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A	28 January 2013	Submission to IEC and ER for Review	Various	Susana Halliday	Eric Chui

LEIGHTON 怡頓 LNS Leighton - LNS Joint Venture ATKINS

Rev. A

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 – 50

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

Document/~~Plan/Changes/Information to be~~ Certified/ Verified:	Quarterly Environmental Monitoring and Audit Report No.12 (EMA/046, Rev A)
Date of Report:	1 February 2013
Date of correspondence to IEC:	1 February 2013
Date received:	1 February 2013

Reference Condition

Clause 4.4 of EP-322/2008/F:

"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: 1 February 2013

Mott MacDonald

Our ref KMY/AFK/FY/TK/bw/T261332/22.01/L-0506
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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

1 February 2013
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
Submission of 12th Quarterly EM&A Report for July to September 2012 (Rev. A)

We refer to the 12th Quarterly EM&A Report for October to December 2012 (Rev. A) received on 28 January 2013 and we confirm we have no comment.

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. Kevin Herman	By email
	Atkins	Ms. Susana Bezy	By email

EXECUTIVE SUMMARY

This is the twelfth Quarterly 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/F. 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 October 2012 to 31 December 2012.

Environmental Monitoring and Audit Progress

The EM&A programme were undertaken in accordance with the EM&A Manual during the reporting period. This included:

- Weekly site inspections;
- Weekly noise monitoring;
- Air quality monitoring at least once every six days ; and
- Monthly site inspections for landscape and visual resources.

Breaches of Action and Limit Levels

During the reporting period of this Quarterly EM&A Report No. 12, twenty-one non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012; 1, 7, 14, 18, 21 and 28 November 2012; 7, 13, 19, 23 and 27 December 2012. One non-contract related LL exceedance in noise criteria was recorded on 19 December 2012. As well as, a complaint regarding Action Level (AL) exceedance in noise criteria had been received by EPD on 18 December 2012. The complaint was notified by Environmental Team (ET) on 28 December 2012. It is confirmed that the complaint did not relate to contract works. The details of this complaint investigation results have been given in Appendix H.

Three non-project related LL exceedance of noise was recorded during the restricted hours (daytime and evening of general holiday) monitoring at station M5a (near entrance of Chuk Lam Ming Tong) on 7 October 2012; 18 November 2012; 23 December 2012.

Five non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at M5a (near entrance of Chuk Lam Ming Tong) on 10 October 2012; 1 and 14 November 2012; 7 and 27 December 2012.

Five non-project related LL exceedance of noise was recorded during restricted hours (evening time) monitoring at M5a (near entrance of Chuk Lam Ming Tong) on 10 October 2012; 1 and 14 November 2012; 7 and 27 December 2012.

Four non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M6a (Aegean Terrace) on 17 October 2012; 7 and 21 November 2012; 19 December 2012.

Four non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase) on 4 and 25 October 2012; 28 November 2012; 13 December 2012.

One non-project related AL exceedance of noise was received at station M3 (Kwan Yick Building Phase).

One non-contract related LL exceedance of noise was recorded during daytime (normal weekday) monitoring at station M7a (Wah Ming Housing) on 19 December 2012.

A summary of exceedance is provided in the table below.

Date of Exceedance	Monitoring Location	Exceedance	Details
4 October 2012	M3, Kwan Yick Building Phase III	Limit Level exceedance 66.8 dB(A) during night time	Exceedance was considered to be non-project related.
7 October 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 66.3 dB(A) during daytime and evening of general holiday	Exceedance was considered to be non-project related.
10 October 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 60.8 dB(A) during evening time	Exceedance was considered to be non-project related.
10 October 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 62.0 dB(A) during night time	Exceedance was considered to be non-project related
17 October 2012	M6a, Aegean Terrace	Limit Level exceedance 51.2 dB(A) during night time	Exceedance was considered to be non-project related.
25 October 2012	M3, Kwan Yick Building Phase III	Limit Level exceedance 66.0 dB(A) during night time	Exceedance was considered to be non-project related.
1 November 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 60.8 dB(A) during evening time	Exceedance was considered to be non-project related.
1 November 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 61.1 dB(A) during night time	Exceedance was considered to be non-project related.
7 November 2012	M6a, Aegean Terrace	Limit Level exceedance 50.5 dB(A) during night time	Exceedance was considered to be non-project related.
14 November 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 61.5 dB(A) during evening time	Exceedance was considered to be non-project related.
14 November 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 62.1 dB(A) during night time	Exceedance was considered to be non-project related
18 November 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 67.3 dB(A) during daytime and evening of general holiday	Exceedance was considered to be non-project related.
21 November 2012	M6a, Aegean Terrace	Limit Level exceedance 66.0 dB(A) during night time	Exceedance was considered to be non-project related.
28 November 2012	M3, Kwan Yick Building Phase III	Limit Level exceedance 66.0 dB(A) during night time	Exceedance was considered to be non-project related.
7 December 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 62.1 dB(A) during evening time	Exceedance was considered to be non-project related.
7 December 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 60.9 dB(A) during night time	Exceedance was considered to be non-project related.
13 December 2012	M3, Kwan Yick Building Phase III	Limit Level exceedance 67.4 dB(A) during night time	Exceedance was considered to be non-project related.
19 December 2012	M6a, Aegean Terrace	Limit Level exceedance 52.5 dB(A) during night time	Exceedance was considered to be non-project related.

Date of Exceedance	Monitoring Location	Exceedance	Details
19 December 2012	M7a, Wah Ming Housing	Limit Level exceedance 79.4dB (A) during normal weekday	Exceedance was considered to be project related.
23 December 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 67.3 dB(A) during daytime and evening of general holiday	Exceedance was considered to be non-project related.
27 December 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 61.3 dB(A) during evening time	Exceedance was considered to be non-project related.
27 December 2012	M5a, near entrance of Chuk Lam Ming Tong	Limit Level exceedance 62.8 dB(A) during night time	Exceedance was considered to be non-project related.
18 December 2012	M3, Kwan Yick Building Phase III	Action Level exceedance 1 complaint received	Exceedance was considered to be non-project related.

Complaint Log

There were two environmental complaints were received during this reporting period.

One of complaints regarding air quality received from EPD via e-mail on 26 October 2012 related to dust pollution during barging operation at Fung Mat Road site area. The complaint was made on 18 October 2012. EPD had carried out an inspection on 24 October 2012 and a staff on-site was interviewed. On 24 October 2012, EPD found that there was no barge berthed or in operation during inspection. The Contractor confirmed that there was barging operation carried out during 8, 10 and 11 October 2012. And the barge left the site on 17 October 2012 for maintenance and returns to site on 29 October 2012. The result of air monitoring on 12 October 2012 showed that the dust levels were complied with the required standards. Another result of air monitoring on 30 October 2012, the loading of the barge was in progress. The results were also below the Action Level. The details of this complaint have been presented in "Environmental Enquire From" of Appendix H.

Another complaint which had been received by EPD on 18 December 2012 was notified by ET on 28 December 2012. It was regarding the noise AL exceedance at M3 (Kwan Yick Building Phase III). After complaint investigation, it is confirmed that the impact noise was non-project related. The details of the complaint have been presented in "Environmental Enquire From" of Appendix H.

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 quarterly EM&A report as required by the Project EM&A Manual.

Environmental Site Inspections

Environmental site inspections were conducted jointly with the Contractor and Engineer Representative on 3, 9, 16, 24 and 30 October 2012; 6, 13, 20 and 27 November 2012; 4, 11,18 and 27 December 2012, with Independent Environmental Checker's participation on 16 October 2012, 20 November 2012 and 18 December 2012.

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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 adits 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/F Part C, Condition 4.2.

1.2 Project Organisation, Contact Details and Hotline for Public

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, contact details and hotline for public are shown in Appendix A.

1.3 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):

Aberdeen

- Blasting for Shaft and Tunnel (implement method statement and standard mitigations).
- Shotcrete and Grouting (implement method statement and standard mitigations).
- Rock Excavation (implement method statement and standard EMP mitigations)

Wah Fu

- Rock Excavation (implement method statement and standard EMP mitigations).
- Shotcrete and Grouting (implement method statement and standard EMP mitigations)
- Blasting for Shaft and Tunnel (implement method statement and standard EMP mitigations).

Cyberport

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

Sandy Bay

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

Sai Ying Pun

- Shotcrete and Grouting (implement method statement and standard EMP mitigations).
- Installation of noise enclosure (implement method statement and standard EMP mitigations).
- Blasting for Shaft and Tunnel (implement method statement and standard EMP mitigations).
- Rock Excavation (implement method statement and standard EMP mitigations).
- Installation of gantry crane (implement method statement and standard EMP mitigations)

2 ENVIRONMENTAL REQUIREMENTS

2.1 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 2.1.

Table 2.1 Summary of Impact EM&A Requirements

Parameter	Description	Frequency
Noise	$L_{eq(30min)}$ between 0700 – 1900 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 hours 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).

Calibration certificates for noise and air quality monitoring equipment are shown in Appendix B.

2.2 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 2.2 and Table 2.3 respectively.

Table 2.2 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 2.3 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

2.3 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.

2.4 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.

2.5 Locations of Monitoring Stations

The locations of monitoring stations are illustrated in Figures 2.1 to 2.9.

3 MONITORING RESULTS

3.1 Impact Monitoring Results

Noise Monitoring Results

Graphical presentation of the noise monitoring data is shown in Appendix E.

Air Quality Results

Graphical presentation of the air quality monitoring data is provided in Appendix F.

3.2 Waste Management

A summary of waste flow for reporting period is outlined in Table 3.1. 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 3.1 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 m³)					
October 2012	10.188	0	0	4.014	6.174	0
November 2012	13.483	0	0	9.763	3.720	0
December 2012	13.783	0	0	10.333	3.450	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 m³)
October 2012	0	0.202	0	0	0.027
November 2012	6.77	0.21	0	0	0.0304
December 2012	0	0.187	0	0	0.0208

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: 1m³ of Inert C&D Materials weigh 1.9 tonnes and 1m³ of C&D Wastes weigh 1.6 tonnes

3.3 Landscape and Visual

The monthly site audits were undertaken on 30 October 2012, 20 November 2012 and 27 December 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 Sai Ying Pun, Sandy Bay, Cyberport, Wah Fu and Aberdeen. The quarterly landscape and visual monitoring report is attached in Appendix G.

3.4 Hazard to Life

324 ground settlement markers, 111 structural settlement markers and 72 piezometers were installed for monitoring. The summary of vibration monitoring for reporting period is provided in the Table 3.2.

3.5 Cultural Heritage

There were tunneling/ blasting works (Tunnel M) carried out during the reporting period. The purpose of the vibration monitoring is to prevent potential damage to historical building and structures. The monitoring point (VMP-M25) for the heritage resource of Felix Villas and the monitoring points (VMP-M19 and VMP-M23) are for the heritage resource of Jublee Battery are shown in Figures 2.8 and 2.9 respectively. According to the Contractor, the blasting works within the 200m Influence Zone of the Felix Villas (as shown in Figure 2.8 of the EM&A Report) was completed on 5 November 2012. As well as, the blasting works was confirmed out of the 200m Influence Zone of the Jubllee Battery (as shown in Figure 2.8 of the EM&A Report) end of December 2012. Results of Vibration Monitoring of historical buildings and structures are provided in the table below.

Table 3.2 Results of Vibration Monitoring during reporting period

No.	Heritage Resources	Date	Monitoring Station	Distance to Resource (m)	Measured Vibration Level (mm/s)	Vibration Limit (mm/s)
1	Felix Villas (HATS 23)	06 Oct 2012	VMP-M25	150	0.53	25
2	Felix Villas (HATS 23)	08 Oct 2012	VMP-M25	150	0.48	25
3	Felix Villas (HATS 23)	10 Oct 2012	VMP-M25	150	0.79	25
4	Felix Villas (HATS 23)	12 Oct 2012	VMP-M25	150	0.69	25
5	Felix Villas (HATS 23)	18 Oct 2012	VMP-M25	150	1.39	25
6	Felix Villas (HATS 23)	20 Oct 2012	VMP-M25	150	0.52	25
7	Felix Villas (HATS 23)	24 Oct 2012	VMP-M25	150	0.4	25
8	Felix Villas (HATS 23)	25 Oct 2012	VMP-M25	150	0.88	25
9	Felix Villas (HATS 23)	27 Oct 2012	VMP-M25	150	0.56	25
10	Felix Villas (HATS 23)	1 Nov 2012(D)	VMP-M25	150	0.52	25
11	Felix Villas (HATS 23)	1 Nov 2012(E)	VMP-M25	170	0.38	25

No.	Heritage Resources	Date	Monitoring Station	Distance to Resource (m)	Measured Vibration Level (mm/s)	Vibration Limit (mm/s)
12	Felix Villas (HATS 23)	2 Nov 2012 (D)	VMP-M25	180	No data (Below Trigger Level)(*)	25
13	Felix Villas (HATS 23)	2 Nov 2012 (E)	VMP-M25	180	No data (Below Trigger Level)(*)	25
14	Felix Villas (HATS 23)	5 Nov 2012(D)	VMP-M25	190	2.86	25
15	Felix Villas (HATS 23)	5 Nov 2012(E)	VMP-M25	210	0.38	25
16	Jublee Battery (HATS 23)	1 Dec 12 (D)	VMP-M19	135	B.T.	25
17	Jublee Battery (HATS 23)	1 Dec 12 (D)	VMP-M23	135	0.74	25
18	Jublee Battery (HATS 23)	3 Dec 12 (D)	VMP-M19	135	B.T.	25
19	Jublee Battery (HATS 23)	3 Dec 12 (D)	VMP-M23	135	0.66	25
20	Jublee Battery (HATS 23)	4 Dec 12 (D)	VMP-M19	135	1.04	25
21	Jublee Battery (HATS 23)	4 Dec 12 (D)	VMP-M23	135	0.81	25
22	Jublee Battery (HATS 23)	4 Dec 12 (E)	VMP-M19	135	B.T.	25
23	Jublee Battery (HATS 23)	4 Dec 12 (E)	VMP-M23	135	0.74	25
24	Jublee Battery (HATS 23)	5 Dec 12 (D)	VMP-M19	155	0.61	25
25	Jublee Battery (HATS 23)	5 Dec 12 (D)	VMP-M23	155	0.54	25
26	Jublee Battery (HATS 23)	5 Dec 12 (E)	VMP-M19	155	B.T.	25
27	Jublee Battery (HATS 23)	5 Dec 12 (E)	VMP-M23	155	0.48	25
28	Jublee Battery (HATS 23)	6 Dec 12 (D)	VMP-M19	155	0.45	25
29	Jublee Battery (HATS 23)	6 Dec 12 (D)	VMP-M23	155	2.48	25
30	Jublee Battery (HATS 23)	7 Dec 12 (D)	VMP-M19	155	1.79	25
31	Jublee Battery (HATS 23)	7 Dec 12 (D)	VMP-M23	155	2.51	25
32	Jublee Battery (HATS 23)	7Dec 12 (E)	VMP-M19	155	0.89	25
33	Jublee Battery (HATS 23)	7Dec 12 (E)	VMP-M23	155	1.21	25
34	Jublee Battery (HATS 23)	8 Dec 12 (D)	VMP-M19	155	B.T.	25
35	Jublee Battery (HATS 23)	8 Dec 12 (D)	VMP-M23	155	0.64	25
36	Jublee Battery (HATS 23)	8 Dec 12 (E)	VMP-M19	178	0.34	25
37	Jublee Battery (HATS 23)	8 Dec 12 (E)	VMP-M23	178	0.46	25
38	Jublee Battery (HATS 23)	10 Dec 12 (D)	VMP-M19	178	B.T.	25
39	Jublee Battery (HATS 23)	10 Dec 12 (D)	VMP-M23	178	B.T.	25
40	Jublee Battery (HATS 23)	11 Dec 12 (D)	VMP-M19	178	B.T.	25

No.	Heritage Resources	Date	Monitoring Station	Distance to Resource (m)	Measured Vibration Level (mm/s)	Vibration Limit (mm/s)
41	Jublee Battery (HATS 23)	11 Dec 12 (D)	VMP-M23	178	0.32	25
42	Jublee Battery (HATS 23)	12 Dec 12 (D)	VMP-M19	178	1.27	25
43	Jublee Battery (HATS 23)	12 Dec 12 (D)	VMP-M23	178	0.91	25
44	Jublee Battery (HATS 23)	13 Dec 12 (D)	VMP-M19	178	1.10	25
45	Jublee Battery (HATS 23)	13 Dec 12 (D)	VMP-M23	178	6.23	25
46	Jublee Battery (HATS 23)	14 Dec 12 (D)	VMP-M19	178	1.10	25
47	Jublee Battery (HATS 23)	14 Dec 12 (D)	VMP-M23	178	0.69	25
48	Jublee Battery (HATS 23)	17 Dec 12 (E)	VMP-M19	203	B.T.	25
49	Jublee Battery (HATS 23)	17 Dec 12 (E)	VMP-M23	203	0.70	25
50	Jublee Battery (HATS 23)	18 Dec 12 (E)	VMP-M19	203	0.51	25
51	Jublee Battery (HATS 23)	18 Dec 12 (E)	VMP-M23	203	B.T.	25
52	Jublee Battery (HATS 23)	19 Dec 12 (E)	VMP-M19	203	0.85	25
53	Jublee Battery (HATS 23)	19 Dec 12 (E)	VMP-M23	203	B.T.	25
54	Jublee Battery (HATS 23)	20 Dec 12 (D)	VMP-M19	203	B.T.	25
55	Jublee Battery (HATS 23)	20 Dec 12 (D)	VMP-M23	203	0.52	25

Remark: (D) The vibration data was monitoring in daytime.
(E) The vibration data was monitoring in evening time.
(*)No measurement reading for vibration level below the trigger level (0.191 mm/s).

4 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 Environmental Exceedance

During the reporting period of this Quarterly EM&A Report No. 12, twenty-one non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012; 1, 7, 14, 18, 21 and 28 November 2012; 7, 13, 19, 23 and 27 December 2012. One non-contract related LL exceedance in noise criteria was recorded on 19 December 2012. As well as, a complaint regarding Action Level (AL) exceedance in noise criteria had been received by EPD on 18 December 2012. The complaint was notified by Environmental Team (ET) on 28 December 2012. It is confirmed that the complaint did not relate to contract works. The details of this complaint investigation results have been given in Appendix H.

Three non-project related LL exceedance of noise was recorded during the restricted hours (daytime and evening of general holiday) monitoring at station M5a (near entrance of Chuk Lam Ming Tong) on 7 October 2012; 18 November 2012; 23 December 2012.

Five non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at M5a (near entrance of Chuk Lam Ming Tong) on 10 October 2012; 1 and 14 November 2012; 7 and 27 December 2012.

Five non-project related LL exceedance of noise was recorded during restricted hours (evening time) monitoring at M5a (near entrance of Chuk Lam Ming Tong) on 10 October 2012; 1 and 14 November 2012; 7 and 27 December 2012.

Four non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M6a (Aegean Terrace) on 17 October 2012; 7 and 21 November 2012; 19 December 2012.

Four non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase) on 4 and 25 October 2012; 28 November 2012; 13 December 2012.

One non-project related AL exceedance of noise was received at station M3 (Kwan Yick Building Phase).

One non-contract related LL exceedance of noise was recorded during daytime (normal weekday) monitoring at station M7a (Wah Ming Housing) on 19 December 2012.

The notifications of exceedances issued during the reporting period are provided in Appendix H.

During the reporting period, all landscape and visual mitigation measures listed out in the Project EM&A Manual have been implemented where practical.

30 October 2012

The identification tag for the retained tree T066(R) and T074(R) at Cyberport site was missing. And a metal bar was still tied to the branch of the retained tree T065(R)

In Sandy Bay site, the transplanted tree T017(T) was still in very poor health. Identification tags for the retained trees T046(R), T021(R) and T058(R) were still missing. The identification tag for the retained trees T038(T) was still missing. Also a proper tree protection zone for T038(T) has not yet been provided. The retained tree T039(R) was still in bad condition with dry leaves and tree bark with crack was observed on the tree trunk. The condition of the retained tree T053(R) was still deteriorating with dmages to its stems and foliage since the audit of September 2011. Construction material and cable were still hanging from the tree branches of the retained trees T021(R) and T027(R).Construction materials were still stored close to the tree truck of the retained tree T044(R). Construction materials and cable were still hanging from the tree branches of the retained trees T021(R) and T028(R).

In the Aberdeen site, the identification tag for the retained trees T084(R) was still missing. The retained tree T076(R)and T083(R) was in very poor health with cracks on tree bark, no leaves and large wound on the main trunk was observed The conditions of the retained trees T078(R), T079(R) and T080(R) were still deteriorating with some of their stems and leaves dying off. As well as, construction materials were still stored very close to the root area of the retained tree T081(R), T003 (R) and T084 (R).

20 November 2012

The identification tag for the retained tree T48(R) in Cyberport was still missing. The Contractor has been asked to provide a proper tree tag for the retained tree. And a metal bar was still tied to the branch of the retained tree T065(R). The contractor has been asked again to remove the metal bar. Also the condition of the retained tree T068(R) is deteriorating with leaves size shrunken.

In Sandy Bay site, the transplanted tree T017(T) was still in very poor health. The identification tag for the retained tree T021(R) was still missing. Construction materials were still stored very close to the root area of the retained tree T038(T) Also tree number is written on the tree trunk instead of using tree tag. A proper tree protection zone for T038(T) has not yet been provided. The retained tree T039(R) was still in bad condition with dry leaves and tree bark with crack was observed on the tree trunk. The condition of the retained tree T053(R) was still deteriorating with damages to its stems and foliage since the audit of September 2011. And rotten branch was observed on retained tree T52(R).

In the Aberdeen site, the retained tree T076(R)and T083(R) was in very poor health with cracks on tree bark, no leaves and large wound on the main trunk was observed The conditions of the retained trees T078(R), T079(R) and T080(R) were still deteriorating with some of their stems and leaves dying off since the audit of November 2011. As well as, construction materials were still stored very close to the root area of the retained tree T084 (R) and an unlabelled tree.

27 December 2012

In Cyberport site, construction material was observed placing within the tree protection zone which close to the root flare and a metal bar was still tied to the branch of the retained tree T65(R). The Contractor was reminded to remove the construction material from the tree protection zone. The identification tag for the retained tree T48(R) was still missing. The condition of the retained tree T068(R) was still observed deteriorating with shrunken leaves and the invading tree seedlings within the tree protection zone had not been removed.

In Sandy Bay site, cement stain was observed on the top soil and tree trunk of the retained tree T20(R). The Contractor was reminded to remove the cement stain. The transplanted tree T017(T) was still in very poor health. The identification tags for the retained tree T021(R) was still missing. Construction materials were still stored very close to the root area of the retained tree T038 (T). A tree number, instead of using a tree tag, is also written on the tree trunk. A proper tree protection zone for T038 (T) has not yet been provided. The retained tree T039(R) was still in bad condition with dry leaves and tree bark with cracks on the tree trunk. The condition of the retained tree T053(R) was still deteriorating with damages to its stems and foliage since the audit of September 2011. The rotten branch of the retained tree T52(R) was still observed.

In the Aberdeen site, very poor health with cracks on tree bark and insufficient tree protection zone area for the retained tree T76(R) was observed. The protection fencing was in contact with the tree trunk. The Contractor was reminded to provided a proper tree protection zone for the retained tree. The retained tree T083(R) was in very poor health. A large wound was found on the main trunk and all the leaves were dead. The conditions of the retained trees T078(R), T079(R) and T080(R) were still deteriorating with some of their stems and leaves dying off since the audit of November 2011.

4.2 Site Inspections and Audit

Joint site inspections with the IEC and the Contractor were undertaken on 16 October 2012, 20 November 2012 and 18 December 2012 over the reporting period. 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 I. 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.

4.3 Environmental Complaint and Prosecution

There were two environmental complaints received in relation to environmental impact during the reporting period.

The summary of environmental complaints is shown in Table 4.1. No notifications of summons or prosecutions were received in relation to environmental impact during the reporting period (see Table 4.2).

Table 4.1 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
8	2	0	8

Table 4.2 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

5. CONCLUSION

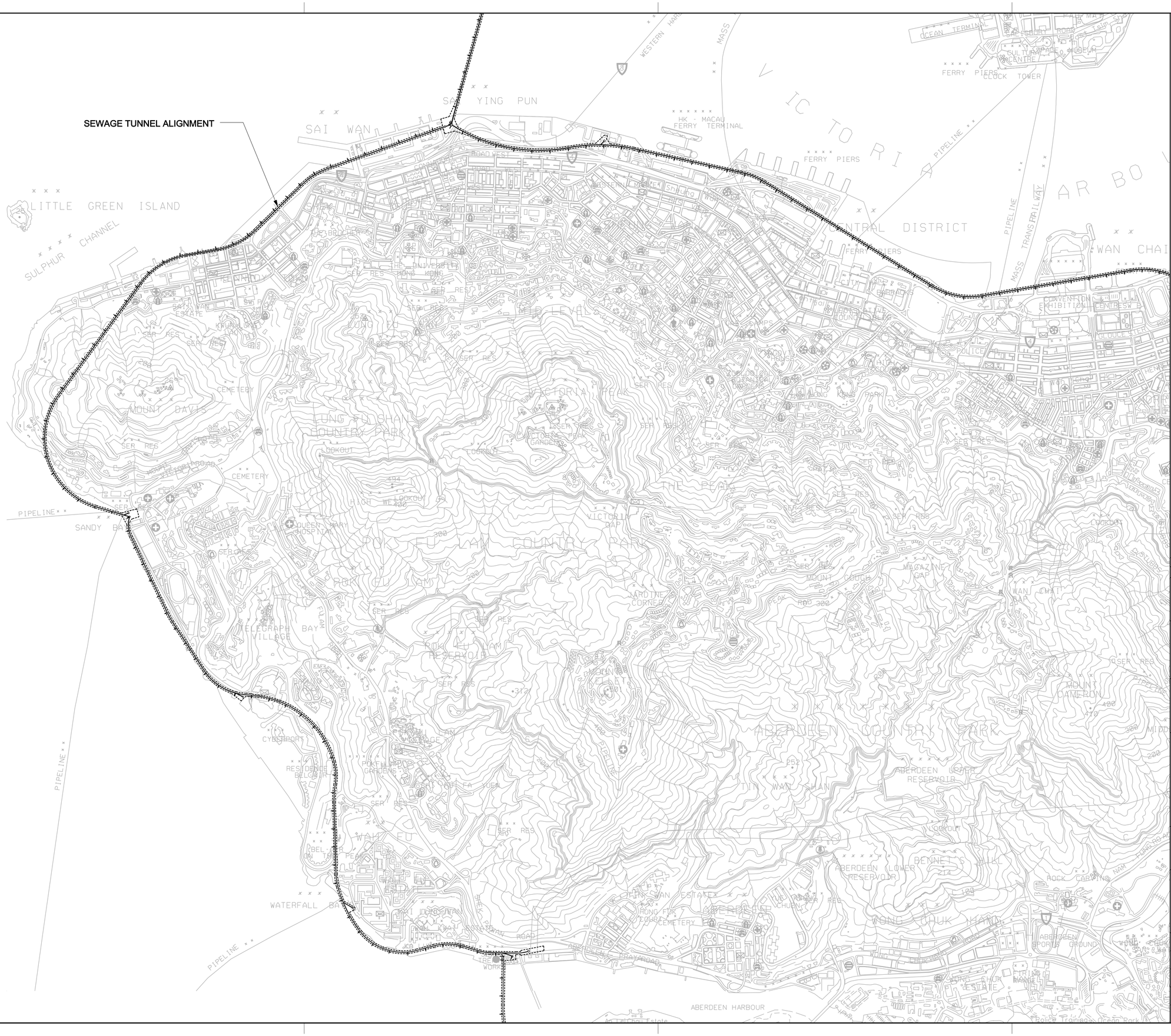
This is the Twelfth Quarterly EM&A Report prepared by Atkins China Ltd (ACL) for Contract No. DC/2007/24 Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun. This Report summarises the results and findings of the EM&A during the reporting period from 1 October 2012 to 31 December 2012.

During the reporting period of this Quarterly EM&A Report No. 12, twenty-one non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012; 1, 7, 14, 18, 21 and 28 November 2012; 7, 13, 19, 23 and 27 December 2012. One non-contract related LL exceedance in noise criteria was recorded on 19 December 2012. As well as, a complaint regarding Action Level (AL) exceedance in noise criteria had been received by EPD on 18 December 2012. The complaint was notified by ET on 28 December 2012. It is confirmed that the complaint did not relate to contract works.

There were two environmental complaints received during this reporting period.

There was no environmental prosecution or non-compliance attributable to the project works during the reporting period. Mitigation Measures stated in the Project EIA have been implemented. 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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Checked: SB	
Authorised: EC	Figure No.: 1.1
CAD ref.: 4417-EM-FIG-1-1.dgn	Rev.: A

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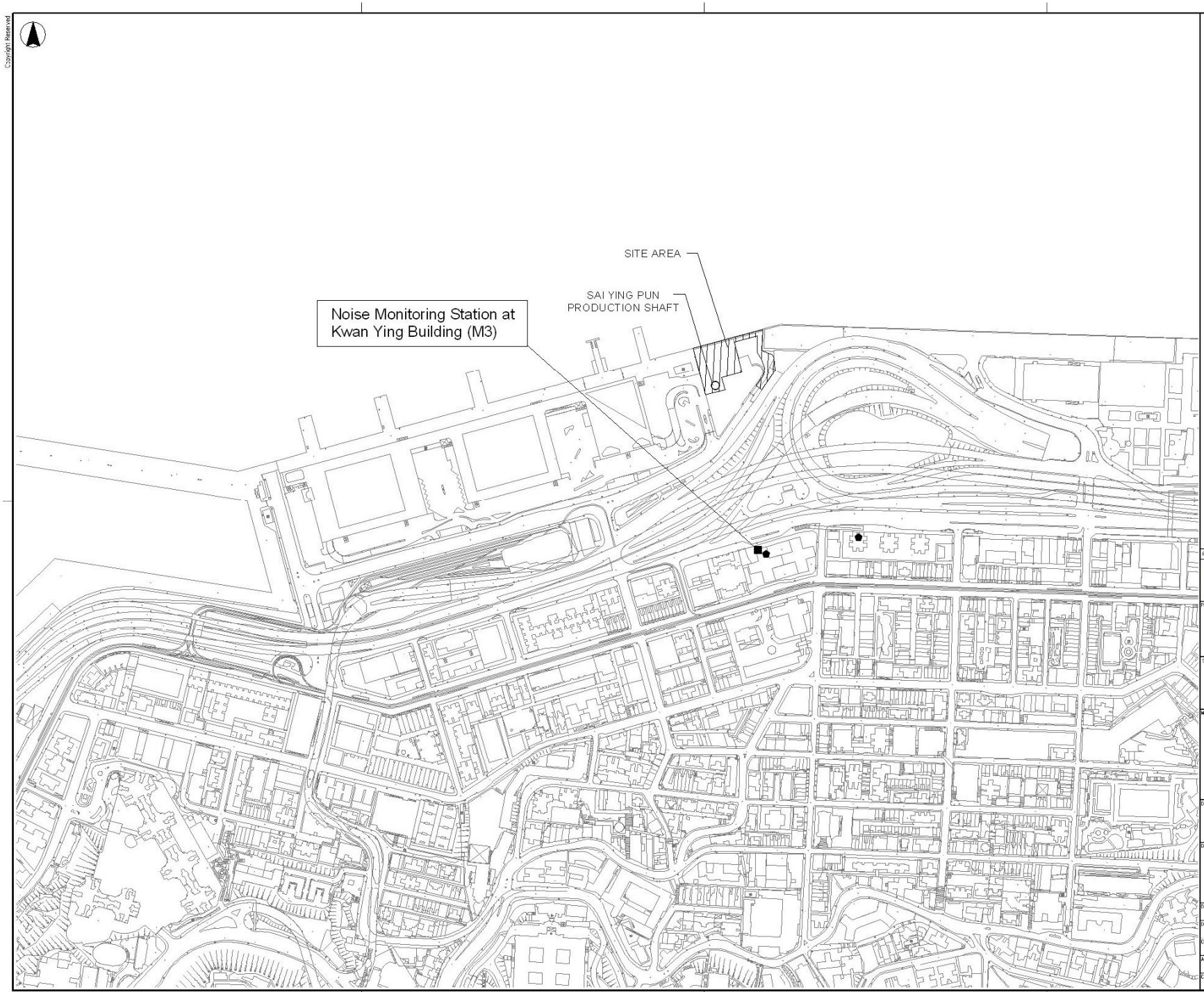

LEGEND
- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT
HARBOUR AREA TREATMENT SCHEME DIVISION

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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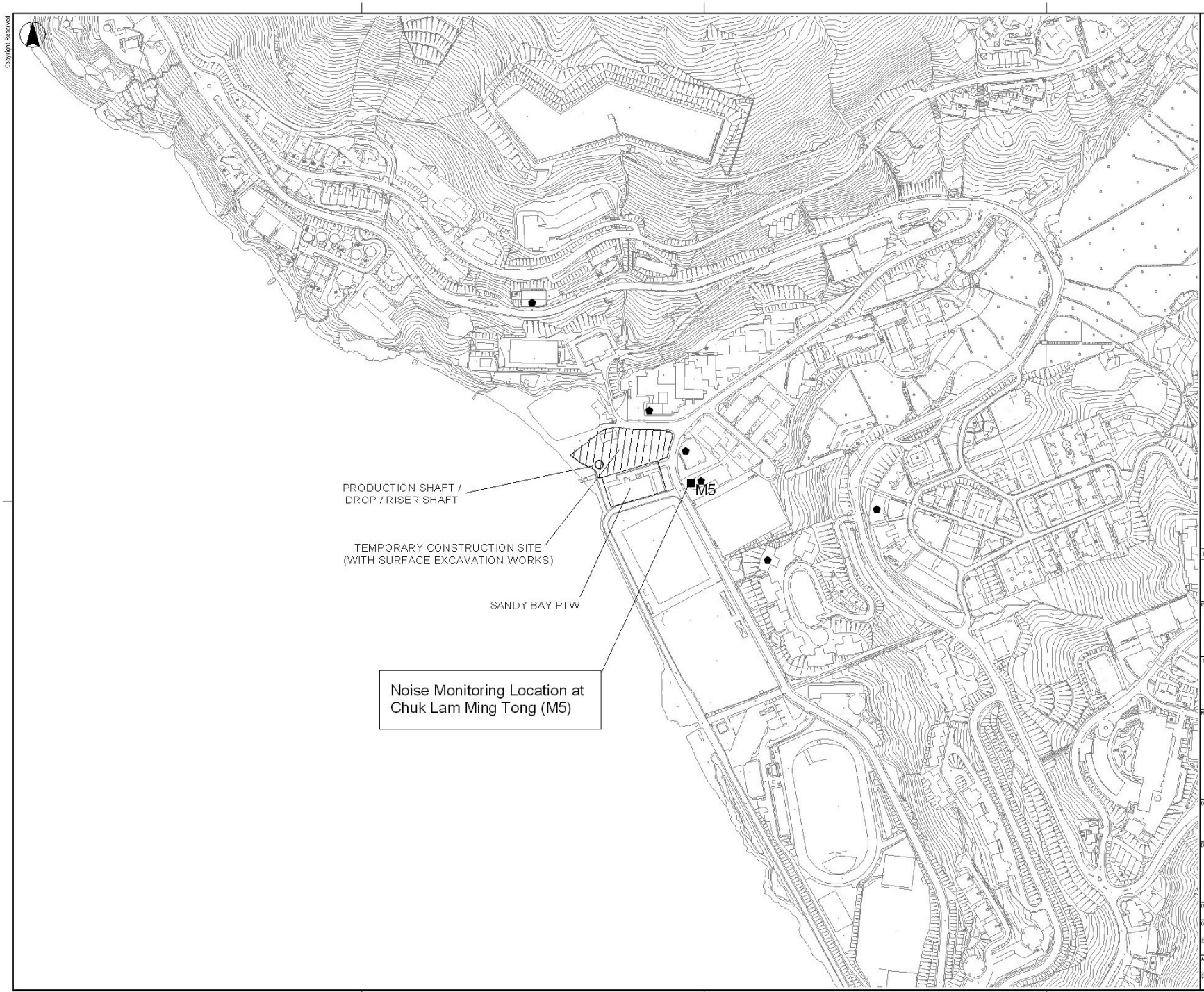
Checked
Authorised | Drawing No. 2.1 | Rev. A
CAD ref.



