

JOB No.: TCS00491/09

DSD CONTRACT No.: DC/2009/08



CONSTRUCTION OF YUEN LONG SOUTH BRANCH
SEWERS AND EXPANSION OF HA TSUEN SEWAGE
PUMPING STATION

7th QUARTERLY ENVIRONMENTAL MONITORING &
AUDIT SUMMARY REPORT –
(August to October 2011)

PREPARED FOR

CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG)
COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
14 November 2011	TCS00491/09/600/R0305v2	Nicola Hon (Environmental Consultant)	T.W. Tam (Environmental Team Leader)
			

Version	Date	Description
1	11 November 2011	First submission
2	14 November 2011	Amended against IEC's comments on 14 November 2011

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安誠工程顧問有限公司
香港灣仔
皇后大道東183號
合和中心47樓
電話: (852) 2911 2233
傳真: (852) 2805 5028

Hyder Consulting Limited
Company Number 126012
47th Floor, Hopewell Centre
183 Queen's Road East
Wan Chai, Hong Kong
Tel: (852) 2911 2233
Fax: (852) 2805 5028
hyder.hk@hyderconsulting.com
www.hyderconsulting.com



14 November 2011

By Post

Action-United Environmental Services &
Consulting
Unit A, 20/F, Gold King Industrial Building,
35-41 Tai Lin Pai Road,
Kwai Chung,
New Territories,
Hong Kong.

Your Ref:

Our Ref: EB000586-F/THW11-2908

For attention of: Mr. T. W. Tam

Dear Mr. Tam,

Contract No.: DC/2009/08

**Construction of Yuen Long South Branch Sewers and Expansion of Ha Tsuen Sewage
Pumping Station**

Quarterly EM&A Report for Designated Project, August to October 2011 – IEC Verification

With reference to ET's captioned report (ET's ref.: TCS00491/09/600/R0305v2 dated 14 November 2011) received on 14 November 2011, we have no comment and hereby verify the captioned report excluding the Landscape and Visual Impact section of the report.

We request the ET to submit the separate submission of Landscape and Visual Impact section of the report as soon as possible, for the completion of the captioned report.

Should there be any queries, please feel free to contact our William Law on 2911 2511.

Yours sincerely

A handwritten signature in black ink, appearing to read "F.C. Tsang".

F.C. TSANG
Independent Environmental Checker
HYDER CONSULTING LIMITED

FCT/WL/my

EXECUTIVE SUMMARY

ES.01. This is the 7th Quarterly EM&A Summary Report for the *Expansion of Ha Tsuen Sewage Pumping Station* under Environmental Permit No.EP327/2009 (hereinafter “the EP”), covering the period from **1 August to 31 October 2011** (hereinafter “Reporting Period”).

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.02. Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Aspects	Environmental Monitoring Parameters / Inspection	Occasions
Air Quality	1-hour TSP	90
	24-hour TSP	29
Construction Noise	Leq (30min) Daytime	30
Water Quality	Dissolved Oxygen	39
	Turbidity	39
	Suspended Solids (SS)	39
Inspection / Audit	ET Weekly Environmental Site Inspection	13

ES.03. In this Reporting Period, 3 scheduled events of 24-hour TSP monitoring at Location AM2 were failed due power failure incident of High Volume Sampler (HVS) on 10 and 15 October and relocation of HVS affected the monitoring work on 21 October.

BREACHES OF ACTION/LIMIT LEVELS

ES.04. In the Reporting Period, monitoring results demonstrated that no exceedance of environmental quality criteria recorded in both construction noise and air quality monitoring. However, 1 Limit Level exceedance was recorded in water quality monitoring in October. The summaries of exceedance in water quality monitoring is shown below:

Month	Exceedance	DO	Turbidity	SS	Sub-total
August 2011	Action Level	0	0	0	0
	Limit Level	0	0	0	0
September 2011	Action Level	0	0	0	0
	Limit Level	0	0	0	0
October 2011	Action Level	0	0	0	0
	Limit Level	0	0	1	1
Total	Action Level	0	0	0	0
	Limit Level	0	0	1	1

ES.05. Investigation for the water quality exceedances is completed and it was concluded that the exceedance was not related to the works under the Project. Nevertheless, the Contractor was reminded to ensure the water mitigation measures were implementation as stipulated in the EM&A Manual Section 3.8.

ES.06. The results and findings for landscape and visual monitoring, as part of the EM&A programme, will be submitted in a stand-alone submission.

ENVIRONMENTAL COMPLAINT, NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

ES.07. No documented complaint, notifications of summons and successful prosecutions were received during the Reporting Period. No associated mitigation action is needed.

REPORTING CHANGES

ES.08. As informed by the Contractor on 19 October 2011, an incident report was received from the Yeung Chun Pui Care & Attention Home (AM2) that the High Volume Sample (HVS) have been used by some of the old folks as a stairway to escape from the premise, causing a serious safety problem to the escapees as well as the Home of the Elderly and they request prompt removal of the HVS from the premise. Therefore, the HVS has been shifted to nearby location

which less than 10 meters from the original location towards the construction site on 27 October 2011. Since the shifted distance of the monitoring location is less than 10 meter, it is considered that the background condition would not have significant change. The Action Level of 1-hour and 24-hour TSP will remain unchanged as the original location and the Location ID is also remained as AM2 - Yeung Chun Pui Care & Attention Home. The newly monitoring location had been accepted by EPD, RE and IEC.

FUTURE KEY ISSUES

- ES.09. During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary; and also with construction noise and other environmental issues special waste management, as stipulated in the Environmental Monitoring and Audit Manual.
- ES.10. According to Clause 3.4 of the Environmental Permit No. EP-327/2009/A, the Contractor should cease all construction activities in Ha Tsuen Pumping Station during the Public Examination period of the school nearby.

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1 INTRODUCTION

BACKGROUND

- 1.01 The China State Construction Engineering (Hong Kong) Limited (hereinafter “CSCE”) has been awarded by the Drainage Services Department (DSD) the Contract DC/2009/08 *Construction of Yuen Long South Branch Sewers and Expansion of Ha Tsuen Sewage Pumping Station* (the Project) in October 2009.
- 1.02 The Project involves construction of about 9km of sewers and rising mains with diameter ranging from 200-1500mm in Yuen Long South and Ha Tsuen areas, a sewage pumping station near Shui Tsui San Tsuen Road in Yuen Long South, expansion of existing Ha Tsuen Sewage Pumping Station. The site layout plan is shown in **Appendix A**.
- 1.03 The construction of expansion Ha Tsuen Sewage Pumping Station is under a statutory EIA (Register No. AEIAR-072/2003) study for “*Upgrading and expansion of San Wai Sewage Treatment Works and expansion of Ha Tsuen Pumping Station*” commissioned by the DSD. The Variation Environmental Permit No. EP-327/2009A for upgrading and expansion of Sewage Treatment Works at San Wai (excluded for the Project) and Ha Tsuen Sewage Pumping Station was again obtained by DSD in June 2010 for the relevant works.
- 1.04 According to the Section 25 of the Particular Specification (PS) and the Variation Environmental Permit No. EP-327/2009A, the scope of monitoring includes air quality, construction noise, water quality and environmental site audit. It should be undertaken in accordance with the Environmental Monitoring and Audit Manual as part of EIA report [AEIAR-072/2003] (hereafter “the EM&A Manual”) by an independent Environmental Team (ET).
- 1.05 This is the 7th Quarterly EM&A Summary Report which undertaken as part of the EM&A programme under Environmental Permit No. EP-327/2009A for the Expansion Ha Tsuen Sewage Pumping Station, covering the period from **1 August to 31 October 2011**.

REPORT STRUCTURE

- 1.06 This Report is structured as follows:

Section 1	Introduction
Section 2	Project Organization and Construction Progress
Section 3	Summary of Impact Environmental Monitoring and Audit Requirements
Section 4	Monitoring Results and Breaches of Environmental Quality Criteria
Section 5	Waste Management
Section 6	Site Inspection
Section 7	Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions
Section 8	Implementation Status of Mitigation Measures
Section 9	Conclusions and Recommendations

2 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

- 2.01 Organization structure and contact details of the Contractor and relevant parties with respect to the on-site environmental management are shown in [Appendix B](#).

WORKS UNDERTAKEN DURING THE REPORTING PERIOD

- 2.02 The master tentative construction program is enclosed in [Appendix C](#). Also, the major construction activities undertaken in this reporting period are listed below:

August 2011	<ul style="list-style-type: none"> Formwork, steel fixing concreting of infrastructure construction below existing ground level
September 2011	<ul style="list-style-type: none"> Formwork Steel fixing Concreting of infrastructure construction below existing ground level
October 2011	<ul style="list-style-type: none"> Formwork Steel fixing Concreting of infrastructure construction below existing ground level

SUMMARY OF ENVIRONMENTAL SUBMISSIONS

- 2.03 Summary of the relevant permits, licences, and/or notifications on environmental protection for this Project in the Reporting Period is presented in [Table 2-1](#).

Table 2-1 Status of Environmental Licenses and Permits

Item	Description	License/Permit Status
1	Environmental Permit (EP-329/2009/A)	Update on 1 June 2010
2	Chemical waste Producer Registration Registration No. 5213-511-C3570-01	Issued on 13 Nov 2009
3	Water Pollution Control Ordinance (Discharge License) License No. WT00005671-2009	Issued on 12 Jan 2010 Expiry date: 31 Jan 2015
4	Billing Account for Disposal of Construction Waste (Account Number: 700947)	Issued on 7 October 2009

- 2.04 The baseline monitoring report - *Expansion of Ha Tsuen Sewage Pumping Station* (Ref: TCS00491/09/600/R0023v6) had been verified by IEC and endorsed by EPD.

3 SUMMARY OF IMPACT MONITORING REQUIREMENTS

MONITORING PARAMETERS

- 3.01 According to the *EM&A Manual*, the environmental aspect implemented by ET, including air quality, construction noise and water quality, also the landscape and visual impact to be monitored by a competent landscape architect. The monitoring parameters are summarized in *Table 3-1*.

Table 3-1 Summary of Monitoring Parameters

Environmental Aspect	Parameters
Air Quality	<ul style="list-style-type: none"> 1-hour Total Suspended Particulate (hereinafter '1-hr TSP'); and 24-hour Total Suspended Particulate (hereinafter '24-hr TSP').
Construction Noise	<ul style="list-style-type: none"> A-weighted equivalent continuous sound pressure level (30min) (hereinafter 'Leq(30min)' during the normal working hours; and A-weighted equivalent continuous sound pressure level (5min) (hereinafter 'Leq(5min)' for construction work during the restricted hours.
Water Quality – Local Stream Course	<ul style="list-style-type: none"> In Situ Measurement - Dissolved Oxygen (DO) and Turbidity Laboratory Analysis - Suspended Solids (SS)
Water Quality – Effluent Discharge	<ul style="list-style-type: none"> In Situ Measurement - pH value Laboratory Analysis - SS and Chemical oxygen demand (COD)
Landscape and Visual Resources	<ul style="list-style-type: none"> Vegetation survey undertaken on an "area" basis to identify representative types and species composition; Assessment of landscape character; and Tree survey report. The inspection findings will be submitted separately.

