring Report (Doc No. GEN/026) that the nighttime BGL at M3 (Kwan Yick Building Phase III) ranged from 57.2dB(A) to 70.3dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, other noise sources including road traffic noise from Western Harbour Crossing and engine of turbojet.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Keith Chau Title : Environmental Consultant

Date : 24th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 24th February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 116

Date of Notification: 27th February 2012

Works Inspected: Data collected from daytime and evening time during general holiday (between 07:00-23:00 hrs)noise monitoring on 19th February 2012

Noise Monitoring Location: M5a — near entrance of Chuk Lam Ming Tong

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	8:00 – 8:15 hrs on 19th February 2011		
07:00–23:00 hrs	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				67.7 dB(A)	65.2 dB(A)	66.4 dB(A)

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during daytime and evening during general holiday noise monitoring at M5a on 19th February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS0956-11.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 7th November 2010 from 16:19 to 16:34 hrs. All PMEs listed under the CNP No. GW-RS0133-11 were ensure to shut down during the measurement. The average 5-min baseline noise level was found to be 65.9dB (A), which already exceeded the Limit Level of 60dB (A) set out in the Project EM&A Manual. It is also noted from the Project Baseline Environmental Monitoring Report (Doc No. GEN/026) that the daytime and evening time BGL at M5 (roof of Chuk Lam Ming Tong) ranged from 55.1dB (A) to 75.2dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise source was road traffic noise at San Wan Drive.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 27th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 27th February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 117

Date of Notification: 27 February 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 22nd February 2012

Noise Monitoring Location: M5a —near entrance of Chuk Lam Ming Tong

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	23:00 – 23:15 hrs on 22nd February 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				60.1 dB(A)	61.1 dB(A)	59.0 dB(A)

* façade measurement

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during night-time noise monitoring at M5a on 22nd February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS0956-11.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 6th November 2010 from 23:00 to 23:15 hrs. All PMEs listed under the CNP No. GW-RS0940-10 were ensure to shut down during the measurement. The average 5-min baseline noise level was found to be 60.5dB (A), which already exceeded the Limit Level of 45dB (A) set out in the Project EM&A Manual. It is also noted from the Project Baseline Environmental Monitoring Report (Doc No. GEN/026) that the night-time BGL at M5 (roof of Chuk Lam Ming Tong) ranged from 54.4dB(A) to 70.2dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise sources were road traffic noise at San Wan Drive.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 27th February 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 27th February 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Notification of Environmental Quality Limit Exceedance Notification No.: 118

Date of Notification: 7th March 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 29th February 2012

Noise Monitoring Location: M6a — Aegean Terrace

Parameter: Noise - $L_{eq(5\ min)}$

Action & Limit Levels			**Measured Noise Level ***			
Time Period	Action Level	Limit Level	Time :	23:00 – 23:15 hrs on 29th February 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				52.0 dB(A)	52.7 dB(A)	51.5 dB(A)

* Free-field measurement, +3dB correction

Possible Reason for Action or Limit Level Non-compliance:

An exceedance in Limit Level was recorded during night-time noise monitoring at M6a on 29th February 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Cyberport PTW works site during noise monitoring period included powered mechanical equipments as listed in Construction Noise Permit (CNP) No. GW-RS1042-11.

According to the Project Baseline Environmental Monitoring Report (Doc No. GEN/026), the average 5-min baseline noise level was found to be 50.8 dB(A), which already exceeded the Limit Level of 50 dB(A) set out in the Project EM&A Manual. It is also noted that the night-time BGL at M6a ranged from 41.6 dB(A) to 67.0 dB(A).

Hence, the above exceedance was considered to be non-project related. Based on observations during the noise monitoring period, the major noise sources were the local traffics of Aegean Terence.

Actions taken/ to be taken:

As the noise exceedance was not considered to be related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 7th March 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 7th March 2012

Sent to: Engineer's Representative, Contractor, EPD & IEC

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun
Notifications of Environmental Quality Limits Exceedances Notification No.: 119

Date of Notification: 7 March 2012

Works Inspected: TSP-Data collected from sampling on 22 February 2012

Monitoring Location: The Hong Kong Ice and Cold Storage (CM_AB1a)

Parameter: 1 hour Total Suspended Particulates (1-hr TSP)

Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	AL (µg/m^3)	LL (µg/m^3)	MEASURED LEVEL, µg/m^3
1-hr TSP	CM_AB1a	282.5	500	**568.9**
1-hr TSP	CM_AB1a	282.5	500	**394.3**
1-hr TSP	CM_AB1a	282.5	500	**215.3**

Possible reason for Action or Limit Level Non-compliance:

On 22 February 2012, exceedances of the Limit Level and Action Level for 1-hr TSP were recorded at The Hong Kong Ice and Cold Storage (CM_AB1a) air quality monitoring station.