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 SANDY BAY PTW

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Checked	Quarterly EM&A Report
Authorised	Drawing No. 2.2
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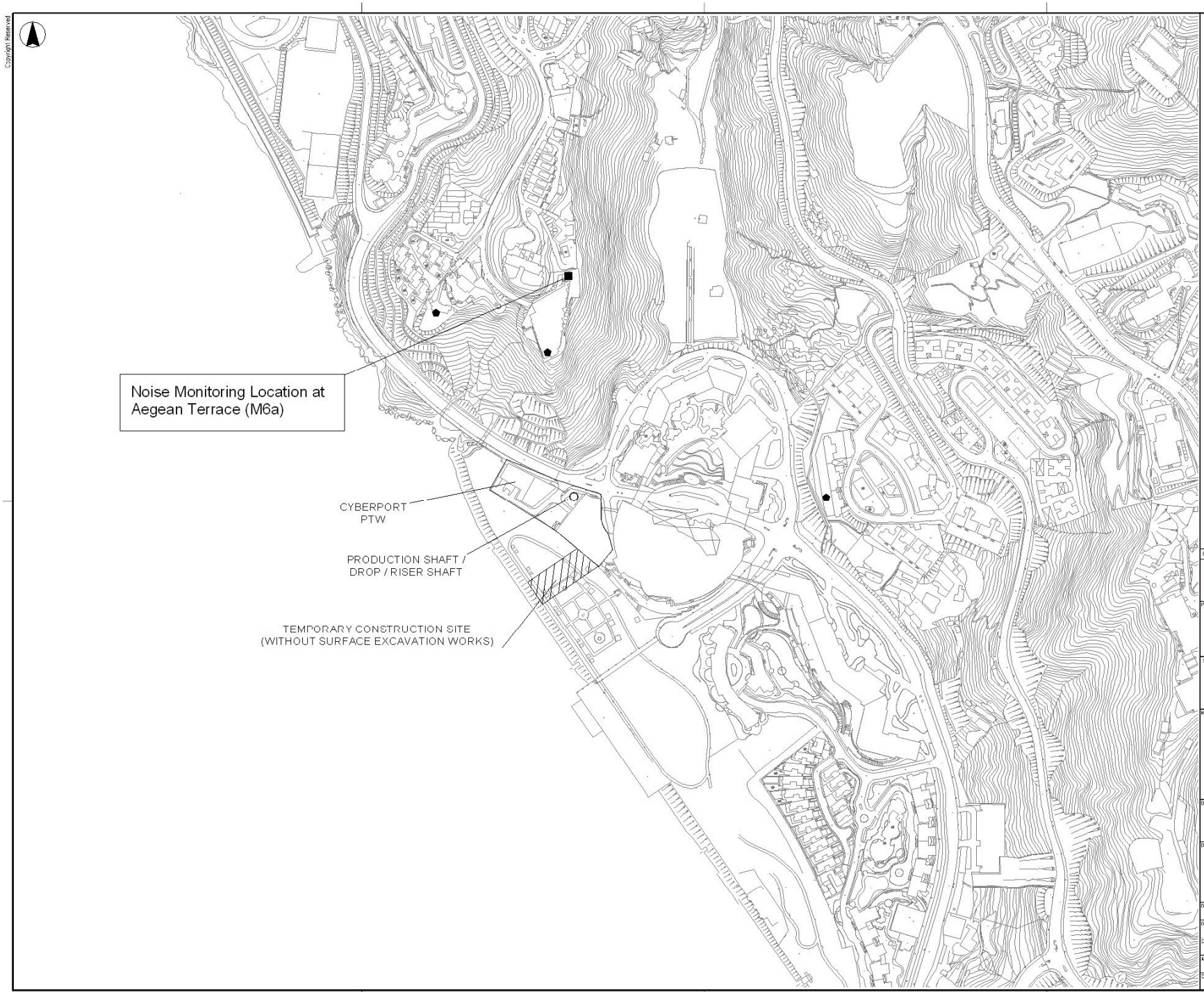

LEGEND

- 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 CYBERPORT PTW

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Checked	Quarterly EM&A Report
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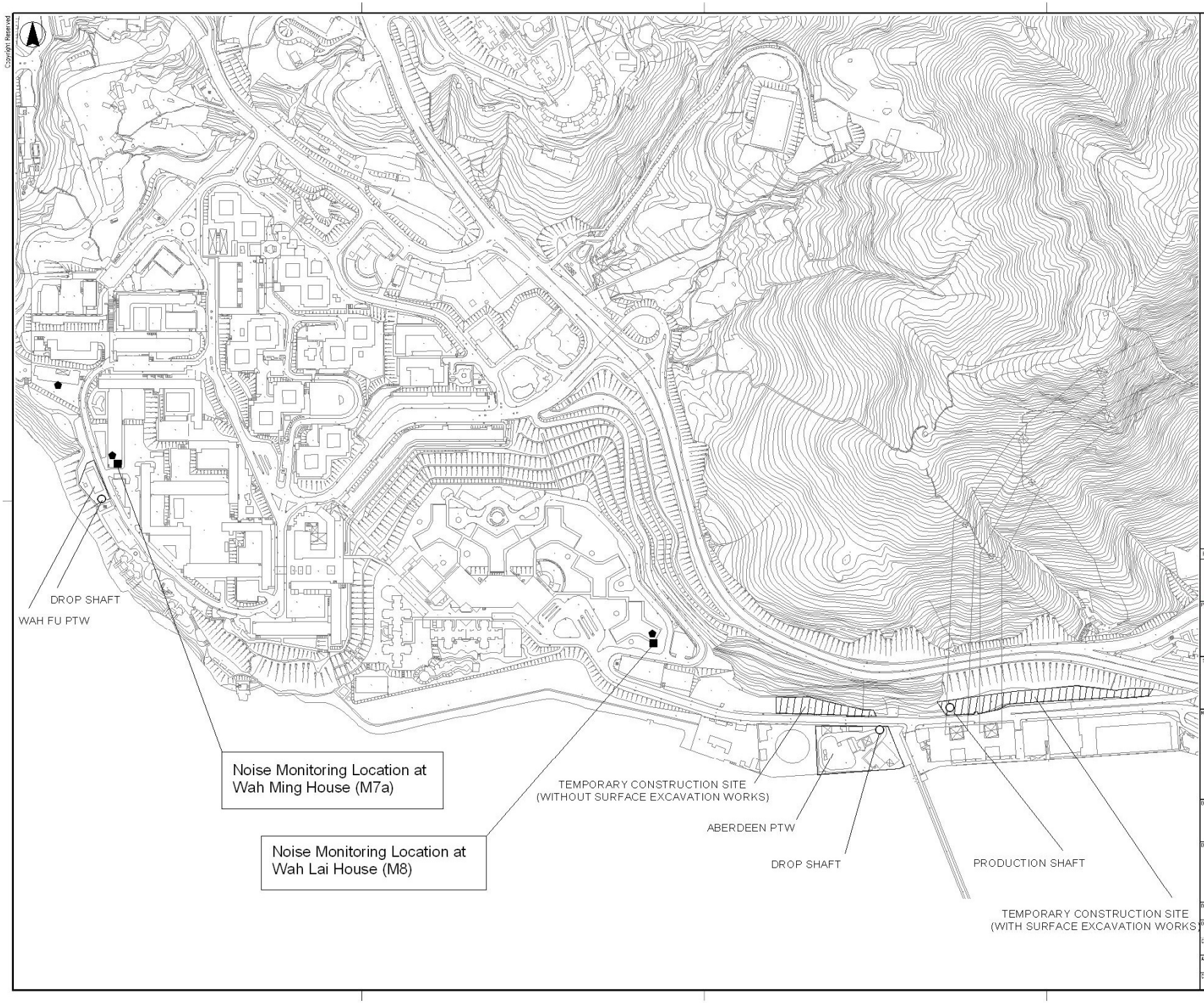

Rev	Description	Date	Dgn	Chk	Auth

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 WAH FU AND ABERDEEN PTW

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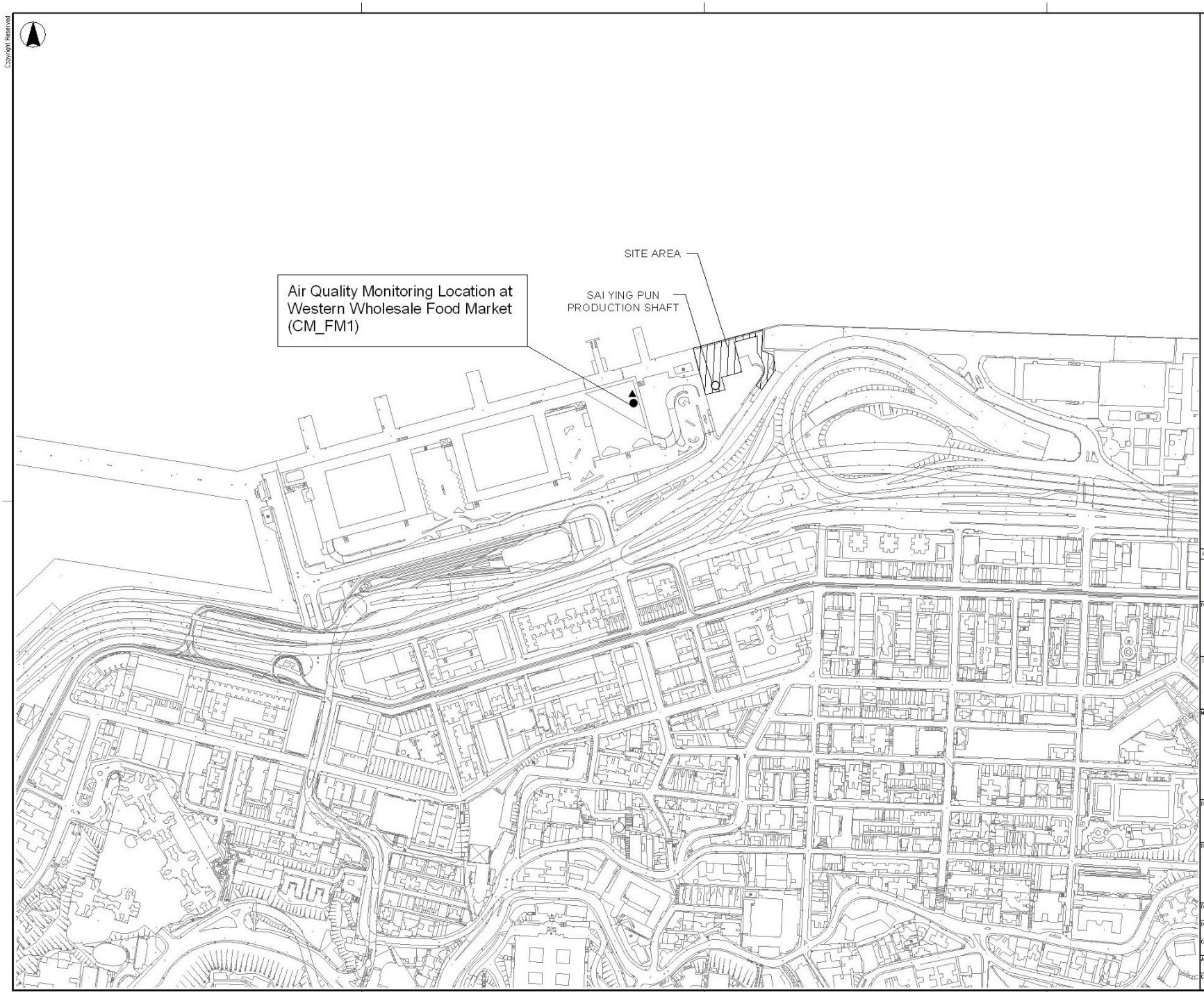

LEGEND
- ▲ AIR SENSITIVE RECEIVERS
- ● DUST MONITORING STATION

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

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 DUST
MONITORING STATION
AT FUNG MAT ROAD SITE

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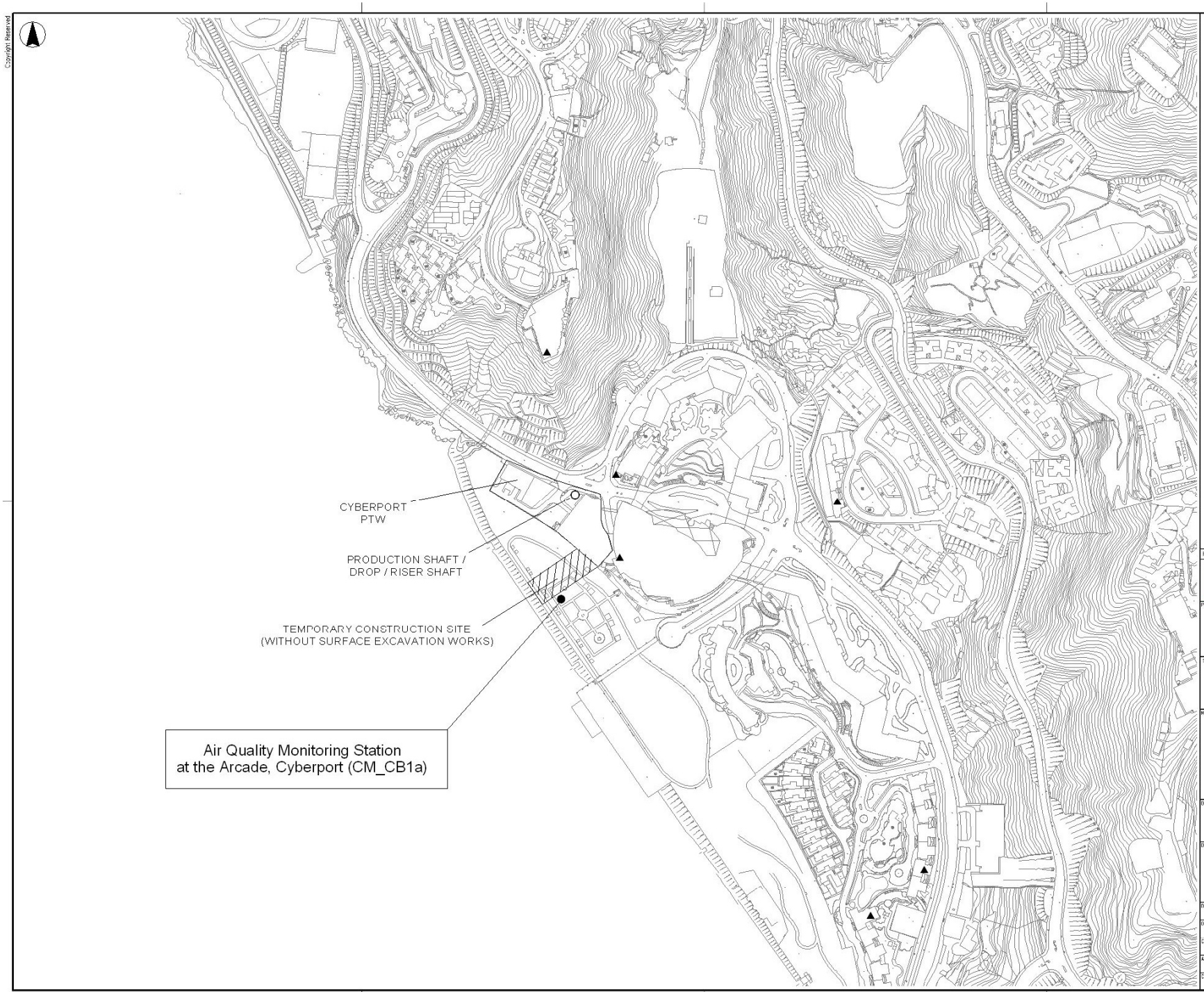

LEGEND

▲ AIR SENSITIVE RECEIVERS

● DUST MONITORING STATION

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

渠務署
DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

Project title

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Supervising Officer

AECOM

Metcalf & Eddy – AECOM Joint Venture

Main Contractor

LEIGHTON 禮和 LNS

Leighton - LNS Joint Venture

Designer

ATKINS

Drawing title

CONSTRUCTION DUST
MONITORING STATION AT
CYBERPORT PTW

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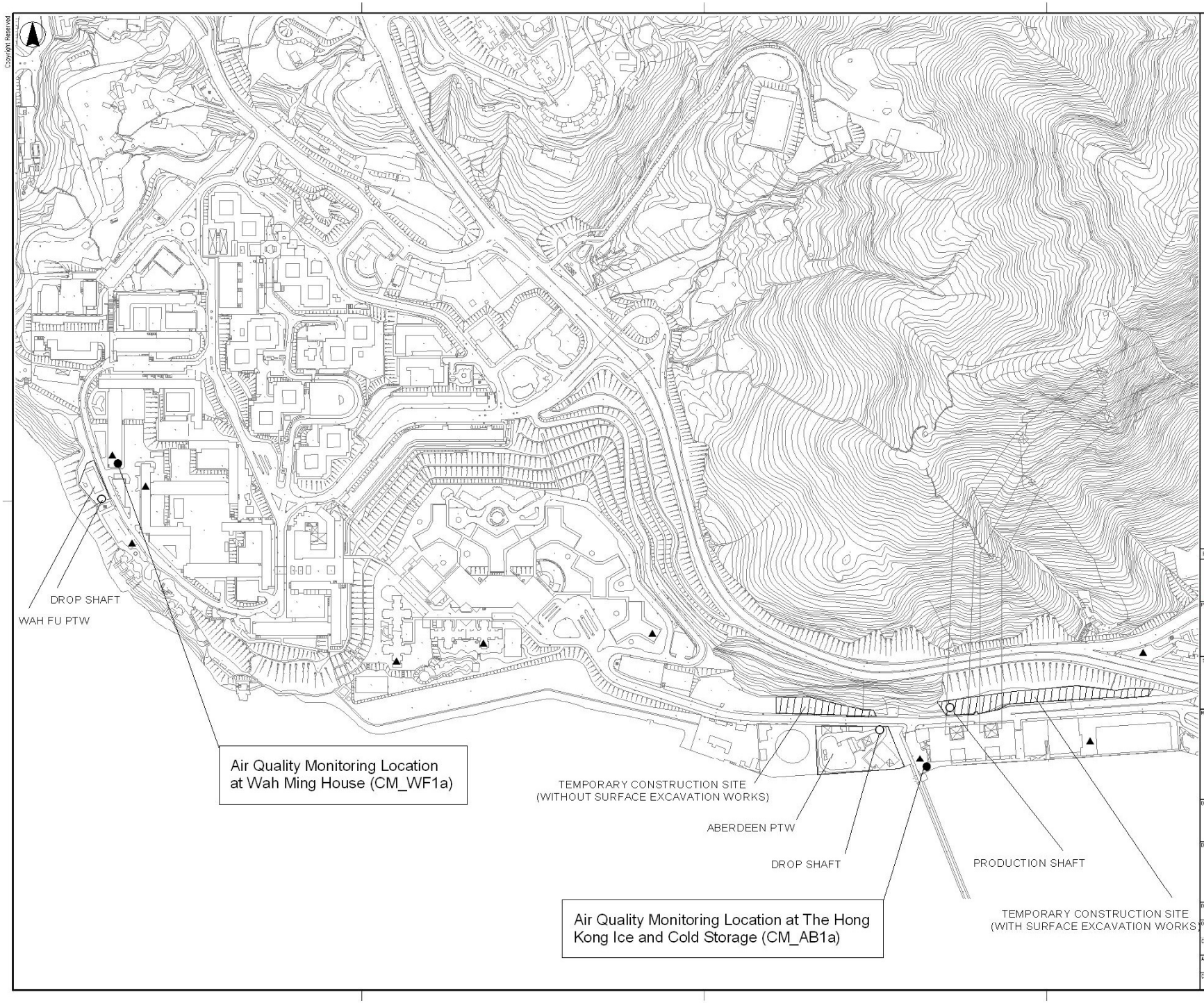

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Rev	Description	Date	Dgn	Chk	Auth

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 禮和 LNS
Leighton - LNS Joint Venture

Designer
ATKINS

Drawing title
CONSTRUCTION DUST MONITORING STATION AT WAH FU AND ABERDEEN PTW

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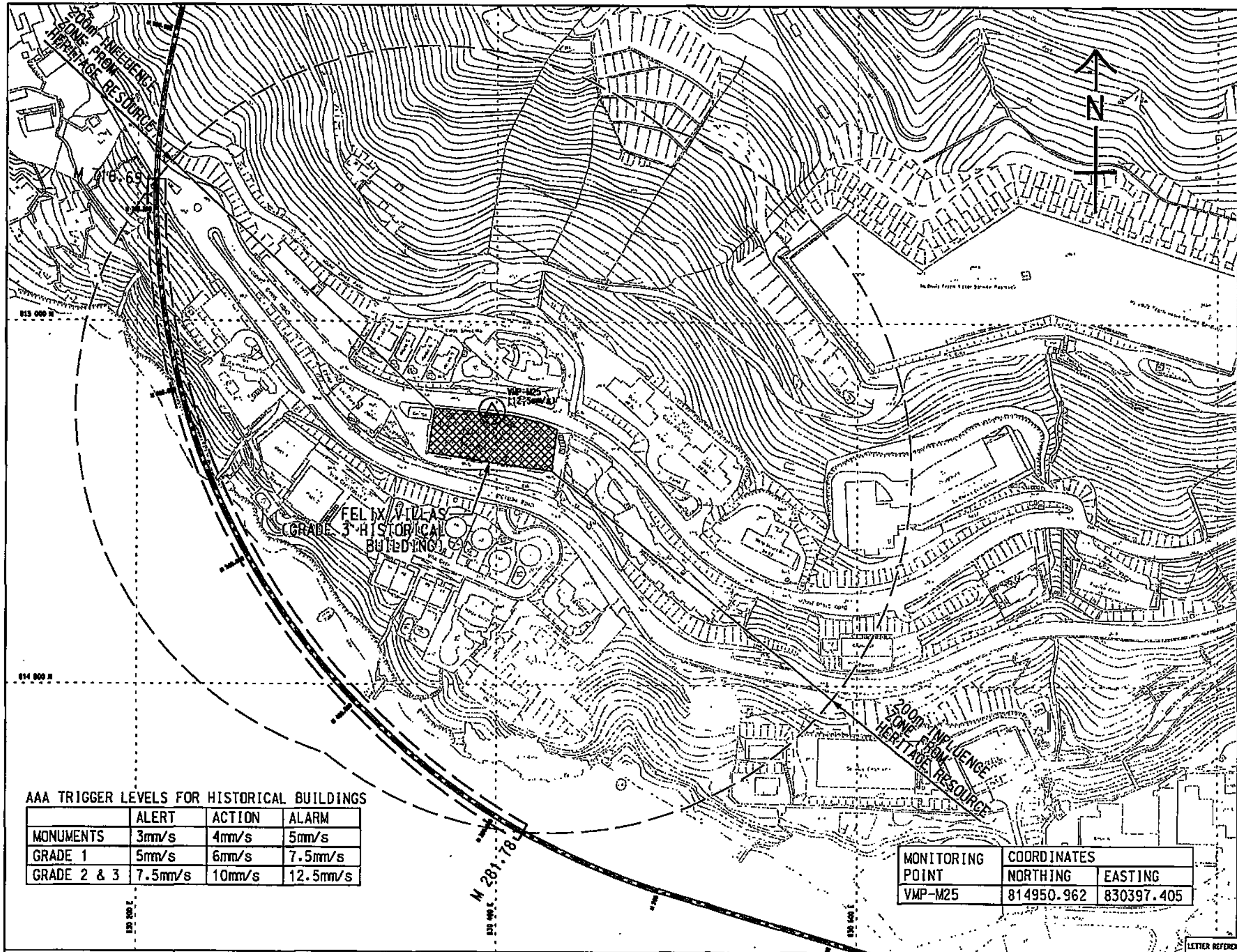

AAA TRIGGER LEVELS FOR HISTORICAL BUILDINGS

	ALERT	ACTION	ALARM
MONUMENTS	3mm/s	4mm/s	5mm/s
GRADE 1	5mm/s	6mm/s	7.5mm/s
GRADE 2 & 3	7.5mm/s	10mm/s	12.5mm/s

MONITORING POINT	COORDINATES	
	NORTHING	EASTING
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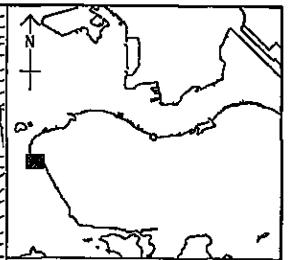

LOCATION PLAN

NOTES:

1. VIBRATION MONITORING ON HERITAGE STRUCTURES AS SHOWN FOR EVERY BLAST SHALL BE CARRIED OUT WHEN TUNNEL FACES ARE BETWEEN TUNNEL CHAINAGE M281.78 – M716.69.

LEGEND:

VMP-J1 — VIBRATION MONITORING POINT

(25mm/s) — MAXIMUM ALLOWABLE GROUND VIBRATION TO THE CORRESPONDING VIBRATION MONITORING POINTS

HERITAGE STRUCTURE

INFLUENCE ZONE FROM HERITAGE RESOURCE

FOR CONSTRUCTION

AECOM

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

VIBRATION MONITORING FOR HERITAGE RESOURCES – FELIX VILLAS (200m INFLUENCE ZONE)

LETTER REFERENCE No.	(DC/2007/24)/M15/210079(0001)		
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CHECKED BY	FT	DRAWN BY	TPN
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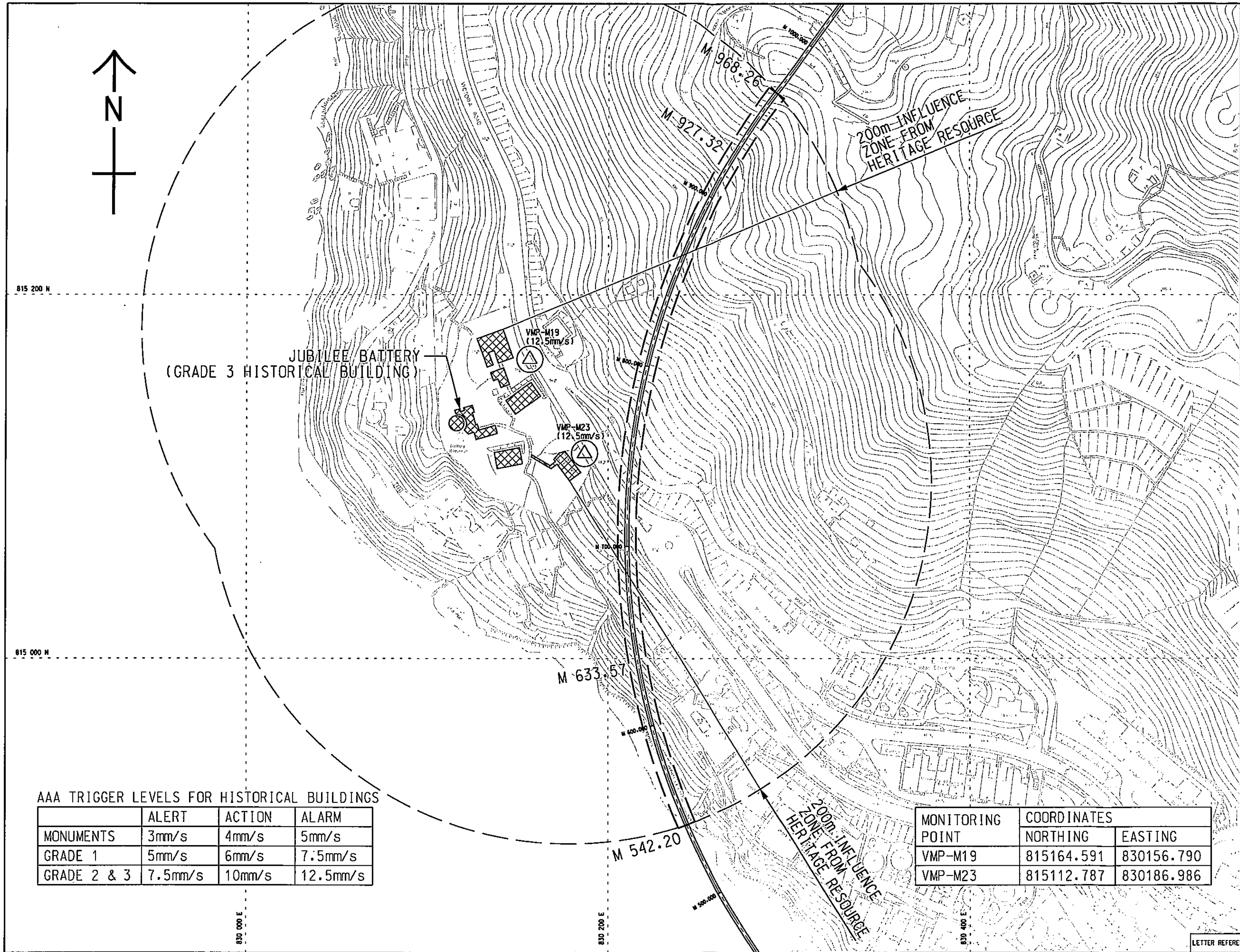

AAA TRIGGER LEVELS FOR HISTORICAL BUILDINGS

	ALERT	ACTION	ALARM
MONUMENTS	3mm/s	4mm/s	5mm/s
GRADE 1	5mm/s	6mm/s	7.5mm/s
GRADE 2 & 3	7.5mm/s	10mm/s	12.5mm/s

MONITORING POINT	COORDINATES	
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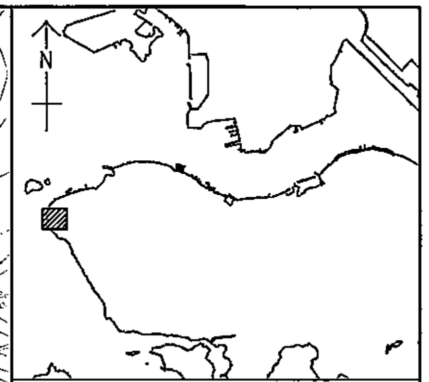
VMP-M23	815112.787	830186.986



LOCATION PLAN

NOTES:

1. VIBRATION MONITORING ON HERITAGE STRUCTURES AS SHOWN FOR EVERY BLAST SHALL BE CARRIED OUT WHEN TUNNEL FACES ARE BETWEEN TUNNEL CHAINAGE M542.20 - M968.26.

