

Gammon Construction Limited

Contract No. DC/2007/23  
Harbour Area Treatment Scheme  
Stage 2A  
Construction of Sewage  
Conveyance System from North  
Point to Stonecutters Island:  
*Baseline Monitoring Report*

December 2009

**Environmental Resources Management**



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Reference 0104887

For and on behalf of ERM-Hong Kong, Limited
Approved by: <u>Dr Robin Kennish</u>
Signed: <u></u>
Position: <u>Director</u>
Certified by: <u></u> (Environmental Team Leader – Winnie Ko)
Date: <u>10 December 2009</u>

This report has been prepared by ERM-Hong Kong, Limited with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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Harbour Area Treatment Scheme Division  
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10 December 2009

**Attn: Mr. Albert Chan**

By Fax ( 2833 9162) and Post

Dear Sir,

**Agreement No. CE 8/2009(EP)**  
**Harbour Area Treatment Scheme (HATS) Stage 2A**  
**Independent Environmental Checker for Construction Phase – Investigation**  
**Condition 4.3 – Submission of Baseline Monitoring Report for Contract No. DC/2007/23**

I refer to the revised Baseline Monitoring Report received on 9 December 2009 submitted and certified by ETL via email. Pursuant to Condition 4.3 of Environmental Permit No. EP-332/2008/B, I hereby verify the captioned Baseline Monitoring Report.

Yours faithfully  
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr  
Independent Environmental Checker

c.c.

AECOM  
Gammon  
ERM

Mr. Y H Fung  
Mr. Max Ko  
Ms. Winnie Ko

By email  
By email  
By email

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## EXECUTIVE SUMMARY

ERM-Hong Kong, Limited (ERM) was appointed by Gammon Construction Ltd to undertake baseline air quality, noise monitoring and landscape and visual monitoring prior to the commencement of construction works for the *Construction of Sewage Conveyance System from North Point to Stonecutters Island* (the Project) for Drainage Services Department (DSD) under the Harbour Area Treatment Scheme (HATS) Stage 2A.

This Baseline Monitoring Report has been prepared pursuant to Condition 4.3 of the Environmental Permit for the Project (EP-322/2008/B) and Environmental Monitoring and Audit Manual for the HATS Stage 2A.

### Baseline Air Quality Monitoring

Baseline air quality monitoring were conducted between 25 September and 24 October 2009 at designated monitoring stations established for the Project. The weather condition during the baseline monitoring period varied from sunny, cloudy to rainy. No major activities in vicinity of the designed monitoring stations were undertaken during baseline monitoring, and therefore the baseline air quality monitoring data established in this monitoring period are representative of the baseline condition for the Project.

The Action Levels for 24-hr and 1-hr TSP during impact monitoring established based on the measured baseline TSP levels for assessing the impact and compliance during the construction of the Project.

### Baseline Noise Monitoring

Baseline noise monitoring was conducted between 18 September and 18 October 2009 at designated monitoring stations established for the Project. The weather condition during the baseline monitoring period varied from sunny, cloudy to rainy.

The measured baseline noise levels ( $L_{eq, 30min}$ ) between 0700 and 1900 hours at are well within 75dB(A), which is daytime construction noise limit under Environmental Impact Assessment Ordinance (EIAO). Yet, the  $L_{eq, 30min}$  at NM1 exceeds 65 dB(A), the Limit Level of daytime construction noise during examination periods. The measured baseline noise levels ( $L_{eq, 5min}$ ) between 1900 and 2300 hours on weekdays and between 0700-2300 on public holidays (including Sundays) at all but NM2 and NM3 are within 70 dB(A), which is the evening acceptable noise limit (ANL) for urban areas under NCO. The measured baseline noise levels ( $L_{eq, 5min}$ ) between 2300 and 0700 hours during night-time at all stations exceeds 60dB(A) and ( $L_{eq, 5min}$ ), which is the night-time acceptable noise limit (ANL) for urban areas under NCO. No major activities in the Project were undertaken during baseline monitoring period, and therefore the baseline noise monitoring data is representative of the baseline condition for the Project.

During impact monitoring, the Action Level will be triggered when one complaint is received, and the daytime construction noise limit under EIAO, ie

75 dB(A) will be adopted as the Limit Level. In particular at NM1, 70dB(A) and 69.0dB(A) will be respectively adopted as the Limit Level during the normal teaching period and examination period.

#### Baseline Landscape and Visual Monitoring

Site visits for the baseline landscape and visual baseline monitoring were made on 23 September and 30 October 2009. No significant changes between existing and the baseline conditions of LR, LCAs and views towards VSRs as stipulated in the EIA were identified. No changes to the landscape and visual mitigation measures as proposed in EIA are therefore, required.

## 1.1 PROJECT DESCRIPTION

ERM-Hong Kong, Limited (ERM) was appointed as an Environmental Team (ET) to undertake baseline monitoring prior to the commencement of construction works for the *DC/2007/23 - Construction of Sewage Conveyance System from North Point to Stonecutters Island* (the Project) for Drainage Services Department (DSD) under the Harbour Area Treatment Scheme Stage 2A (HATS2A). The Project comprises the construction of production shafts, drop shafts and riser shaft and approximately 12km of tunnel excavation from North Point via Sai Ying Pun to Stonecutters Island. Shafts vary in depth from 140m and 170m below ground with 10 - 12m diameter. Tunnel face area ranges from 16 to 23 m<sup>2</sup>. Embedded drainage pipelines will be installed upon the completion of tunnel excavation.

Construction works to be carried out under this Contract include the following major items:

- construction of sewage conveyance system (SCS) from North Point Preliminary Treatment Works (NP PTW) to Stonecutters Island Sewage Treatment Works (SCI STW) via Wan Chai East Preliminary Treatment Works (WCE PTW), Central Preliminary Treatment Works (CEN PTW) and Fung Mat Street Sai Ying Pun (SYP) junction shaft;
- construction of drop shafts at NP PTW, WCE PTW and CEN PTW;
- construction of riser shaft at SCI STW;
- construction of junction shaft at SYP;
- construction of temporary production shafts at NP, WCE and SCI to provide access for the construction of SCS;
- construction of connection channels, pipes, chambers and tunnel connecting the proposed drop shafts / riser shaft to the facilities of the preliminary treatment works / sewage treatment works;
- carrying out survey of existing buildings, taking over of existing and installation of new piezometers and ground settlement markers and subsequent monitoring thereof and vibration monitoring along the alignment of the SCS;
- miscellaneous building, civil, electrical and mechanical works; and
- landscape works.

## 1.2

### *PURPOSE OF THE REPORT*

This Baseline Monitoring Report has been prepared pursuant to Condition 4.3 of the Environmental Permit for the Project (EP-322/2008/B) and approved Environmental Monitoring and Audit (EM&A) Manual for the *Agreement No. CE 43/2005 (EP) Harbour Area Treatment Works (HATS) Stage 2A EIA Study – Investigation*.

The purpose of this Baseline Monitoring Report (BMR) is to:

- determine ambient 24-hour and 1-hour Total Suspended Particulates (TSP) levels at the designated monitoring stations before commencement of the Project;
- establish Action Levels of 24-hour and 1-hour TSP levels for assessing the impact and compliance during the construction of the Project;
- determine existing noise levels at the designated monitoring stations before commencement of the Project; and
- update the status of landscape resources and visual sensitive receivers (VSRs) within or adjacent to construction sites and works area.

## 1.3

### *STRUCTURE OF THE REPORT*

The structure of the remaining sections of the report is as follows:

Section 2 : **Baseline Air Quality Monitoring**

summarizes the baseline air quality monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring stations, monitoring results, observations and establishes the Action Levels in accordance with the EM&A Manual.

Section 3 : **Baseline Noise Monitoring**

summarizes the baseline noise monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring stations and monitoring results.

Section 4 : **Baseline Landscape and Visual Monitoring**

summarizes the existing landscape and visual monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring stations and monitoring results.

Section 5 : **Conclusions**

concludes the representativeness of the baseline monitoring results and observations for the Project.

## 2.1 MONITORING LOCATION

Since access to some of the proposed monitoring locations stated in the EM&A Manual were rejected or not available, alternative locations, therefore, were proposed and agreed by the ER and the IEC. The construction air quality monitoring stations for this Contract are listed in *Table 2.1* and shown in *Figures 1 to 5* in *Annex A*. The original proposed monitoring locations in EM&A Manual are also shown in *Figures 1 to 5* for reference.

**Table 2.1 Construction Phase Air Monitoring Location**

Worksite	Proposed Construction Air Quality Monitoring Station			
	ID in EM&A Manual	ID	Location	Remark
North Point	-	AM1	Chan's Creative School (formerly known as Madam Chan Wai Chow Memorial School)	<ul style="list-style-type: none"> <li>Access for station setup to K.Wah Centre (CM_NP1) and Tin Chiu Street Children's Playground (CM_NP3) was rejected.</li> </ul>
	CM_NP2	AM2	Rooftop of Hong Kong & Islands Regional Office, WSD	
Wan Chai East	-	AM3	Rooftop of Wan Chai East PTW	<ul style="list-style-type: none"> <li>The rooftop of Society for the Prevention of Cruelty to Animals building (CM_WC1) was crowded with existing facilities (eg water tanks) that setup of HVSSs for baseline monitoring is not feasible.</li> </ul>
Central	-	AM4	A Location within the DSD Central PTW	<ul style="list-style-type: none"> <li>Access to Sheung Wan Fire Station (CM_C1) was rejected.</li> <li>All possible locations along Connaught Road West and Connaught Road East have been exhausted and no suitable location is identified due to rejection by the premise owner, security reason, without guaranteed access or inaccessible. AM4 is the alternative location.</li> </ul>
Fung Mat Street	CM_FM1	AM5	Western Wholesale Food Market	-

Worksite	Proposed Construction Air Quality Monitoring Station			Remark
	ID in EM&A Manual	ID	Location	
SCISTW	-	AM6	Works Site Boundary	<ul style="list-style-type: none"> <li>• Power Access supply for operation of HVS was not feasible to the rooftop of Government Dockyard Offices (CM_SCI1).</li> <li>• For COSCO HIT Terminal (CM_SCI2), access application was verbally rejected.</li> <li>• Club House (CM_SCI3) is blocked by a high building which will deteriorate the dust levels during measurement.</li> <li>• Work Site Boundary (near Ngong Shuen Chau Barracks Group 2 (CM_SCI4) was designed for the HATS2A Disinfection Facilities works and the station is separated by a small hill.</li> <li>• Baseline dust monitoring data measured under HATS2A – Provision of Disinfection Facilities at SCISTW will also be obtained for the establishment of the action level for the impact monitoring.</li> </ul>

## 2.2

### *MONITORING PARAMETERS, FREQUENCY AND PROGRAMME*

Baseline air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 2.2*) at the proposed monitoring stations. Total suspended particulates (TSP) is the monitoring parameter during the baseline AQ monitoring. The baseline TSP monitoring schedule is shown in *Annex B*. TSP monitoring at AM1 was ceased on 1, 3, 4 and 11 Oct 2009 as access to the school is not available on public holidays. TSP monitoring at AM6 was also ceased on 11 Oct 2009 as the monitoring station was not accessible on the said date. TSP monitoring at the above stations were therefore conducted after the original 14-day monitoring period accordingly.

*Table 2.2 Baseline Air Quality Monitoring Parameter and Frequency*

Parameter	Frequency
24-hour TSP	Once per day for 14 consecutive days
1-hour TSP	3 times per day for 14 consecutive days

## 2.3 MONITORING EQUIPMENT AND METHODOLOGY

The baseline TSP levels were measured with equipment in accordance with requirements stated in Sections 2.8 to 2.14 and Sections 2.15 to 2.19 of the EM&A Manual.

### 2.3.1 Monitoring Equipment

Continuous 24-hour and 1-hour TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complied with the standard method “*Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*” as stipulated in *US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B)*. *Table 2.3* summarizes the equipment that were deployed for the 24-hour and 1-hour TSP monitoring respectively.

**Table 2.3 TSP Monitoring Equipment**

Monitoring Station	Monitoring Equipment (HVS and Calibrator)
<i>24-hr TSP</i>	
AM1	GMW GS-2310 (S/N 1808), CM-AIR-43 (S/N 9833620)
AM2	GMW GS-2310 (S/N 0145), CM-AIR-43 (S/N 9833620)
AM3	GMW GS-2310 (S/N 0481), CM-AIR-43 (S/N 9833620)
AM4	GMW GS-2310 (S/N 0764), CM-AIR-43 (S/N 9833620)
AM5	GMW GS-2310 (S/N 8162), CM-AIR-43 (S/N 9833620)
AM6	GMW GS-2310 (S/N 1254), CM-AIR-43 (S/N 9833620)
<i>1-hr TSP</i>	
AM1	GMW GS-2310 (S/N 0816), CM-AIR-43 (S/N 9833620)
AM2	GMW GS-2310 (S/N 0106), CM-AIR-43 (S/N 9833620)
AM3	GMW GS-2310 (S/N 1806), CM-AIR-43 (S/N 9833620)
AM4	GMW GS-2310 (S/N 9315), CM-AIR-43 (S/N 9833620)
AM5	GMW GS-2310 (S/N 1658), CM-AIR-43 (S/N 9833620)
AM6	GMW GS-2310 (S/N 7580), CM-AIR-43 (S/N 9833620)

### 2.3.2 Monitoring Methodology

#### *Installation by Envirotech*

The setup locations of the HVSs at monitoring stations were listed in *Table 2.1* in the above sections. All HVSs were free-standing with no obstruction.

The following criteria were considered in the installation of the HVSs:

- appropriate support to secure the samplers against gusty wind were provided at AM1-AM6;
- a minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues were nearby;
- airflow around the sampler was unrestricted; and

- permission was obtained to set up the samplers and to gain access to the monitoring stations.

*Preparation of Filter Papers by SGS Hong Kong Ltd*

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3$  °C; the relative humidity (RH) was 40%; and
- SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implements comprehensive quality assurance and quality control programmes.

*Field Monitoring (by Envirotech)*

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- then the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 - 1.37  $\text{m}^3\text{min}^{-1}$  which were within the range specified in the EM&A Manual (ie 0.6 – 1.7  $\text{m}^3\text{min}^{-1}$ );
- the programmable timer was set for a sampling period of 24 hours  $\pm 1$  hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;



- at the end of sampling, the sampled filter was removed carefully and folder in half length so that only surfaces with collected particulate matter were in contact;
- it was then placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

*Maintenance and Calibration (by Envirotech)*

- the HVSs and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller were calibrated using an orifice calibrator. Initial calibrations of the dust monitoring equipments were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSs using CM-AIR-43 Calibration Kit. The calibration records for the HVSs are given in *Annex C*.

*Wind Data Monitoring*

Average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological stations at Tsing Yi, Green Island, King's Park and Kai Tak of the Hong Kong Observatory (HKO). The wind data were applied to different monitoring stations based on separation distance from the above listed stations.

**2.4 RESULTS AND OBSERVATIONS**

The average measured baseline TSP levels for AM1 to AM6 were summarized in *Table 2.4*, and the detailed monitoring data together with wind data and graphical presentations are summarized in *Annex D*. The weather condition during the baseline monitoring period varied from sunny, cloudy and rainy.

**Table 2.4 Summary of Average Baseline Air Quality Monitoring Results <sup>(a)</sup>**

Baseline Air Quality Monitoring Station	Average 24-hour TSP Level, $\mu\text{gm}^{-3}$ (range of data)	Average 1-hour TSP Level, $\mu\text{gm}^{-3}$ (range of data)
AM1	85 (58 – 109)	139 (77 – 270)
AM2	80 (58 – 104)	157 (81 – 218)
AM3	78 (56 – 93)	162 (71 – 248)
AM4	124 (59-191)	220 (89-412)
AM5	90 (50 – 147)	126 (61 – 201)

Baseline Air Quality Monitoring Station	Average 24-hour TSP Level, $\mu\text{gm}^{-3}$ (range of data)	Average 1-hour TSP Level, $\mu\text{gm}^{-3}$ (range of data)
AM6	160 (56-438)	208 (65-554)

**Note:**

(a) Detailed baseline TSP levels measured at each station are presented in *Annex D*.

No major dust emission sources were observed in the vicinity of AM1 to AM6. A construction site is identified located at Java Road opposite to the Project's works area. However, building work is being carried out and no major dusty works were carried out.

2.5

**ESTABLISHMENT OF ACTION AND LIMIT LEVELS**

The Action and Limit levels have been established and presented in *Table 2.6* following the formula stated in the EM&A Manual (*Table 2.5*). The baseline air monitoring data (24-hr and 1-hr TSP average) measured under *HATS2A – Provision of Disinfection Facilities at SCISTW (DF)* is also included to establish the Action Level at AM6.

**Table 2.5 Proposed Action and Limit Levels for Impact Monitoring**

Parameter	Action Level <sup>(a)</sup> , $\mu\text{gm}^{-3}$	Limit Level, $\mu\text{gm}^{-3}$
24-hour TSP	<ul style="list-style-type: none"> <li>BL <math>\leq</math> 200 <math>\mu\text{g m}^{-3}</math>, AL = (BL * 1.3 + LL)/2</li> <li>BL &gt; 200 <math>\mu\text{g m}^{-3}</math>, AL = LL</li> </ul>	260
1-hour TSP	<ul style="list-style-type: none"> <li>BL <math>\leq</math> 384 <math>\mu\text{g m}^{-3}</math>, AL = (BL * 1.3 + LL)/2</li> <li>BL &gt; 384 <math>\mu\text{g m}^{-3}</math>, AL = LL</li> </ul>	500

**Note:**

(a) BL – Baseline Level, AL – Action Level, LL – Limit Level

**Table 2.6 Action and Limit Levels for Air Quality Monitoring for this Project**

Parameter	Air Monitoring Station	Action Level, $\mu\text{gm}^{-3}$	Limit Level, $\mu\text{gm}^{-3}$
24-hour TSP	AM1	$((85 \times 1.3) + 260) / 2 = 185$	260
	AM2	$((80 \times 1.3) + 260) / 2 = 182$	260
	AM3	$((78 \times 1.3) + 260) / 2 = 181$	260
	AM4	$((124 \times 1.3) + 260) / 2 = 211$	260
	AM5	$((90 \times 1.3) + 260) / 2 = 188$	260
	AM6 (with 24-hr TSP data from DF project)	$((160 \times 1.3) + 260) / 2 + ((43 \times 1.3) + 260) / 2 = 196$	260
1-hour TSP	AM1	$((139 \times 1.3) + 500) / 2 = 340$	500
	AM2	$((157 \times 1.3) + 500) / 2 = 352$	500
	AM3	$((162 \times 1.3) + 500) / 2 = 355$	500
	AM4	$((220 \times 1.3) + 500) / 2 = 393$	500
	AM5	$((126 \times 1.3) + 500) / 2 = 332$	500
	AM6 (with 1-hr TSP data from DF project)	$((208 \times 1.3) + 500) / 2 + ((88 \times 1.3) + 500) / 2 = 346$	500

## 2.6

### *EVENT AND ACTION PLAN*

Air quality monitoring will be conducted during the construction of the Project to ensure the implementation dust control mitigation measures. Should non-compliance of the air quality monitoring action and limit levels occurs, actions in accordance with the action plan stated in *Table 2.7* shall be carried out.

**Table 2.7** *Event Action Plan for Air Quality Monitoring*

<b>Action Level/Limit Level</b>	<b>Environmental Team Leader (ETL)</b>	<b>Independent Environmental Checker (IEC)</b>	<b>Engineer's Representative (ER)</b>	<b>Contractor</b>
<i>Action Level</i>				
Exceedance for one sample	<ul style="list-style-type: none"> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC and ER;</li> <li>Repeat measurement to confirm finding; and,</li> <li>Increase monitoring frequency to daily.</li> </ul>	<ul style="list-style-type: none"> <li>Check monitoring data submitted by ET; and,</li> <li>Check Contractor's working method.</li> </ul>	<ul style="list-style-type: none"> <li>Notify Contractor</li> </ul>	<ul style="list-style-type: none"> <li>Rectify any unacceptable practice; and,</li> <li>Amend working methods if appropriate.</li> </ul>
Exceedance for two or more consecutive samples	<ul style="list-style-type: none"> <li>Identify source;</li> <li>Inform IEC and ER;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily; and,</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> </ul>	<ul style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures; and,</li> <li>Supervise Implementation of remedial measures.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor, and,</li> <li>Ensure remedial measures properly implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Submit proposals for remedial to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ul>

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
<i>Limit Level</i>				
Exceedance for one sample	<ul style="list-style-type: none"> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform ER, Contractor and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily; and,</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ul>	<ul style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures; and,</li> <li>Supervise implementation of remedial measures.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor; and,</li> <li>Ensure remedial measures properly implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals; and,</li> <li>Amend proposal if appropriate.</li> </ul>
Exceedance for two or more consecutive samples	<ul style="list-style-type: none"> <li>Notify IEC, ER, Contractor and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and,</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and,</li> <li>Supervise the implementation of remedial measures.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented; and,</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ul>	<ul style="list-style-type: none"> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control; and,</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ul>

## 3.1 MONITORING LOCATION

Accesses to some of the proposed monitoring locations stated in the EM&A Manual were rejected or not available; alternative locations, therefore, were proposed and agreed by the ER and the IEC. The construction noise monitoring locations for this Contract are listed in *Table 3.1* and are shown in *Figures 1 to 5* in *Annex A*. The original proposed monitoring locations in EM&A Manual are also shown in *Figures 1 to 5* for reference.

**Table 3.1** Proposed Construction Noise Monitoring Station

Worksite	Proposed Construction Noise Monitoring Station				
	ID in EM&A Manual	ID	Location	Type of Measurement	Remark
North Point	M1	NM1	Rooftop of Chan's Creative School (formerly known as Madam Chan Wai Chow Memorial School)	Façade	-
Wan Chai East	-	NM2	Rooftop of Hyde Building	Façade	<ul style="list-style-type: none"> <li>No guaranteed access for equipment set-up due to no caretaker of Kei Wah Building (M2)</li> <li>Alternative location, NM2, is located next to Kei Wah Building and is also the background noise monitoring station in the HATS2A EIA study.</li> </ul>
Central	-	NM3	Rooftop of Goldfield Building	Façade	<ul style="list-style-type: none"> <li>Chi Cheung Building (M4) is not accessible.</li> </ul>
Fung Mat Road	M3	NM4	Rooftop of Block A, Kwan Yick Building Phase III	Façade	-

Worksite	Proposed Construction Noise Monitoring Station				
	ID in EM&A Manual	ID	Location	Type of Measurement	Remark
SCISTW	-	NM5	A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary	Free-Field (3dB(A) was added to the measured results)	<ul style="list-style-type: none"> <li>Access to FSD Fire Rescue and Diving Training Centre (M11) was rejected.</li> <li>NM5 is located next to the original proposed location.</li> </ul>

### 3.2 MONITORING PARAMETERS, FREQUENCY AND PROGRAMME

Baseline noise monitoring was conducted at the designated noise monitoring stations listed in *Table 3.1* for 14 consecutive days subjected to weather conditions. The baseline noise monitoring programme is shown in *Annex B*. Noise monitoring has been ceased from 28 September 2009 to 1 October 2009 at NM1, NM2, NM3 and NM4 due to rainy weather. Noise monitoring at NM4 originally scheduled from 2 to 6 October 2009 were also repeated on 13 to 17 October 2009 due to equipment malfunctioning.

The baseline noise levels were measured in terms of A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ) in decibels dB(A). Supplementary information for data auditing, two statistical sound levels  $L_{10}$  and  $L_{90}$ ; the levels exceeded for 10 and 90 percent of the time respectively, were also recorded during the monitoring for reference. The measured noise levels were logged in every 5 minutes throughout the baseline monitoring period.

### 3.3 MONITORING EQUIPMENT AND METHODOLOGY

Baseline noise measurements were conducted (by Envirotech) in accordance with the calibration and measurement procedures as stated in *Annex – General Calibration and Measurement Procedures of Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM)* issued under the *Noise Control Ordinance (NCO) (Cap.400)*.

The sound level meters and calibrator used for the noise measurement, as listed in *Table 3.2*, complies with IEC 651: 1979 and 804:1985 (Type 1) specification. The calibration certificates of the sound level meters are included in *Annex E*.

**Table 3.2 Noise Monitoring Equipment**

Monitoring Station	Monitoring Equipment (Noise Meter and Calibrator)
NM1	Rion NL-18 (S/N 00360030), NC73 (S/N 10786708)
NM2	Rion NL-31 (S/N 00320533), NC73 (S/N 10786708)
NM3	Rion NL-31 (S/N 00410224), NC73 (S/N 10786708)

Monitoring Station	Monitoring Equipment (Noise Meter and Calibrator)
NM4	Rion NL-31 (S/N 00201194) / Rion NA-27 (S/N 00410224), NC73 (S/N 10786708)
NM5	Rion NA-27 (S/N 00201194), NC73 (S/N 10786708)

Immediately prior to and following the noise measurements, the accuracy of the measurement equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as the calibration level from before and after the noise measurement agree to within 1.0 dB. A correction of +3dBA) was made to the free field measurement at NM5.

### 3.4

#### RESULTS AND OBSERVATIONS

The baseline noise monitoring results are summarized in *Table 3.3* and the detailed monitoring data together with graphical presentations are presented in *Annex F*. The weather condition during the baseline monitoring period at the designated monitoring stations varied from sunny, cloudy to rainy. The noise monitoring results below will be used as a reference of future impact monitoring period.

**Table 3.3** *Summary of Noise Monitoring Results*

Noise Monitoring Stations	Average $L_{Aeq, 30min}$ dB(A) (0700 – 1900 hours on normal weekday) (range of data)	Average $L_{eq, 5min}$ dB(A) during evening (1900 – 2300 hours) and general holidays (0700-2300 hrs including Sundays) (range of data)	Average $L_{eq, 5min}$ dB(A) (2300 – 0700 hours during night-time) (range of data)
NM1	69.0 (66.2 – 71.7)	66.5 (61.7-73.0)	62.1 (56.2-76.6)
NM2	73.5 (70.6-76.3)	71.2 (68.6-76.8)	68.7 (62.5-75.3)
NM3	74.9 (71.2-80.6)	73.0 (69.4-79.3)	68.9 (61.9-75.4)
NM4	69.4 (66.1-74.3)	67.4 (63.0-72.4)	63.2 (57.2-70.3)
NM5 (corrected data for free-field)	66.4 (54.7-74.6)	60.6 (55.3-73.7)	60.1 (52.0-79.1)

The measured baseline noise levels ( $L_{eq, 30min}$ ) at NM1 between 0700 and 1900 hours and ( $L_{eq, 5min}$ ) between 1900-2300 and public holidays are well within 70dB(A), which is daytime and evening construction noise limit under the EIAO and *Noise Control Ordinance* (NCO). However, while NM1 is set up in a school, the 14-day average  $L_{Aeq, 30min}$  measured between 0700 and 1900 hours exceeds 65 dB(A), the Limit Level of daytime construction noise during examination periods. Traffic noise from King’s Road, Java Road and nearby small roads; school bell rings; student noise were the key noise sources during measurement.



The measured baseline noise levels ( $L_{eq, 30min}$ ) at NM2 between 0700 and 1900 hours is within 75dB(A), which is daytime construction noise limit under Environmental Impact Assessment Ordinance (EIAO), but the measured baseline noise levels ( $L_{eq, 5min}$ ) between 1900-2300 and public holidays and ( $L_{eq, 5min}$ ) between 2300 and 0700 hours exceeds 70 dB(A) and 60dB(A) and ( $L_{eq, 5min}$ ), which is the evening and night-time acceptable noise limit (ANL) for urban areas under NCO. Traffic noise from Gloucester Road and Hung Hing Road are the major sources. No major construction activities in the vicinity were identified in the vicinity during measurement.

The measured baseline noise levels ( $L_{eq, 30min}$ ) at NM3 between 0700 and 1900 hours is within 75dB(A), which is daytime construction noise limit under EIAO, but the measured baseline noise levels ( $L_{eq, 5min}$ ) between 1900-2300 and public holidays and ( $L_{eq, 5min}$ ) between 2300 and 0700 hours exceeds 70 dB(A) and 60dB(A) and ( $L_{eq, 5min}$ ), which is the evening and night-time acceptable noise limit (ANL) for urban areas under NCO. Traffic noise from Connaught Road Central is the major noise source contributing the baseline noise measured. No construction activities were identified in the vicinity during measurement.

The measured baseline noise levels ( $L_{eq, 30min}$ ) at NM4 between 0700 and 1900 hours and ( $L_{eq, 5min}$ ) between 1900-2300 and public holidays are well within 75dB(A) and 70dB(A), which is daytime and evening construction noise limit under EIAO and NCO, but the measured baseline noise levels ( $L_{eq, 5min}$ ) between 2300 and 0700 hours exceeded 60dB(A), which is the night-time acceptable noise limit (ANL) for urban areas under NCO. Traffic noise from Connaught Road West is the major noise source contributing the results. No construction activities were identified in the vicinity during measurement.

The measured baseline noise levels ( $L_{eq, 30min}$ ) at NM5 between 0700 and 1900 hours and ( $L_{eq, 5min}$ ) between 1900-2300 and public holidays are well within 75dB(A) and 70dB(A), which is daytime and evening construction noise limit under EIAO and NCO, but the measured baseline noise levels ( $L_{eq, 5min}$ ) between 2300 and 0700 hours slightly exceeds 60dB(A), which is the night-time acceptable noise limit (ANL) for urban areas under NCO. Operations at the Government Dockyard and traffic within the SCI STW were the major noise source. No construction activities were identified in the vicinity during measurement.

### 3.5

#### *ACTION AND LIMIT LEVEL*

During impact monitoring, the Action Level will be triggered when one complaint is received, and the daytime construction noise limit on normal weekdays under EIAO, ie 75 dB(A) will be adopted as the Limit Level.

At NM1, 70dB(A) will be adopted as the Limit Level during the normal teaching period. Meanwhile, the average  $L_{Aeq, 30min}$  measured at NM1 between 0700 and 1900 hours is 69.0 dB(A), exceeding the Limit Level of daytime construction noise during examination periods (65 dB(A)) and it will

therefore be adopted as the Limit Level during the examination period at NM1.

### **3.6** *EVENT AND ACTION PLAN*

Noise monitoring will be conducted during the construction of the Project to ensure the implementation noise control mitigation measures. Should non-compliance of the noise action and limit levels occur, actions in accordance with the action plan stated in *Table 3.4* shall be carried out.

**Table 3.4** *Event Action Plan for Noise Monitoring*

<b>Action Level/Limit Level</b>	<b>Environmental Team Leader (ETL)</b>	<b>Independent Environmental Checker (IEC)</b>	<b>Engineer’s Representative (ER)</b>	<b>Contractor</b>
Action Level being exceeded	<ul style="list-style-type: none"> <li>• Notify ER, IEC and Contractor;</li> <li>• Carry out investigation;</li> <li>• Report the results of investigation to the IEC, ER and Contractor;</li> <li>• Discuss with the IEC and Contractor on remedial measures required; and,</li> <li>• Increase monitoring frequency to check mitigation effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>• Review the investigation results submitted by the ET;</li> <li>• Review the proposed remedial measures by the Contractor and advise the ER accordingly; and,</li> <li>• Advise the ER on the effectiveness of the proposed remedial measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm receipt of notification of failure in writing;</li> <li>• Notify Contractor;</li> <li>• In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; and,</li> <li>• Supervise the implementation of remedial measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Submit noise mitigation proposals to IEC and ER; and,</li> <li>• Implement noise mitigation proposals.</li> </ul>

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Limit Level being exceeded	<ul style="list-style-type: none"> <li>• Inform IEC, ER, Contractor and EPD;</li> <li>• Repeat measurements to confirm findings;</li> <li>• Increase monitoring frequency;</li> <li>• Identify source and investigate the cause of exceedance;</li> <li>• Carry out analysis of Contractor's working procedures;</li> <li>• Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>• Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and,</li> <li>• If exceedance stops, cease additional monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss amongst ER, ET, and Contractor on the potential remedial actions; and,</li> <li>• Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm receipt of notification of failure in writing;</li> <li>• Notify Contractor;</li> <li>• In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>• Supervise the implementation of remedial measures; and,</li> <li>• If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ul>	<ul style="list-style-type: none"> <li>• Take immediate action to avoid further exceedance;</li> <li>• Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>• Implement the agreed proposals;</li> <li>• Submit further proposal if problem still not under control; and,</li> <li>• Stop the relevant portion of works as instructed by the ER until the exceedance is abated.</li> </ul>

#### 4.1 MONITORING PARAMETERS

Site visits were undertaken on 23 September and 30 October 2009 to review the baseline landscape and visual conditions of each site and its vicinity with regard to parameters assessed in the *Section 13* of the approved EIA Report of HATS2A. This includes landscape resources (LRs), landscape character areas (LCAs) and viewing condition of Visual Sensitive Receiver (VSR) as summarized below:

##### *Landscape Resource (LR)*

- LR1 – Trees on PTW and temporary works area (TWA) at North Point
- LR2 – Trees on PTW and TWA at Wan Chai East
- LR3 – Trees on Central PTW and Sai Ying Pun TWA
- LR9 – Trees on SCISTW and temporary works areas on Stonecutters Island

##### *Landscape Character Area (LCA)*

- LCA1 – Miscellaneous Urban Fringe Landscape
- LCA2 – Civic Urban Waterfront Landscape
- LCA3 – Transportation Corridor Landscape
- LCA4 – Residential Urban Landscape
- LCA5 – Industrial Urban Landscape

##### *Visual Sensitive Receiver (VSR)*

*Table 4.1* lists the key VSRs found within the Zone of Visual Influence (ZVI).