Key works carried out by Contractor during the monitoring period included the following:

For Aberdeen

- Grouting in the shaft

According to the site observation, no dust emission was found during the monitoring period. The weather conditions were very hazy with very low visibility during the dust sampling time period (9:21-12:21noon of CM_AB1a on 22/2). The exceedances were likely contributed by hazy weather. The photo 1 was taken at Aberdeen to show that there was very low visibility condition on 16 February 2012.

The records of 24-hr TSP level at CM_AB1a on 20 February and 24 February 2012 were 76 µg/m^3 and 41 µg/m^3 respectively, which were well below Action Level.

It is concluded that the above exceedances did not result from site activities but the weather condition.

Actions taken/ to be taken:

As the 1-hr TSP exceedances were not related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 7th March 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 7th March 2012

Sent to : PRE, Contractor, CEDD, EPD & IEC

Photo 1	The hazy condition during monitoring at Aberdeen

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun
Notifications of Environmental Quality Limits Exceedances Notification No.: 120

Date of Notification: 7 March 2012

Works Inspected: TSP-Data collected from sampling on 23 February 2012

Monitoring Location: Station CM_WF1a, The Wah Ming House

Parameter: 1 hour Total Suspended Particulates (1-hr TSP)

Action & Limit Level (AL & LL) / Measured Level:

PARAM	STATION	AL (µg/m^3)	LL (µg/m^3)	MEASURED LEVEL, µg/m^3
1-hr TSP	CM_WF1a	284.5	500	**376.7**
1-hr TSP	CM_WF1a	284.5	500	**305.2**
1-hr TSP	CM_WF1a	284.5	500	**1845.5**

Possible reason for Action or Limit Level Non-compliance:

On 23 February 2012, an exceedances of the Limit Level for 1-hr TSP were recorded at Station CM_WF1a, The Wah Ming House air quality monitoring station.

Key works carried out by Contractor during the monitoring period included the following:

- Rock out and Rock Bolt

According to the site observation, no dust emission was found during the monitoring period. Other dust source during measurement is rock breaking with using hand held breaker of other contractor with laying cables. The weather conditions were very hazy with very low visibility during the dust sampling time period (9:18-12:18noon). The exceedances were likely contributed by hazy weather. The photos 1 and 2 were taken at Wah Fu to show the breaking process and the photo 3 is showing that there was very low visibility condition on 23 February 2012.

The record of 24-hr TSP level at CM_WF1a on 24 February 2012 was 40 µg/m^3, which was well below Action Level.

It is concluded that the above exceedances was not resulted from site activities but weather condition.

Actions taken/ to be taken:

As the 1-hr TSP exceedances were not related to project works, no immediate actions are considered necessary.

Inspected by : Ruby Law Title : Environmental Technician

Date : 7th March 2012

Reviewed and approved by : Susana Halliday Title : Environmental Team Leader

Date : 7th March 2012

Sent to : PRE, Contractor, CEDD, EPD & IEC

Photos 1 and 2 Rock breaking with using hand held breaker of other contractor
 
Photo 3 The hazy condition during monitoring at Wah Fu


Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun

Environmental Complaint/ Enquiry Form

Ref No.: 006

Complaint/ ~~Enquiry~~ Received*

Date: 16 Feb 2012
Time: 9:56am
By: Evan YUNG
Via: E-mail hats@epd.gov.hk

Complainant/ ~~Enquirer~~*:

Name: Mr. Lau (Management office of Connaught Garden)
Tel: Undisclosed
Address: Undisclosed
Email: eddielau@goodwell.com.hk

Complaint/ ~~Enquiry~~*:

Date of complaint/ enquiry: 16 February 2012
Time of complaint/ enquiry: Nil
Media: Dust ~~Noise~~ ~~Water~~ ~~Other~~
Description: A public complaint was received by EPD email regarding dust pollution during barging operation at Fung Mat Road site area.

Investigation Result & Response:

IEC and ER notified on: 17 February 2012
Result of investigation:

The Contractor was confirmed that the barging operation being carried out during the period on 13rd to 15th February 2012. Base on the contractor record, the materials were wet before loading on the barge (Photo 1).