LEGEND:

VMP-J1 (symbol)	VIBRATION MONITORING POINT
(25mm/s)	MAXIMUM ALLOWABLE GROUND VIBRATION TO THE CORRESPONDING VIBRATION MONITORING POINTS
(hatched box)	HERITAGE STRUCTURE
(dashed circle)	INFLUENCE ZONE FROM HERITAGE RESOURCE

FOR CONSTRUCTION

AECOM

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

VIBRATION MONITORING FOR HERITAGE RESOURCES - JUBILEE BATTERY (200m INFLUENCE ZONE)

LETTER REFERENCE NO.	DC/2007/24/M13/210.079 (C001)		
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CHECKED BY	FT	DRAWN BY	TPN
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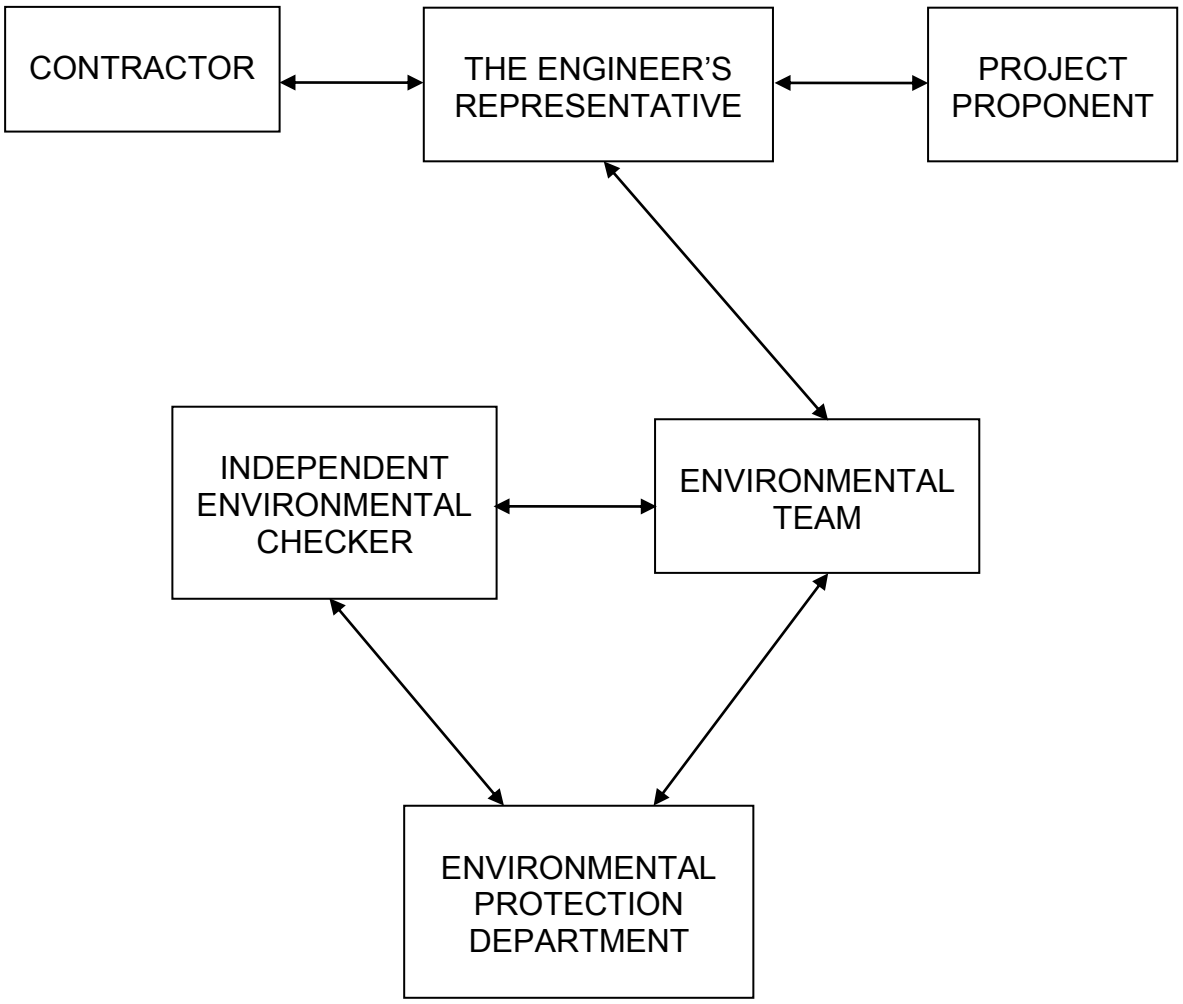
APPENDIX A

PROJECT ORGANISATION, CONTACT DETAILS AND HOTLINES FOR PUBLICS

Project Organisation



Legend:

↔ Line of communication

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Environmental Protection Department (EPD)

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Regional Office (South)
Mr. Lee Tong
Phone: 2516 1809
Fax: 2960 1761
E-mail: leetong@epd.gov.hk

Hotline

A hotline telephone number is provided for the public to make enquiries on 63239393.

APPENDIX B

CALIBRATION CERTIFICATES FOR NOISE AND AIR QUALITY MONITORING EQUIPMENT

Summary of Calibration Date of Monitoring Equipment:

Equipment	Description	ID	Latest Calibration Date	Next Calibration Date
Calibrator for Sound Level Meters	B&K 4231	2671470	5th January 2012	4th January 2013
Calibrator for Sound Level Meters	B&K 4231	3003246	20th May 2012	19th May 2013
Integrated Sound Level Meters	B&K 2238	2381580	20th September 2012	19th September 2013
Integrated Sound Level Meters	B&K 2238	2808432	23rd August 2012	22nd August 2013
Integrated Sound Level Meters	B&K 2238	2661357	5th January 2012	4th January 2013
Laser Dust Monitor	LD-3B-001	974350	17th October 2011	16th October 2012
			15th October 2012	14th October 2013
Laser Dust Monitor	LD-3B-002	934393	18th October 2011	17th October 2012
			15th October 2012	14th October 2013
High Volume Sampler	TE-5170	2098 (Cyberport)	21st September 2012	20th November 2012
			19th November 2012	18th January 2013
High Volume Sampler	TE-5170	2099 (Aberdeen PTW)	10th August 2012	9th October 2012
			9th October 2012	8th December 2012
High Volume Sampler	TE-5170	2100 (Wah Fu PTW)	20th August 2012	19th October 2012
			19th October 2012	18th December 2012
High Volume Sampler	TE-5170	2146 (Sai Ying Pun)	13th September 2012	12th November 2012
			9th November 2012	8th January 2013

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

Certificate of Calibration
校正證書

Certificate No. : C125531
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC12-2363)

Description / 儀器名稱	:	Integrating Sound Level Meter
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	2238
Serial No. / 編號	:	2381580
Supplied By / 委託者	:	Atkins China Limited 13/F, Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 20 September 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : H C Chan

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 21 September 2012

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C125531
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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Certificate of Calibration
校正證書

Certificate No. : C125531
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C125531
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	89.9	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C110034

Certificate of Calibration

This is to certify that the equipment

Description : Integrating Sound Level Meter

Manufacturer : Bruel & Kjaer

Model No. : 2238

Serial No. : 2661357

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C110034.

The equipment is supplied by

Co. Name : Leighton Contractors (Asia) Limited

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

Date of Issue : 5 January 2011

Certified by : H C Chan

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 of Calibration
校正證書

Certificate No. : C120071
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC11-3191)

Description / 儀器名稱	:	Integrating Sound Level Meter
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	2238
Serial No. / 編號	:	2661357
Supplied By / 委託者	:	Leighton Contractors (Asia) Limited 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 5 January 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : L K Yeung

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 6 January 2012

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the B & K Acoustic Calibrator 4231, S/N : 2671470 was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.2	± 0.1
	L_{AIP}		I			94.2	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.0	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.0	± 0.5
			60 sec.			$1/10^3$		80	79.7	± 1.0
			5 min.			$1/10^4$		70	69.8	± 1.0

Remarks : - Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB :	31.5 Hz - 125 Hz	: ± 0.40 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz	: ± 0.40 dB
	4 kHz	: ± 0.50 dB
	8 kHz	: ± 0.70 dB
	12.5 kHz	: ± 1.20 dB
104 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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

Certificate of Calibration
校正證書

Certificate No. : C120070
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC11-3191)

Description / 儀器名稱	:	Acoustical Calibrator
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	4231
Serial No. / 編號	:	2671470
Supplied By / 委託者	:	Leighton Contractors (Asia) Limited 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 5 January 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : L K Yeung

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 6 January 2012

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

Certificate of Calibration
校正證書

Certificate No. : C120070
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C113350
CL281	Multifunction Acoustic Calibrator	DC110233
TST150A	Measuring Amplifier	C101008

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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MANUFACTURER'S CERTIFICATE OF CONFORMANCE

We certify that Brüel & Kjær **-2238--001-** Serial No. **2808432** has been tested and passed all production tests, confirming compliance with the manufacturer's published specification at the date of the test.

The final test has been performed using calibrated equipment, traceable to National or International Standards or by ratio measurements.

Brüel & Kjær is certified under ISO 9001:2008 assuring that all test data is retained on file and is available for inspection upon request.

Nærum 23-aug-2012

Torben Bjørn
Vice President, Operations

Please note that this document is not a calibration certificate.
For information on our calibration services please contact your nearest Brüel & Kjær office.

BA 0238 – 18

HEADQUARTERS: Brüel & Kjær Sound & Vibration Measurement A/S · DK-2850 Nærum · Denmark
Telephone: +45 7741 2000 · Fax: +45 4580 1405 · www.bksv.com · info@bksv.com
Local representatives and service organisations worldwide

Brüel & Kjær

Calibration Chart

Brüel & Kjær

Type 4231

Serial No. 3003246

Sound Pressure Level: 94.00 or 114.00 dB ±0.20 dB
(re 20 µPa at reference conditions)

Frequency: 1000 Hz ±0.1%

Distortion: <1%

Reference Conditions:

Temperature:	23°C
Pressure:	101.325 kPa
Humidity:	50% RH
Load:	0.25 cm^3 (½" Brüel & Kjær Mic.)

Date: 20/05/12 Signed: [signature]

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location	**:**	**Aberdeen**
Calibrated by	**:**	**K.F.Ho**
Date	**:**	**10/08/2012**

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1378**
Service Date	**:**	**22 Feb 2012**
Slope (m)	**:**	**1.99405**
Intercept (b)	**:**	**-0.00397**
Correlation Coefficient(r)	**:**	**0.99984**

Standard Condition

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

Calibration Condition

Pa (hpa)	**:**	**1001**
Ta(K)	**:**	**303**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.0	3.270	1.642	57	56.2
2	13 holes	9.4	3.022	1.518	52	51.3
3	10 holes	7.3	2.664	1.338	46	45.3
4	7 holes	4.8	2.160	1.085	37	36.5
5	5 holes	2.7	1.620	0.814	27	26.6

Sampler Calibration Relationship

Slope(m):35.405 Intercept(b): -2.116 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan Date: 10/08/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Aberdeen
Calibrated by : K.F.Ho
Date : 09/10/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1013
Ta(K) : 299

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.5	3.385	1.700	62	61.9
2	13 holes	9.4	3.061	1.537	55	54.9
3	10 holes	7.6	2.752	1.382	48	47.9
4	7 holes	5.0	2.232	1.121	37	36.9
5	5 holes	3.0	1.729	0.869	27	26.9

Sampler Calibration Relationship

Slope(m):42.202 Intercept(b): -10.064 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 14/10/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Wah Fu Estate
Calibrated by : K.F.Ho
Date : 20/08/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1004
Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.6	3.214	1.614	58	57.3
2	13 holes	9.5	3.043	1.528	54	53.3
3	10 holes	7.0	2.612	1.312	46	45.4
4	7 holes	5.6	2.336	1.174	40	39.5
5	5 holes	2.8	1.652	0.830	27	26.7

Sampler Calibration Relationship

Slope(m):40.628 Intercept(b): -7.762 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 23/08/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Wah Fu Estate
Calibrated by : K.F.Ho
Date : 19/10/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1016
Ta(K) : 299

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.378	1.695	59	59.0
2	13 holes	9.3	3.049	1.531	52	52.0
3	10 holes	7.2	2.683	1.347	44	44.0
4	7 holes	5.4	2.323	1.167	37	37.0
5	5 holes	3.3	1.816	0.913	27	27.0

Sampler Calibration Relationship

Slope(m):40.890 Intercept(b): -10.620 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 21/10/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location	**:**	**Sai Ying Pun**
Calibrated by	**:**	**K.F.Ho**
Date	**:**	**13/09/2012**

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1378**
Service Date	**:**	**22 Feb 2012**
Slope (m)	**:**	**1.99405**
Intercept (b)	**:**	**-0.00397**
Correlation Coefficient(r)	**:**	**0.99984**

Standard Condition

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

Calibration Condition

Pa (hpa)	**:**	**1009**
Ta(K)	**:**	**302**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.1	3.303	1.658	60	59.5
2	13 holes	9.7	3.088	1.550	55	54.5
3	10 holes	7.9	2.7871	1.399	50	49.6
4	7 holes	4.8	2.172	1.091	38	37.7
5	5 holes	2.8	1.659	0.834	28	27.8

Sampler Calibration Relationship

Slope(m):38.059 Intercept(b): -3.929 Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan Date: 17/09/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Sai Ying Pun
Calibrated by : K.F.Ho
Date : 09/11/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1009
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.0	3.306	1.660	59	58.8
2	13 holes	9.6	3.088	1.551	54	53.8
3	10 holes	7.7	2.766	1.390	48	47.8
4	7 holes	4.7	2.161	1.086	37	36.9
5	5 holes	2.8	1.668	0.838	28	27.9

Sampler Calibration Relationship

Slope(m):37.160 Intercept(b): -3.430 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 15/11/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 21/9/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99999

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

Calibration Condition
Pa (hpa) : 1010
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.9	3.275	1.644	59	58.5
2	13 holes	9.7	3.089	1.551	55	54.6
3	10 holes	7.2	2.662	1.337	47	46.6
4	7 holes	5.8	2.389	1.200	41	40.7
5	5 holes	2.9	1.689	0.849	28	27.8

Sampler Calibration Relationship

Slope(m):38.647 Intercept(b): -5.241 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 22/09/2012

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 19/11/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99999

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

Calibration Condition
Pa (hpa) : 1010
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.6	3.229	1.621	57	56.5
2	13 holes	9.5	3.057	1.535	53	52.6
3	10 holes	7.1	2.643	1.327	45	44.6
4	7 holes	5.6	2.347	1.179	39	38.7
5	5 holes	2.8	1.660	0.834	26	25.9

Sampler Calibration Relationship

Slope(m):38.850 Intercept(b): -6.844 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 25/11/2012

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 17/10/2011

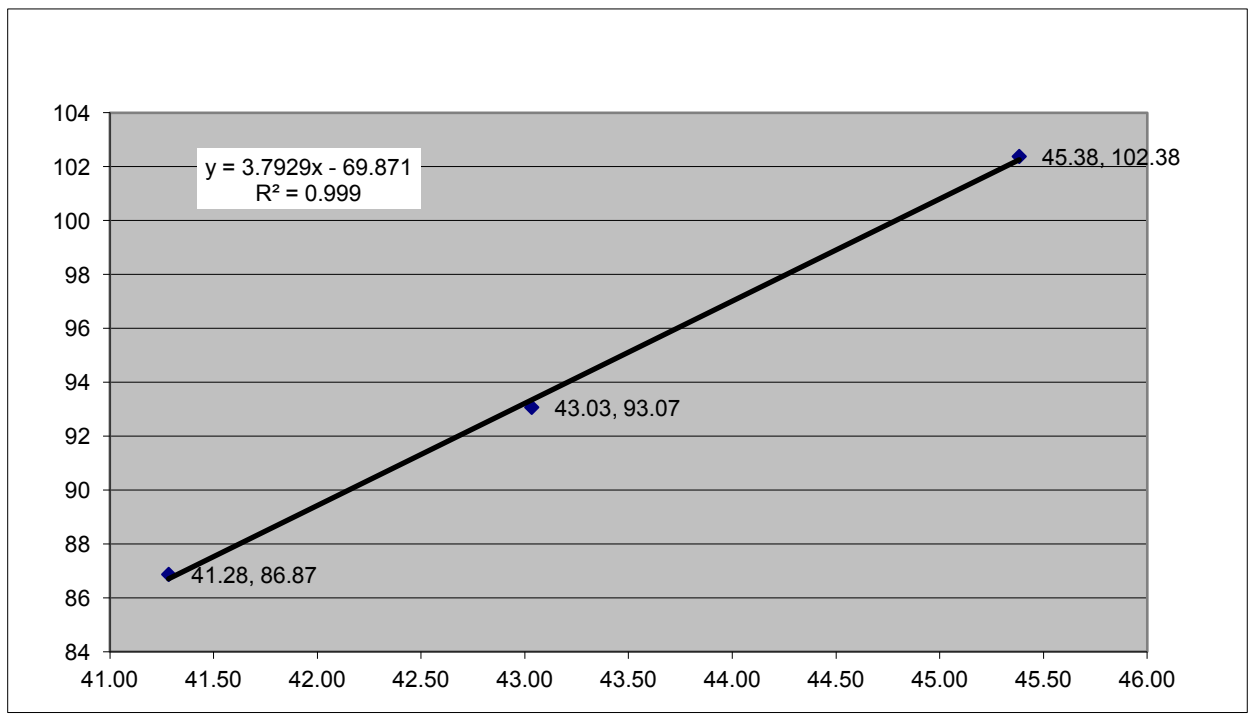
Calibration Result

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	15-Oct-12	13:12	14:12	26.3	74%	86.87	2477	41.28
2	15-Oct-12	14:16	15:16	26.3	74%	93.07	2582	43.03
3	15-Oct-12	15:33	16:33	26.3	74%	102.38	2723	45.38

Be Linear Regression of Y or X
Slope (K-factor): 3.7929
Correlation coefficient : 0.999

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2012

Checked by: Keith Chau Signature: Date: 10/21/2012

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 10/21/2011

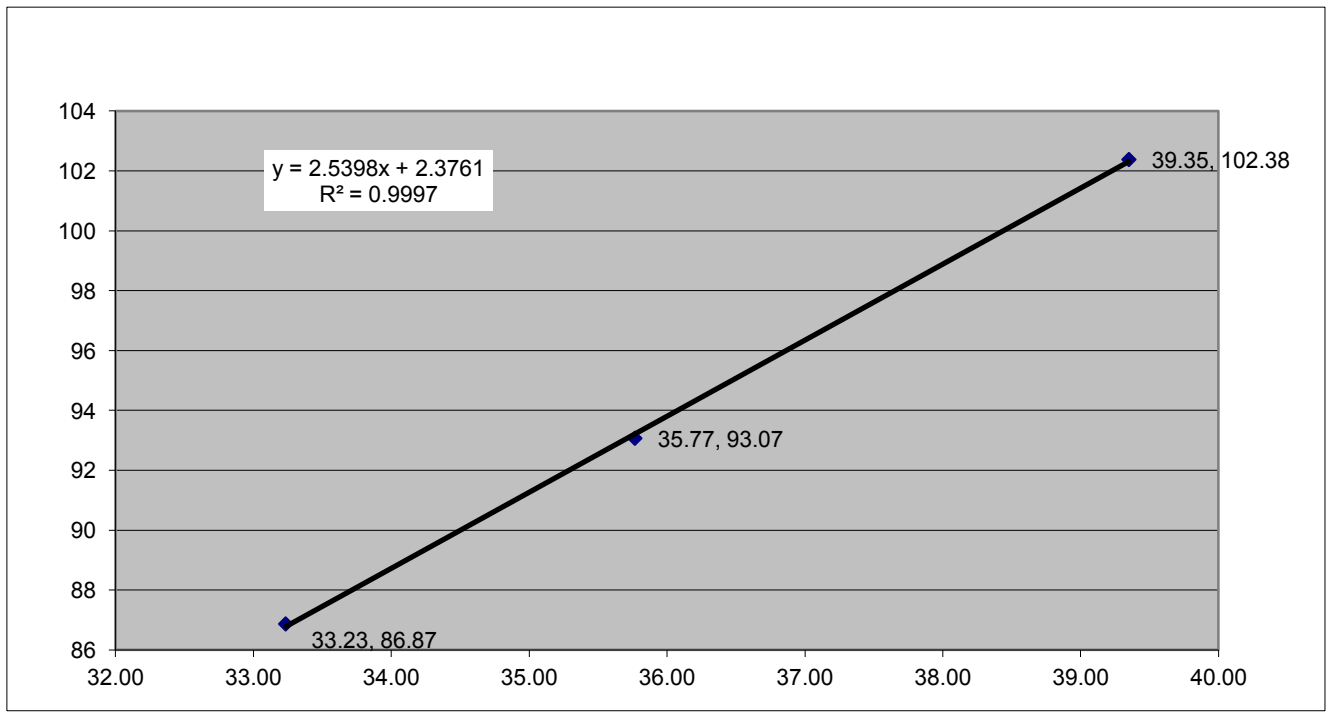
Calibration Result

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 (obtained by High Volume Sampler) (ug/m3) Y-axis	Total Count for 60mins (obtained by Laser Dust Monitor)	Count per Minute X-axis
				Temp (C)	R.H. (%)			
1	15-Oct-12	13:12	14:12	26.3	74%	86.87	1994	33.23
2	15-Oct-12	14:16	15:16	26.3	74%	93.07	2146	35.77
3	15-Oct-12	15:33	16:33	26.3	74%	102.38	2361	39.35

Be Linear Regression of Y or X
Slope (K-factor): 2.5398
Correlation coefficient : 0.9997

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2012

Checked by: Keith Chau Signature: Date: 10/21/2012

Summary of Calibration Date of Monitoring Equipment:

Equipment	Description	ID	Latest Calibration Date	Next Calibration Date
Calibrator for Sound Level Meters	B&K 4231	2671470	5th January 2012	4th January 2013
Calibrator for Sound Level Meters	B&K 4231	3003246	20th May 2012	19th May 2013
Integrated Sound Level Meters	B&K 2238	2381580	21st September 2012	20th September 2013
Integrated Sound Level Meters	B&K 2238	2808432	23rd August 2012	22nd August 2013
Integrated Sound Level Meters	B&K 2238	2661357	5th January 2012	4th January 2013
Laser Dust Monitor	LD-3B-001	974350	17th October 2011	16th October 2012
			15th October 2012	14th October 2013
Laser Dust Monitor	LD-3B-002	934393	18th October 2011	17th October 2012
			15th October 2012	14th October 2013
High Volume Sampler	TE-5170	2098 (Cyberport)	21st September 2012	20th November 2012
			19th November 2012	18th January 2013
High Volume Sampler	TE-5170	2099 (Aberdeen PTW)	10th August 2012	9th October 2012
			9th October 2012	8th December 2012
High Volume Sampler	TE-5170	2100 (Wah Fu PTW)	20th August 2012	19th October 2012
			19th October 2012	18th December 2012
High Volume Sampler	TE-5170	2146 (Sai Ying Pun)	13th September 2012	12th November 2012
			9th November 2012	8th January 2013

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

Certificate of Calibration
校正證書

Certificate No. : C125531
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC12-2363)

Description / 儀器名稱	:	Integrating Sound Level Meter
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	2238
Serial No. / 編號	:	2381580
Supplied By / 委託者	:	Atkins China Limited 13/F, Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 20 September 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : H C Chan

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 21 September 2012

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
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Certificate No. : C125531
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1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

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Certificate No. : C125531
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6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	89.9	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C110034

Certificate of Calibration

This is to certify that the equipment

Description : Integrating Sound Level Meter

Manufacturer : Bruel & Kjaer

Model No. : 2238

Serial No. : 2661357

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C110034.

The equipment is supplied by

Co. Name : Leighton Contractors (Asia) Limited

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

Date of Issue : 5 January 2011

Certified by : H C Chan

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

Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC11-3191)

Description / 儀器名稱	:	Integrating Sound Level Meter
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	2238
Serial No. / 編號	:	2661357
Supplied By / 委託者	:	Leighton Contractors (Asia) Limited 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 5 January 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : L K Yeung

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 6 January 2012

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the B & K Acoustic Calibrator 4231, S/N : 2671470 was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.2	± 0.1
	L_{AIP}		I			94.2	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C120071
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.0	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.0	± 0.5
			60 sec.			$1/10^3$		80	79.7	± 1.0
			5 min.			$1/10^4$		70	69.8	± 1.0

Remarks : - Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB :	31.5 Hz - 125 Hz	: ± 0.40 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz	: ± 0.40 dB
	4 kHz	: ± 0.50 dB
	8 kHz	: ± 0.70 dB
	12.5 kHz	: ± 1.20 dB
104 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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

Certificate of Calibration
校正證書

Certificate No. : C120070
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC11-3191)

Description / 儀器名稱	:	Acoustical Calibrator
Manufacturer / 製造商	:	Bruel & Kjaer
Model No. / 型號	:	4231
Serial No. / 編號	:	2671470
Supplied By / 委託者	:	Leighton Contractors (Asia) Limited 39/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 5 January 2012

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By 測試 : L K Yeung

Certified By 核證 : K C Lee

Date of Issue 簽發日期 : 6 January 2012

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

Certificate of Calibration
校正證書

Certificate No. : C120070
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C113350
CL281	Multifunction Acoustic Calibrator	DC110233
TST150A	Measuring Amplifier	C101008

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :
The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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MANUFACTURER'S CERTIFICATE OF CONFORMANCE

We certify that Brüel & Kjær **-2238--001-** Serial No. **2808432** has been tested and passed all production tests, confirming compliance with the manufacturer's published specification at the date of the test.

The final test has been performed using calibrated equipment, traceable to National or International Standards or by ratio measurements.

Brüel & Kjær is certified under ISO 9001:2008 assuring that all test data is retained on file and is available for inspection upon request.

Nærum 23-aug-2012

Torben Bjørn
Vice President, Operations

Please note that this document is not a calibration certificate.
For information on our calibration services please contact your nearest Brüel & Kjær office.

BA 0238 – 18

HEADQUARTERS: Brüel & Kjær Sound & Vibration Measurement A/S · DK-2850 Nærum · Denmark
Telephone: +45 7741 2000 · Fax: +45 4580 1405 · www.bksv.com · info@bksv.com
Local representatives and service organisations worldwide

Brüel & Kjær

Calibration Chart

Brüel & Kjær

Type 4231

Serial No. 3003246

Sound Pressure Level: 94.00 or 114.00 dB ±0.20 dB
(re 20 µPa at reference conditions)

Frequency: 1000 Hz ±0.1%

Distortion: <1%

Reference Conditions:

Temperature:	23°C
Pressure:	101.325 kPa
Humidity:	50% RH
Load:	0.25 cm^3 (½" Brüel & Kjær Mic.)

Date: 20/05/12 Signed: [signature]

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location	**:**	**Aberdeen**
Calibrated by	**:**	**K.F.Ho**
Date	**:**	**10/08/2012**

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1378**
Service Date	**:**	**22 Feb 2012**
Slope (m)	**:**	**1.99405**
Intercept (b)	**:**	**-0.00397**
Correlation Coefficient(r)	**:**	**0.99984**

Standard Condition

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

Calibration Condition

Pa (hpa)	**:**	**1001**
Ta(K)	**:**	**303**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.0	3.270	1.642	57	56.2
2	13 holes	9.4	3.022	1.518	52	51.3
3	10 holes	7.3	2.664	1.338	46	45.3
4	7 holes	4.8	2.160	1.085	37	36.5
5	5 holes	2.7	1.620	0.814	27	26.6

Sampler Calibration Relationship

Slope(m):35.405 Intercept(b): -2.116 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan Date: 10/08/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Aberdeen
Calibrated by : K.F.Ho
Date : 09/10/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1013
Ta(K) : 299

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.5	3.385	1.700	62	61.9
2	13 holes	9.4	3.061	1.537	55	54.9
3	10 holes	7.6	2.752	1.382	48	47.9
4	7 holes	5.0	2.232	1.121	37	36.9
5	5 holes	3.0	1.729	0.869	27	26.9

Sampler Calibration Relationship

Slope(m):42.202 Intercept(b): -10.064 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 14/10/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Wah Fu Estate
Calibrated by : K.F.Ho
Date : 20/08/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1004
Ta(K) : 303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.6	3.214	1.614	58	57.3
2	13 holes	9.5	3.043	1.528	54	53.3
3	10 holes	7.0	2.612	1.312	46	45.4
4	7 holes	5.6	2.336	1.174	40	39.5
5	5 holes	2.8	1.652	0.830	27	26.7

Sampler Calibration Relationship

Slope(m):40.628 Intercept(b): -7.762 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 23/08/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Wah Fu Estate
Calibrated by : K.F.Ho
Date : 19/10/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1016
Ta(K) : 299

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.378	1.695	59	59.0
2	13 holes	9.3	3.049	1.531	52	52.0
3	10 holes	7.2	2.683	1.347	44	44.0
4	7 holes	5.4	2.323	1.167	37	37.0
5	5 holes	3.3	1.816	0.913	27	27.0

Sampler Calibration Relationship

Slope(m):40.890 Intercept(b): -10.620 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 21/10/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location	**:**	**Sai Ying Pun**
Calibrated by	**:**	**K.F.Ho**
Date	**:**	**13/09/2012**

Sampler

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

Calibration Orfice and Standard Calibration Relationship

Serial Number	**:**	**1378**
Service Date	**:**	**22 Feb 2012**
Slope (m)	**:**	**1.99405**
Intercept (b)	**:**	**-0.00397**
Correlation Coefficient(r)	**:**	**0.99984**

Standard Condition

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

Calibration Condition

Pa (hpa)	**:**	**1009**
Ta(K)	**:**	**302**

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.1	3.303	1.658	60	59.5
2	13 holes	9.7	3.088	1.550	55	54.5
3	10 holes	7.9	2.7871	1.399	50	49.6
4	7 holes	4.8	2.172	1.091	38	37.7
5	5 holes	2.8	1.659	0.834	28	27.8

Sampler Calibration Relationship

Slope(m):38.059 Intercept(b): -3.929 Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan Date: 17/09/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Sai Ying Pun
Calibrated by : K.F.Ho
Date : 09/11/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99984

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

Calibration Condition
Pa (hpa) : 1009
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.0	3.306	1.660	59	58.8
2	13 holes	9.6	3.088	1.551	54	53.8
3	10 holes	7.7	2.766	1.390	48	47.8
4	7 holes	4.7	2.161	1.086	37	36.9
5	5 holes	2.8	1.668	0.838	28	27.9

Sampler Calibration Relationship

Slope(m):37.160 Intercept(b): -3.430 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 15/11/2012

ENVIROTECH SERVICES CO.

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 21/9/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99999

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

Calibration Condition
Pa (hpa) : 1010
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.9	3.275	1.644	59	58.5
2	13 holes	9.7	3.089	1.551	55	54.6
3	10 holes	7.2	2.662	1.337	47	46.6
4	7 holes	5.8	2.389	1.200	41	40.7
5	5 holes	2.9	1.689	0.849	28	27.8

Sampler Calibration Relationship

Slope(m):38.647 Intercept(b): -5.241 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan Date: 22/09/2012

High-Volume TSP Sampler
5-Point Calibration Record

Location : Cyber Port
Calibrated by : K.F.Ho
Date : 19/11/2012

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

Calibration Orfice and Standard Calibration Relationship
Serial Number : 1378
Service Date : 22 Feb 2012
Slope (m) : 1.99405
Intercept (b) : -0.00397
Correlation Coefficient(r) : 0.99999

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

Calibration Condition
Pa (hpa) : 1010
Ta(K) : 302

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	10.6	3.229	1.621	57	56.5
2	13 holes	9.5	3.057	1.535	53	52.6
3	10 holes	7.1	2.643	1.327	45	44.6
4	7 holes	5.6	2.347	1.179	39	38.7
5	5 holes	2.8	1.660	0.834	26	25.9

Sampler Calibration Relationship

Slope(m):38.850 Intercept(b): -6.844 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan Date: 25/11/2012

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 17/10/2011

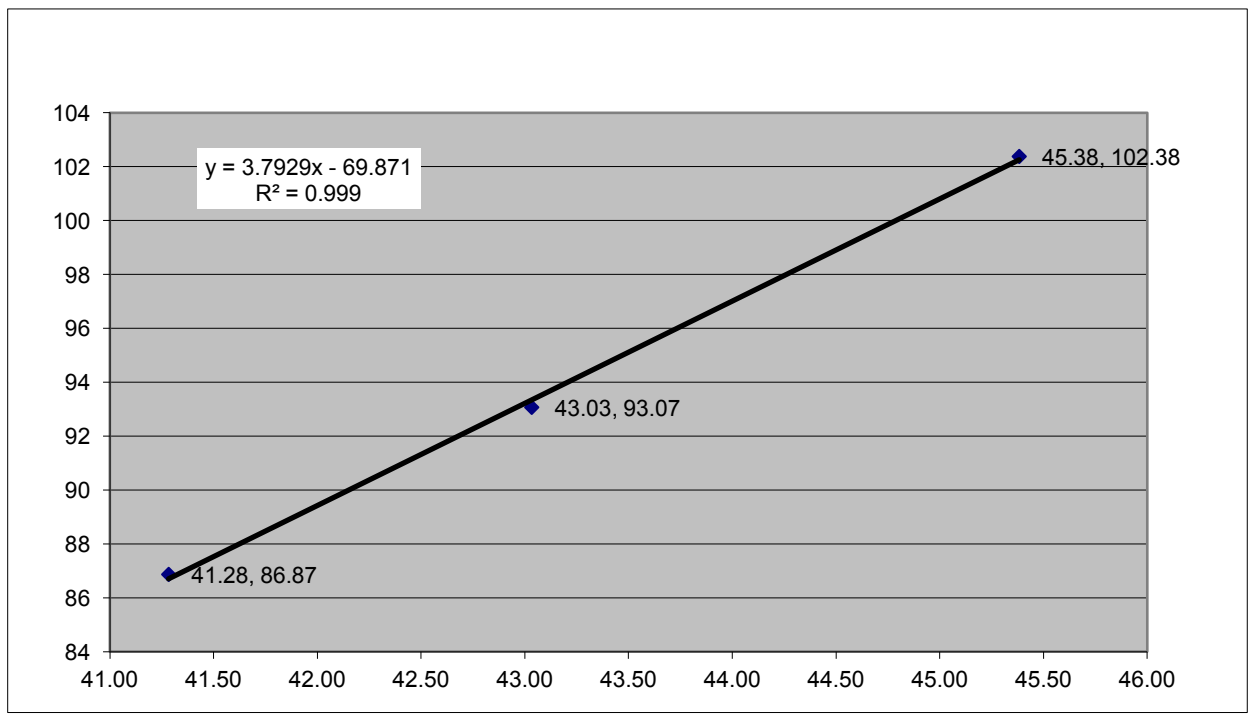
Calibration Result

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	15-Oct-12	13:12	14:12	26.3	74%	86.87	2477	41.28
2	15-Oct-12	14:16	15:16	26.3	74%	93.07	2582	43.03
3	15-Oct-12	15:33	16:33	26.3	74%	102.38	2723	45.38

Be Linear Regression of Y or X
Slope (K-factor): 3.7929
Correlation coefficient : 0.999

