Document Details			
Client	**Drainage Services Department**		
Project	**Contract No. DC/2007/24** **Harbour Area Treatment Scheme Stage 2A** **Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun**		
Document Title	**Monthly Environmental Monitoring and Audit Report No. 34** **Covering the Period from 1 October 2012 to 31 October 2012**		
Document No.	**EMA/043**		

Distribution			
Copy No.	**Issued To**	**Copy No.**	**Issued To**
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09	DSD		

Submission Ref		Controlled Copy No.
SUBM Ref.		
Atkins Ref.(s)	DC/2007/24/31.20/OG3926/EC/SH/EY	

Revision History					
B	9 November 2012	Submission to IEC and ER for Further Review	Various	Susana Halliday	Eric Chui
A	7 November 2012	Submission to IEC and ER for Review	Various	Susana Halliday	Eric Chui
Rev.	**Date**	**Description**	**Prepared**	**Checked & Reviewed**	**Approved**

Leighton - LNS Joint Venture

ATKINS

Rev.

B

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

Environmental Certification Sheet – 47

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

Document/~~Plan/Changes/Information to be~~ Certified/ Verified:	Monthly Environmental Monitoring and Audit Report No.34 (EMA/043, Rev B)
Date of Report:	10 November 2012
Date of correspondence to IEC:	13 November 2012
Date received:	13 November 2012

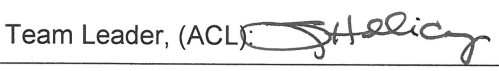
Reference Condition

Clause 4.4 of EP-322/2008/E:

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

ET Certification

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

Susana Halliday, Environmental Team Leader, (ACL):  Date: 13 November 2012

Mott MacDonald

Our ref KMY/AFK/FY/TK/bw/T261332/22.01/L-0467
T 2828 5757
E Anne.Kerr@mottmac.com.hk
Your ref -

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

12 November 2012
By Post

Attn: Mr. Danny Tang

Dear Sir,

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

Contract No. DC/2007/24
Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun
Condition 4.4 – Submission of Monthly EM&A Report for October 2012 (no. 34)

I refer to the revised Monthly EM&A Report No. 34 (Rev. B) for October 2012 certified by ETL and received on 12 November 2012 via email. Pursuant to Condition 4.4 of Environmental Permit No. EP-322/2008/F, I hereby verify the captioned Report.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr
Independent Environmental Checker

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

EXECUTIVE SUMMARY

This is the Thirty-Fourth Monthly Environmental Monitoring and Audit Report prepared by Atkins China Ltd (ACL), for Contract No. DC/2007/24 Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun (hereinafter, the Project), in compliance with the Project EM&A Manual under EP No. EP-322/2008/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 October 2012.

Environmental Monitoring and Audit Progress

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

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

Parameter	ID	Description	Date
Noise Monitoring: $L_{eq(30\ mins)}$ during normal Daytime	M3	Kwan Yick Building Phase III	4, 9, 15, 25 and 31 October 2012 (1)
	M5	Chuk Lam Ming Tong	4, 10, 16 and 22 October 2012
	M6a	Aegean Terrace	3, 9, 15, 25 and 31 October 2012
	M7a	Wah Ming House	3, 9, 15, 25 and 31 October 2012
	M8	Wah Lai House	4, 10, 16 and 22 October 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during evening time and daytime of Sundays/ public holidays	M3	Kwan Yick Building Phase III	14, 23 and 28 October 2012 (2)
	M5a	Near the entrance of Chuk Lam Ming Tong	7 October 2012
	M6a	Aegean Terrace	21 October 2012
	M8	Wah Lai House	14 October 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during night time	M3	Kwan Yick Building Phase III	4, 25 October 2012
	M5a	Near the entrance of Chuk Lam Ming Tong	10 October 2012
	M6a	Aegean Terrace	17 October 2012
Noise Monitoring: $L_{eq(15\ mins)}$ during evening time	M3	Kwan Yick Building Phase III	4, 9(1) , 23(1) and 25 October 2012
	M5a	Near the entrance of Chuk Lam Ming Tong	10 October 2012
	M6a	Aegean Terrace	17 October 2012
Air Quality Monitoring: 1-hour and 24-hour TSP	CM_FM1	Western Wholesale Food Market	1-hour : 3, 8, 12, 18, 24 and 28 October 2012 24-hour: 3, 8, 12, 18, 24 and

			28 October 2012
	CM_CB1a	The Arcade, Cyberport	1-hour: 4, 10, 16, 22 and 26 October 2012 24-hour: 3, 8, 12, 18, 24 and 28 October 2012
	CM_WF1a	Wah Ming House	1-hour: 3, 9, 15, 19, 25 and 31 October 2012 24-hour: 3, 8, 12, 18, 24 and 28 October 2012
	CM_AB1a	The Hong Kong Ice and Cold Storage, formally known as Dairy Farm Ice and Cold Storage	1-hour: 4, 10, 16, 22 and 26 October 2012 24-hour: 3, 8, 12, 18, 24 and 28 October 2012
Landscape and Visual	n/a	n/a	30 October 2012
Hazard to Life	n/a	n/a	On-going
Cultural Heritage	n/a	n/a	n/a

Remark: (1) The data were provided by Contract No. DC/2007/23.
(2) The data on 14 and 23 Oct were provided by Contract No. DC/2007/23.

Site inspections were undertaken jointly with the Contractor and Engineer Representative on 3, 9, 16, 24 and 30 October 2012, with Independent Environmental Checker's participation on 16 October 2012.

Breaches of Action and Limit Levels

During the reporting period of this monthly EM&A Report No. 34, six non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012. One 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). One non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at M5a (near entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during restricted hours (evening time) monitoring at M5a (near entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M6a (Aegean Terrace). Two non-project related LL exceedance was recorded during restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase). A summary of exceedances 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.

Date of Exceedance	Monitoring Location	Exceedance	Details
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.

Complaint Log

There was one complaint related to air quality received from EPD via e-mail on 26 October 2012 regarding 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 the complaint and investigation are shown in Appendix M.

Notifications of Summons and Prosecutions

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

Environmental Non-compliance

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

Reporting Changes

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

Future Key Issues

Aberdeen

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

Wah Fu

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

Cyberport

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

Sandy Bay

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

Sai Ying Pun

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

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APPENDICES

1 INTRODUCTION

1.1 Basic Project Information

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

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

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

1.2 Project Organisation and Contact Details

The key parties included:

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

Project organisation and contact details are shown in Appendix A.

1.3 Construction Programme

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

1.4 Locations of Monitoring Stations

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

2 ENVIRONMENTAL STATUS

2.1 Work undertaken during the Reporting Period

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

Aberdeen

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

Wah Fu

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

Cyberport

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

Sandy Bay

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

Sai Ying Pun

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

2.2 Environmental Permit and License

TThe Environmental Permit (EP-322/2008/E) was superceded by EP-322/2008/F issued on 10 October 2012 by EPD.

Chemical Waste

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

Table 2.1 Summary of Registrations as a Chemical Waste Producer

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

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

Water Discharge Licence

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

Table 2.2 Summary of Water Discharge Licences

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

Construction Noise Permit

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

Table 2.3 Status of Construction Noise Permits

No	Location	Operations	Time	Duration	Remark
1	Cyberport	Rock excavation, drilling, welding, grouting for shaft and tunnel	1900-2300 normal day 0700-2300 holiday	2 Oct 2012~ 1 Jan 2013	Valid with CNP GW-RS 0950-12
2	Cyberport	Rock excavation, drilling, welding, grouting for shaft and tunnel	2300-0700 normal day 0700-2300 holiday	1 Oct 2012~ 1 Jan 2013	Valid with CNP GW-RS 0948-12
3	Cyberport	Waste water treatment and exhaust fan	1900-2300 normal day 0700-2300 holiday	1 Sep 2012~28 Feb 2013	Valid with CNP GW-RS0846-12
4	Sandy Bay	Rock excavation, drilling, welding, grouting for shaft and tunnel	24 hours	27 Aug 2012~ 26 Nov 2012	Valid with CNP GW-RS 0835-12
		Rock excavation, drilling, welding grouting for shaft and tunnel and water treatment	1900 – 2300 normal day 0700 – 2300 holiday		

5	SYP	Rock excavation, drilling, welding, grouting for shaft and tunnel	24 hours	14 Sep 2012~13 Mar 2013	Valid with CNP GW-RS0914-12
6	Wah Fu	Shotcrete and rock drill	1900-2300 normal day 0700-2300 holiday	31 May 2012~29 Nov 2012	Valid with CNP GW-RS0553-12
7	Aberdeen	Rock drill and excavation	1900-2300 normal day 0700-2300 holiday	22 Sep 2012~21 Dec 2012	Valid with CNP GW-RS0956-12
8	Aberdeen	Shaft and tunnel works	2300 to 0700 any day	22 Sep 2012~21 Dec 2012	Valid with CNP GW-RS0957-12

2.3 Environmental Document Submission

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

Table 2.4 Summary of Environmental Document Submission

No.	Document Title	Date of Submission	Date of Verification/ Approval
1	Monthly Environmental Monitoring and Audit Report No.33, Covering the Period from 1 September 2012 to 30 September 2012 (EMA/041, Rev B)	16 October 2012	16 October 2012
2	Monthly Environmental Monitoring and Audit Report No.11, Covering the Period from 1 July 2012 to 30 September 2012 (EMA/042, Rev A)	31 October 2012	2 November 2012

2.4 Environmental Monitoring Locations

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

Table 2.5 Noise and Air Quality Monitoring Stations Descriptions

Monitoring ID	Description	Uses/ Location of Measurement	Easting	Northing
Noise Monitoring Stations				
M3 (1)	Rooftop (24/F) of Block A, Kwan Yick Building Phase III (Fung Mat Road Site)	Medium-rise domestic premises – private housing estate	832480	816602

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

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

3 EM&A REQUIREMENTS

3.1 Summary of Impact EM&A Requirements

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

Table 3.1 Summary of Impact EM&A Requirements

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

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

3.2 Environmental Quality Performance Limits

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

Table 3.2 Action and Limit Levels for Impact Noise Monitoring

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

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

Table 3.3 Action and Limit Levels for Air Quality Monitoring

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

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

3.3 Event and Action Plan

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

3.4 Environmental Measures and Implementation Status

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

4 MONITORING RESULTS

4.1 Monitoring Methodology and QA/QC Procedure

Noise Monitoring

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

Air Quality

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

Landscape and Visual

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

4.2 Monitoring Equipment

Noise

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

Table 4.1 Equipment for Noise Monitoring

Equipment	Model
Integrated Sound Level Meters	B&K 2238 Serial no. 2385180
Integrated Sound Level Meters	B&K 2238 Serial no. 2808432
Calibrator	B&K 4231, Serial no. 3003246

Air Quality

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

Table 4.2 Equipment for Air Quality Monitoring

Parameter Measured	Equipment
1-Hour Sampling for CM_CB1a, CM_WF1a and CM_AB1a	Sibata Laser Dust Monitor Model LD-3B was used for monitoring stations CM_CB1a, CM_WF1a and CM_AB1a. This portable instrument is capable of providing: • Real time TSP concentration • Adjustable logging intervals from 6 to 600 seconds • Average concentration over logging interval and maximum and average values for entire logging period
24-Hour Sampling for CM_CB1a, CM_WF1a, CM_AB1a and CM_FM1; and 1-Hour Sampling for CM_FM1	A High Volume Sampler Model TE-5170, by Tisch Environmental, Inc., was used for monitoring stations CM_CB1a, CM_WF1a and CM_AB1a. This instrument was equipped with: • Mass flow controller with 20 – 60 SCFM adjustable flow probe • Mechanical timer for recording elapsed-time and 24-hour operation A continuous flow recorder for continuous monitoring

4.3 Equipment Calibration

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

Table 4.3 Equipment Calibration Frequencies

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

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

4.4 Impact Monitoring Schedule from 1 October 2012 to 31 October 2012

The noise and air quality monitoring schedule in reporting period is shown in Appendix G. The visual and landscape monitoring was carried out on 30 October 2012.

Regular site inspections were carried out to assess whether the project's environmental protection and pollution control measures are in compliance with the contract specifications. Inspections were carried out on 3, 9, 16, 24 and 30 October 2012, with Independent Environmental Checker's participation on 16 October 2012.

4.5 Impact Monitoring Results

Noise Monitoring Results

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

Air Quality Results

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

4.6 Weather Condition during Reporting Period

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

4.7 Waste Management

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

Table 4.4 Monthly Summary Waste Flow Table during Reporting Period

Month	Actual Quantities of Inert C&D Materials Generated Monthly					
	Total Quantity Generated	Broken Concrete (2)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill
	(in '000 m^3(4))					
October 2012	10.188	0	0	4.014	6.174	0
Month	**Actual Quantities of C&D Wastes Generated Monthly**					
	Metals	Paper/ cardboard packaging	Plastics (3)	Chemical Waste	Others, e.g. general refuse	
	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3(4))	
October 2012	0	0.202	0	0	0.027	

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

4.8 Landscape and Visual

The monthly site audit was undertaken on 30 October 2012 to check the design, implementation and maintenance of landscape and visual mitigation measures, as laid out in the Project EM&A Manual, at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun. The landscape and visual monitoring report is attached in Appendix L.

4.9 Hazard to Life

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

4.10 Cultural Heritage

There were tunneling/ blasting works (Tunnel M) carried out during the reporting period. Results of Vibration Monitoring of historical buildings and structures are provided in the table below. The purpose of the vibration monitoring is to prevent potential damage to historical building and structures. The monitoring location(s) and the heritage resources(s) are shown in Figure 2.8.

Table 4.5 Results of Vibration Monitoring during reporting period

Heritage Resources	Date	Distance to Resource (m)	Measured Vibration Level (mm/s)	Vibration Limit (mm/s)
Felix Villas (HATS 23)	06 Oct 2012	150	0.53	25
Felix Villas (HATS 23)	08 Oct 2012	150	0.48	25
Felix Villas (HATS 23)	10 Oct 2012	150	0.79	25
Felix Villas (HATS 23)	12 Oct 2012	150	0.69	25
Felix Villas (HATS 23)	18 Oct 2012	150	1.39	25
Felix Villas (HATS 23)	20 Oct 2012	150	0.52	25
Felix Villas (HATS 23)	24 Oct 2012	150	0.4	25
Felix Villas (HATS 23)	25 Oct 2012	150	0.88	25
Felix Villas (HATS 23)	27 Oct 2012	150	0.56	25

5 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

5.1 Environmental Exceedance

During the reporting period of this monthly EM&A Report No. 34, six non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012. One 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). One non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at M5a (near entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during restricted hours (evening time) monitoring at M5a (near entrance of Chuk Lam Ming Tong). One non-project related LL exceedance of noise was recorded during restricted hours (night time) monitoring at station M6a (Aegean Terrace). Two non-project related LL exceedance was recorded during restricted hours (night time) monitoring at station M3 (Kwan Yick Building Phase).

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

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).

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

5.2 Site Inspections and Audit

A joint site inspection with the IEC and the Contractor was undertaken on 16 October 2012. All the works areas were observed to be generally complied with the environmental mitigation requirements and no particular water quality impacts found.

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

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

5.3 Environmental Complaint and Prosecution

There was one complaint related to air quality received from EPD via e-mail on 26 October 2012 regarding 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 loading of the barge was in progress. The results were also below the Action Level. The details of the complaint and investigation are shown in Appendix M. The summary of environmental complaints is shown in Table 5.1.

Table 5.1 Summary of Environmental Complaints

Total No. of Complaints Received	No. of Complaints Received during Reporting Period	No. of Active Complaints	No. of Inactive Closed Complaints
6	1	0	7

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

Table 5.2 Summary of Notifications of Summons and Prosecutions

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

6 FORECAST AND SCHEDULE

6.1 Key Issues for the Coming Months

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

Aberdeen

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

Wah Fu

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

Cyberport

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

Sandy Bay

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

Sai Ying Pun

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

6.2 Monitoring Schedules for the Next Month

The proposed schedule for noise and air quality monitoring from 1 November 2012 to 30 November 2012 is provided in Appendix G.

7 CONCLUSION

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

During the reporting period of this monthly EM&A Report No. 34, six non-project related Limit Level (LL) exceedances in noise criteria were recorded on 4, 7, 10, 17 and 25 October 2012.

The total quantity of waste generated in the reporting period is 10,188 m3. For the hazard to life monitoring, there were no blasting was conducted inside the influence zone during the reporting period.

There was no environmental, non-compliance attributable to the Project works during the reporting period. There was one complaint regarding air quality in Sai Ying Pun received on 26th Oct 2012. Mitigation Measures stated in the Project EIA have been implemented.

The landscape and visual site audit was undertaken on 30 October 2012 to check the design, implementation and maintenance of L&V mitigation measures at work sites. All landscape and visual mitigation measures listed out in the Project EM&A Manual have been implemented in full except CM2 at Cyberport, Aberdeen and Sandy Bay site.

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

FIGURES

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

渠務署
DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

Project title

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

Supervising Officer

AECOM

Metcalf & Eddy – AECOM Joint Venture

Main Contractor

LEIGHTON 禮頓 | LNS

Leighton - LNS Joint Venture

Designer

ATKINS

Drawing title

OVERALL LAYOUT PLAN

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Checked: SB	
Authorised: EC	Figure No.: 1.1
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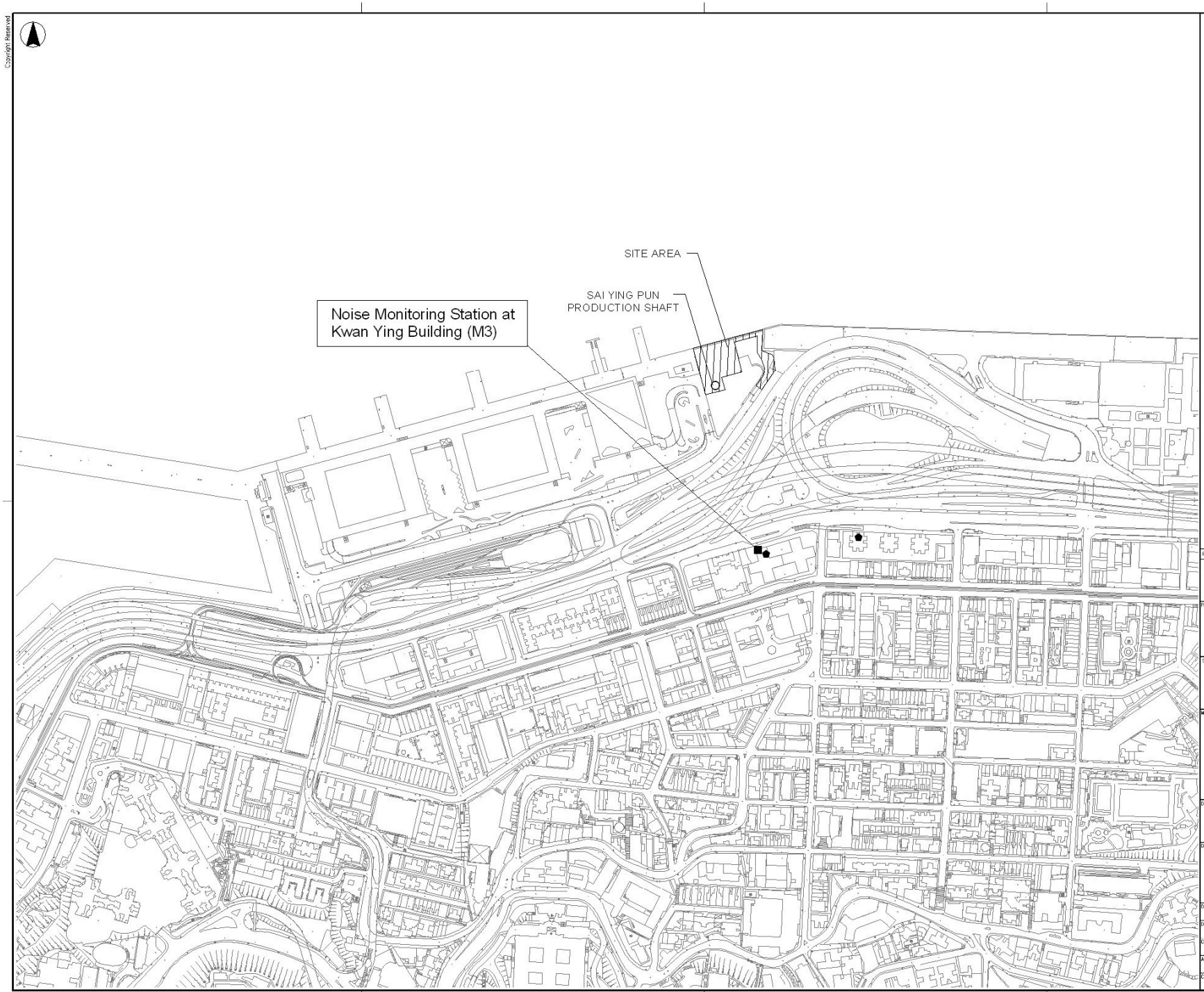

LEGEND
- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT
HARBOUR AREA TREATMENT SCHEME DIVISION

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

Supervising Officer: AECOM
Metcalf & Eddy – AECOM Joint Venture

Main Contractor: Leighton - LNS Joint Venture

Designer: ATKINS

Drawing Title
CONSTRUCTION NOISE
MONITORING STATION
AT FUNG MAT ROAD SITE

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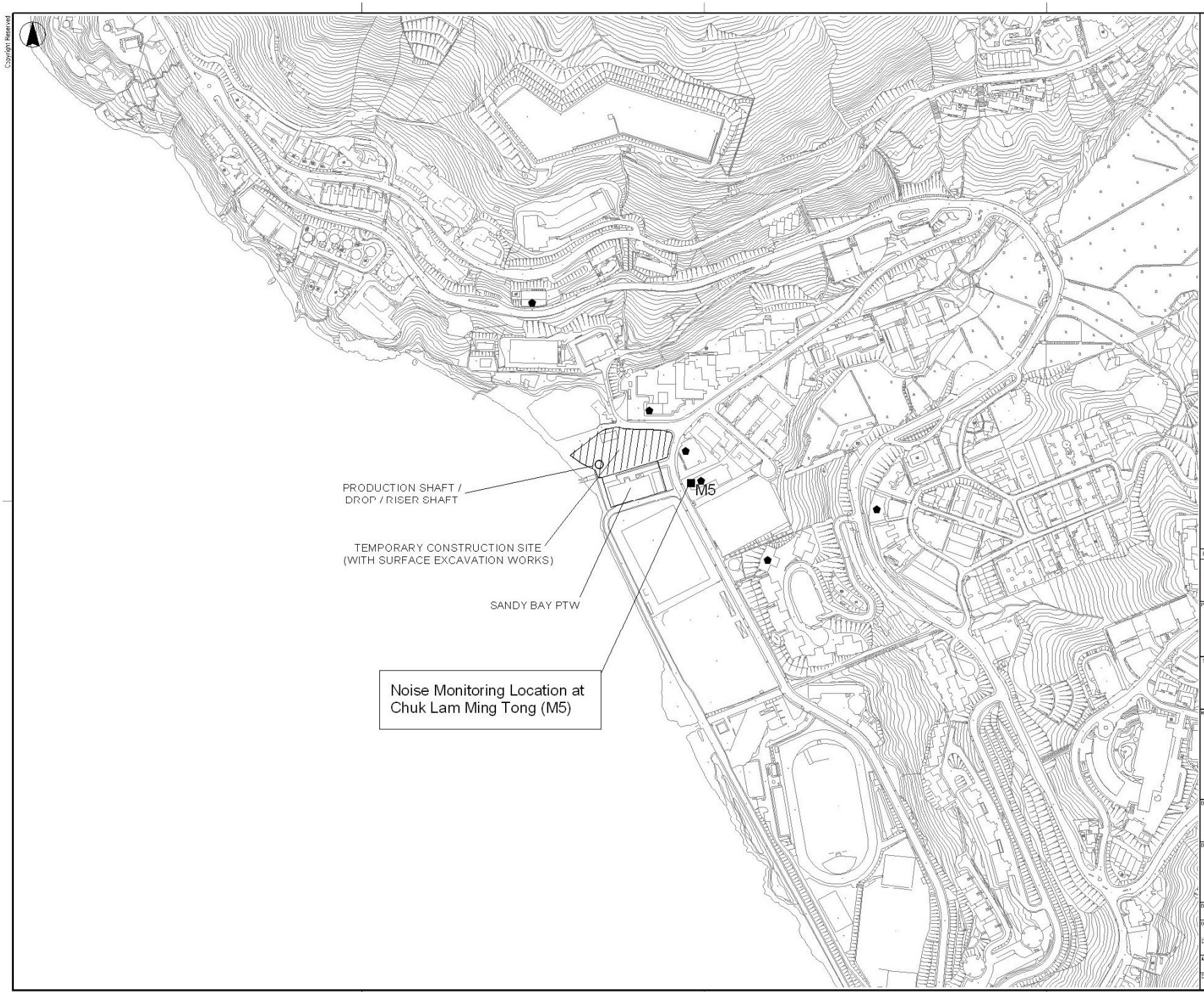
Checked
Authorised | Drawing No. 2.1 | Rev. A
CAD ref.