MONITORING LOCATIONS

Air Quality

- 3.02 The designated monitoring location Yeung Chun Pui Care & Attention Home has been identified. As HVS installation at another designated air monitoring station Tin Shing Court was refused by the incorporated owners, the alternative location Ho Tak Sum Primary School as sensitive receiver mentioned in the EIA Report (Register No. AEIAR-072/2003) is proposed to be the replacement to undertake air quality monitoring in accordance with the EM&A Manual Clauses 2.2.1.20. The proposal and recommendation is agreed by IEC and as endorsed by EPD. The monitoring stations are detailed to list in *Table 3-2* and illustrated in *Appendix D*.
- 3.03 As informed by the Contractor on 19 October 2011, an incident report was received from the Yeung Chun Pui Care & Attention Home (AM2) that the High Volume Sample (HVS) have been used by some of the old folks as a stairway to escape from the premise, causing a serious safety problem to the escapees as well as the Home of the Elderly. The person in charge of Yeung Chun Pui Care & Attention Home therefore request prompt removal of the High Volume Sampler from the premise.
- 3.04 Therefore, the HVS is shifted to nearby location where less than 10 meters from the original location towards the construction site on 27 October 2011. Since the shifted distance of the monitoring location is less than 10 meter, it is considered that the background condition would not have significant change, the Action Level of 1-hour and 24-hour TSP will remain unchanged as the original location and the Location ID is also remained as AM2 - Yeung Chun Pui Care & Attention Home. The newly monitoring location had been accepted by EPD, RE and IEC.

Table 3-2 Air Quality Monitoring Station under the Project Proposed in the EM&A Manual

Monitoring Location ID	Identified Address	Remarks
AM1	Ho Tak Sum Primary School	Replace the Designated Monitoring Station Tin Shing Court

Monitoring Location ID	Identified Address	Remarks
AM2*	Yeung Chun Pui Care & Attention Home	Designated in the EM&A Manual

* HVS shifted to nearby location where less than 10 meters from the original location towards the construction site on 27 October 2011.

Construction Noise

- 3.05 Similarly to the air monitoring, the construction noise monitoring stations undertaken for EM&A programme was agreed by IEC and as endorsed by EPD. The detailed monitoring stations are listed in **Table 3-3** and shown in **Appendix D**.

Table 3-3 Construction Noise Monitoring Station under the Project Proposed in the EM&A Manual

Monitoring Location ID	Identified Address	Remarks
NM1	Ho Tak Sum Primary School	Replace the Designated Monitoring Station Tin Shing Court
NM2	Yeung Chun Pui Care & Attention Home	Designated in the EM&A Manual

Water Quality

- 3.06 One designated location of a local stream course, Tin Shui Wai Nullah, is recommended to carry out water quality monitoring in accordance with the EM&A Manual. The designated sampling location R1 is located at the midpoint between two pedestrian flyovers athwart Tin Shui Wai Nullah, which are 320 meters apart, there is technical difficulty and safety is concerned. So, a new sampling point located at approximately 160m upstream of the R1 (hereinafter as R1b) was therefore proposed for the local stream impact monitoring and has been verified by IEC and no further comments by EPD.
- 3.07 The detailed monitoring station is listed in **Table 3-4** and shown in **Appendix D**.

Table 3-4 Local Stream Water Quality Monitoring Station

Monitoring Location ID	Identified Address	Remarks
R1b	The athwart Tin Shui Wai Nullah pedestrian flyover	About 160 meters upstream from the designated location as stipulated in the EM&A Manual. Also, it is closer to the existing Ha Tsuen Pumping Station

Landscape and Visual

- 3.08 The selected route and area, frequency and requirements of landscape & visual monitoring is proposed by a competent landscape architect.

MONITORING FREQUENCY

- 3.09 The impact monitoring frequency and duration for air quality, construction noise, water quality of local stream course, and landscape & visual are summarized below.

Air Quality Monitoring

Parameters: 1-hour TSP and 24-hour TSP.

Frequency: Once every six days for 24-hour TSP and three times every six days for 1-hour TSP.

Duration: Throughout the construction period.

Noise Monitoring

Parameters: One set of Leq(30min) as 6 consecutive Leq(5min) between 0700-1900 hours on normal weekdays.

Leq (5min), L10 and L90 during the construction undertaken during Restricted Hours (from 19:00 to 07:00 hours of the following day and full day of public

holiday and Sunday)

Frequency: Once every six days during 0700-1900 hours on normal weekdays. Restricted Hour monitoring should depend on conditions stipulated in Construction Noise Permit.

Duration: Throughout the construction period.

Water Quality Monitoring of Local Stream Course

Parameters: DO, Turbidity and SS.

Frequency: 3 days per week.

Depth: mid-depth

Duration: Throughout the construction period and the interval between 2 sets of monitoring is not less than 36 hours

Landscape and Visual Monitoring

Parameters: Site inspection with broad scope of audit as listed in the EM&A Manuals

Frequency: Once every 2 weeks

Duration: Throughout the construction period

Site inspection and Audit

Frequency: Once per week.

Duration: Throughout the construction period.

ENVIRONMENTAL QUALITY CRITERIA

- 3.10 The environmental quality criteria i.e. Action and Limit levels (herein after 'A/L levels') are listed in Table 3-5, 3-6 and 3-7 below.

Table 3-5 Action and Limit Levels for Air Quality Monitoring

Monitoring Location	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour	24-hour	1-hour	24-hour
AM1	305	162	> 500	> 260
AM2	310	190	> 500	> 260

Table 3-6 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	0700-1900 hrs on normal weekdays	
NM1	When one or more documented complaints are received	70 dB(A) of Leq(30min) during normal hours from 0700 to 1900 hours on normal weekdays, reduced to 65 dB(A) during school examination periods
NM2		70 dB(A) of Leq(30min) during normal hours from 0700 to 1900 hours on normal weekdays

Note: *Reduces to 65 dB(A) during the school examination periods.

Table 3-7 Action and Limit Levels for a Local Stream Water Quality Monitoring (R1b)

Parameter	Action Level	Limit Level
DO (mg/L)	4.6	4 mg/L or 40% saturation at 15°C
Turbidity (NTU)	15.6	16.2
SS (mg/L)	31.5	31.9

ENVIRONMENTAL MITIGATION MEASURES

- 3.11 Environmental Mitigation Implementation Schedule (EMIS) such as the construction dust, noise, wastewater and waste management shall be performed in accordance with the project EM&A Manual Appendix A requirements.

4 MONITORING RESULTS AND BREACHES OF ENVIRONMENTAL QUALITY CRITERIA

AIR QUALITY MONITORING

- 4.01 Monitoring results and breaches A/L levels of air quality during the Reporting Period are tabulated in *Tables 4-1* and *4-2* and the relevant graphical plots are presented in *Appendix E*.

Table 4-1 Summary of Air Quality Monitoring Results, (µg/m³)

Date	24-hour TSP		Date	1-hour TSP					
	AM1	AM2		AM1			AM2		
				1 st hour	2 nd hour	3 rd hour	1 st hour	2 nd hour	3 rd hour
2-Aug-11	19	14	4-Aug-11	81	93	82	103	98	95
8-Aug-11	19	17	10-Aug-11	76	62	73	82	75	81
13-Aug-11	25	23	16-Aug-11	71	91	84	96	102	105
19-Aug-11	20	81	22-Aug-11	71	76	81	90	85	82
25-Aug-11	52	38	27-Aug-11	101	95	80	95	89	93
31-Aug-11	50	34	2-Sep-11	86	91	76	93	101	85
6-Sep-11	12	12	8-Sep-11	84	91	80	91	93	88
12-Sep-11	13	27	14-Sep-11	76	82	74	97	106	103
19-Sep-11	29	37	20-Sep-11	71	93	82	92	87	85
23-Sep-11	30	46	26-Sep-11	66	71	82	98	75	82
29-Sep-11	38	71	3-Oct-11	70	81	76	82	91	87
4-Oct-11	64	156	8-Oct-11	89	107	111	123	109	98
10-Oct-11	41	Power Failure	14-Oct-11	82	96	72	102	86	93
15-Oct-11	25	Power Failure	20-Oct-11	123	136	147	156	111	108
21-Oct-11	30	Relocation	26-Oct-11	111	103	98	123	114	96
27-Oct-11	45	81							
Average (Range)	32 (12 – 64)	49 (12 – 156)	Average (Range)	87 (62-147)			96 (75-156)		

Table 4-2 Summaries of Breaches of Air Quality A/L Levels

Location	Exceedance	1-Hour TSP	24-Hour TSP	Total
AM1	Action Level	0	0	0
	Limit Level	0	0	0
AM2	Action Level	0	0	0
	Limit Level	0	0	0

- 4.02 During the Reporting Period, 3 scheduled events of 24-hour TSP monitoring at Location AM2 were failed due to power failure incident of High Volume Sampler (HVS) on 10 and 15 October and relocation of HVS affected the monitoring work on 21 October. No Action/Limit Level exceedance in air quality monitoring was recorded at both Locations AM1 and AM2. All the 1-hr TSP and 24-hr TSP results were well below the corresponding A/L level and no corrective action was therefore required.

CONSTRUCTION NOISE MONITORING

- 4.03 Monitoring results and breaches A/L levels of construction noise during the Reporting Period are tabulated in *Tables 4-3* and *4-4* and the relevant graphical plots are presented in *Appendix E*.

Table 4-3 Summary of Construction Noise Monitoring Results (Leq30, dB(A))

Date	(*) NM1	(*) NM2
4-Aug-11	63.8	67.6
10-Aug-11	64.2	66.8
16-Aug-11	65.5	66.9
22-Aug-11	64.2	65.6
27-Aug-11	64.2	68.2

Date	(*) NM1	(*) NM2
2-Sep-11	65.1	65.7
8-Sep-11	67.7	66.6
14-Sep-11	65.4	65.1
20-Sep-11	65.2	65.6
26-Sep-11	65.5	67.5
3-Oct-11	64	62
8-Oct-11	67	66
14-Oct-11	64	68
20-Oct-11	66	65
26-Oct-11	68	67

Remarks: (*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

Table 4-4 Summaries of Breaches of Construction Noise A/L Levels

Station	Limit Level	Action Level	Received Date
NM1	0	Noise complaint	NA
NM2	0		

- 4.04 As shown in **Table 4-3**, all the measured noise values are fluctuated below the Limit level. Neither documented construction complaint nor exceedance of Limit level was recorded during the Reporting Period. Neither NOE nor corrective action was therefore recommended.

WATER QUALITY MONITORING – LOCAL STREAM COURSE

- 4.05 In this Reporting Period, a total of **39** events of local stream course monitoring were undertaken. Statistical analyses for the monitoring results are summarized in **Table 4-5** and the relevant graphical plots are presented in **Appendix E**.

Table 4-5 Statistics of the Monitoring Results

Statistics	DO (mg/L)	Turbidity (NTU)	SS (mg/L)
Average	4.6	7.3	6.0
Minimum	7.1	11.5	16.6
Maximum	19.6	14.8	36.0

- 4.06 Breaches of water quality A/L levels and statistical analysis of compliance for the water quality monitoring results are summarized in **Table 4-6**.