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2012

Checked by: Keith Chau Signature: Date: 10/21/2012

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 10/21/2011

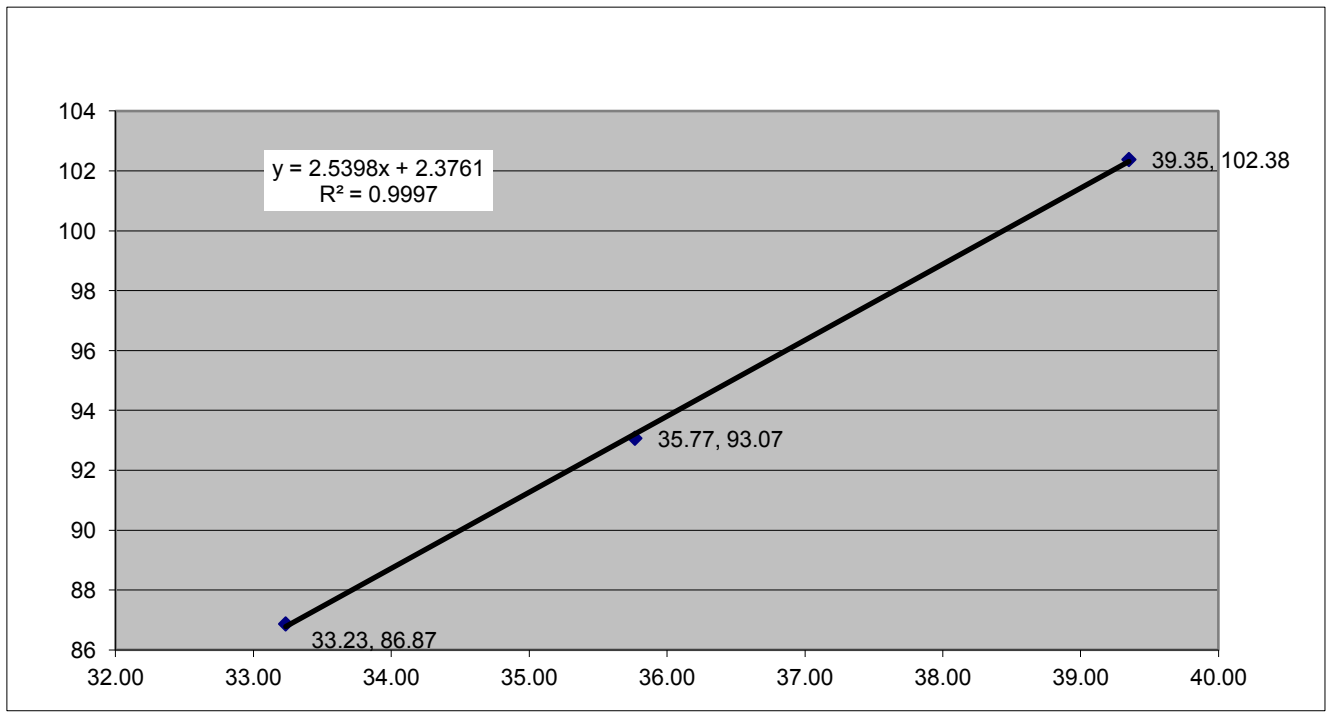
Calibration Result

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 (obtained by High Volume Sampler) (ug/m3) Y-axis	Total Count for 60mins (obtained by Laser Dust Monitor)	Count per Minute X-axis
				Temp (C)	R.H. (%)			
1	15-Oct-12	13:12	14:12	26.3	74%	86.87	1994	33.23
2	15-Oct-12	14:16	15:16	26.3	74%	93.07	2146	35.77
3	15-Oct-12	15:33	16:33	26.3	74%	102.38	2361	39.35

Be Linear Regression of Y or X
Slope (K-factor): 2.5398
Correlation coefficient : 0.9997

Remark:



Recorded by: Ruby Law Signature: Date: 10/21/2012

Checked by: Keith Chau Signature: Date: 10/21/2012

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	√	

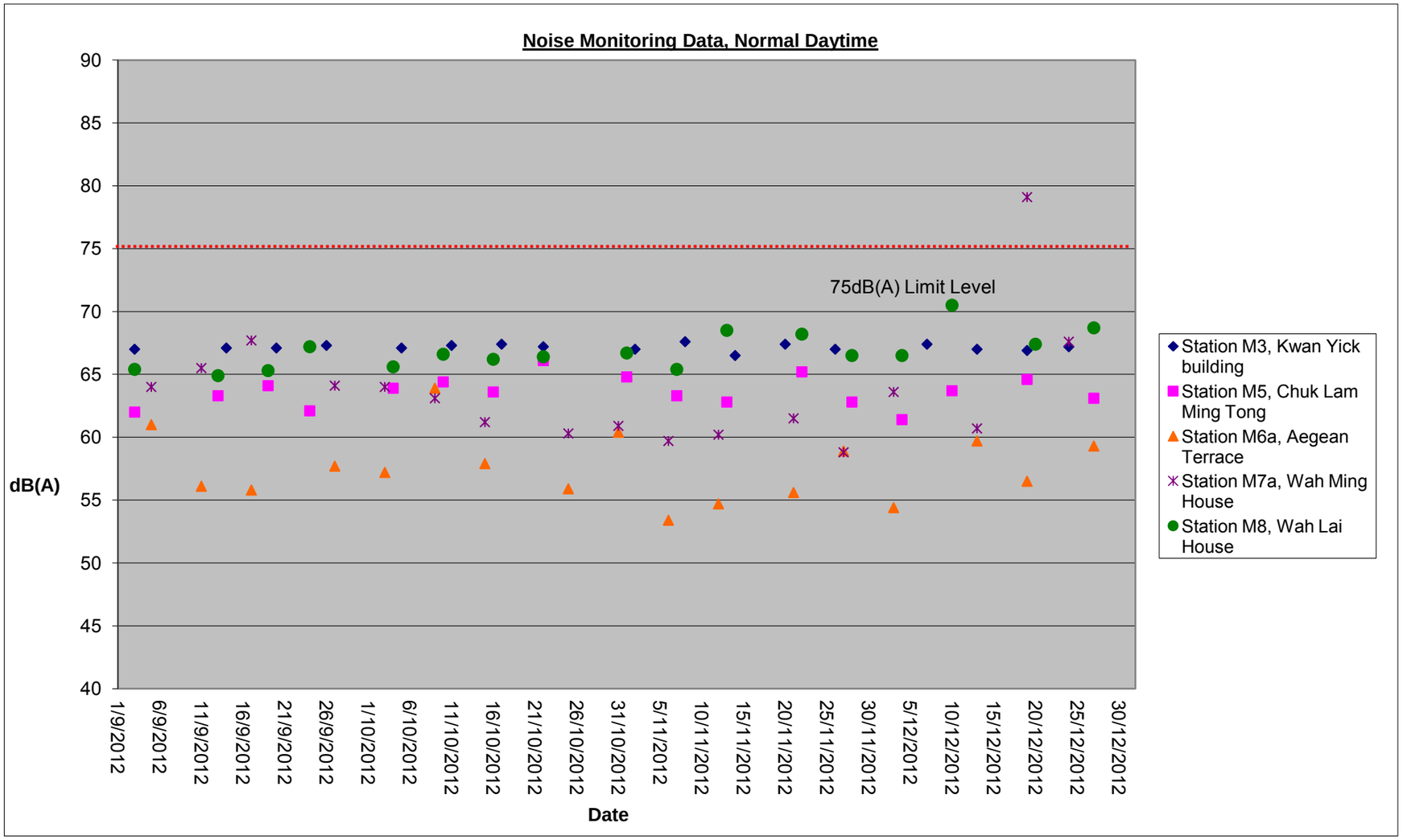
EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
9.125	7.14	Waste Management Implication	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused 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	√	

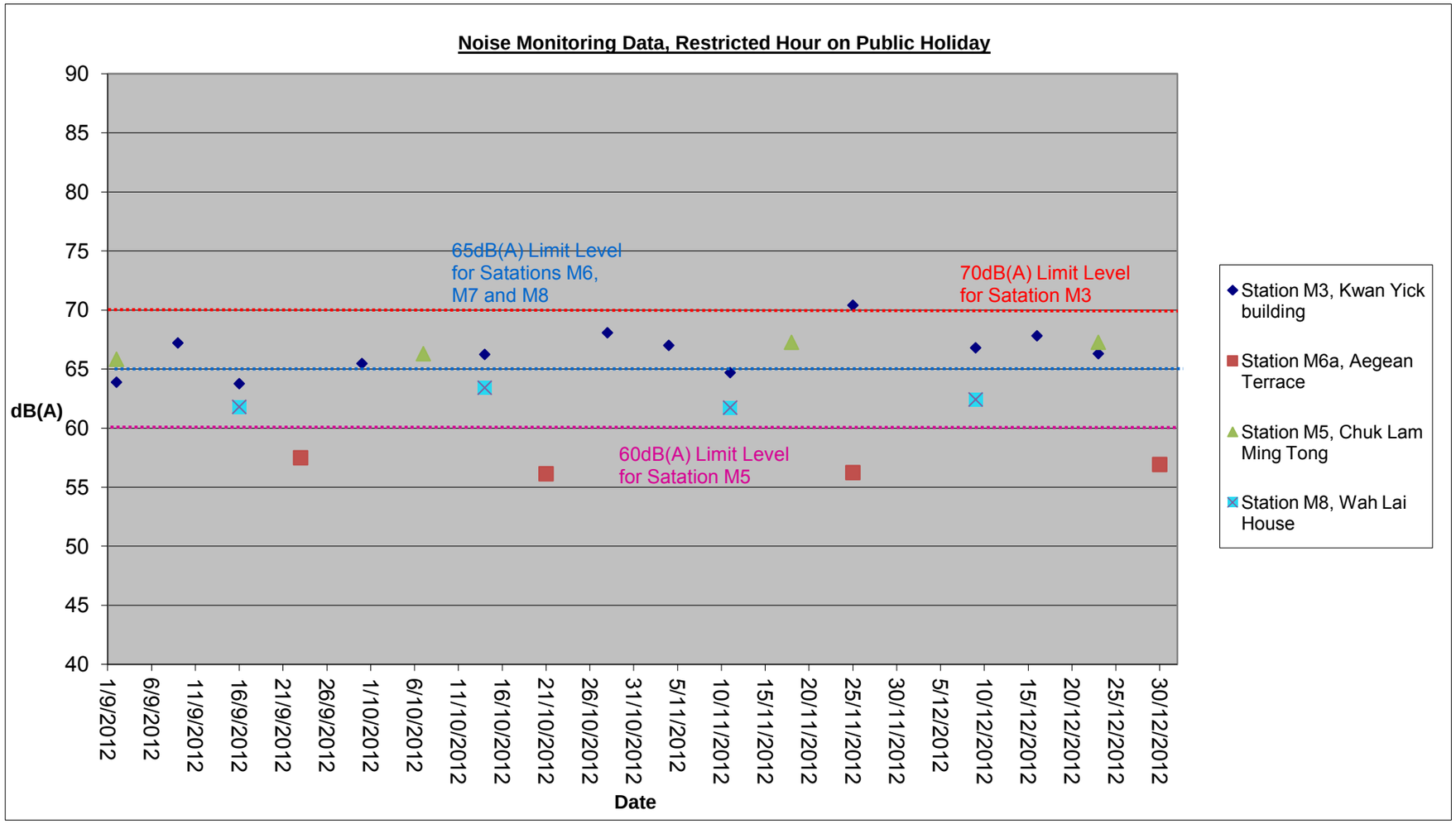
EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
10.96		Terrestrial Ecology	Standard good site practices as suggested in Section 10 should be implemented.	During Construction	√	
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	

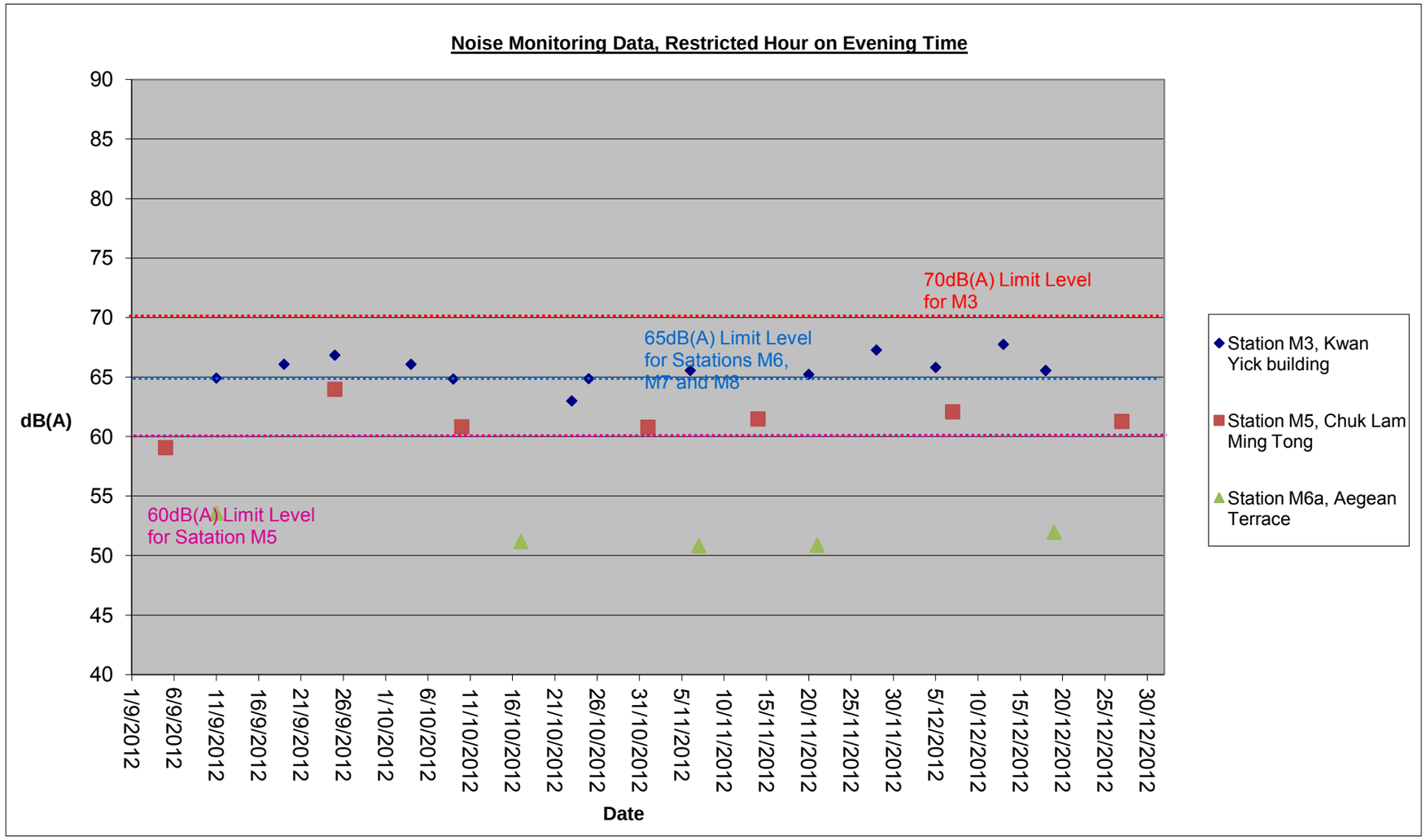
EIA Ref.	Final EM&A Manual Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
					Status	Remarks
14A.199 & 14A.204		Hazard to Life	Limiting of the vibration levels associated with the blasting programme for the Tunnel P, shafts 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. If vibration levels are found to exceed the limit level, the Contractor shall investigate the cause of the exceedance and take immediate corrective action by reducing the rate of forward progress, as necessary, to bring PPV levels within compliance.	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	√	

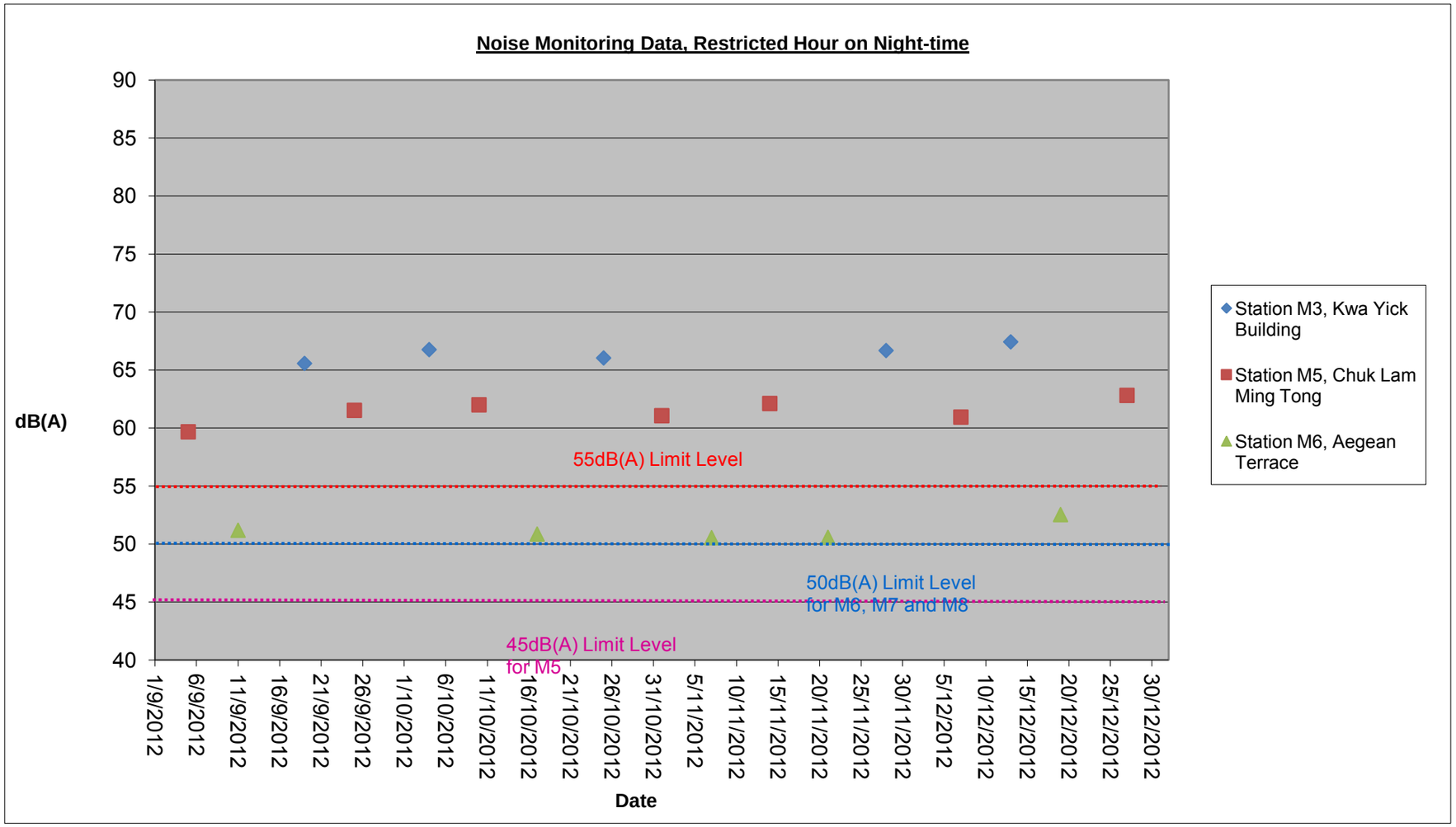
APPENDIX E

GRAPHICAL PRESENTATION OF NOISE MONITORING DATA


Noise Monitoring Data, Normal Daytime
90
85
80
75
70
65
60
55
50
45
40
dB(A)
75dB(A) Limit Level
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
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

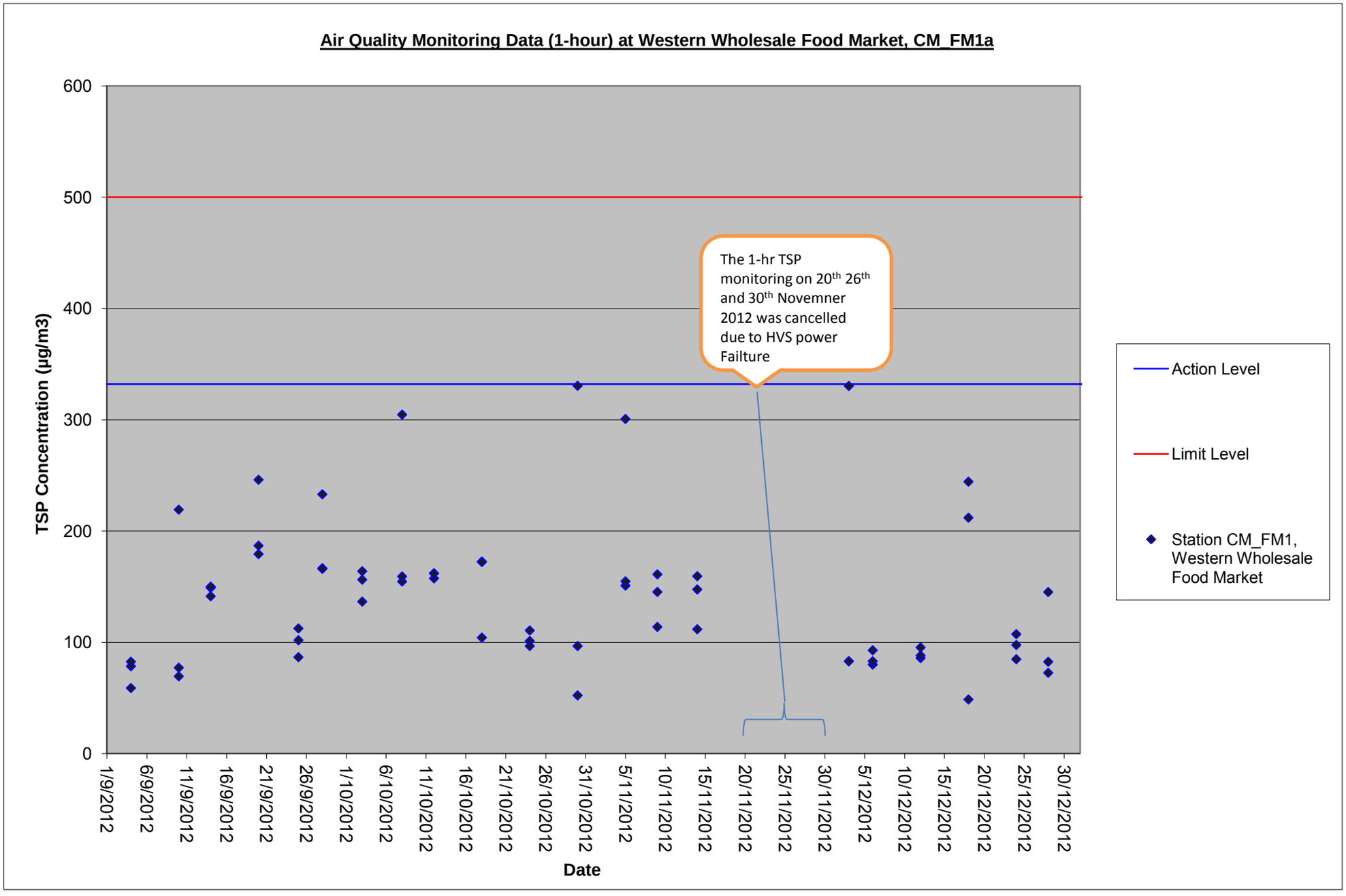

Noise Monitoring Data, Restricted Hour on Public Holiday
dB(A)
90
85
80
75
70
65
60
55
50
45
40
65dB(A) Limit Level for Satations M6, M7 and M8
70dB(A) Limit Level for Satation M3
60dB(A) Limit Level for Satation M5
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Station M3, Kwan Yick building
Station M6a, Aegean Terrace
Station M5, Chuk Lam Ming Tong
Station M8, Wah Lai House

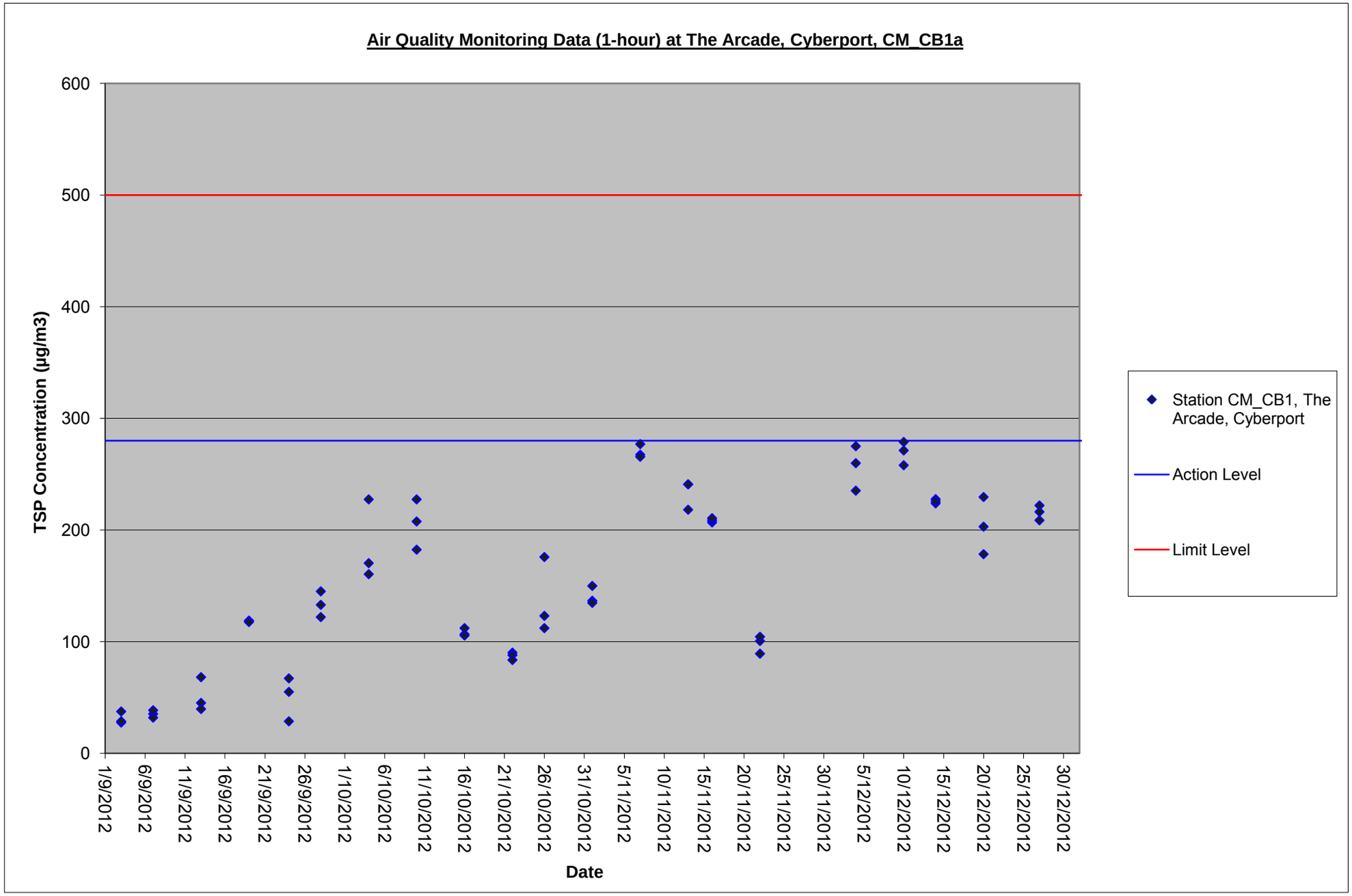

Noise Monitoring Data, Restricted Hour on Evening Time
90
85
80
75
70
65
60
55
50
45
40
dB(A)
70dB(A) Limit Level for M3
65dB(A) Limit Level for Satations M6, M7 and M8
60dB(A) Limit Level for Satation M5
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Station M3, Kwan Yick building
Station M5, Chuk Lam Ming Tong
Station M6a, Aegean Terrace

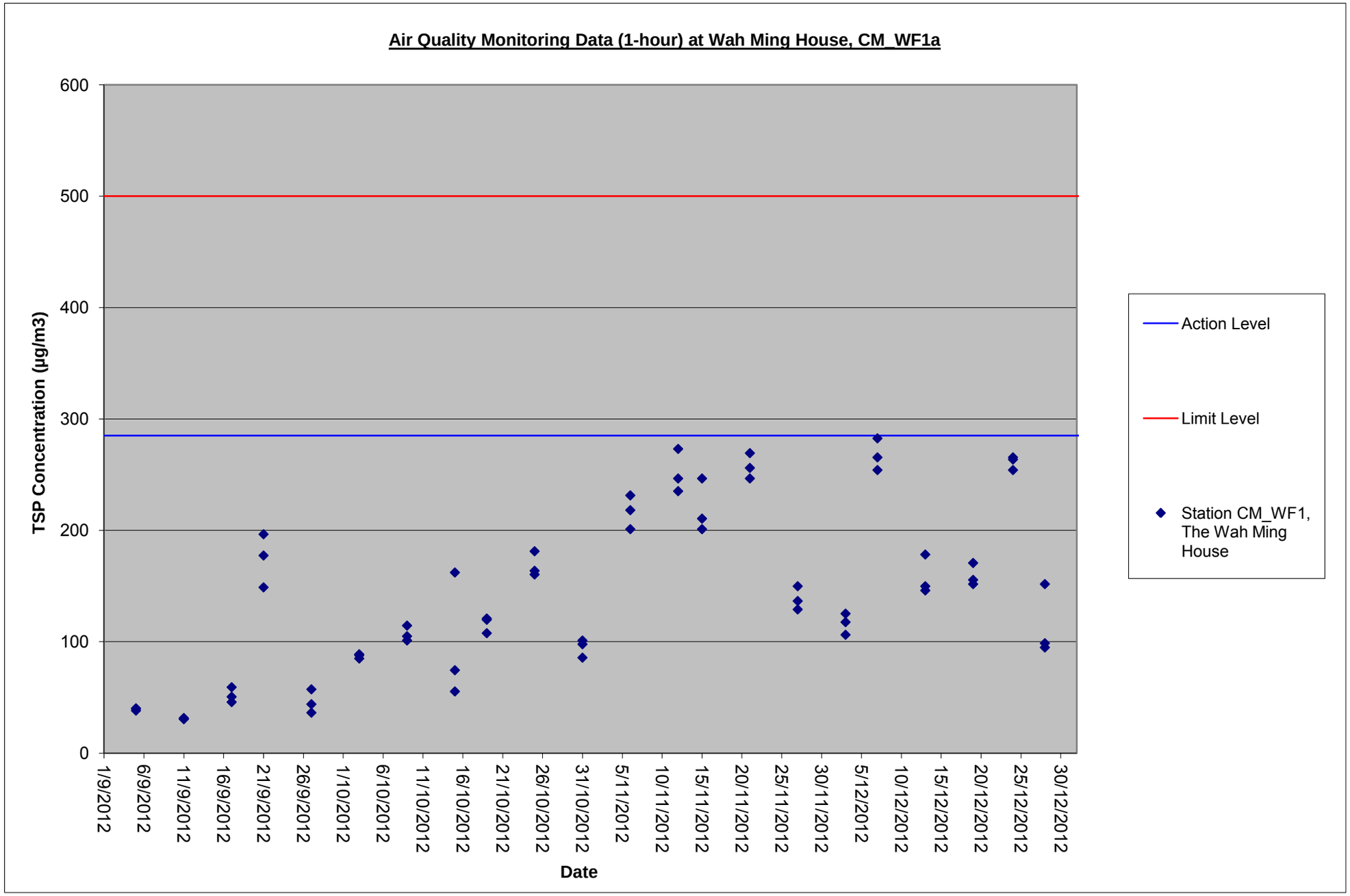

Noise Monitoring Data, Restricted Hour on Night-time
dB(A)
90
85
80
75
70
65
60
55
50
45
40
55dB(A) Limit Level
50dB(A) Limit Level
for M6, M7 and M8
45dB(A) Limit Level
for M5
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Station M3, Kwa Yick Building
Station M5, Chuk Lam Ming Tong
Station M6, Aegean Terrace

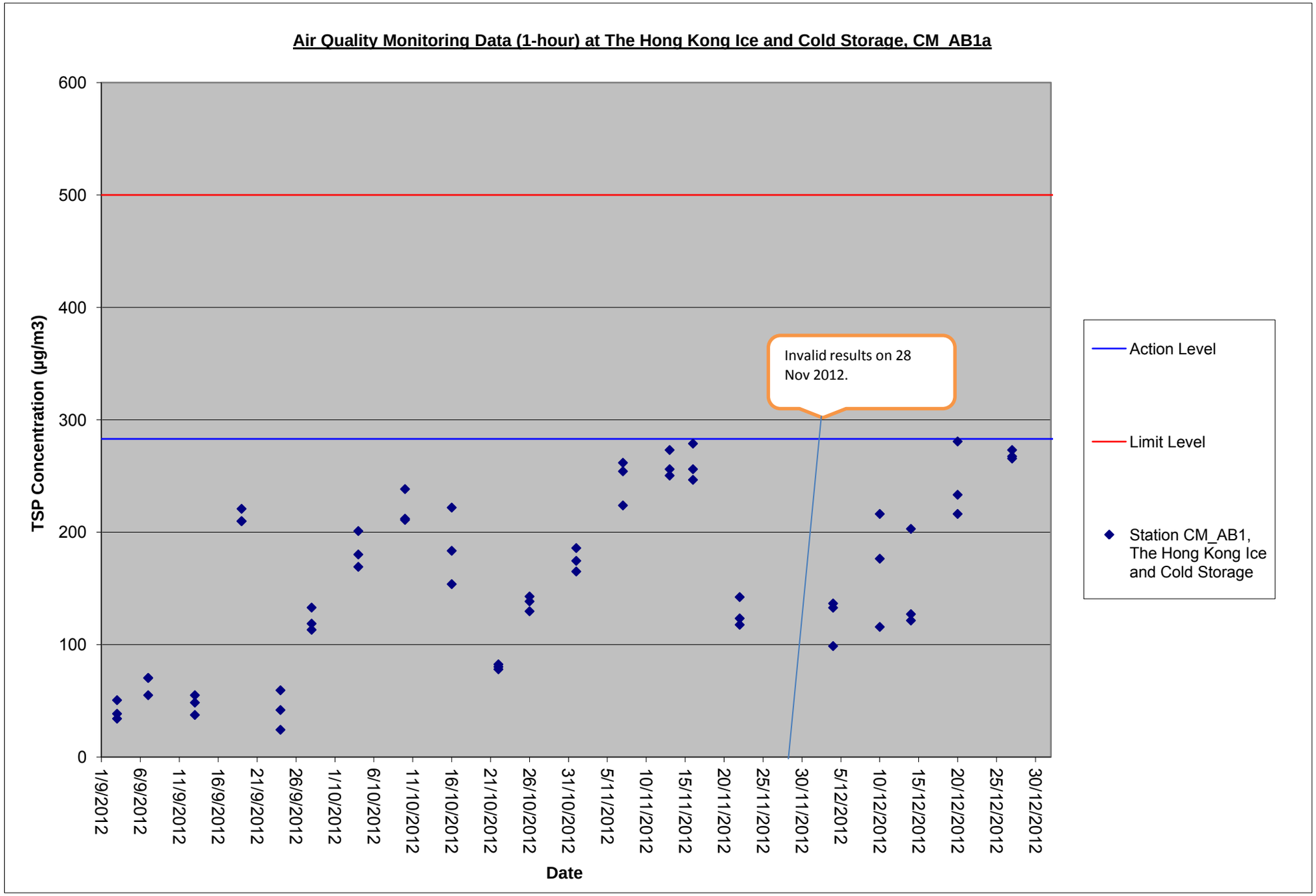
APPENDIX F

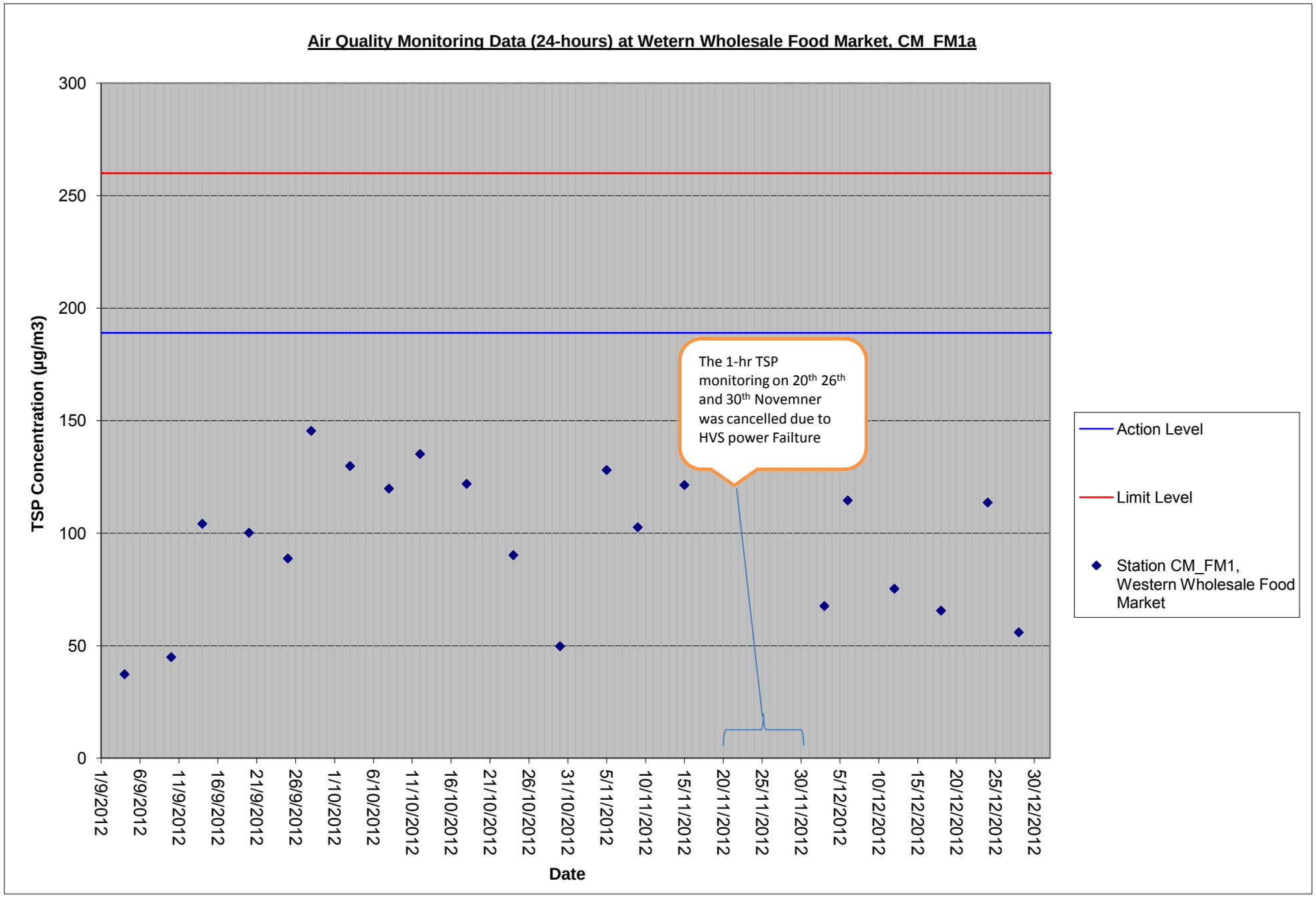
GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING DATA