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 SANDY BAY PTW

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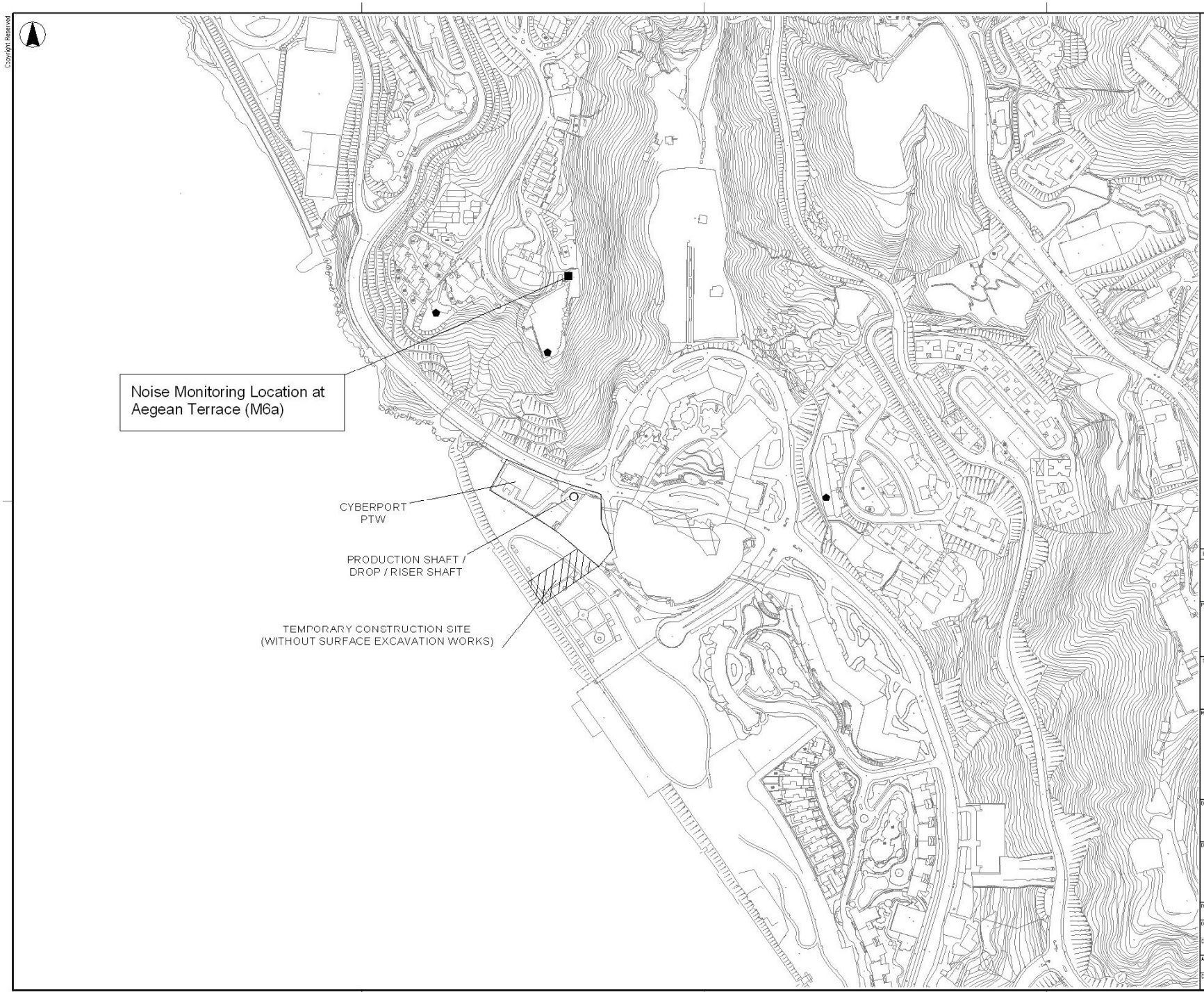

LEGEND

- NOISE MONITORING STATION
- NOISE SENSITIVE RECEIVERS

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

DRAINAGE SERVICES DEPARTMENT

HARBOUR AREA TREATMENT SCHEME DIVISION

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

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Leighton - LNS Joint Venture

Designer

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Drawing Title

CONSTRUCTION NOISE MONITORING STATION AT CYBERPORT PTW

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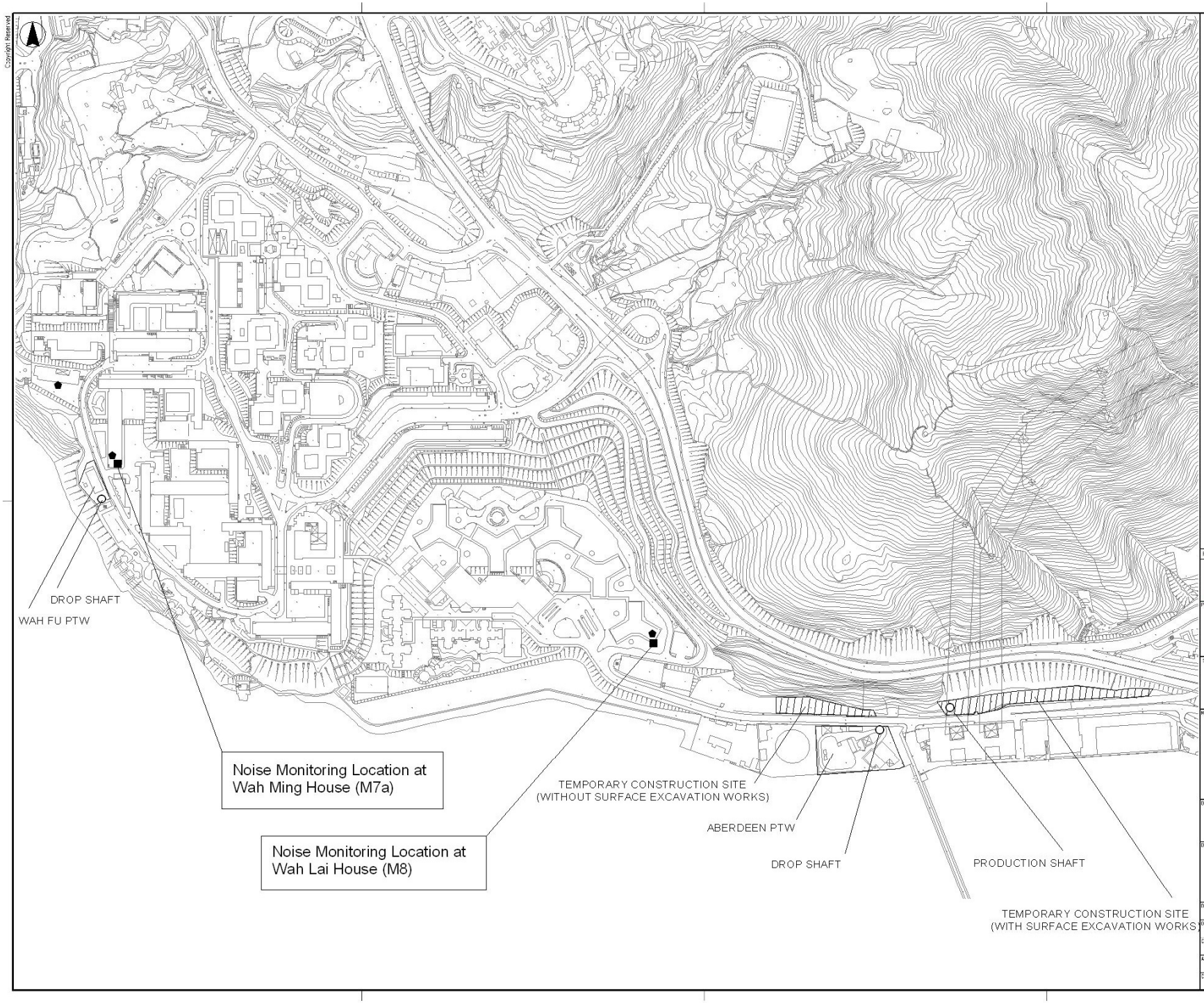

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DRAINAGE SERVICES DEPARTMENT
HARBOUR AREA TREATMENT SCHEME DIVISION

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
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Metcalf & Eddy - AECOM Joint Venture

Main Contractor
Leighton - LNS Joint Venture

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

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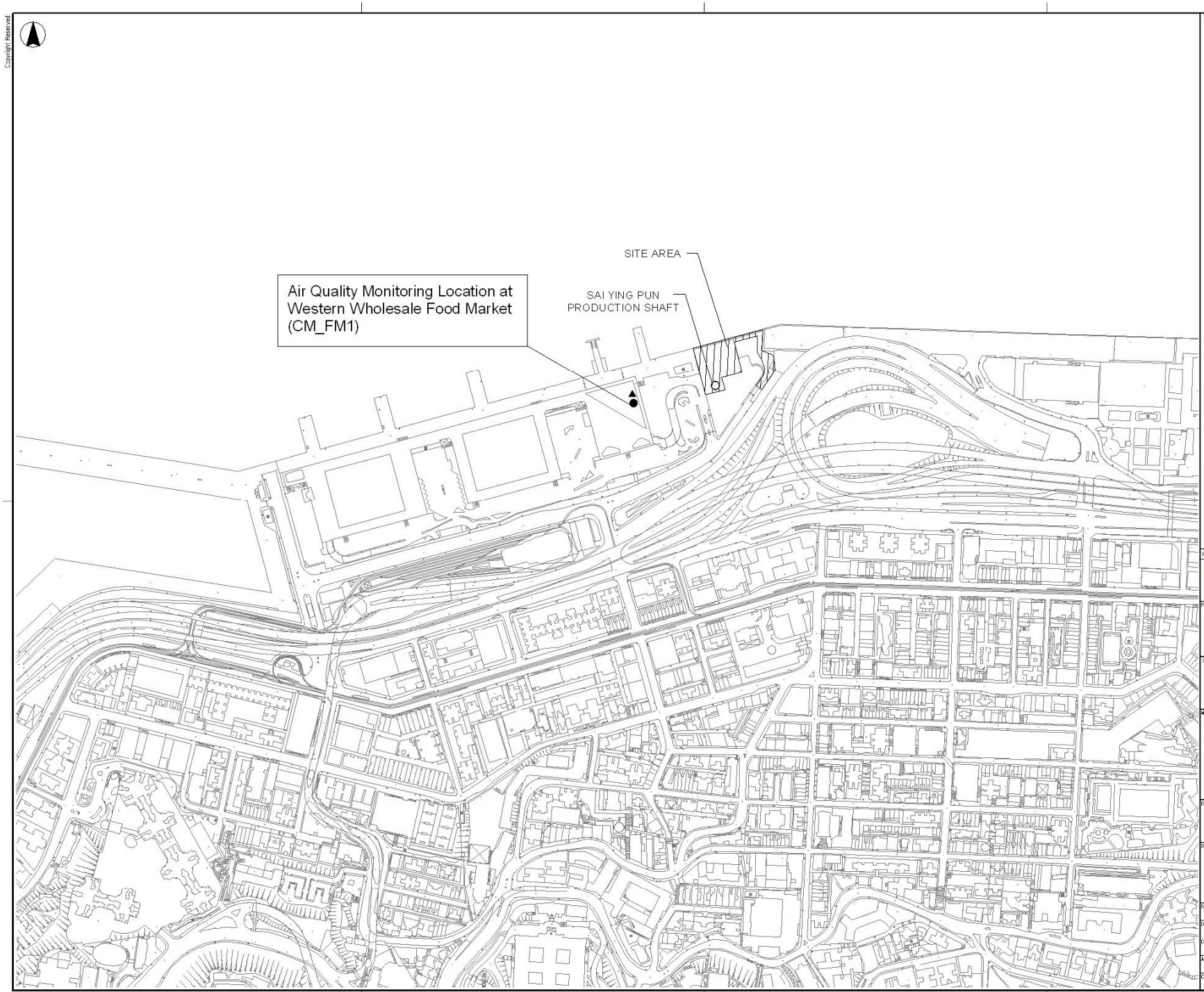

LEGEND
- ▲ AIR SENSITIVE RECEIVERS
- ● DUST MONITORING STATION

0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

土木工程拓展署
DRAINAGE SERVICES DEPARTMENT
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

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LEIGHTON 禮頓 LNS
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Drawing Title
CONSTRUCTION DUST
MONITORING STATION
AT FUNG MAT ROAD SITE

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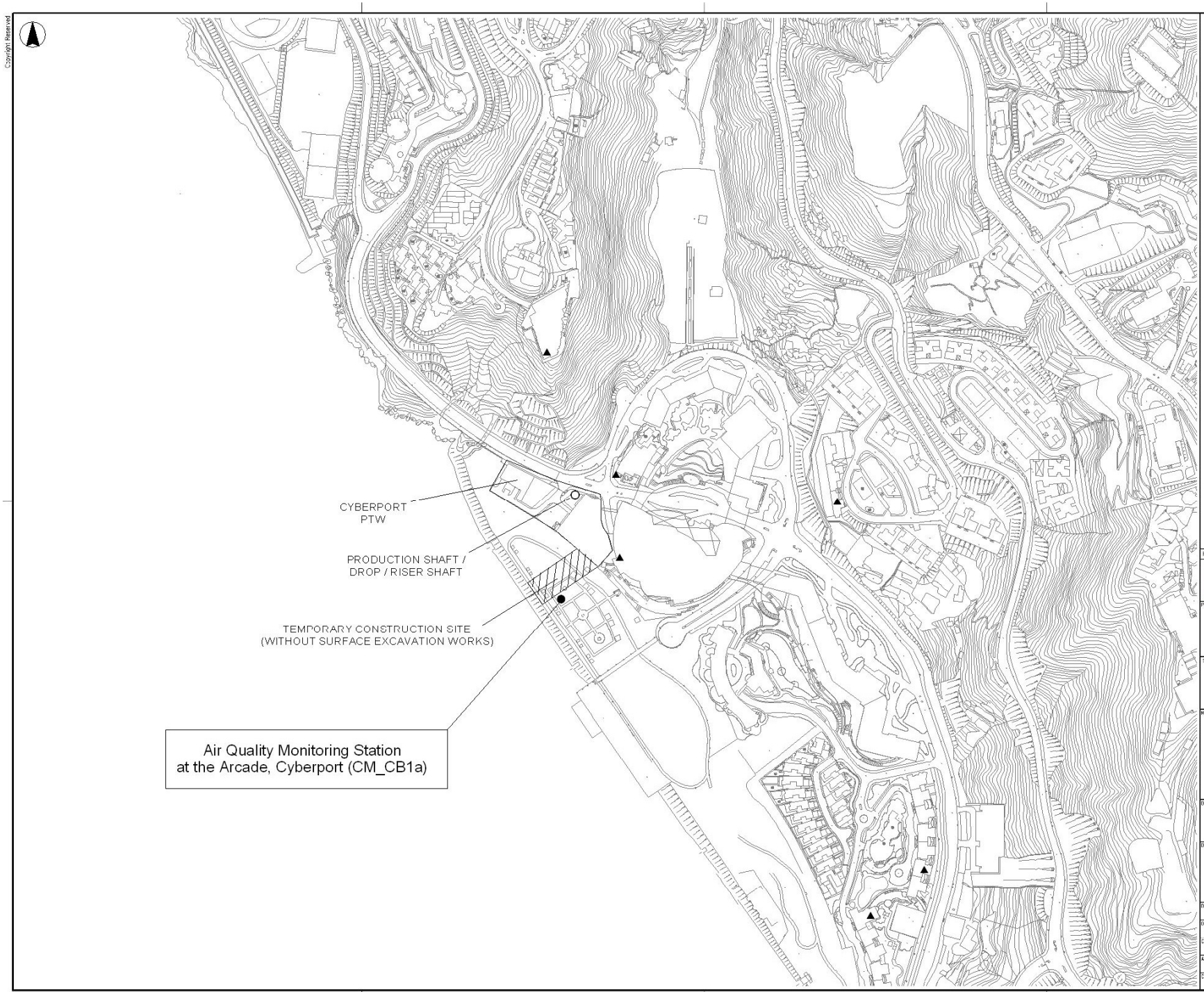

LEGEND
▲ AIR SENSITIVE RECEIVERS
● DUST MONITORING STATION
0 50 100 150 Meters

Rev	Description	Date	Dgn	Chk	Auth

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
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LEIGHTON 禮和 LNS
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Drawing title
CONSTRUCTION DUST
MONITORING STATION AT
CYBERPORT PTW

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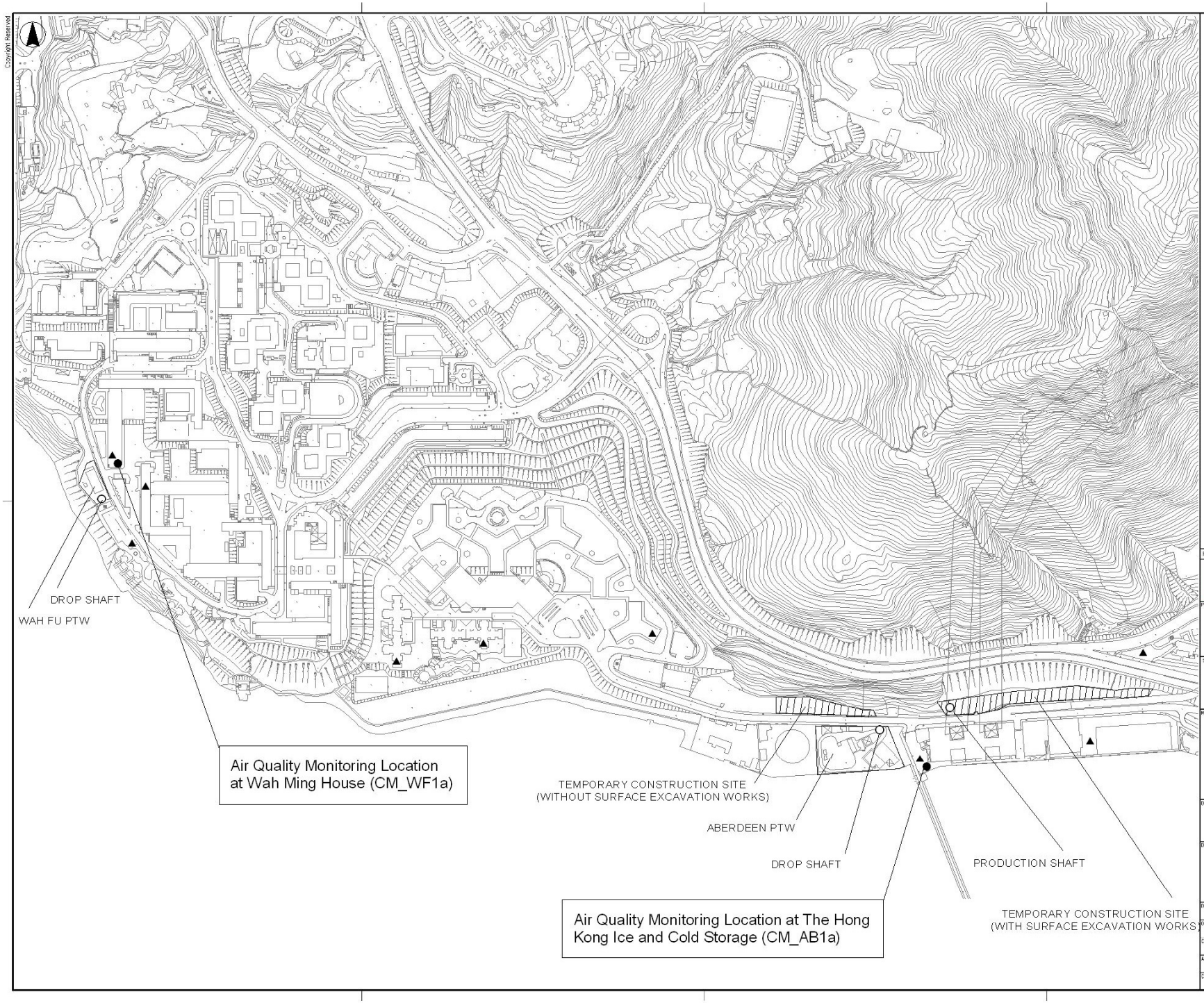

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DRAINAGE SERVICES DEPARTMENT
HARBOUR AREA TREATMENT SCHEME DIVISION

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
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Metcalf & Eddy - AECOM Joint Venture

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LEIGHTON 禮和 LNS
Leighton - LNS Joint Venture

Designer
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Drawing Title
CONSTRUCTION DUST MONITORING STATION AT WAH FU AND ABERDEEN PTW

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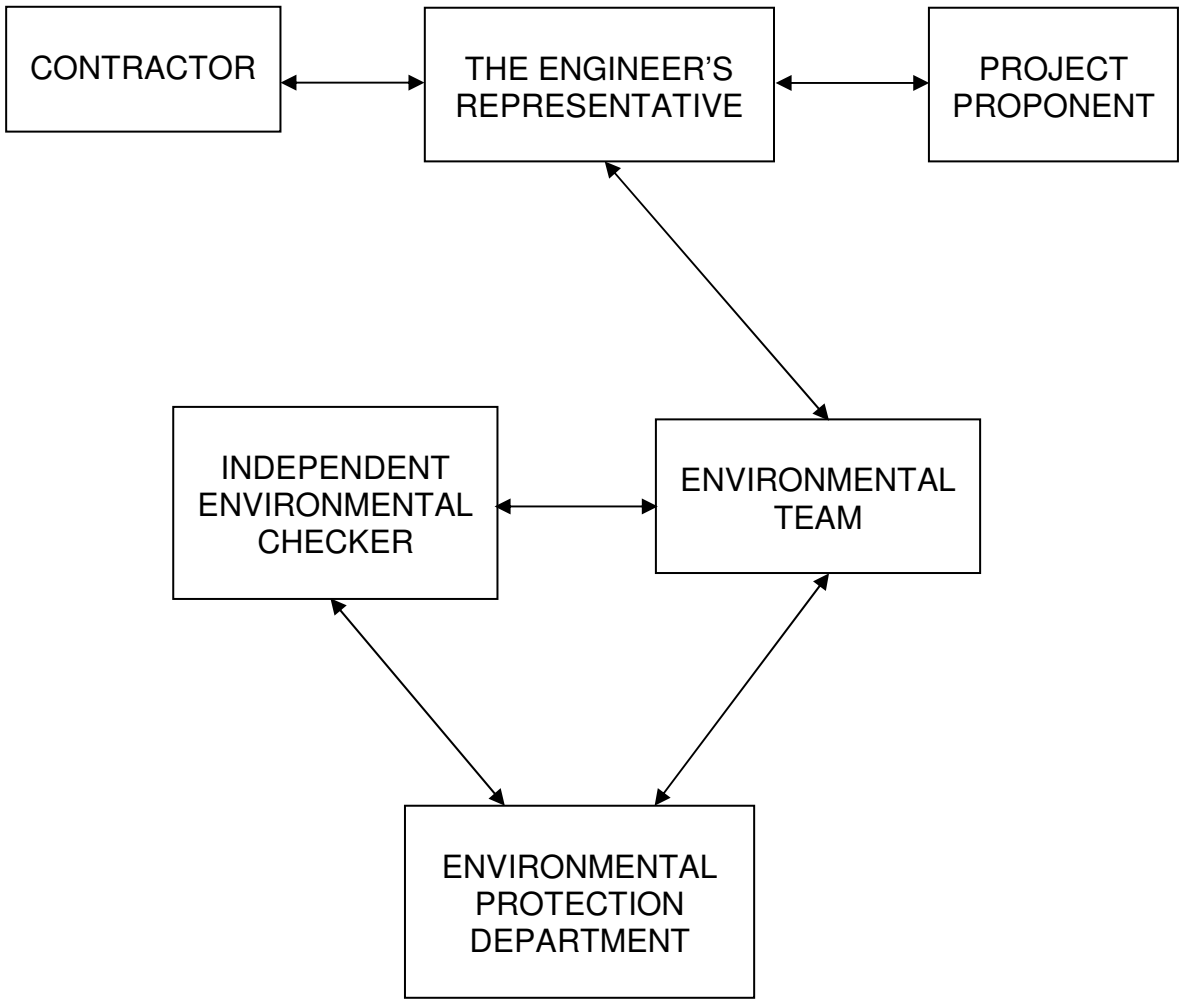
APPENDIX A