Table 4-6 Summaries of Breaches of the Existing Water Quality A/L Levels

Construction Month	No of sample analysis in each Parameter	Exceedance	DO	Turbidity	SS	Total Exceedances in the Month
August 2011	14	Action Level	0	0	0	0
		Limit Level	0	0	0	0
		Sub-Total	0	0	0	0
September 2011	13	Action Level	0	0	0	0
		Limit Level	0	0	0	0
		Sub-Total	0	0	0	0
October 2011	12	Action Level	0	0	0	0
		Limit Level	0	0	0	0
		Sub-Total	0	0	0	0
Total	39	Action Level	0	0	0	0
		Limit Level	0	0	1	1
Percentage of Exceedance in the Quarterly Month			0%	0%	2.6%	0.85%

- 4.07 As shown in **Table 4-6**, 1 Limit Level exceedances in Suspended Solids were recorded in water

quality monitoring in October 2011. The NOEs and the associated investigation reports were issued upon confirmation of the results and construction information

- 4.08 According the site information, only concreting of wall and slab was in progress during the exceedance date. No wastewater would be generated from the above works and no pumping of ground water was recorded according to the site dairy. The Contractor has been provided proper mitigation measures such as sedimentation facility prepare on site for any necessary discharge. As Tin Shui Wai Nullah is sensitive by the seasonal change and large fluctuation of value was obtained before, it is concluded that the exceedance was likely due to the natural variation of the stream course and not related to the project. Nevertheless, the Contractor was reminded to ensure the water mitigation measures were implementation as stipulated in the EM&A Manual Section 3.8.

OTHER MONITORING AND AUDIT

Landscape and Visual

- 4.09 The monitoring and audit works for landscaping and visual was undertaken by others and the monitoring findings will be submitted as a stand-alone document separately. During the regular weekly site inspection, it was observed that all the retained and transplanted trees were well protected by site hoarding and fencing erection and relevant Tree Report has been described that all the retained and transplanted trees were in good condition.

5 WASTE MANAGEMENT

- 5.01 Waste management was performed by an on-site Environmental Officer or an Environmental Supervisor from time to time. A Billing Account (The account number 700947) under the **Waste Disposal (Charges for Disposal of Construction Waste) Regulation** has already been assigned on 7 October 2009, a discharge license No. WT00005671-2009 under Section 20 of the **Water Pollution Control Ordinance** has been issued. CSCE has also registered as a Chemical Waste Producer with EPD under the Waste Disposal (Chemical Waste) (General) Regulation and the Waste Producer Number assigned is WPN: 5213-511-C3570-01 dated 13 November 2009.

RECORDS OF WASTE QUANTITIES

- 5.02 All types of waste arising from the construction work are classified into the following:
- Construction & Demolition (C&D) Material;
 - Chemical Waste;
 - General Refuse; and
 - Excavated Soil.
- 5.03 Whenever possible, materials were reused on-site as far as practicable. The quantities of waste for disposal in the Reporting Period are summarized in **Tables 5-1** and **5-2**. The Monthly Summary Waste Flow Table provided by the Contractor can be found at the relevant EM&A monthly report.

Table 5-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity				Disposal Location
	Aug 11	Sep 11	Oct 11	Total	
C&D Materials (Inert) (m ³)	0	0	0	0	-
Reused in this Contract (Inert) (m ³)	0	0	0	0	-
Reused in other Projects (Inert) (m ³)	0	0	0	0	-
Disposal as Public Fill (Inert) (m ³)	754	1120	1483	3357	Tuen Mun Area 38

Table 5-2 Summary of Quantities of C&D Wastes

Type of Waste	Quantity				Disposal Location
	Aug 11	Sep 11	Oct 11	Total	
Recycled Metal (kg)	0	0	0	0	-
Recycled Paper/Cardboard Packing (kg)	0	0	0	0	-
Recycled Plastic (kg)	0	0	0	0	-
Chemical Wastes (kg)	0	0	0	0	-
General Refuses (m ³)	2	1	2	5	NENT Landfill

- 5.04 There was no site effluent or surface runoff discharged in the Reporting Period. The Monthly Summary Waste Flow Table provided by the Contractor can be found from the relevant EM&A monthly report.

6 SITE INSPECTIONS

6.01 According to the Environmental Monitoring and Audit Manual, regular environmental site inspections had been carried out by ET joined with the Contractor and ER to confirm the environmental performance. During the Reporting Period, **13** events of the joint site inspection was undertaken to evaluate the site environmental performance. No non-compliance was noted but **15** observations were recorded during the site inspections within the Reporting Period. The summarized the findings are presented in **Table 6-1** and the site inspection checklists can be found in relevant EM&A monthly report.

Table 6-1 Site Reminders/Observations Found in the Reporting Period

Date	Findings / Deficiencies	Follow-Up Status
2 August 2011	<ul style="list-style-type: none"> Wheel washing facility was observed at entrance of Ha Tsuen Pumping Station. Proper wheel washing is reminded prior to exit of construction vehicles. Overgrown grass was observed along the site. Regular cutting is reminded as mosquito control measures. 	Not required for reminders
9 August 2011	<ul style="list-style-type: none"> Rain water was observed accumulated within the site, in particular on excavated site. Pre-treatment of the ponding water prior to discharge to water bodies is reminded. Overgrown grass was observed along the site. Regular cutting is reminded as mosquito control measures 	Not required for reminders
16 August 2011	<ul style="list-style-type: none"> Ha Tsuen Pumping Station: Groundwater was pumped to a sedimentation facility prior to treatment. Regular clearing of the accumulated sediment is reminded. 	Not required for reminders
23 August 2011	<ul style="list-style-type: none"> Pumping of groundwater ponding was observed along the site. Treatment of the groundwater prior to discharge is reminded. Ponding water was observed along the site. Mosquito control measures is reminded. 	Not required for reminders
30 August 2011	<ul style="list-style-type: none"> Ponding water was observed at Ha Tsuen Pumping Station. Mosquito control measures is reminded. 	Not required for reminders
6 September 2011	<ul style="list-style-type: none"> Stagnant water was observed along the site. Mosquito control is reminded. 	Rectified as observed on 16 Sep 2011.
16 September 2011	<ul style="list-style-type: none"> NA 	NA
20 September 2011	<ul style="list-style-type: none"> The contractor was reminded to cover the excavation soil to avoid dust nuisance. 	Rectified as observed on 27 Sep 2011.
27 September 2011	<ul style="list-style-type: none"> NA 	NA
4 October 2011	<ul style="list-style-type: none"> Oil drums without drip tray were observed in Ha Tsuen Pumping Station. Drip trays or removal of the oil drums are required. A drum containing waste was observed without cover at Ha Tsuen Pumping Station. Covering of the oil drum is required to avoid overflow to cause contamination of the environment. 	<ul style="list-style-type: none"> Rectified at before site inspection on 25 October 2011. Rectified at before site inspection on 20 October 2011
11 October 2011	<ul style="list-style-type: none"> Stagnant water due to rain was observed along the site. Mosquito control is reminded. 	NA
20 October	<ul style="list-style-type: none"> Oil drums without drip tray were observed in 	<ul style="list-style-type: none"> Rectified at before site

2011	Ha Tsuen Pumping Station. Drip trays or removal of the oil drums are required. • Housekeeping is reminded to implementation	inspection on 25 October 2011. • Only reminder
25 October 2011	• NA	NA

- 6.02 In general, it is reminded that good housekeeping practice should be maintained. Besides, chemical waste management shall be enhanced as oil stain was observed beside chemical store at Ha Tsuen Pumping Station and proper clearing is reminded immediately to avoid land contamination. During wet season, implement water mitigation measures to eliminate any accumulation of stagnant water on site is also recommended. Overall, the environmental performance of the Project was considered satisfactory.

7 NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

NON-COMPLIANCE

- 7.01 Apart from the exceedance of water quality summarized in *Table 4-6*, no non-compliance or deficiency was identified during regular site inspection and environmental audit. No associated remedial actions were recommended.

ENVIRONMENTAL COMPLAINT

- 7.02 No documented noise, air quality or water quality was received by the Contractor or ER or EPD. The statistical summary table of environmental complaint is presented in *Table 7-1*.

Table 7-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2011	0	0	NA
September 2011	0	0	NA
October 2011	0	0	NA

NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 7.03 No notifications of summons and successful prosecutions were recorded during the Reporting Period. No associated remedial actions were recommended. The statistical summary table of environmental summons and successful prosecution are presented in *Tables 7-2 and 7-3*.

Table 7-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2011	0	0	NA
September 2011	0	0	NA
October 2011	0	0	NA

Table 7-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
August 2011	0	0	NA
September 2011	0	0	NA
October 2011	0	0	NA

8 IMPLEMENTATION STATUS OF MITIGATION MEASURES

- 8.01 The environmental mitigation measures that recommended in the Environmental Monitoring and Audit Manual covered the issues of dust, noise and waste.
- 8.02 The Contractor had been implementing the required environmental mitigation measures according to the Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented during the Reporting Period are summarized in [Table 8-1](#).

Table 8-1 Environmental Mitigation Measures Implementation in the Reporting Period

Issues	Environmental Mitigation Measures
Water Quality	<ul style="list-style-type: none"> Wastewater were appropriately treated by treatment facilities; Drainage channels were provided to convey run-off into the treatment facilities; Drainage systems were regularly and adequately maintained. De-silting facility was provided to treat the discharged water; also the treated water is reused for spraying the road surface; Exposed stockpiles and exposed soil surfaces were covered with tarpaulin or impervious sheets to minimise dust emission; The stockpiles of materials were placed in the locations away from the drainage channel so as to avoid releasing materials into the channel; Wheel washing facilities should has been provided at site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles; Provision of site drainage systems and treatment facilities would be required to minimize the water pollution; A discharge licence was applied from EPD for discharging effluent from the construction site; A licensed waste collector have been applied from EPD; Illegal disposal of chemicals should be strictly prohibited; and Registration as a chemical waste producer have been applied from EPD
Air Quality	<ul style="list-style-type: none"> Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather; Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers; Cover all excavated or stockpile of dusty material by impervious sheeting or sprayed with water to maintain the entire surface wet; Public roads around the site entrance/exit had been kept clean and free from dust; Tarpaulin covering of any dusty materials on a vehicle leaving the site; Spanker of water spray system is provided at haul road to reduce dust emissions during the vehicles passing through the haul road' The vehicle speed within the site is limited to 5km/hr; Wheel washing facilities have been provided at the site exit
Noise	<ul style="list-style-type: none"> Good site practices to limit noise emissions at the sources; Use of quite plant and working methods according to EP-329/2009; Use of site hoarding with noise barriers to screen noise at ground level of NSRs; Use of shrouds/temporary noise barriers to screen noise from relatively static PMEs according to EP-329/2009 Use of temporary noise barrier with surface density 7kg/m2 to be assumed that the noise reduction is 10 dB(A) for stable plants and 5dB(A) for movable plant in accordance with approved EIA Report Appendix 4A Table 4A3.2; Idle equipment are turned off or throttled down; No construction works shall be undertaken during school examination period in the Ha Tsuen Pumping Station according to EP-329/2009; and Alternative use of plant items within one worksite, where practicable.