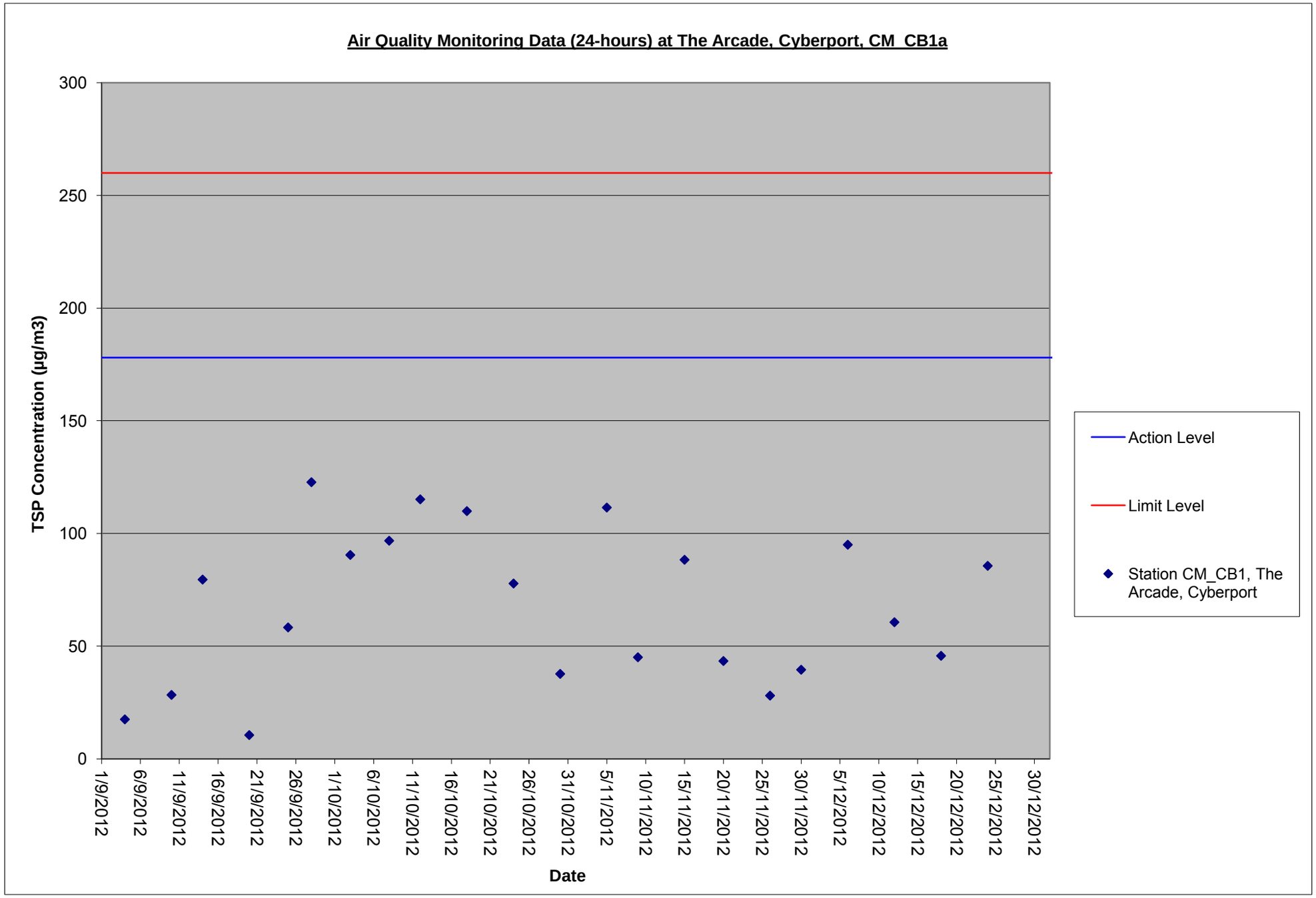

Air Quality Monitoring Data (1-hour) at Western Wholesale Food Market, CM_FM1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
The 1-hr TSP monitoring on 20th 26th and 30th Novemner 2012 was cancelled due to HVS power Failture
Action Level
Limit Level
Station CM_FM1, Western Wholesale Food Market

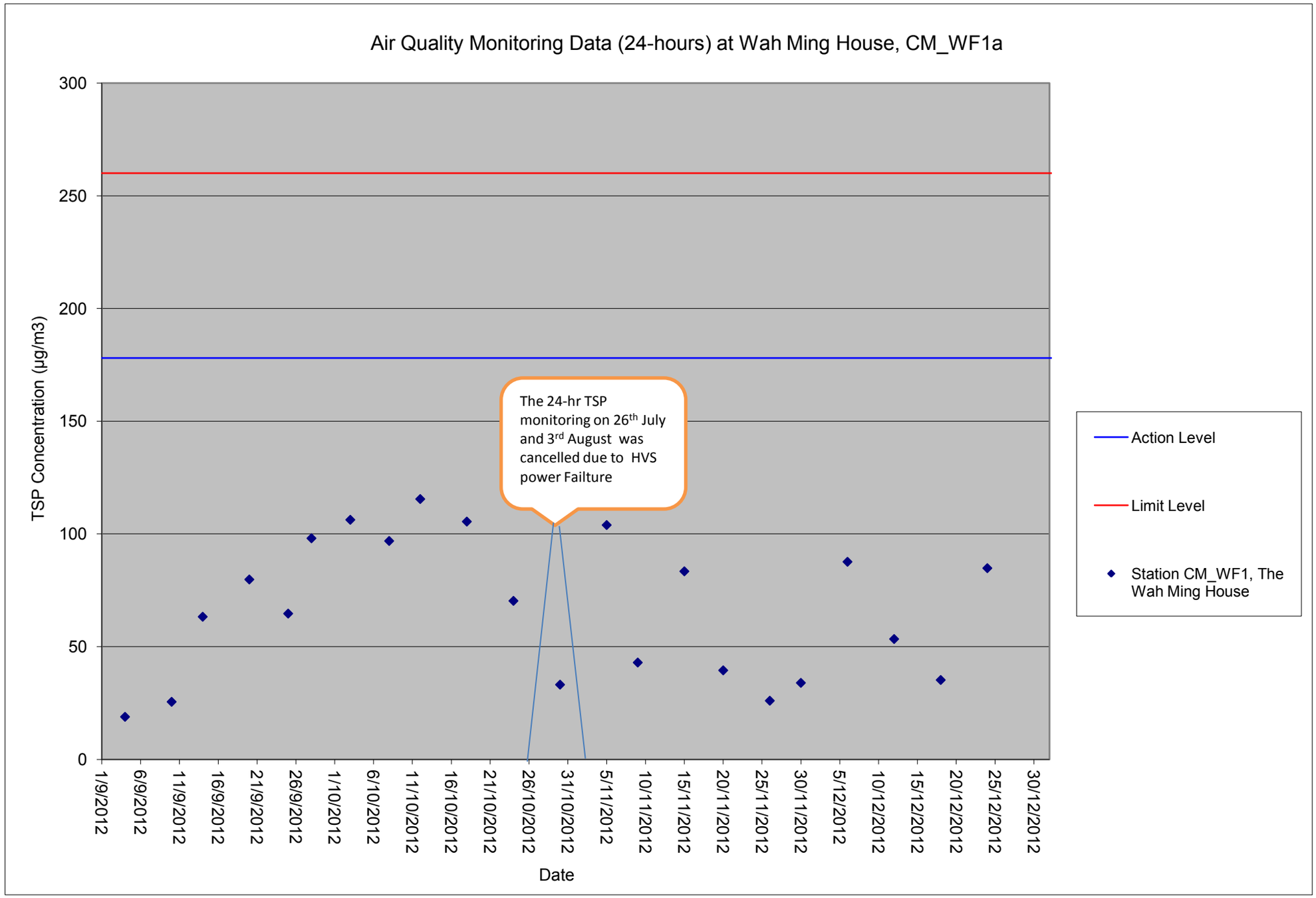

Air Quality Monitoring Data (1-hour) at The Arcade, Cyberport, CM_CB1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Station CM_CB1, The Arcade, Cyberport
Action Level
Limit Level


Air Quality Monitoring Data (1-hour) at Wah Ming House, CM_WF1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Action Level
Limit Level
Station CM_WF1, 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
Invalid results on 28 Nov 2012.
Action Level
Limit Level
Station CM_AB1, The Hong Kong Ice and Cold Storage
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date


Air Quality Monitoring Data (24-hours) at Wetern Wholesale Food Market, CM_FM1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
The 1-hr TSP monitoring on 20th 26th and 30th Novemner was cancelled due to HVS power Failture
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
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Action Level
Limit Level
Station CM_CB1, 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
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
5/11/2012
10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
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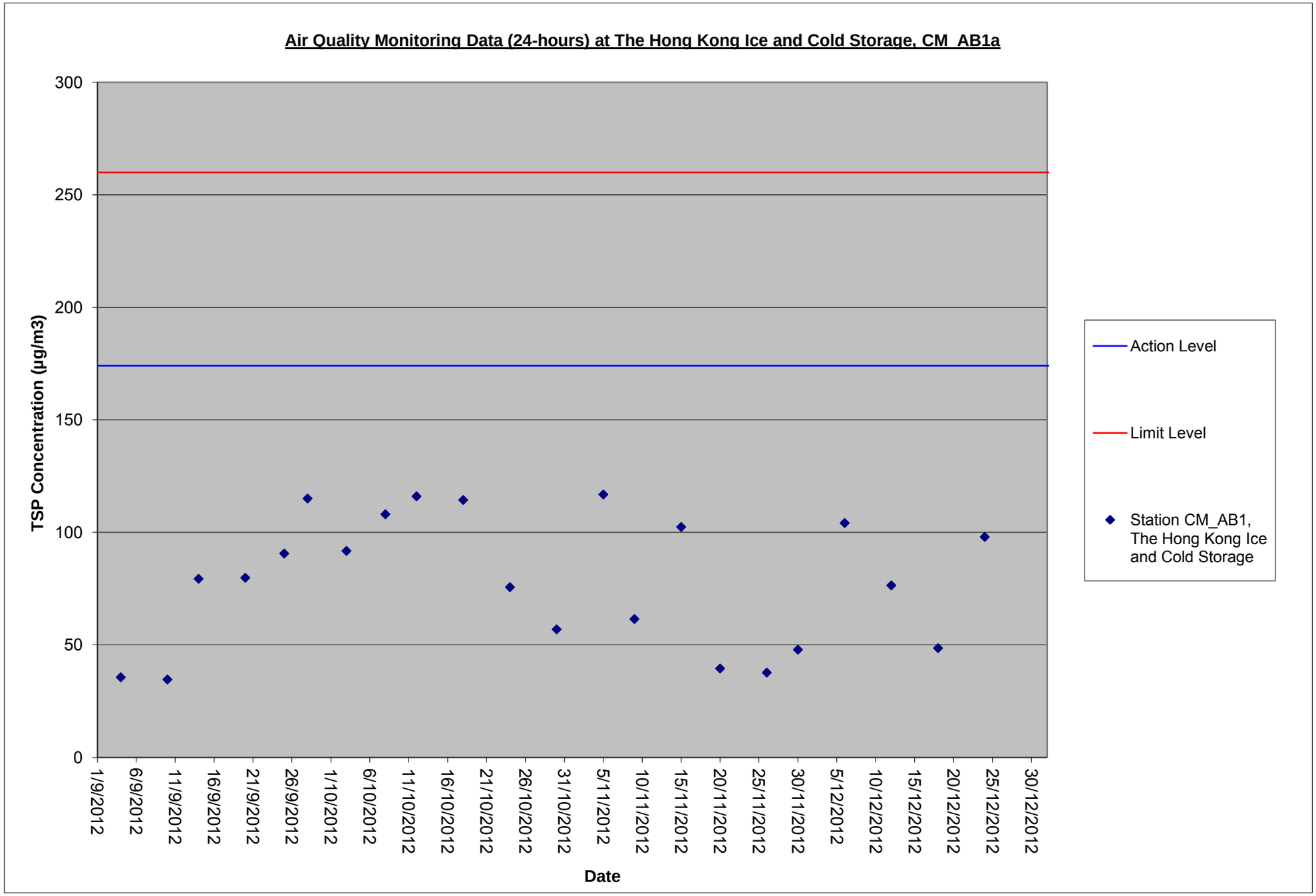
Action Level
Limit Level
Station CM_WF1, The Wah Ming House


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
1/9/2012
6/9/2012
11/9/2012
16/9/2012
21/9/2012
26/9/2012
1/10/2012
6/10/2012
11/10/2012
16/10/2012
21/10/2012
26/10/2012
31/10/2012
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10/11/2012
15/11/2012
20/11/2012
25/11/2012
30/11/2012
5/12/2012
10/12/2012
15/12/2012
20/12/2012
25/12/2012
30/12/2012
Date
Action Level
Limit Level
Station CM_AB1, The Hong Kong Ice and Cold Storage

APPENDIX G

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: *12th Quarterly Landscape & Visual Monitoring Report*

January 2013

Environmental Resources Management
16/F DCH Commercial Centre
25 Westlands Road
Quarry Bay, 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: *12th Quarterly Landscape & Visual Monitoring Report*

January 2013

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: 21 January 2013

CONTENTS

1 LANDSCAPE AND VISUAL IMPACT 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 twelfth quarterly landscape and visual (L&V) impact monitoring report presenting the findings of the L&V site audit conducted during the period from 1 October 2012 to 31 December 2012.

1.2 MONITORING PARAMETERS

According to the EM&A Manual, the L&V impact monitoring includes auditing the design, 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*). Three monthly site audits were undertaken on 30 October, 20 November and 27 December 2012 at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun.

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

The implementation statuses of the proposed landscape mitigation measures for the construction phase are recorded and summarised in *Annex B*.

Table 1.1 Proposed Landscape Mitigation Measures for the 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

2 SITE AUDIT FINDINGS AND OBSERVATIONS

2.1 OUTSTANDING FOLLOW-UP ACTIONS

Follow-up actions addressing the tree issues identified during the September 2012 site audits (i.e. poor health of the transplanted and retained trees) remain outstanding at the Sandy Bay, Cyberport and Aberdeen sites.

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

Cyberport Site

(1) A metal bar was still tied to the branch of the retained tree T065(R). The contractor had been asked again to remove the metal bar; and

(2) The identification tags for the retained tree T066(R) and T074(R) were still missing. The Contractor had been asked again to provide proper tree tags for the retained trees.

Sandy Bay Site

(1) The transplanted tree T017(T) was still in very poor health.

(2) Identification tags for the retained trees T046(R), T021(R) and T058(R) were still missing. The Contractor had been asked again to provide proper tree tags for the retained trees;

(3) The identification tag for the retained trees T038(T) was still missing. In addition, a proper tree protection zone for T038(T) has not yet been provided. The Contractor had been asked again to provide a proper tree tag and protection zone for the retained tree;

(4) The retained tree T039(R) was still in bad condition with dry leaves and cracks on tree barks;

(5) The condition of the retained tree T053(R) was still deteriorating with damages to its stems and foliage since the audit of September 2011;

(6) Construction materials were still stored close to the tree truck of the retained tree T044(R). The Contractor was asked again to remove the materials; and

(7) A cable was still hanging from the tree branches of the retained trees T021(R) and T027(R) (*Photo 1*). The Contractor was asked again to remove the cable.

The Contractor was asked to inspect the condition of the trees at Sandy Bay Site and take the necessary mitigation measures immediately to improve the overall health condition of all retained and transplanted trees at the site.

Aberdeen Site

(1) The identification tag for the retained trees T084(R) was still missing. The Contractor was asked again to provide proper tree identification tags for the retained tree;

(2) The retained tree T076(R) was in very poor health with cracks on the tree bark and no leaves;

(3) The retained tree T083(R) was in very poor health. A large wound on the main trunk was observed and all the leaves were dead

(4) The conditions of the retained trees T078(R), T079(R) and T080(R) were still deteriorating with some of their stems and leaves dying off.

(5) Construction materials were still stored very close to the root area of the retained trees T081(R) (*Photo 2*), T003(R) and T084(R). The Contractor was asked again to remove the construction materials.

The Contractor was asked to inspect the condition of the trees at the Aberdeen works site and take the necessary mitigation measures immediately to improve the overall health condition of the retained trees.

2.2 *NEW OBSERVATIONS AND RECOMMENDATIONS*

The key new findings during the site inspection on 30 October 2012 are as follows:

Cyberport Site

(1) The identification tag for the retained tree T48(R) was missing (Photo 3). The Contractor had been asked to provide a proper tree tag for the retained tree.

Sandy Bay Site

(1) Construction materials were stored very close to the root area of the retained tree T038(T) (*Photo 4*). The Contractor was asked to remove the construction materials.

Aberdeen Site

(1) General refuse was dumped within the tree protection zone of the retained tree T76(R) (*Photo 5*). The Contractor was asked to remove the general refuse.

The key findings during the site inspection on 20 November 2012 are as follows:

Cyberport Site

(1) The condition of the retained tree T068(R) was deteriorating with shrunken leaves *(Photo 6 & 7)*. It was recommended that the invading tree seedlings within the tree protection zone be removed to minimise the competition for nutrients.

Sandy Bay Site

(1) Construction materials were still stored very close to the root area of the retained tree T038(T) *(Photo 8)*. A tree number, instead of using a tree tag, was also written on the tree trunk. A proper tree protection zone for T038 (T) had not yet been provided. The Contractor had been asked to remove all the things hanging from the tree and within the tree protection zone, and provide a proper tree protection zone and an identification tag for the retained tree;

(2) A branch of the retained tree T52(R) was found to be rotten *(Photo 9)*. The rotten branch should be removed to prevent further infection.

Aberdeen Site

(1) Construction materials were still stored very close to the root area of the retained tree T084(R) *(Photo 10)* and an unlabelled tree *(Photo 11)*. The Contractor was asked again to remove the construction materials and provide a proper tree tag for the unlabelled tree.

The key observations during the site inspection on 27 December 2012 are as follows:

Cyberport Site

(1) Construction material was placed within the tree protection zone for the retained tree T65 (R) and close to the root flare (Photo 12). The Contractor was reminded to remove the construction material from the tree protection zone.

Sandy Bay Site

(1) Cement stain was observed on the top soil and tree trunk of the retained tree T20 (R) (*Photo 13*). The Contractor was reminded to remove the cement stain.

Aberdeen Site

(1) The tree protection zone area provided for the retained tree T76 (R) was insufficient. The protective fencing was in contact with the tree trunk (*Photo 14*). The Contractor was reminded to provide a proper tree protection zone for the retained tree.

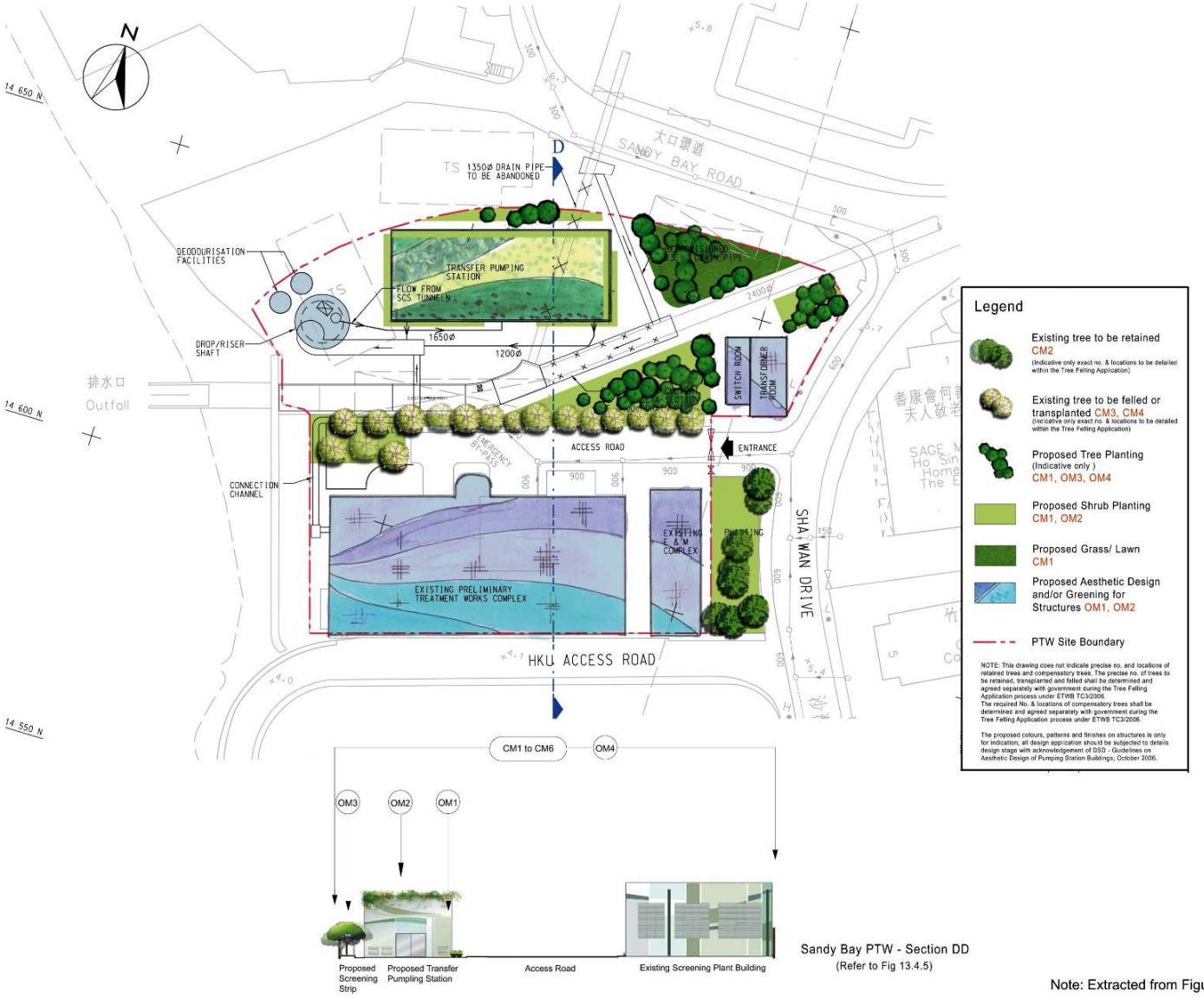
3 CONCLUSIONS

This report summarises the three monthly landscape and visual monitoring audits undertaken during the period from 1 October to 31 December 2012 in accordance with EM&A Manual. The monthly landscape and visual site audits were undertaken on 30 October, 20 November and 27 December 2012 to check the design, implementation and maintenance of landscape and visual 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*.

Most L&V mitigation measures have been implemented in full except for several areas. Inadequate L&V mitigation measures as described in Sections 2.1 and 2.2 were observed during this reporting period. The Contractor had been recommended to implement all the L&V mitigation measures stated in EP, EM&A Manual and EIA report sufficiently and properly to ensure that no statutory requirement is violated. The contractor should monitor the L&V performance of the construction activities closely and maintain a satisfactory L&V performance during the construction periods.

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.

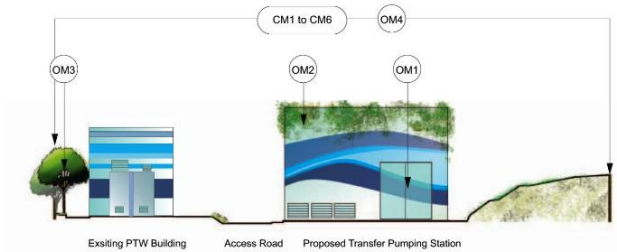
Figure 1.1

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.

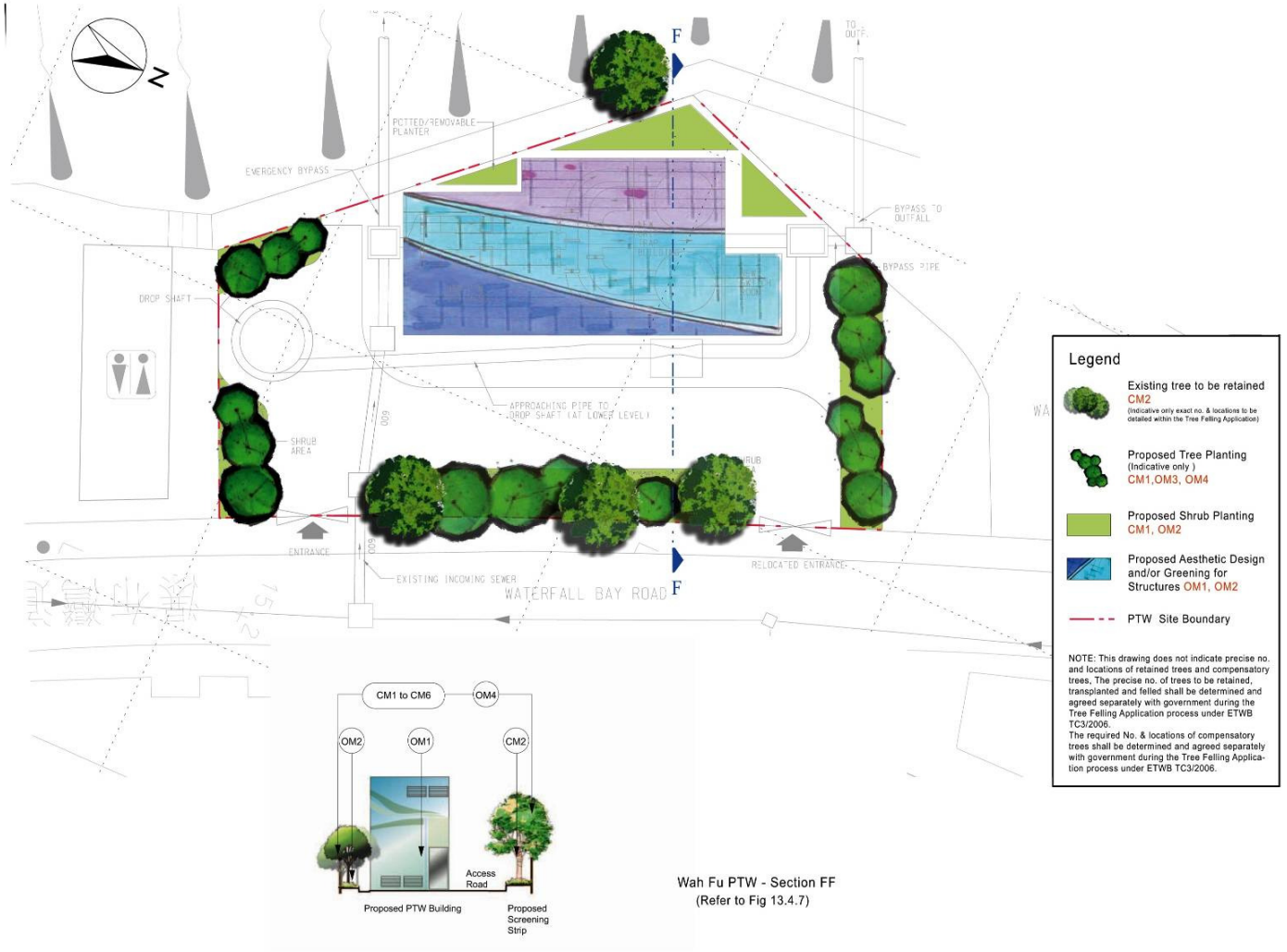
Figure 1.2

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.

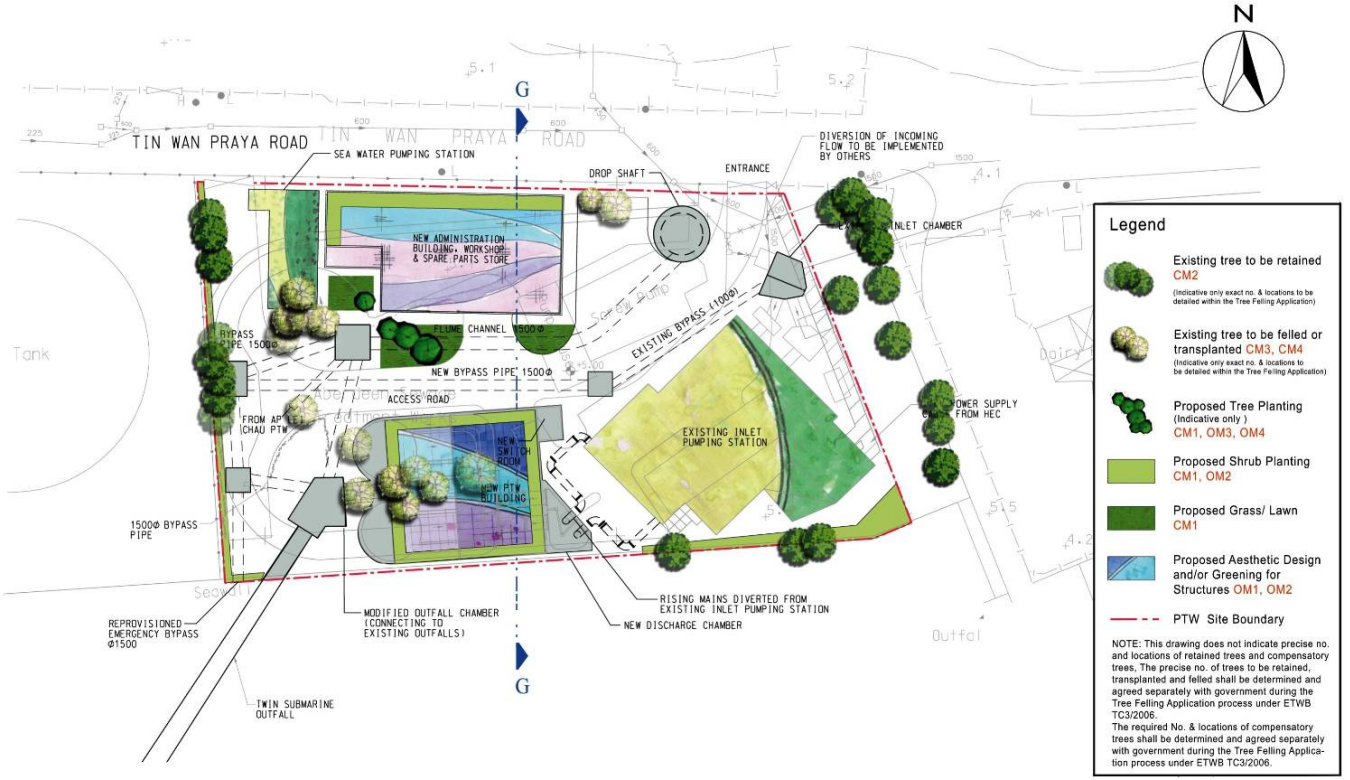
Figure 1.3

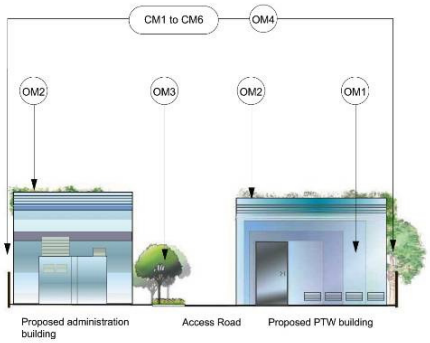
Landscape Mitigation Measure in Wah Fu

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 Checklists

Reporting Period : 1 October to 31 October 2012

Site Inspection Date : 30 October 2012

Inspected By : Andrew Fung

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 had been conducted since the last audit. 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 with appropriate controls was used for 24 hours a day from 1 to 31 October 2012 except public holiday.	Decorative screen hoarding were erected and is compatible to the surrounding setting.	Not required
Cyberport	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees have been retained on site, fenced off and protected properly except for the retained trees T48(R), T065(R), T066(R), T072(R) and T074(R)	No tree was transplanted during this reporting month.	Not applicable - Compensatory tree planting had not started yet.	Night-time lighting with appropriate controls was used for 24 hours a day from 1 to 31 October 2012 except public holiday.	Noise enclosure was erected over the shaft. A yellow tone was used for the materials of the noise enclosure, similar to the colour of the existing STW façade.	The Contractor has been asked to implement all the necessary measures to protect the trees.
Sandy Bay	No major excavation works had been	Existing trees had been retained on site, fenced	No tree was transplanted during	Not applicable - Compensatory	Night-time lighting with appropriate	Decorative screen hoarding were	The Contractor has been asked to implement all the

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
	conducted since the last audit. No stockpile of excavated soil was observed.	off and protected properly except for the retained/ transplanted trees T017(T), T021(R), T027(R), T028(R), T038(T), T039(R), T044(R), T046(R), T053(R) and T058(R)	this reporting month.	tree planting had not started yet.	controls was used for 24 hours a day from 1 to 31 October 2012 except public holiday.	erected and was compatible with the surrounding setting.	necessary measures to protect the trees.
Wah Fu	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly.	Not Applicable - No existing tree was identified to be within the works area.	Not applicable - No existing tree was identified to be within the works area.	Not applicable - No night-time lighting was used.	Screening was erected and was compatible to the surrounding setting.	Not required
Aberdeen	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly except for the retained/ transplanted trees T003(T), T076(R), T078(R), T079(R), T080(R), T081(R), T083(R), T084(R)	All the tree transplantation works had been completed and all transplanted trees were properly supported by tripods.	Not applicable - Compensatory tree planting had not started yet.	Night-time lighting with appropriate controls was used until 23:00 hours on 9 October 2012.	Screen hoarding was erected and the grey colour was compatible with the surrounding setting.	The Contractor had been asked to implement all necessary measures to protect the trees.