PROJECT ORGANISATION AND CONTACT DETAILS

Project Organisation



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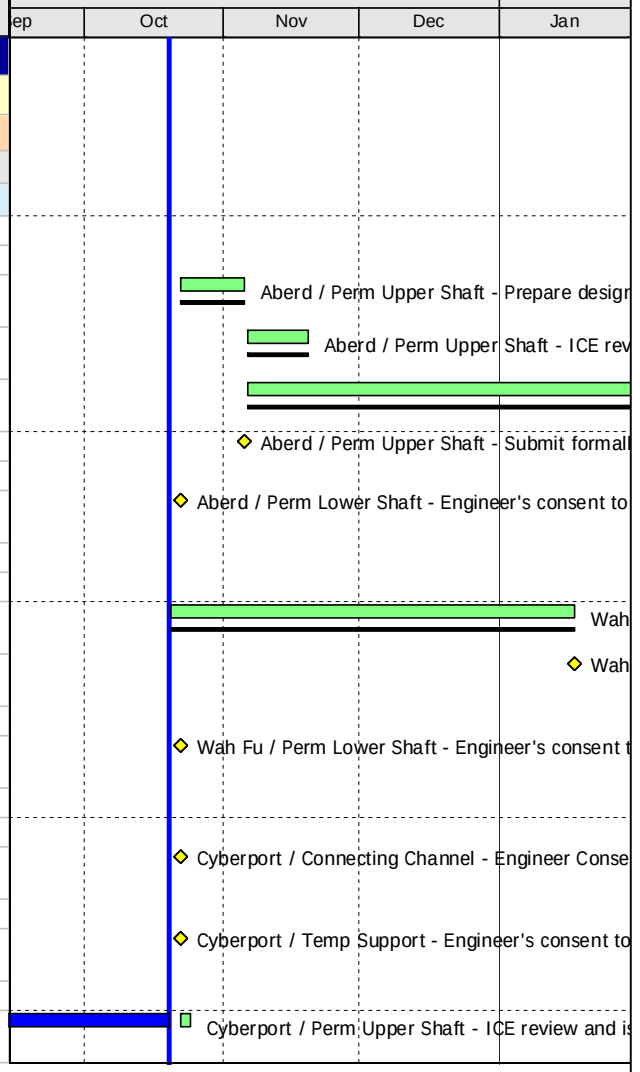
APPENDIX B

THE CONTRACTOR'S 3-MONTH CONSTRUCTION PROGRAMME

THREE MONTH ROLLING PROGRAMME (TM39)
STATUS as at 20 October 2012

Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
Updated 2012-08-10 HATS2A - MONTHLY PROGRESS UPDATE (Oct 2012) - Rev.C5.4							
CONTRACT NO. DC/2007/24							
DESIGN WORKS							
DESIGN, SUBMISSION and APPROVAL							
DROP SHAFT - TEMPORARY and PERMANENT WORKS DESIGN							
ABERDEEN - Drop Shaft and Production Shaft							
Permanent Works - Upper Shaft, Scum Chamber & Connection Channel							
9667	Aberd / Perm Upper Shaft - Prepare design submission	10d	10d	22-Oct-12	05-Nov-12	0%	103d
9669	Aberd / Perm Upper Shaft - ICE review and issue check certificate	10d	10d	06-Nov-12	19-Nov-12	0%	153d
9671	Aberd / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90d	90d	06-Nov-12	03-Feb-13	0%	155d
9770	Aberd / Perm Upper Shaft - Submit formally to ICE	0d	0d		05-Nov-12	0%	153d
Permanent Works - Lower Shaft							
9788	Aberd / Perm Lower Shaft - Engineer's consent to proceed with construction	0d	0d		22-Oct-12	0%	144d
WAH FU - Dropt Shaft							
Permanent Works - Upper Shaft, Scum Chamber and Connection Channel							
9695	Wah Fu / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90d	90d	20-Oct-12	17-Jan-13	0%	197d
9816	Wah Fu / Perm Upper Shaft - Engineer's consent to proceed with construction	0d	0d		17-Jan-13	0%	132d
Permanent Works - Lower Shaft							
9830	Wah Fu / Perm Lower Shaft - Engineer's consent to proceed with construction	0d	0d		22-Oct-12	0%	109d
CYBER PORT - Droft Shaft							
Temporary Works - Connection Channel Excavation							
9836	Cyberport / Connecting Channel - Engineer Consent to Proceed with Construction	0d	0d		22-Oct-12	0%	232d
Temporary Works - Temporary Support for Rock Excavation							
9854	Cyberport / Temp Support - Engineer's consent to proceed with construction	0d	0d		22-Oct-12	0%	11d
Permanent Works - Upper Shaft, Scum Chamber and Connection Channel							
9725	Cyberport / Perm Upper Shaft - ICE review and issue check certificate	10d	2d	13-Jul-10 A	24-Oct-12	80%	177d

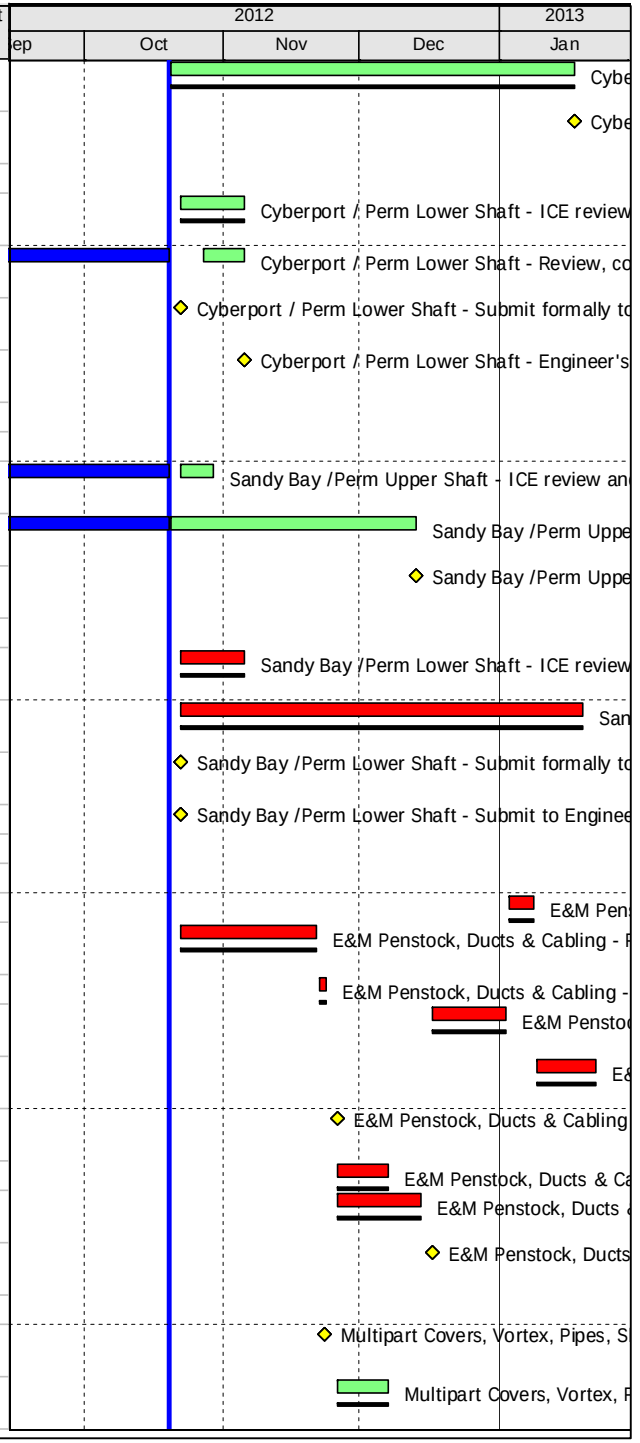


Current Milestone
Baseline Milestone
Actual Work
Critical Remaining Work
Remaining Work

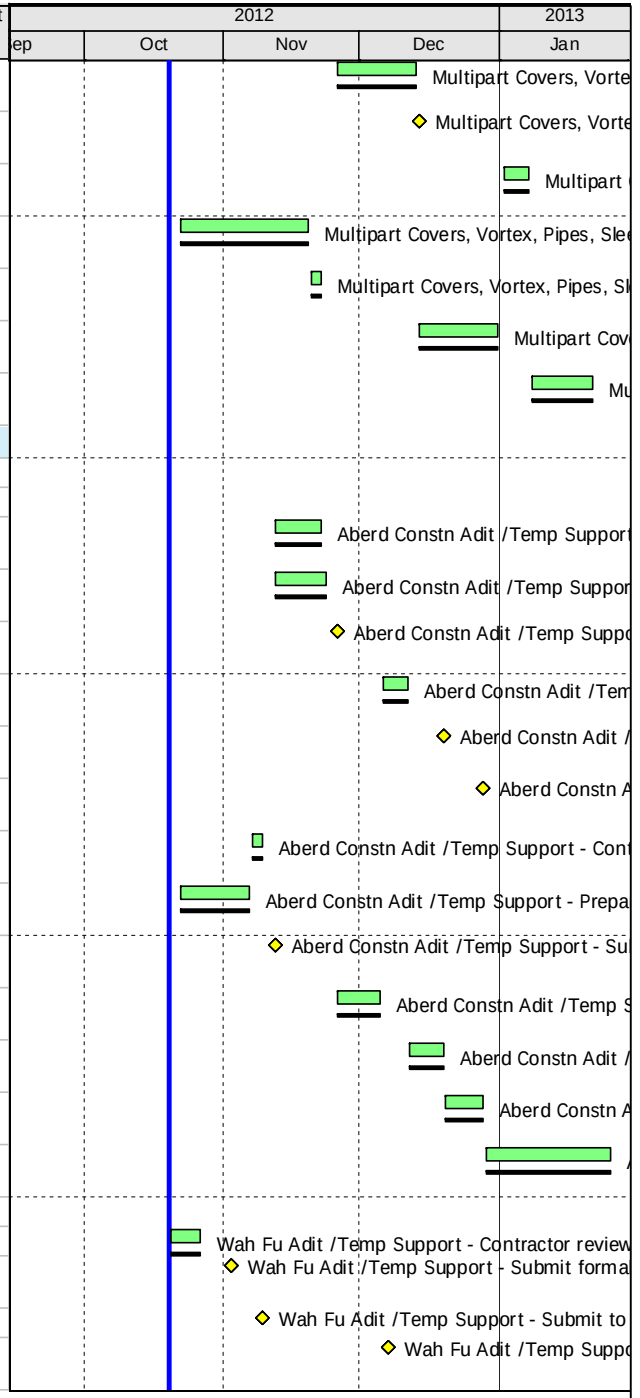
Contract No DC/2007/24
HATS - Harbour Area Treatment Scheme (Stage 2A)
Leighton - LNS Joint Venture

Date	Revision	Checked	Approved
20-Oct-12	Three Month Rolling Programme - TM39...	KL	GP

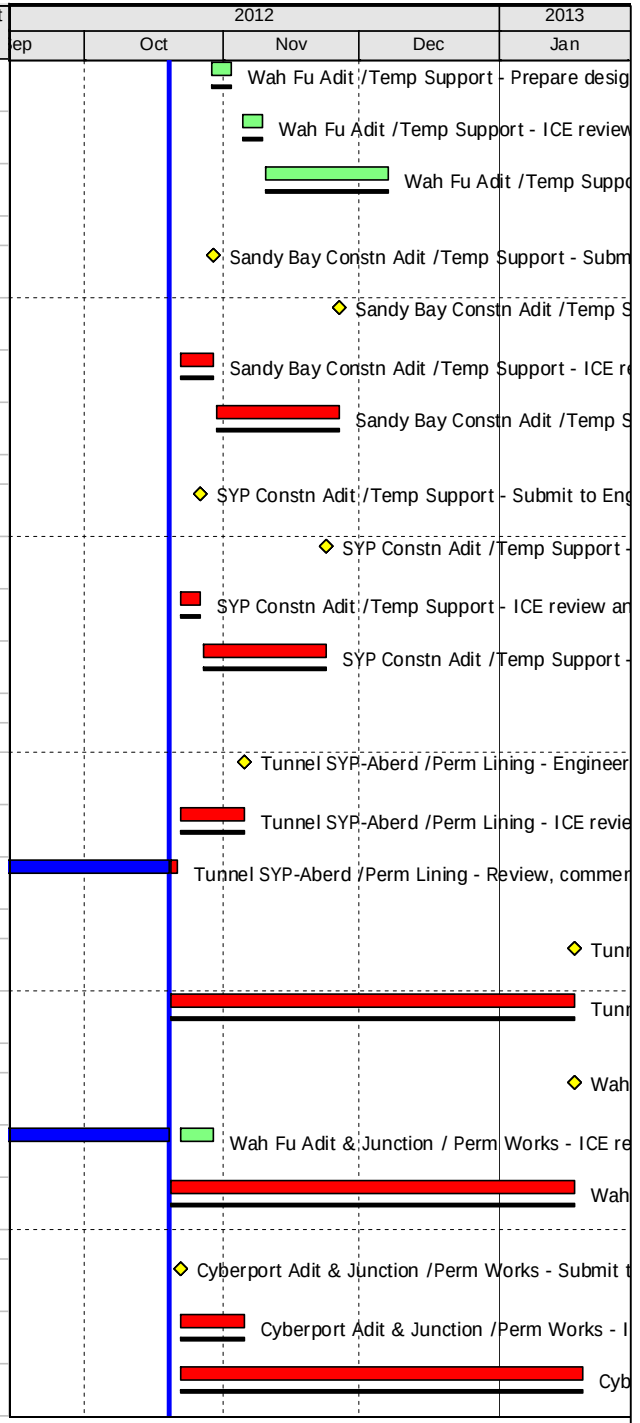
Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
9727	Cyberport / Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90d	90d	20-Oct-12	17-Jan-13	0%	180d
9872	Cyberport / Perm Upper Shaft - Engineer's consent to proceed with construction	0d	0d		17-Jan-13	0%	119d
Permanent Works - Lower Shaft							
9735	Cyberport / Perm Lower Shaft - ICE review and issue check certificate	10d	10d	22-Oct-12	05-Nov-12	0%	142d
9737	Cyberport / Perm Lower Shaft - Review, comment, resubmission & appvl by Engineer	90d	10d	10-Sep-10 A	05-Nov-12	89%	212d
9886	Cyberport / Perm Lower Shaft - Submit formally to ICE	0d	0d		22-Oct-12	0%	142d
9890	Cyberport / Perm Lower Shaft - Engineer's consent to proceed with construction	0d	0d		05-Nov-12	0%	142d
SANDY BAY - Dropt Shaft and Production Shaft							
Permanent Works - Upper Shaft, Scum Chamber & Connection Channel							
9761	Sandy Bay /Perm Upper Shaft - ICE review and issue check certificate	10d	5d	13-Jul-10 A	29-Oct-12	50%	121d
9763	Sandy Bay /Perm Upper Shaft - Review, comment, resubmission & appvl by Engineer	90d	55d	13-Jul-10 A	13-Dec-12	39%	134d
9942	Sandy Bay /Perm Upper Shaft - Engineer's consent to proceed with construction	0d	0d		13-Dec-12	0%	88d
Permanent Works - Lower Shaft							
9771	Sandy Bay /Perm Lower Shaft - ICE review and issue check certificate	10d	10d	22-Oct-12	05-Nov-12	0%	-58d
9773	Sandy Bay /Perm Lower Shaft - Review, comment, resubmission & appvl by Engineer	90d	90d	22-Oct-12	19-Jan-13	0%	-162d
9956	Sandy Bay /Perm Lower Shaft - Submit formally to ICE	0d	0d		22-Oct-12	0%	-58d
9958	Sandy Bay /Perm Lower Shaft - Submit to Engineer	0d	0d		22-Oct-12	0%	-112d
E&M - Electrical and Mechanical Works							
Permanent Works - E&M Penstock, Ducts, Cabling & Control							
10000	E&M Penstock, Ducts & Cabling - Contractor review	5d	5d	03-Jan-13	08-Jan-13	0%	-140d
9716	E&M Penstock, Ducts & Cabling - Prepare design development submission	22d	22d	22-Oct-12	21-Nov-12	0%	-115d
9791	E&M Penstock, Ducts & Cabling - Contractor review	2d	2d	22-Nov-12	23-Nov-12	0%	-138d
9793	E&M Penstock, Ducts & Cabling - Prepare draft detailed design submission	10d	10d	17-Dec-12	02-Jan-13	0%	-116d
9795	E&M Penstock, Ducts & Cabling - Prepare design submission	10d	10d	09-Jan-13	22-Jan-13	0%	-116d
9992	E&M Penstock, Ducts & Cabling - Submit design development to the Engineer	0d	0d	26-Nov-12		0%	-116d
9994	E&M Penstock, Ducts & Cabling - Discussion with ICE	10d	10d	26-Nov-12	07-Dec-12	0%	-111d
9996	E&M Penstock, Ducts & Cabling - Discussion with Engineer	15d	15d	26-Nov-12	14-Dec-12	0%	-116d
9998	E&M Penstock, Ducts & Cabling - Proceed to detailed design	0d	0d	17-Dec-12		0%	-116d
Permanent Works - Misc Multipart Covers, Vortex, Reserve Pipes, Sleeves							
10024	Multipart Covers, Vortex, Pipes, Sleeve - Submit design development to the Engineer	0d	0d	23-Nov-12		0%	46d
10026	Multipart Covers, Vortex, Pipes, Sleeve - Discussion with ICE	10d	10d	26-Nov-12	07-Dec-12	0%	50d



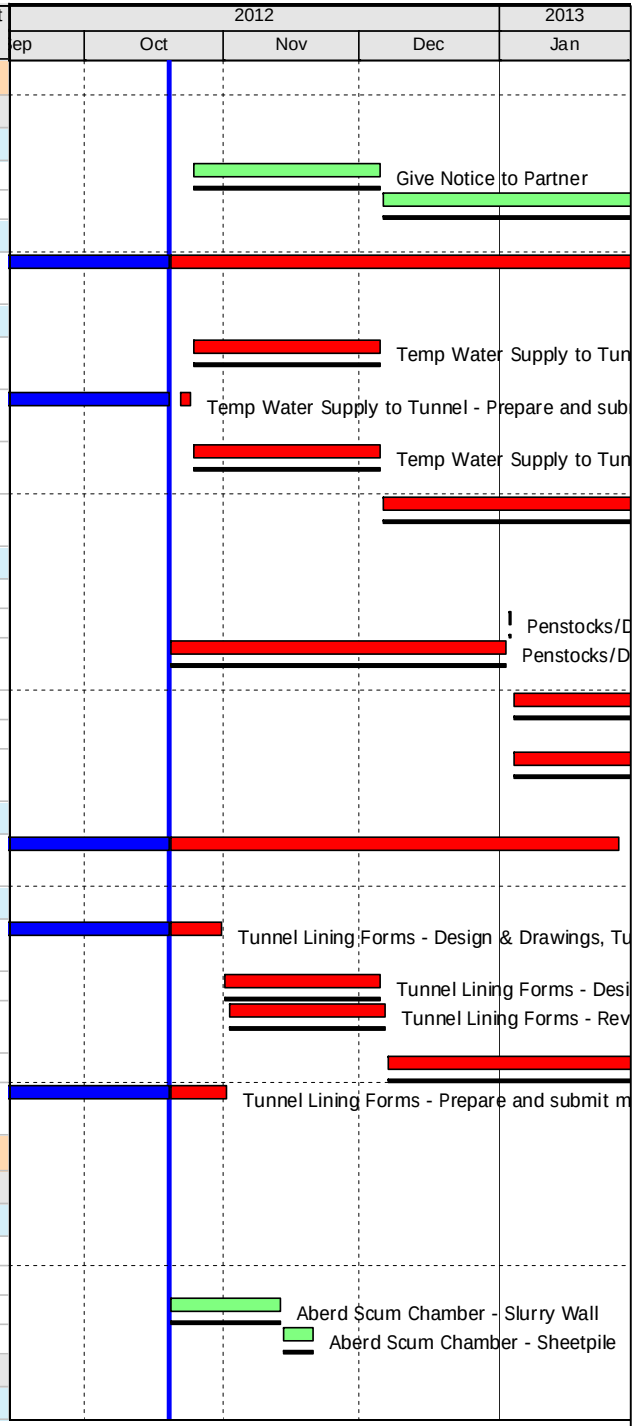
Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
10028	Multipart Covers, Vortex, Pipes, Sleeve - Discussion with Engineer	14d	14d	26-Nov-12	13-Dec-12	0%	46d
10030	Multipart Covers, Vortex, Pipes, Sleeve - Proceed to detailed design	0d	0d	14-Dec-12		0%	46d
10032	Multipart Covers, Vortex, Pipes, Sleeve - Contractor review	5d	5d	02-Jan-13	07-Jan-13	0%	51d
9722	Multipart Covers, Vortex, Pipes, Sleeve - Prepare design development submission	20d	20d	22-Oct-12	19-Nov-12	0%	46d
9811	Multipart Covers, Vortex, Pipes, Sleeve - Contractor review	3d	3d	20-Nov-12	22-Nov-12	0%	56d
9813	Multipart Covers, Vortex, Pipes, Sleeve - Prepare draft detailed design submission	10d	10d	14-Dec-12	31-Dec-12	0%	46d
9815	Multipart Covers, Vortex, Pipes, Sleeve - Prepare design submission	10d	10d	08-Jan-13	21-Jan-13	0%	46d
MAIN TUNNELS							
Temporary Works - Tunnel M, N, P1 & P2 (Sai Ying Pun to Aberdeen)							
Temporary Support - Aberdeen Construction Adit							
10058	Aberd Constn Adit /Temp Support - Discussion with ICE	9d	9d	12-Nov-12	22-Nov-12	0%	64d
10060	Aberd Constn Adit /Temp Support - Discussion with Client's Engineer	10d	10d	12-Nov-12	23-Nov-12	0%	63d
10062	Aberd Constn Adit /Temp Support - Proceed to detailed design	0d	0d	26-Nov-12		0%	63d
10064	Aberd Constn Adit /Temp Support - Contractor review	5d	5d	06-Dec-12	11-Dec-12	0%	73d
10066	Aberd Constn Adit /Temp Support - Submit formally to ICE	0d	0d		19-Dec-12	0%	63d
10068	Aberd Constn Adit /Temp Support - Submit to Engineer	0d	0d		28-Dec-12	0%	63d
9533	Aberd Constn Adit /Temp Support - Contractor review	3d	3d	07-Nov-12	09-Nov-12	0%	75d
9602	Aberd Constn Adit /Temp Support - Prepare design development submission	11d	11d	22-Oct-12	06-Nov-12	0%	62d
9604	Aberd Constn Adit /Temp Support - Submit design development to the Engineer	0d	0d	12-Nov-12		0%	63d
9821	Aberd Constn Adit /Temp Support - Prepare draft detailed design submission	8d	8d	26-Nov-12	05-Dec-12	0%	63d
9829	Aberd Constn Adit /Temp Support - Prepare design submission	6d	6d	12-Dec-12	19-Dec-12	0%	63d
9831	Aberd Constn Adit /Temp Support - ICE review and issue check certificate	5d	5d	20-Dec-12	28-Dec-12	0%	63d
9833	Aberd Contsn Adit /Temp Support - Review, comment, & consent by Engineer	28d	28d	29-Dec-12	25-Jan-13	0%	97d
Temporary Works - Wah Fu Adit and Shaft Junction							
10078	Wah Fu Adit /Temp Support - Contractor review	5d	5d	20-Oct-12	26-Oct-12	0%	166d
10080	Wah Fu Adit /Temp Support - Submit formally to ICE	0d	0d		02-Nov-12	0%	140d
10082	Wah Fu Adit /Temp Support - Submit to Engineer	0d	0d		09-Nov-12	0%	140d
10084	Wah Fu Adit /Temp Support - Engineer's consent to proceed with construction	0d	0d		07-Dec-12	0%	138d