Issues	Environmental Mitigation Measures
Waste and Chemical Management	<ul style="list-style-type: none"> Excavated material should be reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible; Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner; The Contractor should adopt a trip ticket system for the disposal of C&D materials to any designed public filling facility and/or landfill; and Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes. 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; To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce; Any unused chemicals or those with remaining functional capacity should be recycled; Prior to disposal of C&D waste, it is recommended that wood, steel and other metals be separated for re-use and/or recycling and inert waste utilised as fill material to minimise the quantity of waste to be disposed of to landfill; Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.
Landscape and Visual	The landscape and visual impacts monitoring results and findings will be presented and submitted in the stand-alone document.
General	<ul style="list-style-type: none"> The site was generally kept tidy and clean.

9 CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

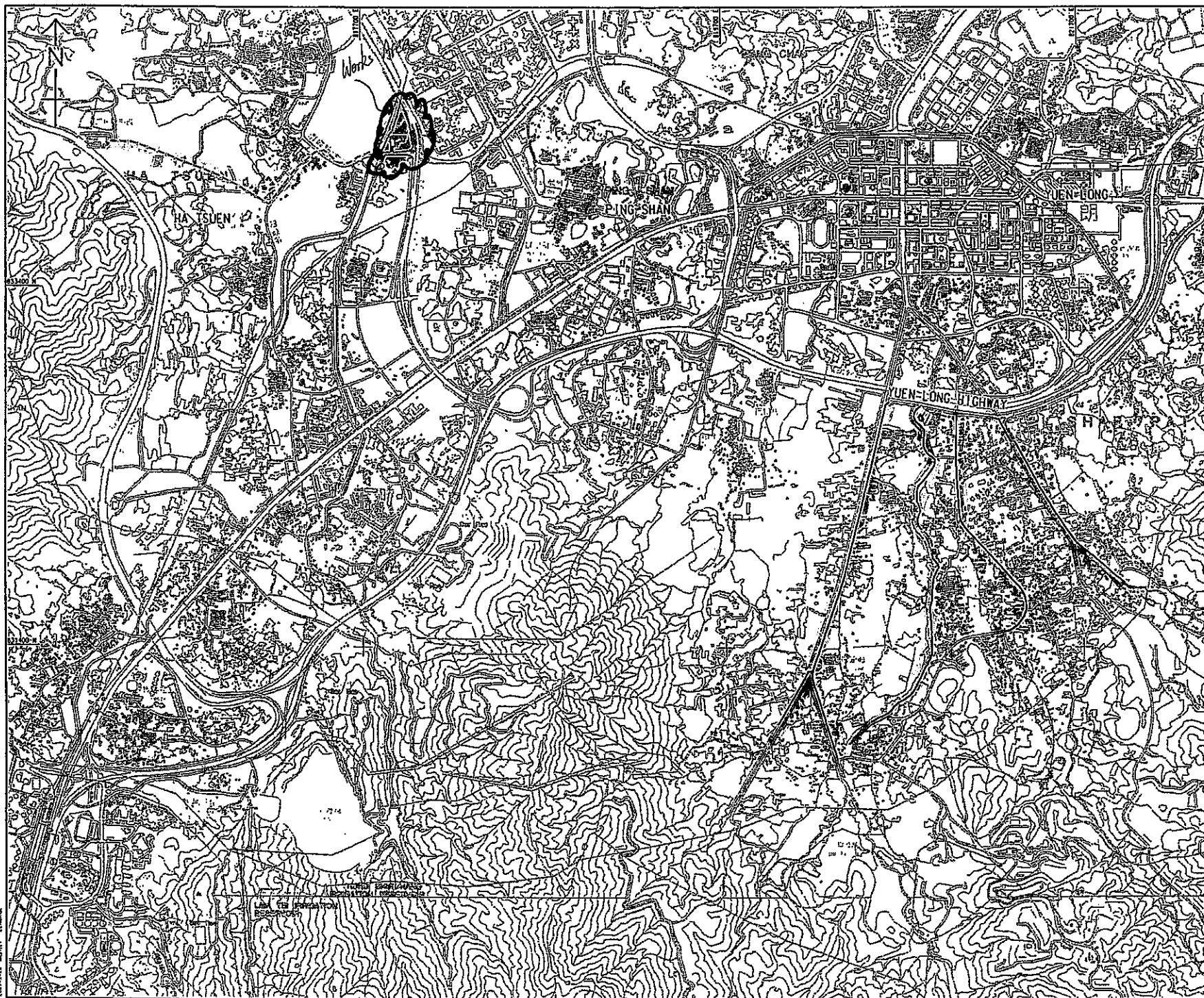
- 9.01 This is the 7th quarterly EM&A summary report under Environmental Permit No. EP327/2009 for the *Expansion of Ha Tsuen Sewage Pumping Station*, covering the period from **1 August to 31 October 2011**.
- 9.02 Monitoring results demonstrated that no exceedance of environmental quality criteria was recorded in both construction noise and air quality monitoring. However, 1 Limit Level exceedances recorded in water quality monitoring. Investigation for the water quality exceedances is completed and it was concluded that the exceedance was not related to the works under the Project. Nevertheless, the Contractor was reminded to ensure the water mitigation measures were implementation as stipulated in the EM&A Manual Section 3.8.
- 9.03 The monitoring and audit works for landscaping and visual was undertaken by others and the monitoring findings will be submitted as a stand-alone document separately. During the regular weekly site inspection, it was observed that all the retained and transplanted trees were well protected by site hoarding and fencing erection and relevant Tree Report has been described that all the retained and transplanted trees were in good condition.
- 9.04 A total of **13** occasions of joint site inspection was undertaken to evaluate the site environmental performance. No non-compliance was noted but 8 observations were recorded during the site inspections within the Reporting Period.
- 9.05 No documented complaint, notifications of summons and successful prosecutions were received during the Reporting Period. No adverse environmental impacts were observed during the weekly site inspection and environmental audit of the Reporting Period, indicating the implemented mitigation measures for air quality, construction noise and water quality were effective. Minor deficiencies found in the weekly site inspection were in general rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.
- 9.06 No site inspection was undertaken by EPD, the Agriculture, Fisheries and Conservation Department (AFCD) and Leisure and Cultural Services Department (LCSD) in this Reporting Period.

RECOMMENDATIONS

- 9.07 During dry season, special attention should be paid to the dust mitigation measures to avoid fugitive dust emissions from loose soil surface or haul road. Nevertheless, mitigation measures implemented for control the surface runoff including wheel wash facilities, covering of the loose soil surface or stockpile with tarpaulin sheet, etc., should be properly maintained to prevent any muddy or sandy runoff from the loose soil surface overflow on the site boundary; and also with construction noise and other environmental issues stipulated in the Environmental Monitoring and Audit Manual.
- 9.08 To control the site performance on waste management, the Contractor shall ensure that all solid and liquid waste management works are fully in compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the Environmental Monitoring and Audit Manual.
- 9.09 According to Clause 3.4 of the Environmental Permit No. EP-327/2009/A, the Contractor should cease all construction activities in Ha Tsuen Pumping Station during the Public Examination period of the school nearby.

Appendix A

Site Layout Plan



LEGEND:

- SEWERAGE PIPE
- RISING MAIN
- SEWER PUMPING STATION

1	TENDER DRAWING	05/01/01	05-09
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D DRAINAGE SERVICES DEPARTMENT,
THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION

YUEN LONG AND KAM TIN SEWERAGE
AND SEWAGE DISPOSAL -
CONSTRUCTION OF YUEN LONG SOUTH
BRANCH SEWERS AND EXPANSION OF
HA TSUEN SEWER PUMPING STATION

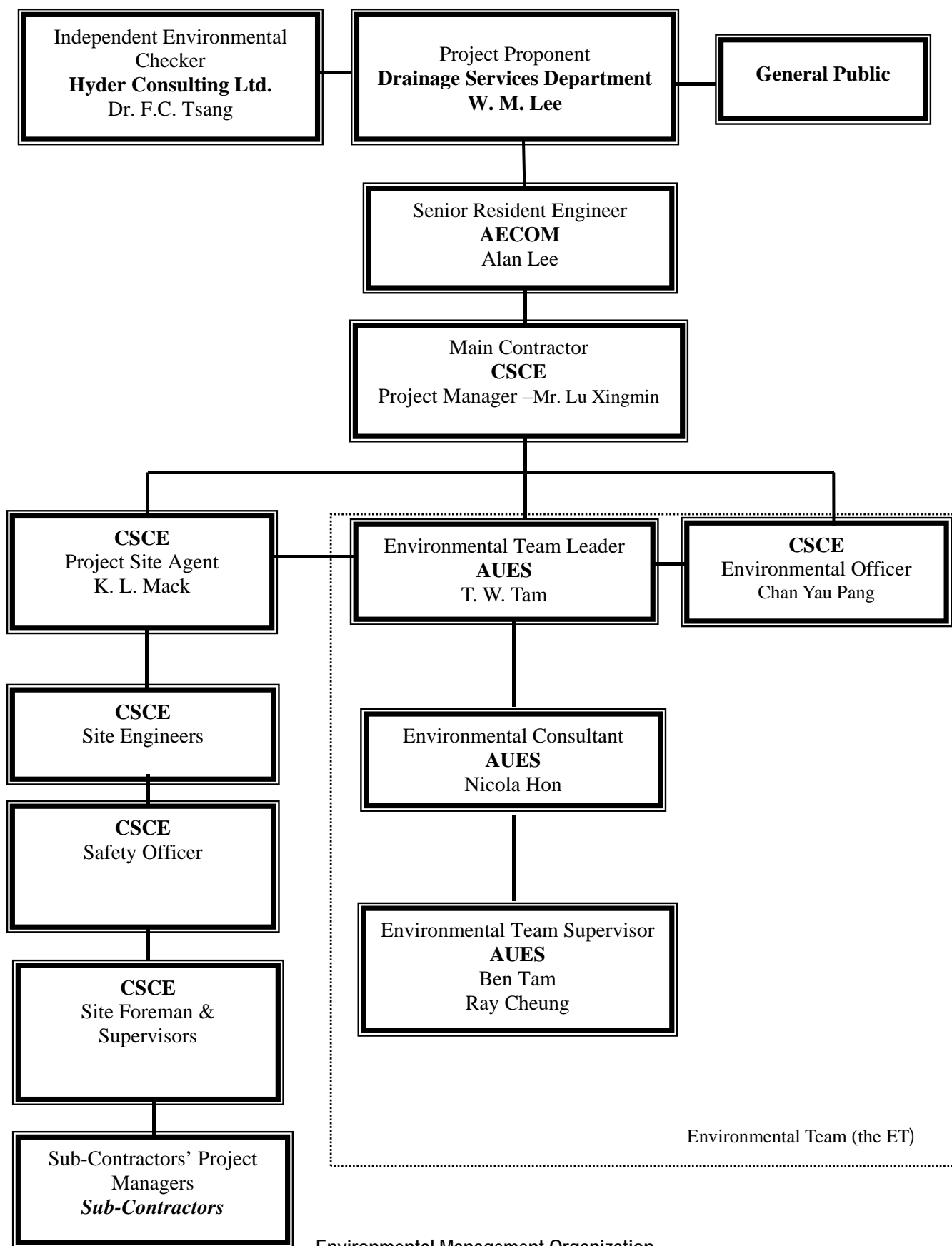
LOCATION PLAN

AECOM

DRG. NO.	60022017/C1/1001
DATE	05/01/01
SCALE	1:10000
COPYRIGHT RESERVED	

Appendix B

On-site environmental management



Contact Details of Key Personnel

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
DSD	Employer	Mr. W. M. Lee	--	2827-8700
AECOM	Senior Resident Engineer	Mr. Alan Lee	9706 9568	2472 0132
Hyder	Independent Environmental Checker	Dr. F. C. Tsang	2911 2744	2805 5028
CSCE	Project Manager	Mr. Lu Xingmin	2472 0113	2472-0229
CSCE	Site Agent	Mr. K. L. Mack	2472 0113	2472-0229
CSCE	Site Engineer	Mr. Poon Kwong Keung	2472 0113	2472-0229
CSCE	Environmental Officer	Chan Yau Pang	2472 0113	2472-0229
CSCE	Safety Officer	Mr. Ng Ka Po	2472 0113	2472-0229
AUES	Environmental Team Leader	Mr. T. W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959-6059	2959-6079
AUES	Assistance Environmental Consultant	Mr. Ray Cheung	2959-6059	2959-6079
AUES	Team Supervisor	Mr. Ben Tam	2959-6059	2959-6079