	
Sandy Bay site --- Photo 1	**Aberdeen site --- Photo 2**
Cable was still hanging from the tree branches of the retained trees T021(R) and T027(R)	Construction materials were still stored very close to the root area of the retained tree T081(R).

	
Cyperport site --- Photo 3	**Sandy Bay site --- Photo 4**
The identification tag for the retained tree T48(R) was missing.	Construction materials were stored very close to the root area of the retained tree T038(T).

Aberdeen site --- Photo 5

General refuse was dumped within the tree protection zone of the retained tree T76(R).

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(Name: Christina Ip,
Registered Landscape Architect)

Reporting Period : 1 November to 30 November 2012

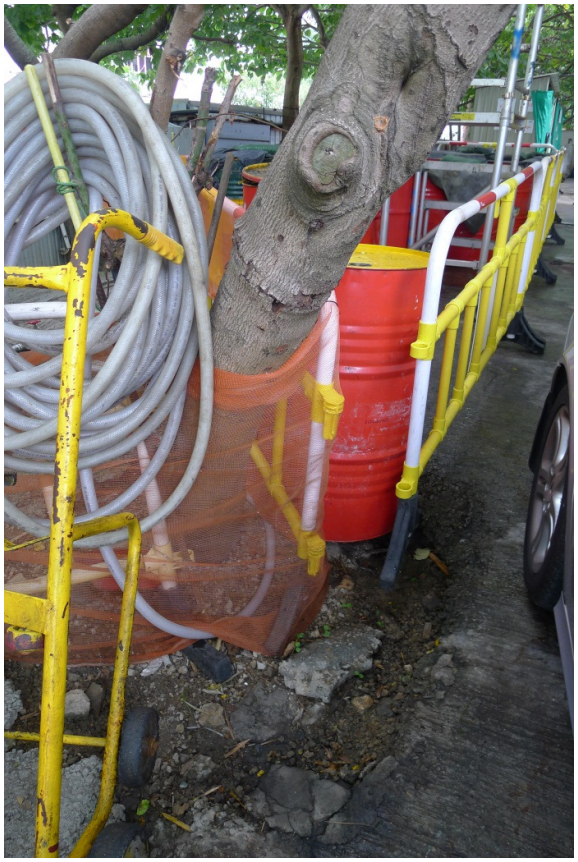
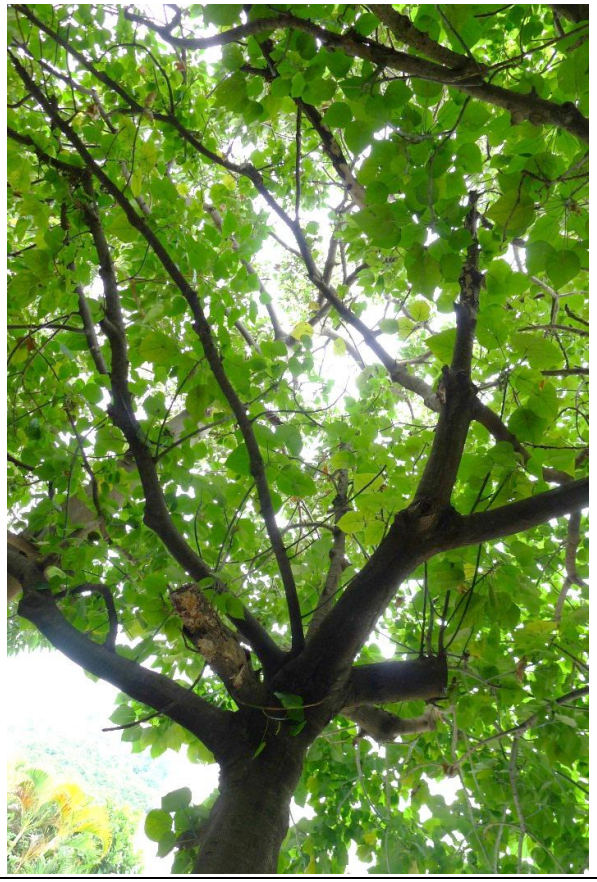
Site Inspection Date : 20 November 2012

Inspected By : Stacey Tsang

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.**	
Sai Ying Pun	No major excavation works had been conducted since the last audit. 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 with appropriate controls was used for 24 hours a day from 1 to 30 November 2012 except public holiday.	Decorative screen hoarding were erected and was compatible with the surrounding setting.	Not required
Cyberport	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly except for the retained trees T48(R), T065(R) and T068(R)	No tree was transplanted during this reporting month.	Not applicable - Compensatory tree planting had not started yet.	Night-time lighting with appropriate controls was used for 24 hours a day from 1 to 30 November 2012 except on public holidays.	Noise enclosure was erected over the shaft. A yellow tone was used for the materials of the noise enclosure, similar to the colour of the existing STW façade.	The Contractor has been asked to implement all the necessary measures to protect the trees.
Sandy Bay	No major excavation works had been	Existing trees had been retained on site, fenced	No tree was transplanted during	Not applicable - Compensatory	Night-time lighting with appropriate	Decorative screen hoarding were	The Contractor has been asked to implement all the

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**
	conducted since the last audit. No stockpile of excavated soil was observed.	off and protected properly except for the retained/ transplanted trees T017(T), T021(R), T038(T), T039(R), T053(R) and T052	this reporting month.	tree planting has not started yet.	controls was used for 24 hours a day from 1 to 30 November 2012 except on public holidays.	erected and was compatible with the surrounding setting.	necessary measures to protect the trees.
Wah Fu	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly.	Not Applicable - No existing tree was identified to be within the works area.	Not applicable - No existing tree was identified to be within the works area.	Not applicable - No night-time lighting was used.	Screening was erected and was compatible with the surrounding setting.	Not required
Aberdeen	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly except for the retained/ transplanted trees T076(R), T078(R), T079(R), T080(R), T083(R), T084(R) and an unlabelled tree.	All the tree transplantation works had been completed and all transplanted trees were properly supported by tripods.	Not applicable - Compensatory tree planting hads not started yet.	Not applicable - No night-time lighting was used.	Screen hoarding was erected and the grey colour was compatible with the surrounding setting.	The Contractor has been asked to implement all the necessary measures to protect the trees.

	
Cyberport Site – Photo 6	Cyberport Site – Photo 7
The condition of the retained tree T068(R) was deteriorating with invading tree seedlings within its protection zone.	The condition of the retained tree T068(R) was deteriorating with shrunken leaves.

	
Sandy Bay Site – Photo 8	Sandy Bay Site – Photo 9
Construction materials were stored very close to the root area of the retained tree T038 (T).	A branch of the retained tree T52(R) had got rotten.

	
Aberdeen Site – Photo 10	Aberdeen Site – Photo 11
Construction materials were still stored very close to the root area of the retained tree T084(R).	Construction materials were still stored very close to the root area of the unlabelled tree.

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(Name: Christina Ip,
Registered Landscape Architect)

Reporting Period : 1 December to 31 December 2012

Site Inspection Date : 27 December 2012

Inspected By : Jacob Ma

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.**	
Sai Ying Pun	No major excavation works had been conducted since the last audit. 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 with appropriate controls was used for 24 hours a day from 1 to 31 December 2012 except on Sunday and 24, 25 and 31 December 2012.	Decorative screen hoarding were erected and was compatible with the surrounding setting.	Not required
Cyberport	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly except for the retained trees T48(R), T065(R) and T068(R)	No tree was transplanted during this reporting month.	Not applicable - Compensatory tree planting had not started yet.	Night-time lighting with appropriate controls was used for 24 hours a day from 1 to 31 December 2012 except on Sunday and 24, 25 and 31 December 2012.	Noise enclosure was erected over the shaft. A yellow tone was used for the materials of the noise enclosure, similar to the colour of the existing STW façade.	The Contractor had been asked to implement all the necessary measures to protect the trees.
Sandy Bay	No major excavation	Existing trees had been	No tree was	Not applicable -	Night-time lighting	Decorative screen	The Contractor had been

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
	works had been conducted since the last audit. No stockpile of excavated soil was observed.	retained on site, fenced off and protected properly except for the retained/ transplanted trees T017(T), T20 (R), T021(R), T038(T), T039(R), T053(R) and T052	transplanted during this reporting month.	Compensatory tree planting has not started yet.	with appropriate controls was used for 24 hours a day from 1 to 31 December 2012 except on Sunday and 24, 25 and 31 December 2012.	hoarding were erected and was compatible with the surrounding setting.	asked to implement all the necessary measures to protect the trees.
Wah Fu	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly.	Not Applicable - No existing tree was identified to be within the works area.	Not applicable - No existing tree was identified to be within the works area.	Not applicable - No night-time lighting was used.	Screening was erected and was compatible with the surrounding setting.	Not required
Aberdeen	No major excavation works had been conducted since the last audit. No stockpile of excavated soil was observed.	Existing trees had been retained on site, fenced off and protected properly except for the retained/ transplanted trees T076(R), T078(R), T079(R), T080(R), T083(R) and an unlabelled tree.	All the tree transplantation works had been completed and all transplanted trees were properly supported by tripods.	Not applicable - Compensatory tree planting had not started yet.	Not applicable - No night-time lighting was used.	Screen hoarding was erected and the grey colour was compatible with the surrounding setting.	The Contractor had been asked to implement all the necessary measures to protect the trees.

	
Cyberport Site – Photo 12	Sandy Bay Site – Photo 13
Construction material was placed within the tree protection zone of the retained tree T65 (R) and close to the root flare.	Cement stain was observed on the top soil and tree trunk of the retained tree T20 (R).

Aberdeen Site – Photo 14

The tree protection zone provided for the retained tree T76 (R) was insufficient. The protective fencing was in contact with the tree trunk.

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(Name: Christina Ip,
Registered Landscape Architect)

APPENDIX H

ENVIRONMENTAL COMPLAINT/NOTIFICATION OF EXCEEDANCE

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.: 165

Date of Notification: 8th October 2012

Works Inspected: Data collected from normal weekday night time (between 23:00-07:00 hrs of next day) noise monitoring on 4th October 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 4th October 2012		
23:00–07:00 hrs Normal weekday	1 complaint	55dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				67.7 dB(A)	66.1 dB(A)	66.3 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 4th October 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Fung Mat Road works site during noise monitoring period included Gantry crane, Air blower and Ventilation fan as listed in Construction Noise Permit (CNP) No. GW-RS0914-12.

A background noise level (BGL) monitoring was conducted on 2nd July 2010 from 23:02 – 23:17 hrs, as requested by EPD. All PME listed under the CNP No. GW-RS0435-10 was 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, the major noise sources including road traffic noise from Western Harbour Crossing, and engine noise 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 : Ruby Law Title : Environmental Technician

Date : 8th October 2012

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

Date : 8th October 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.: 166

Date of Notification: 12th October 2012

Works Inspected: Data collected from daytime and evening time during general holiday (between 07:00-23:00 hrs) noise monitoring on 7th October 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 :	13:50 – 14:05 hrs on 7th October 2012		
07:00–23:00 hrs	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				68.0 dB(A)	65.4 dB(A)	64.8 dB(A)

* façade measurement

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 7th October 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0853-12.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 7th November 2010 (Sunday) from 16:19 to 16:34 hrs. All PME listed under the CNP No. GW-RS0133-11 was ensured 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 during general holiday BGL at M5a (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 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 : 12 October 2012

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

Date : 12 October 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.: 167

Date of Notification: 12 October 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 10th October 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 10th October 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				61.6	62	57.7

* 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 10th October 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 evening-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 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 : Jacky Lee Title : Assistant Environmental Consultant

Date : 12th October 2012

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

Date : 12th October 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.: 168

Date of Notification: 12 October 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 10th October 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 October 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				57.6	63.3	61.9

* 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 October 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 M5a (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 : Jacky Lee Title : Assistant Environmental Consultant

Date : 12th October 2012

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

Date : 12th October 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.: 169

Date of Notification: 19th October 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 17th October 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 17th October 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				50.9 dB(A)	53.6 dB(A)	46.5 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 17th October 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-RS0948-12.

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 : 19th October 2012

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

Date : 19th October 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.: 170

Date of Notification: 2nd November 2012

Works Inspected: Data collected from normal weekday night time (between 23:00-07:00 hrs of next day) noise monitoring on 25th October 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 25th October 2012		
23:00–07:00 hrs Normal weekday	1 complaint	55dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				65.7 dB(A)	66.1 dB(A)	66.3 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 25th October 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Fung Mat Road works site during noise monitoring period included gantry crane, air blower and ventilation fan as listed in Construction Noise Permit (CNP) No. GW-RS0914-12.

A background noise level (BGL) monitoring was conducted on 2nd July 2010 from 23:02 – 23:17 hrs, as requested by EPD. All PME listed under the CNP No. GW-RS0435-10 was 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, the major noise sources including road traffic noise from Western Harbour Crossing, and engine noise 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 : Ruby Law Title : Environmental Technician

Date : 2nd November 2012

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

Date : 2nd November 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.: 171

Date of Notification: 2 November 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 1st November 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 1st November 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				59.0	62.1	60.7

* 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 1st November 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 evening-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 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 : 2nd November 2012

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

Date : 2nd November 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.: 172

Date of Notification: 2 November 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 1st November 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 1st November 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				59.2	63.2	59.6

* 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 1st November 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 M5a (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 : 2nd November 2012

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

Date : 2nd November 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.: 173

Date of Notification: 12th November 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 7th November 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 7th November 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				49.6 dB(A)	44.0 dB(A)	53.5 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 7th November 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-RS0948-12.

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 : 12th November 2012

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

Date : 12th November 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.: 174

Date of Notification: 15 November 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 14th November 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 14th November 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				64.8	60.4	50.0

* 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 14th November 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 evening-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 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 : 15th November 2012

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

Date : 15th November 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.: 175

Date of Notification: 15 November 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 14th November 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 14th November 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				60.5	63.3	62.1

* 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 14th November 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 M5a (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 : 15th November 2012

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

Date : 15th November 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.: 176

Date of Notification: 23rd November 2012

Works Inspected: Data collected from daytime and evening time during general holiday (between 07:00-23:00 hrs) noise monitoring on 18th November 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 :	13:40 – 13:55 hrs on 18th November 2012		
07:00–23:00 hrs	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				69.2 dB(A)	62.8 dB(A)	67.6 dB(A)

* façade measurement

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 18th November 2012.

From the Contractor's record, plants maintenance and cleaning in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS0835-12.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 7th November 2010 (Sunday) from 16:19 to 16:34 hrs. All PME listed under the CNP No. GW-RS0133-11 was ensured 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 during general holiday BGL at M5a (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 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 : Eva Keung Title : Environmental Technician

Eva

Date : 23rd November 2012

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

Date : 23rd November 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.: 177

Date of Notification: 23rd November 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 21st November 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 21st November 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				50.0 dB(A)	47.5 dB(A)	52.7 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 21st November 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-RS0948-12.

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 : 23rd November 2012

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

Date : 23rd November 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.: 178

Date of Notification: 30th November 2012

Works Inspected: Data collected from normal weekday night time (between 23:00-07:00 hrs of next day) noise monitoring on 28th November 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 28th November 2012		
23:00–07:00 hrs Normal weekday	1 complaint	55dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				66.2 dB(A)	67.1 dB(A)	66.7 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 28th November 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Fung Mat Road works site during noise monitoring period included gantry crane, air blower and ventilation fan as listed in Construction Noise Permit (CNP) No. GW-RS0914-12.

A background noise level (BGL) monitoring was conducted on 2nd July 2010 from 23:02 – 23:17 hrs, as requested by EPD. All PME listed under the CNP No. GW-RS0435-10 was 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, the major noise sources including road traffic noise from Western Harbour Crossing, and engine noise 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 : Ruby Law Title : Environmental Technician

Date : 30th November 2012

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

Date : 30th November 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.: 179c

Date of Notification: 4 December 2012

Works Inspected: TSP-Data collected from sampling on 28 November 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	282.5	500	***
1-hr TSP	CM_AB1a	282.5	500	***
1-hr TSP	CM_AB1a	282.5	500	***
1-hr TSP	CM_CB1a	279.9	500	***
1-hr TSP	CM_CB1a	279.9	500	***
1-hr TSP	CM_CB1a	279.9	500	***

Remark: *** = invalid data

Possible reason for Action or Limit Level Non-compliance:

On 28 November 2012, six sets of invalid data were recorded at air quality monitoring stations CM_AB1a (The Hong Kong Ice and Cold Storage) and CM_CB1a (The Arcade, Cyberport).

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

For Aberdeen

- Operation of mobile crane and loading

For Cyberport

- Grouting in tunnel

According to the site observation of 28 November 2012, there was no fugitive dust emission from the construction activities of the Contract. As no valid data was obtained during the monitoring, no comparison could be made between measured 1-hr TSP levels and Action Level/Limit Level.

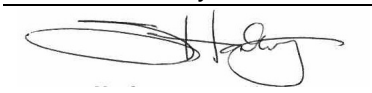
Actions taken/ to be taken:

N/A.

Inspected by : Ruby Law Title : Environmental Technician

Date : 5 December 2012

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



Date : 5 December 2012

Sent to : PRE, Contractor, CEDD, 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.: 180

Date of Notification: 17 December 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 7th December 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 7th December 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				62.7	59.0	63.4

* 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 7th December 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS1136-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 evening-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 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 : 17th December 2012

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

Date : 17th December 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.: 181

Date of Notification: 17 December 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 7th December 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 7th December 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				63.0	57.0	60.9

* 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 7th December 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS1136-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 M5a (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 : 17th December 2012

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

Date : 17th December 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.: 182

Date of Notification: 17th December 2012

Works Inspected: Data collected from normal weekday night time (between 23:00-07:00 hrs of next day) noise monitoring on 13th December 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 13th December 2012		
23:00–07:00 hrs Normal weekday	1 complaint	55dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				66.2 dB(A)	67.0 dB(A)	68.7 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 13th December 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Fung Mat Road works site during noise monitoring period included gantry crane, air blower and ventilation fan as listed in Construction Noise Permit (CNP) No. GW-RS0914-12.

A background noise level (BGL) monitoring was conducted on 2nd July 2010 from 23:02 – 23:17 hrs, as requested by EPD. All PME listed under the CNP No. GW-RS0435-10 was 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, the major noise sources including road traffic noise from Western Harbour Crossing, engine noise of turbojet and helicopter fly over head.

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 : 17th December 2012

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

Date : 17th December 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.: 183a

Date of Notification: 24th December 2012

Works Inspected: Noise monitoring was undertaking between 9:11a.m. and 9:41 a.m. on 19 December 2012 (daytime during normal weekday)

Monitoring Location: M7a, Wah Ming House

Parameter: Noise – $L_{eq(30\ min)}$

Action & Limit Levels			**Measured Level**						
Time Period	Action Level	Limit Level	Time:	09:11 a.m. – 09:41 a.m. on 19 December 2012					
07:00–19:00 hrs Normal weekday	1 complaint	75dB(A)	$L_{eq(5min)}$ readings dB(A)	1st	2nd	3rd	4th	5th	6th
				78.6	79.6	72.5	63.9	82.8	80.7
			$L_{eq(30min)}$ dB(A) (façade measurement)	79					

Possible reason for Action or Limit Level Non-compliance:

A noise exceedance of Limit Level was recorded during the impact monitoring at M7a on 19 December 2012.

According to the Contractor's record and site observation, no major construction activities of the contract work were carried out during the monitoring period. An AquaSed and pumps were operated in the work area of Contract DC/2007/24 during the noise monitoring period. The major noise source identified was come from the backhoe operation at the neighbor construction site.

Hence, the noise exceedance was not considered to be contract related. Based on the site observations during the noise monitoring period, the major noise source was construction activities undertaken by other contractor.

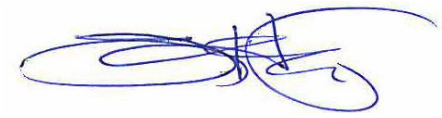
Actions taken/ to be taken:

As the noise levels recorded beyond the Limit Level were not considered to be related to contract works, no immediate actions are considered necessary by the contractor of Contract DC/2007/24.

Inspected by : Ruby Law Title : Environmental Technician

Date : 7th January 2013

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



Date : 7th January 2013

Sent to : Engineer's Representative of Contract DC/2007/24, Contractor of Contract DC/2007/24, 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.: 184

Date of Notification: 24th December 2012

Works Inspected: Data collected from daytime and evening time during general holiday (between 07:00-23:00 hrs) noise monitoring on 23rd December 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 :	14:03 – 14:18 hrs on 23rd December 2012		
07:00–23:00 hrs	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				64.5dB(A)	71.3 dB(A)	64.3 dB(A)

* façade measurement

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 23rd December 2012.

From the Contractor's record, loading activities in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS 1136-12.

A baseline noise level monitoring at this monitoring location (for restricted hours) was conducted on 7th November 2010 (Sunday) from 16:19 to 16:34 hrs. All PME listed under the CNP No. GW-RS0133-11 was ensured 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 during general holiday BGL at M5a (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 sources were road traffic noise at San Wan Drive.

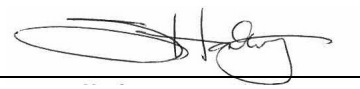
Actions taken/ to be taken:

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

Inspected by : Eva Keung Title : Environmental Technician

Date : 31st December 2012

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



Date : 31st December 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.: 185

Date of Notification: 31 December 2012

Works Inspected: Data collected from evening-time (between 19:00-23:00 hrs) noise monitoring on 27th December 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 27th December 2012		
19:00–23:00 hrs Normal weekday	1 complaint	60 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				59.7	58.0	63.9

* 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 27th December 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS1136-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 evening-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 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 : 31st December 2012

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

Date : 31st December 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.: 186

Date of Notification: 31 December 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 27th December 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 27th December 2012		
23:00–07:00 hrs Normal weekday	1 complaint	45 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				59.7	58.0	63.9

* 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 27th December 2012.

From the Contractor's record, powered mechanical equipment (PME) used in the Sandy Bay works site during noise monitoring period included only powered mechanical equipment as listed in Construction Noise Permit (CNP) No. GW-RS1136-12.

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 PME listed under the CNP No. GW-RS0940-10 was ensured 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 M5a (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 : 31st December 2012

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

Date : 31st December 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.: 187

Date of Notification: 31st December 2012

Works Inspected: Works at Fung Mat Road – Action Level exceedance due to noise complaint received on 18 December 2012

Parameter: Noise

Action & Limit Levels			**Measured Level**	
Time Period	Action Level	Limit Level	Time:	N/A (One complaint was forwarded by EPD via e-mail on 28 December 2012 – A complaint related to 24 hour ventilation system noise opposite to Block B, Kwan Yick Building Phase III, Sai Ying Pun was made on 18 December 2012. The complainant suspected that the noise was coming from HATS construction sites, AFCD Market Office or Western Wholesale Food Market.
07:00–19:00 hrs Normal weekday	1 complaint	75 dB(A)	$L_{eq(5min)}$ readings, dB(A)	
			$L_{eq(15min)}$ dB(A) (façade measurement)	

Possible reason for Action or Limit Level Non-compliance

The noise monitoring results for Kwan Yick Building Phase III during the daytime period (7a.m. to 7 p.m.) are shown as below:

Date	Start Time	End Time	Weather	Noise level Leq, dB(A)	Exceeded Noise Standard?
Daytime					
02-Nov-12	14:30	15:00	Sunny	67.0	No
08-Nov-12	13:40	14:10	Fine	67.6	No
14-Nov-12	14:43	15:13	Sunny	66.5	No
20-Nov-12	13:20	13:50	Fine	67.4	No
26-Nov-12	08:20	08:50	Cloudy	67.0	No
07-Dec-12	10:22	10:52	Fine	67.4	No
13-Dec-12	14:22	14:52	Sunny	67.0	No
19-Dec-12	10:24	10:54	Cloudy	66.9	No
24-Dec-12	16:22	16:52	Sunny	67.2	No

It can be seen from the above table that there were no exceedances during November and December 2012.

Regarding the potential noise impact during restricted hours (ie 7p.m. – 7a.m. Monday to Saturday and at any time on Sundays and public holidays), the Contractor confirmed that their construction activities complied with the CNP requirements.

Actions taken/ to be taken:

A site investigation was carried out by Environmental Team on 3rd January 2013 (about 2:00 pm). It was found that the major noise source was road traffic noise.

According to the noise monitoring results, site investigation findings and the information provided by the Contractor, the noise compliant is considered not to be project related. However, the Contractor was reminded to implement good site practice to minimize the noise impact.

Inspected by : Ruby Law Title : Environmental Technician

Date : 8th January 2013

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

Date : 8th January 2013

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.: 188

Date of Notification: 21st December 2012

Works Inspected: Data collected from night-time (between 23:00-07:00 hrs of next day) noise monitoring on 19th December 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 19th December 2012		
23:00–07:00 hrs Normal weekday	1 complaint	50 dB(A)	$L_{eq(5\ min)}$ reading	1st	2nd	3rd
				52.6 dB(A)	52.6 dB(A)	52.4 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 19th December 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-RS0948-12.

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 : Jacky Lee Title : Assistant Environmental Consultant

Date : 21st December 2012

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

Date : 21st December 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

Environmental Complaint/ Enquiry Form

Ref No.: 007

Complaint/ ~~Enquiry~~ Received*

Date: 18 October 2012 (the Environmental Team was notified on 26 October 2012)
Time: --
From: K.M. CHUNG (EPD)
Via: Nil

Complainant/ ~~Enquirer~~*:

Name: Mr. Lau
Tel: Undisclosed
Address: Undisclosed
Email: Undisclosed

Complaint/ ~~Enquiry~~*:

Date of complaint/ enquiry: Nil
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: 31 October 2012
Result of investigation:

The Contractor was confirmed that the barging operation being carried out during the period on 8th, 10th to 11th October 2012, and left the Site before 18 October 2012. Base on the Contractor's record, the materials were wet before loading to the barge.

Air Monitoring was conducted on 12 October 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)
14:43 on 12 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	162.0
15:43 on 12 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	157.4
16:43 on 12 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	162.0
15:33 on 12 Oct 2012	24 hours	188.5 µg/m3	260 µg/m3	135.2

During the site investigation on 28 October 2012(Photo 1) no barging operation was found. The Contractor was confirmed that no barging operation until 29 October 2012. The follow up site investigation was carried out on 30 October 2012(Photo 2). No dust emission was observed from the barge during the unloading activities.

Recommendations/ mitigation measures/ actions if necessary:
The Contractor was reminded to enhance watering for the materials before loading activities, and well as to provide watering of the loaded materials on barge. Air monitoring has been schedule on 30 October 2012 to confirm mitigation has been implemented properly.

* Delete where appropriate

Photo 1: Site investigation on 28 October 2012	Photo 2: Site investigation on 30 Oct 2012
	

Reviewed by : Susana Halliday Title : ET Leader

Date : 31 October 2012

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

* Delete where appropriate

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

Follow-up monitoring result

Follow-up TSP monitoring Result:

Result of 1 hr and 24 hr TSP:

Air Monitoring was conducted on 30 October 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)
8:00 on 30 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	330.5
13:00 on 30 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	96.6
14:30 on 30 Oct 2012	1 hour	331.9 µg/m3	500 µg/m3	52.2
15:50 on 30 Oct 2012	24 hours	188.5 µg/m3	260 µg/m3	50.0

During the site investigation on 30 October 2012(Photo 1) barging operation and loading was found. No dust emission was observed from the barge during the unloading activities.

Recommendations/ mitigation measures/ actions if necessary:
The Contractor was reminded to enhance watering for the materials before loading activities, and well as to provide watering of the loaded materials on barge. Air monitoring will still ongoing three times in every six-days for 1-hr and at least once in every six-days for 24-hr.

* Delete where appropriate

Photo 1: Site investigation on 30 Oct 2012	
	

Reviewed by : Susana Halliday Title : ET Leader

Date : 7 November 2012

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

* Delete where appropriate

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.: 008

Complaint/ ~~Enquiry~~ Received*

Date: 18 December 2012 (the Environmental Team was notified on 28 December 2012)
Time: --
From: K.M. CHUNG (EPD)
Via: Nil

Complainant/ ~~Enquirer~~*:

Name: Undisclosed
Tel: Undisclosed
Address: Undisclosed
Email: Undisclosed

Complaint/ ~~Enquiry~~*:

Date of complaint/ enquiry: Nil
Time of complaint/ enquiry: Nil
Media: ~~Dust~~ Noise ~~Water~~ ~~Other~~
Description: A public complaint was received by EPD email regarding noise of ventilation system noise opposite to Block B, Kwan Yick Building Phase III, Sai Ying Pun, Hong Kong. The complainant suspected that the noise was coming from either HATS construction sites, AFCD Market Office or Western Wholesale Food Market.

Investigation Result & Response:

IEC notified on: 31 December 2012
Result of investigation:

The noise monitoring results for Kwan Yick Building Phase III during the daytime period (7a.m. to 7 p.m.) are shown as below:

Date	Start Time	End Time	Weather	Noise level Leq, dB(A)	Exceeded Noise Standard?
Daytime					
02-Nov-12	14:30	15:00	Sunny	67.0	No
08-Nov-12	13:40	14:10	Fine	67.6	No
14-Nov-12	14:43	15:13	Sunny	66.5	No
20-Nov-12	13:20	13:50	Fine	67.4	No
26-Nov-12	08:20	08:50	Cloudy	67.0	No
07-Dec-12	10:22	10:52	Fine	67.4	No
13-Dec-12	14:22	14:52	Sunny	67.0	No
19-Dec-12	10:24	10:54	Cloudy	66.9	No
24-Dec-12	16:22	16:52	Sunny	67.2	No

It can be seen from the above table that there were no exceedances during November and December 2012.

Regarding the potential noise impact during restricted hours (ie 7p.m. – 7a.m. Monday to Saturday and at any time on Sundays and public holidays), the Contractor confirmed that their construction activities complied with the CNP requirements.
A site investigation was carried out by Environmental Team on 3rd January 2013 (about 2:00 pm). It was found that the major noise source was road traffic noise.

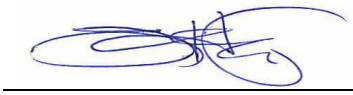
* Delete where appropriate

Complaint due to project works: No

Recommendations/ mitigation measures/ actions if necessary:

According to the noise monitoring results, site investigation findings and the information provided by the Contractor, the noise compliant is considered not to be project related. However, the Contractor was reminded to implement good site practice to minimize the noise impact.

Reviewed by : Susana Halliday Title : ET Leader



Date : 8th January 2013

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

* Delete where appropriate

APPENDIX I

SUMMARY RECORDS OF SITE INSPECTION

3 October 2012

Aberdeen PTW

Notes / Issues Recorded On Site:
Chemical Management:

1. Chemical containers were found to be without drip trays near the compressor area. (Photo 1)

General Housekeeping:

2. Rubbish and cigarettes butts were found inside the site area. (Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 120925

Chemical Management:

1. The contractor has removed the chemical container. (Photo 3)

Landscape and Visual Impacts:

2. The contractor has provided a protective fencing around the tree.

Current Environmental Site Inspection Checklist – Report No. 121003
Chemical Management:

1. The contractor is reminded to provide drip tray to chemical containers near the compressors

General Housekeeping:

2. The contractor is reminded to keep site tidiness inside stockpile areas

Photo 1 Chemical containers were found to be without drip trays near the compressor area.

Photo 2 Rubbish and cigarettes butts were found inside the site area.