**Table 4.1 Key Visual Sensitive Receivers (VSRs)**

<b>Id. No.</b>	<b>Key Visual Sensitive Receivers (VSRs)</b>	<b>Type of VSRs <sup>(a)</sup></b>
<b>North Point Area</b>		
C1.1	K. Wah Centre	Commercial
C1.2	625 King's Road	Commercial
C1.3	Kodak House	Commercial
R1.1	Temporary Carpark, Planned Residential Area	Residential
R1.2	Healthy Garden	Residential
R1.3	614-632 King's Road	Residential
R1.4	483-497 King's Road	Residential
R1.5	Healthy Village Estate	Residential
CR1.1	62-76 Marble Road	Commercial/ Residential
CR1.2	Island Place Tower	Commercial/ Residential
GIC1.1	Tin Chiu Road Playground	Recreational
GIC1.2	Existing Carpart, Planned Customs HR Tower	Government/ Institution/ Community
GIC1.3	Kai Fong Ass. Madame Chan Wai Chow Memorial School	Government/ Institution/ Community
GIC1.4	ICAC North Point Headquarter	Government/ Institution/ Community
GIC1.5	Regional Office Water Supplies Dept	Government/ Institution/ Community
O1.1	Tin Chiu Road Children Playground	Recreational
O1.2	Sitting Out area near North Point waterfront	Recreational
O1.3	Man Hong Street Playground	Recreational
O1.4	King's Road Playground	Recreational
T1.1	King's Road	Transportational
T1.2	Java Road	Transportational
T1.3	Island East Corridor Slip Road "F"	Transportational
<b>Wan Chai East Area</b>		
C2.1	Harbour Centre	Commercial
C2.2	Causeway Centre	Commercial
C2.3	Sun Hung Kai Centre	Commercial
CR2.1	144-159 Gloucester Road	Commercial
CR2.2	160-200 Gloucester Road	Commercial
CR2.3	210-233 Gloucester Road	Commercial
CR2.4	Elizabeth House	Commercial
CR2.5	256-275 Gloucester Road	Commercial
CDA2.1	Existing Wan Chai Swimming Centre, Planned waterfront open space	Government/ Institution/ Community
GIC2.1	Wan Chai Sport Ground	Government/ Institution/ Community
GIC2.2	SPCA Hong Kong	Government/ Institution/ Community
GIC2.3	Vehicle Emission Testing Centre	Government/ Institution/ Community
OU2.1	Royal Hong Kong Yacht Club	Recreational
OU2.2	Cross Harbour Tunnel Rest Garden	Recreational
O2.1	Wan Chai Waterfront park	Recreational
T2.1	Gloucester Road	Transportational
T2.2	Hung Hing Road	Transportational

<b>Id. No.</b>	<b>Key Visual Sensitive Receivers (VSRs)</b>	<b>Type of VSRs <sup>(a)</sup></b>
T3.2	Victoria Harbour	Transportational
<b><i>Central and Sai Ying Pun Area</i></b>		
C3.1	Shun Tak Centre	Commercial
CR3.1	11-47 Connaught Road	Commercial/ Residential
CR3.2	8-227 Wing Lok Street	Commercial/ Residential
CR3.3	55-60 Connaught Road	Commercial/ Residential
CR3.4	62-87 Connaught Road	Commercial/ Residential
CR3.5	88-103A Connaught Road	Commercial/ Residential
CR3.6	107-128 Connaught Road	Commercial/ Residential
CR3.7	129-152 Connaught Road	Commercial/ Residential
CR3.8	Connaught Garden	Commercial/ Residential
CR3.9	158A-162 Connaught Road West	Commercial/ Residential
CR3.10	165-167 Connaught Road West	Commercial/ Residential
CR3.11	168-185B Connaught Road West	Commercial/ Residential
GIC3.1	Sheung Wan Zone Substation	Government/ Institution/ Community
GIC3.2	Waterfront Divisional Police Station	Government/ Institution/ Community
GIC3.3	Sheung Wan Fire Station	Government/ Institution/ Community
GIC3.4	Western Park Indoor Game Hall	Recreational
OU3.1	HK Macau Ferry Terminal	Transportational
OU3.2	Bus Terminal	Transportational
OU3.3	Western Wholesale Market	Commercial
O3.1	Sun Yen Sen Memorial Park	Recreational
T3.1	Connaught Road	Transportational
T3.2	Victoria Harbour	Transportational
<b><i>Stonecutters Island Area</i></b>		
R9.1	Mei Foo Sun Chuen	Residential
R9.2	Hoi Lai Estate	Residential
R9.3	Fu Cheong Estate	Residential
R9.4	Nam Cheong Estate	Residential
CDA9.1	Manhattan Hill	Residential
CDA9.2	Nam Cheong Station	Residential
GIC9.1	Government Dockyard	Government/ Institution/ Community
GIC9.2	West Kowloon North Sewage Pumping Station	Government/ Institution/ Community
OU 9.1	Ngong Shuen Chau Barracks	Government/ Institution/ Community
OU9.2	Container Terminal 8	Occupational
OU9.3	Open Storage Car Park	Government/ Institution/ Community
OU9.4	West Kowloon Refuse Transfer Station	Government/ Institution/ Community
OU9.5	Shipyard and Cheung Sha Wan Wholesale Market	Government/ Institution/ Community
I 9.1	Kowloon Motor Bus Depot	Occupational
T9.1	West Kowloon Expressway	Transportational
T9.2	Container Port Road South	Transportational
<b>Note:</b>		

Id. No.	Key Visual Sensitive Receivers (VSRs)	Type of VSRs <sup>(a)</sup>
(a)	R = Residential; C = Commercial, C/R = Commercial/Residential, GIC = Government/Institution/Community, O = Open space, OU = Others use; T = Transport related.	

## 4.2 MONITORING PROCEDURES AND LOCATIONS

In accordance with the EM&A Manual, the baseline review should be conducted by a registered landscape architect (RLA) to record changes of each landscape resource, landscape character area and the viewing conditions of visually sensitive receiver. The monitoring procedures and criteria as described in the EM&A Manual were adopted for the baseline landscape and visual assessment.

The present baseline condition of LRs, LCAs, and VSRs within the zone of visual influence, were checked against *Section 13* of the approved EIA Report of HATS2A through on site verification and Tree Survey Report for this Project.

## 4.3 RESULTS AND OBSERVATIONS

### 4.3.1 Landscape Resources (LRs)

Based on the site visit findings, the review of the Tree Survey Report for this Project and updated construction worksite boundary, the number of trees at each worksites in NP, WCE, CEN, SYP and SCI is updated. The health, form and amenity value of trees, inclusive those marked for future transplant and retained, were similar to that described in the EIA except two dead trees were observed in LR1. No significant change in landscape resources at LR1, LR2, LR3 and LR9 was found.

The updated information is summarized in *Table 4.2* and the change status of the LR is presented in *Table 4.3*.

**Table 4.2 Updated Information on Landscape Resources**

LR	Name of LR	No. of Trees identified in EIA Report	No. of Trees estimated to be affected in the EIA Report	Updated no. of Trees Identified within Project Worksites During Baseline Monitoring <sup>(a)</sup>
LR1	Trees on TWA and PTW at North Point	109 (with 5 dead trees)	55	47 (with 7 dead trees) <sup>(a)(b)</sup>
LR2	Trees on PTW and TWA at Wan Chai East	92	39	56 <sup>(b)</sup>
LR3	Trees on Central PTW and Sai Ying Pun TWA	17	3	5 <sup>(b)</sup>



LR	Name of LR	No. of Trees identified in EIA Report	No. of Trees estimated to be affected in the EIA Report	Updated no. of Trees Identified within Project Worksites During Baseline Monitoring <sup>(a)</sup>
LR9	Trees on SCISTW and TWA on Stonecutters Island	247	179	21 <sup>(b)</sup>

**Notes:**

(a) Site boundaries of work sites in the Project have updated from the boundaries stated in the EIA based on current site conditions.

(b) The estimated number of trees in the EIA covers all trees in the Project areas of HATS Stage2A. While this Project only covers works to be carried out at the worksite presented in *Figure 5 of Annex A*, the total number of trees identified within Project worksites during baseline monitoring is therefore smaller than the number estimated in the EIA Report.

**Table 4.3** *Landscape Resources with Changed Status*

LR	Name of LR	Tree No.	Previous Status	Current Status
LR1	Trees on TWA and PTW at North Point	T038	Retained	Dead
		T039	Retained	Dead

#### 4.3.2 *Landscape Character Areas (LCAs)*

Based on the site visit findings, no substantial change in the baseline condition of LCA was found. *Fig 4.1 to 4.4 in Annex G* shows the existing LCAs locations and *Fig 4.5 in Annex G* shows the typical LCA onsite. A summary of the baseline condition of LCAs recorded in the recent review and EIA is given in *Table 4.4*.

**Table 4.4** *Baseline condition of LCAs*

LCA	Condition Reported in EIA Report	Recent Review during Baseline Monitoring
LCA1	Miscellaneous Urban Fringe Landscape	Same as the EIA report
LCA2	Civic Urban Waterfront Landscape	Same as the EIA report
LCA3	Transportation Corridor Landscape	Same as the EIA report
LCA4	Residential Urban Landscape	Same as the EIA report
LCA5	Industrial Urban Landscape	Same as the EIA report

#### 4.3.3 *Visual Sensitive Receiver (VSR)*

Based on the site visit findings, no substantial change was observed except a new VSR identified in North Point (R1.6, Island Lodge) and three identified VSRs to be updated. A summary of updated information for a newly identified R1.6 and three updated VSRs is given in *Table 4.5*. Since the view from R1.6 is similar to those adjacent VSRs, the landscape and visual mitigation measures as proposed in EIA should be sufficient to mitigate the visual impact and no additional mitigation measures are therefore required.

*Fig 4.6-4.9 of Annex G* shows the existing location of VSRs. A comparison of viewing condition of VSR in the approved EIA Report and baseline site visit at

all VSRs relevant to this Project, as listed in *Table 4.1*, are shown in *Figures 4.10 to 4.18* in *Annex G*.

**Table 4.5 Update Information of VSRs**

Area	Id. No.	Visual Sensitive Receivers	Type of Visual Sensitive Receivers	Change observed
North Point	R1.6	Island Lodge	Residential	New VSR identified
North Point	GIC1.2	Customs HR Tower (Under Construction)	Government/ Institution/ Community	Existing Car park has been demolished and Customs HR Tower is currently under construction
North Point	CR1.1	62-76 Marble Road	Commercial/ Residential	Location of CR1.1 on plan in the approved EIA Report is incorrect. Refer to Figure 4.6 of Annex G for the correct location of CR1.1
North Point	GIC1.3	Chan's Creative School	Government/ Institution/ Community	VSR name updated

**4.4**

***EVENT AND ACTION PLAN***

No significant change in baseline condition from the approved EIA Report was recorded for LRs, LCAs and views from VSRs. Hence, no revision of landscape and visual mitigation measures is required for construction phase proposed in *Section 10.7* of the approved EIA Report and *Section 11.10* and *Implementation Schedule (IS)* of EM&A Manual.

Nevertheless, landscape and visual monitoring audit will be conducted during the construction of the Project to ensure that the implementation and maintenance of landscape and visual mitigation measures. Site inspections will be undertaken at least once every month throughout the construction period.

Should non-compliance of the landscape and visual impacts occur, actions in accordance with the action plan stated in *Table 4.6* shall be carried out.

**Table 4.6** *Event and Action Plan for Landscape and Visual Impact - Construction Phase*

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

**5.1 BASELINE AIR QUALITY**

Baseline 24-hour and 1-hour TSP levels were measured in 14 consecutive days at the designated monitoring stations (AM1-AM6) established for the Project between 25 September and 24 October 2009. The weather condition during the baseline monitoring period varied from sunny, cloudy to rainy. There was no major construction activity identified in the vicinity of the monitoring stations influencing the measured TSP levels. The measured TSP levels are therefore representative of the baseline condition for the Project.

The measured 24-hour and 1-hour TSP levels were used to establish the Action Levels for impact monitoring throughout the construction of the Project.

**5.2 BASELINE NOISE**

Baseline noise levels ( $L_{eq}$ ,  $L_{10}$  and  $L_{90}$ ) were conducted at the designated monitoring stations (NM1-NM5) for 14 consecutive days between 18 September and 18 October 2009. The weather condition during the baseline monitoring period varied from sunny, cloudy to rainy. There was no major construction activity from the Project identified influencing the measured noise levels at NM1 to NM5. Monitoring results indicate that the collected noise data is representative of the baseline condition at the impact monitoring stations.

During impact monitoring, the Action Level will be triggered when one complaint is received, and the daytime construction noise limit under EIAO, ie 75 dB(A) will be adopted as the Limit Level. In particular at NM1, 70dB(A) and 69.0 dB(A) will be respectively adopted as the Limit Level during the normal teaching period and examination period.

**5.3 LANDSCAPE AND VISUAL**

Site visits for the environmental baseline monitoring were made between 23 September and 30 October 2009. No significant changes between existing and the baseline condition of LRs, LCAs and views towards VSRs as stipulated in the EIA were identified except a new VSR, ie, a residential building – Island Lodge. Since the view from the new VSR is similar to those adjacent identified VSRs, the landscape and visual mitigation measures as proposed in EIA should be sufficient to mitigate the visual impact. No changes to the landscape and visual mitigation measures as proposed in EIA are therefore, required. Compliance to the EIA is mandatory and close monitoring throughout the construction period shall be undertaken as per the Event and Action Plan in the EM&A Manual of the Project.

Annex A

## Locations of Air Quality and Noise Monitoring Stations

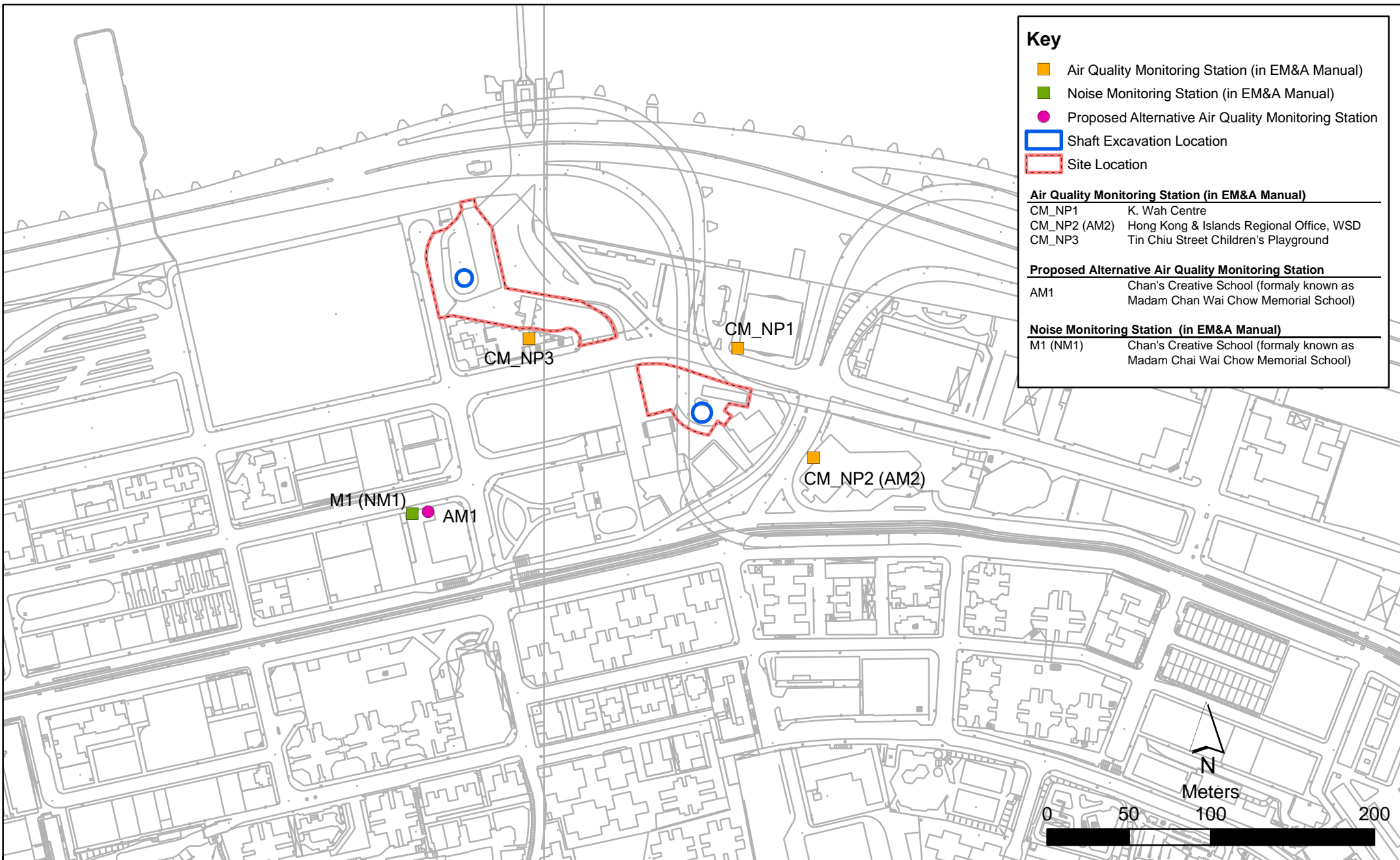


Figure 1

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
*Baseline Air Quality & Noise Monitoring Stations (North Point)*

File: EM&A and proposed station\0104887\_North Point.mxd  
 Date: 16/10/2009

Environmental  
 Resources  
 Management



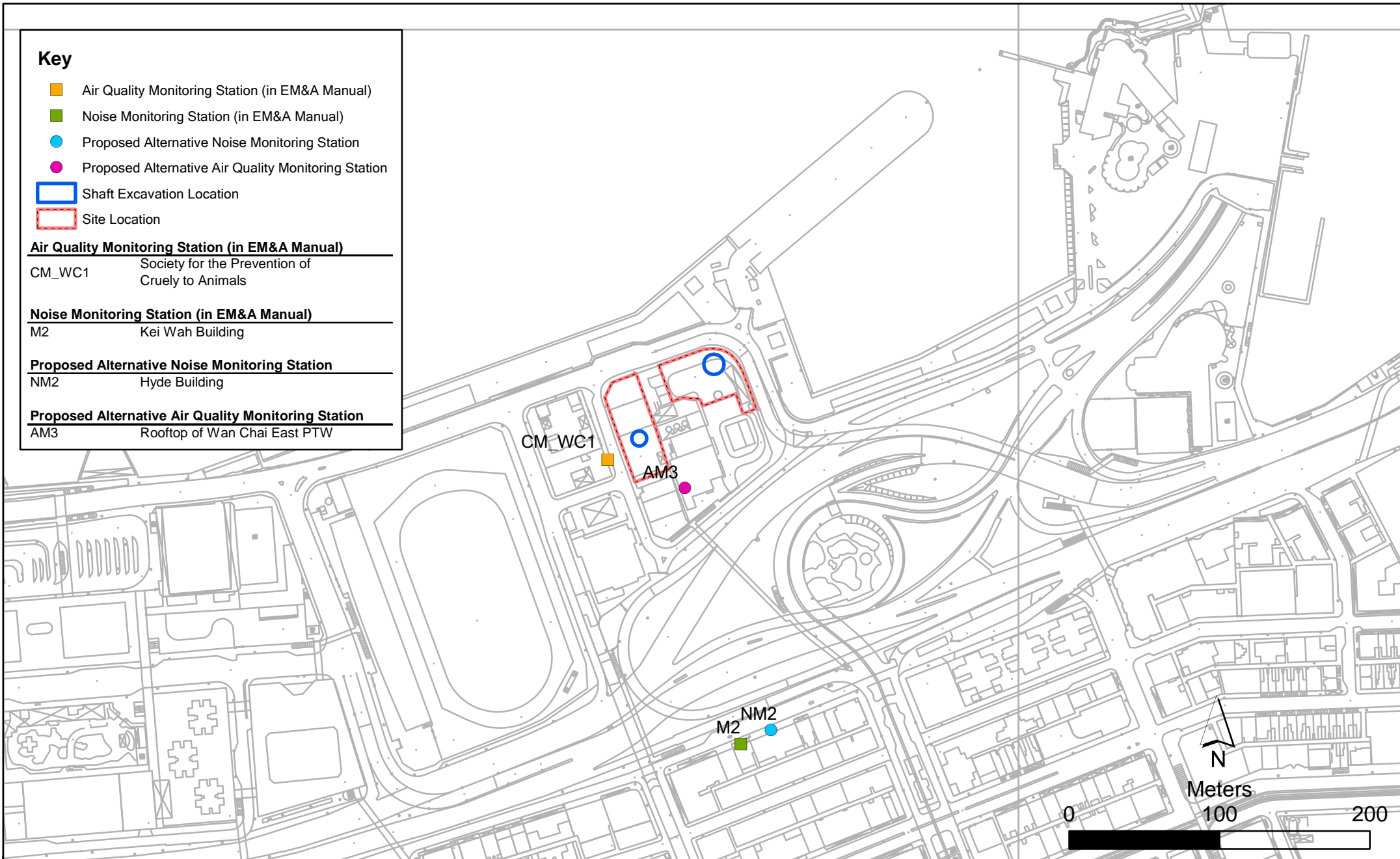


Figure 2

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
*Baseline Air Quality & Noise Monitoring Stations (Wan Chai East)*

File: EM&A and proposed station\0104887\_Wan Chai.mxd  
 Date: 16/10/2009

Environmental  
 Resources  
 Management





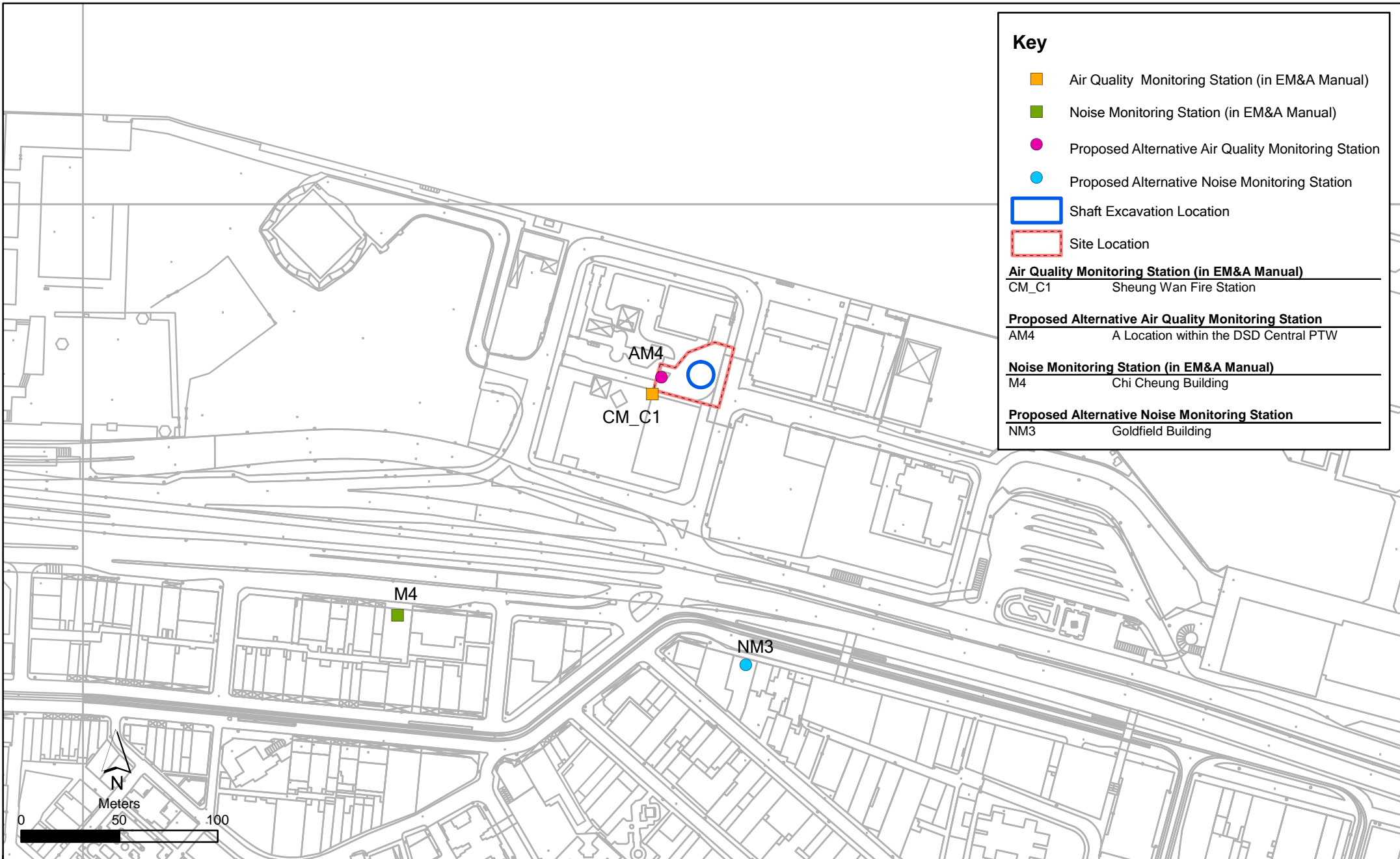
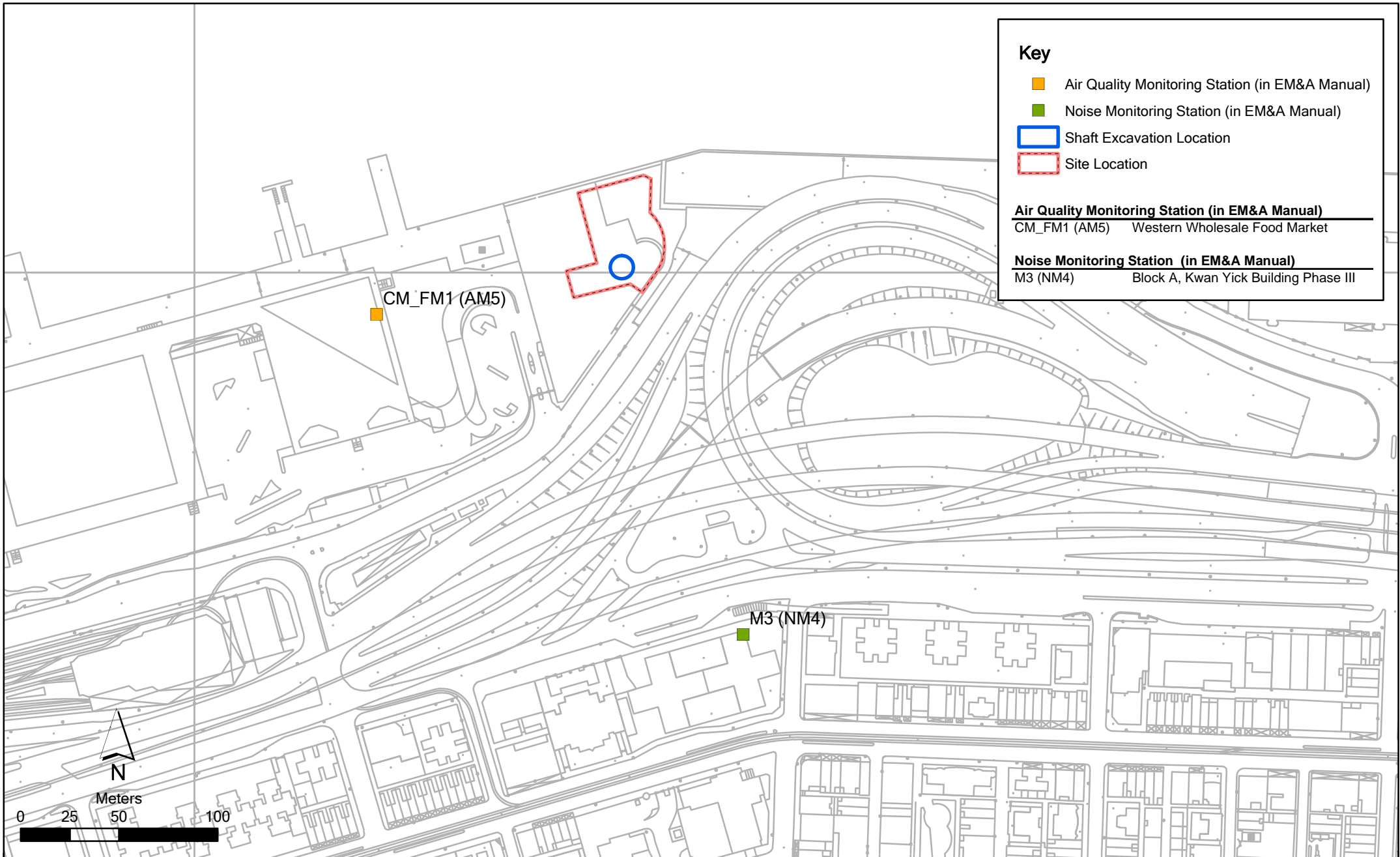


Figure 3

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
*Baseline Air Quality & Noise Monitoring Station (Central)*



**Key**

- Air Quality Monitoring Station (in EM&A Manual)
- Noise Monitoring Station (in EM&A Manual)
- Shaft Excavation Location
- Site Location

---

**Air Quality Monitoring Station (in EM&A Manual)**  
 CM\_FM1 (AM5)    Western Wholesale Food Market

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**Noise Monitoring Station (in EM&A Manual)**  
 M3 (NM4)        Block A, Kwan Yick Building Phase III

Figure 4

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
*Baseline Air Quality & Noise Monitoring Station (Fung Mat Road)*

**Environmental  
 Resources  
 Management**



File: EM&A and proposed station\0104887\_Sai Ying Pun.mxd  
 Date: 16/10/2009

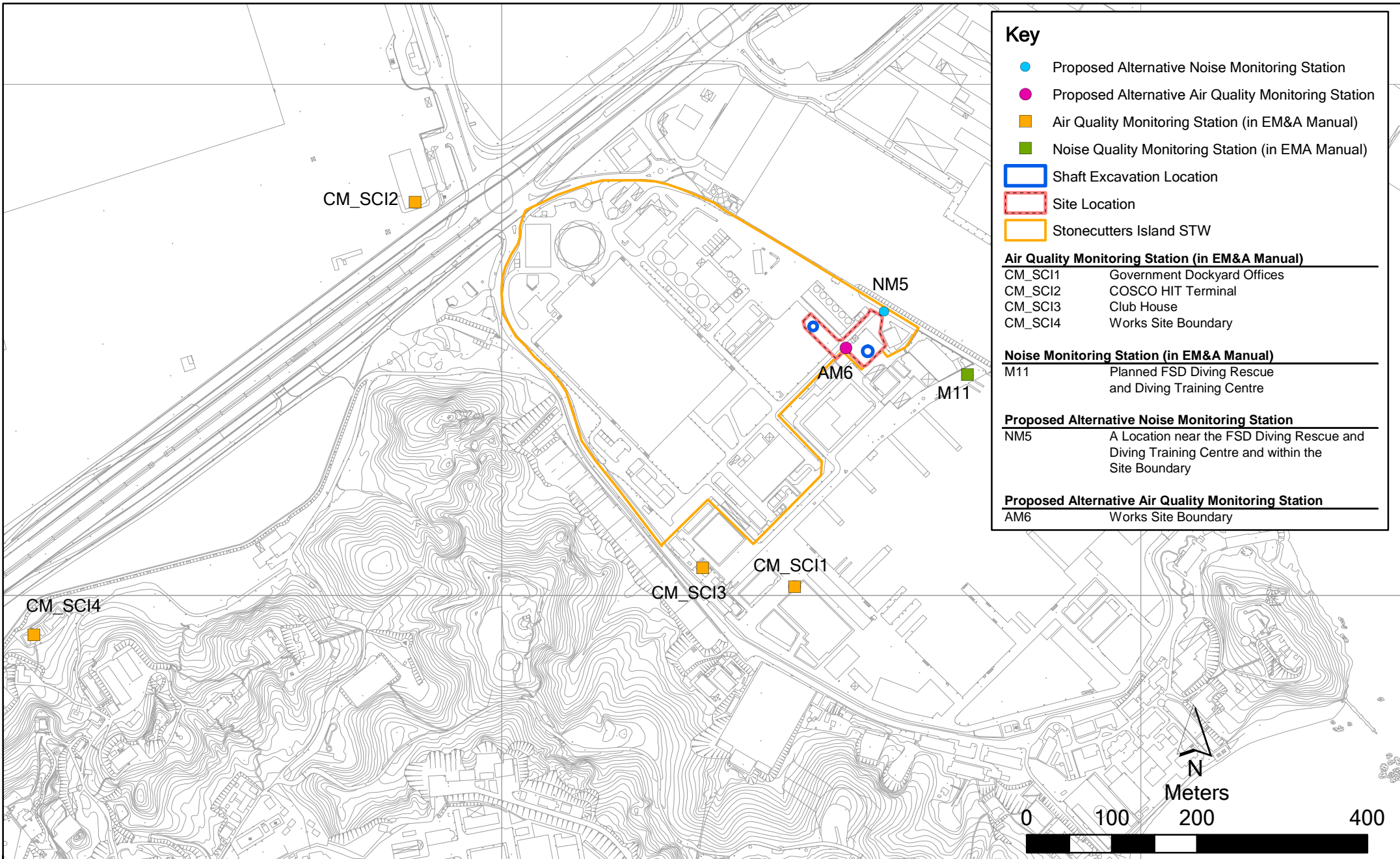


Figure 5

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
*Baseline Air Quality Monitoring Station (Stonecutters Island STW)*

File: EM&A and proposed station\0104887\_Stonecutters Island.mxd  
 Date: 16/10/2009