Legend:

DSD (Employer) – Drainage Services Department

AECOM (Engineer) – AECOM

CSCE (Main Contractor) – China State Construction Engineering (Hong Kong) Ltd

Hyder (IEC) – Hyder Consulting Limited



AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

Master construction program

Contract No. DC/2009/08
Construction of Yuen Long South Branch Sewers and Expansion of HTS Pumping Station

[illegible]

Start date	17SEP09		Early bar
Finish date	02JUL15		Critical bar
Run date	05FEB10		Summary bar
Project name	WP11		Start milestone point
Page number	1A		Finish milestone point
© Primavera Systems, Inc.			

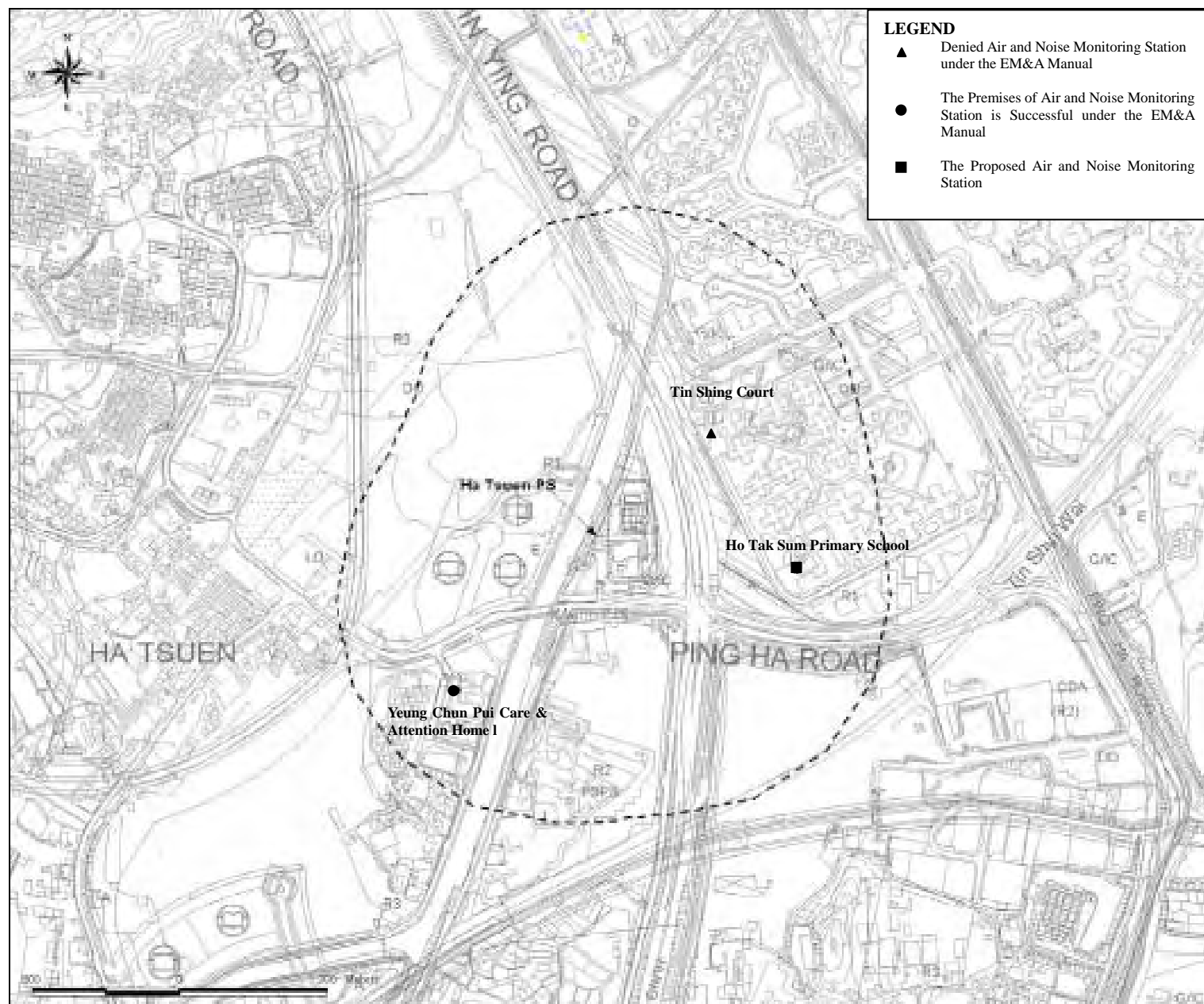
Initial Works Programme - Rev 02 (Ha Tsuen Area)



Appendix D

Monitoring Location of EM&A Programme

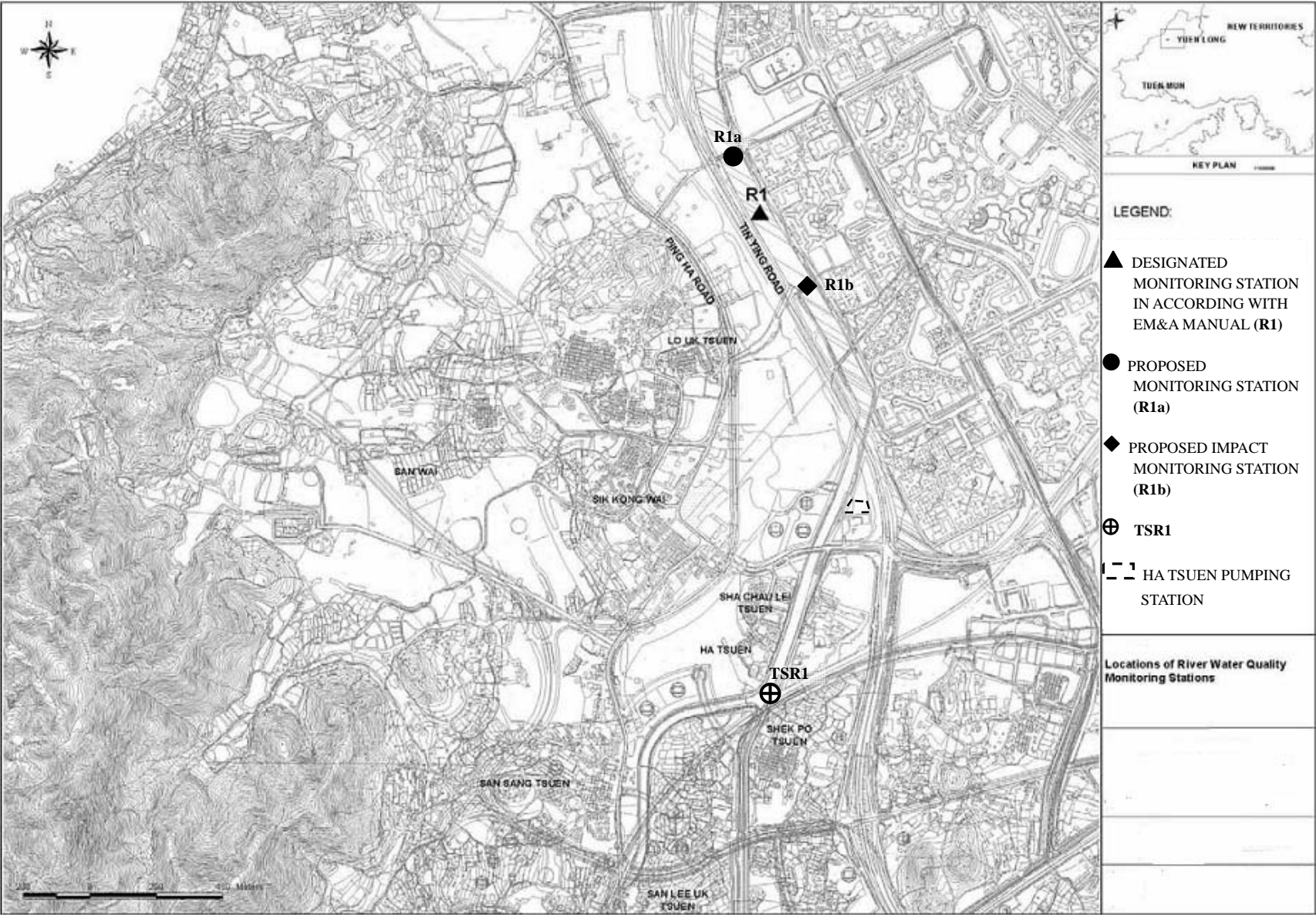
Proposed Air and Noise Monitoring Station



**DSD Contract No. DC/2009/08 – Construction of Yuen Long South Branch Sewers
And Extension of Ha Tsuen Sewage Pumping Station**