Air Monitoring was conducted on 14 February 2012 and the results showed that the dust levels were complied with the required standard as shown below:

Start time	Measurement Period	Action Level	Limit Level	Measured TSP Concentration (µg/m3)
08:00 on 14 Feb 2012	1 hour	331.9 µg/m3	500 µg/m3	110.5
13:10 on 14 Feb 2012	1 hour	331.9 µg/m3	500 µg/m3	59.4
14:20 on 14 Feb 2012	1 hour	331.9 µg/m3	500 µg/m3	74.6
15:33 on 14 Feb 2012	24 hours	188.5 µg/m3	260 µg/m3	56

During the site investigation on morning of 17 February 2012(Photo 2) no barging operation was found. The Contractor was confirmed that no barging operation until next Friday.

Recommendations/ mitigation measures/ actions if necessary:
The Contractor was reminded to pay more attention on dust control and enhance the watering of the whole site when necessary to minimize the dust nuisance. The contractor was proposed to provide properly watering for the materials before loading activities on barge. Air monitoring has been schedule next week to confirm mitigation has been implemented properly.

* Delete where appropriate

Photo 1:	Photo 2:
	

Reviewed by : Susana Halliday

Title : ET Leader

Date : 17 February 2012

Copied to : Engineer's Representative, IEC, EPD, Contractor

* Delete where appropriate

APPENDIX N

SUMMARY RECORDS OF SITE INSPECTIONS

1 February 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Oil Waste:

1. An unknown chemical drum was found near the entrance and in the container near the Aqua.Sed tank.(Photos 1 and 2)

Site Maintenance:

1. Some plastic matters were found in paper recycle bin in storage site.(Photos 3 and 4)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120126

Nil.

Current Environmental Site Inspection Checklist – Report No. 120201

Oil Waste:

1. The contractor is suggested to provide properly label and place in the chemical storage.

Site Maintenance:

1. The contractor is reminded to enhance the sorting of recycle materials.

Photos 1 and 2 An unknown chemical drum was found near the entrance and in the container near the Aqua.Sed tank

Photos 3 and 4 Some plastic matters were found in paper recycle bin in storage site

Cyberport PTW

Notes / Issues Recorded On Site:

Chemical Waste:

1. Some empty chemical drums were found near the sedimentation tank. (Photo 1)

Chemical Management:

1. Oil stains were found on the floor at the corner inside the noise enclosure. (Photo 2)

General Housekeeping:

1. The accumulated water was found on the floor under the air compressor inside the noise enclosure. (Photo 3)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120126

General Housekeeping:

1. The accumulated water was cleared in the drip tray near the noise enclosure.(Photo 4)

Chemical Management:

1. Oil stains on the floor inside the noise enclosure were cleared.

Current Environmental Site Inspection Checklist – Report No. 120201

Chemical Waste:

1. To provide the properly labels and place into chemical storage.

Chemical Management:

1. To clear the oil stains with oil dispenser.

General Housekeeping:

1. The contractor was suggested to clear accumulated water.

Photo 1 Some empty chemical drums were found near the sedimentation tank.

Photo 2 Oil stains were found on the floor at the corner inside the noise enclosure.

Photo 3 The accumulated water was found on the floor under the air compressor inside the noise enclosure.

Photo 4 The accumulated water was cleared in the drip tray near the noise enclosure.

Fung Mat Road Site

Notes / Issues Recorded On Site:

Chemical Management:

1. The unknown chemical was found near the air compressor in the noise enclosure.(Photo 1)

Waste Oil:

1. Two buckets of waste oil were found near the air compressor.(Photo 2)

Previous Environmental Site Inspection Checklist – Report No. 120126

Chemical Management:

1. The oil stain in the noise enclosure was cleared.

General Housekeeping:

1. The accumulated water insider the noise enclosure was reduced.(Photos 3 and 4)

Current Environmental Site Inspection Checklist – Report No. 120201

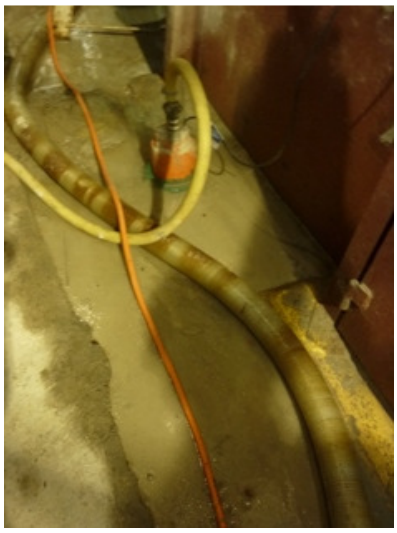
Chemical Management:

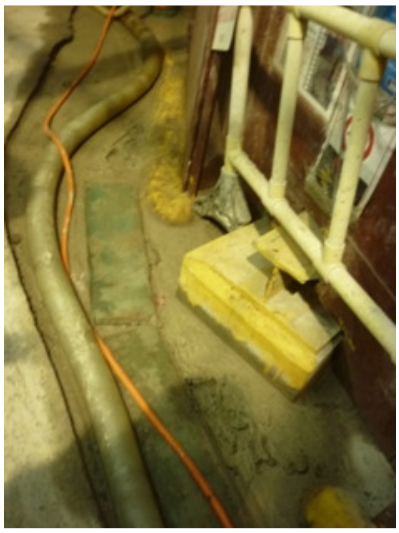
1. The contractor was reminded to provide properly label.
2. The contractor was reminded to place waste oil properly, such as waste chemical storage.

