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

2ND QUARTERLY ENVIRONMENTAL MONITORING & AUDIT SUMMARY REPORT – (MAY 2010 TO JULY 2010)

PREPARED FOR

CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) COMPANY LIMITED

Quality Index

Date	Reference No.	Prepared By	Certified By
21 July 2011	TCS00491/09/600/R0225v2	Nicola Hon (Environmental Consultant)	T.W. Tam (Environmental Team Leader)

Version	Date	Description
1	19 July 2011	First submission
2	21 July 2011	Amended again IEC's comments on 21 July 2011

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25 July 2011

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Our Ref: EB000586-F/THW11-414

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, May to July 2010 – IEC Verification

With reference to ET's captioned report (ET's ref.: TCS00491/09/600/R0225v2 dated 21 July 2011) received on 21 July 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

F.C. TSANG
Independent Environmental Checker
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FCT/WL/ri

EXECUTIVE SUMMARY

ES.01. This is the **2nd** quarterly EM&A summary report under Environmental Permit No.EP327/2009 (hereinafter ''the EP'') for the *Expansion of Ha Tsuen Sewage Pumping Station*, covering the period from **1 May 2010** to **31 July 2010** (hereinafter "Reporting Period").

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

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

Aspects	Environmental Monitoring Parameters / Inspection	Occasions
Air Quality	1-hour TSP	**96**
	24-hour TSP	**34**
Construction Noise	Leq (30min) Daytime	**32**
Water Quality	Dissolved Oxygen	**39**
	Turbidity	**39**
	Suspended Solids (SS)	**39**
Inspection / Audit	ET Weekly Environmental Site Inspection	**13**

BREACHES OF ACTION/LIMIT LEVELS

ES.03. In this reporting period, monitoring results demonstrated that no exceedance of environmental quality criteria recorded for both construction noise and air quality (1-hr TSP and 24-hr TSP) monitoring. However, there were 15 Action/ Limit Level exceedances recorded in water quality monitoring. The summaries of exceedances in water quality monitoring is shown below:

Month	Exceedance	DO	Turbidity	SS	Sub-total
May 2010	Action Level	2	0	0	2
	Limit Level	1	2	4	7
June 2010	Action Level	0	1	0	1
	Limit Level	0	0	3	3
July 2010	Action Level	0	0	0	0
	Limit Level	0	0	2	2
Total	**Action Level**	**2**	**1**	**0**	**3**
	Limit Level	**1**	**2**	**9**	**12**

ES.04. Investigation for the cause of exceedance was completed and it was concluded that water quality exceedances were not related to the work under the Project. No corrective action was therefore required.

ES.05. 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.06. No documented complaints, notifications of summons and successful prosecutions were received during the Reporting Period. No associated mitigation action is needed.

REPORTING CHANGES

ES.07. During this Reporting Period, the Environmental Permit No.EP-327/2009 was updated to EP-327/2009A which issued by EPD on 1 June 2010. The variation of EP was about the amendment of Condition 3.2 of Part C and Figures 1 and 2.

FUTURE KEY ISSUES

ES.08. During wet season, muddy water and other water pollutants due to surface runoff from the site to local stream will be key environment issue. It is reminded that water mitigation measures to prevent surface runoff into nearby water bodies should be fully implemented.

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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 D**C/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 Environmental Permit No.EP-327/2009 for upgrading and expansion of Sewage Treatment Works at San Wai (excluded for the Project) and Ha Tsuen Sewage Pumping Station was obtained by DSD in January 2009 for the relevant works. However, a Variation EP-327/2009A has been updated and issued by EPD on 1 June 2010.

1.04 According to the Section 25 of the Particular Specification (PS) and the 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 **2nd** 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 May to 31 July 2010**.

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:

May 2010	Resumed to undertake Pre-bored H-pile installation on 13 May 2010
June 2010	Installation Pre-bored H-pile
July 2010	Installation Pre-bored H-pile

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	Variation Environmental Permit No. EP-327/2009a	Updated on 1 June 2010
2	Air pollution Control (Construction Dust)	In progress
3	Construction Noise Permit	In progress
4	Chemical waste Producer Registration Registration No. 5213-511-C3570-01	Issued on 13 Nov 2009
5	Water Pollution Control Ordinance (Discharge License) License No. WT00005671-2009	Issued on 12 Jan 2010 Expiry date: 31 Jan 2015
6	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	• 1-hour Total Suspended Particulate (hereinafter '1-hr TSP'); and • 24-hour Total Suspended Particulate (hereinafter '24-hr TSP').
Construction Noise	• 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	• In Situ Measurement - Dissolved Oxygen (DO) and Turbidity • Laboratory Analysis - Suspended Solids (SS)
Water Quality – Effluent Discharge	• In Situ Measurement - pH value • Laboratory Analysis - SS and Chemical oxygen demand (COD)
Landscape and Visual Resources	• 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 located at Sha Chau Lei Road has been identified, but the premise was granted by CEDD existing project CV/2008/03 for air quality monitoring. Also, the HVS installation at the other one designated air monitoring station Tin Shing Court, the premises is refused by the incorporated owners. The alternative location Ho Tak Sum Primary School as one sensitive receiver mentioned in the EIA Report (Register No. AEIAR-072/2003) is proposed to be the replacement to undertake air quality monitoring during the expansion works of Ha Tsuen Sewage Pumping Station in accordance with the EM&A Manual Clauses 2.2.1.20. Simultaneously, air monitoring at the designated location Yeung Chun Pui Care & Attention Home is proposed to perform. 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***.

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
AM2	Yeung Chun Pui Care & Attention Home	Designated in the EM&A Manual

Construction Noise

3.03 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

3.04 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.

3.05 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

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

MONITORING FREQUENCY

3.07 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

3.08 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 (μg /m^3)		Limit Level (μg /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

3.09 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		
				1st hour	2nd hour	3rd hour	1st hour	2nd hour	3rd hour
7-May-10	31	47	3-May-10	67	92	79	71	94	82
13-May-10	31	68	8-May-10	62	86	75	73	81	68
19-May-10	29	25	14-May-10	68	90	79	73	96	82
22-May-10	40	32	20-May-10	48	71	59	57	81	72
26-May-10	19	66	27-May-10	69	97	78	66	89	77
1-Jun-10	29	66	2-Jun-10	55	78	66	53	76	65
7-Jun-10	29	44	8-Jun-10	59	78	68	61	83	72
12-Jun-10	107	78	14-Jun-10	57	81	69	60	83	71
17-Jun-10	60	35	18-Jun-10	52	76	63	54	79	66
19-Jun-10	52	30	21-Jun-10	55	78	66	57	82	70
25-Jun-10	75	11	26-Jun-10	52	65	58	55	79	67
2-Jul-10	32	41	3-Jul-10	46	68	57	44	67	55
8-Jul-10	49	40	9-Jul-10	44	68	56	42	69	55
14-Jul-10	42	35	15-Jul-10	38	60	49	41	62	51
20-Jul-10	59	44	21-Jul-10	32	58	46	36	50	42
26-Jul-10	44	27	27-Jul-10	39	59	49	42	64	53
31-Jul-10	41	20							
Average (Range)	**45.2 (19-107)**	**41.7 (11-78)**	**Average (Range)**	**63.9 (32-97)**			**66.0 (36-96)**		

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, 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
3-May-10	(#) 59.6	63.3
8-May-10	(#) 60.1	56.6
14-May-10	59.6	67.1
20-May-10	61.3	65.6
27-May-10	68.4	67.3
2-Jun-10	65.3	67.9
8-Jun-10	69.9	65.1
14-Jun-10	69.5	68.6

Date	(*) NM1	(*) NM2
18-Jun-10	69.9	68.0
21-Jun-10	67.1	63.7
26-Jun-10	63.3	66.4
3-Jul-10	64.1	65.7
9-Jul-10	67.1	64.3
15-Jul-10	65.2	69.4
21-Jul-10	64.4	63.8
27-Jul-10	62.9	65.3

Remarks:
(*)A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.
(#)Reduces to 65dB(A) during the school examination periods on 3 to 8 May 2010.

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

Station	Exceedance of Environmental Quality Criteria	
	Action Level	Limit Level
NM1	0	0
NM2	0	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)
Minimum	9.5	8.7	22.1
Average	3.9	4.2	2.0
Maximum	17.8	26.9	52.0

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 4-5 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
May 2010	13	Action Level	2	0	0	2
		Limit Level	1	2	4	7
		Sub-Total	***3***	***2***	***4***	***9***
June 2010	13	Action Level	0	1	0	1
		Limit Level	0	0	3	3
		Sub-Total	*0*	***1***	***3***	***4***
July 2010	13	Action Level	0	0	0	0
		Limit Level	0	0	2	2
		Sub-Total	***0***	***0***	***2***	***2***
Total	39	**Action Level**	**2**	**1**	**0**	**3**
		Limit Level	**1**	**2**	**9**	**12**
Percentage of Exceedance in the Quarterly Month			**7.7%**	**7.7%**	**23.1%**	**12.8%**

4.07 As shown in ***Tables 4-5***, a total of 15 Action/Limit levels exceedances were recorded in water quality monitoring. The exceeded parameters included 2 Action & 1 Limit levels of Dissolved Oxygen (DO), 1 Action & 2 Limit levels of Turbidity and 9 Limit Levels of Suspended Solids (SS). The NOEs and the associated investigation reports were issued upon confirmation of the results and construction information.

4.08 According to the site information provided by the Contractor, pre-bored H-pile installation was carried out on 13 May 2010 and it will continued until end of July. The muddy water generated from the pre-bored H pile installation was recycled and reused on site. In case of any accidental discharge from the site, the Contractor has been provided proper mitigation measures such as erect of sand bag at the channel and daily inspection for the cleanliness of the channel. In viewing that Tin Shui Wai Nullah is sensitive by the seasonal change and large fluctuation of values were obtained before, it is believed that the exceedances were likely due to the natural variation of the stream course. Therefore, it is concluded that the exceedances were not related to the works under the project. No corrective action was therefore recommended.