Proposed Water Quality Monitoring Location

AUES

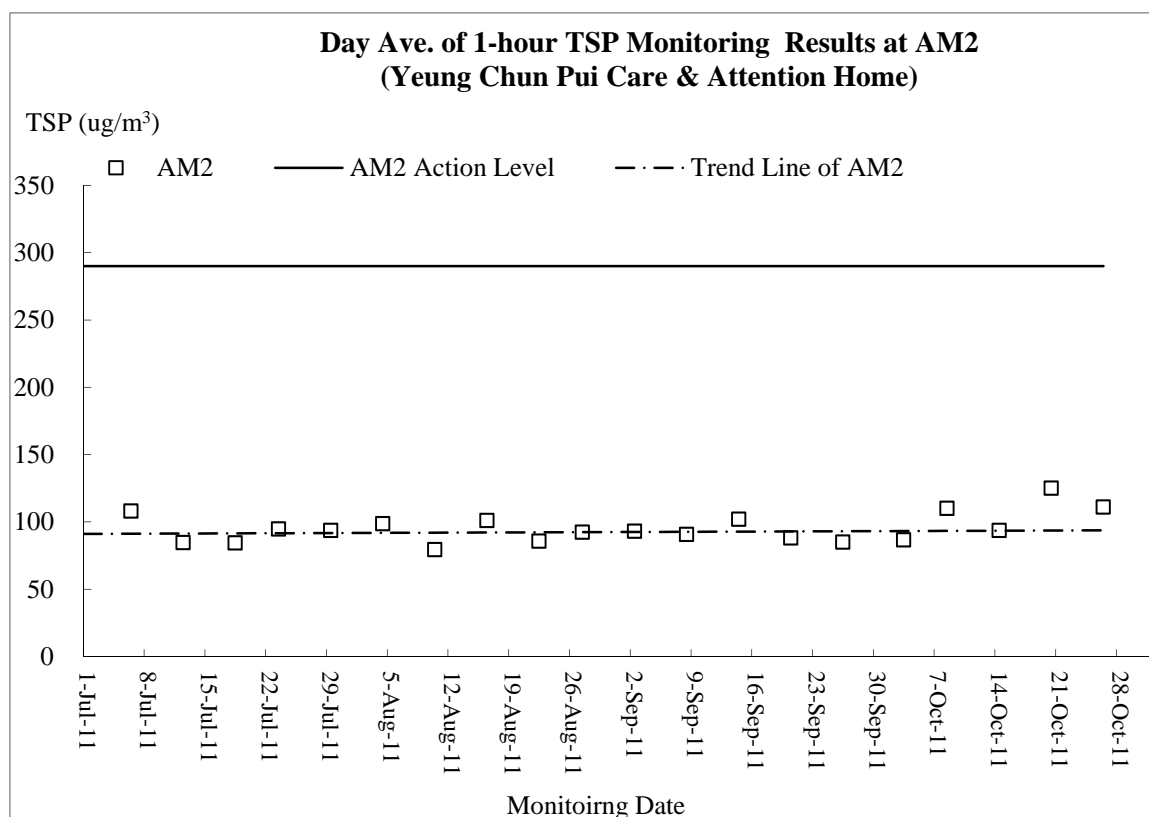
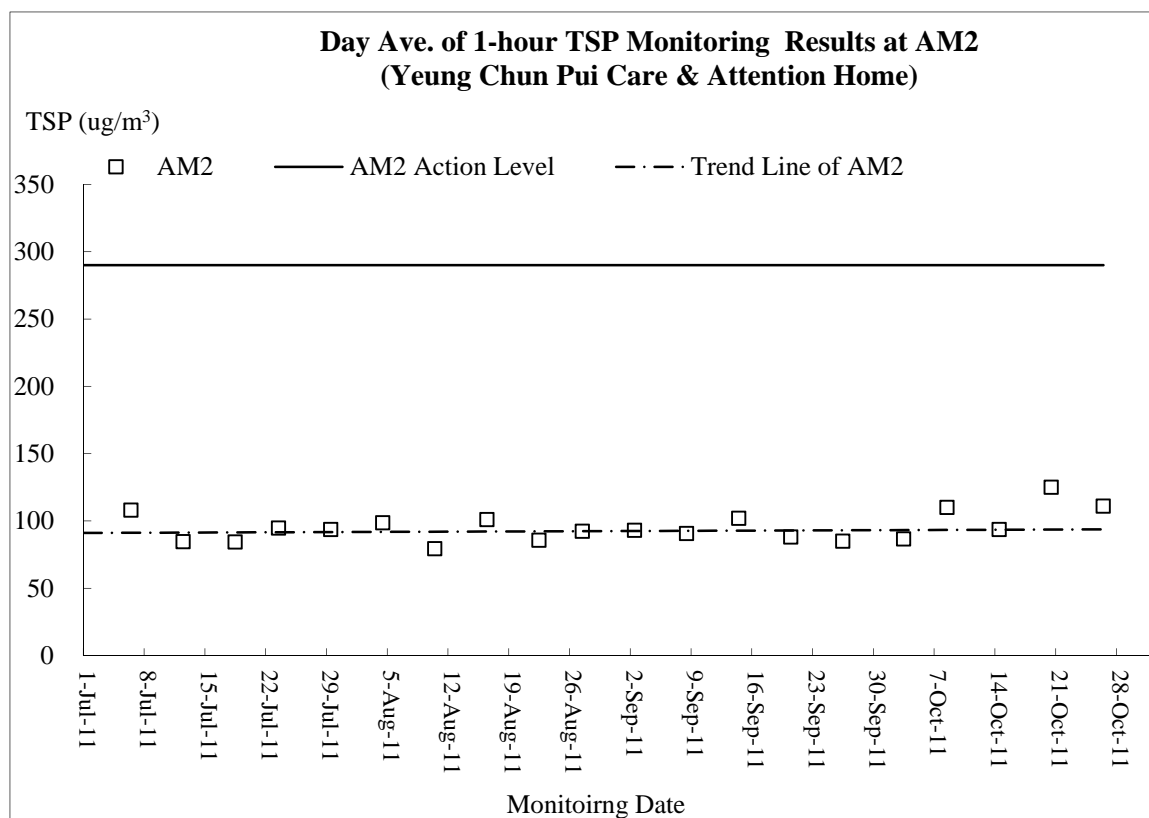


Appendix E

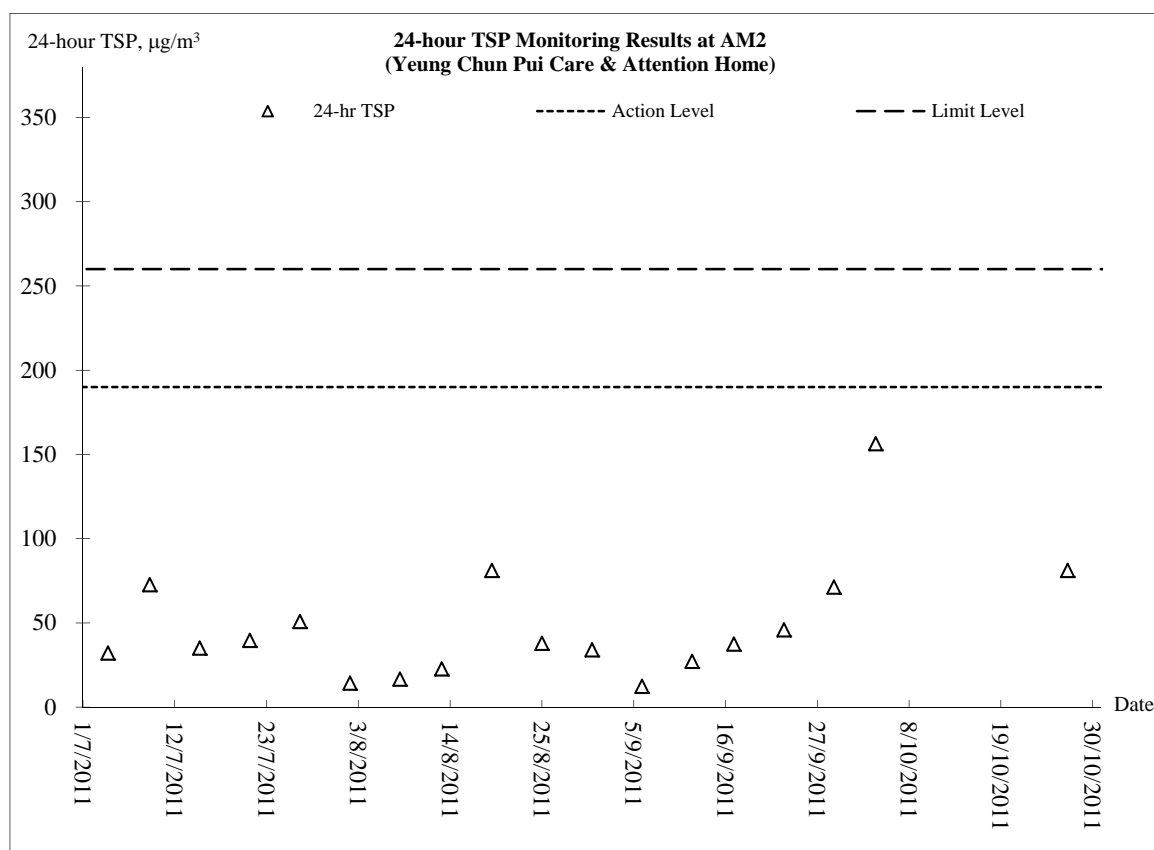
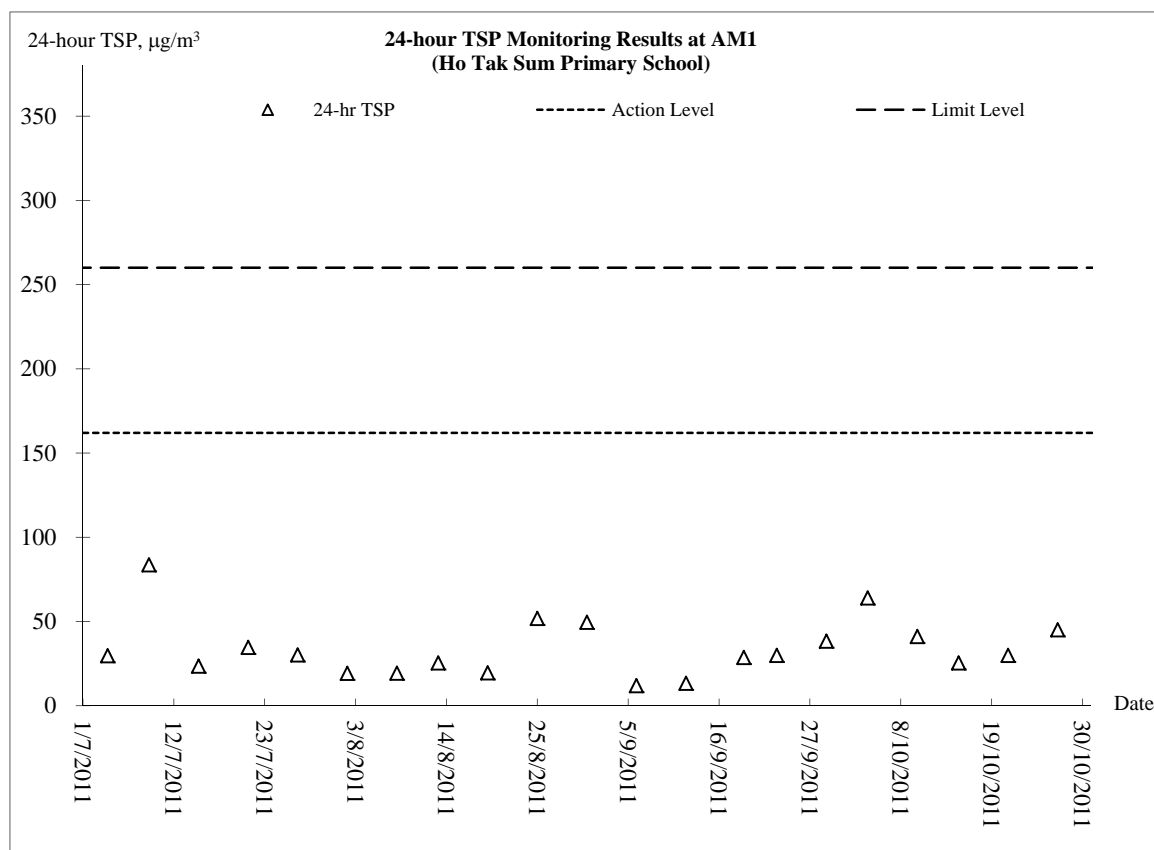
Graphic Plot of