Photo 1 The unknown chemical was found near the air compressor in the noise enclosure

Photo 2 Two buckets of waste oil were found near the air compressor

Photos 3 and 4 The accumulated water insider the noise enclosure was reduced





Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Oil stains were found on the floor near the chemical storage.(Photo 1)

General Housekeeping:

1. Accumulated water was found in skip near the boundary and in the drip tray near the chemical storage area. (Photos 2 and 3)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120126

General Housekeeping:

1. Accumulated water in skip near the container was cleared. (Photo 4)

Current Environmental Site Inspection Checklist – Report No. 120201

Chemical Management:

1. To clear the oil stains with oil dispenser.

General Housekeeping:

1. The contractor was reminded to clear the accumulated water regularly.

Photo 1 Oil stains were found on the floor near the chemical storage.

Photo 2 Accumulated water was found in the drip tray near the chemical storage area.

Photos 3 Accumulated water was found in skip near the boundary.

Photo 4 Accumulated water in skip near the container was cleared.

Wah Fu PTW

Notes / Issues Recorded On Site:
Site management:

1. Water accumulation was found under the water tap near the boundary. (Photo 1)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120126

Chemical storage:

1. The chemical drum with drip tray was moved away from the air compressor.(Photo 2)

Current Environmental Site Inspection Checklist – Report No. 120201

Site management:

1. The contractor was reminded to avoid water accumulation and fix the water tap.

Notes / Issues Recorded On Site:
Site management:

2. Water accumulation was found under the water tap near the boundary. (Photo 1)

Photo 1 Water accumulation was found under the water tap near the boundary

Photo 2 The chemical drum with drip tray was located too close to the air compressor

7 February 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Oil Waste:

1. An unknown chemical drum was found near the entrance since last inspection(Photo 1)

Site Maintenance:

2. Some muddy water was found near the boundary behind the sedimentation tank.(Photos 4 and 5)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120201

Oil Waste:

1. The label was provided to chemical drum in the container near the Aqua. Sed tank

Site Maintenance:

1. The issue of plastic matters were found in paper recycle bin in storage site will be inspect in next time. (Photos 2 and 3)

Current Environmental Site Inspection Checklist – Report No. 120207

Oil Waste:

1. The contractor is suggested to provide proper label to the unknown chemical drum and place it in the chemical storage.

Site Maintenance:

2. The contractor is reminded to clear the muddy water and keep the site tidiness.

Photo 1 An unknown chemical drum was found near the entrance since last inspection

Photos 2 and 3 Some plastic matters were found in paper recycle bin in storage site

Photos 4 and 5	Some muddy water was found near the boundary behind the sedimentation tank

Cyberport PTW

Remark: No inspection had been undertaken during this inspection

Fung Mat Road Site

Notes / Issues Recorded On Site:

Chemical Management:

1. Unknown chemical was found near the air compressor in the noise enclosure.(Photo 1)
2. An oil stain was found near the air compressor.(Photo 3)
3. Some chemical drums without labels were found near the blasting cover.(Photo 4)

Waste Oil:

1. Two buckets of waste oil were found near the air compressor since last inspection.(Photo 2)

Site Management:

1. The pump was silted up with mud near the access. (Photo 5)

Previous Environmental Site Inspection Checklist – Report No. 120201

Chemical Management:

2. The issue of unknown chemical was found near the air compressor in the noise enclosure will inspect in next time since the access was blocked.