OTHER MONITORING AND AUDIT

Landscape and Visual

4.09 Regular landscape and visual audit shall undertake twice a month by the landscape architect. Due to monitoring and audit works for landscaping and visual as part of the EM&A programme was undertaken by others. Hence, no monitoring and audit is presented in this Quarterly EM&A Summary Report.

4.10 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
	May 10	Jun 10	Jul 10	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)	403	711	1,443	2,557	Tuen Mun Area 38

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

Type of Waste	Quantity				Disposal Location
	May 10	Jun 10	Jul 10	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)	0	11	2	13	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 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, 9 events of the joint site inspection was undertaken to evaluate the site environmental performance. No non-compliance was noted but 18 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
04 May 2010	• Tree preservation requires improvement. The Contractor was reminded to proper fence the preserved tree
11 May 2010	No observation of deficiencies
18 May 2010	• The Contractor was advised to implement water mitigation measures to eliminate any accumulation of stagnant water on site especially in rainy season
26 May 2010	• The stagnant water accumulated should be drained away or applied larvicidal oil to prevent mosquitoes breeding. • Mud was accumulated within the channel. The contractor was reminded to clean the channel and remove the mud to prevent muddy water discharge.
1 June 2010	• C&D material scattered was observed, housekeeping should be improved to maintain the site clean and tidy.
8 June 2010	• Tree preservation requires further improvement. The Contractor was reminded to proper fence the preserved tree and avoids C&D material accumulated nearby. • Broken sand bags were observed, the contractor was reminded to change to prevent surface runoff discharged to the public road.
18 June 2010	• Oil leakage was observed, the contractor was reminded to clean the contamination surface and prevent further leakage from the plant • Free standing chemical containers without drip tray and label was observed at the site area, the contractor was reminded to provide drip tray and proper label for all chemical containers.
23 June 2010	• The stagnant water accumulated should be drained away or applied larvidical oil to prevent mosquitoes breeding.
29 June 2010	• The stagnant water accumulated should be drained away and the sand bag should be re-checked or replaced regularly to prevent any muddy water discharge outside the site.
6 July 2010	• The dirt and stain were observed. The contractor was reminded to clean the pavement and keep the site clean and tidy.
15 July 2010	• Chemical label and drip tray should be provided for the chemical drum • Sand and mud was observed at the public road, the contractor was reminded to clean and keep the public road near the site area was clean.
20 July 2010	• The contractor was reminded to clean the work front to keep the site clean and tidy at Ha Tsuen Road • Housekeeping should be improved at Sha Chau Lei Road • As a general reminder, the stockpile should be covered properly especially on rainy weather to avoid surface runoff.
27 July 2010	• The contractor was reminded to place the chemical container with trip tray and sheltered storage area

6.02 In General, it is reminded that good housekeeping practice should be maintained. During wet season, implement water mitigation measures to eliminate any accumulation of stagnant water on site is also stressed. 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 exceedances of water quality as 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 In this Reporting Period, no documented or verbally complaint was received by EPD, the Contractor and ER. Hence, no associated mitigation action advised. 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
1 – 31 May 2010	0	2	2 (Air)
1 – 30 June 2010	0	2	2 (Air)
1 – 31 July 2010	0	2	2 (Air)

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
1 – 31 May 2010	0	0	NA
1 – 30 June 2010	0	0	NA
1 – 31 July 2010	0	0	NA

Table 7-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 May 2010	0	0	NA
1 – 30 June 2010	0	0	NA
1 – 31 July 2010	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
Air Quality	• 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; and • Spanker of water spray system is provided at haul road to reduce dust emissions during the vehicles passing through the haul road.
Noise	• Use of site hoarding with noise barriers to screen noise at ground level of NSRs; and • Scheduling of no any construction works during school examination period in the Ha Tsuen Pumping Station.
Water Quality	• 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.
Waste and Chemical Management	• 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.
General	• The site was generally kept tidy and clean.

9 CONCLUSIONS AND RECOMMENTATIONS

CONCLUSIONS

9.01 This is the **2nd** 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 May 2010** to **31 July 2010**.

9.02 During this Reporting Period, the Environmental Permit No.EP-327/2009 was updated to EP-327/2009A which issued by EPD on 1 June 2010. The variation of EP was about the amendment of Condition 3.2 of Part C and Figures 1 and 2.

9.03 In this reporting period, monitoring results demonstrated that no exceedance of environmental quality criteria recorded for both construction noise and air quality (1-hr TSP and 24-hr TSP) monitoring. Although 15 Action/ Limit Level exceedances were recorded in water quality monitoring, the exceedances are not related to the works under the Project. No corrective actions were therefore recommended.

9.04 The monitoring and audit works for landscaping and visual was undertaken by others, hence no result is presented in this summary Report. The landscape and visual impacts 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.

9.05 A total of 13 occasions of joint site inspection was undertaken to evaluate the site environmental performance. No non-compliance was noted but 18 observations were recorded during the site inspections within the Reporting Period.

9.06 No documented complaints, 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.

9.07 No site inspection was undertaken by the Agriculture, Fisheries and Conservation Department (AFCD) and Leisure and Cultural Services Department (LCSD) in this Reporting Period. However, EPD was carried out a site inspection on 22 June 2010 to inspect the water quality control implemented in the construction site.

RECOMMENDATIONS

9.08 During wet season, muddy water and other water pollutants generated from surface runoff of the site to the local stream will be key environment issue. It is reminded that water mitigation measures to prevent surface runoff to the nearby water bodies should be fully implemented. Moreover, mitigation measures to avoid dust emission from the construction site should be properly installed as recommended in the EIA and Mitigation Measure Implementation Schedule of the Environmental Monitoring and Audit Manual.

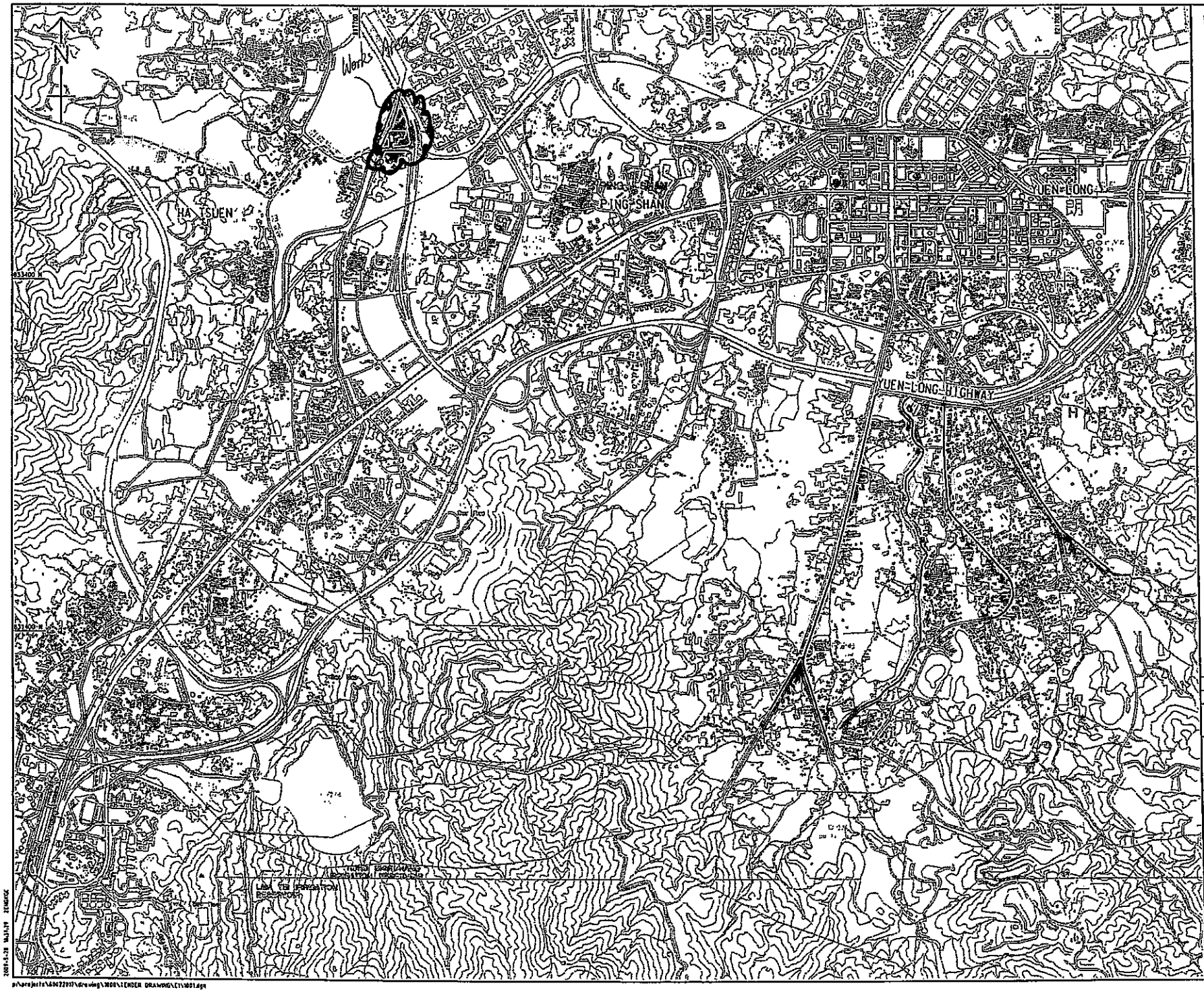
9.09 To control the performance of waste management, the Contractor shall ensure that all solid and liquid waste management works are fully in compliance with the relevant license/permit requirements, such as the effluent discharge license and the chemical waste producer registration. The Contractor is also reminded to implement the recommended environmental mitigation measures according to the Environmental Monitoring and Audit Manual.