Environmental  
 Resources  
 Management







AM1 – Chan’s Creative School



AM2 - Rooftop of Hong Kong & Islands Regional Office, WSD



AM3 – Rooftop on DSD Wan Chai East PTW



AM4 – Location within DSD Central PTW





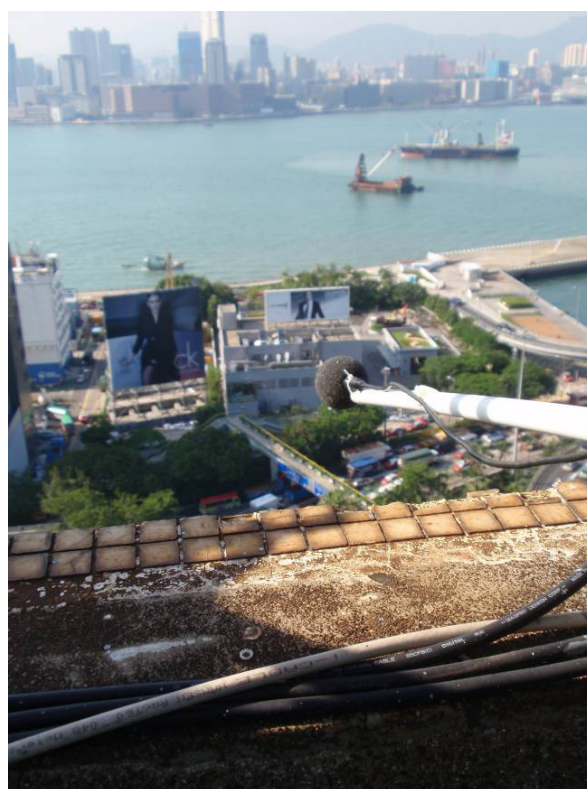
AM5 – AFCD Western Wholesale Food Market



AM6 – Site Boundary at Stonecutters Island Work Site

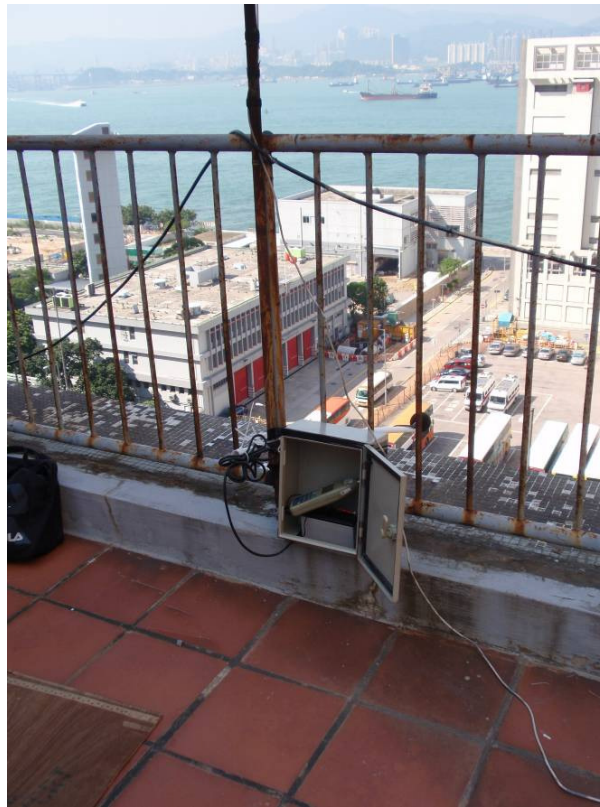


NM1 – Chan's Creative School



NM2 – Hyde Building





NM3 – Goldfield Building



NM4 – Kwan Yick Building Phase III





NM5 – A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary

Annex B

## Baseline Monitoring Programme (Air Quality and Noise)

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
September - October 2009 (Chan's Creative School - AM1)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
		Air Monitoring	Air Monitoring		Air Monitoring	
				HKSAR Day		Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
September - October 2009 (WSD Hong Kong and Islands Office - AM2)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
		Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
				HKSAR Day		Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
Air Monitoring	Air Monitoring					
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
September - October 2009 (Wanchai East DSD PTW - AM3)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
		Air Monitoring	Air Monitoring	Air Monitoring HKSAR Day	Air Monitoring	Air Monitoring Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
Air Monitoring	Air Monitoring					
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
October 2009 (Sheung Wan Drop Shaft Site Boundary - AM4)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct	2-Oct	3-Oct
				HKSAR Day		Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
					Air Monitoring	Air Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring		
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
September-October 2009 (AFCD Wholesale Food Market - AM5)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					25-Sep	26-Sep
					Air Monitoring	Air Monitoring
27-Sep	28-Sep	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring HKSAR Day	Air Monitoring	Air Monitoring Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring		
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Air Quality Monitoring Schedule  
 October 2009 (Stonecutters Island Production Shaft: Site Boundary - AM6)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct	2-Oct	3-Oct
				HKSAR Day		Mid-autumn festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
					Air Monitoring	Air Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	Air Monitoring	
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct



**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Noise Monitoring Schedule  
September - October 2009 (Chan's Creative School - NM1)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					18-Sep	19-Sep
					Noise Monitoring	Noise Monitoring
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring
27-Sep	28-Sep	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
Noise Monitoring	←	<b>Noise monitoring was ceased due to rainy weather</b>		→	Noise Monitoring	Noise Monitoring
4-Oct	5-Oct	6-Oct	7-Oct	HKSAR Day	9-Oct	Mid-Autumn Festival
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Noise Monitoring Schedule  
September - October 2009 (Hyde Building - NM2)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					18-Sep	19-Sep
					Noise Monitoring	Noise Monitoring
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring
27-Sep	28-Sep	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
Noise Monitoring	← Noise monitoring was ceased due to rainy weather →				Noise Monitoring	Noise Monitoring
4-Oct	5-Oct	6-Oct	7-Oct	HKSAR Day	9-Oct	Mid-Autumn Festival
8-Oct	9-Oct	10-Oct				
Noise Monitoring	Noise Monitoring					
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct

**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Noise Monitoring Schedule  
September - October 2009 (Goldfield Building - NM3)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					18-Sep	19-Sep
					Noise Monitoring	Noise Monitoring
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring
27-Sep	28-Sep	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct
Noise Monitoring	← Noise monitoring was ceased due to rainy weather →				Noise Monitoring	Noise Monitoring
4-Oct	5-Oct	6-Oct	7-Oct	HKSAR Day	9-Oct	Mid-Autumn Festival
8-Oct	9-Oct	10-Oct				
Noise Monitoring	Noise Monitoring					
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct



**Contract No. DC/2007/23 Harbour Area Treatment Scheme Stage 2A -  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island: Baseline Noise Monitoring Schedule  
 October 2009 (A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary - NM5)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct	2-Oct	3-Oct
				HKSAR Day	Noise Monitoring	Noise Monitoring Mid-Autumn Festival
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring	Noise Monitoring		
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct

Annex C

## Calibration Certificates for High Volume Samplers

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM1 (1hr)  
Calibrated by : K.T.Ho  
Date : 28/09/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 0816

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010  
Ta(K) : 301

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC (indicated flow)	Y
1   18 holes	12.0	3.5263	1.7154	50	50.9
2   13 holes	9.0	3.0539	1.4872	42	42.8
3   10 holes	6.9	2.6739	1.3036	34	34.6
4   7 holes	7.0	2.0862	1.0197	24	24.4
5   5 holes	5.0	1.5770	0.7737	15	15.3

Sampler Calibration Relationship

Slope(m): 38.039 Intercept(b): -14.333 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 29/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM1 (24hr)  
 Calibrated by : K.T.Ho  
 Date : 28/09/09

Sampler  
 Model : GMWS-2310 ACCU-VOL  
 Serial Number : S/N 1808

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
 Service Date : 18 May 2009  
 Slope (m) : 1.97702  
 Intercept (b) : -0.00070  
 Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
 Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	12.2	3.5173	1.7777	57	57.4
2   13 holes	9.5	3.1038	1.5712	48	48.3
3   10 holes	7.0	2.6643	1.3516	40	40.3
4   7 holes	4.3	2.0882	1.0638	28	28.2
5   5 holes	2.3	1.5272	0.7836	18	18.1

Sampler Calibration Relationship

Slope(m): 39.502 Intercept(b): -13.264 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 29/09/09



High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM2 (1hr)  
Calibrated by : K.T.Ho  
Date : 28/09/09

Sampler  
Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 0106

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	8.6	2.9560	1.4973	53	53.4
2   13 holes	6.8	2.6285	1.3338	45	45.4
3   10 holes	5.8	2.4276	1.2334	40	40.3
4   7 holes	4.3	2.0902	1.0649	32	32.3
5   5 holes	2.2	1.4951	0.7676	18	18.1

Sampler Calibration Relationship

Slope(m): 48.303 Intercept(b): -19.067 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan

Date: 29/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM2 (24hr)  
Calibrated by : K.T.Ho  
Date : 28/09/09

Sampler  
Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 0145

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.9	3.2868	1.6626	52	51.8
2   13 holes	8.8	2.9533	1.4960	46	45.8
3   10 holes	6.6	2.5576	1.2983	39	38.8
4   7 holes	4.4	2.0883	1.0639	29	28.9
5   5 holes	2.6	1.6053	0.8226	20	19.9

Sampler Calibration Relationship

Slope(m): 38.247 Intercept(b): -11.488 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 29/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM3 (1 hr)  
 Calibrated by : K.T.Ho  
 Date : 28/09/09

Sampler

Model : GMWS-2310 ACCU-VOL  
 Serial Number : S/N 1806

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
 Service Date : 18 May 2009  
 Slope (m) : 1.97702  
 Intercept (b) : -0.00070  
 Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010  
 Ta(K) : 301

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	11.8	3.4592	1.7487	60	60.4
2   13 holes	9.2	3.0544	1.5465	52	52.3
3   10 holes	7.1	2.6832	1.3611	45	45.3
4   7 holes	4.6	2.1598	1.0996	34	34.2
5   5 holes	2.9	1.7149	0.8773	24	24.2

Sampler Calibration Relationship

Slope(m):41.453 Intercept(b): -11.692 Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 29/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM3 (24hr)  
 Calibrated by : K.T.Ho  
 Date : 28/09/09

Sampler

Model : GMWS-2310 ACCU-VOL  
 Serial Number : S/N 0481

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
 Service Date : 18 May 2009  
 Slope (m) : 1.97702  
 Intercept (b) : -0.00070  
 Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1010  
 Ta(K) : 301

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	12.4	3.5460	1.7921	53	53.4
2   13 holes	9.8	3.1524	1.5954	45	45.3
3   10 holes	7.6	2.7761	1.4075	38	38.3
4   7 holes	4.8	2.2062	1.1228	27	27.2
5   5 holes	2.9	1.7149	0.7676	18	18.1

Sampler Calibration Relationship

Slope(m): 38.467 Intercept(b): -15.825 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan

Date: 29/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM4 (1 hr)  
Calibrated by : K.T.Ho  
Date : 09/10/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 0764

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.8	3.2717	1.6550	52	51.8
2   13 holes	8.9	2.9700	1.5043	45	44.8
3   10 holes	6.7	2.5769	1.3080	38	37.8
4   7 holes	4.3	2.0644	1.0520	28	27.9
5   5 holes	2.7	1.6358	0.8379	20	19.9

Sampler Calibration Relationship

Slope(m): 38.563 Intercept(b): -12.593 Correlation Coefficient(r): 0.9994

Checked by: Magnum Fan

Date: 10/10/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM4 (24hr)  
Calibrated by : K.T.Ho  
Date : 09/10/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 9315

Calibration Orifice and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.7	3.2973	1.6048	52	53.4
2   13 holes	6.8	2.6285	1.2817	45	45.4
3   10 holes	6.1	2.4896	1.2145	40	40.3
4   7 holes	3.6	1.9125	0.9358	32	32.3
5   5 holes	2.0	1.4255	0.7005	18	18.1

Sampler Calibration Relationship

Slope(m): 37.967 Intercept(b): -8.285 Correlation Coefficient(r): 0.9997

Checked by: Magnum Fan

Date: 10/10/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM5 (1hr)  
 Calibrated by : K.T.Ho  
 Date : 25/09/09

Sampler  
 Model : GMWS-2310 ACCU-VOL  
 Serial Number : S/N 1658

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
 Service Date : 18 May 2009  
 Slope (m) : 1.97702  
 Intercept (b) : -0.00070  
 Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
 Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	11.4	3.3468	1.6925	61	60.5
2   13 holes	9.6	3.0712	1.5549	56	55.5
3   10 holes	8.2	2.8384	1.4386	51	50.6
4   7 holes	6.0	2.4280	1.2336	43	42.6
5   5 holes	3.0	1.7169	0.8783	29	28.7

Sampler Calibration Relationship

Slope(m): 39.140 Intercept(b): -5.635 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan

Date: 26/09/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM5 (24 hr)  
Calibrated by : K.T.Ho  
Date : 25/09/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 8162

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1012  
Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.9	3.2868	1.6626	51	50.8
2   13 holes	8.9	2.9700	1.5043	44	43.8
3   10 holes	6.7	2.5769	1.3080	38	37.8
4   7 holes	4.3	2.0644	1.0520	28	27.9
5   5 holes	2.7	1.6359	0.8379	21	20.9

Sampler Calibration Relationship

Slope(m): 35.953 Intercept(b): -9.528 Correlation Coefficient(r): 0.9990

Checked by: Magnum Fan

Date: 26/09/09



High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM6 (1hr)  
Calibrated by : P.F.Yeung  
Date : 09/10/09

Sampler  
Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 7580

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	12.0	3.4201	1.7292	50	49.4
2   13 holes	9.0	2.9619	1.5003	42	41.5
3   10 holes	6.9	2.5934	1.3162	35	34.6
4   7 holes	4.2	2.0234	1.0315	24	23.7
5   5 holes	2.4	1.5295	0.7848	15	14.8

Sampler Calibration Relationship

Slope(m):36.869 Intercept(b):-14.132 Correlation Coefficient(r):0.9998

Checked by: Magnum Fan

Date: 10/10/09

High-Volume TSP Sampler  
5-Point Calibration Record

Location : AM6 (24hr)  
Calibrated by : P.F.Yeung  
Date : 09/10/09

Sampler

Model : GMWS-2310 ACCU-VOL  
Serial Number : S/N 1254

Calibration Office and Standard Calibration Relationship

Serial Number : 9833620  
Service Date : 18 May 2009  
Slope (m) : 1.97702  
Intercept (b) : -0.00070  
Correlation Coefficient(r) : 0.99992

Standard Condition

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

Calibration Condition

Pa (hpa) : 1011  
Ta(K) : 303

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1 18 holes	11.8	3.4016	1.7199	60	59.4
2 13 holes	9.2	3.0036	1.5211	52	51.5
3 10 holes	7.1	2.6386	1.3388	44	43.6
4 7 holes	4.6	2.1238	1.0816	33	32.7
5 5 holes	2.9	1.6863	0.8631	24	23.8

Sampler Calibration Relationship

Slope(m): 41.856 Intercept(b): -12.434 Correlation Coefficient(r): 0.9998

Checked by: Magnum Fan

Date: 10/10/09

Annex D

## Baseline 24-hr and 1-hr TSP Monitoring Results

## Baseline 24-hr TSP Monitoring Results

Station : AM1 (Chan's Creative School)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/09/2009	9684	2.7933	2.9095	1.35	1.35	9394.01	9418.01	24.0	60	Rainy	26.0	1002	0.12	1.35	1944.0
30/09/2009	9688	2.7961	2.9085	1.35	1.35	9418.01	9442.01	24.0	58	Rainy	27.0	1002	0.11	1.35	1944.0
2/10/2009	9316	2.7891	2.9339	1.35	1.35	9442.01	9466.01	24.0	74	Sunny	29.0	1014	0.14	1.35	1944.0
5/10/2009	0066	2.8390	3.0212	1.35	1.35	9466.01	9490.01	24.0	94	Sunny	28.0	1012	0.18	1.35	1944.0
6/10/2009	0070	2.8177	2.9910	1.35	1.35	9490.01	9514.01	24.0	89	Sunny	29.5	1013	0.17	1.35	1944.0
7/10/2009	0075	2.8208	3.0151	1.35	1.35	9514.01	9538.01	24.0	100	Sunny	29.5	1011	0.19	1.35	1944.0
8/10/2009	0079	2.8280	3.0304	1.35	1.35	9538.01	9562.01	24.0	104	Fine	29.0	1010	0.20	1.35	1944.0
9/10/2009	9769	2.7967	3.0084	1.35	1.35	9562.01	9586.01	24.0	109	Sunny	29.0	1011	0.21	1.35	1944.0
10/10/2009	9757	2.7900	2.9812	1.35	1.35	9586.01	9610.01	24.0	98	Sunny	27.0	1012	0.19	1.35	1944.0
12/10/2009	9756	2.7875	2.9671	1.35	1.35	9610.01	9634.01	24.0	92	Cloudy	26.0	1008	0.18	1.35	1944.0
13/10/2009	9669	2.7904	2.9468	1.35	1.35	9634.01	9658.01	24.0	80	Sunny	25.5	1012	0.16	1.35	1944.0
14/10/2009	9742	2.8019	2.9398	1.35	1.35	9658.01	9682.01	24.0	71	Sunny	27.0	1009	0.14	1.35	1944.0
15/10/2009	9778	2.8011	2.9456	1.35	1.35	9682.01	9706.01	24.0	74	Sunny	26.0	1011	0.14	1.35	1944.0
16/10/2009	9735	2.7825	2.9559	1.35	1.35	9706.01	9730.01	24.0	89	Sunny	26.5	1010	0.17	1.35	1944.0

Action Level 185 ug/m3

Min	58
Max	109
Average	85

Station : AM2 (Hong Kong & Island Regional office, WSD)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/9/2009	9615	2.8248	2.9411	1.29	1.29	10240.88	10264.88	24.0	63	Rainy	26.0	1002	0.12	1.29	1857.6
30/9/2009	9318	2.7875	2.9011	1.29	1.29	10264.88	10264.88	24.0	61	Rainy	27.0	1002	0.11	1.29	1857.6
1/10/2009	0061	2.8360	2.9440	1.29	1.29	10288.88	10288.88	24.0	58	Sunny	27.5	1012	0.11	1.29	1857.6
2/10/2009	9673	2.7878	2.9117	1.29	1.29	10312.88	10336.88	24.0	67	Sunny	28.5	1014	0.12	1.29	1857.6
3/10/2009	9793	2.7880	2.9464	1.29	1.29	10376.88	10360.88	24.0	85	Fine	27.5	1010	0.16	1.29	1857.6
4/10/2009	9789	2.7824	2.9501	1.29	1.29	10360.88	10384.88	24.0	90	Sunny	27.0	1014	0.17	1.29	1857.6
5/10/2009	9787	2.7850	2.9467	1.29	1.29	10384.88	10408.88	24.0	87	Sunny	26.5	1012	0.16	1.29	1857.6
6/10/2009	9783	2.7950	2.9876	1.29	1.29	10408.88	10432.88	24.0	104	Sunny	26.0	1013	0.19	1.29	1857.6
7/10/2009	9778	2.7967	2.9771	1.29	1.29	10432.88	10456.88	24.0	97	Sunny	26.5	1011	0.18	1.29	1857.6
8/10/2009	9774	2.7849	2.9315	1.29	1.29	10456.88	10480.88	24.0	79	Fine	27.0	1010	0.15	1.29	1857.6
9/10/2009	9766	2.7935	2.9286	1.29	1.29	10480.88	10504.88	24.0	73	Sunny	26.5	1011	0.14	1.29	1857.6
10/10/2009	9758	2.7849	2.9399	1.29	1.29	10504.88	10528.88	24.0	83	Sunny	25.5	1012	0.16	1.29	1867.6
11/10/2009	9752	2.7866	2.9264	1.29	1.29	10528.88	10552.88	24.0	75	Cloudy	24.5	1010	0.14	1.29	1857.6
12/10/2009	9745	2.7955	2.9673	1.29	1.29	10552.88	10576.88	24.0	93	Cloudy	25.0	1008	0.17	1.29	1857.6

Action Level 182 ug/m3

Min	58
Max	104
Average	80

### Baseline 24-hr TSP Monitoring Results

Station : AM3 (Wan Chai East PTW)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/9/2009	9628	2.7904	2.9001	1.35	1.35	1859.32	1883.32	24.0	56	Rainy	26.0	1002	0.12	1.35	1944.0
30/9/2009	9630	2.7915	2.9245	1.35	1.35	1883.32	1907.32	24.0	68	Rainy	27.0	1002	0.13	1.35	1944.0
1/10/2009	9637	2.7933	2.9315	1.35	1.35	1907.32	1931.32	24.0	71	Sunny	27.5	1012	0.14	1.35	1944.0
2/10/2009	9648	2.7944	2.9471	1.35	1.35	1931.32	1955.32	24.0	79	Sunny	29.0	1014	0.15	1.35	1944.0
3/10/2009	9660	2.7850	2.9421	1.35	1.35	1955.32	1979.32	24.0	81	Fine	28.0	1010	0.16	1.35	1944.0
4/10/2009	9600	2.8006	2.9456	1.35	1.35	1979.32	2003.32	24.0	75	Sunny	27.5	1014	0.15	1.35	1944.0
5/10/2009	9604	2.7964	2.9511	1.35	1.35	2003.32	2027.32	24.0	80	Sunny	28.0	1012	0.15	1.35	1944.0
6/10/2009	9611	2.7987	2.9503	1.35	1.35	2027.32	2051.32	24.0	78	Sunny	29.5	1013	0.15	1.35	1944.0
7/10/2009	9621	2.7959	2.9776	1.35	1.35	2051.32	2075.32	24.0	93	Sunny	29.5	1011	0.18	1.35	1944.0
8/10/2009	9642	2.7980	2.9578	1.35	1.35	2075.32	2099.32	24.0	82	Fine	29.0	1010	0.16	1.35	1944.0
9/10/2009	9675	2.7924	2.9661	1.35	1.35	2099.32	2123.32	24.0	89	Sunny	29.0	1011	0.17	1.35	1944.0
10/10/2009	9682	2.7967	2.9498	1.35	1.35	2123.32	2147.32	24.0	79	Sunny	27.0	1012	0.15	1.35	1944.0
11/10/2009	9693	2.8303	2.9779	1.35	1.35	2147.32	2171.32	24.0	76	Cloudy	24.5	1010	0.15	1.35	1944.0
12/10/2009	9697	2.8726	3.0334	1.35	1.35	2171.32	2195.32	24.0	83	Cloudy	26.0	1008	0.16	1.35	1944.0

Action Level 181 ug/m3

Min	56
Max	93
Average	78

Station : AM4 (A Location within the DSD Central PTW)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
09/10/2009	0100	2.8393	3.1499	1.32	1.32	16275.84	16299.84	24.0	163	Sunny	26.0	1012	0.31	1.32	1900.8
10/10/2009	0084	2.8333	3.1965	1.32	1.32	16299.84	16323.84	24.0	191	Sunny	26.0	1010	0.36	1.32	1900.8
11/10/2009	0088	2.7864	2.9380	1.32	1.32	16323.84	16347.84	24.0	80	Cloudy	24.0	1000	0.15	1.32	1900.8
12/10/2009	0098	2.8704	3.0734	1.32	1.32	16347.84	16371.84	24.0	107	Rainy	26.0	1012	0.20	1.32	1900.8
13/10/2009	0095	2.8082	2.9577	1.32	1.32	16371.84	16395.84	24.0	79	Sunny	25.0	1009	0.15	1.32	1900.8
14/10/2009	0092	2.8439	3.0346	1.32	1.32	16395.84	16419.84	24.0	100	Cloudy	26.0	1011	0.19	1.32	1900.8
15/10/2009	0155	2.8644	3.0972	1.32	1.32	16419.84	16443.84	24.0	122	Fine	25.0	1010	0.23	1.32	1900.8
16/10/2009	0159	2.8532	3.0877	1.32	1.32	16443.84	16467.84	24.0	123	Fine	25.0	1012	0.23	1.32	1900.8
17/10/2009	0167	2.8582	3.1220	1.32	1.32	16467.84	16491.84	24.0	139	Sunny	25.0	1012	0.26	1.32	1900.8
18/10/2009	0171	2.9099	3.2104	1.32	1.32	16491.84	16515.84	24.0	158	Sunny	24.0	1012	0.30	1.32	1900.8
19/10/2009	0161	2.8352	3.0381	1.32	1.32	16515.84	16539.84	24.0	107	Cloudy	25.0	1009	0.20	1.32	1900.8
20/10/2009	0174	2.9014	3.2118	1.32	1.32	16539.84	16563.84	24.0	163	Cloudy	24.0	1010	0.31	1.32	1900.8
21/10/2009	0178	2.8928	3.0055	1.32	1.32	16563.84	16587.84	24.0	59	Cloudy	25.0	1015	0.11	1.32	1900.8
22/10/2009	0181	2.8809	3.1603	1.32	1.32	16507.04	16611.84	24.0	147	Sunny	26.0	1015	0.28	1.32	1900.8

Action Level 211 ug/m3

Min	59
Max	191
Average	124

**Baseline 24-hr TSP Monitoring Results**

Station : **AM5** (AFCD Western Wholesale Food Market)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
25/09/2009	0001	2.8167	2.9385	1.37	1.37	10182.18	10206.18	24.0	62	Sunny	29.0	1012	0.12	1.37	1972.8
26/09/2009	0008	2.8554	3.0300	1.37	1.37	10206.18	10230.18	24.0	89	Sunny	29.5	1012	0.17	1.37	1972.8
27/09/2009	0012	2.7868	2.9882	1.37	1.37	10230.18	10254.18	24.0	102	Sunny	29.0	1010	0.20	1.37	1972.8
28/09/2009	0017	2.8277	2.9915	1.37	1.37	10254.18	10278.18	24.0	83	Rainy	26.5	1012	0.16	1.37	1972.8
29/09/2009	0056	2.8186	2.9177	1.37	1.37	10278.18	10302.18	24.0	50	Rainy	26.0	1002	0.10	1.37	1972.8
30/09/2009	0020	2.7991	2.9042	1.37	1.37	10302.18	10326.18	24.0	53	Rainy	27.0	1002	0.11	1.37	1972.8
01/10/2009	0027	2.7968	2.9344	1.37	1.37	10326.18	10350.18	24.0	70	Sunny	28.0	1012	0.14	1.37	1972.8
02/10/2009	0031	2.8079	2.9494	1.37	1.37	10350.18	10374.18	24.0	72	Sunny	28.0	1014	0.14	1.37	1972.8
03/10/2009	0035	2.7746	2.9458	1.37	1.37	10374.18	10398.18	24.0	87	Fine	28.0	1010	0.17	1.37	1972.8
04/10/2009	0039	2.8087	3.0994	1.37	1.37	10398.18	10422.18	24.0	147	Sunny	27.0	1014	0.29	1.37	1972.8
05/10/2009	0043	2.8222	3.0853	1.37	1.37	10422.18	10446.18	24.0	133	Sunny	27.0	1012	0.26	1.37	1972.8
06/10/2009	0047	2.7978	2.9862	1.37	1.37	10446.18	10470.18	24.0	95	Sunny	26.0	1013	0.19	1.37	1972.8
07/10/2009	0051	2.8018	3.0085	1.37	1.37	10470.18	10494.18	24.0	105	Sunny	27.0	1011	0.21	1.37	1972.8
08/10/2009	0055	2.8122	3.0193	1.37	1.37	10494.18	10518.18	24.0	105	Fine	27.0	1010	0.21	1.37	1972.8

Action Level **188 ug/m3**

Min	50
Max	147
Average	90

Station : **AM6** (Works Site Boundary - Stonecutters Island Sewage Treatment Works)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
09/10/2009	0102	2.8802	3.1067	1.30	1.30	5166.37	5190.37	24.0	121	Sunny	28.0	1011	0.23	1.30	1872.0
10/10/2009	0108	2.8560	2.9604	1.30	1.30	5190.37	5214.37	24.0	56	Sunny	27.0	1010	0.10	1.30	1872.0
12/10/2009	0111	2.9020	3.1006	1.30	1.30	5214.37	5238.37	24.0	106	Sunny	25.0	1011	0.20	1.30	1872.0
13/10/2009	0116	2.8868	3.0145	1.30	1.30	5238.37	5262.37	24.0	68	Sunny	26.0	1011	0.13	1.30	1872.0
14/10/2009	0120	2.8914	3.0755	1.30	1.30	5262.37	5286.37	24.0	98	Cloudy	26.0	1010	0.18	1.30	1872.0
15/10/2009	0124	2.8817	3.1364	1.30	1.30	5286.37	5310.37	24.0	136	Sunny	27.0	1010	0.25	1.30	1872.0
16/10/2009	0128	2.8623	3.6817	1.30	1.30	5310.37	5334.37	24.0	438	Sunny	27.0	1011	0.82	1.30	1872.0
17/10/2009	0132	2.8812	3.1778	1.30	1.30	5334.37	5358.37	24.0	158	Sunny	26.0	1012	0.30	1.30	1872.0
18/10/2009	0136	2.8034	3.0415	1.30	1.30	5358.37	5382.37	24.0	127	Sunny	26.0	1012	0.24	1.30	1872.0
19/10/2009	0140	2.9030	3.2287	1.30	1.30	5382.37	5406.37	24.0	174	Cloudy	26.0	1011	0.33	1.30	1872.0
20/10/2009	0144	2.8993	3.3863	1.30	1.30	5406.37	5430.37	24.0	260	Cloudy	26.0	1010	0.49	1.30	1872.0
21/10/2009	0148	2.8707	3.2211	1.30	1.30	5430.37	5454.37	24.0	187	Cloudy	26.0	1013	0.35	1.30	1872.0
22/10/2009	0059	2.7644	2.9572	1.30	1.30	5454.37	5478.37	24.0	103	Fine	27.0	1015	0.19	1.30	1872.0
23/10/2009	0203	2.8048	3.1943	1.30	1.30	5478.37	5502.37	24.0	208	Sunny	27.0	1015	0.39	1.30	1872.0

Action Level <sup>(a)</sup> **196 ug/m3**

Min	56
Max	438
Average	160

Notes:

- (a) Action Level is determined based on the average 24-hr TSP measured at at AM6 and the baseline monitoring data obtained from the Construction of Disinfection Facilities Project in HATS Stage 2A

**Baseline 1-hr TSP Monitoring Results**

Station : AMI (Chan's Creative School)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/09/09	9685	2.7997	2.8065	1.37	1.37	13388.35	13389.35	1	83	Rainy	25.0	1002	0.01	1.37	82.2
29/09/09	9686	2.7944	2.8007	1.37	1.37	13389.50	13390.35	1	77	Rainy	25.0	1002	0.01	1.37	82.2
29/09/09	9687	2.7982	2.8060	1.37	1.37	13390.35	13391.35	1	95	Rainy	25.0	1002	0.01	1.37	82.2
30/09/09	9689	2.7924	2.7997	1.37	1.37	13391.35	13392.35	1	89	Rainy	27.0	1002	0.01	1.37	82.2
30/09/09	9690	2.7906	2.7978	1.37	1.37	13392.35	13393.35	1	88	Rainy	27.0	1002	0.01	1.37	82.2
30/09/09	9691	2.7929	2.8004	1.37	1.37	13393.35	13394.35	1	91	Rainy	27.0	1002	0.01	1.37	82.2
2/10/2009	9317	2.7875	2.7996	1.37	1.37	13394.35	13395.35	1	147	Sunny	30.0	1014	0.01	1.37	82.2
2/10/2009	9644	2.7979	2.8091	1.37	1.37	13395.35	13396.35	1	136	Sunny	30.0	1014	0.01	1.37	82.2
2/10/2009	9645	2.8149	2.8273	1.37	1.37	13396.35	13397.35	1	151	Sunny	30.0	1014	0.01	1.37	82.2
5/10/2009	0065	2.8302	2.8419	1.37	1.37	13397.35	13398.35	1	142	Sunny	27.0	1012	0.01	1.37	82.2
5/10/2009	0067	2.8312	2.8410	1.37	1.37	13398.35	13399.35	1	119	Sunny	27.0	1012	0.01	1.37	82.2
5/10/2009	0068	2.8087	2.8178	1.37	1.37	13799.50	13400.35	1	111	Sunny	27.0	1012	0.01	1.37	82.2
6/10/2009	0069	2.8266	2.8357	1.37	1.37	13400.35	13401.35	1	111	Sunny	29.0	1013	0.01	1.37	82.2
6/10/2009	0071	2.7942	2.8012	1.37	1.37	13401.35	13402.35	1	85	Sunny	29.0	1013	0.01	1.37	82.2
6/10/2009	0072	2.7733	2.7796	1.37	1.37	13402.35	13403.35	1	77	Sunny	29.0	1013	0.01	1.37	82.2
7/10/2009	0073	2.8091	2.8220	1.37	1.37	13403.35	13404.35	1	157	Sunny	30.0	1011	0.01	1.37	82.2
7/10/2009	0074	2.8226	2.8342	1.37	1.37	13404.35	13405.35	1	141	Sunny	30.0	1011	0.01	1.37	82.2
7/10/2009	0076	2.8105	2.8216	1.37	1.37	13405.35	13406.35	1	135	Sunny	30.0	1011	0.01	1.37	82.2
8/10/2009	0077	2.8270	2.8424	1.37	1.37	13406.35	13407.35	1	187	Fine	29.0	1010	0.02	1.37	82.2
8/10/2009	0078	2.7959	2.8091	1.37	1.37	13407.35	13408.35	1	161	Fine	29.0	1010	0.01	1.37	82.2
8/10/2009	0080	2.8114	2.8336	1.37	1.37	13408.35	13409.35	1	270	Fine	29.0	1010	0.02	1.37	82.2
9/10/2009	9773	2.7887	2.8015	1.37	1.37	13409.35	13410.35	1	156	Sunny	29.0	1011	0.01	1.37	82.2
9/10/2009	9771	2.7950	2.8091	1.37	1.37	13410.35	13411.35	1	172	Sunny	29.0	1011	0.01	1.37	82.2
9/10/2009	9770	2.7991	2.8146	1.37	1.37	13411.35	13412.35	1	189	Sunny	29.0	1011	0.02	1.37	82.2
10/10/2009	9765	2.7998	2.8134	1.37	1.37	13412.35	13413.35	1	165	Sunny	29.0	1012	0.01	1.37	82.2
10/10/2009	9763	2.8033	2.8155	1.37	1.37	13413.35	13414.35	1	148	Sunny	29.0	1012	0.01	1.37	82.2
10/10/2009	9761	2.7977	2.8112	1.37	1.37	13414.35	13415.35	1	164	Sunny	29.0	1012	0.01	1.37	82.2
12/10/2009	9756	2.7871	2.7997	1.37	1.37	13415.35	13416.35	1	153	Cloudy	24.0	1008	0.01	1.37	82.2
12/10/2009	9751	2.7859	2.8000	1.37	1.37	13416.35	13417.35	1	172	Cloudy	24.0	1008	0.01	1.37	82.2
12/10/2009	9749	2.7855	2.8002	1.37	1.37	13417.35	13418.35	1	179	Cloudy	24.0	1008	0.01	1.37	82.2
13/10/2009	9747	2.7988	2.8105	1.37	1.37	13418.35	13419.25	1	142	Sunny	26.0	1012	0.01	1.37	82.2
13/10/2009	9668	2.7877	2.7995	1.37	1.37	13419.35	13420.35	1	144	Sunny	26.0	1012	0.01	1.37	82.2
13/10/2009	9670	2.7950	2.8088	1.37	1.37	13420.35	13421.35	1	168	Sunny	26.0	1012	0.01	1.37	82.2
14/10/2009	9671	2.7932	2.8023	1.37	1.37	13421.35	13422.35	1	111	Sunny	26.0	1009	0.01	1.37	82.2
14/10/2009	9744	2.8001	2.8100	1.37	1.37	13422.35	13423.35	1	120	Sunny	26.0	1009	0.01	1.37	82.2
14/10/2009	9743	2.8023	2.8120	1.37	1.37	13423.35	13424.35	1	118	Sunny	26.0	1009	0.01	1.37	82.2
15/10/2009	9741	2.8071	2.8150	1.37	1.37	13424.35	13425.35	1	96	Sunny	26.0	1011	0.01	1.37	82.2
15/10/2009	9740	2.8024	2.8143	1.37	1.37	13425.35	13426.35	1	145	Sunny	26.0	1011	0.01	1.37	82.2
15/10/2009	9739	2.8049	2.8175	1.37	1.37	13426.35	13427.35	1	153	Sunny	27.0	1011	0.01	1.37	82.2
16/10/2009	9737	2.7998	2.8124	1.37	1.37	13427.35	13428.35	1	153	Sunny	25.0	1010	0.01	1.37	82.2
16/10/2009	9736	2.7881	2.8009	1.37	1.37	13428.35	13429.35	1	156	Sunny	25.0	1010	0.01	1.37	82.2
16/10/2009	9734	2.7840	2.7981	1.37	1.37	13429.35	13430.35	1	172	Sunny	26.5	1010	0.01	1.37	82.2