General Housekeeping:

Current Environmental Site Inspection Checklist – Report No. 120207

Chemical Management:

3. The contractor was reminded to provide proper label to the unknown chemical drum.
4. The contractor was reminded to clear the oil stains properly

Waste oil:

1. The contractor was reminded to place waste oil properly, such as waste chemical storage.

Site Management:

1. To clean up the mud and avoid any blockage of the pump.

Photo 1 Unknown chemical was found near the air compressor in the noise enclosure

Photo 2 Two buckets of waste oil were found near the air compressor

Photo 3 An oil stain was found near the air compressor

Photo 4 Some chemical drums without labels were found near the blasting cover

Photo 5 The pump was silted up with mud near the access

Sandy Bay

Notes / Issues Recorded On Site:

Oil Management:

1. An unknown oil bucket was found near stockpiles.(Photo 3)

General Housekeeping:

2. Accumulation of waste water was found under the hand washing tank.(Photo 4)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120201

Chemical Management:

1. Oil stain on the floor near the chemical storage was cleared.(photo 1)

General Housekeeping:

2. Accumulated water in skip near the boundary was cleared. (Photo 2)

Current Environmental Site Inspection Checklist – Report No. 120207

Oil Management:

1. To provide suitable chemical label to the oil bucket and place properly.

General Housekeeping:

1. The contractor was reminded to clear the accumulated water regularly.

Photo 1 The metal material was found next to the tree

Photo 2 The wastes near the hoarding were removed.

Wah Fu PTW

Notes / Issues Recorded On Site:

Chemical/Fuel Storage Area :

1. Some general refuses were found in the U-channel near the site hoarding.(Photo 1)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120103

Chemical/Fuel Storage Area :

1. Some unknown oil containers were removed. (Photo 2)

Current Environmental Site Inspection Checklist – Report No. 120110

Chemical/Fuel Storage Area :

1. The contractor was reminded to remove the general refuses and keep the site tidiness.

Photo 1 Some general refuses were found in the U-channel near the site hoarding.

Photo 2 The unknown oil was removed properly.

14 February 2012

Aberdeen PTW

Notes / Issues Recorded On Site:
Site Maintenance:

1. Oil stain was found on the floor at the entrance(Photo 1)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120207

Oil Waste:

1. An unknown chemical drum near the entrance was removed (Photo 2)

Site Maintenance:

1. The issue of plastic matters were found in paper recycle bin in storage site (observed from previous inspection on 1st Feb 2012).The observation will be inspect in next time. (Photos 3 and 4)
2. The muddy water near the boundary behind the sedimentation tank was cleared.(Photo 5)

Current Environmental Site Inspection Checklist – Report No. 120214

Site Maintenance:

1. The contractor is reminded to clear the oil stain at the entrance with oil dispenser.

Photo 1 Oil stain was found on the floor at the entrance

Photo 2 An unknown chemical drum near the entrance was removed

Photos 3 and 4 Some plastic matters were found in paper recycle bin in storage site

Photo 5 The muddy water near the boundary behind the sedimentation tank was cleared

Cyberport PTW

Notes / Issues Recorded On Site:

Chemical Refuse:

1. Empty drums were accumulated near the sedimentation tank(Photo 1)

Waste Oil:

1. Oil stain was found in the noise enclosure under the air compressor (Photo 2)

Chemical Storage Area:

1. Oil drums were found without drip trays near noise enclosure. (Photo 3)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120207

General Housekeeping:

1. The accumulated water was cleared on the floor under the air compressor inside the noise enclosure.(Photo 4)

Current Environmental Site Inspection Checklist – Report No. 120214

Chemical Storage Area:

1. To provide the drip tray to oil drums near noise enclosure.

Chemical Refuse:

1. To avoid material accumulating in site near the sedimentation tank.

Waste Oil:

1. The contractor was suggested to clear the oil stain in the noise enclosure under the air compressor with oil dispenser.

Photo 1 Empty drums were accumulated near the sedimentation tank.

Photo 2 Oil stain was found in the noise enclosure under the air compressor.

Photo 3 Oil drums were found without drip trays near noise enclosure.

Photo 4 The accumulated water was cleared on the floor under the air compressor inside the noise enclosure.

Fung Mat Road Site

Notes / Issues Recorded On Site:

Oil storage:

1. Two buckets of oil were found without suitable labels near the air compressor. (Photo 1)

Previous Environmental Site Inspection Checklist – Report No. 120207

Chemical Management:

1. Unknown chemical near the air compressor in the noise enclosure was removed.(Photo 2)
2. The oil stain near the air compressor was cleared.(Photo 3)
3. Chemical drums near the blasting cover were removed.(Photo 4)

Site Management:

1. Mud near the access was cleared(Photo 5)

General Housekeeping:

Current Environmental Site Inspection Checklist – Report No. 120214

Oil Storage:

1. The contractor was reminded to provide proper label to two buckets of oil near the air compressor.

Site Management:

1. The contractor is recommended avoid water accumulation.

Photo 1 Two buckets of oil were found without suitable labels near the air compressor

Photo 2 Unknown chemical near the air compressor in the noise enclosure was removed