9.10 The baseline monitoring of water quality was conducted during typical dry season (November to April next year) in Hong Kong. It is important to note that influence of seasonal changes

should be taken into account when interpreting monitoring data obtained during wet season. Review of the baseline conditions may needed in particular during seasonal changes. If the changes in baseline conditions are evident, the environmental performance criteria should be re-established by agreement of the ER and IEC and submitted for EPD endorsement.

Appendix A

Site Layout Plan



-	TENDER DRAWING	DSD/ACTS	05.09

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 SEWAGE PUMPING STATION

LOCATION PLAN

AECOM

DRG NO. 60022017/C1/1001

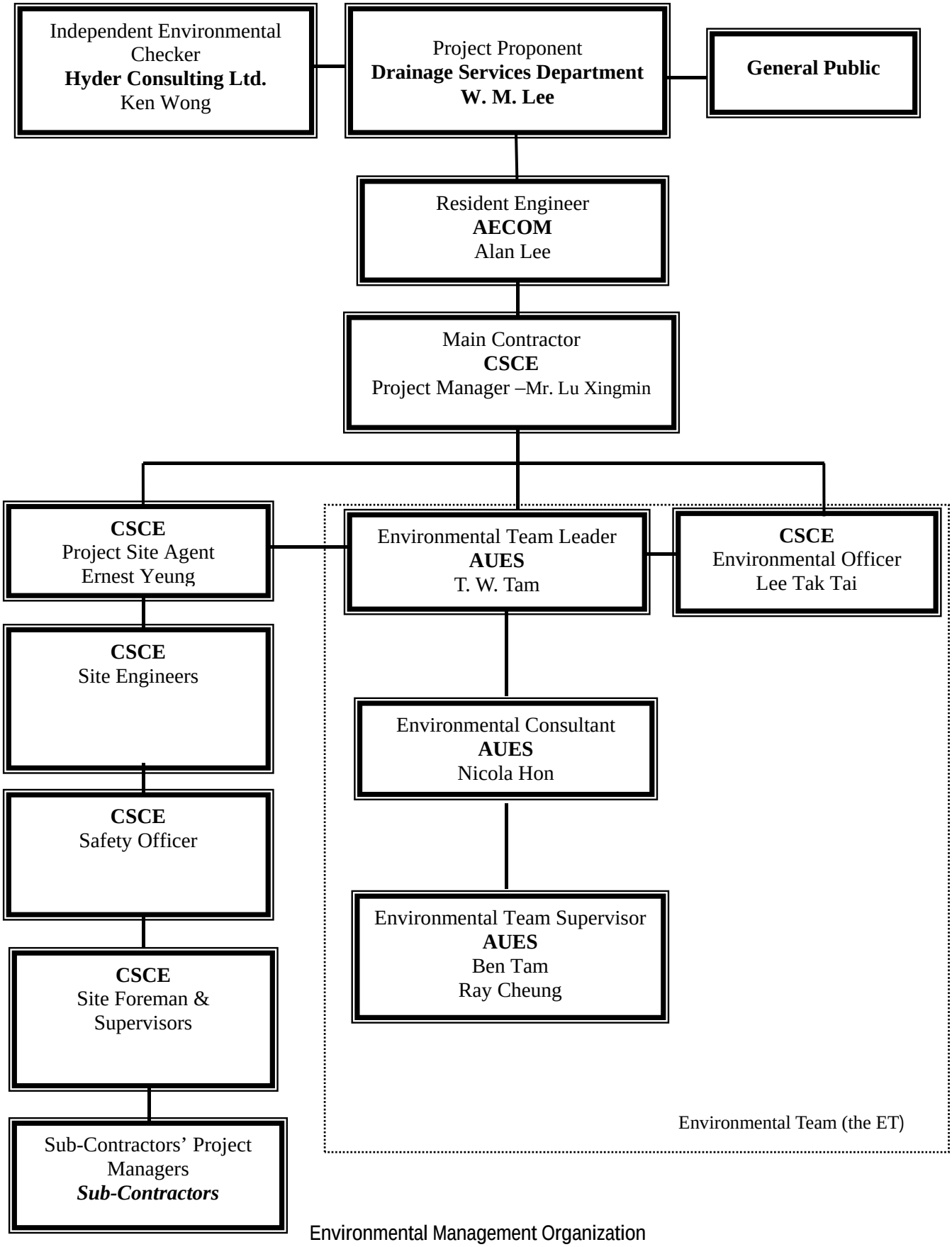
CONTRACT NO. DC/2009/08

SCALE AT A1 1 : 10000

METRES

Appendix B

On-site environmental management



Environmental Management Organization

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	Engineer's Representative	Mr. Alan Lee	9706 9568	2472 0132
Hyder	Independent Environmental Checker	Mr. Ken Wong	2911 2730	2805 5028
CSCE	Project Manager	Mr. Lu Xingmin	2472 0113	2472-0229
CSCE	Site Agent	Mr. Ernest Yeung	2472 0113	2472-0229
CSCE	Site Engineer	Mr. Poon Kwong Keung	2472 0113	2472-0229
CSCE	Environmental Officer	Mr. Lee Tak Tai	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

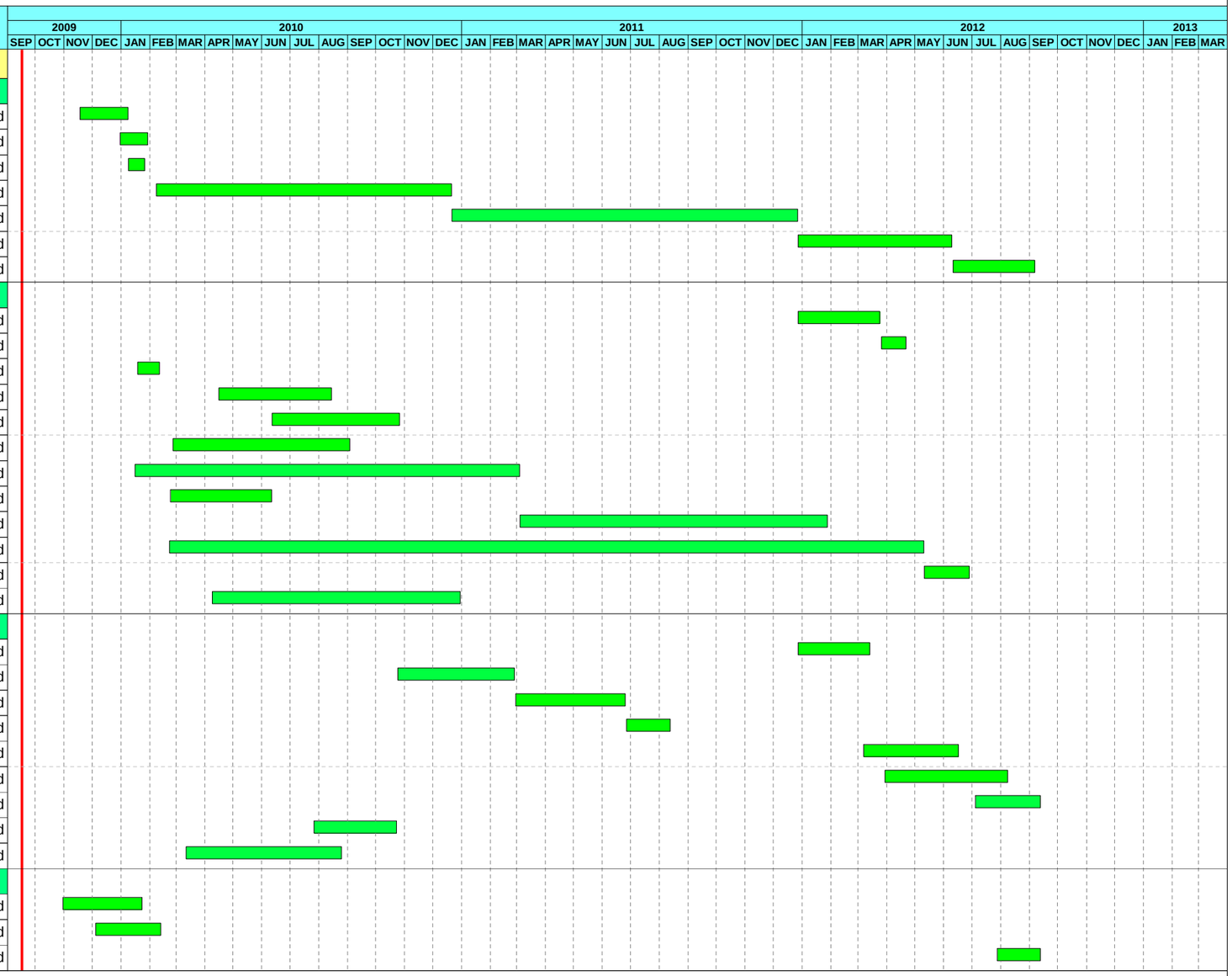
AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