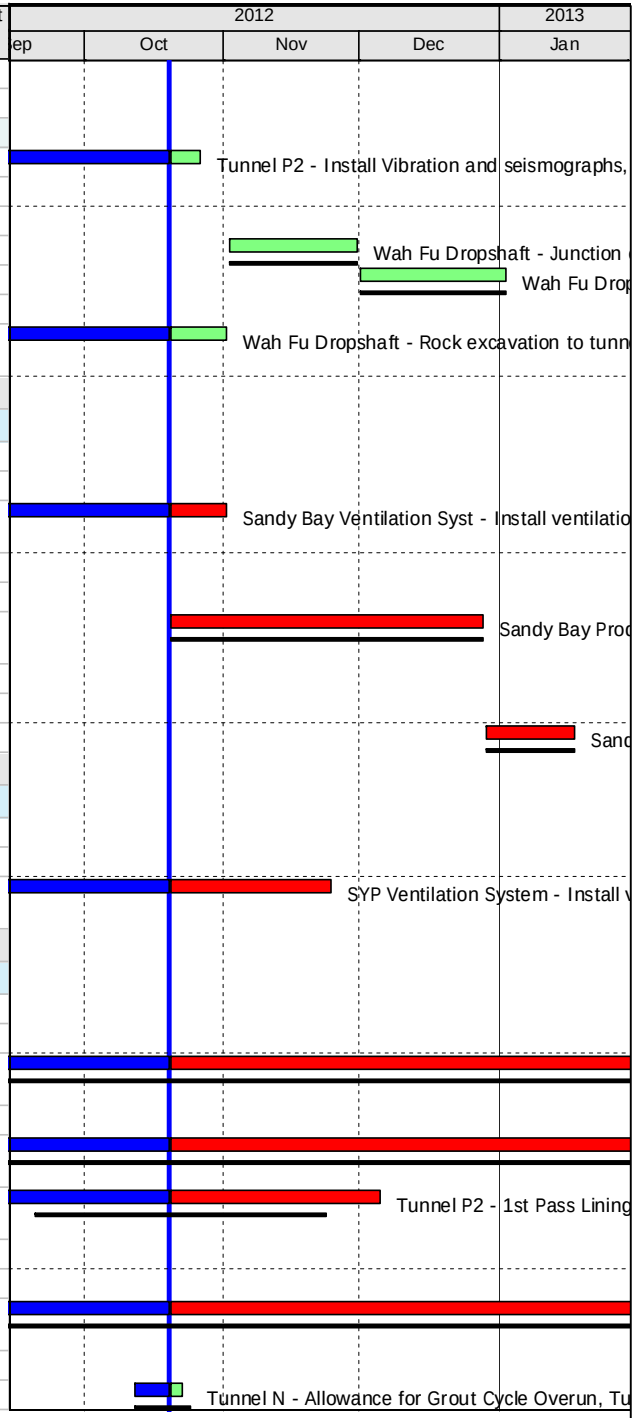
Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
9837	Wah Fu Adit /Temp Support - Prepare design submission	5d	5d	29-Oct-12	02-Nov-12	0%	140d
9839	Wah Fu Adit /Temp Support - ICE review and issue check certificate	5d	5d	05-Nov-12	09-Nov-12	0%	140d
9841	Wah Fu Adit /Temp Support - Review, comment, & consent by Engineer	28d	28d	10-Nov-12	07-Dec-12	0%	210d
Temporary Support - Sandy Bay Construction Adit							
10114	Sandy Bay Constn Adit /Temp Support - Submit to Engineer	0d	0d		29-Oct-12	0%	-33d
10116	Sandy Bay Constn Adit /Temp Support - Engineer's consent to proceed with construction	0d	0d		26-Nov-12	0%	-35d
9855	Sandy Bay Constn Adit /Temp Support - ICE review and issue check certificate	5d	5d	22-Oct-12	29-Oct-12	0%	-33d
9857	Sandy Bay Constn Adit /Temp Support - Review, comment, & consent by Engineer	28d	28d	30-Oct-12	26-Nov-12	0%	-52d
Temporary Support - Sai Ying Pun Construction Adit							
10132	SYP Constn Adit /Temp Support - Submit to Engineer	0d	0d		26-Oct-12	0%	-88d
10134	SYP Constn Adit /Temp Support - Engineer's consent to proceed with construction	0d	0d		23-Nov-12	0%	-89d
9863	SYP Constn Adit /Temp Support - ICE review and issue check certificate	4d	4d	22-Oct-12	26-Oct-12	0%	-88d
9865	SYP Constn Adit /Temp Support - Review, comment, & consent by Engineer	28d	28d	27-Oct-12	23-Nov-12	0%	-128d
Permanent Works - Tunnel M, N, P1 & P2 (Sai Ying Pun to Aberdeen)							
Tunnel Permanent Works - Permanent Lining Supports							
10152	Tunnel SYP-Aberd /Perm Lining - Engineer's consent to proceed with construction	0d	0d		05-Nov-12	0%	-6d
9873	Tunnel SYP-Aberd /Perm Lining - ICE review and issue check certificate	10d	10d	22-Oct-12	05-Nov-12	0%	-6d
9875	Tunnel SYP-Aberd /Perm Lining - Review, comment, resubmission & appvl by Engineer	90d	2d	02-Jul-10 A	21-Oct-12	98%	5d
Tunnel Permanent Works - 1st Pass Lining (Sai Ying Pun to Wah Fu)							
10170	Tunnels SYP-Wah Fu /1st Pass Lining - Engineer's consent to proceed with constn	0d	0d		17-Jan-13	0%	-70d
9885	Tunnels SYP-Wah Fu /1st Pass Lining - Review, comment, resubmission & appvl by Engineer	90d	90d	20-Oct-12	17-Jan-13	0%	-104d
Tunnel Permanent Works - Adit and Shaft Junction @ Wah Fu							
10188	Wah Fu Adit & Junction / Perm Works - Engineer's consent to proceed with constn	0d	0d		17-Jan-13	0%	-24d
9893	Wah Fu Adit & Junction / Perm Works - ICE review and issue check certificate	10d	5d	13-Jul-10 A	29-Oct-12	50%	31d
9895	Wah Fu Adit & Junction / Perm Works - Review, comment, resubmission & appvl by Engr	90d	90d	20-Oct-12	17-Jan-13	0%	-37d
Tunnel Permanent Works - Adit and Shaft Junction @ Cyberport							
10204	Cyberport Adit & Junction /Perm Works - Submit to Engineer	0d	0d		22-Oct-12	0%	-58d
9903	Cyberport Adit & Junction /Perm Works - ICE review and issue check certificate	10d	10d	22-Oct-12	05-Nov-12	0%	-6d
9905	Cyberport Adit & Junction /Perm Works - Review, comment, resubmission & appvl by Engr	90d	90d	22-Oct-12	19-Jan-13	0%	-85d



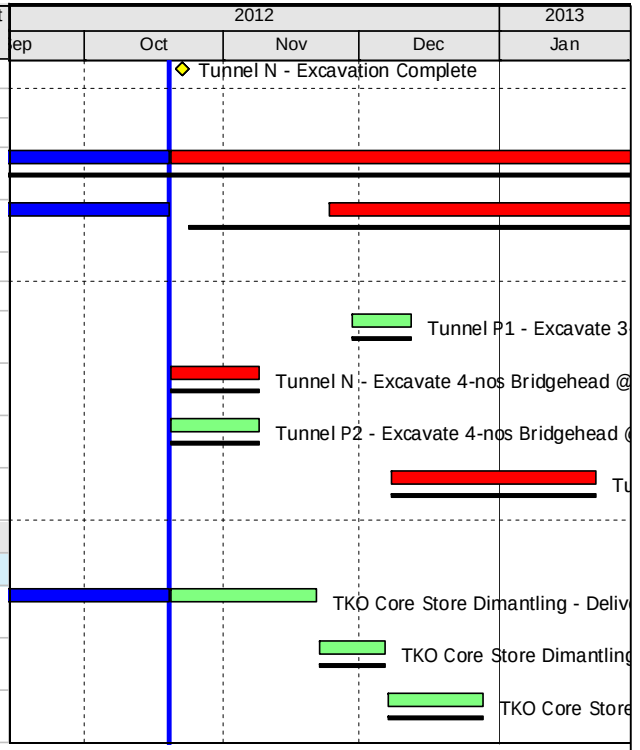
Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
PROCUREMENT							
Procurement; Manufacturing; Deliveries							
Raised Boring for Drop Shafts							
1910	Give Notice to Partner	30d	30d	25-Oct-12	05-Dec-12	0%	62d
1912	Mobilise Equipment from Australia	60d	60d	06-Dec-12	03-Feb-13	0%	94d
Temporary Radio Communication, CCTV Camera & Flood Control System (by FSD)							
1888	Radio Comm, CCTV Camera - Procurements, Fabrication & Delivery to site	180d	136d	12-Aug-11 A	04-Mar-13	24%	-174d
Temporary Water Supply (By FSD)							
1875	Temp Water Supply to Tunnel - Review, comments & consent by the Engineer	30d	30d	25-Oct-12	05-Dec-12	0%	-157d
1922	Temp Water Supply to Tunnel - Prepare and submit method statement to the Engineer	30d	2d	14-Oct-11 A	24-Oct-12	93%	-187d
1936	Temp Water Supply to Tunnel - Stainless Steel Pipes Design & Drawings Approval	30d	30d	25-Oct-12	05-Dec-12	0%	-157d
1938	Temp Water Supply to Tunnel - Procurements, Fabrication & Delivery to site	120d	120d	06-Dec-12	04-Apr-13	0%	-226d
E & M Works							
E&M Penstock, Ducks, & Cablings							
1877	Penstocks/Duct/Cabling - Contract Award	1d	1d	03-Jan-13	03-Jan-13	0%	-74d
1952	Penstocks/Duct/Cabling - Procure Sub-contractor & Award	60d	60d	20-Oct-12	02-Jan-13	0%	-74d
1954	Penstocks/Duct/Cabling - Prepare Design & Drawings	45d	45d	04-Jan-13	04-Mar-13	0%	-52d
E&M Misc Multi Covers, Vortex Pipes, Reserve Pipes & Sleeve							
1976	Vortex Pipes / Multi Covers - Prepare Design & Drawings	45d	45d	04-Jan-13	04-Mar-13	0%	-74d
Shaft Lining PC Pipes							
1862	PC Drop Pipes - Fabrication & Delivery	180d	100d	14-Nov-11 A	27-Jan-13	44%	-154d
Typical Lining Forms							
1846	Tunnel Lining Forms - Design & Drawings	60d	9d	22-Dec-11 A	31-Oct-12	85%	-183d
1848	Tunnel Lining Forms - Design & Drawings Approval	30d	30d	01-Nov-12	05-Dec-12	0%	-183d
1850	Tunnel Lining Forms - Review, comments & consent by the Engineer	30d	30d	02-Nov-12	06-Dec-12	0%	-184d
1852	Tunnel Lining Forms - Fabrication & Delivery	180d	180d	07-Dec-12	04-Jun-13	0%	-221d
1876	Tunnel Lining Forms - Prepare and submit method statement to the Engineer	45d	10d	22-Dec-11 A	01-Nov-12	78%	-184d
CONSTRUCTION							
ABERDEEN							
Construction Works							
Aberdeen Permanent Works - Production / Dropshaft							
Scum Chamber							
1421	Aberd Scum Chamber - Slurry Wall	20d	20d	20-Oct-12	13-Nov-12	0%	195d
1422	Aberd Scum Chamber - Sheetpile	6d	6d	14-Nov-12	20-Nov-12	0%	195d
WAH FU							
Construction Works							



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
	Site Establishment						
	Geotechnical Monitoring						
	Tunnel P2						
1443	Tunnel P2 - Install Vibration and seismographs	12d	5d	20-Dec-11 A	26-Oct-12	58%	9d
	Wah Fu Temporary Works - Dropshaft						
	Wah Fu Dropshaft - Junction Excavation						
1488	Wah Fu Dropshaft - Junction excavation	25d	25d	02-Nov-12	30-Nov-12	0%	68d
1504	Wah Fu Dropshaft - Junction Lining	25d	25d	01-Dec-12	02-Jan-13	0%	68d
	Wah Fu Dropshaft - Rock Excavation						
1618	Wah Fu Dropshaft - Rock excavation to tunnel level (D&B)	245d	10d	01-Sep-11 A	01-Nov-12	92.7%	68d
	SANDY BAY						
	Construction Works						
	Site Establishment						
	Temporary Ventilation Fan						
1403	Sandy Bay Ventilation Syst - Install ventilation ducts for Tunnel M (L=1987m)	120d	10d	03-Oct-11 A	01-Nov-12*	92%	-230d
	Sandy Bay Temporary Works - Production / Dropshaft						
	Shaft - Excavation of Rock to Tunnel Level Stage 2						
1713	Sandy Bay Prod /Drop Shaft - Stage 2 Rock excavation	70d	70d	20-Oct-12	28-Dec-12	0%	-157d
	Sandy Bay Permanent Works - Production / Dropshaft						
	Sandy Bay - Lower Dropshaft (-108m)						
1134	Sandy Bay Lower Dropshaft - Remove u/g facilities	16d	16d	29-Dec-12	17-Jan-13	0%	-130d
	SAI YING PUN						
	Construction Works						
	Site Establishment						
	Temporary Ventilation Fan						
1439	SYP Ventilation System - Install ventilation ducts for Tunnel M (L=1710m)	120d	30d	13-Mar-12 A	24-Nov-12	75%	-230d
	TUNNEL WORKS						
	Construction Works						
	Tunnel P1 & P2						
	Tunnel P1 - Excav (D&B) From Aberd to CH 450 Breakthrough, L=550m						
1334	Tunnel P1 - Excavation (D&B) From Aberdeen to Ch 600	254d	268d	26-Jun-12 A	18-Sep-13	10.2%	-248d
	Tunnel P2 - Excav (D&B) From Cyberport to past Wah Fu CH 450 Breakthrough, L=2,042m						
1340	Tunnel P2 - Excav (D&B) From Cyberport to past Wah Fu Ch 0500 Breakthrough	407d	262d	21-Sep-11 A	11-Sep-13	15.3%	-248d
1341	Tunnel P2 - 1st Pass Lining (925m), bet Ch P2525 to P1600 (Provisional)	53d	39d	22-Feb-12 A	05-Dec-12	26.5%	-25d
	Tunnel N, M and P2						
	Tunnel M (Drill & Blast) - From Sandy Bay to SYP Breakthrough, L=2,200m						
1350	Tunnel M - Excavation (D&B) From Sandy Bay to SYP Breakthrough	298d	219d	23-Mar-12 A	23-Jul-13	13.8%	-230d
	Tunnel N (Drill & Blast) - From Sandy Bay to Cyberport, L=779m						
1386	Tunnel N - Allowance for Grout Cycle Overun	10d	2d	12-Oct-12 A	22-Oct-12	80%	48d



Activity ID	Activity Name	Orig Dur	Rem Dur	Start	Finish	% Compl	Total Float
1387	Tunnel N - Excavation Complete	0d	0d		22-Oct-12	0%	48d
Tunnel M							
Tunnel M - Excav (D&B) From SYP to Sandy Bay Breakthrough, L=1,247m							
1376	Tunnel M - Excavation (D&B) From SYP to Sandy Bay Breakthrough	253d	220d	10-Aug-12 A	24-Jul-13	6.3%	-230d
1377	Tunnel M - 1st Pass Lining (600m), bet Ch M3700 to M3100m	100d	73d	14-Apr-12 A	27-Feb-13	26.9%	-107d
Temporary Radio Communication Sys and Water Supply (by FSD Requirements)							
FSD Bridgehead (For Emergency Services)							
1627	Tunnel P1 - Excavate 3-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	12d	12d	29-Nov-12	12-Dec-12	0%	258d
1629	Tunnel N - Excavate 4-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	16d	16d	20-Oct-12	08-Nov-12	0%	1d
1631	Tunnel P2 - Excavate 4-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	16d	16d	20-Oct-12	08-Nov-12	0%	280d
1633	Tunnel M - Excavate 9-nos Bridgehead @ 450m C/C (by D&B) and shotcrete	36d	36d	08-Dec-12	22-Jan-13	0%	-126d
MA ON SHAN - CORE STORE							
Dismantling of existing Core Store at TKO							
10272	TKO Core Store Dimantling - Delivery of core samples from TKO to MOS	27d	27d	20-Jul-11 A	21-Nov-12	0%	304d
10274	TKO Core Store Dimantling - Dismantling existing core store in phase A	13d	13d	22-Nov-12	06-Dec-12	0%	304d
10276	TKO Core Store Dimantling - Dismantling existing core store in phase B	17d	17d	07-Dec-12	28-Dec-12	0%	304d



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	√	

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	√	
15.70		Cultural Heritage	Monitoring of vibration limits shall be conducted and reported as a requirement of EM&A programme	During Blasting for tunnel, shafts, effluent conveyance system and disinfection facilities in the vicinity of the buildings/ structures	√	

APPENDIX E

WEATHER CONDITION DURING REPORTING PERIOD

Location	Wong Chuk Hang	
Date	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
1-Oct	80	12.0
2-Oct	90	12.0
3-Oct	140	8.3
4-Oct	90	7.8
5-Oct	90	11.9
6-Oct	90	12.5
7-Oct	90	12.4
8-Oct	100	9.7
9-Oct	80	5.7
10-Oct	240	6.8
11-Oct	230	6.2
12-Oct	140	5.9
13-Oct	210	4.9
14-Oct	130	5.6
15-Oct	140	6.8
16-Oct	90	6.2
17-Oct	360	8.9
18-Oct	90	9.2
19-Oct	90	12.4
20-Oct	80	10.5
21-Oct	90	9.2
22-Oct	160	6.0
23-Oct	100#	8.5#
24-Oct	90	11.9
25-Oct	100	11.9
26-Oct	90	16.0
27-Oct	90	18.8
28-Oct	100	17.6
29-Oct	90	22.0
30-Oct	90	15.5
31-Oct	20	12.3

Location	Green Island	
Date	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
1-Oct	50	28.5
2-Oct	050#	26.3#
3-Oct	***	***
4-Oct	***	***
5-Oct	***#	***#
6-Oct	50	26.7
7-Oct	050#	28.0#
8-Oct	50	19.9
9-Oct	50	14.8
10-Oct	30	17.6
11-Oct	50	15.5
12-Oct	50	14.8
13-Oct	180	13.3
14-Oct	***#	***#
15-Oct	180#	17.1#
16-Oct	50	14.6
17-Oct	20	27.0
18-Oct	50	24.5
19-Oct	50	32.8
20-Oct	50	25.8
21-Oct	50	20.6
22-Oct	190	14.3
23-Oct	060#	16.1#
24-Oct	50	28.0
25-Oct	50	27.1
26-Oct	50	34.3
27-Oct	050#	38.2#
28-Oct	50	38.8
29-Oct	50	42.8
30-Oct	050#	34.7#
31-Oct	30	29.7

less than 24 hourly observations a day
*** unavailable

APPENDIX F

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	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
Laser Dust Monitor	LD-3B-001	974350	15th October 2012	14th October 2013
Laser Dust Monitor	LD-3B-002	934393	15th October 2012	14th October 2013
High Volume Sampler	TE-5170	2098 (Cyberport PTW)	21st September 2012	20th November 2013
High Volume Sampler	TE-5170	2099 (Aberdeen PTW)	9th October 2012	10th December 2012
High Volume Sampler	TE-5170	2100 (Wah Fu PTW)	19th October 2012	18th December 2012
High Volume Sampler	TE-5170	2146 (Fung Mat Road Site)	13th September 2012	12th November 2012

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

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 77412000 · Fax: +45 45801405 · 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	**:**	**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

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

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

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

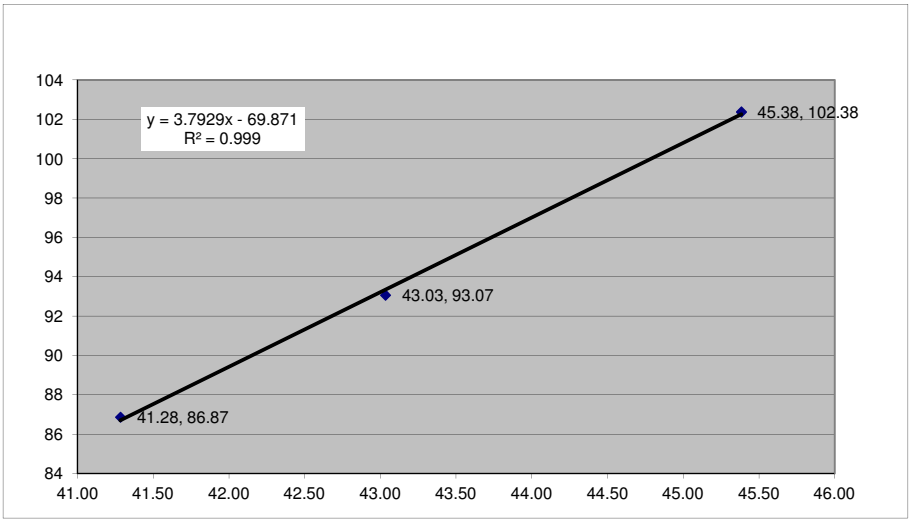
Calibration Result

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

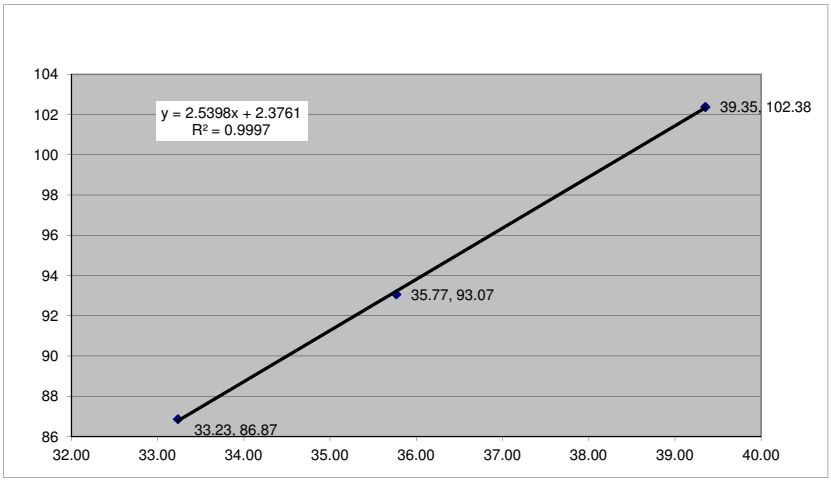
Calibration Result

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 (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	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 G