Action Level 340 ug/m3

Min	77
Max	270
Average	139

**Baseline 1-hr TSP Monitoring Results**

Station : **AM2 (Hong Kong & Island Regional office, WSD)**

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/09/09	9616	2.8107	2.8183	1.26	1.26	13104.12	13105.12	1	101	Rainy	25.0	1002	0.01	1.26	75.6
29/09/09	9617	2.8415	2.8498	1.26	1.26	13105.12	13106.12	1	110	Rainy	25.0	1002	0.01	1.26	75.6
29/09/09	9618	2.8331	2.8415	1.26	1.26	13106.12	13107.12	1	111	Rainy	25.0	1002	0.01	1.26	75.6
30/09/09	9323	2.7951	2.8021	1.26	1.26	13107.12	13107.12	1	93	Rainy	27.0	1002	0.01	1.26	75.6
30/09/09	9319	2.7886	2.7959	1.26	1.26	13108.12	13109.12	1	97	Rainy	27.0	1002	0.01	1.26	75.6
30/09/09	9320	2.7902	2.7977	1.26	1.26	13109.12	13110.12	1	99	Rainy	27.0	1002	0.01	1.26	75.6
1/10/2009	9322	2.7929	2.8020	1.26	1.26	13110.12	13111.12	1	120	Sunny	27.0	1012	0.01	1.26	75.6
1/10/2009	0062	2.7994	2.8079	1.26	1.26	13111.12	13112.12	1	112	Sunny	27.0	1012	0.01	1.26	75.6
1/10/2009	0063	2.8193	2.8279	1.26	1.26	13112.12	13113.12	1	114	Sunny	27.0	1012	0.01	1.26	75.6
2/10/2009	0064	2.8090	2.8151	1.26	1.26	13113.12	13114.12	1	81	Sunny	27.5	1014	0.01	1.26	75.6
2/10/2009	9672	2.7869	2.7977	1.26	1.26	13114.12	13115.12	1	143	Sunny	28.0	1014	0.01	1.26	75.6
2/10/2009	9799	2.7880	2.7968	1.26	1.26	13115.12	13116.12	1	116	Sunny	28.5	1014	0.01	1.26	75.6
3/10/2009	9798	2.7891	2.7972	1.26	1.26	13116.12	13117.12	1	107	Fine	27.0	1010	0.01	1.26	75.6
3/10/2009	9321	2.7922	2.8064	1.26	1.26	13117.12	13118.12	1	188	Fine	27.0	1010	0.01	1.26	75.6
3/10/2009	9795	2.7869	2.7997	1.26	1.26	13118.12	13119.12	1	169	Fine	27.5	1010	0.01	1.26	75.6
4/10/2009	9794	2.7871	2.8005	1.26	1.26	13119.12	13120.12	1	177	Sunny	26.0	1014	0.01	1.26	75.6
4/10/2009	9792	2.7859	2.7983	1.26	1.26	13120.12	13121.12	1	164	Sunny	26.5	1014	0.01	1.26	75.6
4/10/2009	9791	2.7871	2.8015	1.26	1.26	13121.12	13122.12	1	190	Sunny	27.5	1014	0.01	1.26	75.6
5/10/2009	9790	2.7849	2.8000	1.26	1.26	13122.12	13123.12	1	200	Sunny	26.0	1012	0.02	1.26	75.6
5/10/2009	9788	2.7817	2.7979	1.26	1.26	13123.12	13124.12	1	214	Sunny	26.0	1012	0.02	1.26	75.6
5/10/2009	9786	2.7879	2.8025	1.26	1.26	13124.12	13125.12	1	193	Sunny	26.5	1012	0.01	1.26	75.6
6/10/2009	9785	2.7900	2.8043	1.26	1.26	13125.12	13126.12	1	189	Sunny	26.0	1013	0.01	1.26	75.6
6/10/2009	9784	2.7929	2.8083	1.26	1.26	13126.12	13127.12	1	204	Sunny	26.0	1013	0.02	1.26	75.6
6/10/2009	9882	2.7988	2.8153	1.26	1.26	13127.12	13128.12	1	218	Sunny	27.0	1013	0.02	1.26	75.6
7/10/2009	9781	2.7939	2.8065	1.26	1.26	13128.12	13128.19	1	167	Sunny	25.0	1011	0.01	1.26	75.6
7/10/2009	9780	2.7921	2.8069	1.26	1.26	13129.12	13130.12	1	196	Sunny	26.5	1011	0.01	1.26	75.6
7/10/2009	9779	2.7970	2.8131	1.26	1.26	13130.12	13131.12	1	213	Sunny	28.5	1011	0.02	1.26	75.6
8/10/2009	9777	2.7967	2.8092	1.26	1.26	13131.12	13132.12	1	165	Sunny	26.5	1010	0.01	1.26	75.6
8/10/2009	9776	2.7961	2.8088	1.26	1.26	13132.12	13133.12	1	168	Sunny	27.5	1010	0.01	1.26	75.6
8/10/2009	9775	2.7849	2.7976	1.26	1.26	13133.12	13134.12	1	168	Sunny	28.5	1010	0.01	1.26	75.6
9/10/2009	9772	2.7878	2.7954	1.26	1.26	13134.12	13135.12	1	101	Sunny	26.0	1011	0.01	1.26	75.6
9/10/2009	9768	2.7911	2.8002	1.26	1.26	13135.12	13136.12	1	120	Sunny	26.0	1011	0.01	1.26	75.6
9/10/2009	9767	2.7967	2.8088	1.26	1.26	13136.12	13137.12	1	160	Sunny	27.5	1011	0.01	1.26	75.6
10/10/2009	9764	2.8006	2.8144	1.26	1.26	13137.12	13138.12	1	183	Sunny	26.0	1012	0.01	1.26	75.6
10/10/2009	9762	2.7992	2.8123	1.26	1.26	13138.12	13139.12	1	173	Sunny	26.0	1012	0.01	1.26	75.6
10/10/2009	9760	2.7957	2.8097	1.26	1.26	13139.12	13140.12	1	185	Sunny	26.5	1012	0.01	1.26	75.6
11/10/2009	9759	2.7924	2.8037	1.26	1.26	13140.12	13141.12	1	149	Cloudy	25.0	1010	0.01	1.26	75.6
11/10/2009	9755	2.7914	2.8017	1.26	1.26	13141.12	13141.12	1	136	Cloudy	25.0	1010	0.01	1.26	75.6
11/10/2009	9754	2.7906	2.8039	1.26	1.26	13142.12	13143.12	1	176	Cloudy	25.5	1010	0.01	1.26	75.6
12/10/2009	9753	2.7844	2.8007	1.26	1.26	13143.12	13144.12	1	216	Cloudy	24.0	1008	0.02	1.26	75.6
12/10/2009	9748	2.7823	2.7968	1.26	1.26	13144.12	13145.12	1	192	Cloudy	24.0	1008	0.01	1.26	75.6
12/10/2009	9746	2.7929	2.8089	1.26	1.26	13145.12	13145.12	1	212	Cloudy	24.0	1008	0.02	1.26	75.6

Action Level **352 ug/m3**

Min	81
Max	218
Average	157



**Baseline 1-hr TSP Monitoring Results**

Station : **AM3 (Wan Chai East PTW)**

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
29/09/09	9627	2.7871	2.7924	1.25	1.25	9354.57	9355.57	1	71	Rainy	25.0	1002	0.01	1.25	75.0
29/9/09	9633	2.7880	2.7935	1.25	1.25	9355.57	9356.57	1	73	Rainy	25.0	1002	0.01	1.25	75.0
29/9/09	9625	2.7827	2.7887	1.25	1.25	9356.57	9357.57	1	80	Rainy	25.0	1002	0.01	1.25	75.0
30/09/09	9626	2.7859	2.7925	1.25	1.25	9357.57	9358.57	1	88	Cloudy	27.0	1002	0.01	1.25	75.0
30/09/09	9629	2.7885	2.7956	1.25	1.25	9358.57	9359.57	1	95	Cloudy	27.0	1002	0.01	1.25	75.0
30/09/09	9632	2.7862	2.7940	1.25	1.25	9359.57	9361.57	1	104	Cloudy	27.0	1002	0.01	1.25	75.0
1/10/2009	9636	2.7887	2.7950	1.25	1.25	9361.57	9362.57	1	84	Cloudy	27.0	1012	0.01	1.25	75.0
1/10/2009	9634	2.7839	2.7928	1.25	1.25	9362.57	9363.57	1	119	Sunny	27.0	1012	0.01	1.25	75.0
1/10/2009	9635	2.7856	2.7950	1.25	1.25	9363.57	9364.57	1	125	Sunny	27.0	1012	0.01	1.25	75.0
2/10/2009	9631	2.7847	2.7954	1.25	1.25	9364.57	9365.57	1	143	Sunny	27.5	1014	0.01	1.25	75.0
2/10/2009	9638	2.7918	2.8030	1.25	1.25	9365.57	9366.57	1	149	Sunny	28.0	1014	0.01	1.25	75.0
2/10/2009	9639	2.7927	2.8049	1.25	1.25	9366.57	9367.57	1	163	Sunny	30.0	1014	0.01	1.25	75.0
3/10/2009	9649	2.7966	2.8045	1.25	1.25	9367.57	9368.57	1	105	Fine	27.0	1010	0.01	1.25	75.0
3/10/2009	9650	2.7927	2.8023	1.25	1.25	9368.57	9369.57	1	128	Fine	27.0	1010	0.01	1.25	75.0
3/10/2009	9651	2.7911	2.8019	1.25	1.25	9369.57	9370.57	1	144	Fine	28.0	1010	0.01	1.25	75.0
4/10/2009	9661	2.7833	2.7920	1.25	1.25	9370.57	9371.57	1	116	Sunny	26.0	1014	0.01	1.25	75.0
4/10/2009	9662	2.7819	2.7941	1.25	1.25	9371.57	9372.57	1	163	Sunny	26.5	1014	0.01	1.25	75.0
4/10/2009	9663	2.7842	2.7953	1.25	1.25	9372.57	9373.57	1	148	Sunny	27.5	1014	0.01	1.25	75.0
5/10/2009	9601	2.7997	2.8125	1.25	1.25	9373.57	9374.57	1	171	Sunny	26.0	1012	0.01	1.25	75.0
5/10/2009	9602	2.7975	2.8119	1.25	1.25	9374.57	9375.57	1	192	Sunny	26.0	1012	0.01	1.25	75.0
5/10/2009	9603	2.7988	2.8130	1.25	1.25	9375.57	9376.57	1	189	Sunny	27.0	1012	0.01	1.25	75.0
6/10/2009	9605	2.7955	2.8049	1.25	1.25	9376.57	9377.57	1	125	Sunny	26.0	1013	0.01	1.25	75.0
6/10/2009	9616	2.7951	2.8066	1.25	1.25	9377.57	9378.57	1	153	Sunny	26.0	1013	0.01	1.25	75.0
6/10/2009	9617	2.7981	2.8118	1.25	1.25	9378.57	9379.57	1	183	Sunny	28.5	1013	0.01	1.25	75.0
7/10/2009	9618	2.7974	2.8110	1.25	1.25	9379.57	9380.57	1	181	Sunny	25.0	1011	0.01	1.25	75.0
7/10/2009	9619	2.7941	2.8082	1.25	1.25	9380.57	9381.57	1	188	Sunny	29.5	1011	0.01	1.25	75.0
7/10/2009	9620	2.7960	2.8121	1.25	1.25	9381.57	9382.57	1	215	Sunny	30.0	1011	0.02	1.25	75.0
8/10/2009	9622	2.7940	2.8100	1.25	1.25	9382.57	9383.57	1	213	Sunny	26.0	1010	0.02	1.25	75.0
8/10/2009	9623	2.7942	2.8120	1.25	1.25	9383.57	9384.57	1	237	Fine	26.5	1010	0.02	1.25	75.0
8/10/2009	9640	2.7959	2.8145	1.25	1.25	9384.57	9385.57	1	248	Fine	29.0	1010	0.02	1.25	75.0
9/10/2009	9641	2.7988	2.8132	1.25	1.25	9385.57	9386.57	1	192	Sunny	26.0	1011	0.01	1.25	75.0
9/10/2009	9643	2.7977	2.8139	1.25	1.25	9386.57	9387.57	1	216	Sunny	26.0	1011	0.02	1.25	75.0
9/10/2009	9674	2.7878	2.8045	1.25	1.25	9387.57	9388.57	1	223	Sunny	29.0	1011	0.02	1.25	75.0
10/10/2009	9676	2.7924	2.8067	1.25	1.25	9388.57	9389.57	1	191	Sunny	26.0	1012	0.01	1.25	75.0
10/10/2009	9680	2.7940	2.8098	1.25	1.25	9389.57	9390.57	1	211	Sunny	26.5	1012	0.02	1.25	75.0
10/10/2009	9681	2.7938	2.8100	1.25	1.25	9390.57	9391.57	1	216	Sunny	29.0	1013	0.02	1.25	75.0
11/10/2009	9677	2.7966	2.8089	1.25	1.25	9391.57	9392.57	1	164	Cloudy	25.0	1010	0.01	1.25	75.0
11/10/2009	9678	2.7987	2.8134	1.25	1.25	9392.57	9393.57	1	196	Cloudy	25.0	1010	0.01	1.25	75.0
11/10/2009	9692	2.8375	2.8512	1.25	1.25	9393.57	9394.57	1	183	Cloudy	25.0	1010	0.01	1.25	75.0
12/10/2009	9694	2.8486	2.8650	1.25	1.25	9394.57	9395.57	1	219	Cloudy	26.0	1008	0.02	1.25	75.0
12/10/2009	9804	2.8020	2.8166	1.25	1.25	9395.57	9396.57	1	195	Cloudy	24.0	1008	0.01	1.25	75.0
12/10/2009	9805	2.8487	2.8634	1.25	1.25	9396.57	9397.57	1	196	Cloudy	24.0	1008	0.01	1.25	75.0

**Action Level 355 ug/m3**

Min	71
Max	248
Average	162

**Baseline 1-hr TSP Monitoring Results**

Station : **AM4** (A Location within the DSD Central PTW)

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
9/10/2009	0081	2.8008	2.8289	1.36	1.36	13104.03	13105.03	1	344	Sunny	26.0	1011	0.03	1.36	81.6
9/10/2009	0082	2.7863	2.8100	1.36	1.36	13105.03	13106.03	1	290	Sunny	29.0	1011	0.02	1.36	81.6
9/10/2009	9679	2.7959	2.8125	1.36	1.36	13106.03	13107.03	1	203	Sunny	29.0	1011	0.02	1.36	81.6
10/10/2009	0083	2.8148	2.8264	1.36	1.36	13107.03	13108.03	1	142	Sunny	26.0	1012	0.01	1.36	81.6
10/10/2009	0085	2.8259	2.8529	1.36	1.36	13108.03	13109.03	1	331	Sunny	26.0	1012	0.03	1.36	81.6
10/10/2009	9603	2.7968	2.8129	1.36	1.36	13109.03	13110.03	1	197	Sunny	29.0	1012	0.02	1.36	81.6
11/10/2009	0086	2.8490	2.8692	1.36	1.36	13110.03	13111.03	1	248	Fine	25.0	1010	0.02	1.36	81.6
11/10/2009	0087	2.8081	2.8236	1.36	1.36	13111.03	13112.03	1	190	Cloudy	25.0	1010	0.02	1.36	81.6
11/10/2009	0089	2.8124	2.8437	1.36	1.36	13112.03	13113.03	1	384	Cloudy	25.0	1010	0.03	1.36	81.6
12/10/2009	0099	2.8473	2.8619	1.36	1.36	13113.03	13114.03	1	179	Rainy	24.0	1008	0.01	1.36	81.6
12/10/2009	9695	2.8355	2.8498	1.36	1.36	13114.03	13115.03	1	175	Cloudy	24.0	1008	0.01	1.36	81.6
12/10/2009	9696	2.9113	2.9277	1.36	1.36	13115.03	13116.03	1	201	Sunny	24.0	1008	0.02	1.36	81.6
13/10/2009	0097	2.8268	2.8504	1.36	1.36	13116.03	13117.03	1	289	Sunny	26.0	1012	0.02	1.36	81.6
13/10/2009	0096	2.8314	2.8482	1.36	1.36	13117.03	13118.03	1	206	Sunny	26.0	1012	0.02	1.36	81.6
13/10/2009	0094	2.8293	2.8510	1.36	1.36	13118.03	13119.03	1	266	Sunny	29.0	1012	0.02	1.36	81.6
14/10/2009	0090	2.8262	2.8422	1.36	1.36	13119.03	13120.03	1	196	Rainy	25.0	1009	0.02	1.36	81.6
14/10/2009	0091	2.8193	2.8277	1.36	1.36	13120.03	13121.03	1	103	Cloudy	25.0	1009	0.01	1.36	81.6
14/10/2009	0093	2.8501	2.8574	1.36	1.36	13121.03	13122.03	1	89	Cloudy	26.0	1009	0.01	1.36	81.6
15/10/2009	0152	2.8600	2.8697	1.36	1.36	13122.03	13123.03	1	119	Fine	26.0	1011	0.01	1.36	81.6
15/10/2009	0153	2.8638	2.8857	1.36	1.36	13123.03	13124.03	1	268	Fine	26.0	1011	0.02	1.36	81.6
15/10/2009	0154	2.8738	2.8847	1.36	1.36	13124.03	13125.03	1	134	Fine	28.0	1011	0.01	1.36	81.6
16/10/2009	0157	2.8784	2.9046	1.36	1.36	13125.03	13126.03	1	321	Cloudy	25.0	1010	0.03	1.36	81.6
16/10/2009	0158	2.8789	2.8988	1.36	1.36	13126.03	13127.03	1	244	Cloudy	26.0	1010	0.02	1.36	81.6
16/10/2009	0156	2.8495	2.8698	1.36	1.36	13127.03	13128.03	1	249	Fine	27.0	1010	0.02	1.36	81.6
17/10/2009	0164	2.8601	2.8682	1.36	1.36	13128.03	13129.08	1	99	Sunny	25.0	1012	0.01	1.36	81.6
17/10/2009	0165	2.8833	2.8987	1.36	1.36	13129.03	13130.03	1	189	Sunny	26.0	1012	0.02	1.36	81.6
17/10/2009	0166	2.8946	2.9072	1.36	1.36	13130.03	13131.03	1	154	Sunny	26.0	1012	0.01	1.36	81.6
18/10/2009	0168	2.8878	2.9070	1.36	1.36	13131.03	13132.03	1	235	Sunny	25.0	1012	0.02	1.36	81.6
18/10/2009	0169	2.8519	2.8688	1.36	1.36	13132.03	13133.03	1	207	Sunny	25.0	1012	0.02	1.36	81.6
18/10/2009	0170	2.8843	2.8975	1.36	1.36	13133.03	13134.03	1	162	Sunny	26.0	1012	0.01	1.36	81.6
19/10/2009	0172	2.8844	2.9061	1.36	1.36	13134.03	13135.03	1	266	Fine	25.0	1012	0.02	1.36	81.6
19/10/2009	0160	2.9157	2.9286	1.36	1.36	13135.03	13136.03	1	158	Cloudy	25.0	1012	0.01	1.36	81.6
19/10/2009	0162	2.9085	2.9269	1.36	1.36	13136.03	13137.03	1	225	Cloudy	26.0	1012	0.02	1.36	81.6
20/10/2009	0163	2.8773	2.8889	1.36	1.36	13137.03	13138.03	1	142	Cloudy	25.0	1009	0.01	1.36	81.6
20/10/2009	0057	2.7814	2.8142	1.36	1.36	13138.03	13139.03	1	402	Cloudy	26.0	1009	0.03	1.36	81.6
20/10/2009	0173	2.8880	2.9057	1.36	1.36	13139.03	13140.03	1	217	Cloudy	26.0	1009	0.02	1.36	81.6
21/10/2009	0177	2.8676	2.8910	1.36	1.36	13140.03	13141.03	1	287	Cloudy	24.0	1010	0.02	1.36	81.6
21/10/2009	0175	2.9005	2.9135	1.36	1.36	13141.03	13142.03	1	159	Cloudy	25.0	1010	0.01	1.36	81.6
21/10/2009	0176	2.8829	2.9165	1.36	1.36	13142.03	13143.03	1	412	Cloudy	25.0	1010	0.03	1.36	81.6
22/10/2009	0179	2.9354	2.9566	1.36	1.36	13143.03	13144.03	1	260	Sunny	25.0	1015	0.02	1.36	81.6
22/10/2009	0180	2.8499	2.8606	1.36	1.36	13144.03	13145.03	1	131	Sunny	28.0	1015	0.01	1.36	81.6
22/10/2009	0182	2.8822	2.8947	1.36	1.36	13145.03	13146.03	1	153	Sunny	28.0	1015	0.01	1.36	81.6

Action Level **393 ug/m3**

Min	89
Max	412
Average	220

**Baseline 1-hr TSP Monitoring Results**

Station : **AM5 (Western Wholesale Food Market)**

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
25/9/09	0002	2.8050	2.8111	1.22	1.22	9967.21	9968.21	1	83	Sunny	29.0	1012	0.01	1.22	73.2
25/9/09	0003	2.8452	2.8503	1.22	1.22	9968.21	9969.21	1	70	Sunny	29.0	1012	0.01	1.22	73.2
25/9/09	0004	2.8278	2.8346	1.22	1.22	9969.21	9970.21	1	93	Sunny	29.0	1012	0.01	1.22	73.2
26/09/09	0005	2.8088	2.8235	1.22	1.22	9970.21	9971.21	1	201	Sunny	29.0	1012	0.01	1.22	73.2
26/09/09	0006	2.7984	2.8114	1.22	1.22	9971.21	9972.21	1	178	Sunny	29.0	1012	0.01	1.22	73.2
26/09/09	0007	2.7924	2.8042	1.22	1.22	9972.21	9973.21	1	161	Sunny	29.0	1012	0.01	1.22	73.2
27/09/09	0009	2.8033	2.8163	1.22	1.22	9973.21	9974.21	1	178	Sunny	30.0	1010	0.01	1.22	73.2
27/09/09	0010	2.8211	2.8311	1.22	1.22	9974.21	9975.21	1	137	Sunny	30.0	1010	0.01	1.22	73.2
27/09/09	0011	2.7740	2.7833	1.22	1.22	9975.21	9976.21	1	127	Sunny	30.0	1010	0.01	1.22	73.2
28/09/09	0013	2.8220	2.8347	1.22	1.22	9976.21	9977.21	1	173	Rainy	27.0	1012	0.01	1.22	73.2
28/09/09	0014	2.8016	2.8077	1.22	1.22	9977.21	9978.21	1	83	Rainy	27.0	1012	0.01	1.22	73.2
28/09/09	0015	2.7966	2.8060	1.22	1.22	9978.21	9979.21	1	128	Rainy	27.5	1012	0.01	1.22	73.2
29/09/09	0016	2.7970	2.8051	1.22	1.22	9979.21	9980.21	1	111	Rainy	25.0	1002	0.01	1.22	73.2
29/09/09	0018	2.8024	2.8076	1.22	1.22	9980.21	9981.21	1	71	Rainy	25.0	1002	0.01	1.22	73.2
29/09/09	0019	2.8201	2.8256	1.22	1.22	9981.21	9982.21	1	75	Rainy	25.0	1002	0.01	1.22	73.2
30/09/09	0021	2.7946	2.8010	1.22	1.22	9982.21	9983.21	1	87	Rainy	27.0	1002	0.01	1.22	73.2
30/09/09	0022	2.8001	2.8046	1.22	1.22	9983.21	9984.21	1	61	Rainy	27.0	1002	0.00	1.22	73.2
30/09/09	0023	2.8142	2.8189	1.22	1.22	9984.21	9985.21	1	64	Rainy	27.0	1002	0.00	1.22	73.2
1/10/2009	0024	2.7793	2.7868	1.22	1.22	9985.21	9986.21	1	102	Sunny	26.0	1012	0.01	1.22	73.2
1/10/2009	0025	2.7818	2.7900	1.22	1.22	9986.21	9987.21	1	112	Sunny	26.5	1012	0.01	1.22	73.2
1/10/2009	0026	2.7711	2.7788	1.22	1.22	9987.21	9988.21	1	105	Sunny	27.5	1012	0.01	1.22	73.2
2/10/2009	0028	2.8430	2.8566	1.22	1.22	9988.21	9989.21	1	186	Sunny	26.0	1014	0.01	1.22	73.2
2/10/2009	0029	2.8045	2.8126	1.22	1.22	9989.21	9990.21	1	111	Sunny	26.5	1014	0.01	1.22	73.2
2/10/2009	0030	2.7904	2.8015	1.22	1.22	9990.21	9991.21	1	152	Sunny	27.5	1014	0.01	1.22	73.2
3/10/2009	0032	2.7815	2.7897	1.22	1.22	9991.21	9992.21	1	112	Sunny	26.0	1010	0.01	1.22	73.2
3/10/2009	0033	2.8280	2.8374	1.22	1.22	9992.21	9993.21	1	128	Sunny	26.5	1010	0.01	1.22	73.2
3/10/2009	0034	2.8227	2.8370	1.22	1.22	9993.21	9994.21	1	195	Sunny	27.5	1010	0.01	1.22	73.2
4/10/2009	0036	2.8065	2.8184	1.22	1.22	9994.21	9995.21	1	163	Sunny	26.0	1014	0.01	1.22	73.2
4/10/2009	0037	2.7953	2.8050	1.22	1.22	9995.21	9996.21	1	133	Sunny	26.5	1014	0.01	1.22	73.2
4/10/2009	0038	2.8305	2.8406	1.22	1.22	9996.21	9997.21	1	138	Sunny	27.5	1014	0.01	1.22	73.2
5/10/2009	0040	2.7922	2.8042	1.22	1.22	9997.21	9998.21	1	164	Sunny	26.0	1012	0.01	1.22	73.2
5/10/2009	0041	2.7944	2.8020	1.22	1.22	9998.21	9999.21	1	104	Sunny	26.5	1012	0.01	1.22	73.2
5/10/2009	0042	2.8234	2.8333	1.22	1.22	9999.21	10000.21	1	135	Sunny	27.0	1012	0.01	1.22	73.2
6/10/2009	0044	2.8257	2.8383	1.22	1.22	10000.21	10001.21	1	172	Sunny	25.0	1013	0.01	1.22	73.2
6/10/2009	0045	2.8049	2.8140	1.22	1.22	10001.21	10002.21	1	124	Sunny	25.0	1013	0.01	1.22	73.2
6/10/2009	0046	2.8169	2.8254	1.22	1.22	10002.21	10003.21	1	116	Sunny	25.5	1013	0.01	1.22	73.2
7/10/2009	0048	2.8276	2.8370	1.22	1.22	10003.21	10004.21	1	128	Sunny	26.0	1011	0.01	1.22	73.2
7/10/2009	0049	2.7667	2.7743	1.22	1.22	10004.21	10005.21	1	104	Sunny	26.0	1011	0.01	1.22	73.2
7/10/2009	0050	2.8134	2.8228	1.22	1.22	10005.21	10006.21	1	128	Sunny	26.5	1011	0.01	1.22	73.2
8/10/2009	0052	2.8409	2.8525	1.22	1.22	10006.21	10007.21	1	158	Fine	26.0	1010	0.01	1.22	73.2
8/10/2009	0053	2.7940	2.8026	1.22	1.22	10007.21	10008.21	1	117	Fine	26.0	1010	0.01	1.22	73.2
8/10/2009	0054	2.8058	2.8145	1.22	1.22	10008.21	10009.21	1	119	Fine	26.5	1010	0.01	1.22	73.2

**Action Level 332 ug/m3**

Min	61
Max	201
Average	126

**Baseline 1-hr TSP Monitoring Results**

Station : **AM6 (Works Site Boundary - Stonecutters Island Sewage Treatment Works)**

Date	Filter Identification No.	Filter Weight (g)		Flow Rate (m <sup>3</sup> /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )	Weather Condition	Ave. Air Temp. (°C)	Atmospheric Pressure(hPa)	Particulate weight(g)	Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )
		Initial	Final	Initial	Final	Initial	Final								
9/10/2009	0101	2.8588	2.8670	1.36	1.36	9244.38	9245.38	1	100	Sunny	28.0	1011	0.01	1.36	81.6
9/10/2009	0103	2.8859	2.9102	1.36	1.36	9245.38	9246.38	1	298	Sunny	29.0	1011	0.02	1.36	81.6
9/10/2009	0104	2.8694	2.8852	1.36	1.36	9246.38	9247.38	1	194	Sunny	29.0	1011	0.02	1.36	81.6
10/10/2009	0105	2.8490	2.8557	1.36	1.36	9247.38	9248.38	1	82	Sunny	26.0	1012	0.01	1.36	81.6
10/10/2009	0106	2.8840	2.8917	1.36	1.36	9248.38	9249.38	1	94	Sunny	26.0	1012	0.01	1.36	81.6
10/10/2009	0107	2.8942	2.8995	1.36	1.36	9249.38	9250.38	1	65	Sunny	27.0	1012	0.01	1.36	81.6
12/10/2009	0109	2.8775	2.8897	1.36	1.36	9250.38	9251.38	1	150	Sunny	24.0	1008	0.01	1.36	81.6
12/10/2009	0110	2.9230	2.9303	1.36	1.36	9251.38	9252.38	1	89	Sunny	24.0	1008	0.01	1.36	81.6
12/10/2009	0112	2.9230	2.9285	1.36	1.36	9252.38	9253.38	1	67	Sunny	24.0	1008	0.01	1.36	81.6
13/10/2009	0113	2.8683	2.8814	1.36	1.36	9253.38	9254.38	1	161	Sunny	26.0	1012	0.01	1.36	81.6
13/10/2009	0114	2.8842	2.9014	1.36	1.36	9254.38	9255.38	1	211	Sunny	26.0	1012	0.02	1.36	81.6
13/10/2009	0115	2.8790	2.8909	1.36	1.36	9255.38	9256.38	1	146	Sunny	26.0	1012	0.01	1.36	81.6
14/10/2009	0117	2.8708	2.8823	1.36	1.36	9256.38	9257.38	1	141	Cloudy	25.0	1009	0.01	1.36	81.6
14/10/2009	0118	2.8237	2.8338	1.36	1.36	9257.38	9258.38	1	124	Cloudy	25.0	1009	0.01	1.36	81.6
14/10/2009	0119	2.8225	2.8337	1.36	1.36	9258.38	9259.38	1	137	Cloudy	26.0	1009	0.01	1.36	81.6
15/10/2009	0121	2.8101	2.8246	1.36	1.36	9259.38	9260.38	1	178	Sunny	26.0	1011	0.01	1.36	81.6
15/10/2009	0122	2.9005	2.9090	1.36	1.36	9260.38	9261.38	1	104	Sunny	26.0	1011	0.01	1.36	81.6
15/10/2009	0123	2.8875	2.8987	1.36	1.36	9261.38	9262.38	1	137	Sunny	27.0	1011	0.01	1.36	81.6
16/10/2009	0125	2.8507	2.8652	1.36	1.36	9262.38	9263.38	1	178	Sunny	27.0	1010	0.01	1.36	81.6
16/10/2009	0126	2.8978	2.9061	1.36	1.36	9263.38	9264.38	1	102	Sunny	28.0	1010	0.01	1.36	81.6
16/10/2009	0127	2.8892	2.9012	1.36	1.36	9264.38	9265.38	1	147	Sunny	28.0	1010	0.01	1.36	81.6
17/10/2009	0129	2.8470	2.8610	1.36	1.36	9265.38	9266.38	1	172	Sunny	26.0	1012	0.01	1.36	81.6
17/10/2009	0130	2.8689	2.8840	1.36	1.36	9266.38	9267.38	1	185	Sunny	26.0	1012	0.02	1.36	81.6
17/10/2009	0131	2.8982	2.9152	1.36	1.36	9267.38	9268.38	1	208	Sunny	26.0	1012	0.02	1.36	81.6
18/10/2009	0133	2.8501	2.8636	1.36	1.36	9268.38	9269.38	1	165	Sunny	26.0	1012	0.01	1.36	81.6
18/10/2009	0134	2.8672	2.8780	1.36	1.36	9269.38	9270.38	1	132	Sunny	26.0	1012	0.01	1.36	81.6
18/10/2009	0135	2.9194	2.9277	1.36	1.36	9270.38	9271.38	1	102	Sunny	26.0	1012	0.01	1.36	81.6
19/10/2009	0137	2.9196	2.9563	1.36	1.36	9271.38	9272.38	1	450	Cloudy	26.0	1012	0.04	1.36	81.6
19/10/2009	0138	2.8698	2.8887	1.36	1.36	9272.38	9273.38	1	232	Cloudy	26.0	1012	0.02	1.36	81.6
19/10/2009	0139	2.8681	2.8943	1.36	1.36	9273.38	9274.38	1	321	Cloudy	26.0	1012	0.03	1.36	81.6
20/10/2009	0141	2.8858	2.9126	1.36	1.36	9274.38	9275.38	1	328	Cloudy	26.0	1009	0.03	1.36	81.6
20/10/2009	0142	2.8978	2.9278	1.36	1.36	9275.38	9276.38	1	368	Cloudy	26.0	1009	0.03	1.36	81.6
20/10/2009	0143	2.8904	2.9240	1.36	1.36	9276.38	9277.38	1	412	Cloudy	26.0	1009	0.03	1.36	81.6
21/10/2009	0145	2.8796	2.9031	1.36	1.36	9277.38	9278.38	1	288	Cloudy	25.0	1012	0.02	1.36	81.6
21/10/2009	0146	2.8311	2.8513	1.36	1.36	9278.38	9279.38	1	248	Cloudy	25.0	1012	0.02	1.36	81.6
21/10/2009	0147	2.8775	2.9013	1.36	1.36	9279.38	9280.38	1	292	Cloudy	25.0	1012	0.02	1.36	81.6
22/10/2009	0149	2.8563	2.9015	1.36	1.36	9280.38	9281.38	1	554	Fine	28.0	1015	0.05	1.36	81.6
22/10/2009	0150	2.8636	2.8959	1.36	1.36	9281.38	9282.38	1	396	Fine	28.0	1015	0.03	1.36	81.6
22/10/2009	0058	2.7696	2.8014	1.36	1.36	9282.38	9283.38	1	390	Fine	28.0	1015	0.03	1.36	81.6
23/10/2009	0060	2.8243	2.8373	1.36	1.36	9283.38	9284.38	1	159	Sunny	26.0	1015	0.01	1.36	81.6
23/10/2009	0201	2.8399	2.8555	1.36	1.36	9284.38	9285.38	1	191	Sunny	26.0	1015	0.02	1.36	81.6
23/10/2009	0202	2.8348	2.8528	1.36	1.36	9285.38	9286.38	1	221	Sunny	27.0	1015	0.02	1.36	81.6