Master construction program

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

Activity ID	Description	Original Duration	Early Start	Early Finish	Total Float
Ha Tsuen Area					
Pumping Station					
H/200020	Site investigation and report	42	18NOV09	08JAN10	67d
H/200030	Install acoustic screen	25	31DEC09	29JAN10	154d
H/200040	Installation of monitoring point	15	09JAN10	26JAN10	157d
H/200050	Prebored H-piles	210	08FEB10	21DEC10	147d
H/200070	Substructure	252 *	22DEC10	27DEC11	147d
H/201800	Superstructure	84	28DEC11	09JUN12	158d
H/202100	Finishes	75	11JUN12	06SEP12	158d
Rising Main					
H/300010	Gang B: RM from station to extg valve chamber	70	28DEC11	24MAR12	192d
H/300020	Testing of RM bet station and extg valve chamber	20	26MAR12	21APR12	192d
H/300200	Trial pit to locate existing sleeve at nullah	21	19JAN10	11FEB10	116d
H/300210	Rising Main under existing nullah	100	16APR10	14AUG10	133d
H/300400	Rising Main bet ch274 to ch298 & washout chamber	112	12JUN10	26OCT10	4d
H/300500	Rising Main between ch0 to ch89	155	26FEB10	03SEP10	116d
H/300600	Pipe jacking between ch385 to ch815	330 *	16JAN10	04MAR11	96d
H/300665	Pipe jacking between ch298 to ch385	88	23FEB10	11JUN10	4d
H/300800	Gang A : RM between ch815 to ch1002	264 *	05MAR11	28JAN12	96d
H/300900	Gang A : RM between ch1002 to ch1585	651 *	22FEB10	10MAY12	13d
H/301430	Testing of RM bet ch1787 to extg valve chamber	40	11MAY12	28JUN12	13d
H/302000	Pipe jacking between ch 1585 to ch1787.2	219 *	09APR10	30DEC10	359d
Road and Drain					
H/400020	Concrete pipe between extension to FM17	60	28DEC11	13MAR12	153d
H/400030	Sewage between FM17 to FM15 and manholes	100 *	25OCT10	26FEB11	169d
H/400050	Concrete pipe between M1 to FM16	50	28FEB11	25JUN11	169d
H/400090	Manhole M1 and sewage connection	40	27JUN11	12AUG11	169d
H/400100	Storm water drain	36	07MAR12	16JUN12	153d
H/400110	Power supply to pumping station	60	30MAR12	08AUG12	153d
H/400115	Roadworks	60 *	05JUL12	12SEP12	153d
H/400135	Pipe jacking between FM16 to existing FM7	74 *	27JUL10	23OCT10	169d
H/410010	Pipe jacking between FM16 to FM15	89 *	12MAR10	25AUG10	169d
Landscaping					
H/600110	Tree transplant at HTSPS Extension	70	31OCT09	23JAN10	7d
H/600120	Tree transplant at Ping Ha Road	70	05DEC09	12FEB10	158d
H/600130	Landscaping finishes at HTSPS	40	28JUL12	12SEP12	153d



Start date	17SEP09
Finish date	02JUL15
Run date	05FEB10
Project name	WP11
Page number	1A
c Primavera Systems, Inc.	

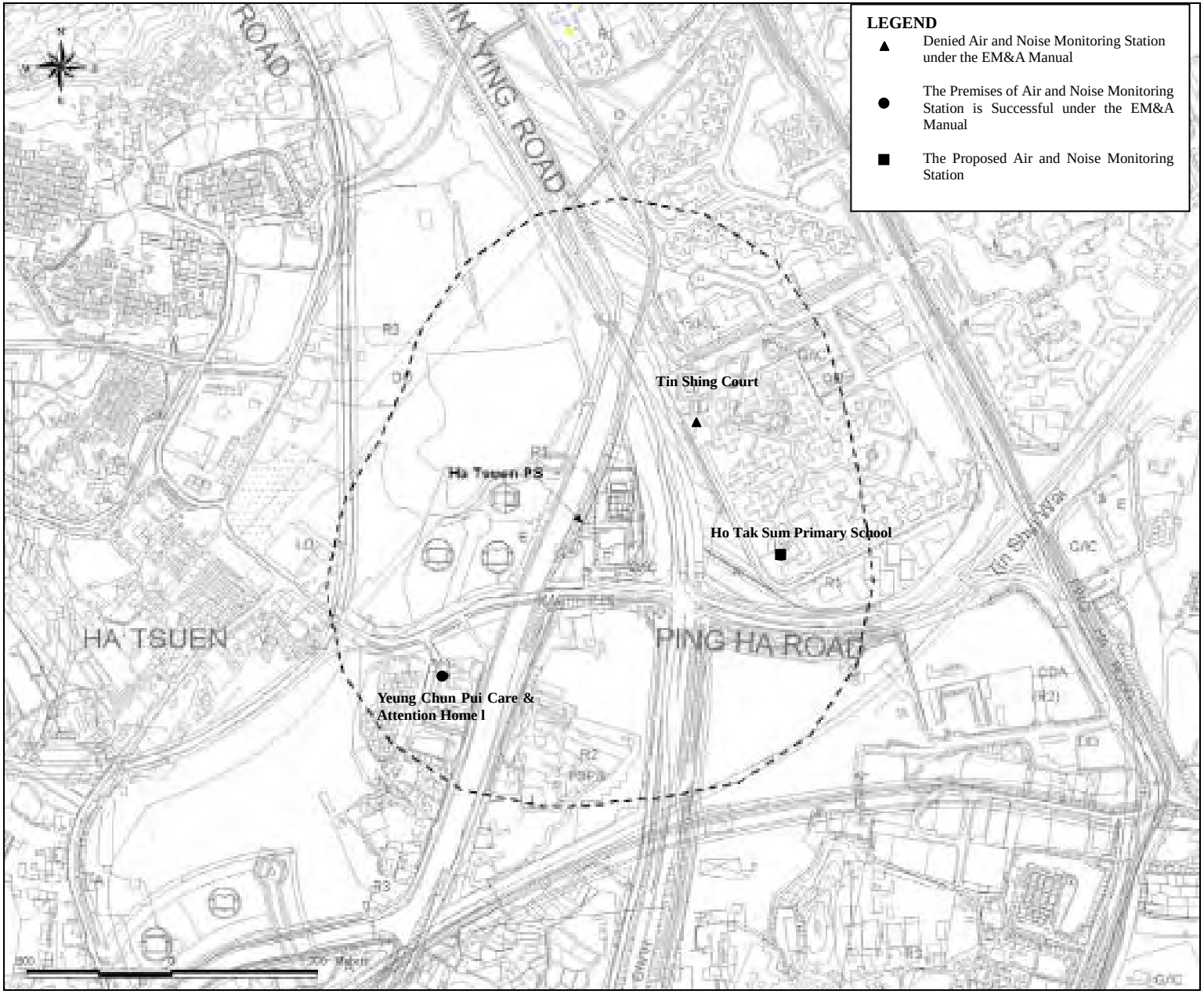
Early bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Initial Works Programme - Rev 02 (Ha Tsuen Area)

中國建築 CHINA STATE CONSTRUCTION

Appendix D

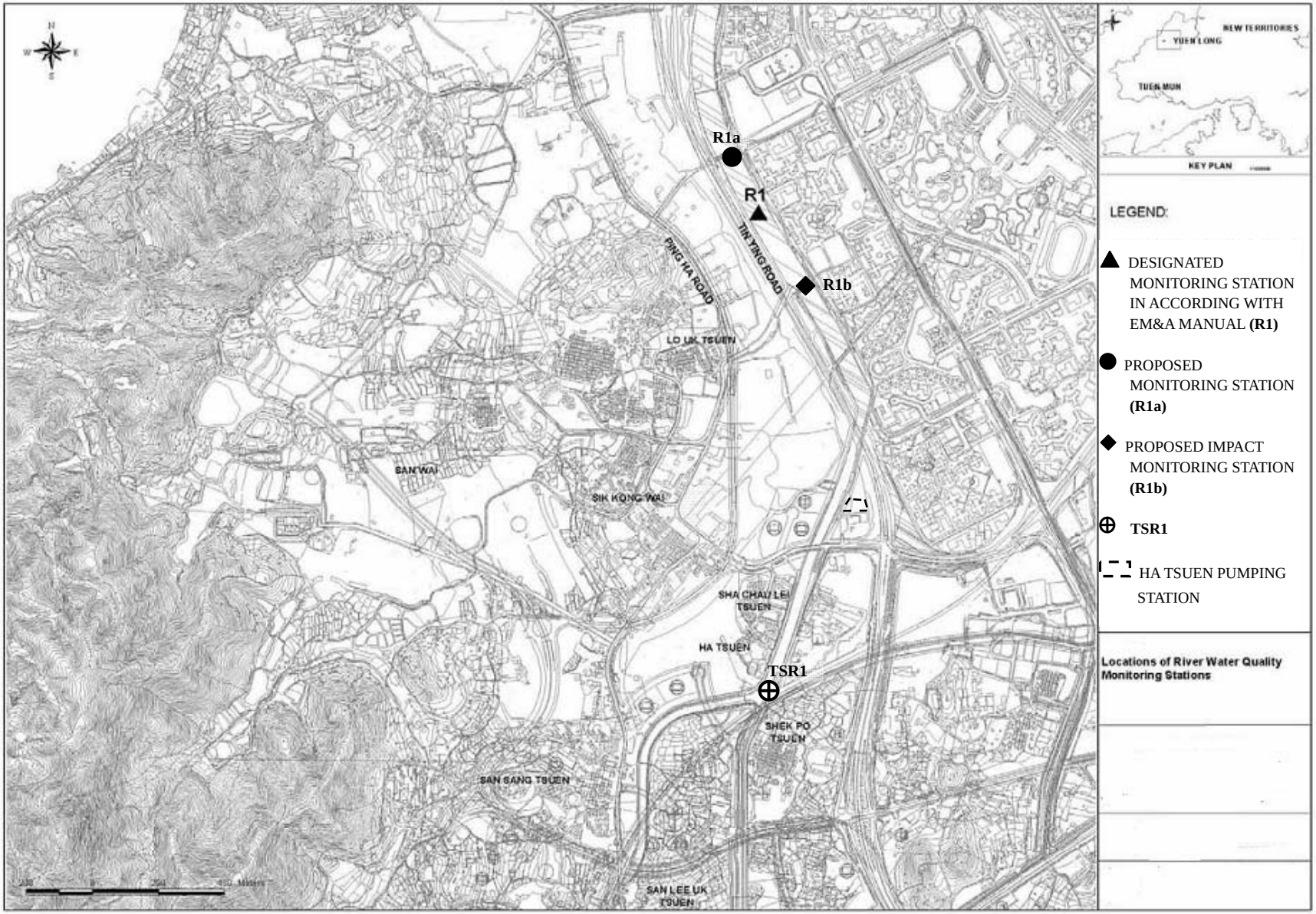
Monitoring Location of EM&A Programme


LEGEND
Denied Air and Noise Monitoring Station under the EM&A Manual
The Premises of Air and Noise Monitoring Station is Successful under the EM&A Manual
The Proposed Air and Noise Monitoring Station
Tin Shing Court
Ha Tsuen PS
Ho Tak Sum Primary School
Yeung Chun Pui Care & Attention Home l
HA TSUEN
PING HA ROAD
IN YING ROAD