MONITORING SCHEDULE FOR THE PRESENT AND NEXT REPORTING PERIOD

Monitoring Schedule during the Reporting Period

Parameter	Monitoring Station	Date
Noise	M3, Normal Daytime	5-Oct-12 ; 11-Oct-12 ; 17-Oct-12 and 22-Oct-12
	M3, Holiday Daytime	14-Oct-12 and 28-Oct-12
	M3, Evening Time	4-Oct-12 ; 9-Oct-12 ; 23-Oct-12
	M3, Night-time	4-Oct-12 and 25-Oct-12
	M5, Normal Daytime	4-Oct-12 ; 10-Oct-12 ; 16-Oct-12 and 22-Oct-12
	M5a, Holiday Daytime	7-Oct-12
	M5a, Evening Time	10-Oct-12
	M5a, Night-time	10-Oct-12
	M6a, Normal Daytime	3-Oct-12 ; 9-Oct-12 ; 15-Oct-12 ; 25-Oct-12 and 31-Oct-12
	M6a, Holiday Daytime	21-Oct-12
	M6a, Evening Time	17-Oct-12
	M6a, Night-time	17-Oct-12
	M7a,Normal Daytime	3-Oct-12 ; 9-Oct-12 ; 15-Oct-12 ; 25-Oct-12 and 31-Oct-12
	M8,Normal Daytime	4-Oct-12 ; 10-Oct-12 ; 16-Oct-12 and 22-Oct-12
	M8, Holiday Daytime	14-Oct-12
Air: 1-hr TSP	CM_FM1	3-Oct-12 ; 8-Oct-12 ; 12-Oct-12 ; 18-Oct-12 ; 24-Oct-12 and 30-Oct-12
	CM_CB1a	4-Oct-12 ; 10-Oct-12 ; 16-Oct-12 ; 22-Oct-12 and 26-Oct-12
	CM_WF1a	3-Oct-12 ; 9-Oct-12 ; 15-Oct-12 ; 19-Oct-12 ; 25-Oct-12 and 31-Oct-12
	CM_AB1a	4-Oct-12 ; 10-Oct-12 ; 16-Oct-12 ; 22-Oct-12 and 26-Oct-12
Air: 24-hrs TSP	CM_FM1	3-Oct-12 ; 8-Oct-12 ; 12-Oct-12 ; 18-Oct-12 ; 24-Oct-12 and 30-Oct-12
	CM_CB1a	3-Oct-12 ; 8-Oct-12 ; 12-Oct-12 ; 18-Oct-12 ; 24-Oct-12 and 30-Oct-12
	CM_WF1a	3-Oct-12 ; 8-Oct-12 ; 12-Oct-12 ; 18-Oct-12 ; 24-Oct-12 and 30-Oct-12
	CM_AB1a	3-Oct-12 ; 8-Oct-12 ; 12-Oct-12 and 18-Oct-12 ; 24-Oct-12 and 30-Oct-12

Proposed Monitoring Schedule for Coming Reporting Period

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

APPENDIX H

NOISE MONITORING RESULT

Daytime Noise Monitoring Results -- Normal weekday

Station M3, Kwan Yick building(*)

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
5-Oct-12	10:32	11:02	Sunny	67.1	68.5	65.8	No outdoor construction	Traffic Noise	-	26.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
11-Oct-12	10:21	10:51	Sunny	67.3	68.9	66.2	No outdoor construction	Traffic Noise	-	30.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
17-Oct-12	13:12	13:42	Sunny	67.4	69.0	66.2	No outdoor construction	Traffic Noise	-	28.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
22-Oct-12	14:20	14:50	Sunny	67.2	68.8	65.8	No outdoor construction	Traffic Noise	-	26.0	0.5	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
			Min.	67.1									
			Max.	67.4									

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

Station M5, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Oct-12	10:10	10:40	Sunny	63.9	66.5	59.3	Rock out and loading	Road traffic noise	N.A	26.0	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
10-Oct-12	13:39	14:09	Sunny	64.4	67.4	57.8	loading	Road traffic noise	N.A	26.3	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
16-Oct-12	13:31	14:01	Sunny	63.6	66.3	57.4	loading	Road traffic noise	N.A	26.2	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
22-Oct-12	9:31	10:01	Sunny	66.1	67.2	59.9	Tunnel works	Road traffic noise	N.A	25.7	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	63.6									
			Max.	66.1									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq *	L10	L90							
3-Oct-12	10:19	10:49	Sunny	57.2	56.9	50.4	Rock out	N.A	Free-field measurement, +3dB correction.	26.1	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
9-Oct-12	14:00	14:30	Sunny	63.9	66.5	59.3	Rock out	N.A	Free-field measurement, +3dB correction.	26.2	<5	B&K 2238 S/N : 238180	B&K 4231 S/N: 3003246
15-Oct-12	10:58	11:28	Sunny	57.9	58.8	52.3	Rock out	N.A	Free-field measurement, +3dB correction.	26.3	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
25-Oct-12	14:46	15:16	Sunny	55.9	57.5	48.8	Rock out	N.A	Free-field measurement, +3dB correction.	25.8	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
31-Oct-12	10:40	11:10	Cloudy	60.4	61.3	58.4	Rock out	N.A	Free-field measurement, +3dB correction.	19.8	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	55.9									
			Max.	63.9									

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

Station M7a, Wah Ming House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
3-Oct-12	9:17	9:47	Sunny	64.0	65.2	62.4	Operation of Mobile crane	N.A	N.A	26.1	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
9-Oct-12	13:02	13:32	Sunny	63.1	64.2	60.3	Loading and shorcrete	N.A	N.A	26.2	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
15-Oct-12	9:54	10:24	Sunny	61.2	62.1	59.7	Shorcrete	N.A	N.A	26.3	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
25-Oct-12	13:21	13:51	Sunny	60.3	61.5	58.6	No major construction works	N.A	N.A	25.8	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
31-Oct-12	9:14	9:44	Cloudy	60.9	61.7	59.5	No major construction works	N.A	N.A	19.8	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	60.3									
			Max.	64.0									

Station M8, Wah Lai House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 30 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Oct-12	14:19	14:49	Sunny	65.6	66.9	63.4	Welding and modify ventatlation system	Road Traffic noise from Shek Pai Wan Road	N.A	26.0	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
10-Oct-12	9:36	10:06	Sunny	66.6	68.0	64.2	Welding and constuction the footing of Tower crane	Road Traffic noise from Shek Pai Wan Road	N.A	26.3	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
16-Oct-12	9:48	10:18	Sunny	66.2	67.6	63.9	Welding and constuction the footing of Tower crane	Road Traffic noise from Shek Pai Wan Road	N.A	26.2	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
22-Oct-12	13:28	13:58	Sunny	66.4	67.7	64.4	rock out	Road Traffic noise from Shek Pai Wan Road	N.A	25.7	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	65.6									
			Max.	66.6									

Restricted Hours Noise Monitoring Results -- Evening Time and Daytime on Public Holiday

Station M3, Kwan Yick building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
14-Oct-12	15:00	15:15	Sunny	66.2	67.7	64.4	No major construction works	Traffic noise	-	25.7	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
28-Oct-12	13:38	13:53	Sunny	68.1	70.2	64.5	No major construction works	Traffic noise	-	26.2	<5	B&K 2238 S/N: 2381580	B&K 4231 S/N: 3003246
			Min.	66.2									
			Max.	68.1									

Remark: The data (14 October) was provided by Contract No. DC/2007/23. Calibration certificates for the noise meter(s) and calibrator(s) used were included in the corresponding Monthly EM&A Report for this Contract

Station M5a, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
7-Oct-12	16:35	16:50	Sunny	66.3	67.7	54.8	No major construction works	Road traffic noise at San Wan Drive	N.A	26.6	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	66.3									
			Max.	66.3									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
21-Oct-12	14:48	15:03	Sunny	56.1	57.0	52.0	No major construction works	Local traffics of Aegean Terrace	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	28.5	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	56.1									
			Max.	56.1									

Station M8, Wah Lai House

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
14-Oct-12	13:40	13:55	Sunny	63.4	63.7	60.4	No major constructin works	Road Traffic noise from Shek Pai Wan Road	N.A	25.7	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
			Min.	63.4									
			Max.	63.4									

Restricted Hours Noise Monitoring Results -- Evening time

Station M3, Kwan Yick building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Oct-12	22:45	23:00	Fine	66.1	67.5	63.8	No outdoor construction noise	Mainly traffic noise	-	26.0	<5	B&K 2238 S/N: 2381580	B&K 4231 S/N: 3003246
9-Oct-12	20:43	20:58	Fine	64.8	66.7	62.8	No outdoor construction noise	Mainly traffic noise	-	28.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
23-Oct-12	19:11	19:26	Fine	63.0	65.1	60.4	No outdoor construction noise	Mainly traffic noise	-	26.0	0.3	RION- NL31 (S/N 00603867)	RION - NC73 (S/N 10997142)
25-Oct-12	22:45	23:00	Fine	64.9	65.9	63.3	No outdoor construction noise	Mainly traffic noise	-	25.8	<5	B&K 2238 S/N: 2381580	B&K 4231 S/N: 3003246
			Min.	64.4									
			Max.	65.7									

[1] The data (M3_Evening Time) of 9 and 23 October were provided by Contract No. DC/2007/23. Calibration certificates for the noise meter(s) and calibrator(s) used were included in the corresponding Monthly EM&A Report for this Contract

Station M5a, Chuk Lam Ming Tong

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
10-Oct-12	22:45	23:00	Fine	60.8	62.0	50.0	Works in tunnel	Road traffic at San Wan Drive	According to contractor, general construction works was in process accordance to CNP.	26.3	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	60.8									
			Max.	60.8									

Station M6a, Aegean Terrace

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
17-Oct-12	22:45	23:00	Fine	51.2	53.3	48.4	Works inside tunnel	Local traffics of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	26.5	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	51.2									
			Max.	51.2									

Restricted Hours Noise Monitoring Results -- Night time

Station M3, Kwan Yick Building

Date	Start Time	End Time	Weather	Noise level (dB(A)), 15 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
4-Oct-12	23:00	23:15	Fine	66.8	67.4	63.1	No outdoor construction noise	Mainly traffic noise	-	26.0	<5	B&K 2238 S/N: 2808432	B&K 4231 S/N: 3003246
25-Oct-12	23:00	23:15	Fine	66.0	67.2	63.3	No outdoor construction noise	Mainly traffic noise	-	25.8	<5	B&K 2238 S/N: 2385180	B&K 4231 S/N: 3003246
			Min.	**66.0**									
			Max.	**66.8**									

Station M5a, Chuk Lam Ming Tong

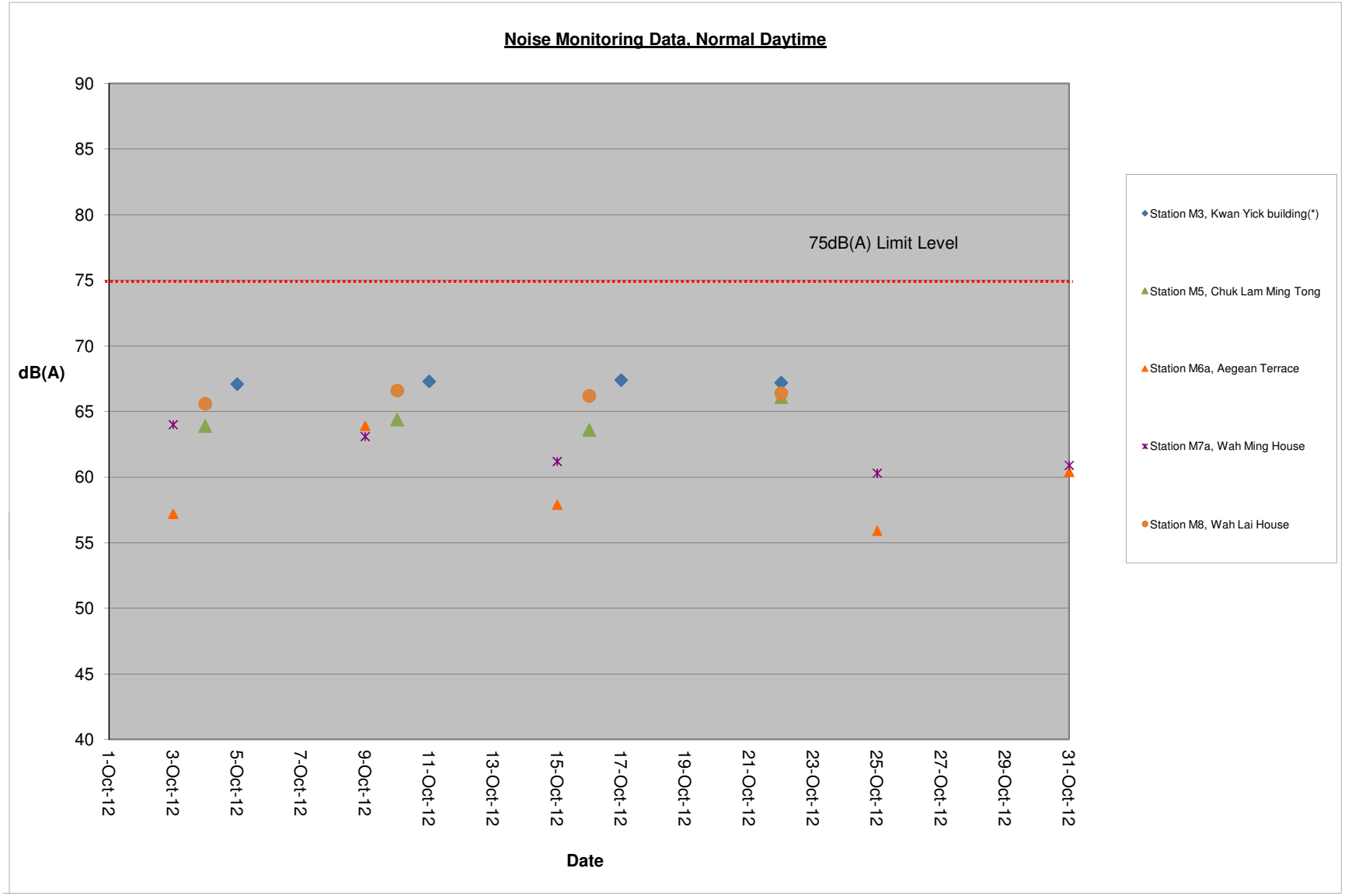
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
10-Oct-12	23:00	23:15	Fine	62.0	61.5	50.4	No major construction workd on surface	Traffic noise at San Wan Drive	N.A	26.8	<5	B&K 2238 S/N : 2808432	B&K 4231 S/N: 3003246
			Min.	**62.0**									
			Max.	**62.0**									

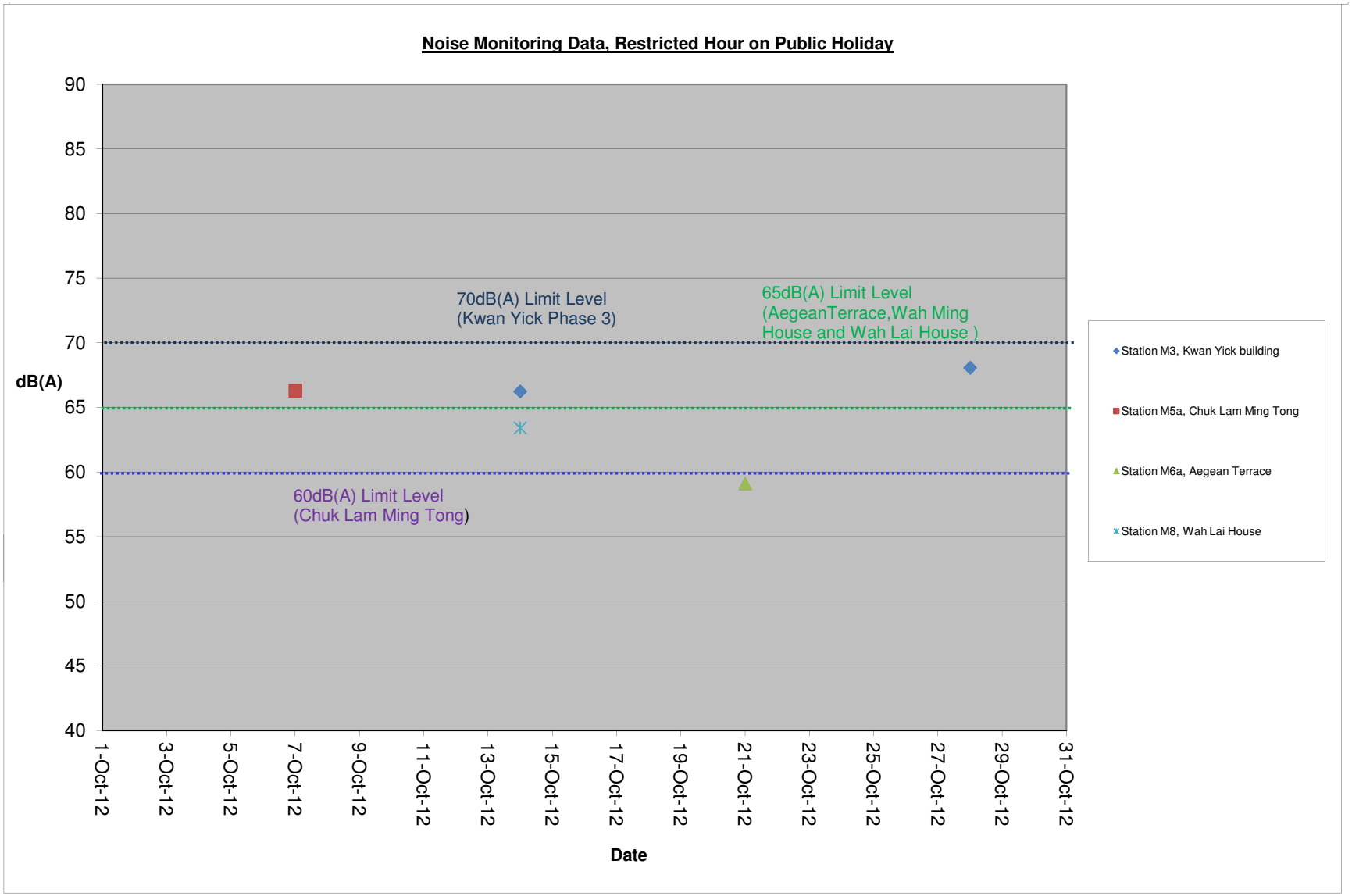
Station M6a, Aegean Terrace

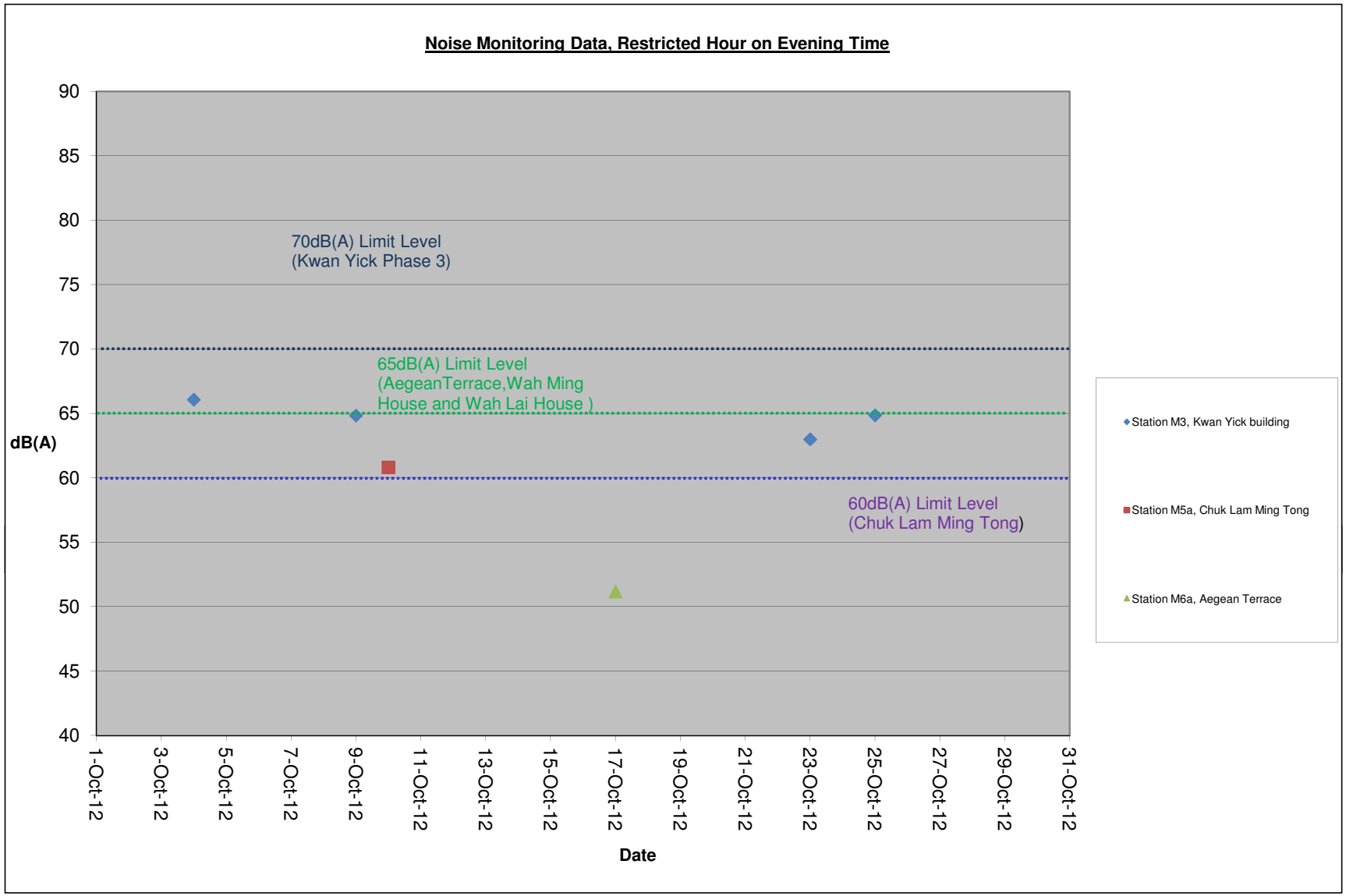
Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s)	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
17-Oct-12	23:00	23:15	Fine	50.9	53.6	46.5	Works inside tunnel	Local traffic of Aegean Terence	According to contractor, general construction works was in process accordance to CNP. Free-field measurement, +3dB correction.	26.5	<5	B&K 2238 S/N : 2381580	B&K 4231 S/N: 3003246
			Min.	**50.9**									
			Max.	**50.9**									