- **Air Quality**
- **Construction Noise**
- **Water Quality**

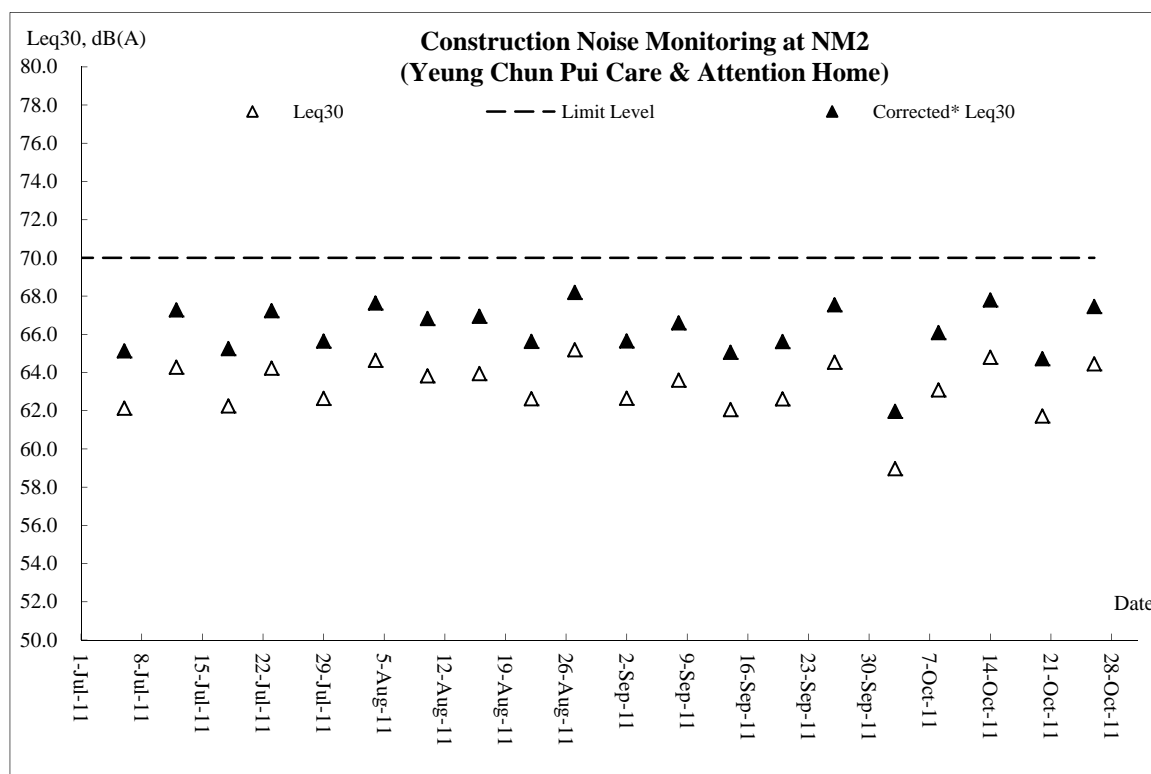
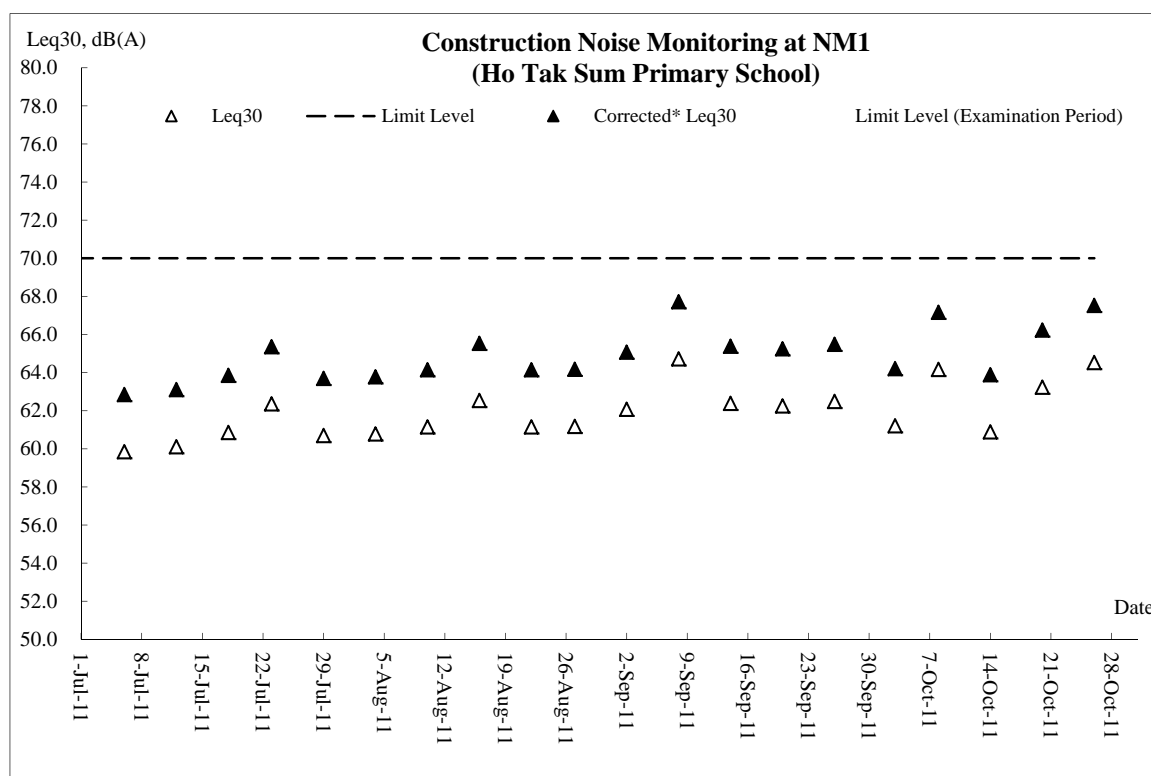
Air Quality – 1-hour TSP



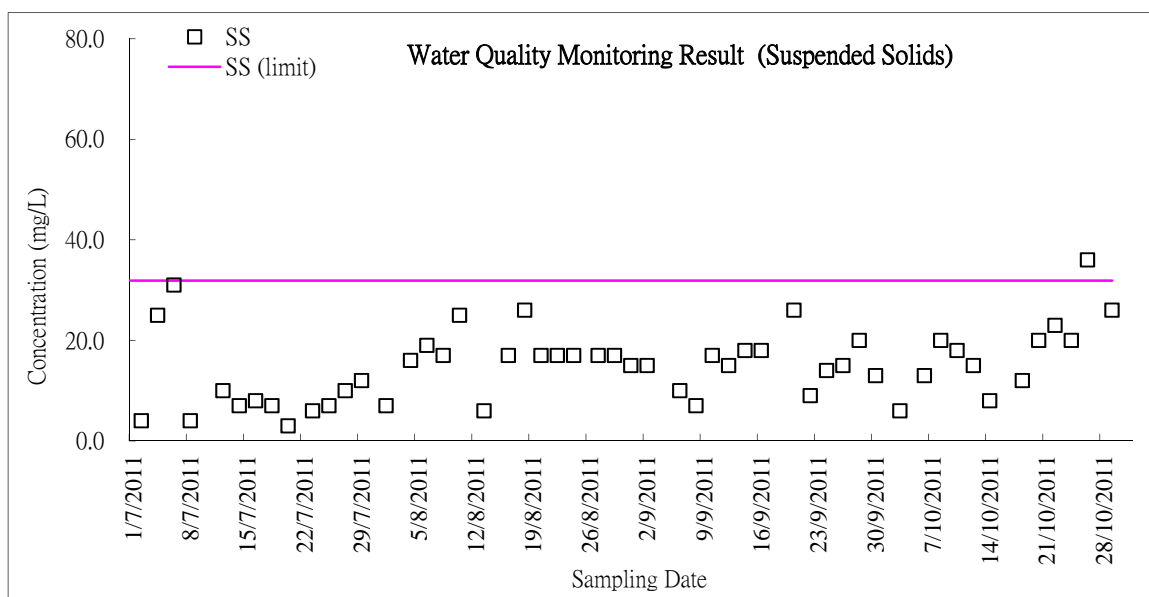
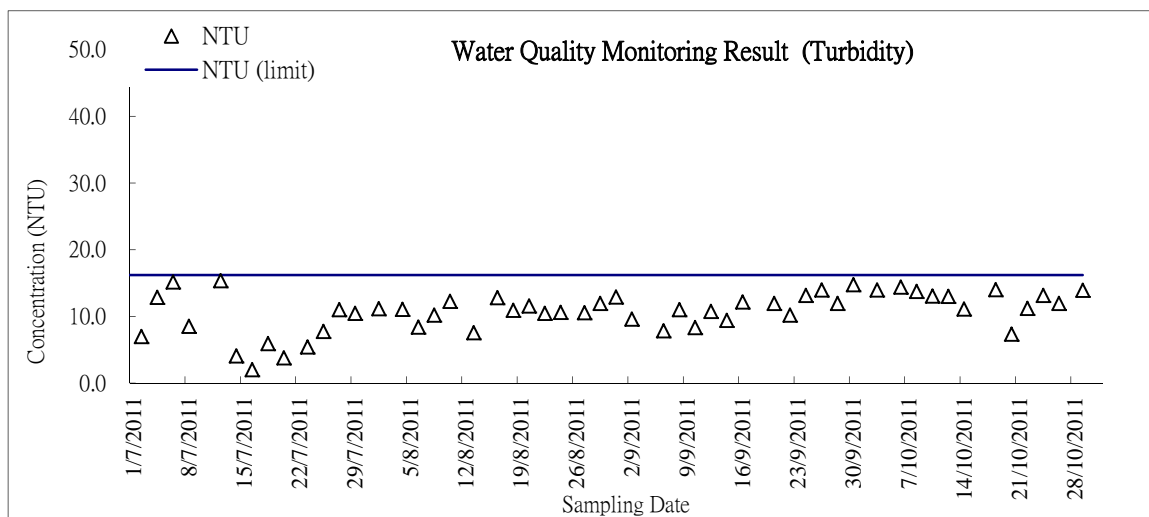
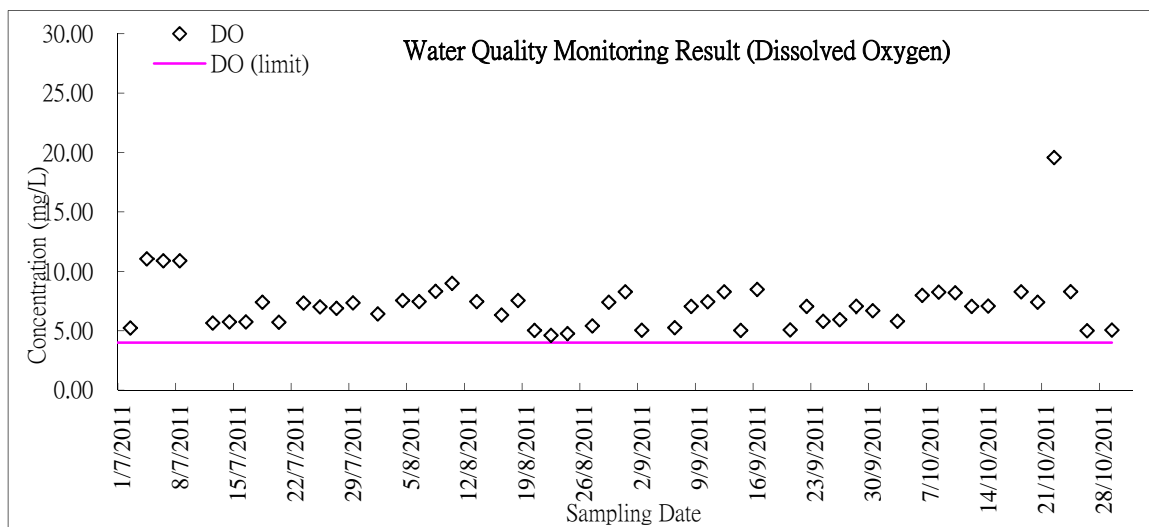
Air Quality – 24-hour TSP