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

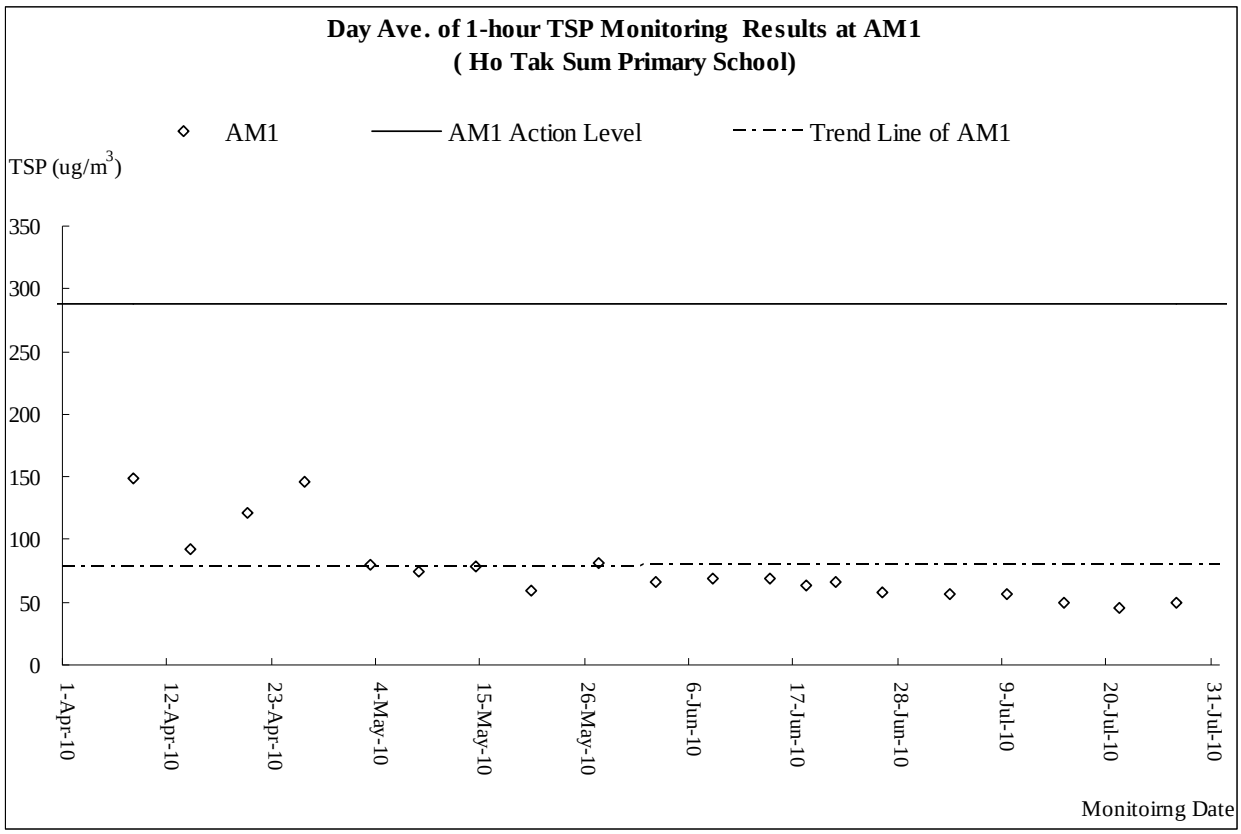


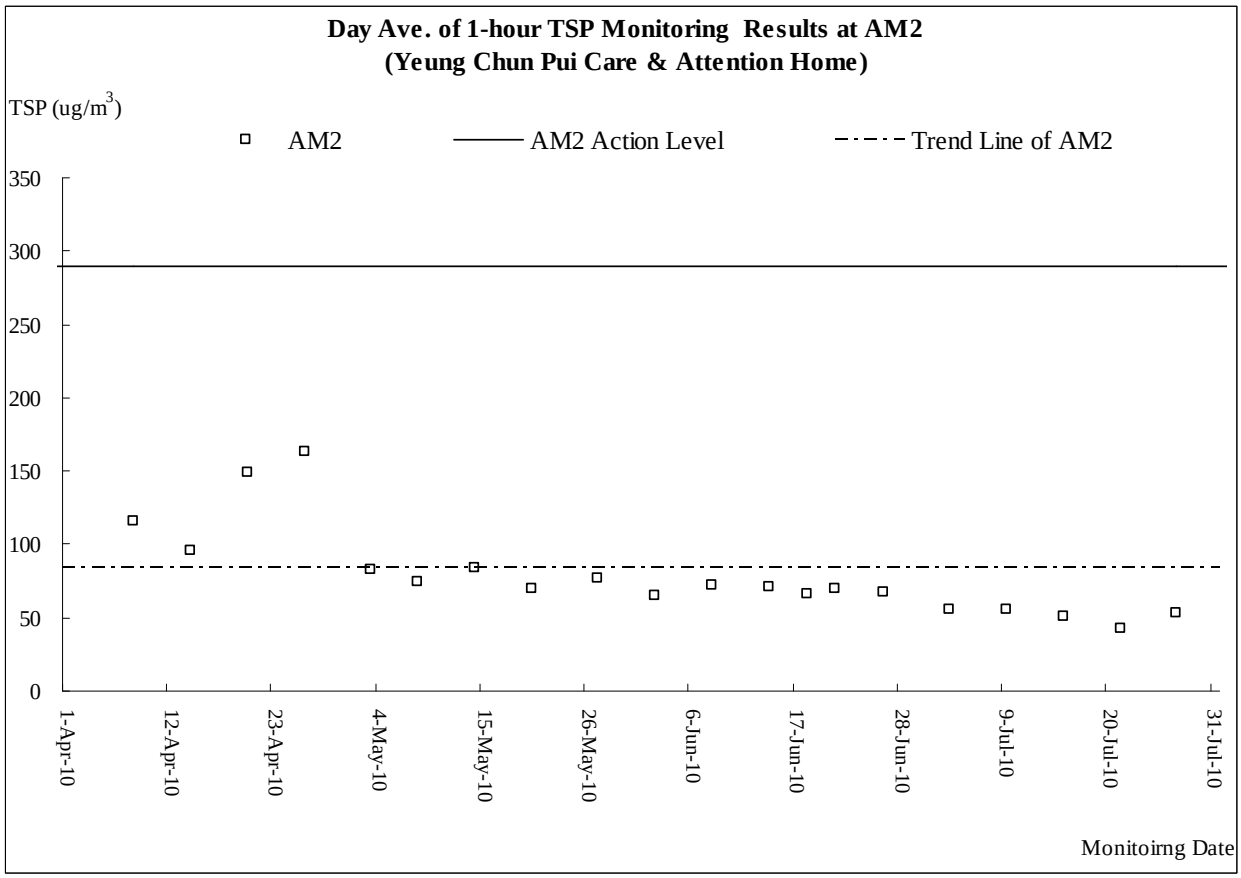
Appendix E

Graphic Plot of

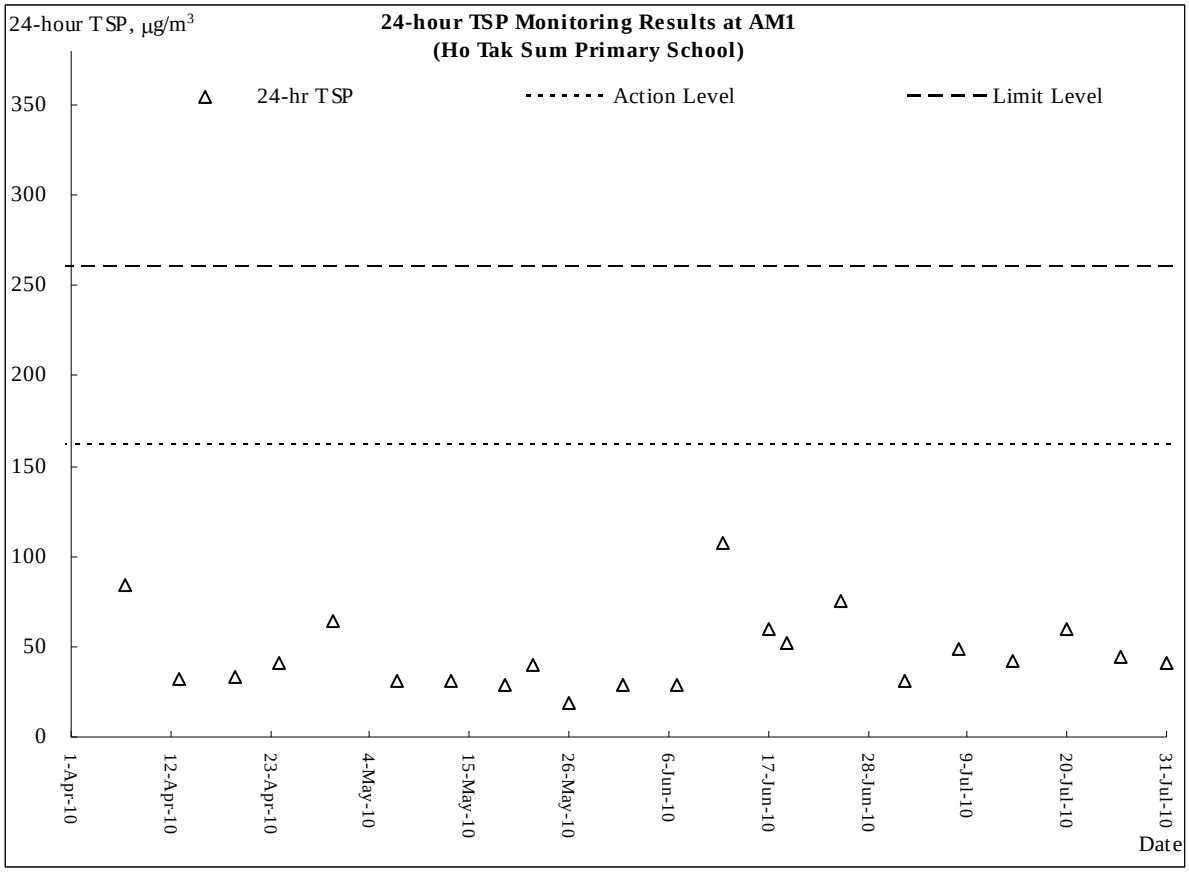
- **Air Quality**
- **Construction Noise**
- **Water Quality**