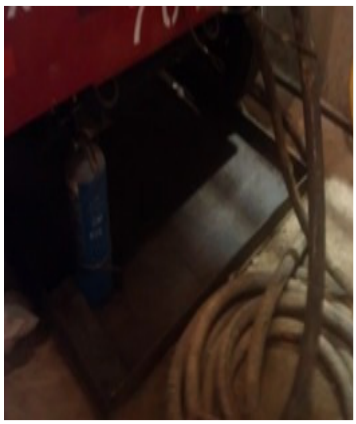


Photo 3 The oil stain near the air compressor was cleared

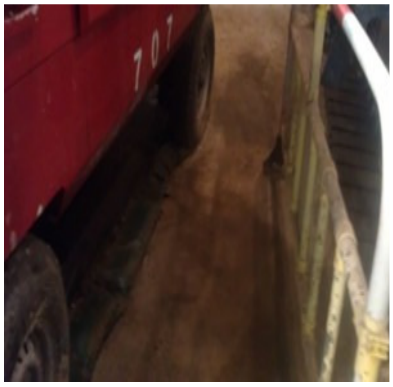


Photo 4 Chemical drums near the blasting cover were removed

Photo 5 Mud near the access was cleared

Sandy Bay

No inspection had been undertaken during this inspection

Wah Fu PTW

Notes / Issues Recorded On Site: **Water Quality:** 1. Oil water was found flowing into gully near Aqua. Sed tank. (Photo 1)
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Previous Environmental Site Inspection Checklist – Report No. 120207** Nil **Current Environmental Site Inspection Checklist – Report No. 120214** **Site management:** 1. The contractor was reminded to ensure all contaminate water should be treated properly before discharge.

Photo 1 Oil water was found flowing into gully near Aqua. Sed tank

21 February 2012

Aberdeen PTW

Notes / Issues Recorded On Site:
Nil.

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120214

Site Maintenance:

1. The oil stain on the floor at the entrance was cleared.

Site Maintenance:

1. The issue of plastic matters were found in paper recycle bin in storage site (observed from previous inspection on 1st Feb 2012).The observation will be inspect in next time due to no inspection undertaken in storage site. (Photos 1 and 2)

Current Environmental Site Inspection Checklist – Report No. 120221

Nil.

Photos 1 and 2 Some plastic matters were found in paper recycle bin in storage site

Cyberport PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. Accumulated water was found on the floor under the air compressor inside the noise enclosure.(Photo 4)

Chemical Refuse:

1. Empty drums were accumulated near the sedimentation tank since last inspection(Photo 1)

Waste Oil:

1. Oil stain was found in the noise enclosure under the air compressor since last inspection (Photo 2)

Chemical Storage Area:

1. Oil drums were found without drip trays near noise enclosure since last inspection. (Photo 3)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120214

General Housekeeping:

1. The issue of Chemical Refuse, Waste Oil and Chemical Storage Area mentioned above will be follow-up in next inspection due to no inspection of the path outside the enclosure.

Current Environmental Site Inspection Checklist – Report No. 120221

Chemical Storage Area:

2. To provide the drip tray to oil drums near noise enclosure.

Chemical Refuse:

2. To avoid material accumulating in site near the sedimentation tank.

Waste Oil:

2. The contractor was suggested to clear the oil stain in the noise enclosure under the air compressor with oil dispenser.

General Housekeeping:

1. The contractor is reminded to avoid water accumulation and investigate the reason of dripping.

Photo 1 Empty drums were accumulated near the sedimentation tank.

Photo 2 Oil stain was found in the noise enclosure under the air compressor.

Photo 3 Oil drums were found without drip trays near noise enclosure.

Photo 4 Accumulated water was found on the floor under the air compressor inside the noise enclosure

Fung Mat Road Site

Notes / Issues Recorded On Site:
Nil.

Previous Environmental Site Inspection Checklist – Report No. 120214

Oil storage:

1. The issue of two buckets of oil were found without suitable labels near the air compressor. (Observed from previous inspection on 14th Feb 2012).The observation will inspect in next time due to the access had been blocked. (Photo 1)

Current Environmental Site Inspection Checklist – Report No. 120221

Site Management:

1. The contractor is recommended avoid water accumulation.
2. The contractor was reminded to place chemical into drip tray under the Aqua. Sed

Photo 1 Two buckets of oil were found without suitable labels near the air compressor

Sandy Bay PTW

Notes / Issues Recorded On Site:

Oil Management:

1. An unknown oil bucket was found near container.(Photo 1)

Chemical Storage:

1. Oil stain was found on the floor in front of site office.(Photo 2)
2. A chemical storage container was found without drip tray and properly labels(Photo 3)

General Housekeeping:

1. Trashes was found near the stockpiles.(Photo 4)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120214

Chemical Management:

1. Oil stain on the floor near the chemical storage was cleared.

General Housekeeping:

1. Accumulated water in skip near the boundary was cleared.

Current Environmental Site Inspection Checklist – Report No. 120221

Oil Management:

1. To provide suitable chemical label to the oil bucket near container and place properly.

Chemical Storage:

1. The contractor is reminded to clear the oil stain in front of site office with oil dispenser
2. To provide suitable chemical label and drip tray if container for storage chemical

General Housekeeping:

1. The contractor was reminded to keep the site tidiness.

Photo 1 An unknown oil bucket was found near container

Photo 2 Oil stain was found on the floor in front of site office.

Photos 3 A chemical storage container was found without drip tray and properly labels.

Photo 4 Trashes were found near the stockpiles.

Wah Fu PTW

Notes / Issues Recorded On Site: Nil. **Corrective Actions – Mitigation Measures Implemented or Proposed (if any):**
Previous Environmental Site Inspection Checklist – Report No. 120214 **Water Quality:** 1. No oil water was found discharging into gully. (Photo 1) **Current Environmental Site Inspection Checklist – Report No. 120221** **Site management:** 1. The contractor was reminded to place screening material properly.

Photo 1 No oil water was found discharging into gully

28 February 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Waste Management:

1. Non-recycle material were found in paper recycle bin in work shop(Photos 1 and 2)

Waste Oil:

1. Oil stain was found near concert boxes in work shop.(Photos 3 and 4)

General Housekeeping:

1. Water accumulation was found in skip near retained tree(T003) and drip tray in work shop.(Photos 5 and 6)
2. Trashes were found near the entrance of work shop(Photo 7)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120221

Nil.

Current Environmental Site Inspection Checklist – Report No. 120228

Waste Management:

1. The contractor is reminded to enhance the sorting of recycle materials.

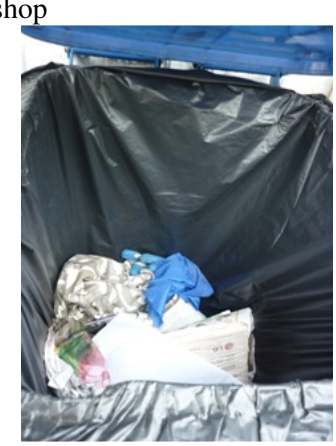
Waste Oil:

1. To clear oil with near concert boxes in work shop oil dispenser

General Housekeeping:

1. The contractor is reminded to avoid water accumulation and keep the site tidiness

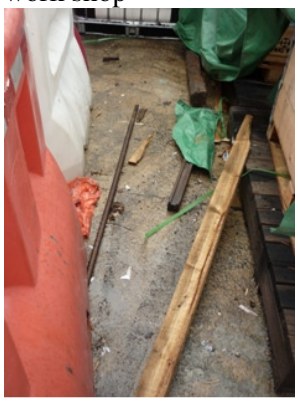
Photos 1 and 2 Non-recycle material were found in paper recycle bin in work shop



Photos 3 and 4 Oil stain was found near concert boxes in work shop

Photos 5 and 6 Water accumulation was found in skip near retained tree(T003) and drip tray in work shop

Photo 7 Trashes were found near the entrance of work shop



Cyberport PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. Water accumulation was found in drip tray near the entrance of noise enclosure. (Photos 5)

Chemical Refuse:

1. Empty drums were accumulated near the sedimentation tank since last inspection on 14th Feb 2012 (Photo 1)

Chemical Storage Area:

1. Oil drums were found without drip trays near noise enclosure since last inspection on 14th Feb 2012(Photo 2)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120221

General Housekeeping:

1. The issue of oil stain (Photo 3) and water accumulation (Photo 4) were found in the noise enclosure under the air compressor will be follow-up in next inspection due to the access had been blocked.

Current Environmental Site Inspection Checklist – Report No. 120228

Chemical Storage Area:

1. To provide the drip tray to oil drums near noise enclosure.

Chemical Refuse:

1. To avoid material accumulating in site near the sedimentation tank.

Waste Oil:

1. The contractor was suggested to clear the oil stain in the noise enclosure under the air compressor with oil dispenser.

General Housekeeping:

1. The contractor is reminded to avoid water accumulation and investigate the reason of dripping.

Photo 1 Empty drums were accumulated near the sedimentation tank.

Photo 2 Oil drums were found without drip trays near noise enclosure.

Photo 3 Oil stain was found in the noise enclosure under the air compressor.