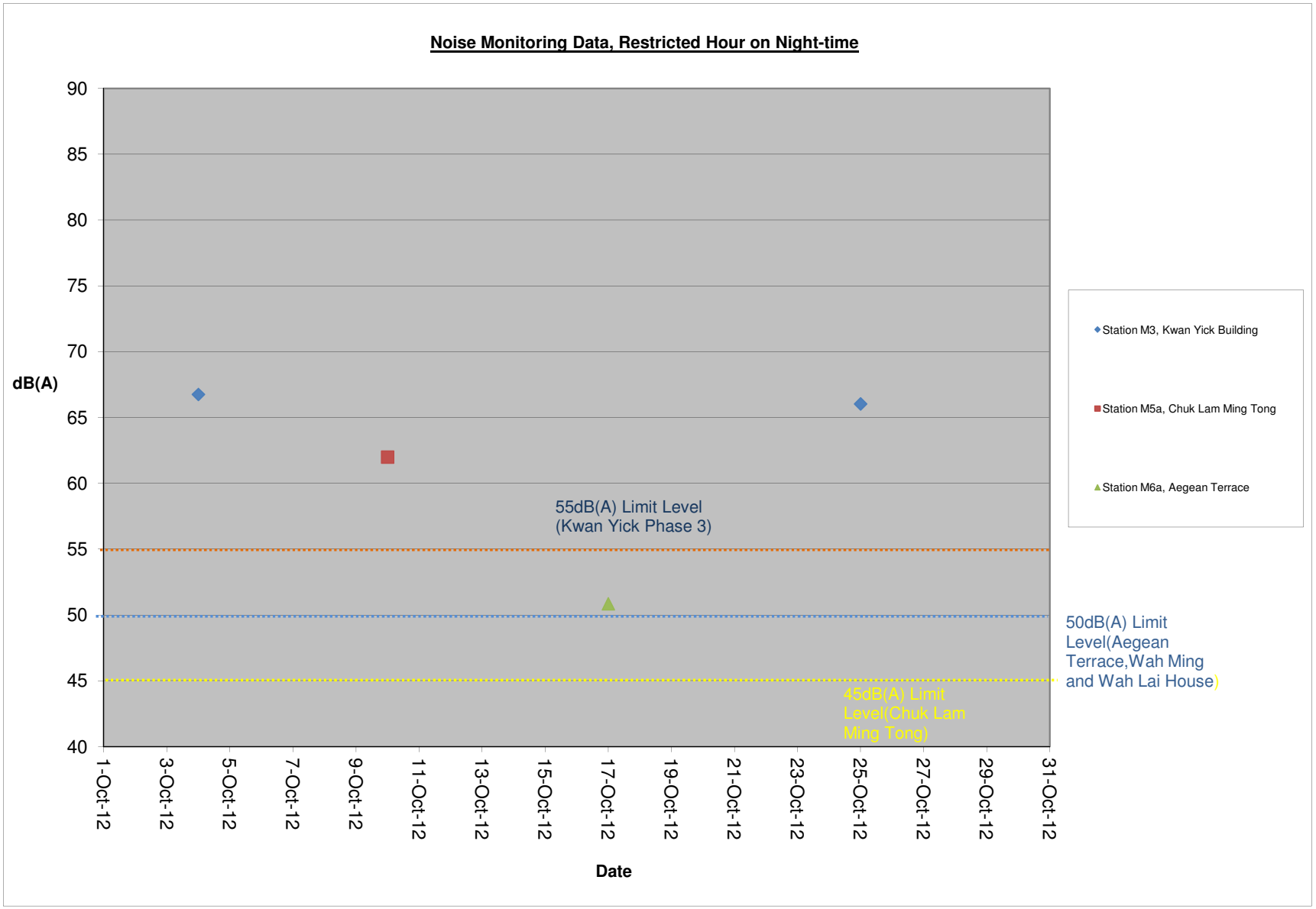
APPENDIX I

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-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Station M3, Kwan Yick building(*)
Station M5, Chuk Lam Ming Tong
Station M6a, Aegean Terrace
Station M7a, Wah Ming House
Station M8, Wah Lai House


Noise Monitoring Data, Restricted Hour on Public Holiday
90
85
80
75
70
65
60
55
50
45
40
dB(A)
70dB(A) Limit Level
(Kwan Yick Phase 3)
65dB(A) Limit Level
(AegeanTerrace,Wah Ming
House and Wah Lai House)
60dB(A) Limit Level
(Chuk Lam Ming Tong)
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Station M3, Kwan Yick building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace
Station M8, Wah Lai House


Noise Monitoring Data, Restricted Hour on Evening Time
90
85
80
75
70
65
60
55
50
45
40
dB(A)
70dB(A) Limit Level
(Kwan Yick Phase 3)
65dB(A) Limit Level
(AegeanTerrace,Wah Ming
House and Wah Lai House)
60dB(A) Limit Level
(Chuk Lam Ming Tong)
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Station M3, Kwan Yick building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace


Noise Monitoring Data, Restricted Hour on Night-time
dB(A)
90
85
80
75
70
65
60
55
50
45
40
55dB(A) Limit Level (Kwan Yick Phase 3)
50dB(A) Limit Level(Aegean Terrace,Wah Ming and Wah Lai House)
45dB(A) Limit Level(Chuk Lam Ming Tong)
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Station M3, Kwan Yick Building
Station M5a, Chuk Lam Ming Tong
Station M6a, Aegean Terrace

APPENDIX J

AIR QUALITY MONITORING RESULT

1-hour TSP Monitoring Results

Station CM_FM1, Western Wholesale Food Market

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed (m/s)	Sampler ID	Filter ID
3-Oct-12	13:30	14:30	Sunny	136.5	331.9	500	operation of excatavor	26.1	<5	Western Wholesale Food Market	1215
3-Oct-12	14:45	15:45	Sunny	163.8	331.9	500	operation of excatavor	26.1	<5	Western Wholesale Food Market	1216
3-Oct-12	15:55	16:55	Sunny	156.3	331.9	500	operation of excatavor	26.1	<5	Western Wholesale Food Market	1218
8-Oct-12	9:42	10:42	Sunny	304.7	331.9	500	operation of excatavor	26.5	<5	Western Wholesale Food Market	1222
8-Oct-12	11:45	12:45	Sunny	154.6	331.9	500	operation of excatavor	26.5	<5	Western Wholesale Food Market	1223
8-Oct-12	13:00	14:00	Sunny	159.1	331.9	500	operation of excatavor	26.5	<5	Western Wholesale Food Market	1224
12-Oct-12	14:43	15:43	Sunny	162.0	331.9	500	operation of excatavor	25.3	<5	Western Wholesale Food Market	1229
12-Oct-12	15:45	16:45	Sunny	157.4	331.9	500	operation of excatavor	25.3	<5	Western Wholesale Food Market	1230
12-Oct-12	16:50	17:50	Sunny	162.0	331.9	500	operation of excatavor	25.3	<5	Western Wholesale Food Market	1231
18-Oct-12	8:00	9:00	Sunny	172.5	331.9	500	Tunnel Works	24.6	<5	Western Wholesale Food Market	1236
18-Oct-12	9:43	10:43	Sunny	172.1	331.9	500	Tunnel Works	24.6	<5	Western Wholesale Food Market	1237
18-Oct-12	10:47	11:47	Sunny	104.2	331.9	500	Tunnel Works	24.6	<5	Western Wholesale Food Market	1238

24-Oct-12	13:00	14:00	Sunny	110.6	331.9	500	Tunnel Works	25.6	<5	Western Wholesale Food Market	1241
24-Oct-12	14:12	15:12	Sunny	101.2	331.9	500	Tunnel Works	25.6	<5	Western Wholesale Food Market	1242
24-Oct-12	15:30	16:30	Sunny	96.6	331.9	500	Tunnel Works	25.6	<5	Western Wholesale Food Market	1245
30-Oct-12	8:00	9:00	Shower	330.5	331.9	500	Tunnel Works	23.2	<5	Western Wholesale Food Market	1250
30-Oct-12	13:00	14:00	Shower	96.6	331.9	500	Tunnel Works	23.2	<5	Western Wholesale Food Market	1251
30-Oct-12	14:30	15:30	Shower	52.2	331.9	500	Tunnel Works	23.2	<5	Western Wholesale Food Market	1252
			Min.	**52.2**							
			Max.	**330.5**							
			Average	**155**							

Station CM_CB1a, The Arcade, Cyberport

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed (m/s)	Sampler ID	Filter ID
4-Oct-12	9:40	10:40	Sunny	227.3	279.9	500	Shotcrete	26	<5	LD-3B-001	N/A
4-Oct-12	10:40	11:40	Sunny	170.2	279.9	500	Shotcrete	26	<5	LD-3B-001	N/A
4-Oct-12	13:00	14:00	Sunny	160.4	279.9	500	Shotcrete	26	<5	LD-3B-001	N/A
10-Oct-12	13:00	14:00	Sunny	182.3	279.9	500	Rock out	26.3	<5	LD-3B-001	N/A
10-Oct-12	14:00	15:00	Sunny	207.6	279.9	500	Rock out	26.3	<5	LD-3B-001	N/A
10-Oct-12	13:00	14:00	Sunny	227.3	279.9	500	Rock out	26.3	<5	LD-3B-001	N/A
16-Oct-12	13:00	14:00	Sunny	106.5	279.9	500	Rock out	26.2	<5	LD-3B-001	N/A
16-Oct-12	14:00	15:00	Sunny	105.4	279.9	500	Rock out	26.2	<5	LD-3B-001	N/A
16-Oct-12	13:00	14:00	Sunny	112.0	279.9	500	Rock out	26.2	<5	LD-3B-001	N/A
22-Oct-12	9:09	10:09	Sunny	90.1	279.9	500	Rock out	25.7	<5	LD-3B-001	N/A
22-Oct-12	10:09	11:09	Sunny	87.9	279.9	500	Rock out	25.7	<5	LD-3B-001	N/A
22-Oct-12	13:00	14:00	Sunny	83.5	279.9	500	Rock out	25.7	<5	LD-3B-001	N/A
26-Oct-12	13:00	14:00	Sunny	112.0	279.9	500	Rock out	25.1	<5	LD-3B-001	N/A
26-Oct-12	14:00	15:00	Sunny	123.0	279.9	500	Rock out	25.1	<5	LD-3B-001	N/A
26-Oct-12	13:00	14:00	Sunny	175.7	279.9	500	Rock out	25.1	<5	LD-3B-001	N/A
			Min.	**83.5**							
			Max.	**227.3**							
			Average	**145**							

Station CM_WF1a, The Wah Ming House

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed (m/s)	Sampler ID	Filter ID
3-Oct-12	9:24	10:24	Sunny	87.7	284.5	500	Operation of mobile crane	26.1	<5	LD-3B-002	N/A
3-Oct-12	10:24	11:24	Sunny	84.9	284.5	500	Operation of mobile crane	26.1	<5	LD-3B-002	N/A
3-Oct-12	11:24	12:24	Sunny	88.7	284.5	500	Operation of mobile crane	26.1	<5	LD-3B-002	N/A
9-Oct-12	13:04	14:04	Sunny	101.1	284.5	500	Shotcreteing	26.2	<5	LD-3B-002	N/A
9-Oct-12	14:04	15:04	Sunny	104.9	284.5	500	Shotcreteing	26.2	<5	LD-3B-002	N/A
9-Oct-12	15:04	16:04	Sunny	114.5	284.5	500	Shotcreteing	26.2	<5	LD-3B-002	N/A
15-Oct-12	9:00	10:00	Sunny	162.1	284.5	500	Shotcreteing	26.3	<5	LD-3B-002	N/A
15-Oct-12	10:00	11:00	Sunny	74.4	284.5	500	Shotcreteing	26.3	<5	LD-3B-002	N/A
15-Oct-12	11:00	12:00	Sunny	55.3	284.5	500	Shotcreteing	26.3	<5	LD-3B-002	N/A
19-Oct-12	9:11	10:11	Sunny	107.6	284.5	500	Shotcreteing	24.6	<5	LD-3B-001	N/A
19-Oct-12	10:11	11:11	Sunny	120.8	284.5	500	Shotcreteing	24.6	<5	LD-3B-001	N/A
19-Oct-12	11:11	12:11	Sunny	119.7	284.5	500	Shotcreteing	24.6	<5	LD-3B-001	N/A
25-Oct-12	13:26	14:26	Sunny	181.2	284.5	500	No major construction works	25.8	<5	LD-3B-001	N/A
25-Oct-12	14:26	15:26	Sunny	163.6	284.5	500	No major construction works	25.8	<5	LD-3B-001	N/A
25-Oct-12	15:26	16:26	Sunny	160.4	284.5	500	No major construction works	25.8	<5	LD-3B-001	N/A
31-Oct-12	14:00	15:00	Sunny	101.0	284.5	500	No major construction works	19.8	<5	LD-3B-001	N/A
31-Oct-12	15:00	16:00	Sunny	85.7	284.5	500	No major construction works	19.8	<5	LD-3B-001	N/A
31-Oct-12	16:00	17:00	Sunny	97.7	284.5	500	No major construction works	19.8	<5	LD-3B-001	N/A
			Min.	**55.3**							
			Max.	**181.2**							
			Average	**112**							

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

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (°C)	Wind Speed (m/s)	Sampler ID	Filter ID
4-Oct-12	13:11	14:11	Sunny	201.0	282.5	500	Welding	26	<5	LD-3B-001	N/A
4-Oct-12	14:11	15:11	Sunny	180.1	282.5	500	Welding	26	<5	LD-3B-001	N/A
4-Oct-12	15:11	16:11	Sunny	169.1	282.5	500	Welding	26	<5	LD-3B-001	N/A
10-Oct-12	9:16	10:16	Sunny	238.3	282.5	500	Welding and constuction the footing of Tower crane	26.3	<5	LD-3B-001	N/A
10-Oct-12	10:16	11:16	Sunny	212.0	282.5	500	Welding and constuction the footing of Tower crane	26.3	<5	LD-3B-001	N/A
10-Oct-12	11:16	12:16	Sunny	210.9	282.5	500	Welding and constuction the footing of Tower crane	26.3	<5	LD-3B-001	N/A
16-Oct-12	9:20	10:20	Sunny	221.9	282.5	500	Rock out	26.2	<5	LD-3B-001	N/A
16-Oct-12	10:20	11:20	Sunny	183.4	282.5	500	Rock out	26.2	<5	LD-3B-001	N/A
16-Oct-12	11:20	12:20	Sunny	153.8	282.5	500	Rock out	26.2	<5	LD-3B-001	N/A
22-Oct-12	13:00	14:00	Sunny	82.4	282.5	500	Rock out	25.7	<5	LD-3B-001	N/A
22-Oct-12	14:00	15:00	Sunny	80.2	282.5	500	Rock out	25.7	<5	LD-3B-001	N/A
22-Oct-12	15:00	16:00	Sunny	78.0	282.5	500	Rock out	25.7	<5	LD-3B-001	N/A

26-Oct-12	9:26	10:26	Sunny	138.4	282.5	500	Rock out and operating of excavator	25.1	<5	LD-3B-001	N/A
26-Oct-12	10:26	11:26	Sunny	142.8	282.5	500	Rock out and operating of excavator	25.1	<5	LD-3B-001	N/A
26-Oct-12	11:26	12:26	Sunny	129.6	282.5	500	Rock out and operating of excavator	25.1	<5	LD-3B-001	N/A
			Min.	**78.0**							
			Max.	**238.3**							
			Average	**161**							

24-hour TSP Monitoring Results

Station CM_FM1, Western Wholesale Food Market

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
3-Oct-12	17:05	4-Oct-12	17:05	Sunny	2.6488	2.8542	4718.35	4742.35	24.00	1.0986	1.0986	1.0986	130	188.5	260	Rock out	Western Wholesale Food Market	1217
8-Oct-12	14:10	9-Oct-12	14:10	Sunny	2.6524	2.8421	4745.35	4769.35	24.00	1.0996	1.0996	1.0996	120	188.5	260	Rock out	Western Wholesale Food Market	1225
12-Oct-12	18:00	13-Oct-12	18:00	Sunny	2.6467	2.861	4772.35	4796.35	24.00	1.1010	1.1010	1.1010	135	188.5	260	Rock out	Western Wholesale Food Market	1232
18-Oct-12	11:57	19-Oct-12	11:57	Sunny	2.7156	2.9094	4799.35	4823.35	24.00	1.1039	1.1039	1.1039	122	188.5	260	Works in tunnel	Western Wholesale	1239
24-Oct-12	16:37	25-Oct-12	16:37	Sunny	2.7075	2.8506	4826.35	4850.35	24.00	1.1015	1.1015	1.1015	90	188.5	260	Operation of excavator	Western Wholesale Food Market	1246
30-Oct-12	15:50	31-Oct-12	15:50	Shower	2.6783	2.7574	4853.35	4877.35	24.00	1.1043	1.1043	1.1043	50	188.5	260	Operation of excavator	Western Wholesale Food Market	1253
												Min.	**50**					
												Max.	**135**					
												Average	**108**					

Station CM_CB1a, The Arcade, Cyberport

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
3-Oct-12	8:00	4-Oct-12	8:00	Sunny	2.6575	2.7961	4744.33	4768.33	24.00	1.0643	1.0643	1.0643	90	178.1	260	Operation of gantry and loading	Arcade	1214
8-Oct-12	8:00	9-Oct-12	8:00	Sunny	2.666	2.8144	4768.33	4792.33	24.00	1.0652	1.0652	1.0652	97	178.1	260	Operation of gantry and loading	Arcade	1221
12-Oct-12	8:00	13-Oct-12	8:00	Sunny	2.6513	2.8281	4792.33	4816.33	24.00	1.0665	1.0665	1.0665	115	178.1	260	Operation of gantry and loading	Arcade	1228
18-Oct-12	8:00	19-Oct-12	8:00	Sunny	2.6292	2.7984	4819.34	4843.34	24.00	1.0692	1.0692	1.0692	110	178.1	260	rock out	Arcade	1235
24-Oct-12	8:00	25-Oct-12	8:00	Sunny	2.6935	2.813	4843.34	4867.34	24.00	1.0670	1.0670	1.0670	78	178.1	260	rock out	Arcade	1243
30-Oct-12	8:05	31-Oct-12	8:05	Shower	2.7112	2.7692	4867.35	4891.35	24.00	1.0696	1.0696	1.0696	38	178.1	260	rock out	Arcade	1248
												Min.	**38**					
												Max.	**115.1**					
												Average	**87.9**					

Station CM_WF1a, The Wah Ming House

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
3-Oct-12	8:00	4-Oct-12	8:00	Sunny	2.6553	2.8197	4418.79	4442.79	24.00	1.0744	1.0744	1.0744	106	185.3	260	Operation of mobile crane	Wah Fu	1212
8-Oct-12	8:00	9-Oct-12	8:00	Sunny	2.6555	2.8055	4442.79	4466.79	24.00	1.0753	1.0753	1.0753	97	185.3	260	Operation of mobile crane	Wah Fu	1219
12-Oct-12	8:00	13-Oct-12	8:00	Sunny	2.6665	2.8448	4466.79	4490.79	24.00	1.0723	1.0723	1.0723	115	185.3	260	Loading	Wah Fu	1226
18-Oct-12	8:00	19-Oct-12	8:00	Sunny	2.7141	2.878	4493.79	4517.79	24.00	0.6708	0.6708	0.6708	170	185.3	260	Loading	Wah Fu	1233
24-Oct-12	8:00	25-Oct-12	8:00	Sunny	2.7092	2.8246	4493.79	4517.79	24.00	0.7369	0.7369	0.7369	109	185.3	260	Loading	Wah Fu	1240

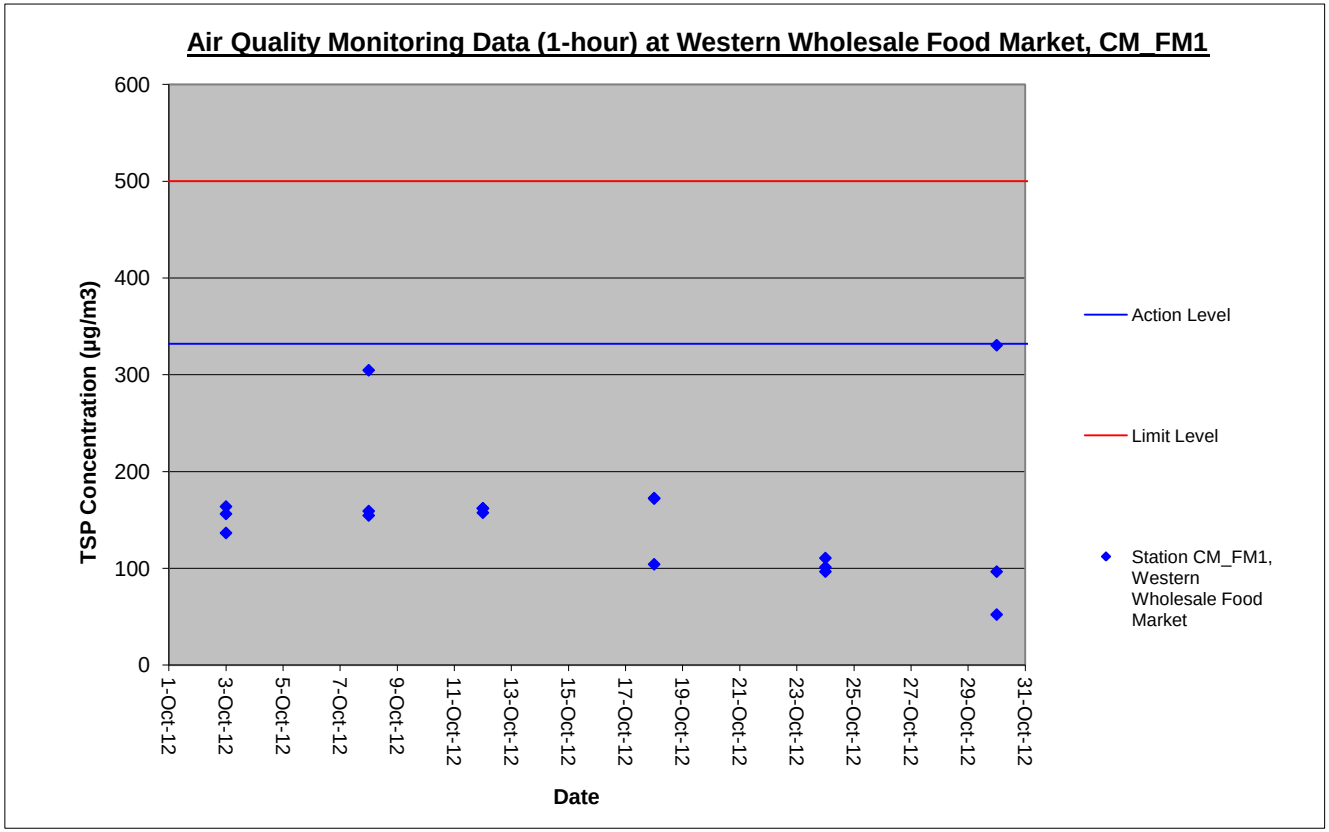
30-Oct-12	8:00	31-Oct-12	8:00	shower	2.7109	2.7654	4541.80	4565.80	24.00	0.7363	0.7363	0.7363	51	185.3	260	Loading	Wah Fu	1247
												Min.	**51**					
												Max.	**170**					
												Average	**108**					