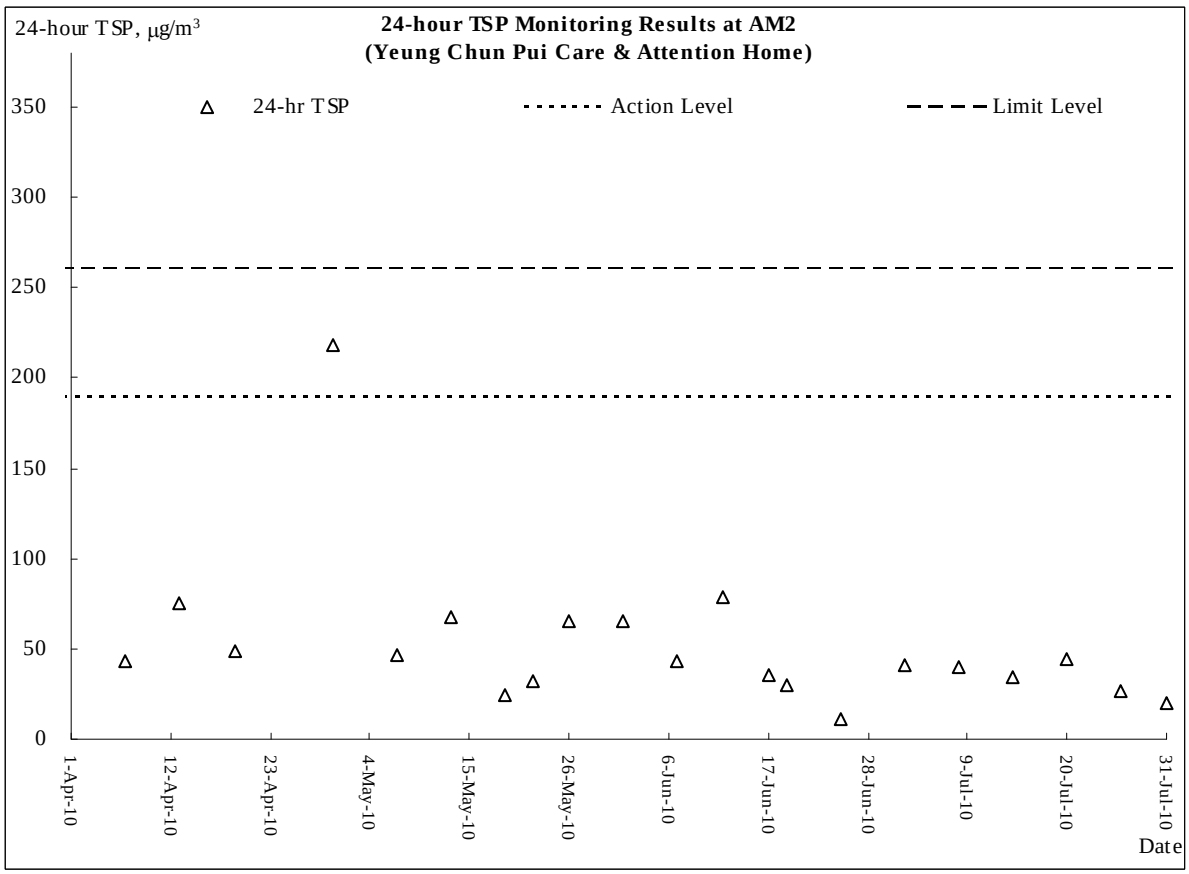
Air Quality – One Hour TSP



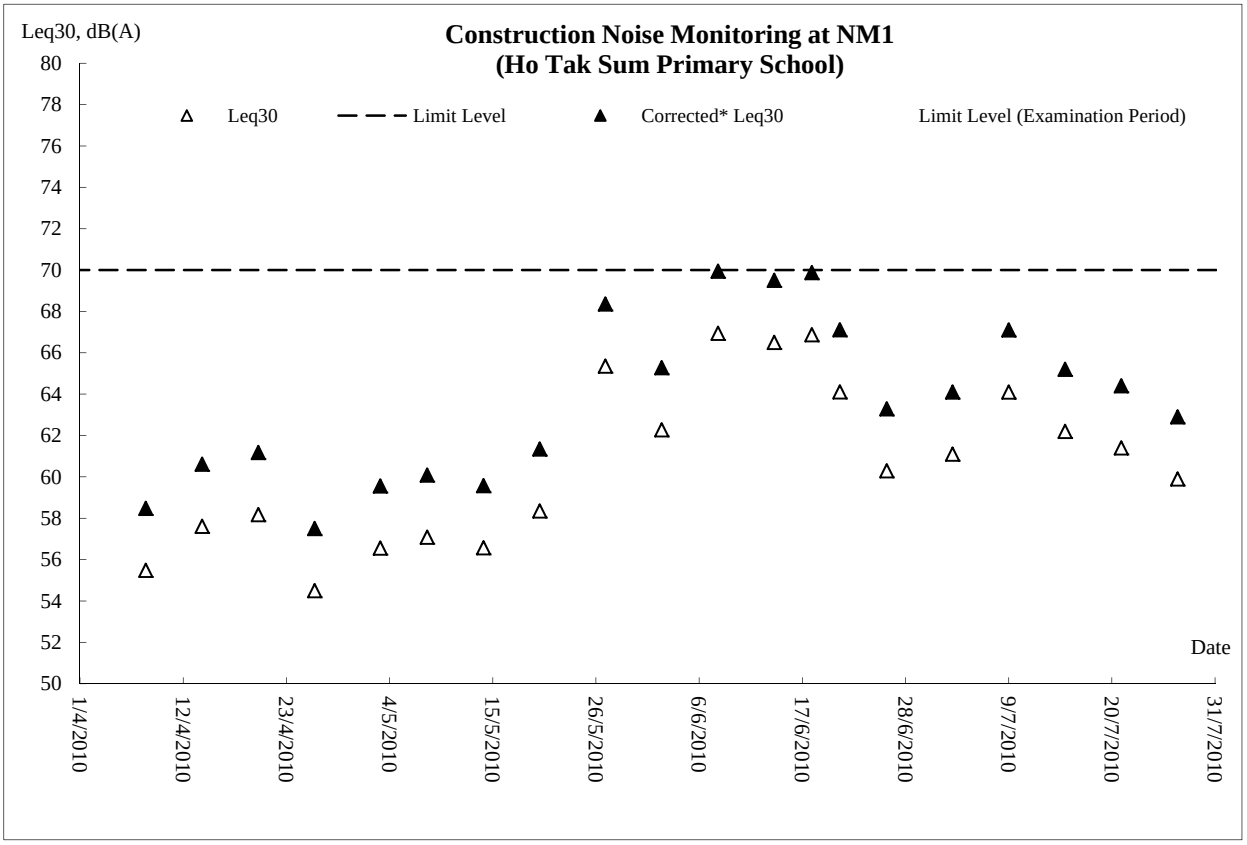


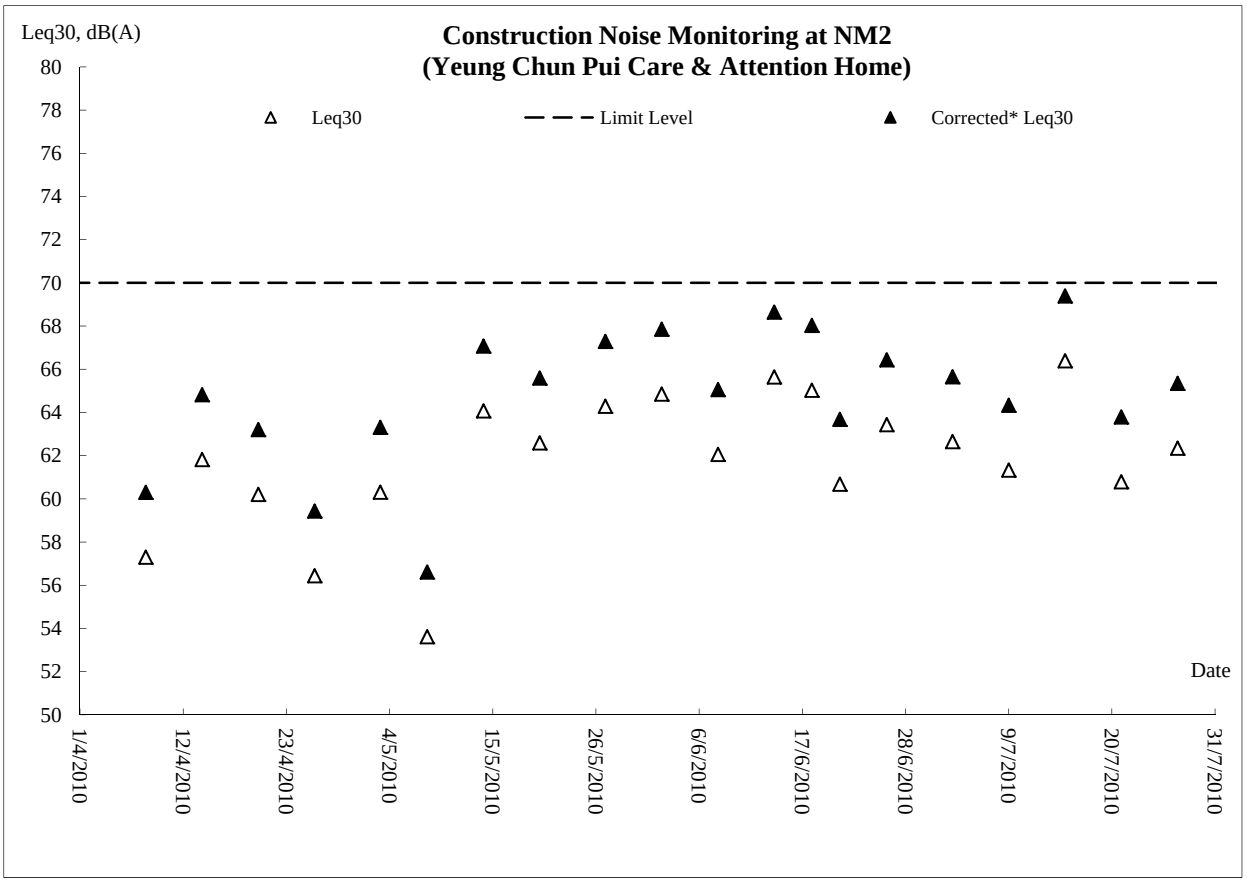
Air Quality – 24-our TSP