Photo 4 Accumulated water was found on the floor under the air compressor inside the noise enclosure

Photo 5 Water accumulation was found in drip tray near the entrance of noise enclosure

Fung Mat Road Site

Notes / Issues Recorded On Site:

General Housekeeping:

1. Water accumulation was found in drum and a pit near Environmental notice broad.(photos 3 and 4)

Previous Environmental Site Inspection Checklist – Report No. 120221

Oil storage:

2. The issue of two buckets of oil were found without suitable labels near the air compressor. (Observed from previous inspection on 14th Feb 2012).The observation will inspect in next time due to no inspection undertaken in noise enclosure. (Photo 1)

Site Management:

1. The drip tray had been provide to chemical under Aqua.Sed.(Photo 2)

Current Environmental Site Inspection Checklist – Report No. 120228

Site Management:

3. The contractor is recommended avoid water accumulation.

Photo 1 Two buckets of oil were found without suitable labels near the air compressor

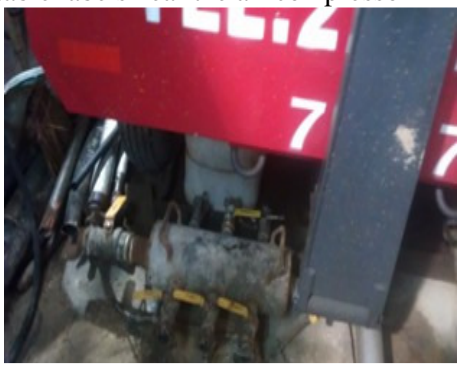


Photo 2 The drip tray had been provide to chemical under Aqua.Sed

Photos 3 and 4 Water accumulation was found in drum and a pit near Environmental notice broad

Sandy Bay PTW

Notes / Issues Recorded On Site:

Oil Management:

1. An unknown oil bucket was found near container since last inspection.(Photo 1)
2. Oil stain was found near the plant.(Photos 3 and 4)

Chemical Storage:

1. A chemical storage container was found without drip tray and properly labels since last inspection.(Photo 2)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120221

Chemical Storage:

1. Oil stain on the floor in front of site office was cleared.(Photo 5)

Current Environmental Site Inspection Checklist – Report No. 120228

Oil Management:

1. To provide suitable chemical label to the oil bucket near container and place properly.
2. The contractor is reminded to clear the oil stain near the plant with oil dispenser.

Chemical Storage:

1. To provide suitable chemical label and drip tray if container use for storage chemical.

General Housekeeping:

1. The contractor was reminded to avoid water and rubbishes accumulation.

Photo 1 An unknown oil bucket was found near container since last inspection

Photo 2 A chemical storage container was found without drip tray and properly labels since last inspection

Photos 3 and 4 Oil stain was found near the plant

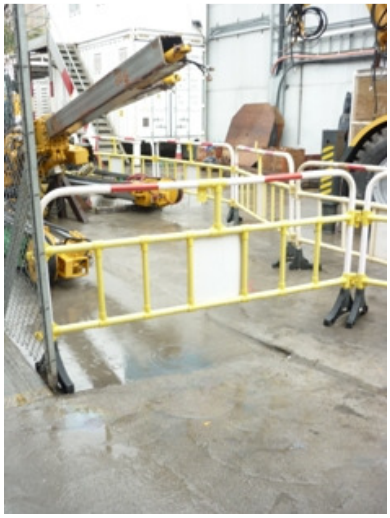


Photo 5 Oil stain on the floor in front of site office was cleared

Wah Fu PTW

Notes / Issues Recorded On Site:
General Housekeeping:

1. Water accumulation was found in drip tray near air compressor.(Photo 1)

Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 120221

Nil.

Current Environmental Site Inspection Checklist – Report No. 120228

Site management:

1. To clear accumulated water in drip tray near air compressor.

Photo 1 Water accumulation was found in drip tray near air compressor

Contract No. DC/2007/24
Harbour Area Treatment Scheme Stage 2A
Construction of Sewage Conveyance System
From Aberdeen to Sai Ying Pun

Comments and Responses

Submission Title: Monthly EM&A Report No. 26 (EMA/032) Rev A

Comments	Designer (Atkins)'s Responses
Independent Environmental Checker **E-mail** **Date : 14th March 2012**	
1 **Section 5.1, pare 3 line 2 and para 5 line 3:**	
Please state the year after "July".	Noted and revised
2 **Section 7,para 3,line 3:**	
Please amend "no" to "one"	Noted and revised
3 **Executive Summary (1st table) and Appendix G:**	
Please insert the monitoring dates for holiday daytime noise at M5.	Monitoring date had been added.
4 **Appendix M :**	
Please check and clarify the title of appendix.	Noted and revised