Photo 3 The contractor has removed the chemical container

Cyberport PTW

Notes / Issues Recorded On Site:

Chemical Management:

1. Loose sediment was found on the pavement surface area near the site offices. (Photo 1)

Waste Oil:

2. Waste oil was found near the noise enclosure of the inner entrance. (Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 120925

Waste Water Treatment:

1. The contractor is has pay attention to waste water that produce from drilling process.

General Housekeeping:

2. The contractor has to cleared chemical barrel near the door of noise enclosure.

Waste Oil

3. The contractor has cleared waste oil with oil dispenser.

Current Environmental Site Inspection Checklist – Report No. 121003

General Housekeeping:

1. The contractor is reminded to avoid dust emission from the pavement surface.

Waste Oil:

2. The contractor is recommended to clear waste oil with oil dispenser.

Photo 1 Loose sediment was found on the pavement surface area near the site offices

Photo 2 Waste oil was found near the noise enclosure of the inner entrance

Fung Mat Road Site

Notes / Issues Recorded On Site:
Oil Waste:

1. Oil wastes were found within the equipment area inside the noise enclosure. (Photo 1)

Chemical Management:

2. Chemical barrels were found to be without drip trays outside the noise enclosure area. (Photo 2)

Previous Environmental Site Inspection Checklist – Report No. 120925
Noise:

1. The contractor has ensured the enclosure (including doors part) in well condition.

Chemical Management:

2. The contractor has provided drip tray for chemical containers.

Current Environmental Site Inspection Checklist – Report No. 121003
Oil Waste:

1. The contractor is recommended to clear oil waste with oil dispensers.

Chemical Management:

2. The contractor is recommended to provide drip trays for chemical containers.

Photo 1 Oil wastes were found within the equipment area inside the noise enclosure.

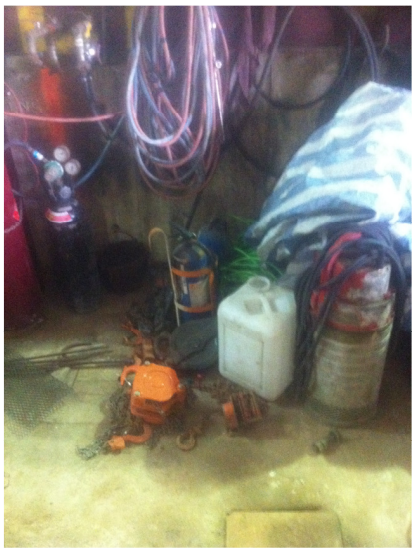


Photo 2 Chemical barrels were found to be without drip trays outside the noise enclosure area

Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Chemical barrel was found to be without a drip tray. (Photo 1)
2. Chemical container was found to be without a drip tray inside the welding area. (Photo 2)

Waste Oil:

3. Waste oil was found near the welding area. (Photo 3)

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

Previous Environmental Site Inspection Checklist – Report No. 120925

Chemical Management:

1. The Contractor is reminded to provide drip tray to chemical near the welding zone and chemical labels have been issued.

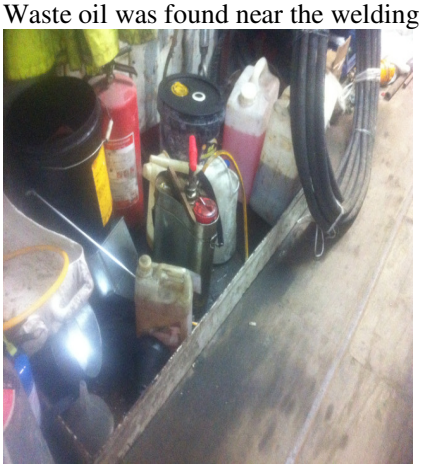
Current Environmental Site Inspection Checklist – Report No. 121003

1. The contractor is reminded to provide a drip tray to the chemical barrel.
2. The contractor is reminded to provide a drip tray to the chemical container in the welding area.

Photo 1 Chemical barrel was found to be without a drip tray.

Photo 2 Chemical container was found without a drip tray in the welding area.

Photo 3 Waste oil was found near the welding area.



Wah Fu PTW

Notes / Issues Recorded On Site:

Air Quality:

1. Cement mixing was in process on the platform without proper cover with top and 3 sides.(Photo 1)

General:

1. The Environmental Permit (EP-322/2008/E) was missing in the notice board at entrance gate. (Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 120829

General Housekeeping:

1. The skip had been removed.(Photo 3)

Current Environmental Site Inspection Checklist – Report No. 120904

Air Quality:

1. The contractor is recommended to prevent the dusty emission from the site.

General:

1. The contractor is recommended to provide the Environmental Permit (EP-322/2008/E) in the notice board at entrance gate.

Photos 1 Pipe leakage was found by the equipment area.

Photos 2 Rubbish and leaves was found near the front entrance of the site.

Photo 3 Oil waste was found near the chemical container area.

9 October 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. Water-oil mix accumulation was found in skip next to man cage. (Photo 1)

Landscape and Visual Impacts:

1. Construction materials were stored too close to the tree (T003 (T)) in Storage area.(Photos 2 and 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121003

Chemical Management:

1. Chemical containers near the compressor area were removed.

Current Environmental Site Inspection Checklist – Report No. 121009

General Housekeeping:

1. The contractor is reminded to clear Water-oil mix accumulation in skip next to man cage and keep the site tidiness.

Landscape and Visual Impacts:

1. The contractor is recommended to remove the materials from T003 tree and provide a protective fencing around the tree.

Photo 1 Water-oil mix accumulation was found in skip next to man cage.

Photos 2 and 3 Construction materials were stored too close to the tree (T003 (T)) in Storage area

Cyberport PTW

Notes / Issues Recorded On Site:
Chemical Waste Management:

1. Non-use containers were found next to First Aid Station. (Photo 1)

General Housekeeping:

1. Water accumulation was found on the path next to noise enclosure. (Photos 2 and 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121003
Chemical Management:

1. Loose sediment on the pavement surface area near the site offices was cleared.

Waste Oil:

1. Waste oil near the noise enclosure of the inner entrance was cleared. (Photo 4)

Current Environmental Site Inspection Checklist – Report No. 121009
Chemical Waste Management:

1. The contractor is reminded to remove non-use containers next to First Aid Station.

General Housekeeping:

1. The contractor is reminded to avoid water accumulation on path next to noise enclosure.

Photo 1 Non-use containers were found next to First Aid Station

Photo 2 Water accumulation was found on path next to noise enclosure.

Photo 3 Water accumulation was found on path next to noise enclosure.

Photo 4 Waste oil near the noise enclosure of the inner entrance was cleared

Fung Mat Road Site

Notes / Issues Recorded On Site:

Water Quality:

1. Water with sand was accumulated along the path near the entrance. (Photo 1)

Chemical Management:

1. Chemical barrels were found to be without drip trays outside the noise enclosure area. (Photo 2)

Noise:

1. Door of noise enclosure were broken since last inspection.(Photos 3 and 4)

Previous Environmental Site Inspection Checklist – Report No. 1201003

Chemical Management:

1. The contractor has provided drip tray for chemical containers.

Oil Waste:

1. Oil wastes within the equipment area inside the noise enclosure were cleared.

Current Environmental Site Inspection Checklist – Report No. 121009

Chemical Management:

1. The contractor is recommended to provide drip trays for chemical containers.

Noise:

1. The contractor is strongly recommended to ensure the enclosure (including doors part) in well condition.

Water Quality:

1. The contractor is reminded to ensure drainage system is adequate and well maintain.

Photo 1 Water with sand was accumulated along the path near the entrance.

Photo 2 Chemical barrels were found to be without drip trays outside the noise enclosure area.

Photos 3 and 4	Door of noise enclosure were broken since last inspection.

Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Chemical container was found without a drip tray next to Dangerous Goods container. (Photo 1)

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

Previous Environmental Site Inspection Checklist – Report No. 121003

Chemical Management:

1. The chemical barrel next to Plant Department was removed.(Photo 2)
2. Chemical container without a drip tray inside the welding area was removed during inspection.

Waste Oil:

1. The issue of Waste oil near the welding area will be follow in next inspection. (Photo 3)

Current Environmental Site Inspection Checklist – Report No. 121009

1. The contractor is reminded to provide a drip tray next to Dangerous Goods container.
2. The contractor is reminded to clear waste oil in tray near the welding area inside the container.

Photo 1 Chemical container was found without a drip tray next to Dangerous Goods container.

Photo 2 The chemical barrel next to Plant Department was removed.

Photo 3 The issue of Waste oil near the welding area will be follow in next inspection.

Wah Fu PTW

Notes / Issues Recorded On Site:

Air Quality:

1. The cement plant was prepared to operation during the site inspection. The cover for cement mixing plaint was found not properly cover the top and 3 sides of cement mixing plant. (Photos 1 and 2)

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

Previous Environmental Site Inspection Checklist – Report No. 121003

General Housekeeping:

1. The pip leakage was fixed.
2. The rubbish and leaves near the front entrance of the site were cleared.

Waste Oil:

1. Oil waste near the chemical container area was cleared.

Current Environmental Site Inspection Checklist – Report No. 121009

Air Quality:

1. The contractor was reminded to provide properly cover for cement mixing plant during operation.

Photo 1 The preparation work for cement mixing was found during the site inspection.

Photo 2 The cover for cement mixing plaint was found not properly cover the top and 3 sides of cement mixing plant.

16 October 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. The general waste was found accumulated in the workshop area. (Photo 1)

Landscape and Visual Impacts:

1. The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area. (Photos 2 and 3)" will be follow up in next inspection due to assess road was blocked.
2. The oil stains were found on the ground near the generator. (Photo 4)

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

Previous Environmental Site Inspection Checklist – Report No. 121010

Chemical Management:

1. The skip was removed properly to avoid water accumulation.

Current Environmental Site Inspection Checklist – Report No. 121006

General Housekeeping:

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

Landscape and Visual Impacts:

1. The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area.(Photos 2 and 3)" will be follow up in next inspection due to assess road was blocked.

Chemical Management:

1. The contractor is reminded to remov the oil stains properly.

Photo 1 The general waste was found accumulated in the workshop area.

Photos 2 and 3 The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area" will be follow up in next inspection due to assess road was blocked.

Photo 4 The oil stains were found on the ground near the generator.

Cyberport PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. Water accumulation was found on the path next to noise enclosure. (Photo 2)
2. Water accumulation was found in the drip tray next to noise enclosure. (Photo 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121009

Chemical Management:

1. The non-use containers were removed. (Photo 1)

Current Environmental Site Inspection Checklist – Report No. 121016

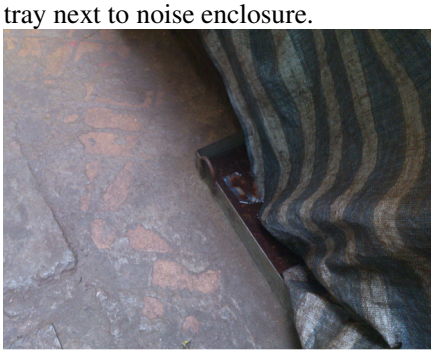
General Housekeeping:

1. The contractor is reminded to avoid water accumulation in the site area.

Photo 1 Non-use containers were removed.

Photo 2 Water accumulation was found on path next to noise enclosure.

Photo 3 Water accumulation was found in the drip tray next to noise enclosure.



Fung Mat Road Site

Notes / Issues Recorded On Site:
Chemical Management:

1. Chemical barrels were found to be without drip trays outside the noise enclosure area. (Photo 1)

Previous Environmental Site Inspection Checklist – Report No. 1201009
Chemical Management:

1. The contractor has provided drip tray for chemical containers.

Noise:

1. The contractor is scheduled the labour to repair the noise enclosure door..

Current Environmental Site Inspection Checklist – Report No. 121016
Chemical Management:

1. The contractor is recommended to provide drip trays for chemical containers.

Photo 1 Chemical barrels were found to be without drip trays outside the noise enclosure area

Sandy Bay PTW

Notes / Issues Recorded On Site:

Chemical Management:

1. The oil leakage was found from equipment during the maintenances process. (Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 121009

Chemical Management:

1. The chemical barrel next to Dangerous Goods container was removed.(Photo 1)

Current Environmental Site Inspection Checklist – Report No. 121016

1. The contractor is reminded to clear the oil stains and avoid oil leakage in the maintenance process..

Photo 1 The chemical barrel next to Dangerous Goods container was removed.

Photo 2 The oil leakage was found from equipment during the maintenances process.

Wah Fu PTW

Notes / Issues Recorded On Site:

Air Quality:

1. The cement plant was prepared to operation during the site inspection. The cover for cement mixing plaint was found not properly cover the top and 3 sides of cement mixing plant on 9 October 2012. (Photos 1 and 2). This observation will be follow up on next inspection.

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

Previous Environmental Site Inspection Checklist – Report No. 121003 and 121019

General Housekeeping:

1. The pip leakage was fixed.
2. The rubbish and leaves near the front entrance of the site were cleared.

Waste Oil:

1. Oil waste near the chemical container area was cleared.

Air Quality:

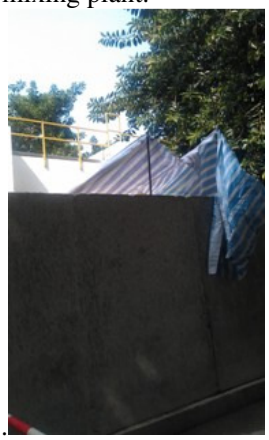
1. The contractor was reminded to provide properly cover for cement mixing plant during operation

Current Environmental Site Inspection Checklist – Report No. 121016

Nil.

Photo 1 The preparation work for cement mixing was found during the site inspection.

Photo 2 The cover for cement mixing plaint was found not properly cover the top and 3 sides of cement mixing plant.



24 October 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. The general waste was found accumulated in the workshop area. (Photo 1)

Landscape and Visual Impacts:

1. The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area.(Photos 2 and 3)" will be follow up in next inspection due to no inspection was undertaken in this time.

Chemical Management:

1. The oil stains were found on the ground near the generator. (Photo 4)

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

Previous Environmental Site Inspection Checklist – Report No. 121016

The items of General Housekeeping, Landscape and Visual Impacts and Chemical Management in works area will be follow up in next inspection due to no inspection was undertaken in this time.

Current Environmental Site Inspection Checklist – Report No. 121024

General Housekeeping:

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

Reminder: As mentioned by RE, some muddy water had leakage from site to nearby highway, also the contractor had cleaned the muddy water immediately, but the contractor is reminded to pay attention to pumping and drainage system in worksite.

Landscape and Visual Impacts:

1. The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area.(Photos 2 and 3)" will be follow up in next inspection due to assess road was blocked.

Chemical Management:

1. The contractor is reminded to remove the oil stains properly.

Photo 1 The general waste was found accumulated in the workshop area.

Photos 2 and 3 The items of "Construction materials were stored too close to the tree (T003 (T)) in Storage area" will be follow up in next inspection due to no inspection was under taken.

Photo 4 The oil stains were found on the ground near the generator.

Cyberport PTW

Notes / Issues Recorded On Site:

General Housekeeping:

1. Water accumulation was found in the drip tray next to noise enclosure. (Photo 1)

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

Previous Environmental Site Inspection Checklist – Report No. 121016

General Housekeeping:

1. Water accumulation on the path next to noise enclosure was cleared.

Current Environmental Site Inspection Checklist – Report No. 121024

General Housekeeping:

1. The contractor is reminded to avoid water accumulation in the site area.

Photo 1 Water accumulation was found in the drip tray next to noise enclosure.

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Fung Mat Road Site

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Notice Broad (Photo 1).

General Housekeeping:

1. A damage skip was found next to the stockpiles.(Photo 2)

Previous Environmental Site Inspection Checklist – Report No. 121016

Chemical Management:

1. Chemical barrels were removed.(Photo 3)

Noise:

1. The contractor is scheduled the labour to repair the noise enclosure door.

Current Environmental Site Inspection Checklist – Report No. 121024

General:

1. The contractor is recommended to display the valid CNP at major site entrance.

General Housekeeping:

1. The contractor is recommended to ensure the rubbish skip in good condition.

Photo 1 An invalid CNP was found in Notice Broad

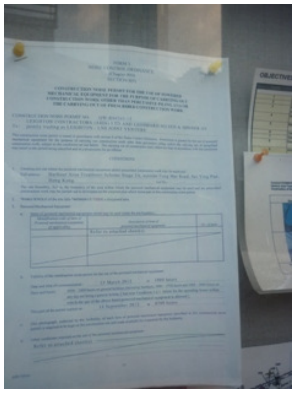


Photo 2 A damage skip was found next to the stockpiles

Photo 3 Chemical barrels were removed

Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage. (Photo 1)

General Housekeeping:

1. An water dripping air conditioner was found next to new chemical storage.(Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 121016

Chemical Management:

1. No oil stains was found during inspection.(Photo 3)

Current Environmental Site Inspection Checklist – Report No. 121024

Chemical Management:

1. The contractor is reminded to provide drip trays to chemical barrels or around by sand bags temporally.

General Housekeeping:

1. The contractor is recommended to provide suitable temporary pipe to air conditioner next to new chemical storage to divert waste water and clear waste water on the floor.

Photo 1 Some chemical barrels were found without drip tray next to chemical storage.

Photo 2 An water dripping air conditioner was found next to new chemical storage.

Photo 3 No oil stains was found during inspection.

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. 121016** **Air Quality:** 1. No cement mixing process was found during inspection.(photo 1) **Current Environmental Site Inspection Checklist – Report No. 121024** Nil.

Photo 1 No cement mixing process was found during inspection.

30 October 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Landscape and Visual Impacts:

1. Construction materials were stored too close to the tree (T003 (T)) in Storage area previously found. (Photo 1) will be follow up in next inspection due to the access had been blocked during inspection.

Chemical Management:

1. Some unknown chemical drums were found without labels and drip trays next to the white container.(Photo 2)
2. The chemical storage was found without chemical storage list. (Photo 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121024

General Housekeeping:

1. General waste had been placed in skip properly.(Photo 4)

Chemical Management:

1. The oil stains were cleared.(Photo 5)

Current Environmental Site Inspection Checklist – Report No. 121030

Landscape and Visual Impacts:

1. Construction materials were stored too close to the tree (T003 (T)) in Storage area previously found. (Photo 1) will be follow up in next inspection due to assess road was blocked.

Chemical Management:

1. The Contractor is reminded to provide suitable labels and drip trays to the chemicals next to the white container.
2. The Contractor is recommended to provide a chemical storage list for the chemical storage.

Photo 1 Construction materials were stored too close to the tree (T003 (T)) in Storage area (during last inspection)

Photo 2 Some unknown chemical drums were found without labels and drip trays

Photos 3 The chemical storage was found without chemical contain list

Photo 4 General waste had been placed in skip properly

Photo 5 The oil stains were cleared

Cyberport PTW

Notes / Issues Recorded On Site:
Waste Oil:

1. Oil spot was observed on the ground within the noise enclosure.(Photo 1 (provided by contractor))

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

Previous Environmental Site Inspection Checklist – Report No. 121024

General Housekeeping:

1. Water accumulation on the path next to noise enclosure was cleared.

Current Environmental Site Inspection Checklist – Report No. 121030

Waste Oil:

1. The contractor is suggested to clear oil spot with oil dispenser and avoid oil leakage.

Photo 1 Oil spot was observed on the ground within the noise enclosure.

Fung Mat Road Site

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Notice Board (Photo 1).

General Housekeeping:

1. A broken skip was found next to the stockpiles since last inspection.(Photo 2)
2. Water accumulation was found next to air compressor in noise enclosure. (Photo 3)

Previous Environmental Site Inspection Checklist – Report No. 121024

General:

The invalid CNP in Notice Board will be inspected in next inspection, as the Notice Board was not inspected this time due to heavy rain.

Noise:

1. The Contractor has scheduled to repair the door of the noise enclosure.

Current Environmental Site Inspection Checklist – Report No. 121030

General:

1. The Contractor is reminded to display all valid CNPs at major site entrance.

General Housekeeping:

1. The Contractor is reminded to ensure the skip or any containers in good condition.
2. The Contractor is reminded to clear the water and avoid water accumulation.

Photo 1 An invalid CNP was found in Notice Board

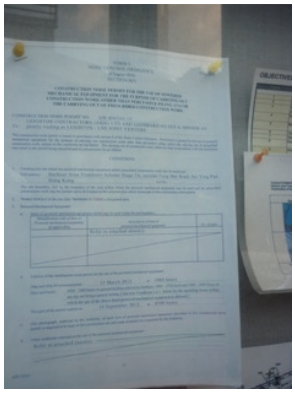
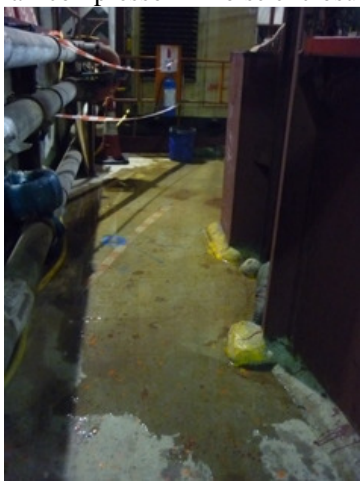


Photo 2 A broken skip was found next to the stockpiles

Photo 3 Water accumulation was found next to air compressor in noise enclosure



Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to stockpiles and plants. (Photos 1 and 2)

General Housekeeping:

1. An air conditioner next to new chemical storage was dripping water.(Photo 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121024

General Housekeeping:

The air conditioner which was dripping water need to be followed up in next inspection due to the rain.

Current Environmental Site Inspection Checklist – Report No. 121030

Chemical Management:

1. The Contractor is reminded to provide drip trays to chemical barrels or place sand bags as barriers temporarily.

General Housekeeping:

1. The Contractor is recommended to provide suitable temporary pipe to air conditioner next to new chemical storage to divert waste water and clear waste water on the floor.

Photos 1 and 2 Some chemical barrels were found without drip tray next to chemical storage.

Photo 3 An air conditioner next to new chemical storage was dripping water.

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. 121016** **Air Quality:** 1. No cement mixing process was found during inspection.(photo 1) **Current Environmental Site Inspection Checklist – Report No. 121024** Nil.

6 November 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Landscape and Visual Impacts:

1. Construction materials were stored too close to the tree (T003 (T)) in storage area since last inspection. (Photo 1)

Chemical Management:

1. The chemical storage was found without chemical storage list. (Photo 2)
2. Some unknown chemical containers were found next to the generator without drip tray and labels. (Photo 3)

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

Previous Environmental Site Inspection Checklist – Report No. 121030

Chemical Management:

1. Some unknown chemical drums next to the white container had been removed. (Photo 4)

Landscape and Visual Impacts:

1. The contractor has provided a protective fencing around the tree.

Current Environmental Site Inspection Checklist – Report No. 121106

Landscape and Visual Impacts:

1. The Contractor is strongly recommended to move the construction materials away from the tree (T003 (T)) and provided the tree protection fence.

Chemical Management:

1. The Contractor was reminded to provided suitable labels and drip trays to the chemicals next to the generator.
2. The Contractor was recommended to provide a chemical storage list for the chemical storage.

Photo 1 Construction materials were stored too close the tree (T003(T)) in storage area

Photo 2 The chemical storage was found without chemical storage list.

Photo 3 Some known chemical containers were found next to the generator without drip ray and labels.

Photo 4 Some known chemical drums next to the white container had been removed.

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Cyberport PTW

Notes / Issues Recorded On Site: **Chemical Management:** 1. Some unknown chemicals were found near the noise enclosure. (Photo 1) **Waste Oil:** 2. Waste oil was found near the noise enclosure of the inner entrance. (Photo 2)
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Previous Environmental Site Inspection Checklist – Report No. 121030** **Waste Oil:** 1. The waste oil was cleared with oil absorbents. (Photo 2) **Current Environmental Site Inspection Checklist – Report No. 121106** **Waste Oil:** 1. The Contractor was reminded to collect the oil absorbents as chemical wastes. **Chemical Management:** 1. The Contractor should provide suitable labels and drip tray to unknown chemicals near the noise enclosure.

Photo 1 Some unknown chemicals were found near the noise enclosure.

Photo 2 The waste oil was cleared with oil absorbents.

Fung Mat Road Site

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Note Board since 24 Oct 2012. (Photo 1)

General Housekeeping:

1. A broken skip was found next to the stockpiles since 24 Oct 2012. (Photo 2)

Previous Environmental Site Inspection Checklist – Report No. 121030

Noise:

1. The Contractor has scheduled to repair the door of the noise enclosure.

General Housekeeping:

1. Waster accumulation next to air compressor in noise enclosure was cleared. (Photo 3)

Current Environmental Site Inspection Checklist – Report No. 121106

General:

1. The Contractor was reminded to display all valid CNPs at major site entrance.

General Housekeeping:

1. The Contractor was reminded to ensure the skip or any containers for waste storage in good condition.

Photo 1 An invalid CNP was found on Notice Board.

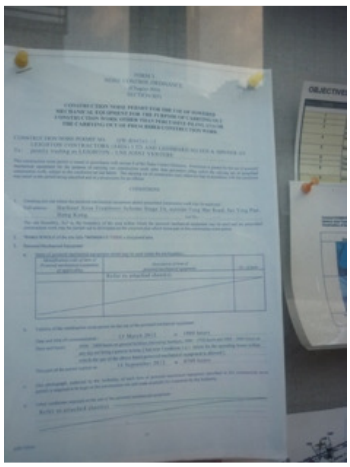
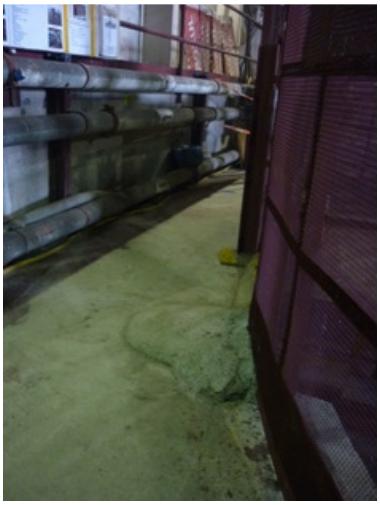


Photo 2 A broken skip was found next to the stockpiles.

Photo 3 Water accumulation next to air compressor in noise enclosure was cleared.



Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to stockpiles and plants since last inspection. (Photos 1 and 2)

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

Previous Environmental Site Inspection Checklist – Report No. 121030

General Housekeeping:

1. No dripping from air conditioner during inspection.

Current Environmental Site Inspection Checklist – Report No. 121106

Chemical Management:

1. Sand bags had been provided to some chemical barrels temporarily, but the Contractor was still reminded to provide drip tray to all chemical barrels.

General Housekeeping:

1. Even no dripping had been found, the Contractor was reminded to provide suitable pipe to air conditioner next to new chemical storage to divert waste water.

Photos 1 & 2 Some chemical barrels were found without drip tray next to stockpiles and plants since last inspection

Photo 3 No dripping from air conditioner during site inspection.

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. 121030** Nil. **Current Environmental Site Inspection Checklist – Report No. 121106** Nil.

13 November 2012

Aberdeen PTW

Notes / Issues Recorded On Site: **Landscape and Visual Impacts:** 1. Construction materials were stored too close to the tree (T003 (T)) in storage area since inspection on 24 October 2012 (Photo 1). **Chemical Management:** 1. The chemical storage was found without chemical storage list. (Photo 2) 2. A chemical container was found near the generator at 1st platform without label. (Photos 3 and 4) **Waste Oil Management :** 1. A waste oil barrel was found near the Oxygen container in storage area. (Photo 5) 2. Waste oil was accumulated in drip tray of generator at 1st platform and drip tray of generator in storage area.(Photos 6 and 7) **General Housekeeping:** 1. Some trashes were found next to the stairs in PTW and near the rubbish skip in storage area.(photos 8 and 9) 2. Accumulated of water was found in drip tray of oil barrels near the stockpiles in storage area. (Photo 10)
Corrective Actions – Mitigation Measures Implemented or Proposed (if any):

Previous Environmental Site Inspection Checklist – Report No. 121106

Chemical Management:

1. The drip tray had been provided to unknown chemical next to generator in storage area.

Current Environmental Site Inspection Checklist – Report No. 121113

Landscape and Visual Impacts:

1. The Contractor is strongly recommended to move the construction materials away from the tree (T003 (T)) and provide the tree protection fence.

Chemical Management:

1. The Contractor is reminded to provide suitable labels to the chemicals near the generator at 1st platform and in storage area.
2. The Contractor is recommended to display chemical storage list of the chemical storage.

Waste Oil Management:

1. The Contractor is reminded to remove the waste oil barrel near the Oxygen container in storage area
2. The Contractor is recommended to clear accumulated oil in drip tray of generator at 1st platform and drip tray of generator in storage area.

General Housekeeping:

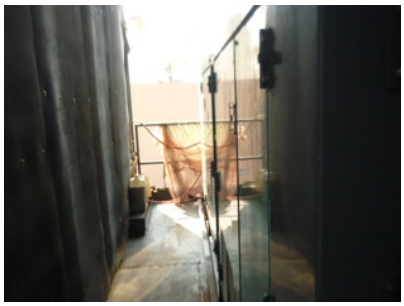
1. The Contractor is reminded to keep the site tidiness.

Photo 1 Construction materials were stored too close to the tree (T003 (T)) in Storage area since inspection on 24 October 2012

Photo 2 The chemical storage was found without chemical storage list

Photos 3 A chemical container was found near the generator at 1st platform without label

Photo 4 A chemical container was found near the generator at 1st platform without label



Poto 5 A waste oil barrel was found near the Oxygen container in storage area

Photo 6 Waste oil was accumulated in drip tray of generator at 1st platform

Photo 7 Waste oil was accumulated in drip tray of generator at storage area

Photo 8 Some trashes were found next to the stairs in PTW

Photo 9 Some trashes were found near the rubbish skip in storage area

Photo 10 Accumulated of water was found in drip tray of oil barrels near the stockpiles in storage area

Cyberport PTW

Notes / Issues Recorded On Site:
General Housekeeping:

1. Some water accumulated next to Sedimentation tank.(Photo 1)

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

Previous Environmental Site Inspection Checklist – Report No. 121106

Chemical management:

1. The unknown chemical near the noise enclosure had been removed.(Photo 2)

Current Environmental Site Inspection Checklist – Report No. 121113

General Housekeeping:

1. The Contractor is recommended to avoid water accumulation next to sedimentation tank.

Photo 1 Some water accumulated next to sedimentation tank

Photo 2 The unknown chemical near the noise enclosure had been removed

Fung Mat Road Site

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Notice Board since 24 Oct 2012 (Photo 1).
2. Invalid EP was found in Notice Board. (Photo 2)

General Housekeeping:

1. Water accumulation was found the red dangerous goods container. (Photos 3 and 4)

Waste Oil:

1. Some oil droplets were found under the cherry lifter near the stockpiles. (Photos 5 and 6)

Waste Management:

1. Recycle materials were found in general rubbish bin.(Photos 7 and 8)

Previous Environmental Site Inspection Checklist – Report No. 121106

Noise:

1. The Contractor has scheduled to repair the door of the noise enclosure.

General Housekeeping:

1. The Contractor scheduled to repair the broken skip next to the stockpiles.

Current Environmental Site Inspection Checklist – Report No. 121113

General:

1. The Contractor is reminded to display all valid permits at major site entrance.

General Housekeeping:

1. The Contractor is suggested to clear water accumulation next the red dangerous goods container and reminded to avoid the water accumulation.

Waste Oil:

1. To clear oil droplets under the cherry lifter near the stockpiles.

Waste Management:

1. The Contractor is recommended to enhance the information of recycling site material to workers.

Photo 1 An invalid CNP was found on Notice Board

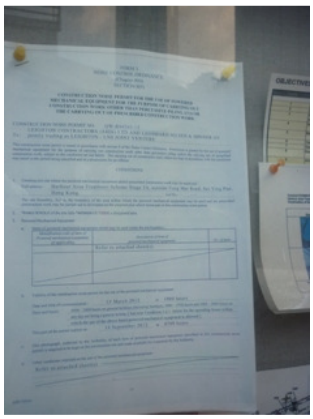
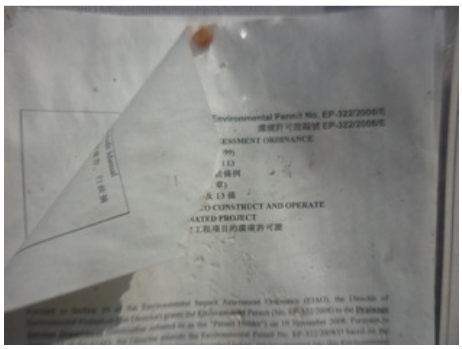


Photo 2 Invalid EP was found in Notice Board



Photos 3 and 4 Water accumulation was found near the red dangerous goods container.

Photos 5 and 6 Some oil droplets were found under the cherry lifter near the stockpiles

Photos 7 and 8 Recycle materials were found in general rubbish bin.

Sandy Bay

Notes / Issues Recorded On Site:

General:

1. Invalid EP was showed at major exit.(Photo 1)

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage since last inspection. (Photos 2 and 3)

Waste Oil:

1. Some oil stains were found next to the stockpiles in front of door of noise enclosure. (Photo 4)

Landscape and Visual Impacts:

1. Non-use water plastic pipe hang from the branch of Tree 038. (Photo 5)

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

Previous Environmental Site Inspection Checklist – Report No. 121106

Nil.

Current Environmental Site Inspection Checklist – Report No. 121113

General:

1. The Contractor is reminded to display the valid EP at major exit.

Chemical Management:

2. The Contractor is reminded to provide drip trays to chemical barrels or place sand bags as barriers temporarily.

Waste Oil:

1. The Contractor is reminded to clear oil stains next to the stockpiles in front of door of noise enclosure with oil dispenser.

Landscape and Visual Impacts:

1. The Contractor is suggested to remove the plastic pipe from the Tree 038.

Photos 1 No valid EP was showed at major exit

Photo 2 Some chemical barrels were found without drip tray next to chemical storage since last inspection

Photo 3 Some chemical barrels were found without drip tray next to chemical storage since last inspection.

Photo 4 Some oil stains were found next to the stockpiles

Photo 5 Non-use water plastic pipe hang from the branch of Tree 038.

Wah Fu PTW

Notes / Issues Recorded On Site: **General :** 1. Invalid EP was found at the entrance. (Photo 1)
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Previous Environmental Site Inspection Checklist – Report No. 121106** Nil. **Current Environmental Site Inspection Checklist – Report No. 121113** **General :** 1. The Contractor is reminded to display the valid EP at main entrance.

Photo 1 Invalid EP was found at main entrance..

20 November 2012

Aberdeen PTW

Notes / Issues Recorded On Site:

Landscape and Visual Impacts:

1. Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area (Photos 1 and 2).

Chemical Management:

1. The chemical storage was found without chemical storage list since last inspection. (Photo 3)

Waste Oil Management :

1. A waste oil barrel was found near the Oxygen Container in storage area since last inspection. (Photo 4)

General Housekeeping:

1. Some trashes were found near the rubbish skip in storage area since last inspection.(photo 5)
2. Accumulated of water was found in drip tray of oil barrels near the stockpiles in storage area. (Photo 6)

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

Previous Environmental Site Inspection Checklist – Report No. 121113

The items of chemical container without label and waste oil in drip tray will be follow in next inspection.