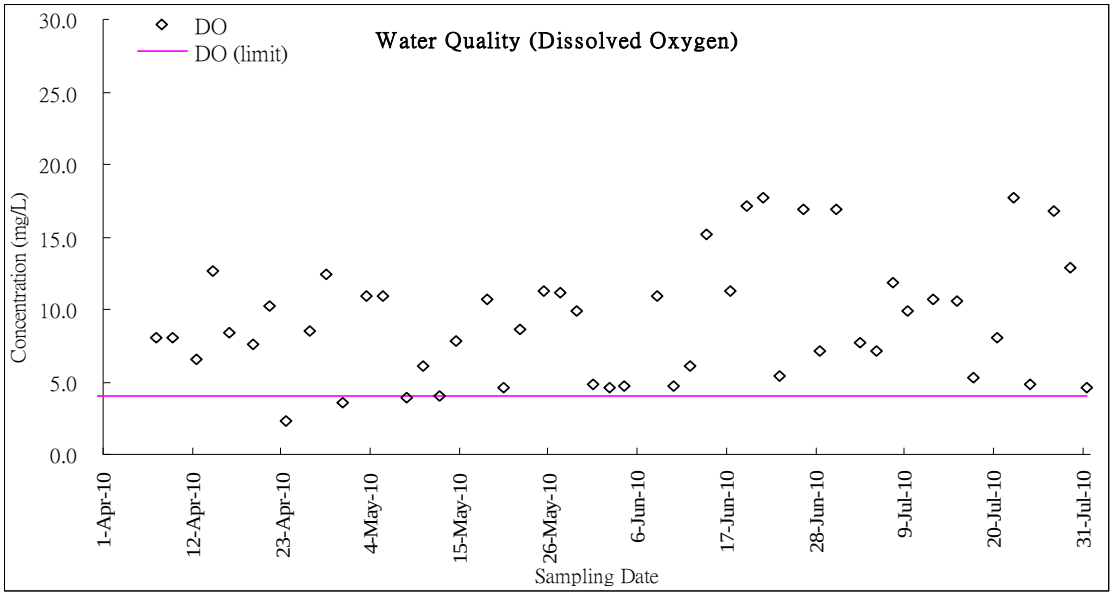


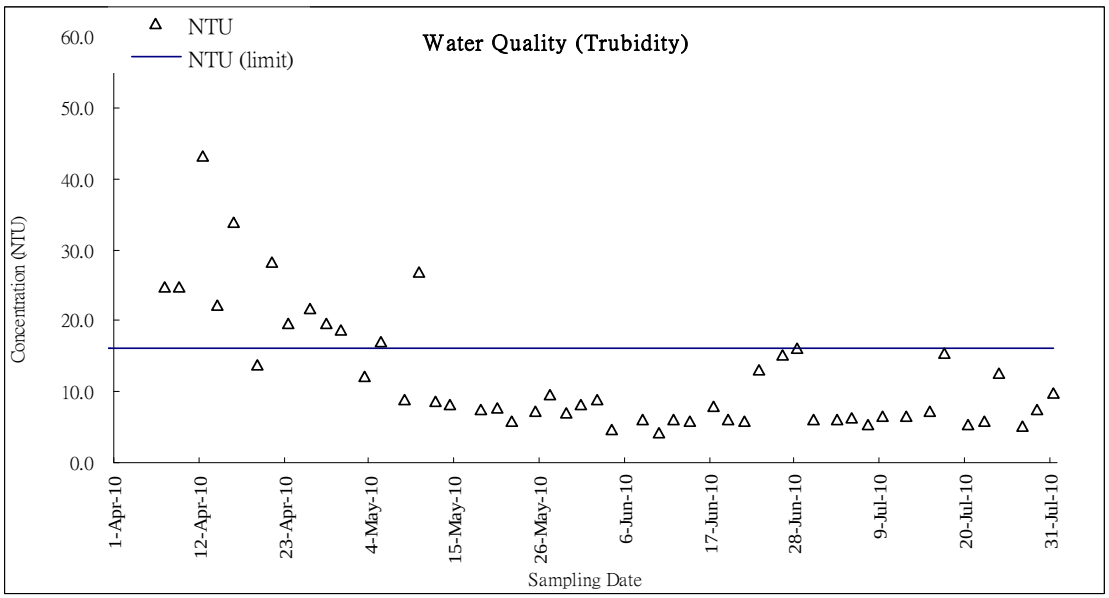
Construction Noise

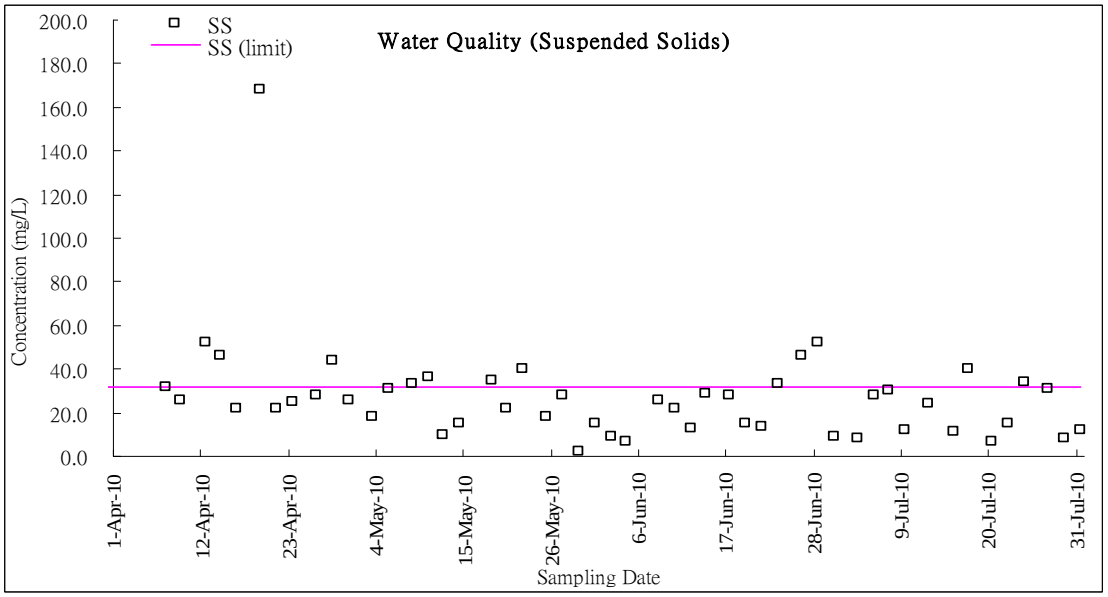




Water Quality (R1b)