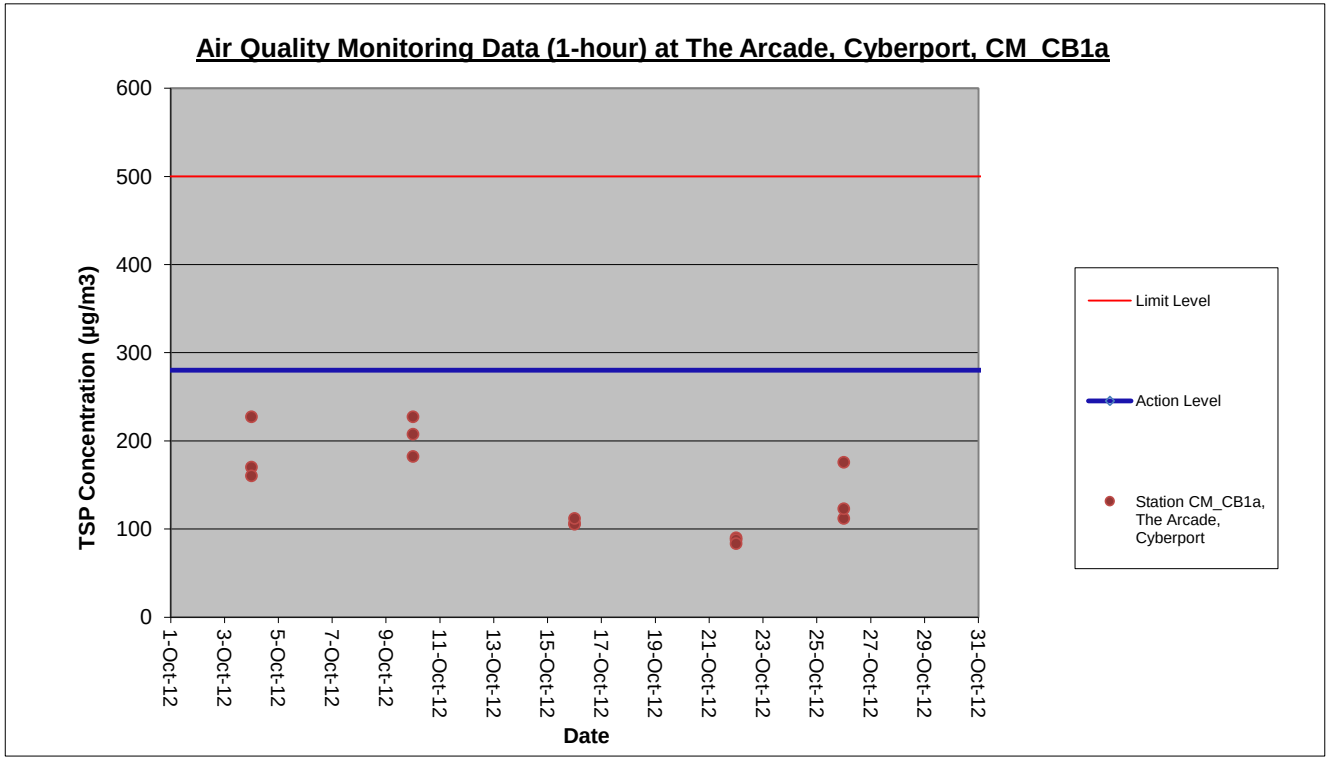
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)

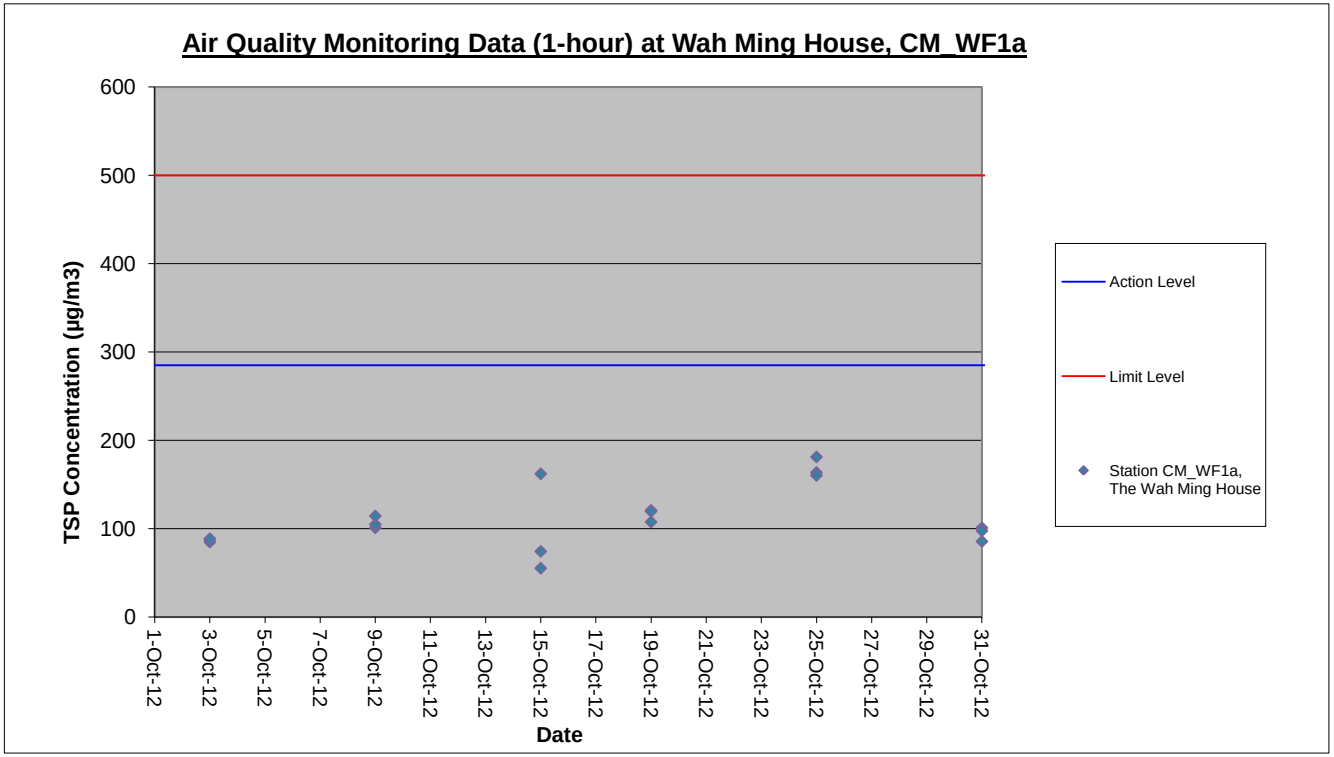
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time	Flow Rate (m^3/min)			TSP Conc.	Action Level	Limit Level	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)			
3-Oct-12	8:02	4-Oct-12	8:02	Sunny	2.6383	2.7801	4556.58	4580.58	24.00	1.0735	1.0735	1.0735	92	174.2	260	Welding and modify the ventilation system	Ice Factory	1213
8-Oct-12	8:02	9-Oct-12	8:02	Sunny	2.6697	2.8456	4580.57	4604.57	24.00	1.1308	1.1308	1.1308	108	174.2	260	Welding and modify the ventilation system	Ice Factory	1220
12-Oct-12	8:02	13-Oct-12	8:02	Sunny	2.65	2.8441	4604.59	4628.59	24.00	1.1620	1.1620	1.1620	116	174.2	260	Rock out	Ice Factory	1227
18-Oct-12	8:02	19-Oct-12	8:02	Sunny	2.7065	2.8905	4628.60	4652.60	24.00	1.1172	1.1172	1.1172	114	174.2	260	Rock out	Ice Factory	1234
24-Oct-12	8:02	25-Oct-12	8:02	Sunny	2.7292	2.8532	4628.60	4652.60	24.00	1.1388	1.1388	1.1388	76	174.2	260	Rock out	Ice Factory	1244
30-Oct-12	8:02	31-Oct-12	8:02	Shower	2.7003	2.7938	4676.60	4700.60	24.00	1.1413	1.1413	1.1413	57	174.2	260	Rock out	Ice Factory	1249
												Min.	**57**					
												Max.	**116**					
												Average	**94**					

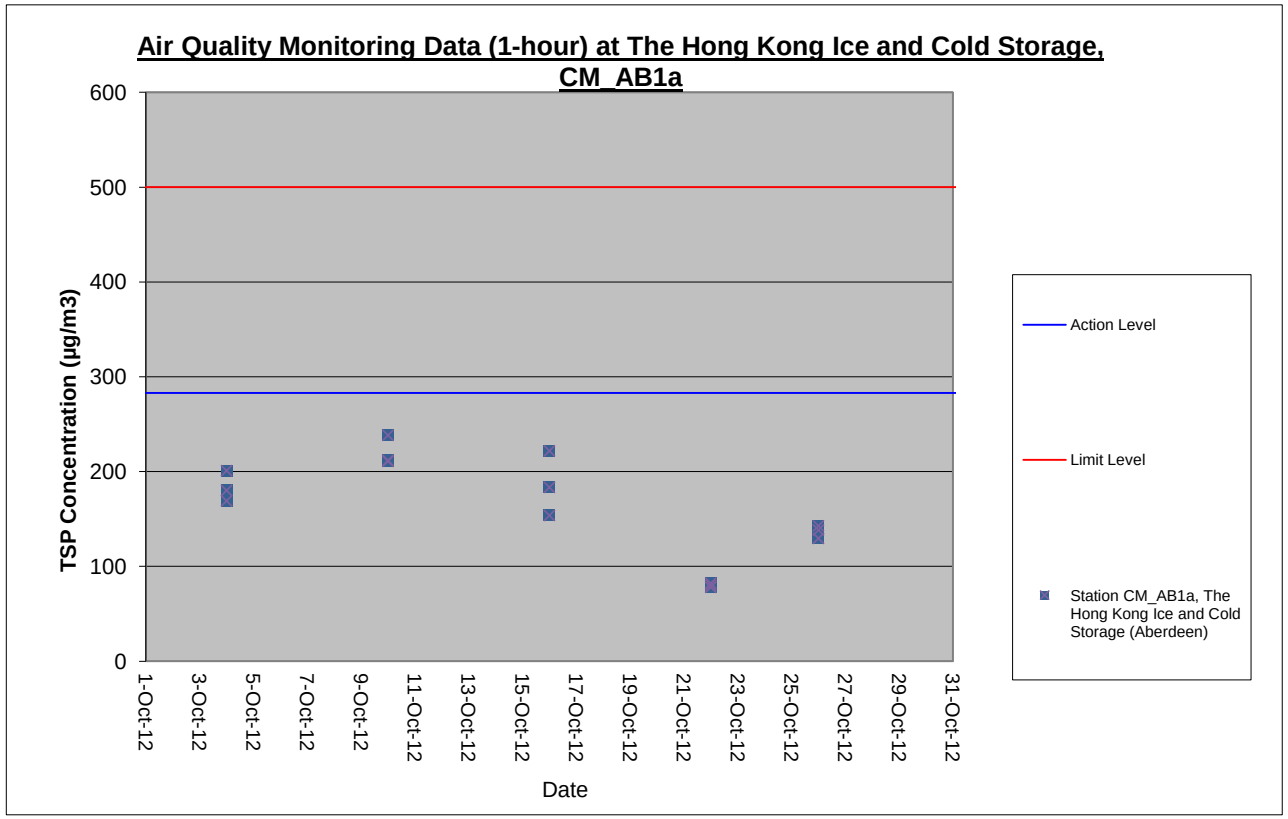
APPENDIX K

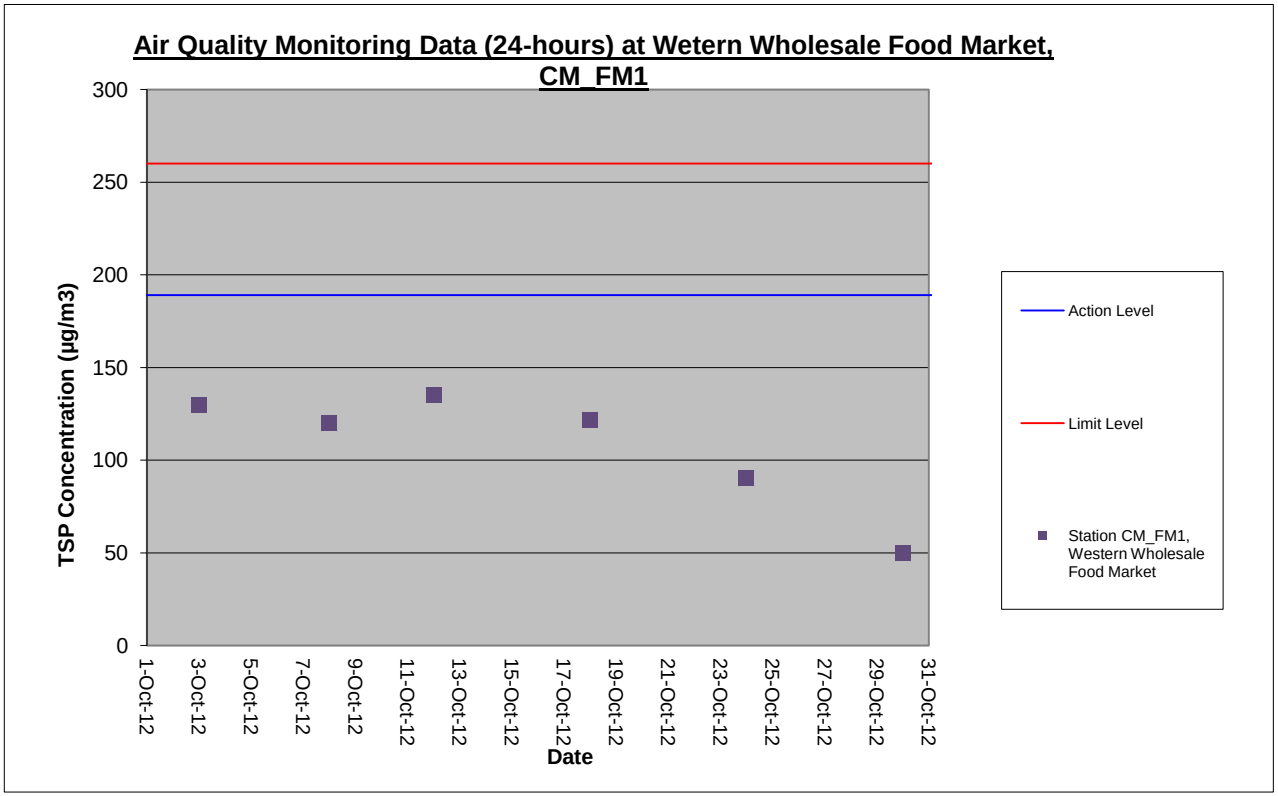
GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING DATA

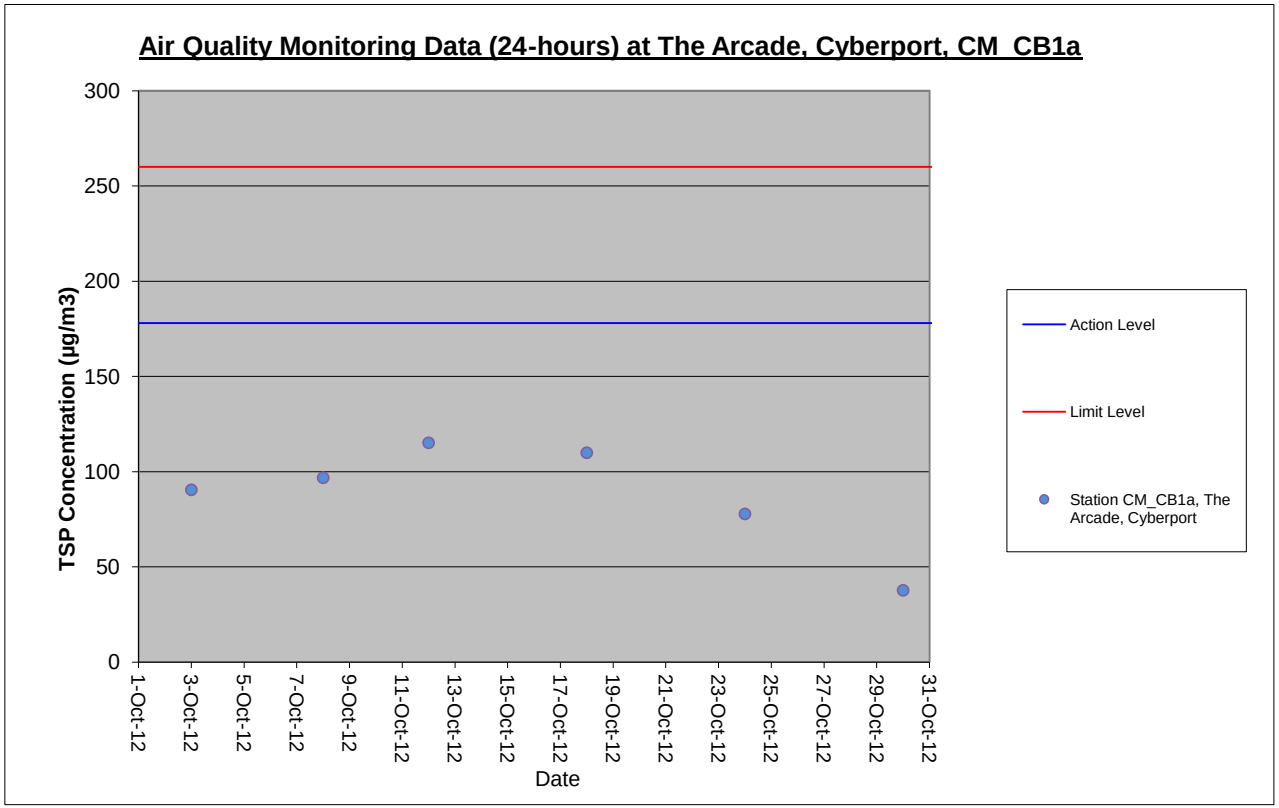

Air Quality Monitoring Data (1-hour) at Western Wholesale Food Market, CM_FM1
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_FM1, Western Wholesale Food Market

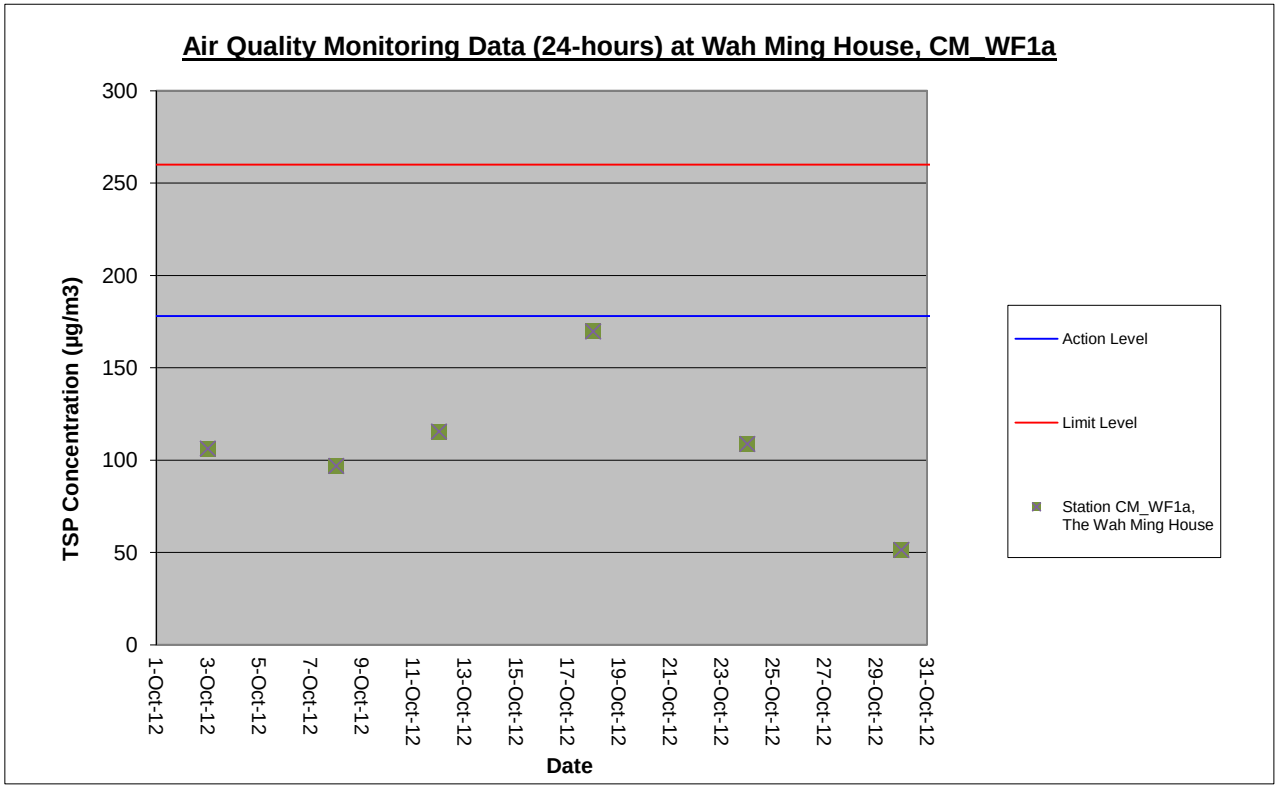

Air Quality Monitoring Data (1-hour) at The Arcade, Cyberport, CM_CB1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Limit Level
Action Level
Station CM_CB1a, The Arcade, Cyberport

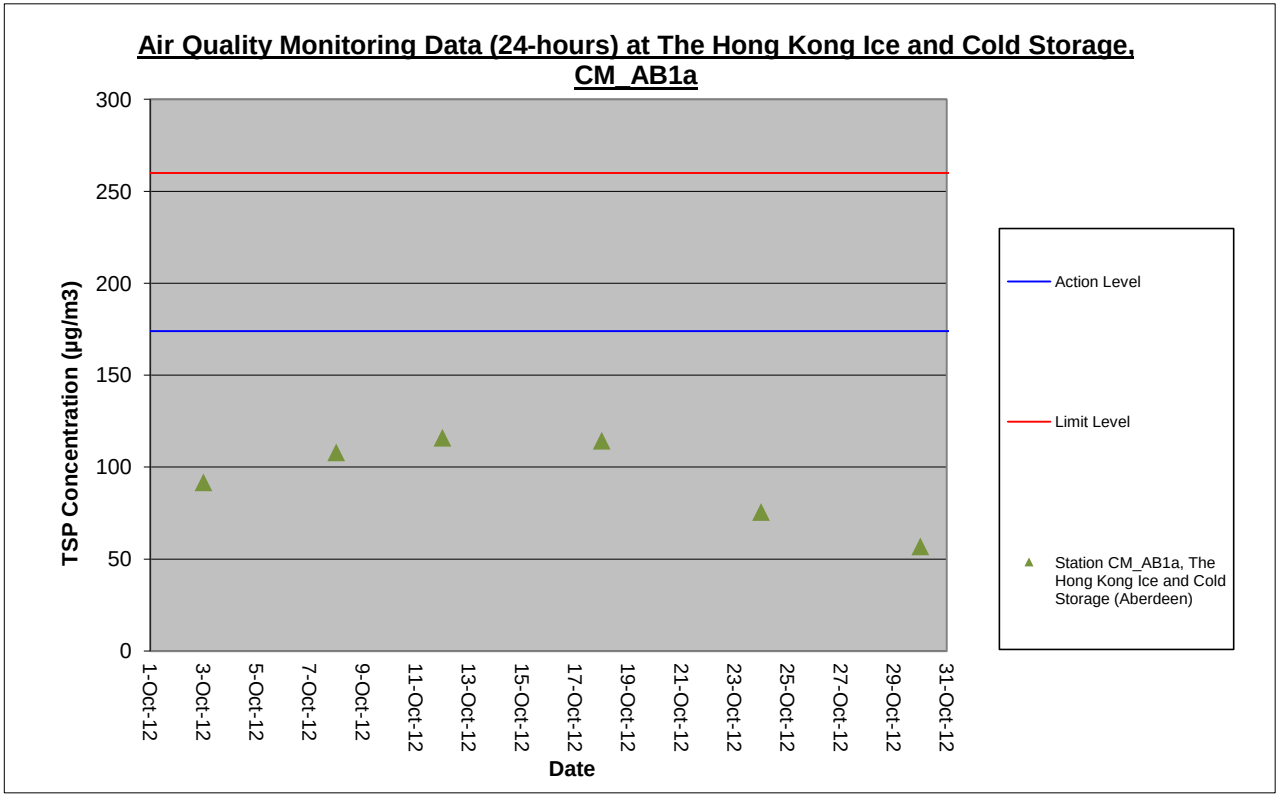

Air Quality Monitoring Data (1-hour) at Wah Ming House, CM_WF1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_WF1a, The Wah Ming House


Air Quality Monitoring Data (1-hour) at The Hong Kong Ice and Cold Storage, CM_AB1a
TSP Concentration (µg/m3)
600
500
400
300
200
100
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)


Air Quality Monitoring Data (24-hours) at Wetern Wholesale Food Market, CM_FM1
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_FM1, Western Wholesale Food Market


Air Quality Monitoring Data (24-hours) at The Arcade, Cyberport, CM_CB1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_CB1a, The Arcade, Cyberport


Air Quality Monitoring Data (24-hours) at Wah Ming House, CM_WF1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_WF1a, The Wah Ming House


Air Quality Monitoring Data (24-hours) at The Hong Kong Ice and Cold Storage, CM_AB1a
TSP Concentration (µg/m3)
300
250
200
150
100
50
0
1-Oct-12
3-Oct-12
5-Oct-12
7-Oct-12
9-Oct-12
11-Oct-12
13-Oct-12
15-Oct-12
17-Oct-12
19-Oct-12
21-Oct-12
23-Oct-12
25-Oct-12
27-Oct-12
29-Oct-12
31-Oct-12
Date
Action Level
Limit Level
Station CM_AB1a, The Hong Kong Ice and Cold Storage (Aberdeen)

APPENDIX L

LANDSCAPE AND VISUAL MONITORING REPORT

REPORT

Leighton – LNS Joint Venture

Contract No. DC/2007/24 Harbour Area Treatment Scheme Stage 2A - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun: 34th *Monthly Landscape & Visual Monitoring Report*

November 2012

Environmental Resources Management
16/F DCH Commercial Centre
25 Westland 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: 34th *Monthly Landscape & Visual Monitoring Report*

November 2012

Reference 0109356

For and on behalf of ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed:

Position: Partner

Certified by:

Registered Landscape Architect,
Christina Ip

Date: 14 November 2012

CONTENTS

1 LANDSCAPE AND VISUAL IMPACT MONITORING

1.1 INTRODUCTION

The construction works of *DC/2007/24 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 thirty-forth monthly landscape and visual (L&V) monitoring report presenting the findings of the L&V site audit conducted during the period from 1 to 31 October 2012.