Construction Noise



Water Quality (R1b)



Appendix F

Meteorological information

Meteorological Data Extracted from HKO – August 2011

Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Aug-11	Mon	Fine and very hot	0	28.9	11.2	76.5	W
2-Aug-11	Tue	Fine and very hot. Light winds.	0	29	13.5	75	W
3-Aug-11	Wed	Fine and very hot.	0	29.6	12.7	74	W/SW
4-Aug-11	Thu	There will be a few showers	0	29.7	16.2	74	W
5-Aug-11	Fri	Very hot with sunny periods	0	29.7	12	77.7	W/SW
6-Aug-11	Sat	Light to moderate southwesterly winds.	0	29.9	13	72.1	W
7-Aug-11	Sun	Fine and very hot. Light winds.	0	31.2	17.2	69	S/SE
8-Aug-11	Mon	Fine and very hot.	22.1	30.1	13.4	84	S/SE
9-Aug-11	Tue	Light to moderate southerly winds.	9.9	26.7	16	91	SE
10-Aug-11	Wed	Cloudy with showers and a few squally thunderstorms.	60.5	26.1	14.2	94.5	S/SE
11-Aug-11	Thu	Fine and very hot.	17.9	28.3	8	92	S/SE
12-Aug-11	Fri	Light to moderate easterly winds.	0	29.4	13.5	79.7	S/SE
13-Aug-11	Sat	Very hot with sunny periods	0	29.8	14	75	S/SE
14-Aug-11	Sun	Fine and very hot. Light winds.	Trace	30	14.7	72	W
15-Aug-11	Mon	Mainly fine.	0	29.8	14.9	77.5	W
16-Aug-11	Tue	Moderate southeasterly winds.	8.5	29.6	16.2	77.5	W
17-Aug-11	Wed	Mainly fine.	10.1	30	17.5	76.5	S/SE
18-Aug-11	Thu	Very hot in the afternoon.	0	29.9	8.7	71.7	SE
19-Aug-11	Fri	Light to moderate easterly winds.	0	29.9	8.5	73.5	E/NE
20-Aug-11	Sat	Fine and very hot.	3.7	28.9	12.1	78.5	E/NE
21-Aug-11	Sun	Very hot with sunny periods	Trace	27.5	14.5	85.5	W/SW
22-Aug-11	Mon	Light to moderate northerly winds.	1.4	29	12.7	82.2	W
23-Aug-11	Tue	Mainly fine.	0	29.5	12	80.5	W
24-Aug-11	Wed	Fine and very hot. Light winds.	3.9	29.9	16.5	77.5	W
25-Aug-11	Thu	Light to moderate northerly winds.	13.7	28.1	15	83.5	E/NE
26-Aug-11	Fri	Mainly cloudy with a few showers and thunderstorms.	Trace	29	10.1	80	E/NE
27-Aug-11	Sat	A few showers	5.2	30.1	9.5	75	E/NE
28-Aug-11	Sun	Moderate west to northwesterly winds.	0	30	17.2	66	N/NW
29-Aug-11	Mon	Moderate southeasterly winds.	0.2	30.2	19.5	63.2	N/NW
30-Aug-11	Tue	Fine and very hot. Light winds.	0	31.2	17	64	W/NW
31-Aug-11	Wed	Fine and very hot.	0	30.9	11	66.2	N/NW

Meteorological Data Extracted from HKO – September 2011

Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Sep-11	Thu	Mainly cloudy with isolated showers.	0.1	26.9	16.5	79.7	W/NW
2-Sep-11	Fri	Light to moderate easterly winds.	0	27.9	10.5	85.5	S/SE
3-Sep-11	Sat	Light to moderate southeasterly winds.	22.6	27.8	18	87.5	E/NE
4-Sep-11	Sun	Mainly fine apart from isolated showers.	1.8	28.8	16.2	81	S/SE
5-Sep-11	Mon	Mainly fine.	0	28.8	12.5	81.7	S/SE
6-Sep-11	Tue	fine and hot	0	28.3	10	81.5	S/SE
7-Sep-11	Wed	Moderate southeasterly winds.	0.2	29.3	12.5	77	S/SE
8-Sep-11	Thu	Sunny periods	Trace	30	14.9	74	E
9-Sep-11	Fri	Moderate to fresh easterly winds.	Trace	30.2	15	66.7	E
10-Sep-11	Sat	fine and hot	2.6	30.1	16.7	67	E
11-Sep-11	Sun	Fine and very hot.	20.4	29.6	19	71.2	E/SE
12-Sep-11	Mon	Moderate to fresh northeasterly winds.	0.6	30.1	15.3	69	E
13-Sep-11	Tue	Mainly fine.	2.7	30.2	17.5	62	E/SE
14-Sep-11	Wed	Moderate to fresh easterly winds.	2.7	30.4	15	67.5	E/NE
15-Sep-11	Thu	Light to moderate southeasterly winds.	10.9	29.3	11.2	72.5	E
16-Sep-11	Fri	Mainly fine apart from isolated showers.	1	29.7	10.7	75	E
17-Sep-11	Sat	Moderate southeasterly winds.	0.2	30.5	9.7	71.2	E
18-Sep-11	Sun	fine and hot	0.5	30.9	15.5	63.7	E
19-Sep-11	Mon	A few showers	16.6	28.7	16.5	72.5	E/NE
20-Sep-11	Tue	Light to moderate southwesterly winds.	Trace	24.5	15	82.5	NE
21-Sep-11	Wed	Moderate to fresh northeasterly winds.	0	24.5	13.2	66	N/NE
22-Sep-11	Thu	Mainly cloudy with a few light rain patches	Trace	24.8	17	64	NE
23-Sep-11	Fri	Moderate southeasterly winds.	0.3	25.4	10.1	73.7	E/NE
24-Sep-11	Sat	A few showers	Trace	25.8	15.2	70.5	NE
25-Sep-11	Sun	Moderate to fresh easterly winds.	4.2	24.4	8.2	71	NE
26-Sep-11	Mon	Mainly cloudy with occasional showers.	0.2	27.7	11	71	E
27-Sep-11	Tue	Moderate to fresh east to northeasterly winds	Trace	28.9	10.6	72.5	E/NE
28-Sep-11	Wed	A few squally showers	2.5	28.7	14.6	71	NE
29-Sep-11	Thu	NO. 8 SOUTHWEST GALE OR STORM SIGNAL	30.8	26.3	26	85	SE
30-Sep-11	Fri	Mainly cloudy with occasional showers.	2.7	28.6	14.2	77	E/SE

Meteorological Data Extracted from HKO – October 2011

Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Oct-11	Sat	Holiday					
2-Oct-11	Sun	STANDBY SIGNAL NO. 1	3.3	25.7	21.5	80.5	NE
3-Oct-11	Mon	The Strong Wind Signal, No. 3	1.6	22.2	28.2	77.5	NE
4-Oct-11	Tue	Fresh northeasterly winds	Trace	22.3	15.7	79.5	NE
5-Oct-11	Wed	Moderate northeasterly winds	0.1	23.5	12.1	75	NE
6-Oct-11	Thu	Mainly cloudy with one or two light rain patches.	0.1	24.5	11.3	75.5	E/NE
7-Oct-11	Fri	Mainly cloudy.	Trace	26	8	76.5	E/NE
8-Oct-11	Sat	Mainly cloudy	Trace	26.3	7.1	74	E/NE
9-Oct-11	Sun	Mainly cloudy	0	27.4	10.5	67.5	N/NE
10-Oct-11	Mon	Moderate to fresh east to northeasterly winds.	5.3	27.3	11.4	78.5	E
11-Oct-11	Tue	Mainly fine and dry.	6.9	24.8	15.7	92	E
12-Oct-11	Wed	Light to moderate easterly winds.	105.8	24.5	12.5	94	E
13-Oct-11	Thu	rainy	30.7	27.2	11.2	82.2	E
14-Oct-11	Fri	Moderate east to northeasterly winds	3.8	25.9	10	84	E
15-Oct-11	Sat	mainly fine	0	25.2	11.5	63	E/NE
16-Oct-11	Sun	Mainly fine and dry.	0	24.6	8	71	E
17-Oct-11	Mon	mainly fine	0	25.2	10.1	61.2	E/NE
18-Oct-11	Tue	Mainly fine and dry.	0	24.3	9	65.5	E/NE
19-Oct-11	Wed	Moderate east to northeasterly winds	Trace	25.1	8.7	67	E
20-Oct-11	Thu	Dry with some haze	0	23.9	7.5	67.5	E/NE
21-Oct-11	Fri	Light to moderate east to northeasterly winds.	0	24.7	8.2	68.5	E/SE
22-Oct-11	Sat	Mainly fine and dry.	0	25.5	7.8	71	E
23-Oct-11	Sun	Fine.	0	25.8	10.4	74.5	S/SE
24-Oct-11	Mon	Light to moderate easterly winds.	0	24.6	10.5	76.5	E/SE
25-Oct-11	Tue	Dry with sunny intervals.	0.5	24.6	11.2	76.2	E/NE
26-Oct-11	Wed	Moderate to fresh east to northeasterly winds.	0.1	23.2	11.1	70	NE
27-Oct-11	Thu	Mainly fine.	1.5	25	8.4	69.5	E/NE
28-Oct-11	Fri	Moderate east to northeasterly winds,	Trace	23.9	9.7	67.5	E/NE
29-Oct-11	Sat	Mainly cloudy.	0	23.2	7.2	65	N/NE
30-Oct-11	Sun	Moderate northeasterly winds.	Trace	23.9	10	68.5	N/NE
31-Oct-11	Mon	Mainly fine and dry.	Trace	25.7	14.5	66.5	E/NE