Appendix F

Meteorological information

Meteorological Data Extracted from HKO – May 2010

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-May-10	Sat	Holiday					
2-May-10	Sun	Mainly fine. Moderate easterly winds.	0	24.5	11	74	S/SE
3-May-10	Mon	Fine. Moderate east to southeasterly winds.	0	25.3	16.5	74.2	SE
4-May-10	Tue	Moderate east to southeasterly winds, fresh occasionally.	Trace	25.8	11	71.5	E/NE
5-May-10	Wed	A few showers. Moderate south to southeasterly winds.	Trace	26.3	15.2	79	S/SE
6-May-10	Thu	Mainly cloudy with a few showers.	0.2	27.9	20	81	S/SE
7-May-10	Fri	Mainly cloudy with a few showers.	29.1	25.1	27.5	85.2	S/SE
8-May-10	Sat	A few squally thunderstorms at first.	0	28	11.7	81.5	S/SE
9-May-10	Sun	Light winds, becoming moderate easterlies later.	3.9	27.9	17.5	77.5	S/SW
10-May-10	Mon	Cloudy with rain.	27.6	24.2	31.5	88.5	E/SE
11-May-10	Tue	Cloudy with a few rain patches.	0.3	25.1	9.2	82.5	E
12-May-10	Wed	Sunny intervals and a few showers.	Trace	25.7	Maintenance		
13-May-10	Thu	Mist patches in the morning.	0.7	26	16.7	77.5	SE
14-May-10	Fri	Light to moderate southerly winds.	Trace	27.5	17	77.7	S/SE
15-May-10	Sat	Mainly cloudy with one or two showers.	11.9	25.8	11.7	86	E/NE
16-May-10	Sun	Moderate southeasterly winds.	0.8	27	13.5	79	E/NE
17-May-10	Mon	Fine and hot.	Trace	28	17.5	77	SE
18-May-10	Tue	Sunny intervals and a few showers.	Trace	27.6	10.7	80	S/SE
19-May-10	Wed	Light to moderate southerly winds.	55.7	25.9	24.2	83	S/SE
20-May-10	Thu	Moderate to fresh southwesterly winds	8.1	26.1	18.5	80.5	S/SE
21-May-10	Fri	Maintenance					
22-May-10	Sat	Fine and dry.	Trace	28.1	22.5	84.5	S/SW
23-May-10	Sun	Moderate east to northeasterly winds.	10.1	25.7	19.2	75.7	NW
24-May-10	Mon	Mainly cloudy. Moderate to fresh easterly winds.	0	25.9	17.2	55.3	E/NE
25-May-10	Tue	Sunny periods with also one or two showers tomorrow.	0	26.9	11.5	65	E
26-May-10	Wed	Mainly cloudy with one or two showers.	0	27	14.7	71.7	E
27-May-10	Thu	A few showers later. There will be swells.	Trace	26.7	9.7	81	E
28-May-10	Fri	Moderate south to southeasterly winds.	0	28.2	15	90	SE
29-May-10	Sat	Cloudy with a few rain patches.	22.6	27.1	34	79	S/SE
30-May-10	Sun	Moderate to fresh easterly winds.	5.3	26.5	7.7	88.2	W/NW
31-May-10	Mon	Strong over offshore waters later.	0.3	25.6	10	87	E

Meteorological Data Extracted from HKO – June 2010

Date		Weather		Lau Fau Shan Weather Station			
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Jun-10	Tue	Mainly cloudy with one or two light rain patches.	16.1	24.6	14.5	72.2	E/SE
2-Jun-10	Wed	Light to moderate northerly winds.	29.3	21.6	19.2	90.5	E
3-Jun-10	Thu	There will be swells.	1	23	7.7	81.7	E/NE
4-Jun-10	Fri	Mainly cloudy. Sunny periods in the afternoon.	Trace	25.4	7.2	8.5	S/SE
5-Jun-10	Sat	Sunny periods in the afternoon. Cloudy tonight.	8.2	26.3	10.7	77	S/SE
6-Jun-10	Sun	Mainly fine. Hot in the afternoon.	0	25.9	9.1	76.5	SE
7-Jun-10	Mon	Moderate easterly winds.	0	25.9	10.5	73	E/SE
8-Jun-10	Tue	Moderate southerly winds.	Trace	26.7	16.2	68.5	SE
9-Jun-10	Wed	Cloudy with occasional rain.	16.7	25.9	14.3	87	SE
10-Jun-10	Thu	Rain will be heavy at times with a few squally thunderstorms.	58.4	25.3	8.2	91.5	S/SE
11-Jun-10	Fri	Cloudy with sunny intervals.	Trace	27.2	12.5	87	W
12-Jun-10	Sat	Some rain later. Light winds.	Trace	27.9	11.2	82.7	W
13-Jun-10	Sun	Moderate to fresh southwesterly winds.	29	29	21	82.2	S/SW
14-Jun-10	Mon	Mainly cloudy with a few showers.	6.4	29.6	25	81.2	S/SW
15-Jun-10	Tue	Mainly cloudy with a few showers.	0.1	29.5	21.5	83	SW
16-Jun-10	Wed	Moderate to fresh southwesterly winds.	3.8	29.7	22.5	81.5	S/SW
17-Jun-10	Thu	Cloudy periods overnight.	Trace	29.9	23.5	76.7	S/SW
18-Jun-10	Fri	Mainly fine and hot tomorrow.	0	29.9	23.7	74.5	S/SW
19-Jun-10	Sat	A few showers.	Trace	30.3	19.5	72.7	S/SW
20-Jun-10	Sun	Hot with sunny periods in the afternoon.	1.9	29.9	16	74.7	S/SW
21-Jun-10	Mon	Moderate southwesterly winds.	1.4	30.5	16.5	44	S/SW
22-Jun-10	Tue	A few showers. Hot with sunny periods.	4.6	28.3	16	83	S
23-Jun-10	Wed	Cloudy with showers and a few squally thunderstorms.	41	26.9	26.5	90	S/SE
24-Jun-10	Thu	Showers will be heavy at times tomorrow.	39	29.4	26	80.5	SW
25-Jun-10	Fri	Cloudy with showers. Showers will be heavy	2.9	27.7	22	85.2	SW
26-Jun-10	Sat	Mainly cloudy with showers	127.6	25.7	13.5	92.5	SW
27-Jun-10	Sun	There will also be a few squally thunderstorms	44.2	25.2	14.2	93	SE
28-Jun-10	Mon	Showers will be heavy at times at first	43.2	26.1	21.5	92.5	E/SE
29-Jun-10	Tue	Mainly fine. Moderate south to southeasterly winds.	0.1	28.2	8.5	80.2	S/SE
30-Jun-10	Wed	Fine and hot apart from one or two isolated showers.	0	29.2	12	78.7	S/SE

Meteorological Data Extracted from HKO – July 2010

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Jul-10	Thu	Fine and hot. Moderate west to southwesterly winds.	0	29.3	13	76.5	W
2-Jul-10	Fri	Fine and very hot.	0	30.2	13.5	77.5	W
3-Jul-10	Sat	Moderate southwesterly winds	0	30.7	14.2	75	W/SW
4-Jul-10	Sun	Occasionally fresh over offshore waters.	Trace	31.1	20.7	76.5	SW
5-Jul-10	Mon	Mainly fine and hot.	0	31.4	18.7	73.7	SW
6-Jul-10	Tue	Moderate southwesterly winds,	Trace	30.8	20.7	76	SW
7-Jul-10	Wed	Occasionally fresh over offshore waters.	Trace	30.6	16	72.5	SW
8-Jul-10	Thu	Fine and very hot. Moderate southwesterly winds.	0.4	31.3	18	72.5	SW
9-Jul-10	Fri	It will be hot.	1.7	30.5	18.7	77	S/SW
10-Jul-10	Sat	Mainly fine apart from isolated showers at first.	3.9	30.6	15.2	70.7	S
11-Jul-10	Sun	Light to moderate southerly winds.	1.8	31.3	20	67	W/SW
12-Jul-10	Mon	Fine and very hot.	Trace	29.8	15	73.5	S/SE
13-Jul-10	Tue	Moderate easterly winds.	Trace	29.6	13.5	74.7	S/SE
14-Jul-10	Wed	Mainly fine and very hot apart from isolated showers.	0	29.4	11.2	79.5	E
15-Jul-10	Thu	Isolated showers and one or two thunderstorms.	8.4	29.4	11.5	78	E
16-Jul-10	Fri	Sunny periods and showers. There are swells over the sea.	17.8	28.4	24.5	77.2	SE
17-Jul-10	Sat	Fine and very hot apart from a few showers.	40	27.5	13.7	80.5	S/SE
18-Jul-10	Sun	Moderate east to southeasterly winds.	1.1	27.7	14.2	76.7	S/SE
19-Jul-10	Mon	Fine and very hot apart from a few showers.	0	29	13.5	78	S/SE
20-Jul-10	Tue	Moderate easterly winds.	0	29.5	12.7	78.5	SE
21-Jul-10	Wed	Fresh easterly winds, occasionally strong over offshore waters. Gale on high ground.	29.6	28.2	15.5	8.5	E
22-Jul-10	Thu	Cloudy with showers and a few squally thunderstorms.	182.4	27.1	18.5	86.7	SE
23-Jul-10	Fri	Cloudy with showers and a few squally thunderstorms.	14.6	28.2	14.5	83.2	S/SE
24-Jul-10	Sat	Mainly cloudy with a few showers and isolated squally thunderstorms.	1.1	28.6	14	83	E
25-Jul-10	Sun	Moderate east to southeasterly winds.	0	28.6	12	78	S/SE
26-Jul-10	Mon	Mainly cloudy with scattered heavy showers	0	29.5	13.7	78.5	S/SE
27-Jul-10	Tue	Cloudy with showers. Moderate to fresh southwesterly winds.	33.6	26.3	17.5	90.5	SW
28-Jul-10	Wed	Moderate southwesterly winds, occasionally fresh over offshore waters.	122.5	26.4	16.5	92	SW
29-Jul-10	Thu	Mainly cloudy with a few showers.	4.6	27.6	29.2	84	SW
30-Jul-10	Fri	Sunny periods and a few showers.	5.1	27.9	15	80.5	W/SW
31-Jul-10	Sat	A few showers. Hot with sunny periods in the afternoon.	0.8	29.6	14	78.5	S/SE