Min	65
Max	554
Average	208

Action Level <sup>(a)</sup> **346 ug/m<sup>3</sup>**

Notes:  
 (a) Action Level is determined based on the average 1-hr TSP measured at at AM6 and the baseline monitoring data obtained from the Construction of Disinfection Facilities Project in HATS Stage 2A

Meteorological Data Extracted from the Hong Kong Observatory

Date	Weather	King's Park Station				
		Average Air Temperature (°C)	Average Relative Humidity (%)	Total Rainfall (mm)	Average Wind Speed (km/h)	Wind Direction
9/28/2009	Rainy	25.3#	88#	53.5#	11.3#	NE
9/29/2009	Rainy	25.3	85	34.0	14.0	NE
9/30/2009	Rainy	26.5	86	60.0	8.8	E
10/1/2009	Sunny	27.5	80.0	0.0	0-16	-
10/2/2009	Sunny	28.0	73.0	0.0	0-17	-
10/3/2009	Sunny	27.7	71.0	0.0	0-12	-
10/4/2009	Sunny	28.0	57.0	0.0	0-21	N
10/5/2009	Sunny	28.1	51.0	0.0	0-18	NE
10/6/2009	Sunny	28.4	57.0	0.0	0-19	W
10/7/2009	Rainy	27.7	70.0	25.4	0-15	SE
10/8/2009	Sunny	26.2	72.0	0.0	0-12	SE
10/9/2009	Sunny	26.6	66.0	0.0	-	-
10/10/2009	Sunny	26.8	66.0	0.0	-	-
10/11/2009	Rainy	25.9	80.0	5.1	3-25	-
10/12/2009	Rainy	25.3	84.0	1.5	1-22	SE
10/13/2009	Sunny	26.7	78.0	0.0	5-24	E

# less than 24 hourly observations per day  
 - data were not available

Date	Weather	Kai Tak Station				
		Average Air Temperature (°C) *	Average Relative Humidity (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
9/29/2009	Rainy	25.3	85	34.0	14.0 *	NE *
9/30/2009	Rainy	26.5	86	60.0	8.8 *	E *
10/1/2009	Sunny	27.5	80.0	0.0	0-16 *	-
10/2/2009	Sunny	28.0	73.0	0.0	0-17 *	-
10/3/2009	Sunny	27.7	71.0	0.0	0-12 *	-
10/4/2009	Sunny	28.0	57.0	0.0	0-21 *	N *
10/5/2009	Sunny	28.1	51.0	0.0	0-18 *	NE *
10/6/2009	Sunny	28.4	57.0	0.0	0-18	SE
10/7/2009	Rainy	27.7	70.0	25.4	0-17	NE
10/8/2009	Sunny	26.2	72.0	0.0	-	-
10/9/2009	Sunny	26.6	66.0	0.0	-	-
10/10/2009	Sunny	26.8	66.0	0.0	-	-
10/11/2009	Rainy	25.9	80.0	5.1	8-33	NE
10/12/2009	Rainy	25.3	84.0	1.5	15-32	E
10/13/2009	Sunny	26.7	78.0	0.0	7-29	E

\* king's park data  
 - data were not available

Meteorological Data Extracted from the Hong Kong Observatory

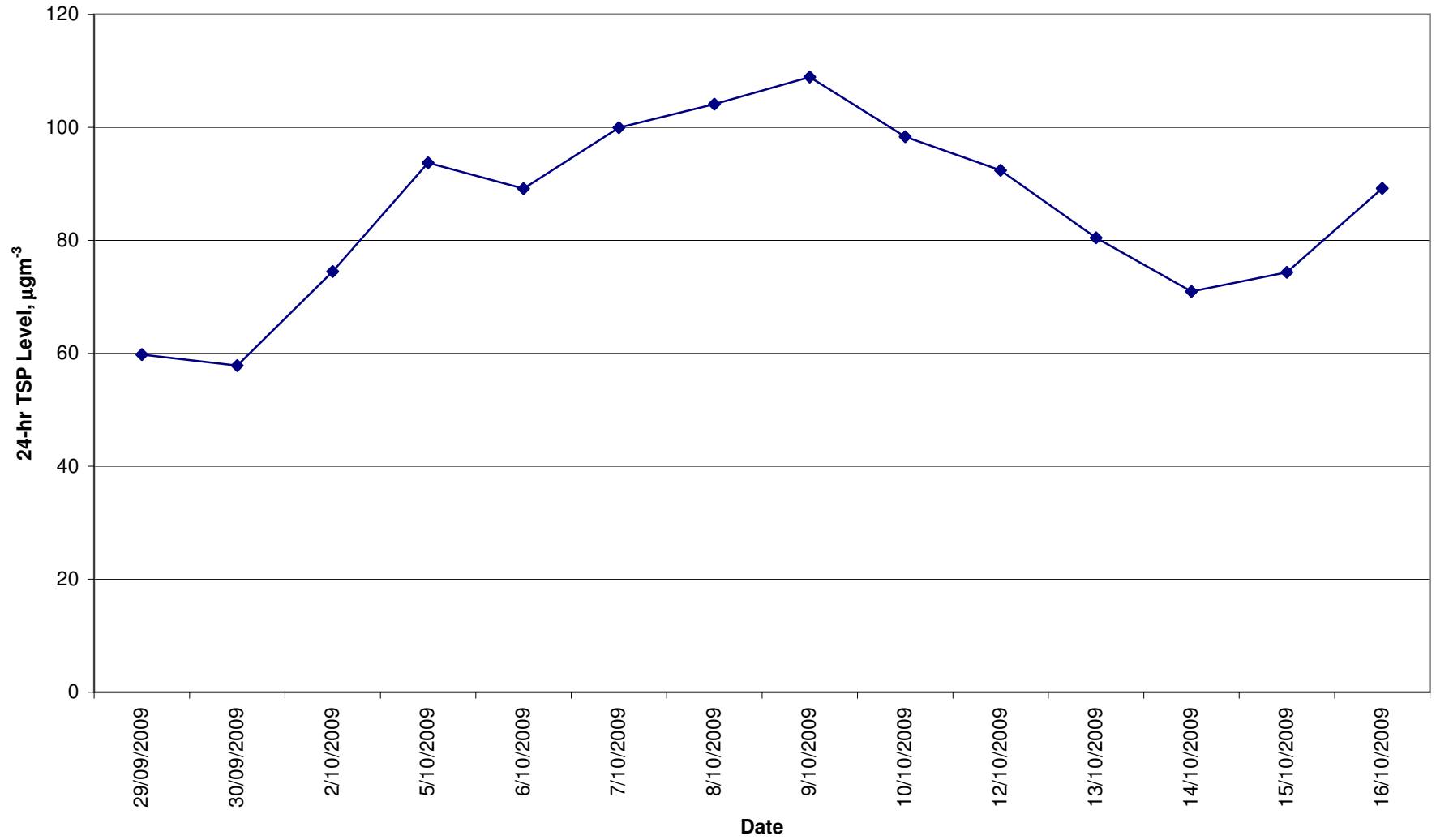
Date	Weather	Tsing Yi Station				
		Average Air Temperature (°C) *	Average Relative Humidity (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
10/9/2009	Sunny	26.6	66	0.0	-	-
10/10/2009	Sunny	26.8	66	0.0	-	-
10/11/2009	Rainy	25.9	80.0	5.1	2-11	SE
10/12/2009	Rainy	25.3	84.0	1.5	5-22	SE
10/13/2009	Rainy	26.7	78.0	Trace	1-22	E
10/14/2009	Rainy	25.6	87.0	9.5	0-19	SE
10/15/2009	Sunny	25.6	78.0	0.0	2-18	S
10/16/2009	Rainy	25.8	79.0	Trace	0-17	SE
10/17/2009	Sunny	26.5	74.0	0.0	3-20	SE
10/18/2009	Sunny	26.0	71.0	0.0	4-23	E
10/19/2009	Rainy	25.8	83.0	2.0	5-23	SE
10/20/2009	Rainy	24.5	83.0	0.9	1-19	SE
10/21/2009	Sunny	24.9	78.0	0.0	0-15	SE
10/22/2009	Sunny	25.7	74.0	0.0	0-13	SE
10/23/2009	Sunny	26.3	66.0	0.0	0-13	SE
10/24/2009	Sunny	26.2	71.0	0.0	0-14	SE

\* king's park data  
 - data were not available

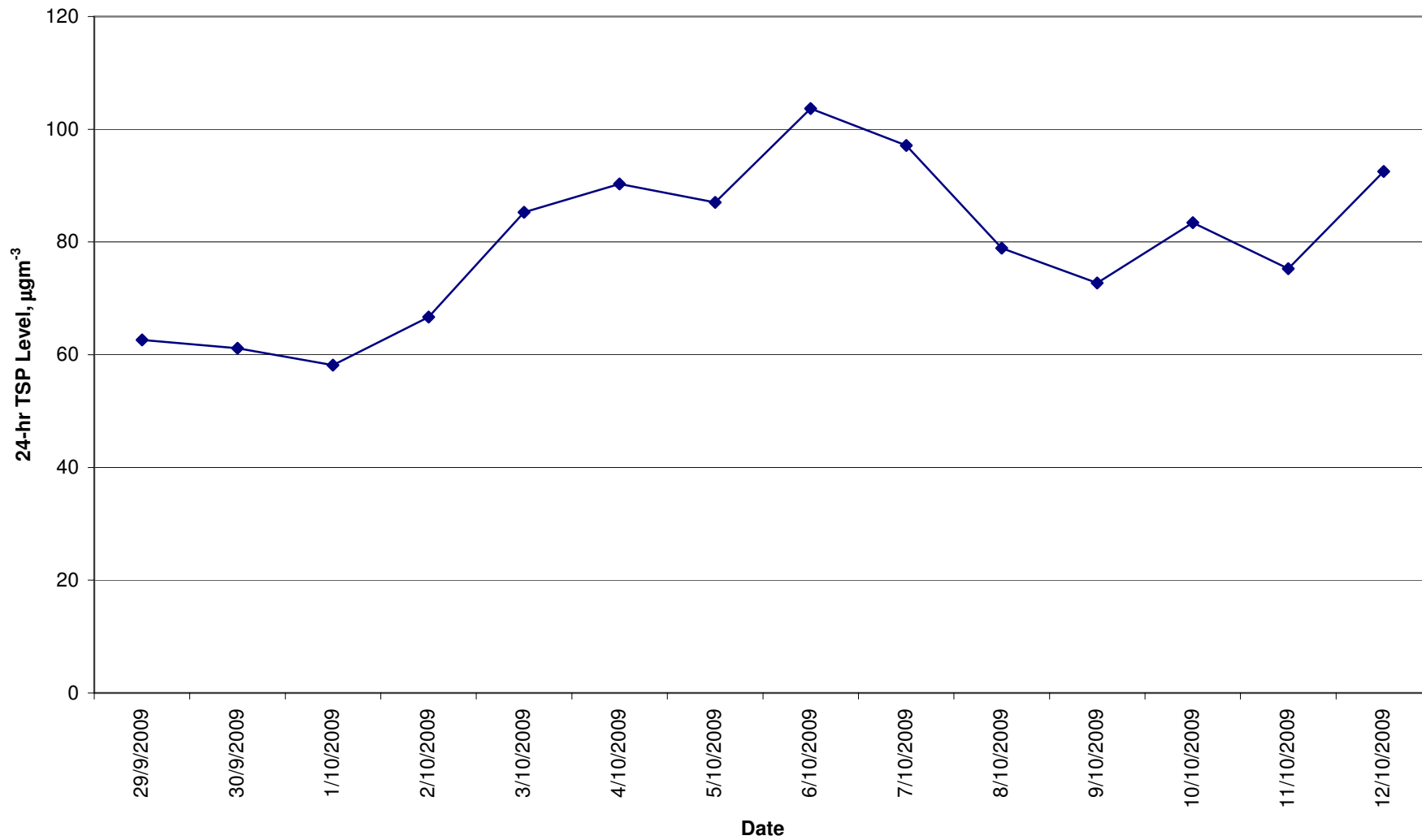
Date	Weather	Green Island Station				
		Average Air Temperature (°C) *	Average Relative Humidity (%) *	Total Rainfall (mm) *	Average Wind Speed (km/h)	Wind Direction
9/25/2009	Sunny	28.7	72	0.0	13.3 *	SE *
9/26/2009	Sunny	29.1	73	0.0	8.0# *	SE *
9/27/2009	Sunny	29.0#	70#	0.0#	-	-
9/28/2009	Rainy	25.3#	88#	53.5#	11.3# *	NE *
9/29/2009	Rainy	25.3	85	34.0	14.0 *	NE *
9/30/2009	Rainy	26.5	86	60.0	8.8 *	E *
10/1/2009	Sunny	27.5	80.0	0.0	0-16 *	-
10/2/2009	Rainy	28.0	73.0	Trace	0-17 *	-
10/3/2009	Sunny	27.7	71.0	0.0	0-12 *	-
10/4/2009	Sunny	28.0	57.0	0.0	0-21 *	N *
10/5/2009	Sunny	28.1	51.0	0.0	0-18 *	NE *
10/6/2009	Sunny	28.4	57.0	0.0	12-27	S
10/7/2009	Rainy	27.7	70.0	25.4	1-29	SE
10/8/2009	Sunny	26.2	72.0	0.0	-	-
10/9/2009	Sunny	26.6	66.0	0.0	-	-

\* king's park data  
 - data were not available  
 # less than 24 hourly observations per day

**Baseline 24-hr TSP Levels  
AM1 (Chan's Creative School)**

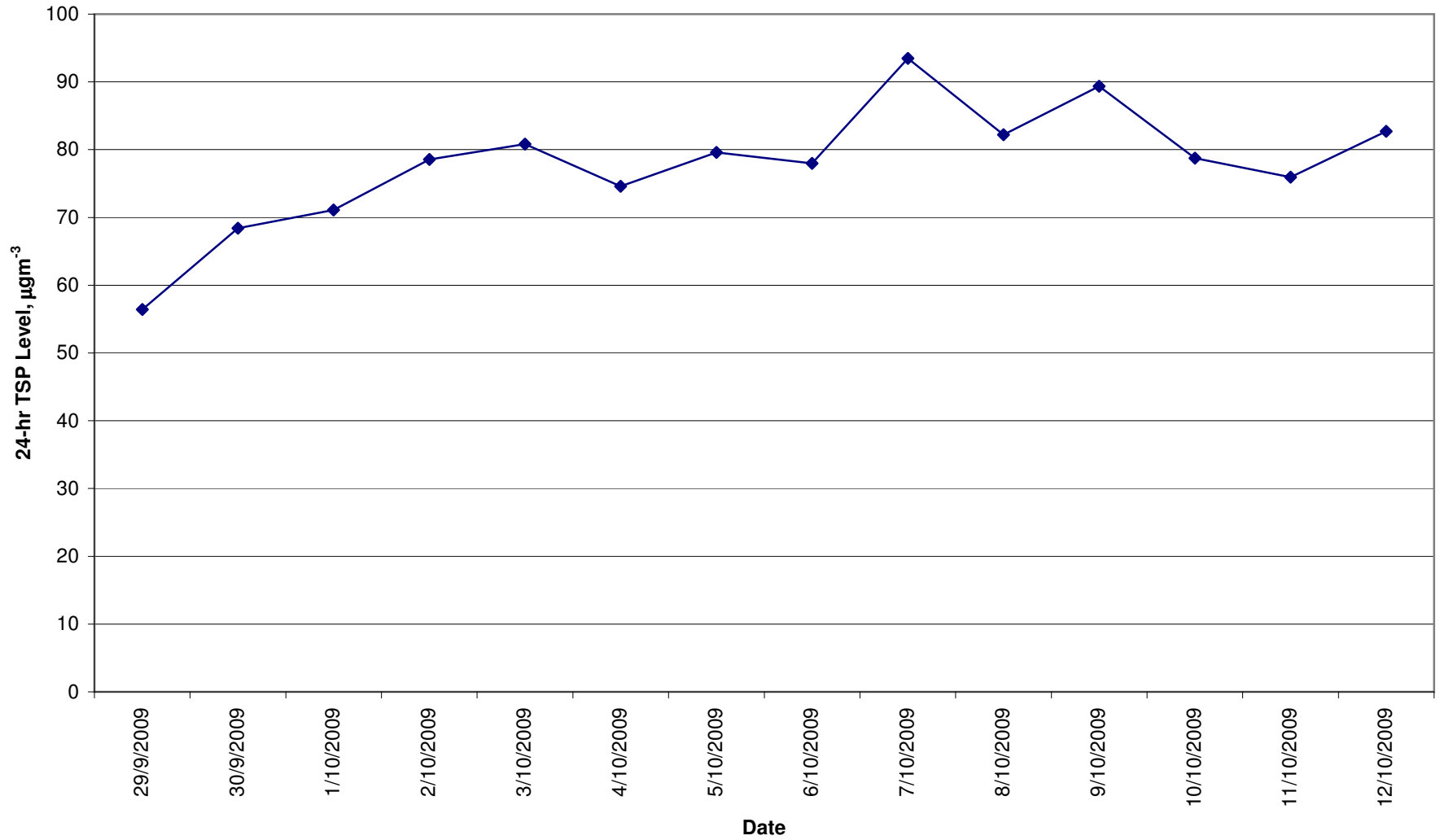


**Baseline 24-hr TSP Levels  
AM2 (Hong Kong & Island Regional Office, WSD)**

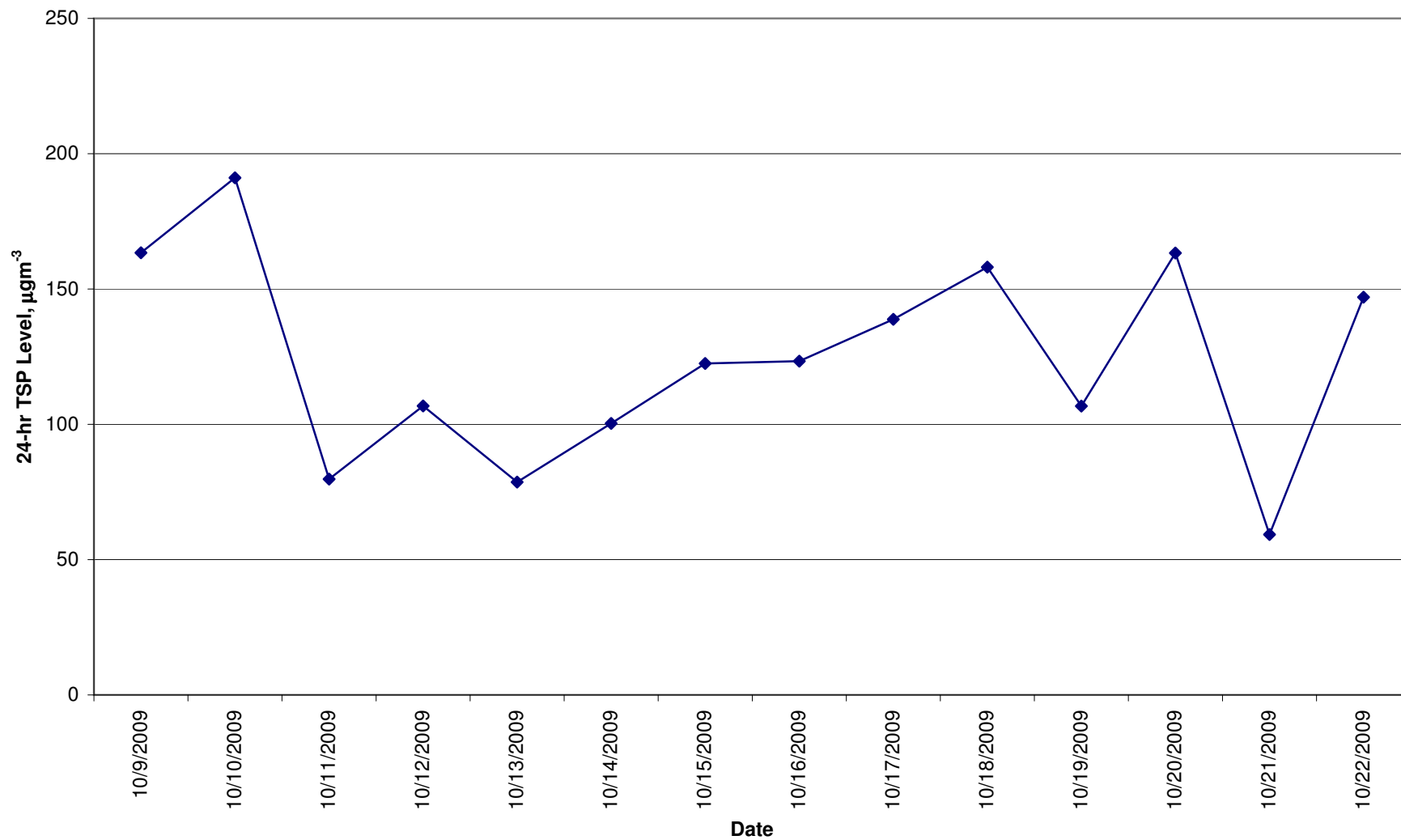




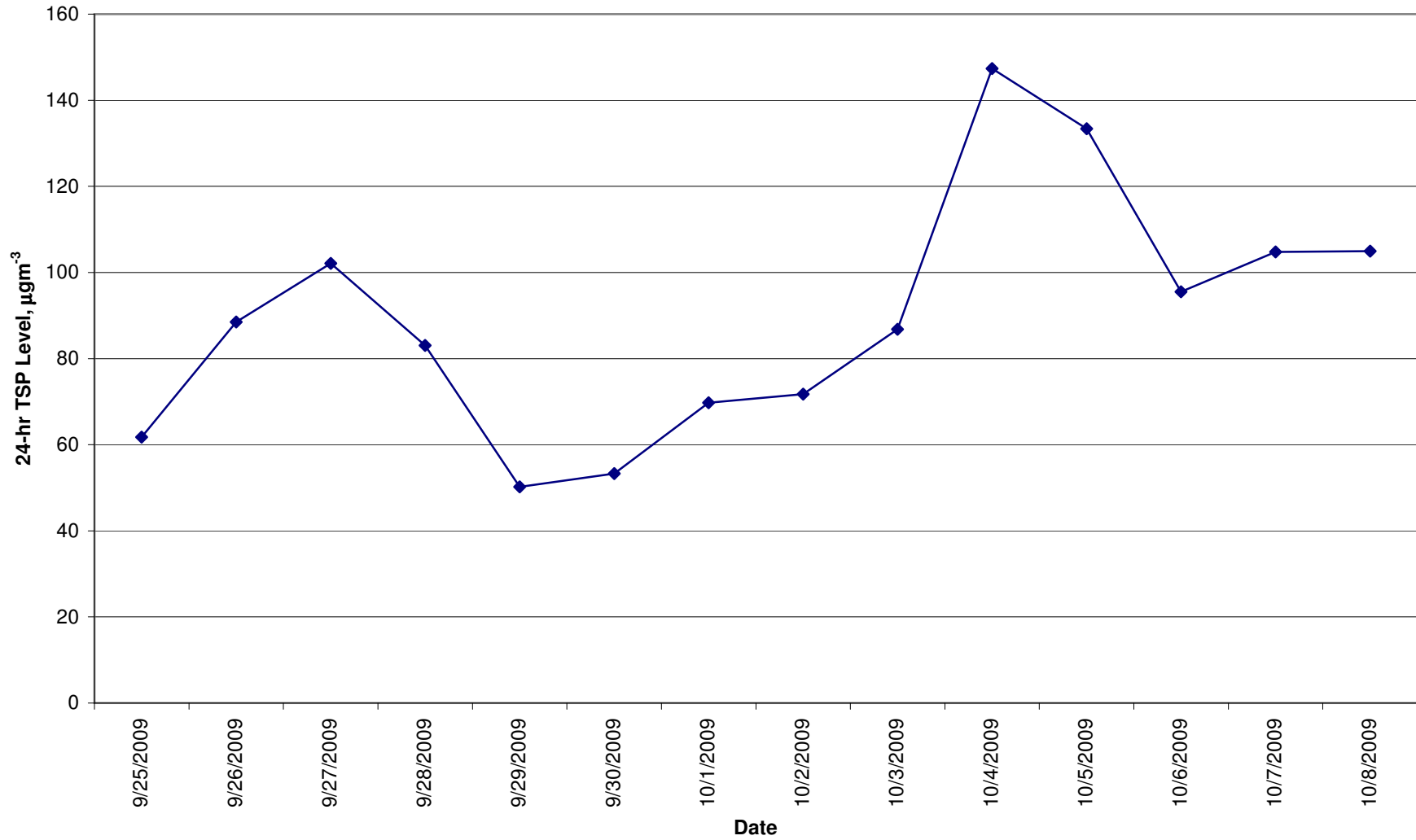
**Baseline 24-hr TSP Level  
AM3 (Wan Chai East PTW)**



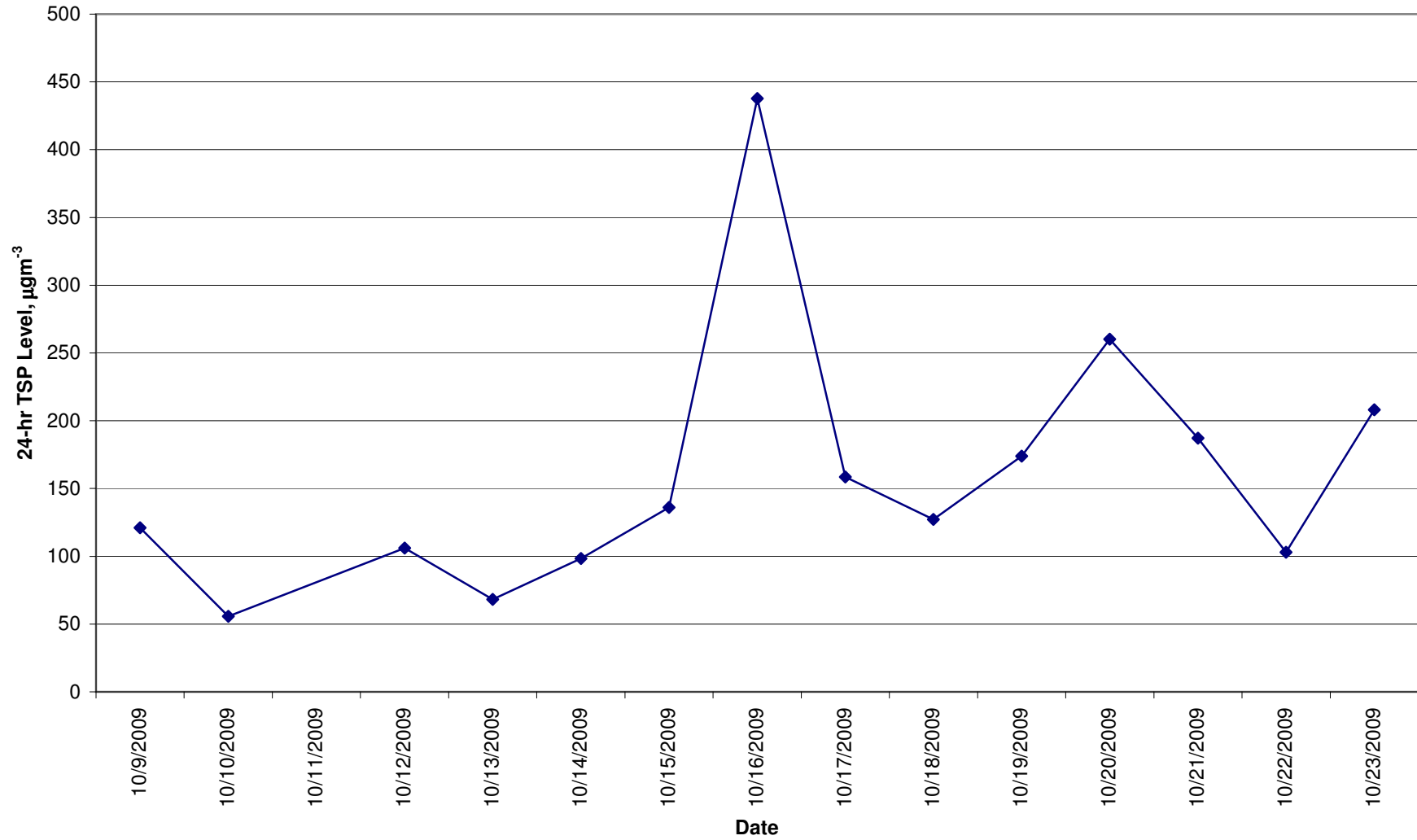
**Baseline 24-hr TSP Level  
AM4 (A Location within DSD Central PTW )**



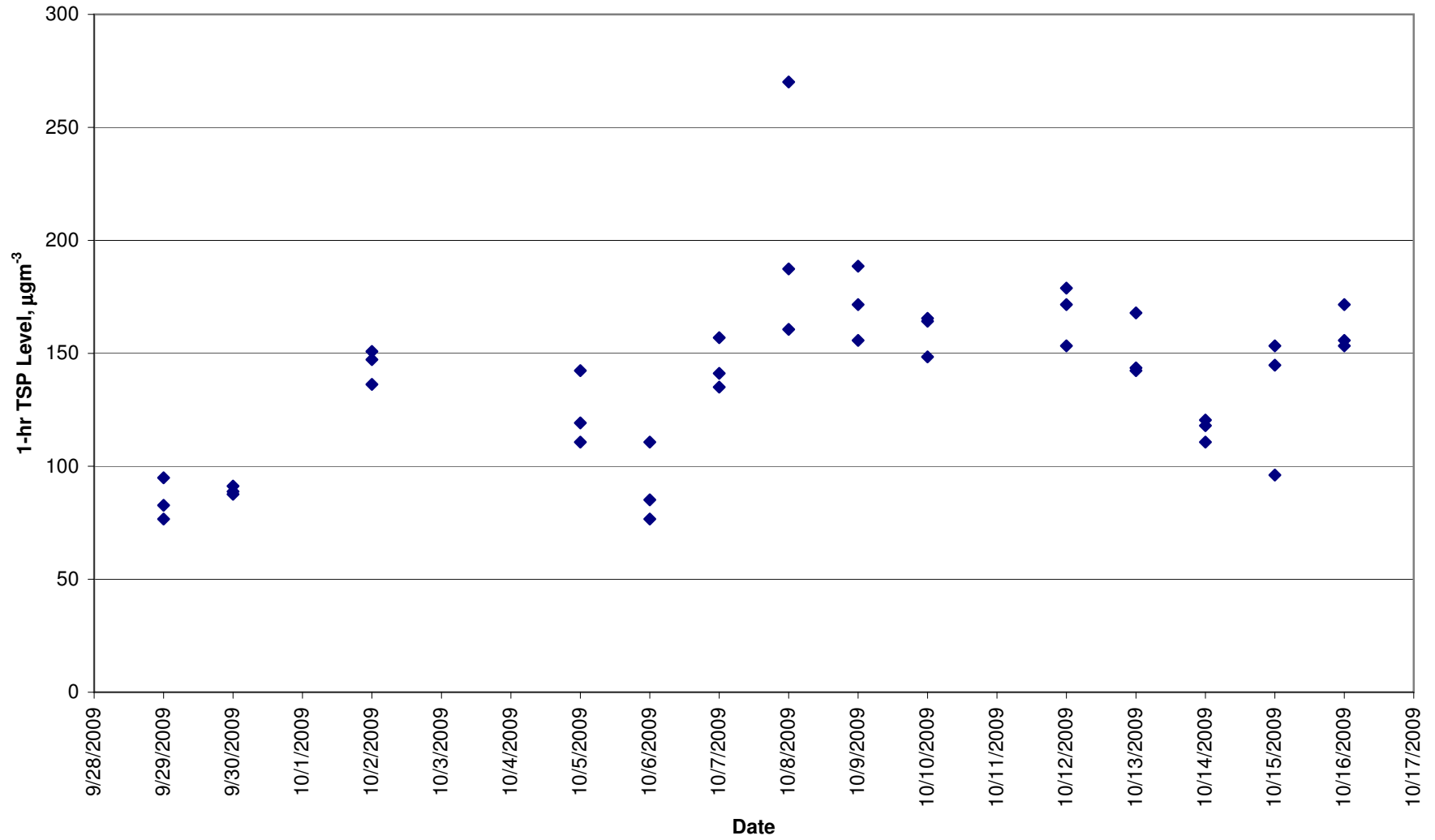
**Baseline 24-hr TSP Level  
AM5 (AFCD Western Wholesale Food Market)**