Chemical Management:

1. A chemical container was found near the generator at 1st platform without label. (Photos 7 and 8)

Waste Oil Management :

1. Waste oil was accumulated in drip tray of generator at 1st platform and drip tray of generator in storage area.(Photos 9 and 10)

Landscape and Visual Impacts:

1. The construction materials were removed from the tree (T003 (T)), but The Contractor is recommended to provide the tree protection fence.

General Housekeeping:

1. The rubbish was found next to stairs in PTW had been cleared.

Current Environmental Site Inspection Checklist – Report No. 121120

Landscape and Visual Impacts:

1. The Contractor is recommended to move the construction materials away from the tree (T005 (T)) and tree (T84(R)) in storage area and provide the tree protection fence.

Chemical Management:

1. The Contractor is reminded to provide suitable labels to the chemicals near the generator at 1st platform and in storage area.
2. The Contractor is recommended to display chemical storage list of the chemical storage.

Waste Oil Management:

1. The Contractor is reminded to remove the waste oil barrel near the Oxygen container in storage area
2. The Contractor is recommended to clear accumulated oil in drip tray of generator at 1st platform and drip tray of generator in storage area.

General Housekeeping:

1. The Contractor is reminded to keep the site tidiness.

Photos 1 and 2 Construction materials were stored too close to the an un tag tree next to tree (T005 (T)) and tree (T84(R)) in storage area

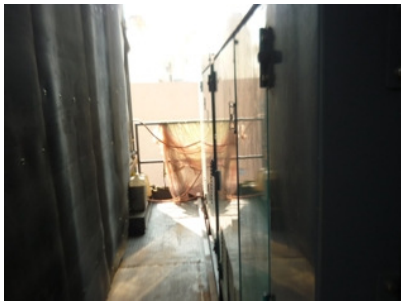
Photos 3 The chemical storage was found without chemical storage list since last inspection

Photo 4 A waste oil barrel was found near the Oxygen container in storage area since last inspection

Photo 5 Some trashes were found near the rubbish skip in storage area since last inspection

Photo 6 Accumulated of water was found in drip tray of oil barrels near the stockpiles in storage area

Photos 7 and 8 A chemical container was found near the generator at 1st platform without label



Photos 9 and 10 Some trashes were found near the rubbish skip in storage area

Cyberport PTW

No inspection had been undertaken

Fung Mat Road Site

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Notice Board since 24 Oct 2012 (Photo 1).
2. Invalid EP was found in Notice Board. (Photo 2)

Chemical Storage:

1. The chemical storage container was found without lock. (Photo 3)
2. Some dusty material were found without properly cover. (Photo 4)

Previous Environmental Site Inspection Checklist – Report No. 121113

Noise:

1. The Contractor has scheduled to repair the door of the noise enclosure.

General Housekeeping:

1. The skip had been fixed. (Photo 5)
2. Water accumulation near the red dangerous goods container was cleared.

Waste Oil:

1. Some oil droplets under the cherry lifter near the stockpiles were cleared. (Photo 6)

Current Environmental Site Inspection Checklist – Report No. 121120

General:

1. The Contractor is reminded to display all valid permits at major site entrance.

Chemical Storage:

1. The Contractor is reminded to provide the lock to chemical storage container.
2. The Contractor is reminded to provide cover to dusty material to avoid dust emission.

Photo 1 An invalid CNP was found on Notice Board

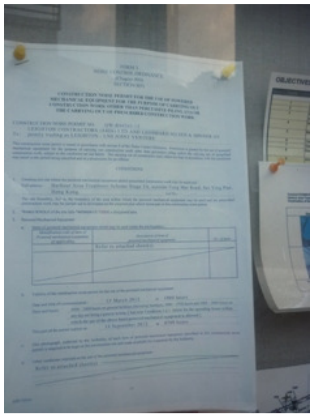


Photo 2 Invalid EP was found in Notice Board

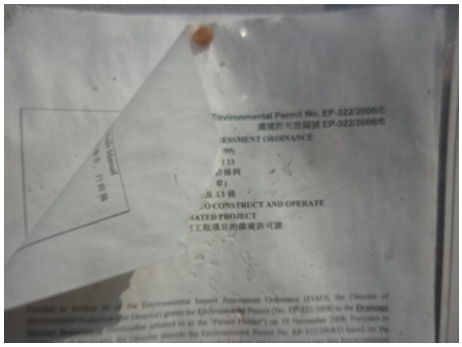


Photo 3 The Chemical Storage container was found without lock.

Photo 4 Some dusty material were found without properly cover

Photo 5 The skip had been fixed

Photo 6 Some oil droplets under the cherry lifter near the stockpiles were cleared

Sandy Bay PTW

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage, Plants zone and near the site hoarding behind the chemical storage container. (Photos 1 to 4)

Landscape and Visual Impacts:

1. Non-use water plastic pipe hang from the branch of Tree 038. (Photo 5)
2. A metal bar was found inside the tree protection zone of tree T006.(Photos 6 and 7)

Chemical Waste:

1. Some chemical with green colour was found under the drilling plant.(Photo 8)

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

Previous Environmental Site Inspection Checklist – Report No. 121113

General :

1. EP-322/2008/F was showed at major exit.(Photos 9 and 10)

Waste Oil:

1. Some oil stains next to the stockpiles in front of door of noise enclosure were cleared.

Current Environmental Site Inspection Checklist – Report No. 121120

Chemical Management:

1. The Contractor is reminded to provide drip trays or place sand bags as barriers temporarily for chemical barrels next to chemical storage, Plants zone and near the site hoarding behind the chemical storage container.

Chemical Waste:

1. The Contractor is reminded to clear chemical stain under the drilling plant as chemical treatment.

Landscape and Visual Impacts:

1. The Contractor is suggested to remove all construction materials from the Tree 038 and Tree T006.

Photos 1 to 2 Some chemical barrels were found without drip tray next to chemical storage

Photos 3 and 4 Some chemical barrels were found without drip tray next to Plants zone and near the site hoarding behind the chemical storage container

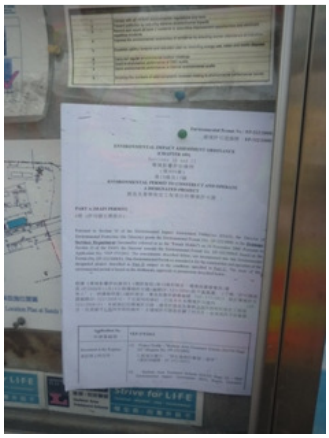
Photo 5 Non-use water plastic pipe hang from the branch of Tree 038

Photo 6 A metal bar was found inside the tree protection zone of tree T006

Photo 7 A metal bar was found inside the tree protection zone of tree T006

Photo 8 Some chemical with green colour was found under the drilling plant

Photos 9 and 10 EP-322/2008/F was showed at major exit



Wah Fu PTW

No inspection had been undertaken

27 November 2012

Aberdeen PTW

Notes / Issues Recorded On Site:
Landscape and Visual Impacts:
1. Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area (Photos 1 and 2).

Chemical Management:
1. The chemical storage was found without chemical storage list since inspection on 30th October 2012. (Photo 3)
2. Some chemical barrels were found in PTW without drip tray next to the mobile crane and near the entrance gate. (Photos 4 and 5)

Waste Oil Management :
1. A waste oil barrel was found near the Oxygen Container in storage area since inspection on 13th November 2012. (Photo 6)

General Housekeeping:
1. Some trashes were found near the rubbish skip in storage area since inspection on 13th November 2012. (photo 7)

Air Quality:
1. Some white smoke was observe from generator in storage zone.(Photo 8)

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

Previous Environmental Site Inspection Checklist – Report No. 121120
The items of chemical container without label and waste oil in drip tray will be follow in next inspection
Chemical Management:
1. A chemical container was found near the generator at 1st platform without label. (Photos 9 and 10)

Waste Oil Management :
1. Waste oil was accumulated in drip tray of generator at 1st platform and drip tray of generator in storage area.(Photos 11 and 12)

General Housekeeping:
1. Water in drip tray was cleared.

Current Environmental Site Inspection Checklist – Report No. 121127
Landscape and Visual Impacts:
1. The Contractor is recommended to move the construction materials away from the tree (T005 (T)) and tree (T84(R)) in storage area and provide the tree protection fence.

Chemical Management:
1. The Contractor is reminded to provide suitable labels to the chemicals near the generator at 1st platform and in storage area.
2. The Contractor is recommended to display chemical storage list of the chemical storage.
3. The Contractor is reminded to provide drip tray to chemical barrels were found in PTW next to the

mobile crane and near the entrance gate.

Waste Oil Management:
1. The Contractor is reminded to remove the waste oil barrel near the Oxygen container in storage area
2. The Contractor is recommended to clear accumulated oil in drip tray of generator at 1st platform and drip tray of generator in storage area.

General Housekeeping:
1. The Contractor is reminded to keep the site tidiness.

Photos 1 and 2 Construction materials were stored too close to the an un tag tree next to tree (T005 (T)) and tree (T84(R)) in storage area

Photos 3 The chemical storage was found without chemical storage list since last inspection

Photo 4 Some chemical barrels were found in PTW without drip tray next to the mobile crane

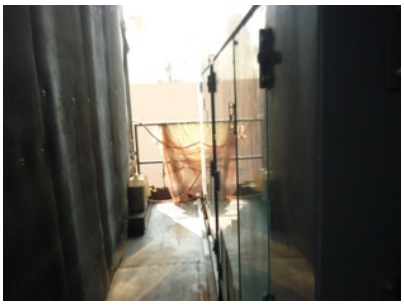
Photo 5 Some chemical barrels were found in PTW without drip tray near the entrance gate

Photo 6 A waste oil barrel was found near the Oxygen Container in storage area since last inspection

Photos 7 Some trashes were found near the rubbish skip in storage area since last inspection

Photo 8 Some white smoke was observe from generator in storage zone

Photos 9 and 10 A chemical container was found near the generator at 1st platform without label



Photos 11 and 12 Waste oil was accumulated in drip tray of generator at 1st platform and drip tray of generator in storage area.

Cyberport PTW

Notes / Issues Recorded On Site:
General:
1. No valid EP was found on Notice Board. (Photo 1)

Chemical Waste:
1. Some sand mix with oil was found in noise enclosure. (Photo 2)

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

Previous Environmental Site Inspection Checklist – Report No. 121120

Nil.

Current Environmental Site Inspection Checklist – Report No. 121127

General:
1. The Contractor is recommended to display valid EP.

Chemical Waste:
1. The Contractor is reminded to clear oil sand mixture as chemical waste.

Photo 1 No valid EP was found on Notice Board

Photo 2 Some sand mix with oil was found in noise enclosure

Fung Mat Road Site

Notes / Issues Recorded On Site:
General:
1. An invalid CNP was found in Notice Board since 24 Oct 2012 (Photo 1).
2. Invalid EP was found in Notice Board. (Photo 2)

Chemical Storage:
1. The chemical storage container was found without lock since last inspection. (Photo 3)
2. Some dusty material were found without properly cover since last inspection. (Photo 4)
3. Some chemicals were found without place properly. (Photo 5)

Previous Environmental Site Inspection Checklist – Report No. 121120

Noise:

1. The door of the noise enclosure had been cover by metal plate.(Photo 6)

Current Environmental Site Inspection Checklist – Report No. 121127

General:

1. The Contractor is reminded to display all valid permits at major site entrance.

Chemical Storage:

1. The Contractor is reminded to provide the lock to chemical storage container.
2. The Contractor is reminded to provide cover to dusty material to avoid dust emission.

Photo 1 An invalid CNP was found on Notice Board

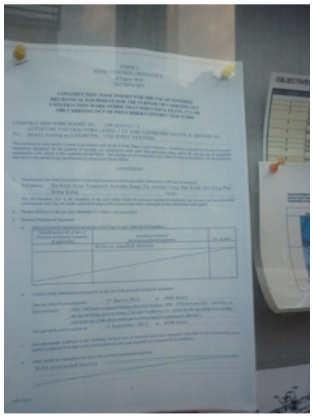


Photo 2 Invalid EP was found in Notice Board

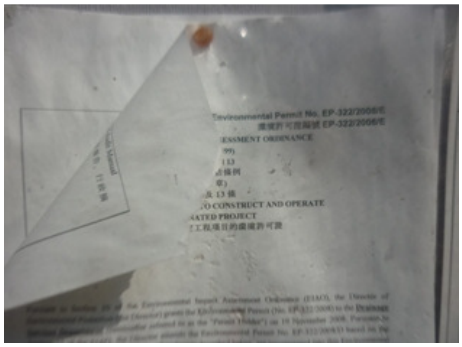


Photo 3 The Chemical Storage container was found without lock.

Photo 4 Some dusty material were found without properly cover

Photo 5 Some chemicals were found without place properly

Photo 6 The door of the noise enclosure had been cover by metal plate

Sandy Bay

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage, Plants zone and near the site hoarding behind the chemical storage container. (Photos 1 to 4)

Landscape and Visual Impacts:

1. Non-use water plastic pipe hang from the branch of Tree 038. (Photo 5)
1. A metal bar was found inside the tree protection zone of tree T006.(Photos 6 and 7)

Chemical Waste:

1. Some chemical with green colour was found under the drilling plant.(Photo 8)

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

Previous Environmental Site Inspection Checklist – Report No. 121120

This inspection inspect the noise enclosure only, items of last inspection will be inspect in next inspection.

Current Environmental Site Inspection Checklist – Report No. 121127

Chemical Management:

1. The Contractor is reminded to provide drip trays or place sand bags as barriers temporarily for chemical barrels next to chemical storage, Plants zone and near the site hoarding behind the chemical storage container.

Chemical Waste:

1. The Contractor is reminded to clear chemical stain under the drilling plant as chemical treatment.

Landscape and Visual Impacts:

1. The Contractor is suggested to remove all construction materials from the Tree 038 and Tree T006.

Photo 1 Some chemical barrels were found without drip tray next to chemical storage.

Photo 2 An water dripping air conditioner was found next to new chemical storage.

Photo 3 No oil stains was found during inspection.

Wah Fu PTW

Notes / Issues Recorded On Site: **General :** 1. No valid EP was found at entrance. (Photo 1)
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Previous Environmental Site Inspection Checklist – Report No. 121120** Nil. **Current Environmental Site Inspection Checklist – Report No. 121127** **General :** 1. The Contractor is reminded to display the valid EP at main entrance.

Photo 1 No valid EP was found at entrance.

4 December 2012

Aberdeen PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121127

Chemical Management:

1. Chemical barrels without drip tray in PTW next to the mobile crane and near the entrance gate were removed. (Photo_F 1)

Notes / Issues Recorded On Site:

Chemical Management:

1. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012. (Photo 1)
2. A chemical container was found near the generator at the first platform without label. (Photo 2)
3. An unknown chemical drum was found in container next to entrance gate. (Photo 3)

Waste Oil Management :

4. A waste oil barrel was found near the Oxygen Container in storage area since the site inspection undertaken on 13th November 2012. (Photo 4)
5. Waste oil was accumulated in drip tray of generator at the first platform.(Photo 5)

General Housekeeping:

6. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012. (photo 6)

Air Quality:

7. Some white smoke was observed from generator in storage zone.(Photo 7)

The item of Landscape and Visual Impacts will be followed up in next inspection as the access was blocked.

Landscape and Visual Impacts:

8. Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area (Photo 8).

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

Current Environmental Site Inspection Checklist – Report No. 121204

Chemical Management:

1. The Contractor was recommended to display chemical storage list of the chemical storage.
2. The Contractor was reminded to provide suitable labels to the chemicals near the generator at 1st platform and in storage area.
3. The Contractor was reminded to provide labels to chemical drums.

Waste Oil Management:

4. The Contractor was reminded to remove the waste oil barrel near the Oxygen container in storage area
5. The Contractor was recommended to clear accumulated oil in drip tray of generator at the first platform and drip tray of generator in storage area.

General Housekeeping:

6. The Contractor was reminded to keep the site tidy.

Air Quality:

7. The Contractor was recommended to fix the generator in storage zone.

Landscape and Visual Impacts:

8. The Contractor was recommended to move the construction materials away from the tree (T005 (T)) and tree (T84(R)) in storage area and provide the tree protection fence.

Photo _F 1 Chemical barrels without drip tray in PTW next to the mobile crane and near the entrance gate were removed.

Photo 1 The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012.

Photo 2 A chemical container was found near the generator at the first platform without label.

Photo 3 An unknown chemical drum was found in container next to entrance gate

Photo 4 A waste oil barrel was found near the Oxygen Container in storage area since inspection on 13th November 2012.

Photo 5 Waste oil was accumulated in drip tray of generator at 1st platform.

Photo 7 Some white smoke was observed from generator in storage zone.

Photo 8 Construction materials were stored too close to the tree (T005 (T)) in storage area.

Photo 6 Some trashes were found near the rubbish skip in storage area since inspection on 13th November 2012.

Cyberport PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121127

General:

1. A valid EP (EP-322/2008/F) was found at site entrance. (Photo_F 1)

Notes / Issues Recorded On Site:

Chemical Storage:

1. A chemical drum was found without chemical label and drip tray.(Photo 1)

General Housekeeping:

2. Water accumulation was found near the noise enclosure. (Photo 2)

The item of chemical waste will be followed up in next inspection due to no inspection inside the noise enclosure.

Chemical Waste:

3. Some sand mix with oil was found inside noise enclosure. (Photo 3)

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

Current Environmental Site Inspection Checklist – Report No. 121204

Chemical Storage:

1. The Contractor was reminded to place chemical drum properly and provide suitable label.

General:

2. The Contractor was reminded to display all valid permits at site entrance.

Chemical Waste:

3. The Contractor was reminded to treat the oil sand mixture as chemical waste.

Photo_F 1 A valid EP (EP-322/2008/F) was found at site entrance.

Photo 1 A chemical drum was found without chemical label and drip tray

Photo 2 Water accumulation was found near the noise enclosure

Photo 3 Some sand mix with oil was found inside noise enclosure

Fung Mat Road Site

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121127

General:

2. A valid EP (EP-322/2008/F) was displayed at site entrance. (Photo_F 1)

Chemical Storage:

3. The chemical waste was stored in a locked chemical waste storage area. (Photo_F 2)
4. Dusty material was covered properly. (Photo_F 3).
5. The chemicals were removed.

Notes / Issues Recorded On Site:

General:

1. An invalid CNP was found in Notice Board since 24 Oct 2012 (Photo 1).

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

Current Environmental Site Inspection Checklist – Report No. 121204

General:

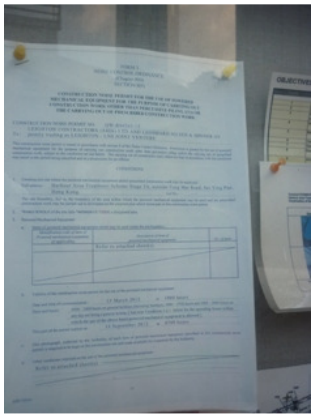
1. The Contractor is reminded to remove invalid permits at the site entrance.

Photo_F 1 A valid EP (EP-322/2008/F) was displayed at site entrance.

Photo_F 2 The chemical waste was stored in a locked chemical waste storage area.

Photo_F 3 Dusty material was covered properly.

Photo 1 An invalid CNP was found in Notice Board since 24 Oct 2012.



Sandy Bay

No inspection had been undertaken in this time.

Wah Fu PTW

Follow up actions for previous site audit: **Previous Environmental Site Inspection Checklist – Report No. 121127** **General:** 1. A valid EP (EP-322/2008/F) was found at site entrance.(photo 1)
Notes / Issues Recorded On Site: No observations were made during inspection. **Corrective Actions – Mitigation Measures Implemented or Proposed (if any):** Nil.

Photo_F 1 A valid EP (EP-322/2008/F) was found at site entrance.

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11 December 2012

Aberdeen PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121204

Waste Oil Management:

9. Waste oil accumulated in drip tray of generator at the first platform was cleared.(Photo_F1)

The following issues identified for the previous sit e inspection are still outstanding:

1. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012.
2. A chemical container was found near the generator at the first platform without label.
3. An unknown chemical drum was found in container next to entrance gate.
4. Waste oil was accumulated in drip tray of generator at the first platform.
5. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012.
6. Some white smoke was observed from generator in storage zone.
7. Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area.

Notes / Issues Recorded On Site:

Chemical Management:

1. A chemical container was found near the generator at the first platform without label. (Photo 1)
2. An unknown chemical drum was found in container next to entrance gate. (Photo 2)

This Storage area was not checked during this inspection. Observations identified on 4 December 2012 would be checked in the next site inspection.

Chemical Management:

3. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012. (Photo 3)

Waste Oil Management :

4. A waste oil barrel was found near the Oxygen Container in storage area since the site inspection undertaken on 13th November 2012. (Photo 4)

General Housekeeping:

5. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012. (photo 5)

Air Quality:

6. Some white smoke was observed from generator in storage zone since the site inspection undertaken on 4 December 2012.(Photo 6)

Landscape and Visual Impacts:

7. Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area since the site inspection undertaken on 4 December 2012 (Photo 7).

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

Current Environmental Site Inspection Checklist – Report No. 121211

Chemical Management:

1. The Contractor was recommended to display chemical storage list of the chemical storage.
2. The Contractor was reminded to provide suitable labels to the chemicals near the generator at 1st platform and in storage area.
3. The Contractor was reminded to provide labels to chemical drums next to entrance gate

Waste Oil Management:

4. The Contractor was reminded to remove the waste oil barrel near the Oxygen container in storage area.

General Housekeeping:

5. The Contractor was reminded to keep the site tidy.

Air Quality:

6. The Contractor was recommended to fix the generator in storage zone.

Landscape and Visual Impacts:

7. The Contractor was recommended to move the construction materials away from the tree (T005 (T)) and tree (T84(R)) in storage area and provide the tree protection fence.

Photo_F1 Waste oil accumulated in drip tray of generator at the first platform was cleared.

Photo 1 A chemical container was found near the generator at the first platform without label.

Photo 2 An unknown chemical drum was found in container next to entrance gate

Photo 3 The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012

Photo 4 A waste oil barrel was found near the Oxygen Container in storage area since the site inspection undertaken on 13th November 2012

Photo 5 Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012.

Photo 6 Some white smoke was observed from generator in storage zone.

Photo 7 Construction materials were stored too close to the tree (T005 (T)) and tree (T84(R)) in storage area

Cyberport PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121204

The observation (Note 3 of previous site inspection) regarding the oily sand was removed.
Two observations issued for the previous site inspection were still outstanding.

1. A chemical drum was found without chemical label and drip tray.
2. Water accumulation was found near the noise enclosure.

Notes / Issues Recorded On Site:

Chemical Storage:

1. A chemical drum was found without chemical label and drip tray since the site inspection undertaken on 4 December 2012.(Photo 1)

General Housekeeping:

2. Water accumulation was found near the noise enclosure since the site inspection undertaken on 4 December 2012. (Photo 2)

Chemical Waste:

3. Some sand mix with oil was found inside noise enclosure. (Photo 3)

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

Current Environmental Site Inspection Checklist – Report No. 121211

Chemical Storage:

1. The Contractor was reminded to place chemical drum properly and provide suitable label next noise enclosure.

General Housekeeping:

2. The Contractor was reminded to keep the site tidiness.

Chemical Waste:

3. The Contractor was reminded to treat the oil sand mixture as chemical waste.

Photo 1 A chemical drum was found without chemical label and drip tray

Photo 2 Water accumulation was found near the noise enclosure

Photo 3	Some sand mix with oil was found inside noise enclosure

Fung Mat Road Site

No inspection had been undertaken in this time.

Sandy Bay

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121204

Landscape and Visual Impacts:

1. The metal bar inside the tree protection zone of tree T006 was removed.(Photo_F 1)

Chemical Waste:

2. The chemical with green colour under the drilling plant was cleared.(Photo_F 2)

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage area and near the site hoarding behind the chemical storage container. (Photo 1)

Landscape and Visual Impacts:

2. Non-use water plastic pipe was hung on the branch of Tree 038. (Photo 2)

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

Current Environmental Site Inspection Checklist – Report No. 121211

Chemical Management:

1. The Contractor was reminded to place chemical drum properly and provide suitable labels.

Landscape and Visual Impacts:

2. The Contractor was suggested to remove the construction materials away from Tree 038.

Photo_F 1 The metal bar inside the tree protection zone of tree T006 was removed

Photo_F 2 The chemical with green colour under the drilling plant was cleared

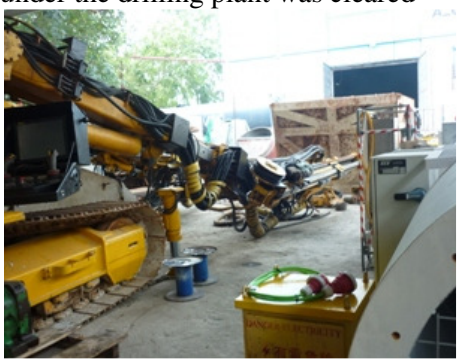

Photo 1 Some chemical barrels were found without drip tray next to chemical storage area and near the site hoarding behind the chemical storage container.

Photo 2 Non-use water plastic pipe was hung on the branch of Tree 038

Wah Fu PTW

Follow up actions for previous site audit: **Previous Environmental Site Inspection Checklist – Report No. 121201** N/A
Notes / Issues Recorded On Site: No observations were made during inspection.
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Current Environmental Site Inspection Checklist – Report No. 121211** N/A

18 December 2012

Aberdeen PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121211

Chemical Management:

1. The chemical container near the generator at the first platform was removed. (Photo_F1)

Landscape and Visual Impacts:

2. The construction materials were moved away from the tree (T005 (T)) and tree (T84(R)) in storage area. (Photo_F2)

The following issues identified for the previous site inspection are still outstanding:

1. An unknown chemical drum was found in container next to entrance gate.
2. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012.
3. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012.
4. A waste oil barrel was found near the Oxygen Container in storage area
5. Some white smoke was observed from generator in storage zone.

Notes / Issues Recorded On Site:

Chemical Management:

1. An unknown chemical drum was found in container next to entrance gate. (Photo 1)
2. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012. (Photo 2)

Waste Oil Management :

3. A waste oil barrel was found near the Oxygen Container in storage area since the site inspection undertaken on 13th November 2012. (Photo 3)

General Housekeeping:

4. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012. (photo 4)

Air Quality:

5. Some white smoke was observed from generator in storage zone since the site inspection undertaken on 4 December 2012.(Photo 5)

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

Current Environmental Site Inspection Checklist – Report No. 121218

Chemical Management:

1. The Contractor was recommended to display chemical storage list of the chemical storage.
2. The Contractor was reminded to provide labels to chemical drums next to entrance gate.

Waste Oil Management:

3. The Contractor was reminded to remove the waste oil barrel near the Oxygen container in storage area.

General Housekeeping:

4. The Contractor was reminded to keep the site tidy.

Air Quality:

5. The Contractor was recommended to provide maintenance for the generator in storage zone.

Photo_F 1 The chemical container near the generator at the first platform was removed.

Photo_F 2 The construction materials were moved away from the tree (T005 (T)) and tree (T84(R)) in storage area.

Photo 1 An unknown chemical drum was found in container next to entrance gate.

Photo 2 The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012

Photo 3 A waste oil barrel was found near the Oxygen Container in storage area since the site inspection undertaken on 13th November 2012

Photo 4 Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012

Photo 5 Some white smoke was observed from generator in storage zone.

Cyberport PTW

No inspection had been undertaken

Fung Mat Road Site

Follow up actions for previous site audit: **Previous Environmental Site Inspection Checklist – Report No. 121211** **General:** 1. A valid CNP (GW-RS091412) was displayed at site entrance. (Photo_F 1)
Notes / Issues Recorded On Site: No observation had been found during inspection.
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Current Environmental Site Inspection Checklist – Report No. 121218** N/A

Photo_F 1 A valid CNP (GW-RS091412) was displayed at site entrance.

Sandy Bay PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121211

Landscape and Visual Impacts:

1. The water plastic pipe had been removed.(Photo_F1)

The following issues identified for the previous sit e inspection are still outstanding:

1. Some chemical barrels were found without drip trays.

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage area and near the site hoarding behind the chemical storage container. (Photo 1)

Landscape and Visual Impacts:

2. Construction materials were found close to Tree 038. (Photo 2)

Chemical Waste / Waste Oil:

3. Some oil stains and unknown chemical stains were found near the noise enclosure and entrance gate.(Photo 3)

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

Current Environmental Site Inspection Checklist – Report No. 121218

Chemical Management:

1. The Contractor was reminded to place chemical drum properly and provide suitable labels as soon as possible.

Landscape and Visual Impacts:

2. The Contractor was suggested to remove the construction materials away from Tree 038.

Chemical Waste / Waste Oil:

3. The Contractor is reminded to clear oil and unknown chemical stains and treat as chemical waste.

Photo_ F 1 The water plastic pipe had been removed

Photo 1 Some chemical barrels were found without drip tray next to chemical storage area and near the site hoarding behind the chemical storage container.

Photo 2 Construction material were found close to Tree 038

Photo 3 Some oil stains and unknown chemical stains were found near the noise enclosure and entrance gate

Wah Fu PTW

No inspection had been undertaken

27 December 2012

Aberdeen PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121218

Waste Oil Management :

6. The waste oil barrel near the Oxygen Container in storage area was removed. (Photo F_1)

Air Quality:

7. The generator was observed no more white smoke exhausted.(Photo F_2)

The following issues identified for the previous site inspection are still outstanding:

8. An unknown chemical drum was found in container next to entrance gate.
9. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012.
10. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012.

Notes / Issues Recorded On Site:

Chemical Management:

1. An unknown chemical drum was found in container next to entrance gate. (Photo 1)
2. The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012. (Photo 2)
8. An unknown chemical drum was found near the tree T005(T).(Photo 3)

General Housekeeping:

9. Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012. (photo 4)

Air Quality:

10. Dusty material were found without cover properly.(Photo 5)

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

Current Environmental Site Inspection Checklist – Report No. 121227

Chemical Management:

1. The Contractor was reminded to provide labels to chemical drums next to entrance gate.
2. The Contractor was recommended to display chemical storage list of the chemical storage.
3. The Contractor is reminded to provide drip tray and suitable label to chemical drum near the tree T005 (T).

General Housekeeping:

4. The Contractor was reminded to keep the site tidy.

Air Quality:

5. The Contractor was recommended to cover dusty material within works area.

Photo_F 1 The waste oil barrel near the Oxygen Container in storage area was removed.

Photo_F 2 No white smoke was exhausted from the generator.

Photo 1 An unknown chemical drum was found in container next to entrance gate.

Photo 2 The chemical storage was found without chemical storage list since the site inspection undertaken on 30th October 2012

Photo 3 An unknown chemical drum was found near the tree T005 (T).

Photo 4 Some trashes were found near the rubbish skip in storage area since the site inspection undertaken on 13th November 2012

Photo 5 Dusty materials were not covered properly.

Cyberport PTW

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121218

Two observations issued for the previous site inspection were still outstanding:

1. A chemical drum was found without chemical label and drip tray.
2. Water accumulation was found near the noise enclosure.
3. Some sand mix with oil was found inside noise enclosure

Notes / Issues Recorded On Site:

Chemical Storage:

1. A chemical drum was found without chemical label and drip tray since the site inspection undertaken on 4 December 2012. and some unknown chemicals were found next to noise enclosure (Photo 1).

General Housekeeping:

2. Water accumulation was found near the noise enclosure since the site inspection undertaken on 4 December 2012. (Photo 2)

Chemical Waste:

3. Some sand mixed with oil was found inside noise enclosure since the site inspection undertaken on 18 December 2012. (Photo 3)

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

Current Environmental Site Inspection Checklist – Report No. 121227

Chemical Storage:

1. The Contractor was reminded to place chemical drums properly and provide suitable label for the chemicals next to the noise enclosure.

General Housekeeping:

2. The Contractor was reminded to keep the site tidiness.

Chemical Waste:

3. The Contractor was reminded to treat the oil contaminated soil as chemical waste and disposal of it properly. In addition, the contractor was recommended to investigate the leaking of oil source.

Photo 1 A chemical drum was found without chemical label and drip tray

Some unknown chemicals were found next to noise enclosure

Photo 2 Water accumulation was found near the noise enclosure

Photo 3 Some sand mixed with oil was found inside the noise enclosure

Fung Mat Road Site

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121218

N/A

Notes / Issues Recorded On Site:
Chemical Management:

1. An unknown chemical drum without drip tray was found next to the fuel tank. (Photo 1)

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

Current Environmental Site Inspection Checklist – Report No. 121227

Chemical Management:

1. The Contractor is reminded to provide drip tray and suitable label for the unknown drum next to the fuel tank.

Photo 1 An unknown chemical drum without drip tray was found next to the fuel tank.

The chemical drum was behind the fuel tank.

Sandy Bay

Follow up actions for previous site audit:

Previous Environmental Site Inspection Checklist – Report No. 121218

Landscape and Visual Impacts:

1. The construction materials close to Tree 038 was removed.(Photo F_ 1)

Chemical Waste / Waste Oil:

2. The oil stains and unknown chemical stains near the noise enclosure and entrance gate were cleared.(Photo F_2)

The following issues identified for the previous sit e inspection are still outstanding:

3. Some chemical barrels were found without drip trays.

Notes / Issues Recorded On Site:

Chemical Management:

1. Some chemical barrels were found without drip tray next to chemical storage area and next to the entrance gate. (Photo 1)

Chemical Waste / Waste Oil:

2. Oil stain was found near the plant zone.(Photo 2)

Noise:

3. The enclosure door was damaged.(Photo 3)

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

Current Environmental Site Inspection Checklist – Report No. 121227

Chemical Management:

1. The Contractor was reminded to place chemical drum properly and provide suitable labels as soon as possible.

Chemical Waste / Waste Oil:

2. The Contractor is reminded to clear oil stains and treats as chemical waste.

Noise:

3. The Contractor is recommended to fix the enclosure door.

Photo_ F 1 The water plastic pipe had been removed

Photo F_2 The oil stains and unknown chemical stains near the noise enclosure and entrance gate were cleared

Photo 1 Some chemical barrels were found without drip tray next to chemical storage area and near the site hoarding behind the chemical storage container.

Photo 2 Oil stain was found near the plant zone

Photo 3 The enclosure door was damaged.

Wah Fu PTW

Follow up actions for previous site audit: **Previous Environmental Site Inspection Checklist – Report No. 121218** Nil
Notes / Issues Recorded On Site: Nil.
Corrective Actions – Mitigation Measures Implemented or Proposed (if any): **Current Environmental Site Inspection Checklist – Report No. 121227** Nil