1.2 MONITORING PARAMETERS

According to the EM&A Manual, the L&V 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*). The thirty-forth monthly site audit was undertaken on 30 October2012 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 plan 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 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 FOLLOW-UP ACTIONS AFTER THE PREVIOUS SITE AUDIT

Follow-up actions addressing general tree issues identified in previous site audits (i.e. poor health of 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 site, Aberdeen site and Sandy Bay site.

Cyberport Site

(1) 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; and

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

Sandy Bay Site

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

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

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

(4) The retained tree T039(R) was still in bad condition with dry leaves and tree bark with crack was observed on the tree trunk; and

(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) Construction materials storing next to retained trees T021(R) and T028(R) have been removed. However 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 materials.

The Contractor was asked to inspect the condition of the trees at Sandy Bay Site and to take 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 tree T084(R) was still missing. The Contractor was asked again to provide proper tree identification tag for the retained tree;

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

(3) The retained tree T083(R) was observed to be in a very poor health. 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 its stems and leaves dying off since the audit of November 2011.

(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 Aberdeen works site and to take the necessary mitigation measures immediately to improve the overall health condition of the retained trees.

2.2 *OBSERVATIONS AND RECOMMENDATIONS*

Cyberport Site

The key observation during the site inspections at Cyberport site is as follows:

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

Sandy Bay Site

The new key observation during the site inspections at Sandy Bay site is as follows:

(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

The new key observation during the site inspections at Sandy Bay site is as follows:

(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.

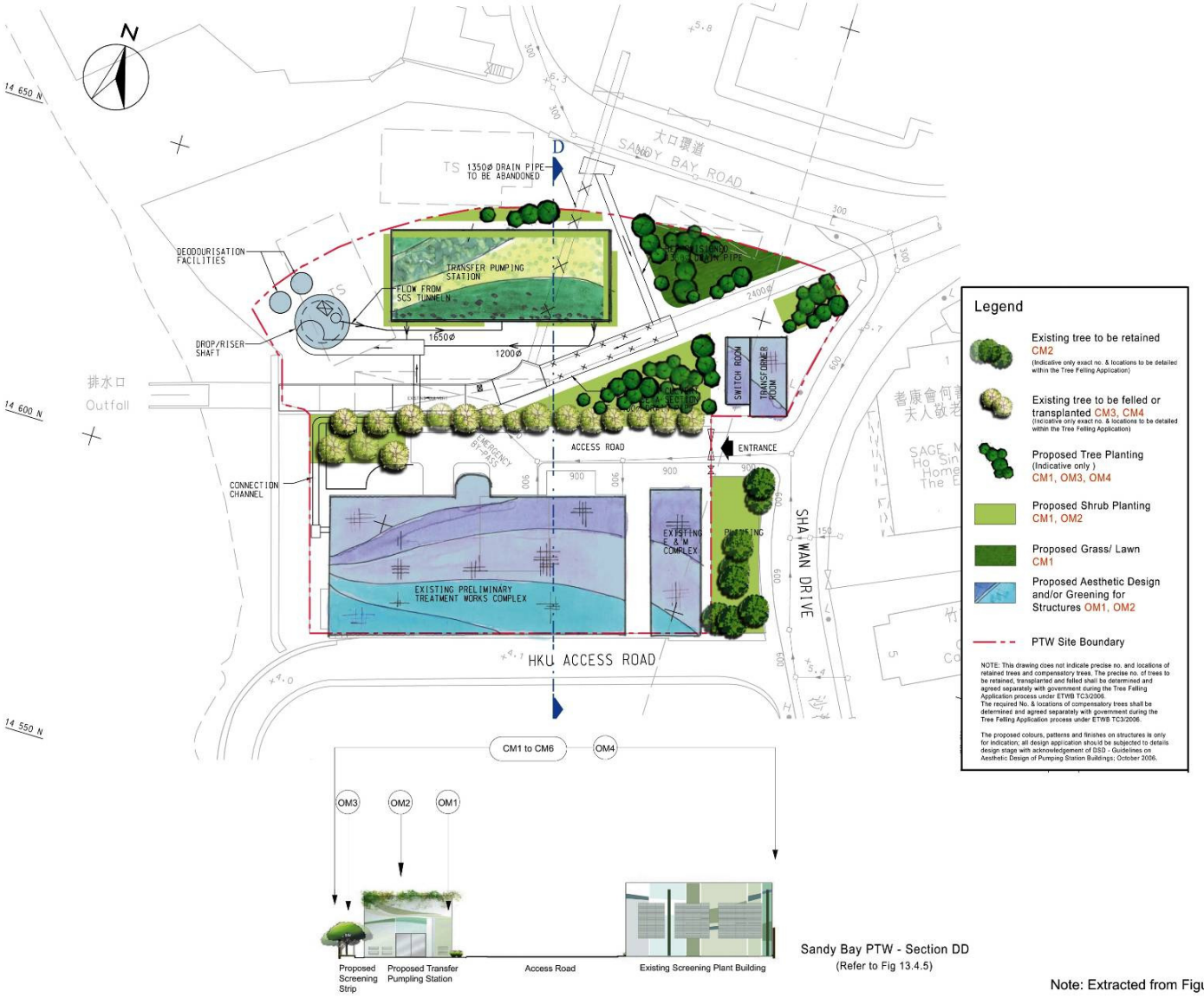
3 CONCLUSIONS

The thirty-forth monthly landscape and visual site audit was undertaken on 30 October 2012 to check the design, implementation and maintenance of L&V mitigation measures at work sites in Aberdeen, Wah Fu, Cyberport, Sandy Bay and Sai Ying Pun under the Contract *DC/2007/24 of Harbour Area Treatment Scheme Stage 2A (HATS2A) - Construction of Sewage Conveyance System from Aberdeen to Sai Ying Pun*.

All L&V mitigation measures have been implemented in full except for several areas as described in *Sections 2.1* and *2.2*. After discussions with the Contractor about the issues, feasible and effective remedial measures have been agreed. The Contractor was asked to ensure that proper mitigation measures are implemented.

Annex A

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



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

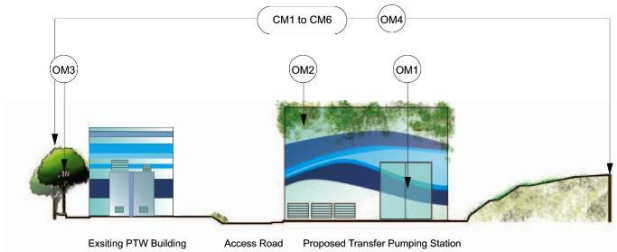
Figure 1.1

Landscape Mitigation Measure in Sandy Bay

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

Environmental Resources Management

ERM



Cyberport PTW - Section EE
(Refer to Fig 13.4.6)

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

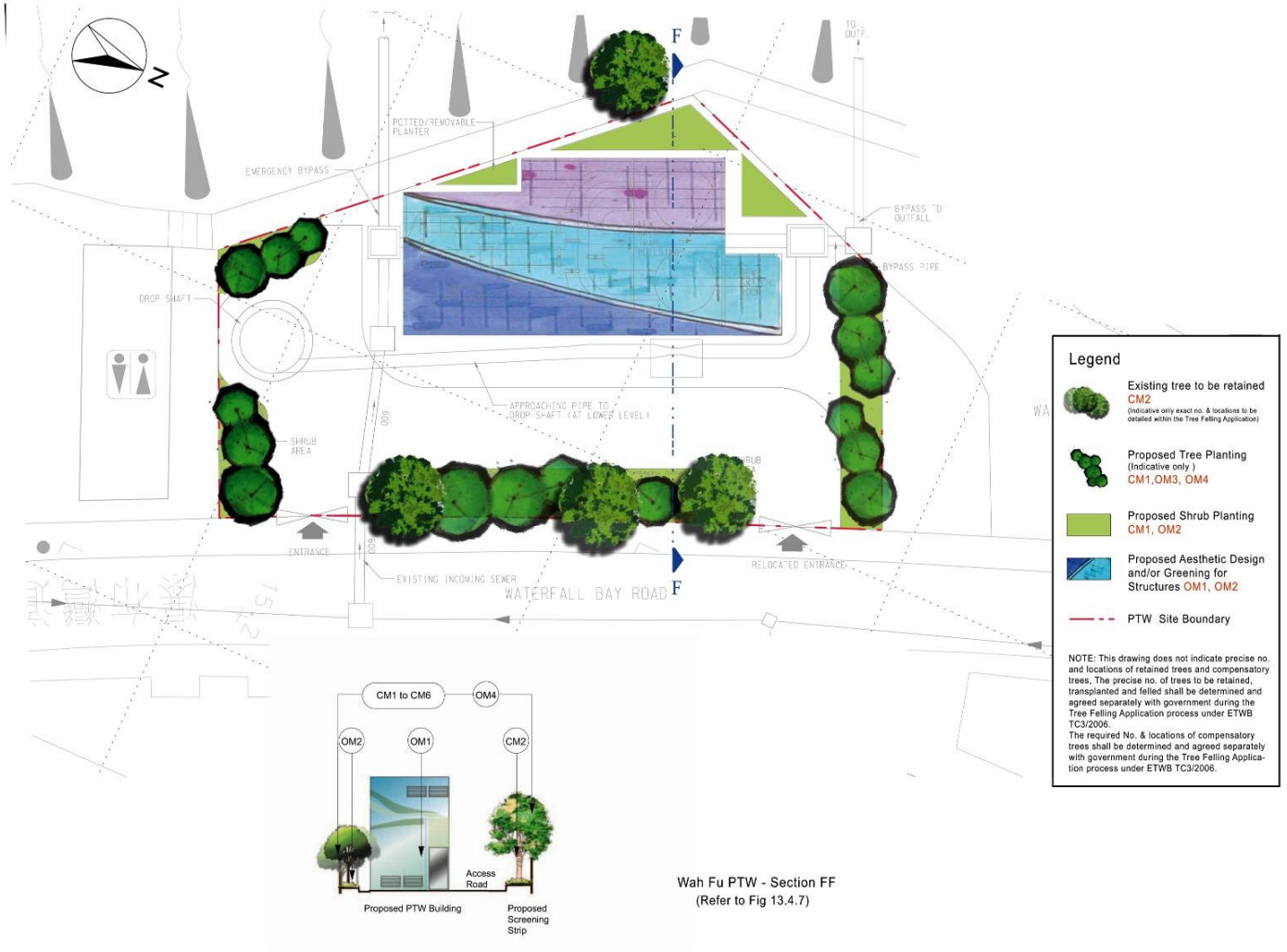
Figure 1.2

Landscape Mitigation Measure in Cyberport

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

Environmental Resources Management

ERM



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

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

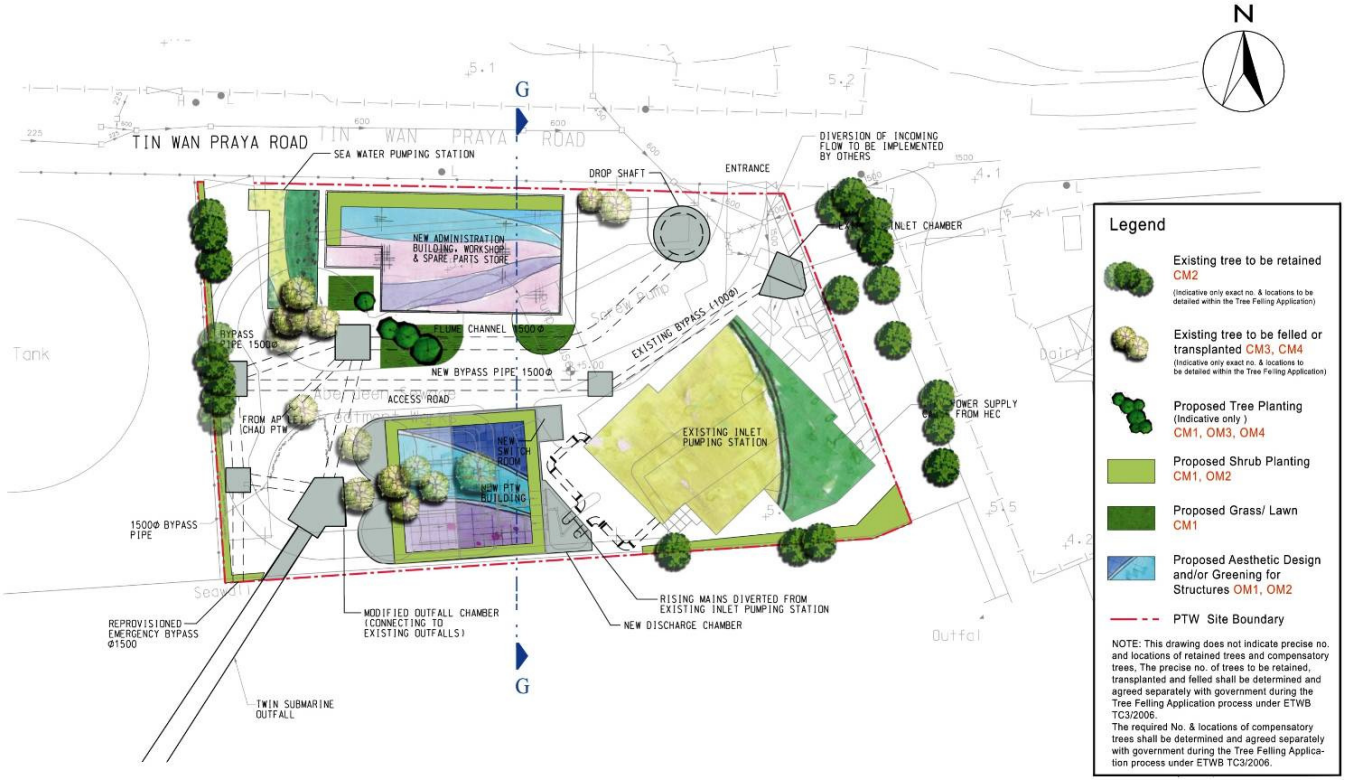
Figure 1.3

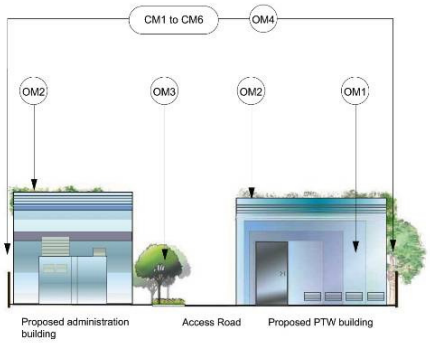
Landscape Mitigation Measure in Wah Fu

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

Environmental Resources Management

ERM





Aberdeen PTW - Section GG
(Refer to Fig 13.4.8)

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

Figure 1.4

Landscape Mitigation Measure in Aberdeen

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

Environmental Resources Management

ERM

Annex B

Site Inspection Checklist

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

Reporting Period : 1 October to 31 October 2012

Site Inspection Date : 30 October 2012

Inspected By : Andrew Fung

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 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 has not been 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 necessary measures to protect the trees.
Sandy Bay	No major excavation works had been	Existing trees have been retained on site,	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

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.	fenced 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 has not been started yet.	controls was used for 24 hours a day from 1 to 31 October 2012 except public holiday.	erected and is compatible to 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 have 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 have 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 have been completed and all transplanted trees were properly supported by tripods.	Not applicable - Compensatory tree planting has not been 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 is compatible to the surrounding setting.	The Contractor has 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).

(Name: Christina Ip,
Registered Landscape Architect)

APPENDIX M

NOTIFICATION OF EXCEEDANCES AND COMPLAINT INVESTIGATION

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

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

APPENDIX N

SUMMARY RECORDS OF SITE INSPECTIONS

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.

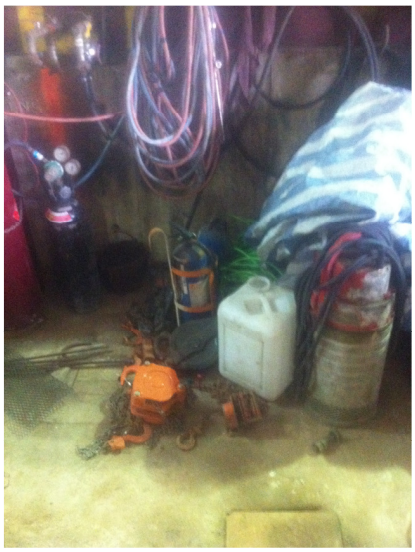


Photo 2 Chemical barrels were found to be without drip trays outside the noise enclosure area

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.

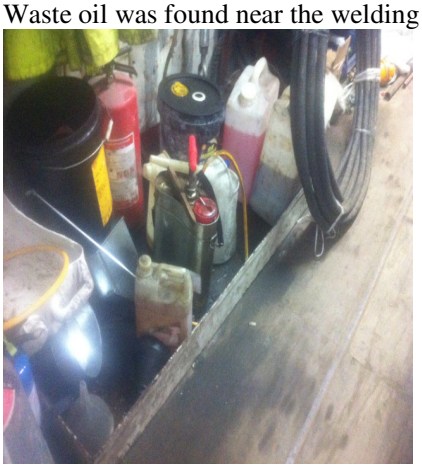
Current Environmental Site Inspection Checklist – Report No. 121003

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

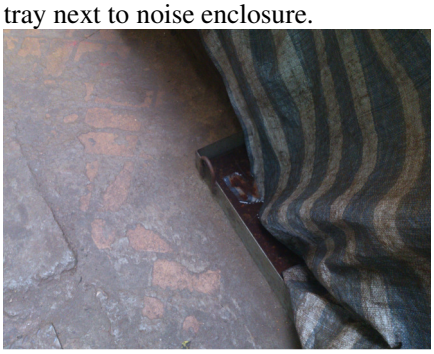
General Housekeeping:

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:

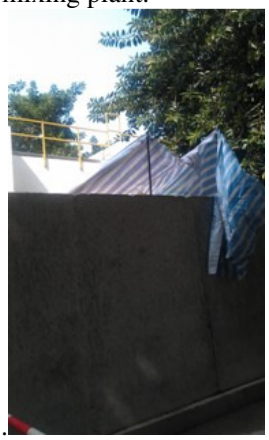
1. The contractor was reminded to provide properly cover for cement mixing plant during operation

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

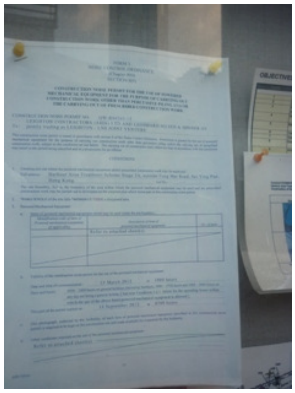


Photo 2 A damage skip was found next to the stockpiles

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

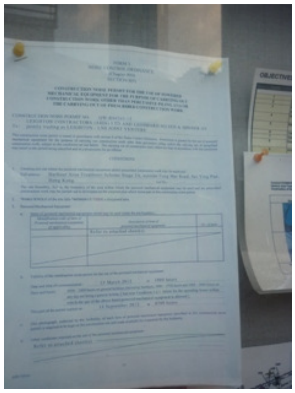
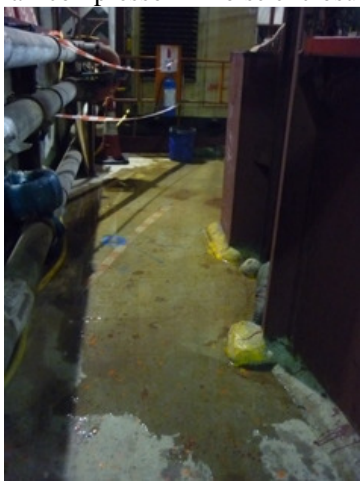


Photo 2 A broken skip was found next to the stockpiles

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.

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

Comments and Responses

Submission Title: Monthly EM&A Report No. 34(EMA/043) A

Comments	Designer (Atkins)'s Responses
Independent Environmental Checker **E-mail** **Date : 8th November 2012**	
1. Executive Summary: Monitoring schedule table, Noise Monitoring during evening time, M3: Please clarify the highlighted text.	Noted. Highlight has been removed.
2. Executive Summary: "Complaint Log" (2nd para) and Section 5.3 (2nd para): The 4th and 5th sentences of each paragraph do not seem to flow logically. Please clarify/update.	Noted and words had been revised.
3. Table 2.4: Document Title: Please update the report number and reporting period of the submitted document.	Noted and revised accordingly.
4. Section 5.1: After reviewing the draft L&V report in Appendix L, we note the following discrepancies: (1) In 4th para, 9th line, "T021(R) and" should be added before "T027(R)". (2) In 5th para, 7th line, "T003(T)" should be amended to "T003(R)".	Noted. "T021(R)" has been added before "T027(R)" and "T003(T)" has been amended to "T003(R)" respectively. In addition, the word "tree" before "T021(R)" has also been revised as "trees".
5. Appendix F: Summary table, first Integrated Sound Level Meter: The ID/serial number should be 2381580 (refer to calibration certificate).	Noted and revised accordingly.
6. Appendix F: Laser Dust Monitor (LDM), LD-3B-001 & LD-3B-002: It is recommended to include the previous calibration certificate for each LDM, which covers part of the reporting month. Also, for the LDM calibration certificates already included, please re-check to ensure all dates are consistent (especially the day & year) and update the summary table if necessary.	As discussed, the certificates in Appendix F will show the latest calibration only.
7. Appendix G: Noise, M3, Normal Daytime: Please add "22-Oct-12".	Noted and revised accordingly.
8. Appendix G: Noise, M3, Holiday Daytime: "28-Oct-12" is mentioned twice. Please clarify.	Noted. It is a typo and has been revised accordingly.

Comments	Designer (Atkins)'s Responses
9. Appendix G: Air, 1-hr TSP, CM_WF1A: Please add "31-Oct-12".	Noted and revised accordingly.
10. Appendix H: Restricted hours noise (public holiday & evening time), M3: Please clarify/update the dates in the Remark/footnote of both tables.	Noted and revised accordingly.
11. Appendix H: Restricted hours noise (public holiday), M6a: It is noted that Leq (59.1) was larger than L10 (57.0). Please describe/clarify what may have contributed to this (e.g. special observations, 3dB correction for free-field measurement).	Noted and the noise data had been updated.
12. Appendix M: Since this appendix also contains the complaint investigation, the appendix title should be suitably revised.	Noted. The title for Appendix M has been revised to "Notification of Exceedances and Complaint Investigation".