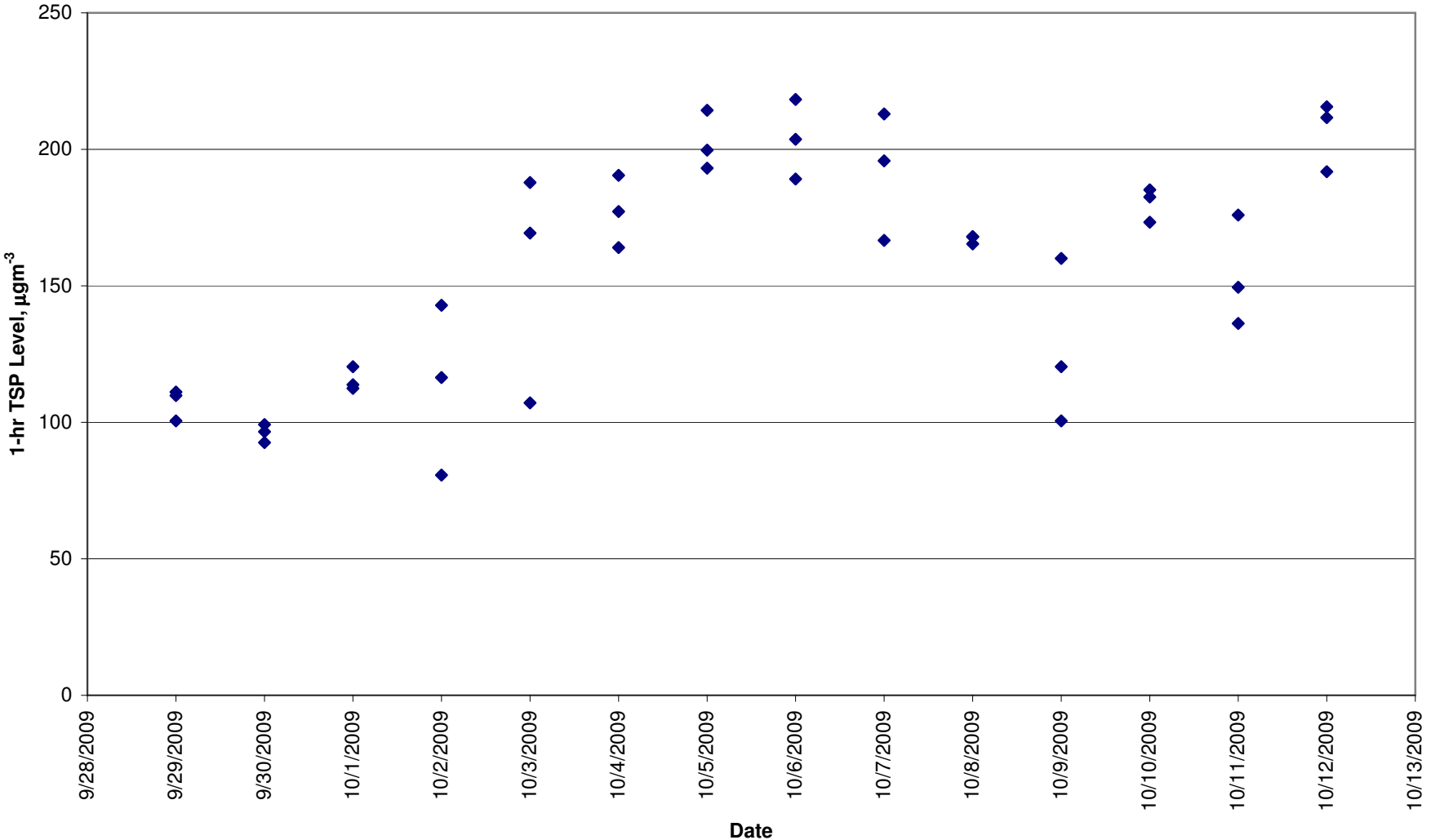
**Baseline 24-hr TSP Level**  
**AM6 (Work Site Boundary - Stonecutters Island Sewage Treatment Works)**



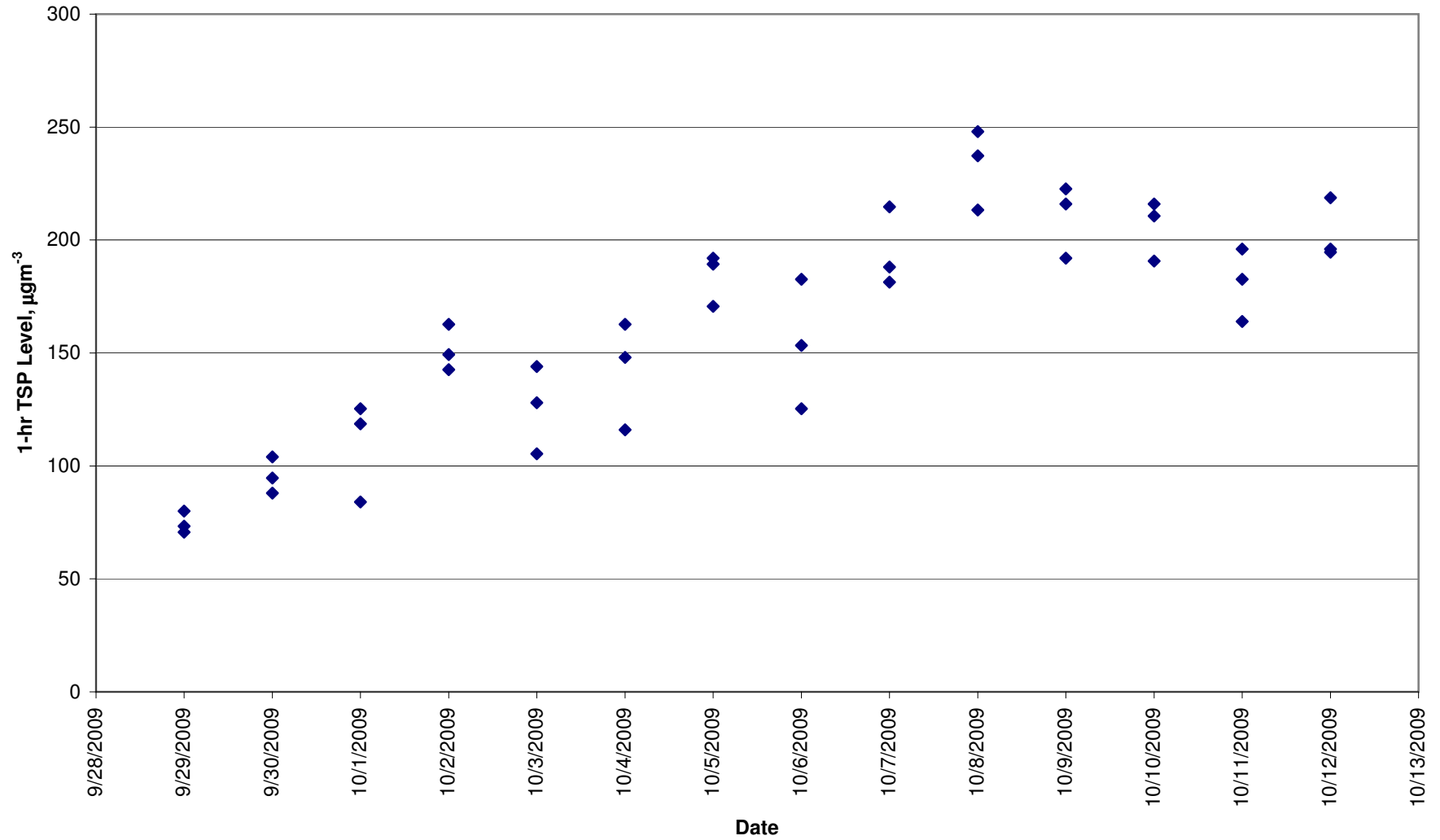
**Baseline 1-hr TSP Levels  
AM1 (Chan's Creative School)**



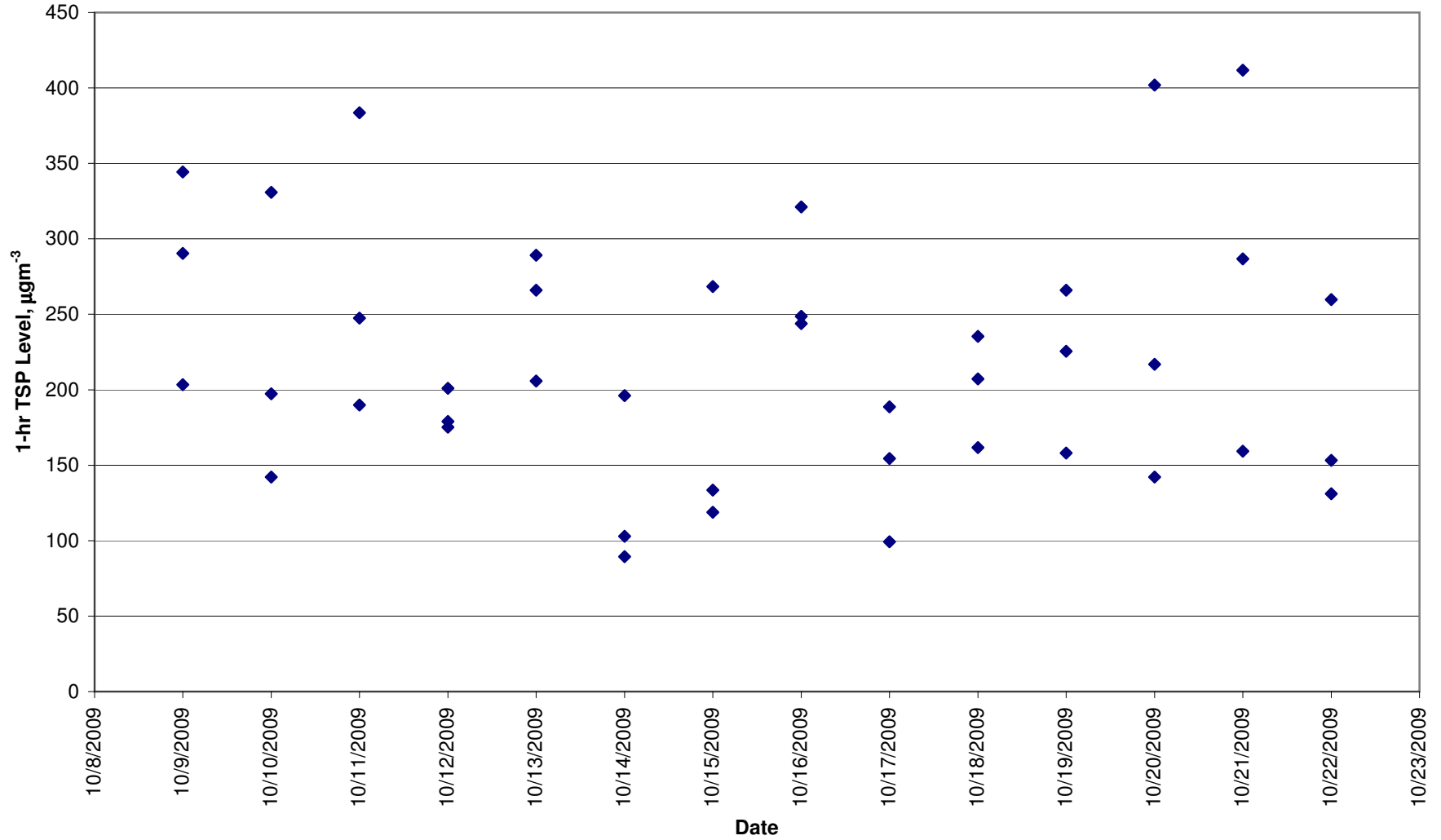
**Baseline 1-hr TSP Levels  
AM2 (Hong Kong & Island Regional Office, WSD)**



**Baseline 1-hr TSP Level  
AM3 (Wan Chai East PTW)**

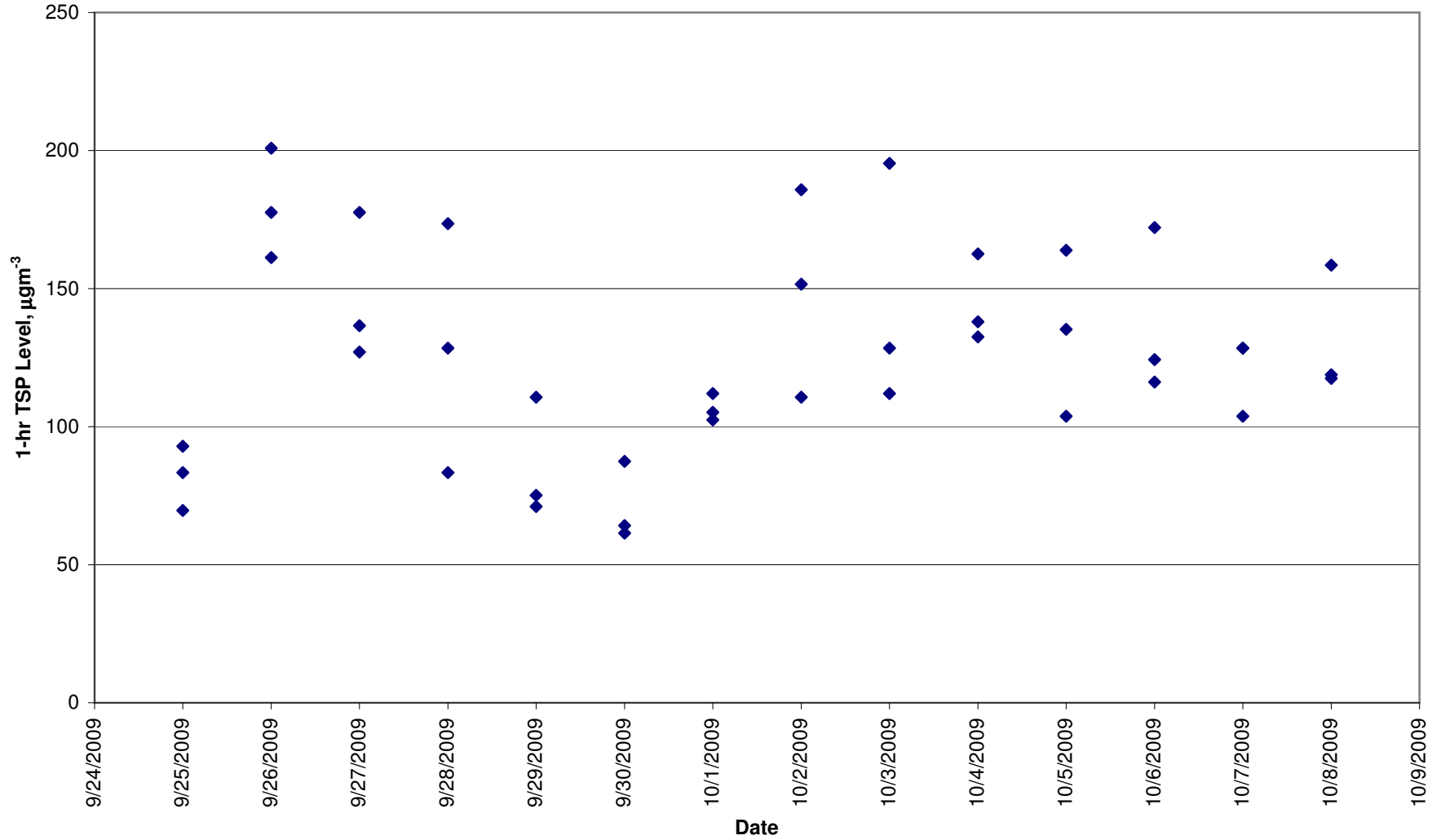


**Baseline 1-hr TSP Level  
AM4 (A Location within DSD Central PTW)**

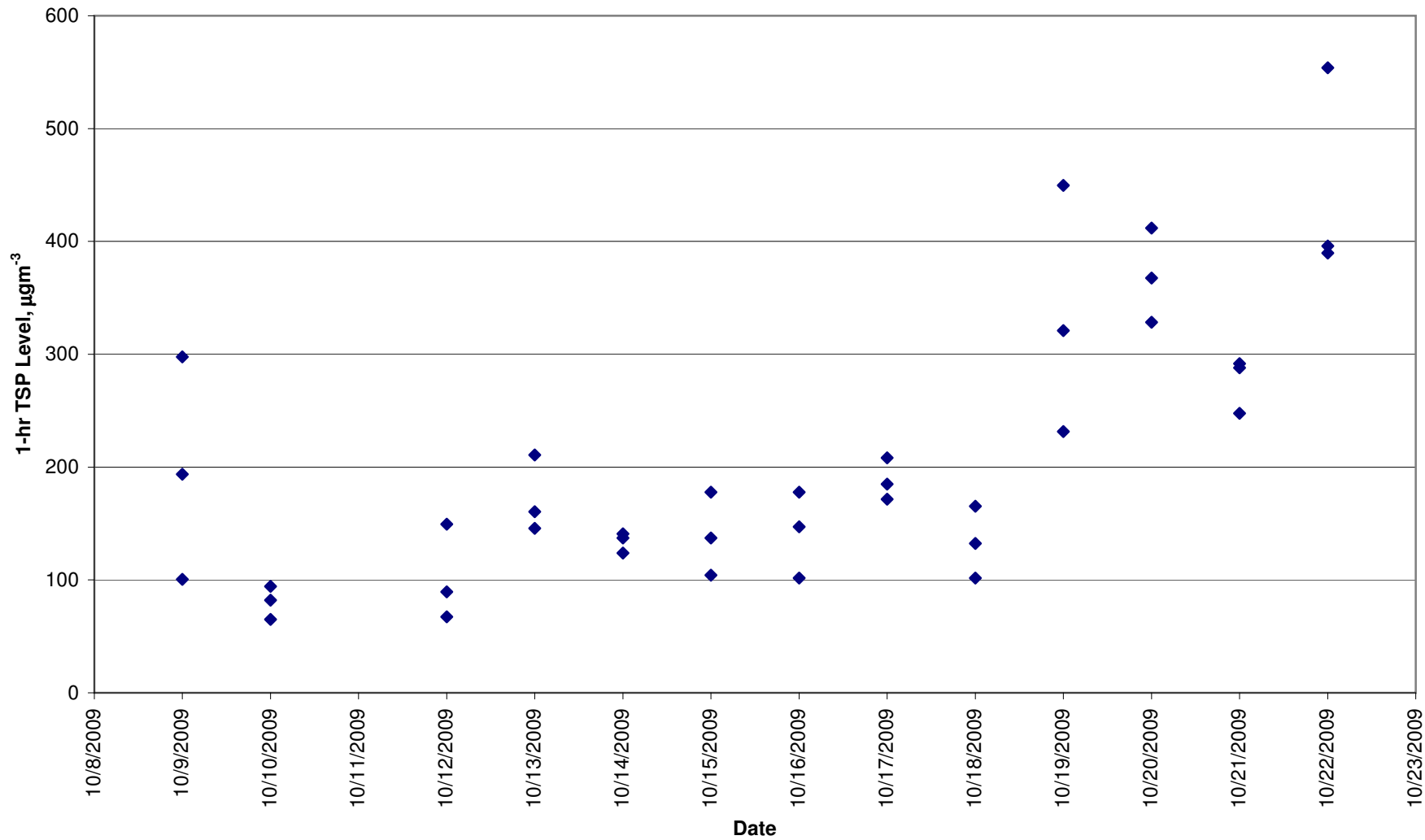




**Baseline 1-hr TSP Level  
AM5 (AFCD Western Wholesale Food Market)**

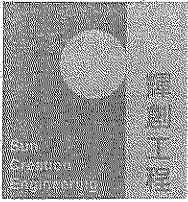


**Baseline 1-hr TSP Level  
AM6 (Stonecutters Island Sewage Treatment Works)**



Annex E

## Certificates for Noise Monitoring Equipments



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093598

# Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Calibrator*

*Manufacturer : Rion*

*Model No. : NC-73*

*Serial No. : 10786708*

*has been calibrated for the specific items and ranges.*

*The results are shown in the Calibration Report No. C093598.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

Sent to: Winnie KO		Ref:
Received by:	Date:	
Address:		
Lot No:	Order:	Part No.:

Date Received by ERM
IC-370
Login Ref

*Date of Issue : 10 July 2009*

*Certified by : H.C. Chan*

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

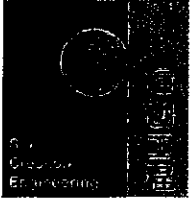
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C093598

# Calibration Report

## ITEM TESTED

DESCRIPTION : Sound Level Calibrator  
MANUFACTURER : Rion  
MODEL NO. : NC-73  
SERIAL NO. : 10786708

## TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$   
LINE VOLTAGE : ---

RELATIVE HUMIDITY :  $(55 \pm 20)\%$

## TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 9 July 2009

JOB NO. : IC09-1664

## TEST RESULTS

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

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by :

  
K/C Lee

Date : 10 July 2009

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com

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# Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours before the commencement of the test.
2. The results presented are the mean of 3 measurements at each calibration point.
3. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
TST150A	Measuring Amplifier	C080751
CL129	Universal Counter	C093121
CL281	Multifunction Acoustic Calibrator	DC090052

4. Test procedure : MA100N.

5. Results :

### 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.9	± 0.5	± 0.2

### 5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (Hz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.991 6	1 kHz ± 2 %	± 0.1

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

### Note :

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

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093473

## *Certificate of Calibration*

*This is to certify that the equipment*

*Description : Precision Integrating Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NL-18*

*Serial No. : 00360030*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C093473.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 6 July 2009*

*Certified by :*   
H C Chan

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C093473

## Calibration Report

### ITEM TESTED

DESCRIPTION : Precision Integrating Sound Level Meter  
MANUFACTURER : Rion  
MODEL NO. : NL-18  
SERIAL NO. : 00360030

### TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$                       RELATIVE HUMIDITY :  $(55 \pm 20)\%$   
LINE VOLTAGE : ---

### TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 3 July 2009

JOB NO. : IC09-1664

### TEST RESULTS

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

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by :

  
K/C Lee

Date : 6 July 2009

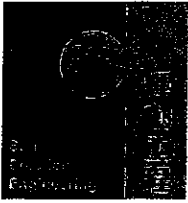
The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

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

Page 1 of 4





# Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.2 - 6.4.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)		IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq. (kHz)	Before Adjustment	After Adjustment	
50 - 110	LA	A	Fast	94.00	1	93.3	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq. (kHz)	
60 - 120	LA	A	Fast	94.00	1	94.2 (Ref.)
				104.00		104.2
				114.00		114.2

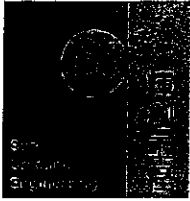
IEC 651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq. (kHz)		
50 - 110	LA	A	Fast	94.00	1	94.1	Ref.
			Slow			94.0	± 0.1

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Burst Duration		
50 -110	LA	A	Fast	106.00	Continuous	106.0	Ref.
	LAmx				200 ms	105.0	-1.0 ± 1.0
	LA		Slow		Continuous	106.0	Ref.
	LAmx				500 ms	102.4	-4.1 ± 1.0

## 6.3 Frequency Weighting

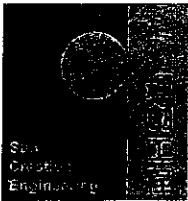
### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq.		
40 - 100	LA	A	Fast	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	94.9	+1.0 ± 1.0
8 kHz	91.7	-1.1 (+1.5 ; -3.0)					

### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq.		
40 - 100	LC	C	Fast	94.00	31.5 Hz	91.4	-3.0 ± 1.5
					63 Hz	93.6	-0.8 ± 1.5
					125 Hz	94.1	-0.2 ± 1.0
					250 Hz	94.2	0.0 ± 1.0
					500 Hz	94.2	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.1	-0.8 ± 1.0
8 kHz	89.8	-3.0 (+1.5 ; -3.0)					

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804
Range (dB)	Mode	Freq. Weight	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
50 - 110	LAeq	A	10 sec.	4	1	1/10	110.0	100	100.2	± 0.5
								90	90.2	± 0.5
			60 sec.					80	79.8	± 1.0
			5 min.					70	70.2	± 1.0

Remarks : - Mfr's Spec. : IEC 651 Type 1 & IEC 60804 Type 1

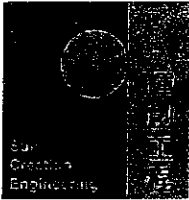
- Uncertainties of Applied Value : 94 dB : 31.5Hz - 125 Hz : ± 0.35 dB  
 250 Hz - 500 Hz : ± 0.30 dB  
 1 kHz : ± 0.20 dB  
 2 kHz - 4 kHz : ± 0.35 dB  
 8 kHz : ± 0.45 dB  
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 Burst equivalent level : ± 0.2 dB (Ref.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

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

### Note :

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

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093733

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NL-31*

*Serial No. : 00320533*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C093733.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 16 July 2009*

*Certified by : Chan Hui Ching  
H C Chan*

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

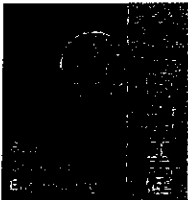
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C093733

## Calibration Report

### ITEM TESTED

DESCRIPTION : Sound Level Meter  
MANUFACTURER : Rion  
MODEL NO. : NL-31  
SERIAL NO. : 00320533

### TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$  RELATIVE HUMIDITY :  $(55 \pm 20)\%$   
LINE VOLTAGE : ---

### TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 15 July 2009

JOB NO. : IC09-1740

### TEST RESULTS

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

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by :

  
K. C. Lee

Date : 16 July 2009

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com

Page 1 of 4



# Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
2. Self-calibration was performed before the test.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

## 6.1 Sound Pressure Level

### 6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	94.2	± 0.7

### 6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	94.2 (Ref.)
				104.00		104.2
				114.00		114.2

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

## 6.2 Time Weighting

### 6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	94.2	Ref.
			Slow			94.1	± 0.1

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
20 - 110	L <sub>A</sub>	A	Fast	106.00	Continuous	106.0	Ref.
	L <sub>Amax</sub>				200 ms	105.0	-1.0 ± 1.0
	L <sub>A</sub>	Slow	Continuous		106.0	Ref.	
	L <sub>Amax</sub>		500 ms		102.0	-4.1 ± 1.0	

## 6.3 Frequency Weighting

### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L <sub>A</sub>	A	Fast	94.00	31.5 Hz	55.0	-39.4 ± 1.5
					63 Hz	68.3	-26.2 ± 1.5
					125 Hz	78.3	-16.1 ± 1.0
					250 Hz	85.7	-8.6 ± 1.0
					500 Hz	91.0	-3.2 ± 1.0
					1 kHz	94.2	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	94.4	+1.0 ± 1.0
					8 kHz	90.1	-1.1 (+1.5 ; -3.0)
					12.5 kHz	83.9	-4.3 (+3.0 ; -6.0)

### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L <sub>C</sub>	C	Fast	94.00	31.5 Hz	91.4	-3.0 ± 1.5
					63 Hz	93.6	-0.8 ± 1.5
					125 Hz	94.1	-0.2 ± 1.0
					250 Hz	94.3	0.0 ± 1.0
					500 Hz	94.3	0.0 ± 1.0
					1 kHz	94.2	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	92.7	-0.8 ± 1.0
					8 kHz	88.3	-3.0 (+1.5 ; -3.0)
					12.5 kHz	82.1	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

# Calibration Report

## 6.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804
Range (dB)	Mode	Frequency Weighting	Time Weighting	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type I Spec. (dB)
20 - 110	L <sub>Aeq</sub>	A	10 sec.	4	1	1/10	110.0	100	100.3	± 0.5
						1/10 <sup>2</sup>		90	90.3	± 0.5
			60 sec.			1/10 <sup>3</sup>		80	80.3	± 1.0
			5 min.			1/10 <sup>4</sup>		70	70.3	± 1.0

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

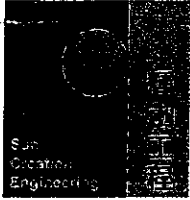
- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz : ± 0.35 dB  
 250 Hz - 500 Hz : ± 0.30 dB  
 1 kHz : ± 0.20 dB  
 2 kHz - 4 kHz : ± 0.35 dB  
 8 kHz : ± 0.45 dB  
 12.5 kHz : ± 0.70 dB  
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 Burst equivalent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

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

Note :

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





輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092284

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NL-31*

*Serial No. : 00410224*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C092284.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 8 May 2009*

*Certified by :*

*K C Lee*

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

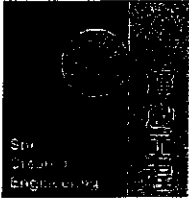
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

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E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C092284

## Calibration Report

### ITEM TESTED

DESCRIPTION : Sound Level Meter  
MANUFACTURER : Rion  
MODEL NO. : NL-31  
SERIAL NO. : 00410224

### TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$  RELATIVE HUMIDITY :  $(55 \pm 20)\%$   
LINE VOLTAGE : ---

### TEST SPECIFICATIONS

Calibration

DATE OF TEST : 7 May 2009

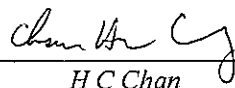
JOB NO. : IC09-1058

### TEST RESULTS

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

The test equipment used for calibration are traceable to National Standards via :  
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Tested by :

  
H C Chan

Date : 8 May 2009

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

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

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# Calibration Report

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration using the internal standard (after adjustment) was performed before the test 6.1.2 - 6.4.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)		IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq. (kHz)	Before Adjustment	After Adjustment	
20 - 100	L <sub>A</sub>	A	Fast	94.00	1	* 91.4	94.0	± 0.7

\* Out of Mfr's Spec.

6.1.2 Linearity

Range (dB)	Mode	Weight	Response	Applied Value		UUT Reading (dB)
				Level (dB)	Freq. (kHz)	
30 - 120	L <sub>A</sub>	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.3

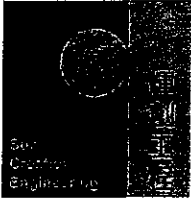
IEC 651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq. (kHz)		
20 - 100	L <sub>A</sub>	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.1

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Burst Duration		
20 - 110	L <sub>A</sub>	A	Fast	106.00	Continuous	106.0	Ref.
	L <sub>Amax</sub>				200 ms	105.0	-1.0 ± 1.0
	L <sub>A</sub>	Slow	Continuous		106.0	Ref.	
	L <sub>Amax</sub>		500 ms		102.0	-4.1 ± 1.0	

## 6.3 Frequency Weighting

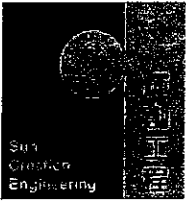
### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq.		
20 - 100	L <sub>A</sub>	A	Fast	94.00	31.5 Hz	54.9	-39.4 ± 1.5
					63 Hz	68.1	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	94.7	+1.0 ± 1.0
					8 kHz	90.2	-1.1 (+1.5 ; -3.0)

### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Range (dB)	Mode	Weight	Response	Level (dB)	Freq.		
20 - 100	L <sub>C</sub>	C	Fast	94.00	31.5 Hz	91.3	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	92.9	-0.8 ± 1.0
					8 kHz	88.4	-3.0 (+1.5 ; -3.0)

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.4 Time Averaging

UUT Setting				Applied Value					UUT	IEC 60804	
Range (dB)	Mode	Weight	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)	
20 - 110	L <sub>Acq</sub>	A	10 sec.	4	1	1/10	110.0	100	100.1	± 0.5	
								1/10 <sup>2</sup>	90	90.1	± 0.5
			60 sec.					1/10 <sup>3</sup>	80	80.0	± 1.0
			5 min.					1/10 <sup>4</sup>	70	70.0	± 1.0

Remarks : - Mfr's Spec. : IEC 651 & IEC 60804 Type 1

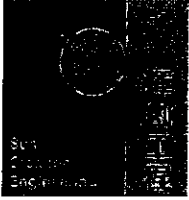
- Uncertainties of Applied Value : 94 dB : 31.5Hz - 125 Hz : ± 0.35 dB  
 500 Hz : ± 0.30 dB  
 1 kHz : ± 0.20 dB  
 2 kHz - 4 kHz : ± 0.35 dB  
 8 kHz : ± 0.45 dB  
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)  
 Burst equivalent level : ± 0.2 dB (Ref. 110 dB continuous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

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

Note :

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

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C093599

## Certificate of Calibration

*This is to certify that the equipment*

*Description : Precision Sound Level Meter*

*Manufacturer : Rion*

*Model No. : NA-27*

*Serial No. : 00201194*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C093599.*

*The equipment is supplied by*

*Co. Name : Envirotech Services Co.*

*Address : Shop 6, G/F., Casio Mansion, 209 Shaukeiwan Road,  
Hong Kong*

*Date of Issue : 10 July 2009*

*Certified by :   
H C Chan*

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F. Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

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E-mail: callab@suncreation.com

Website: www.suncreation.com



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C093599

## Calibration Report

### ITEM TESTED

DESCRIPTION : Precision Sound Level Meter  
MANUFACTURER : Rion  
MODEL NO. : NA-27  
SERIAL NO. : 00201194

### TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$  RELATIVE HUMIDITY :  $(55 \pm 20)\%$   
LINE VOLTAGE : ---

### TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 9 July 2009

JOB NO. : IC09-1664

### TEST RESULTS

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

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by :

  
K C Lee

Date : 10 July 2009

The test equipment used for calibration are traceable to the National Standards as specified in this report.  
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Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

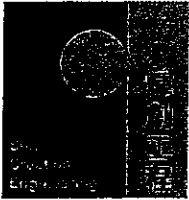
Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com

Page 1 of 4



# Calibration Report

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurement at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

## 6.1 Sound Pressure Level

### 6.1.1 Reference Sound Pressure Level

UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	Fast	94.00	1	94.0	± 0.7

### 6.1.2 Linearity

UUT Setting			Applied Value		UUT Reading (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
60 - 120	LA	Fast	94.00	1	94.0 (Ref.)
			104.00		104.0
			114.00		114.0

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

## 6.2 Time Weighting

### 6.2.1 Continuous Signal

UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 110	LA	Fast	94.00	1	94.0	Ref.
		Slow			94.0	± 0.1

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.





# Calibration Report

## 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
50 -110	LA	Fast	106.00	Continuous	106.0	Ref.
	LAmx			200 ms	105.0	-1.0 ± 1.0
	LA	Slow		Continuous	106.0	Ref.
	LAmx			500 ms	102.0	-4.1 ± 1.0

## 6.3 Frequency Weighting

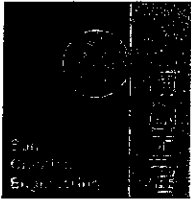
### 6.3.1 A-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LA	Fast	94.00	31.5 Hz	54.5	-39.4 ± 1.5
				63 Hz	68.0	-26.2 ± 1.5
				125 Hz	78.1	-16.1 ± 1.0
				250 Hz	85.5	-8.6 ± 1.0
				500 Hz	90.9	-3.2 ± 1.0
				1 kHz	94.0	Ref.
				2 kHz	95.4	+1.2 ± 1.0
				4 kHz	95.6	+1.0 ± 1.0
				8 kHz	93.7	-1.1 (+1.5 ; -3.0)
				12.5 kHz	89.2	-4.3 (+3.0 ; -6.0)

### 6.3.2 C-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 110	LC	Fast	94.00	31.5 Hz	91.1	-3.0 ± 1.5
				63 Hz	93.3	-0.8 ± 1.5
				125 Hz	93.8	-0.2 ± 1.0
				250 Hz	94.0	0.0 ± 1.0
				500 Hz	94.0	0.0 ± 1.0
				1 kHz	94.0	Ref.
				2 kHz	93.9	-0.2 ± 1.0
				4 kHz	93.7	-0.8 ± 1.0
				8 kHz	91.8	-3.0 (+1.5 ; -3.0)
				12.5 kHz	87.2	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.



# Calibration Report

## 6.4 Time Averaging

UUT Setting			Applied Value					UUT Reading (dB)	IEC 60804 Type I Spec. (dB)
Range (dB)	Mode	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
50 - 110	LAeq	10 sec.	4	1	1/10	110.0	100	100.2	± 0.5
					1/10 <sup>2</sup>		90	90.3	± 0.5
		60 sec.			1/10 <sup>3</sup>		80	80.3	± 1.0
		5 min.			1/10 <sup>4</sup>		70	70.3	± 1.0

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

- Uncertainties of Applied Value : 94 dB : 31.5 Hz : ± 0.85 dB
- 63 Hz : ± 0.55 dB
- 125 Hz : ± 0.45 dB
- 250 Hz : ± 0.40 dB
- 500 Hz : ± 0.40 dB
- 1 kHz : ± 0.20 dB
- 2 kHz : ± 0.45 dB
- 4 kHz : ± 0.75 dB
- 8 kHz : ± 1.35 dB
- 12.5 kHz : ± 2.30 dB
- 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
- 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
- Burst equivalent level : ± 0.2 dB (Ref. 110 dB continuous sound level)

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

### Note :

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

The test equipment used for calibration are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.

Annex F

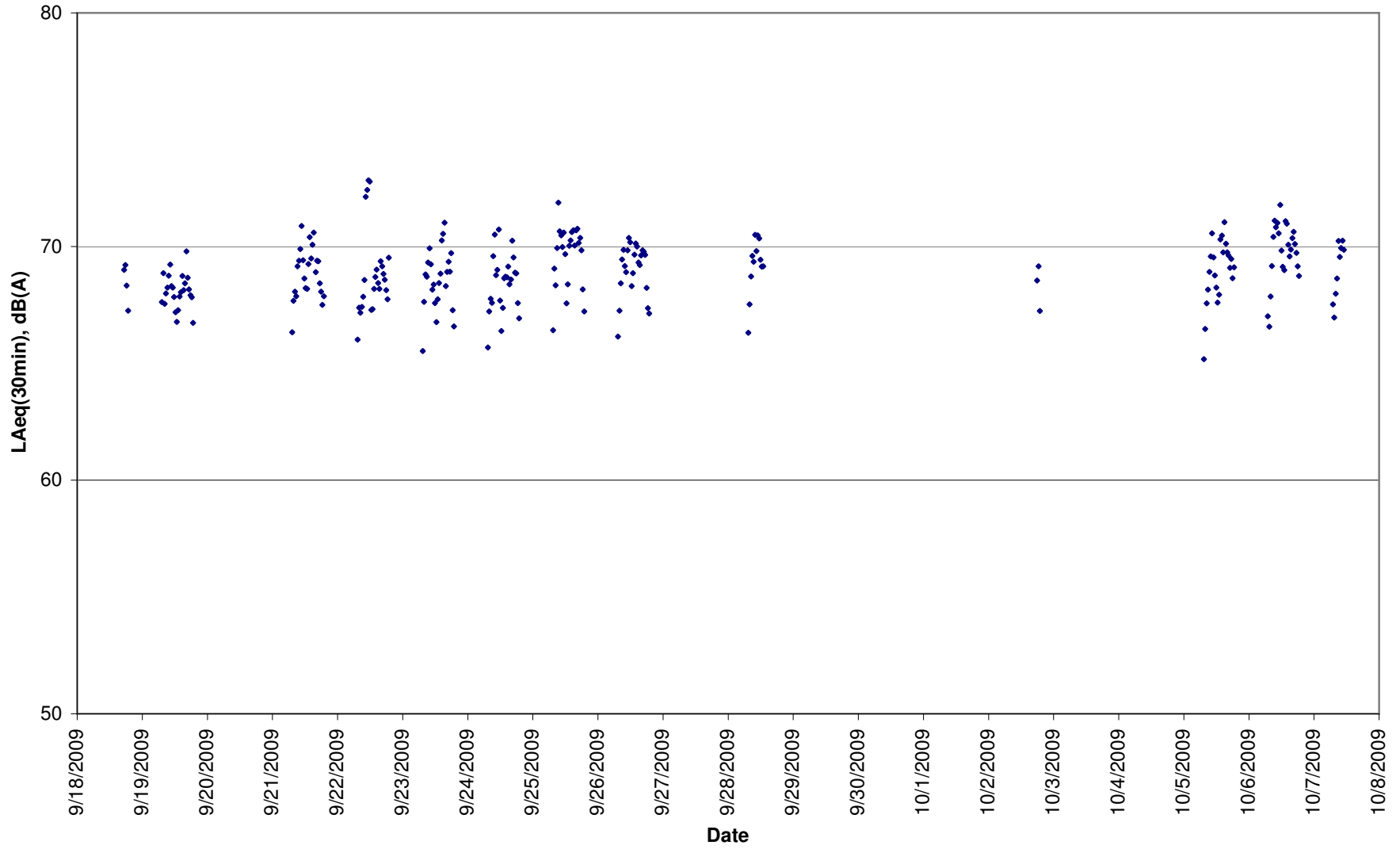
## Baseline Noise Monitoring Results

**Contract No. DC/2007/23**  
**Harbour Area Treatment Scheme Stage 2A**  
**Construction of Sewage Conveyance System from North Point to Stonecutters Island**

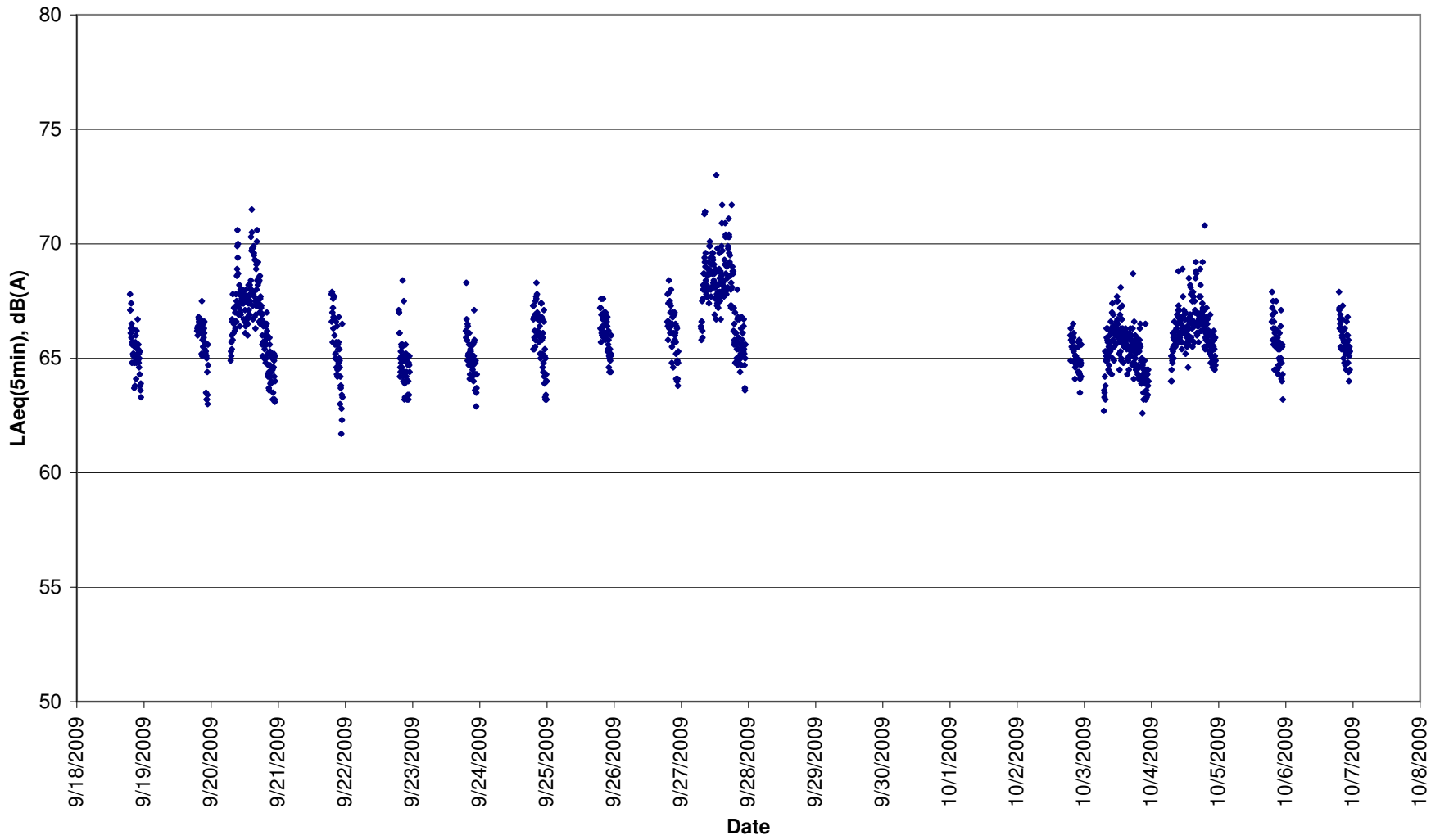
**Baseline Noise Monitoring Results**

<b>ID</b>	<b>Location</b>	<b>Daytime (0700 - 1900 hrs on normal weekday)</b>	<b>Evening (1900 - 2300 hrs) and General Holidays (including Sundays) during daytime and evening (0700 - 2300 hrs)</b>	<b>Night-time (2300 - 0700 hrs)</b>
		<b>LAeq (30min), dB(A)</b>	<b>LAeq (5min), dB(A)</b>	<b>LAeq (5min), dB(A)</b>
NM1	Chan's Creative School	69 (66.2-71.7)	66.5 (61.7-73)	62.1 (56.2-76.6)
NM2	Hyde Building	73.5 (70.6-76.3)	71.2 (68.6-76.8)	68.7 (62.5-75.3)
NM3	Goldfield Building	74.9 (71.2-80.6)	73 (69.4-79.3)	68.9 (61.9-75.4)
NM4	Block A, Kwan Yick Building Phase III	69.4 (66.1-74.3)	67.4 (63-72.4)	63.2 (57.2-70.3)
NM5	SCI STW worksite boundary	66.4 (54.7-74.6)	60.6 (55.3-73.7)	60.1 (52-79.1)

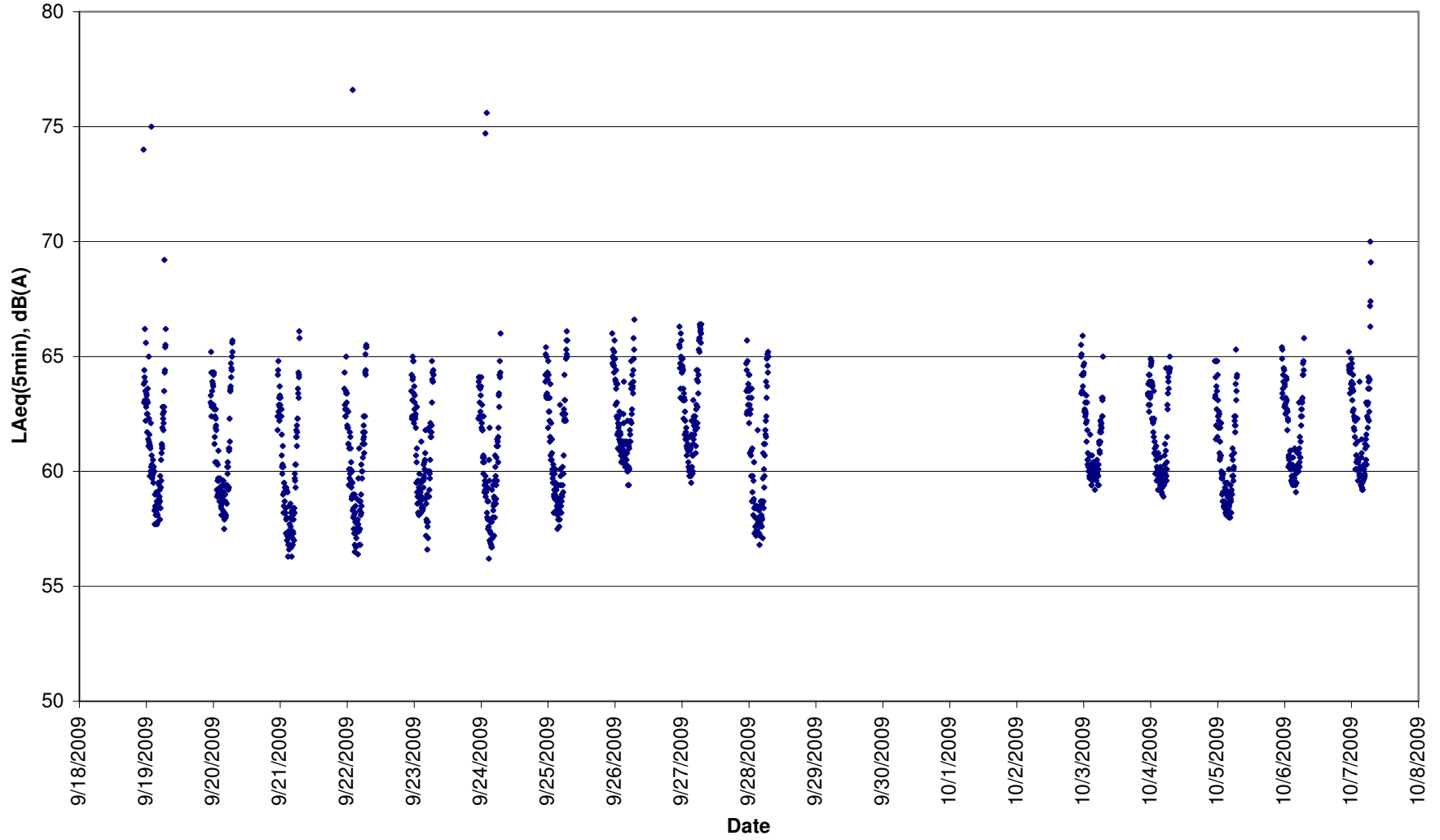
LAeq(30min) during Normal Working Hours (0700 - 1900) at NM1 Chan's Creative School



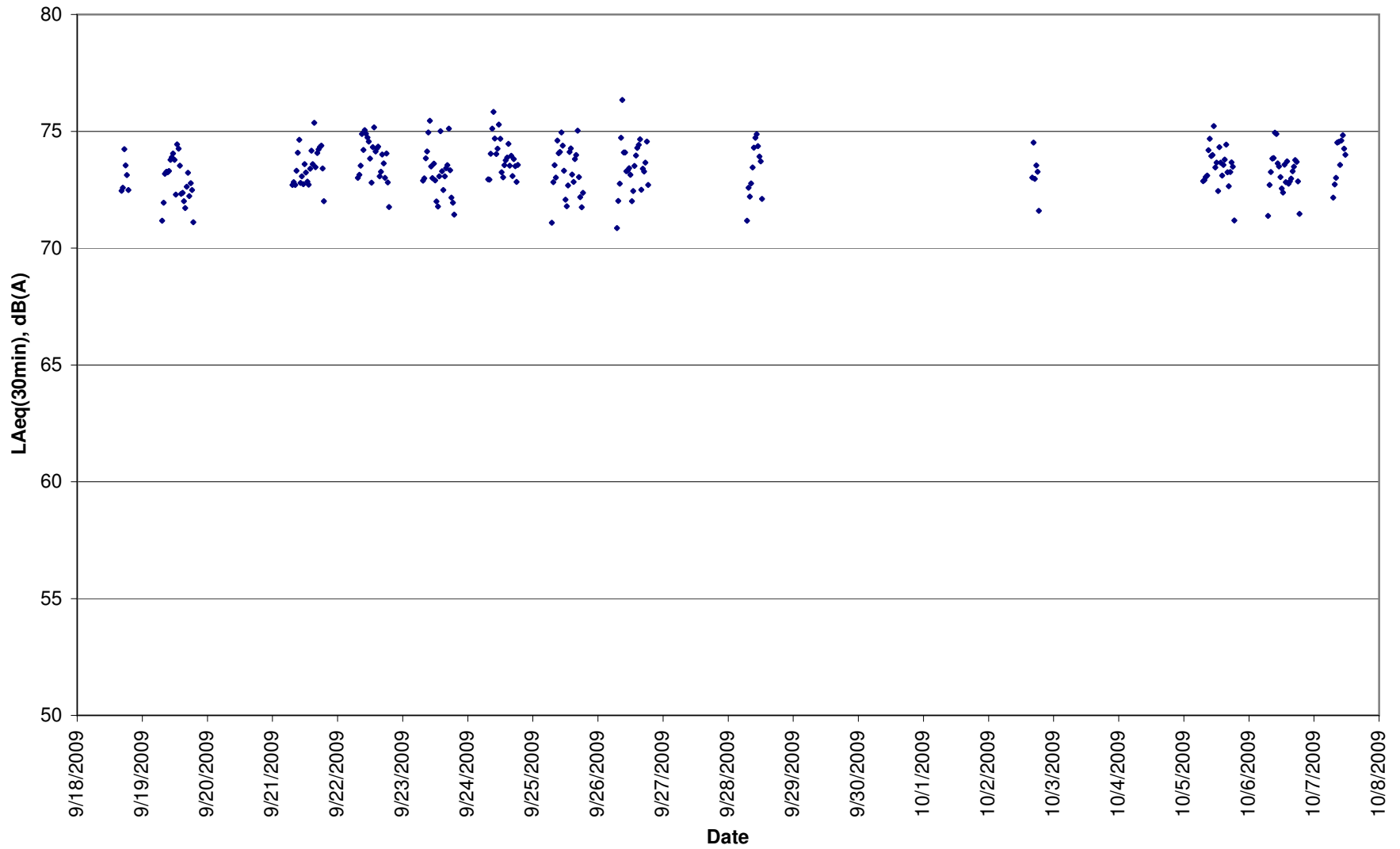
**LAeq(5min) measured at NM1 Chan's Creative School  
(Evening on normal weekdays (1900-2300 hours) and holidays (0700-2300 hours))**



**LAeq(5min) measured at NM1 Chan's Creative School  
Night-time (2300-0700 hours)**

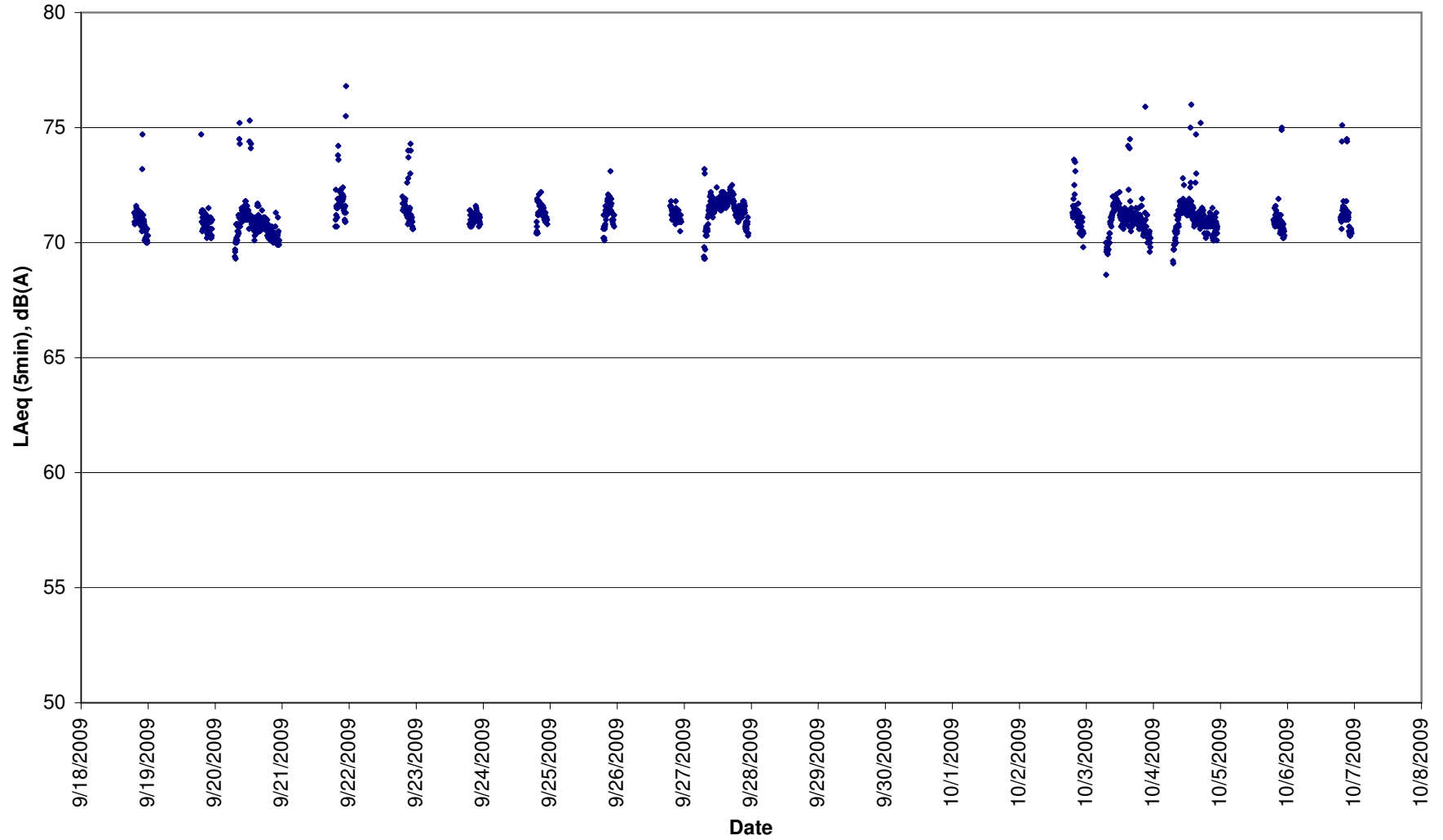


### LAeq(30min) during Normal Hours (0700 - 1900) at NM2 Hyde Building

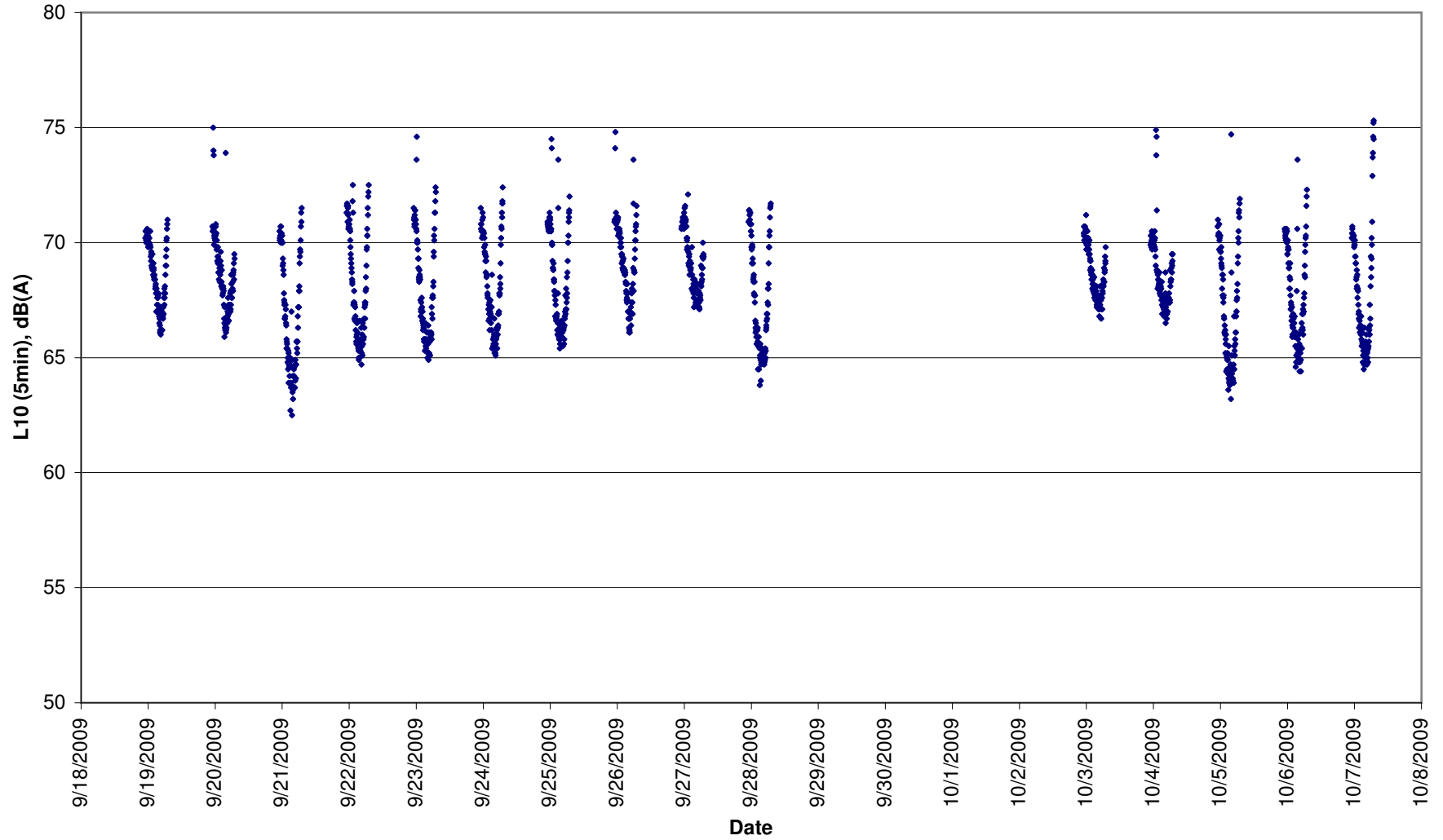




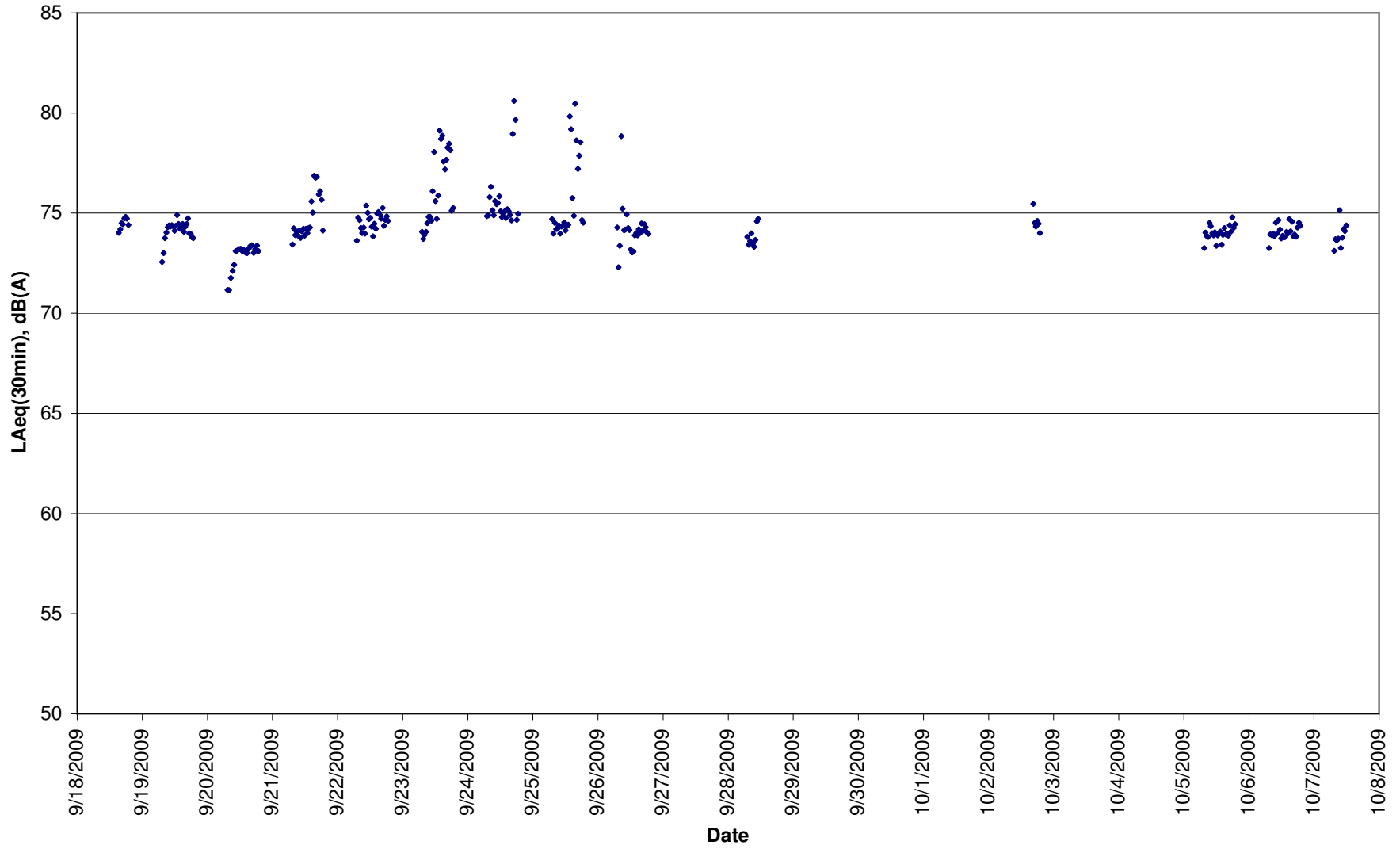
**LAeq (5min) measured at NM2 Hyde Building  
(Evening on normal weekdays (1900-2300 hours) and holidays (0700-2300 hours))**



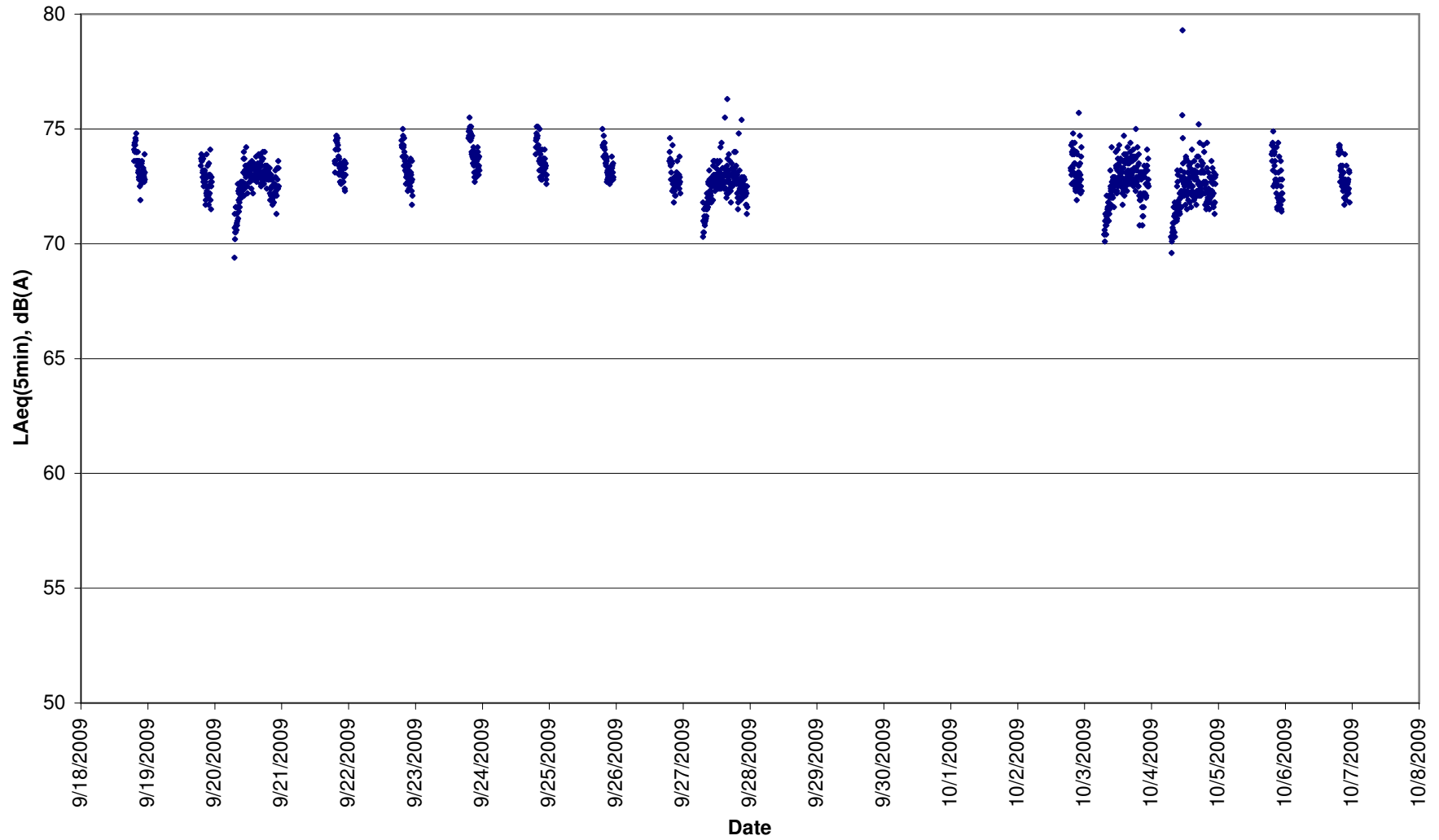
**L<sub>Aeq</sub> (5min) measured at NM2 Hyde Building  
Night-time (2300-0700 hours)**



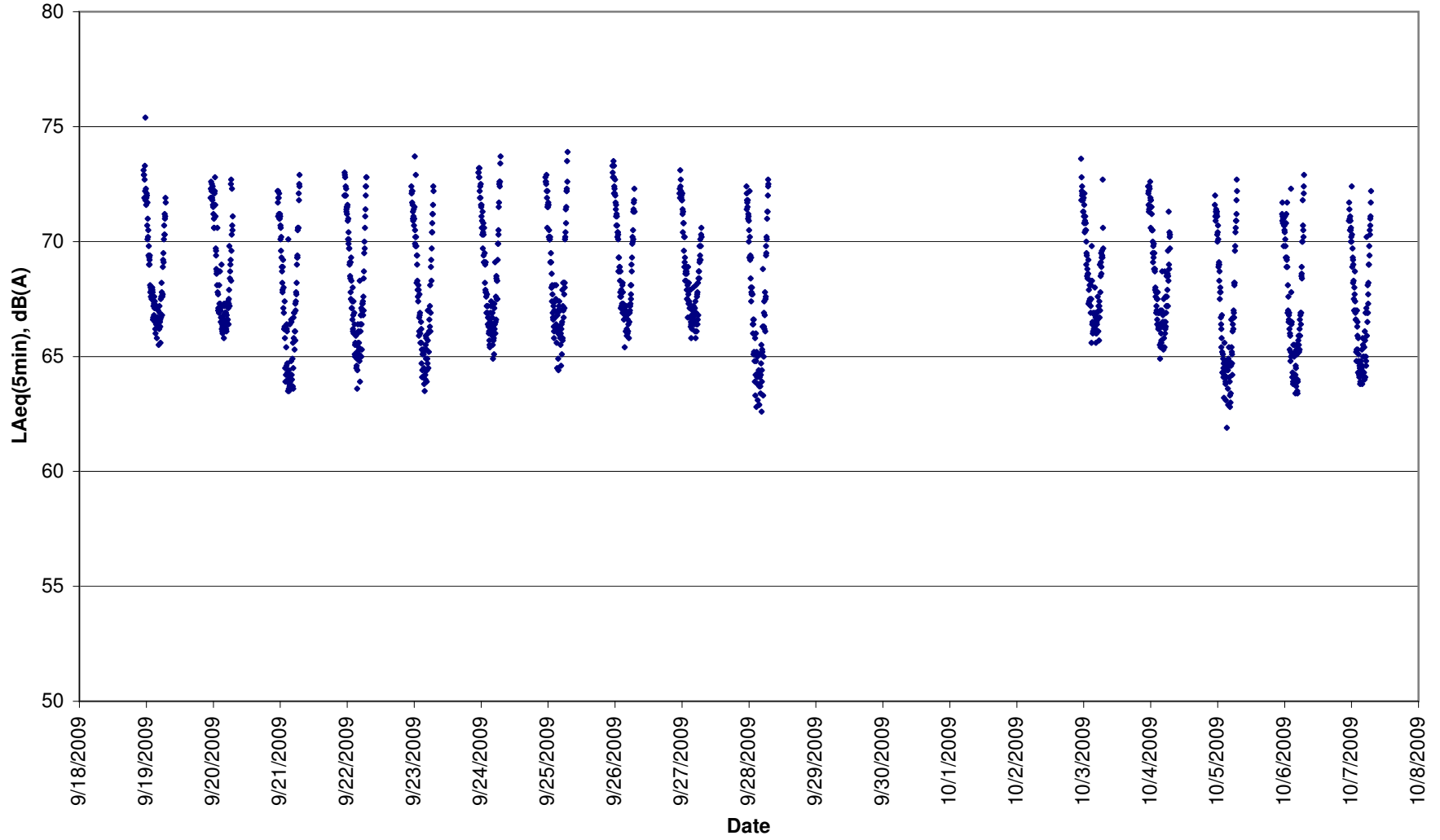
**LAeq(30min) during Normal Hours (0700 - 1900) at NM3 Goldfield Building**



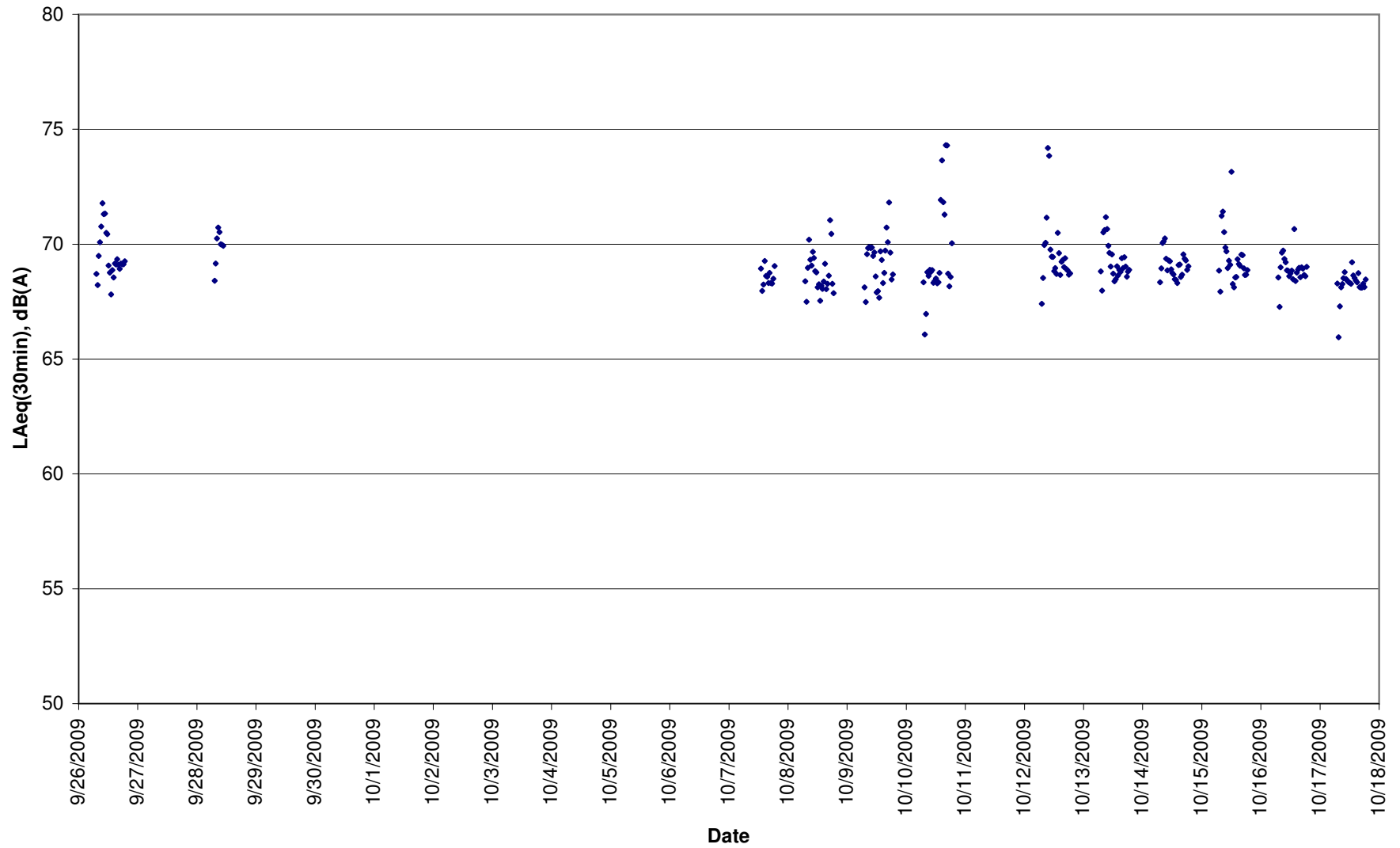
**LAeq(5min) measured at NM3 Goldfield Building  
(Evening on normal weekdays (1900-2300 hours) and holidays (0700-2300 hours))**



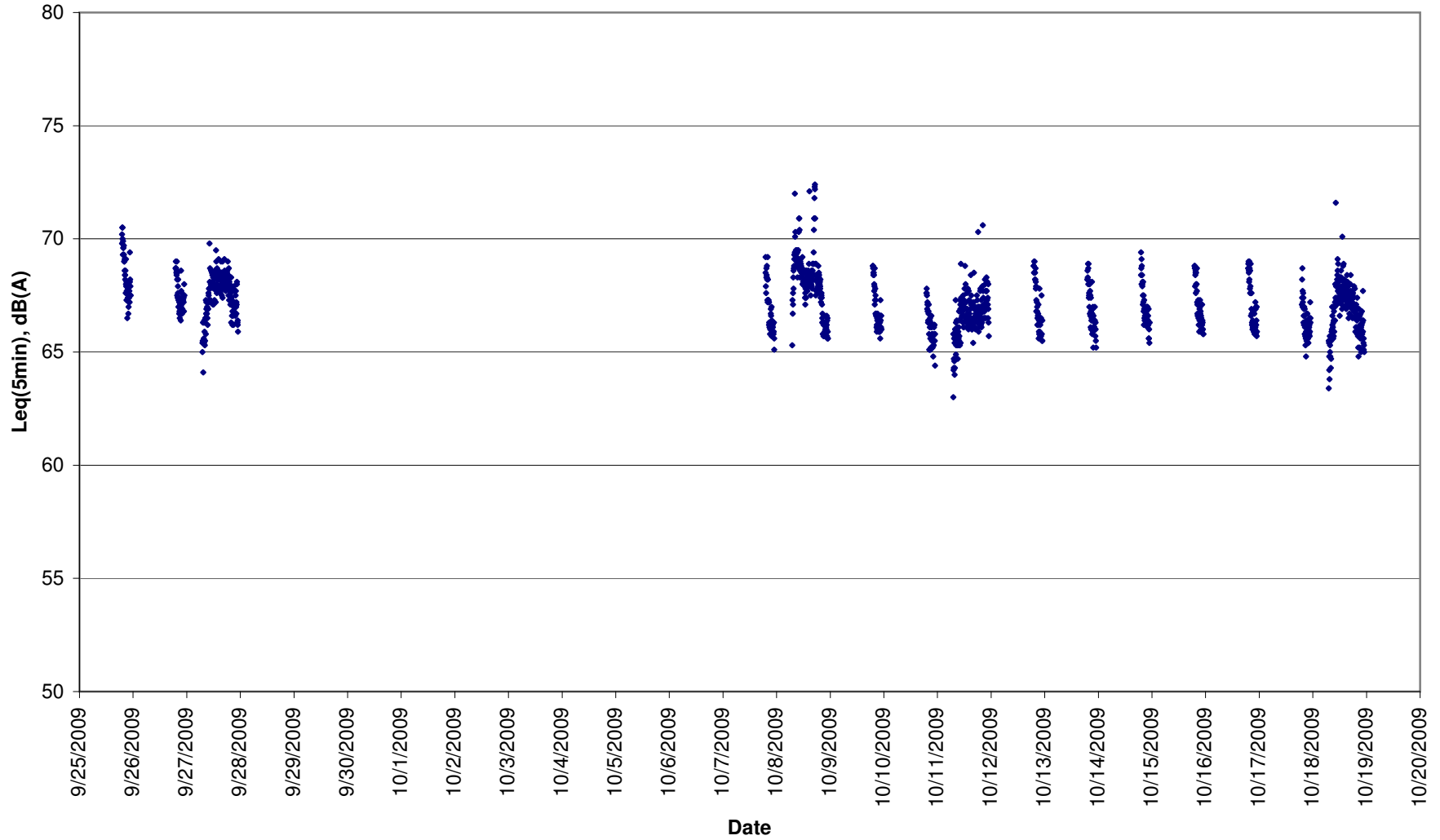
**LAeq(5min) measured at NM3 Goldfield Building  
Night-time (2300-0700 hours)**



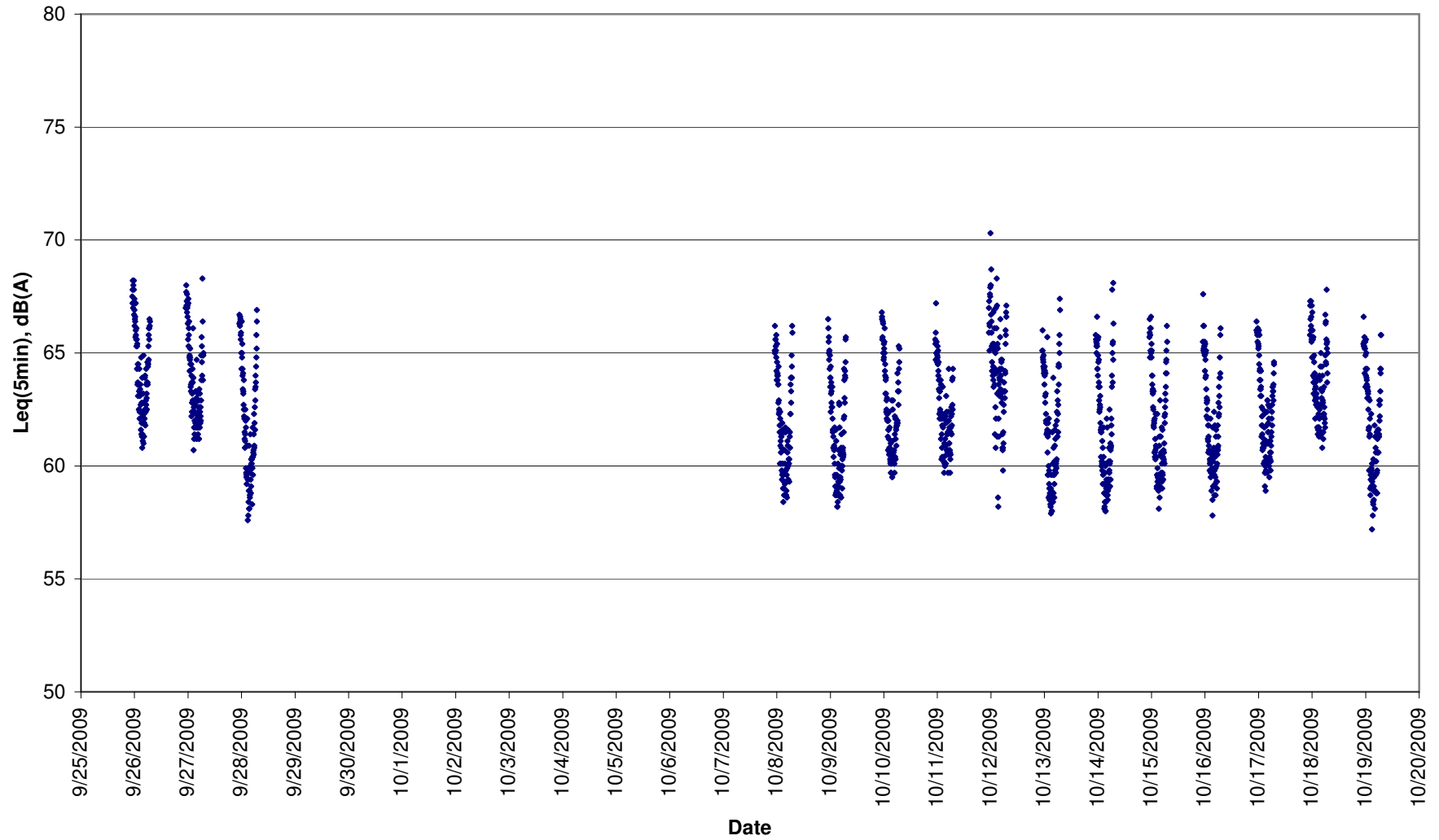
**LAeq(30min) during Normal Hours (0700 - 1900) at NM4 Block A Kwan Yick Building Phase III**



**Leq(5min) measured at NM4 Block A Kwan Yick Building Phase III  
(Evening on normal weekdays (1900-2300 hours) and holidays (0700-2300 hours))**

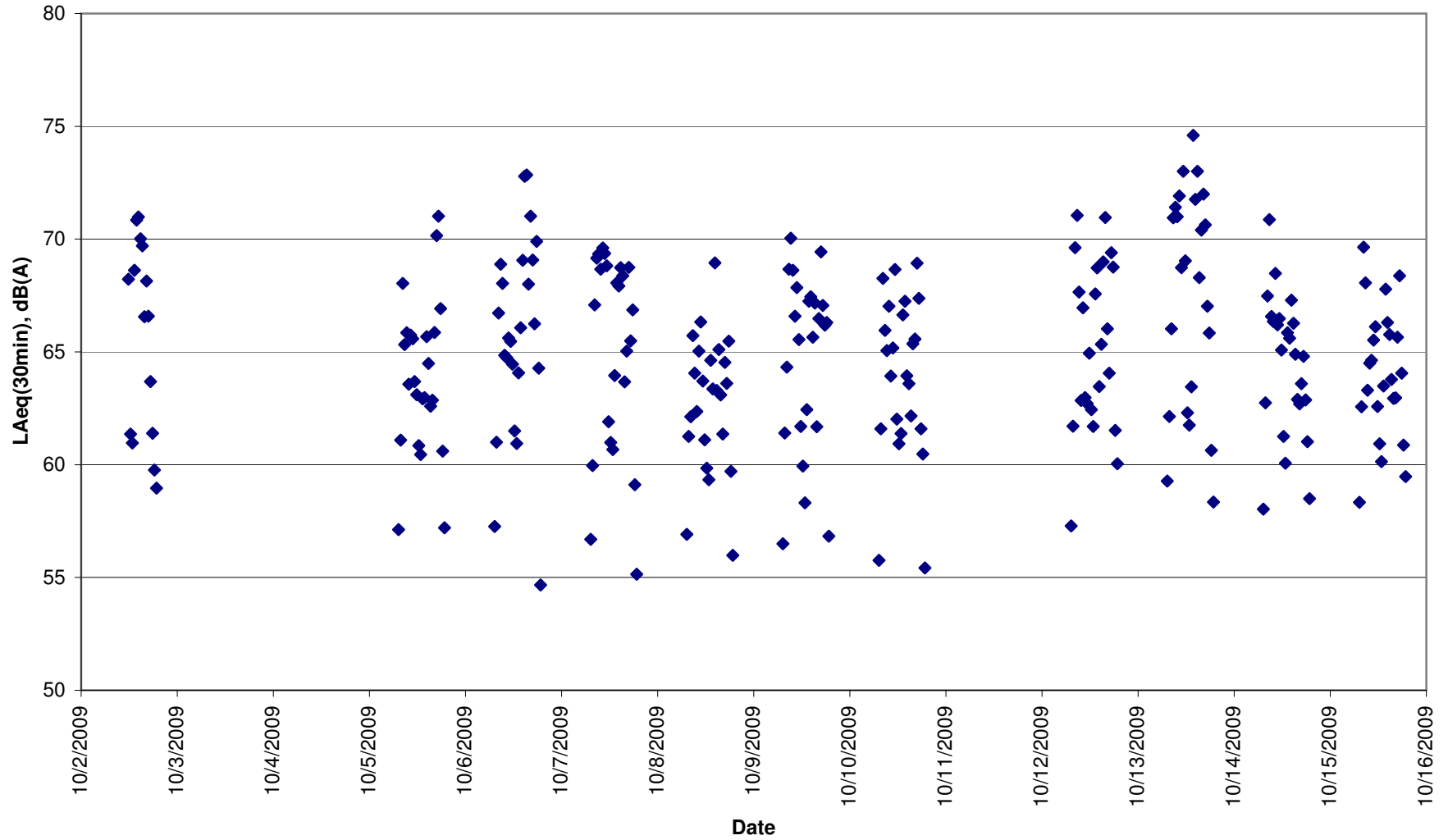


Leq(5min) measured at NM4 Block A Kwan Yick Building Phase III  
Night-time (2300-0700 hours)

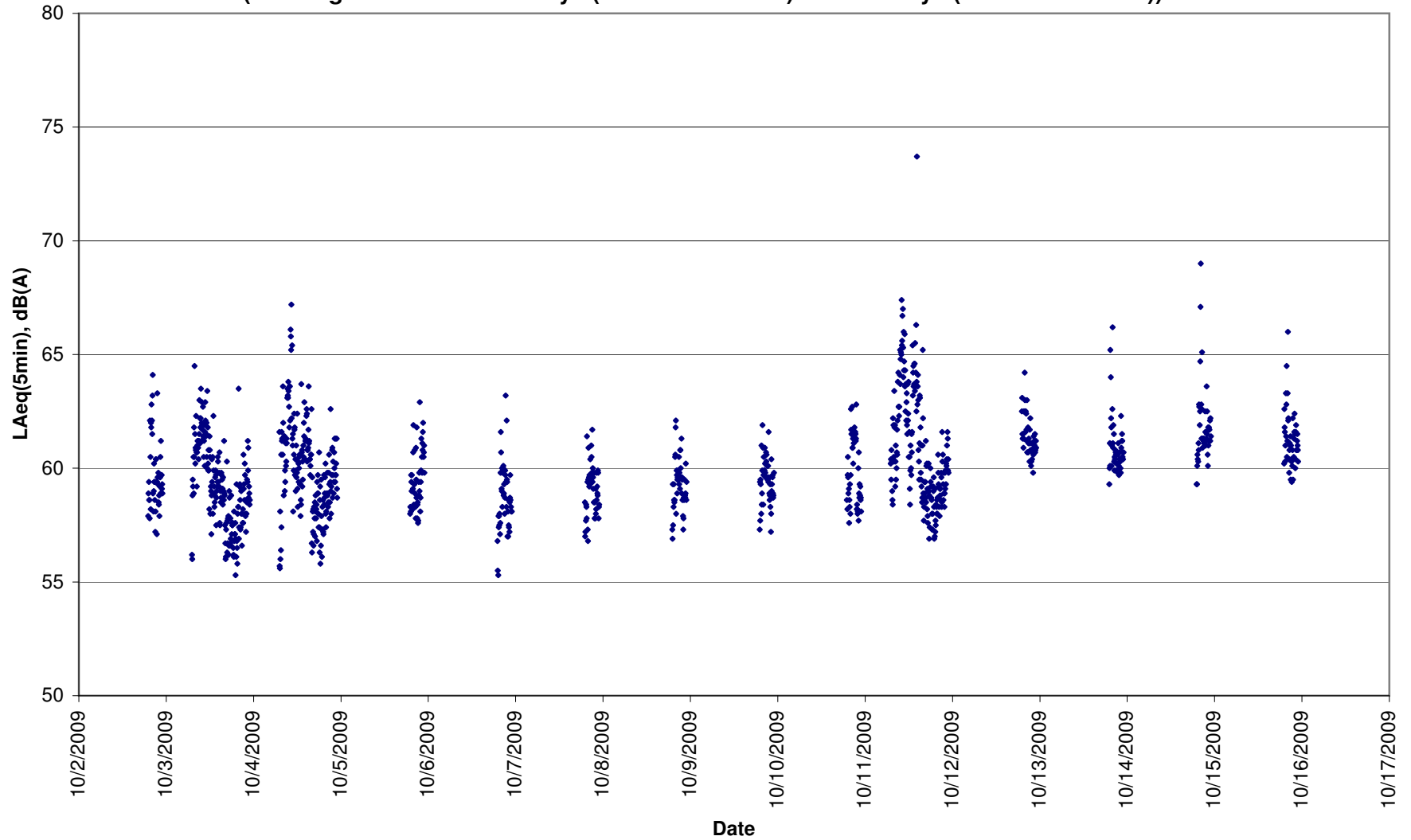




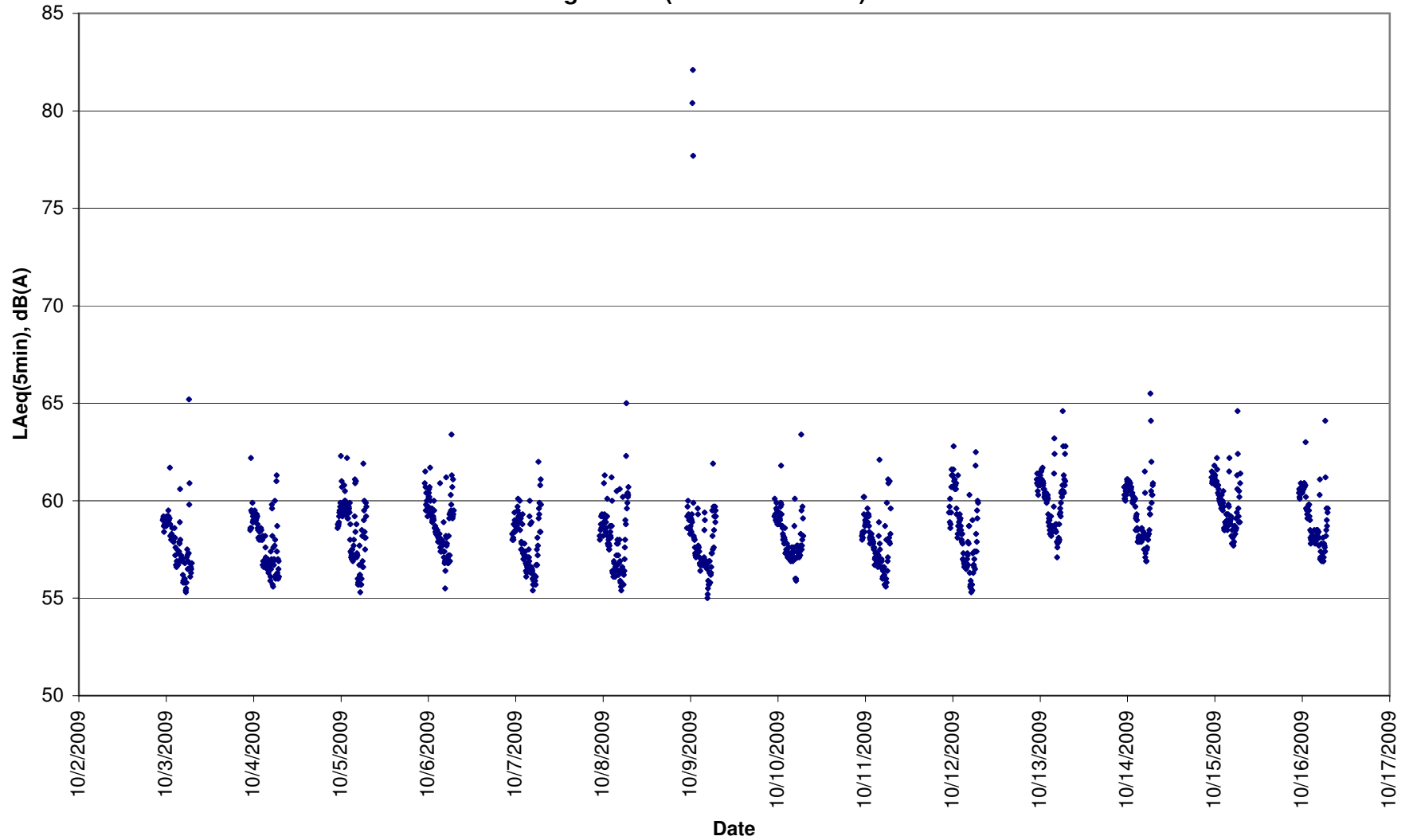
**LAeq(30min) during Normal Hours (0700 - 1900) at NM5 (A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary)**



**L<sub>Aeq</sub> (5min) measured at NM5 (A Location near the FSD Diving Rescue and Diving Training Centre near the Site Boundary)  
(Evening on normal weekdays (1900-2300 hours) and holidays (0700-2300 hours))**

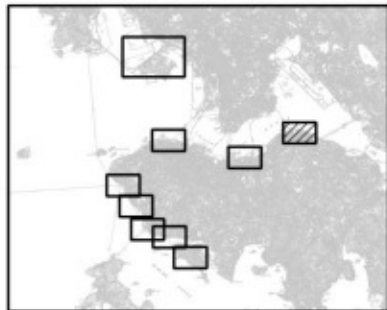


**LAeq (5min) measured at NM5 (A Location near the FSD Diving Rescue and Diving Training Centre  
near the Site Boundary)  
Night-time (2300-0700 hours)**

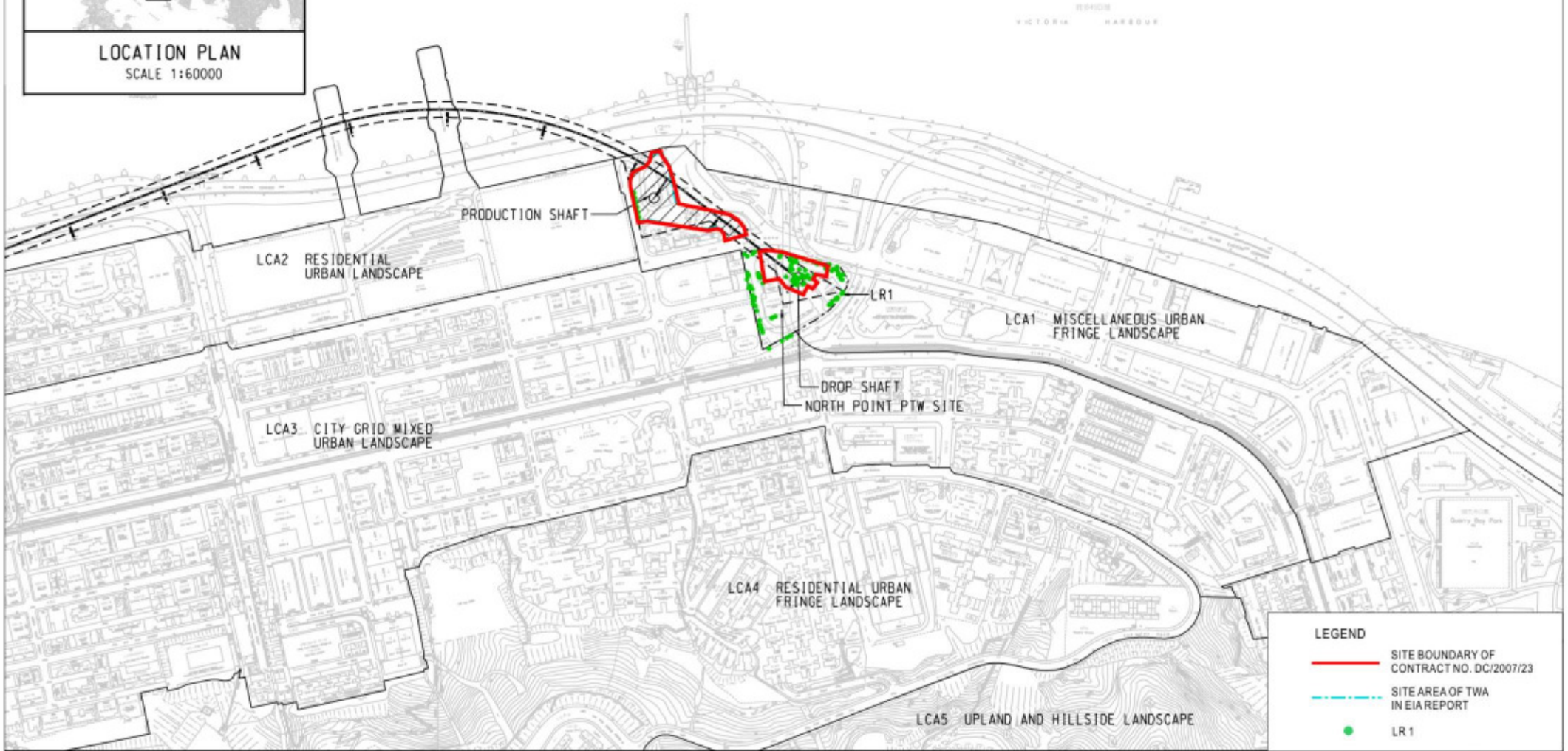


Annex G

## Baseline Landscape and Visual Monitoring Results



LOCATION PLAN  
SCALE 1:60000



**LEGEND**

- SITE BOUNDARY OF CONTRACT NO. DC/2007/23
- - - SITE AREA OF TWA IN EIA REPORT
- LR1

Figure 4.1

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Landscape Monitoring Locations in North Point

FILE: 0104887-HATS-LandIB-4.1-LRLCALocation-NP  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management



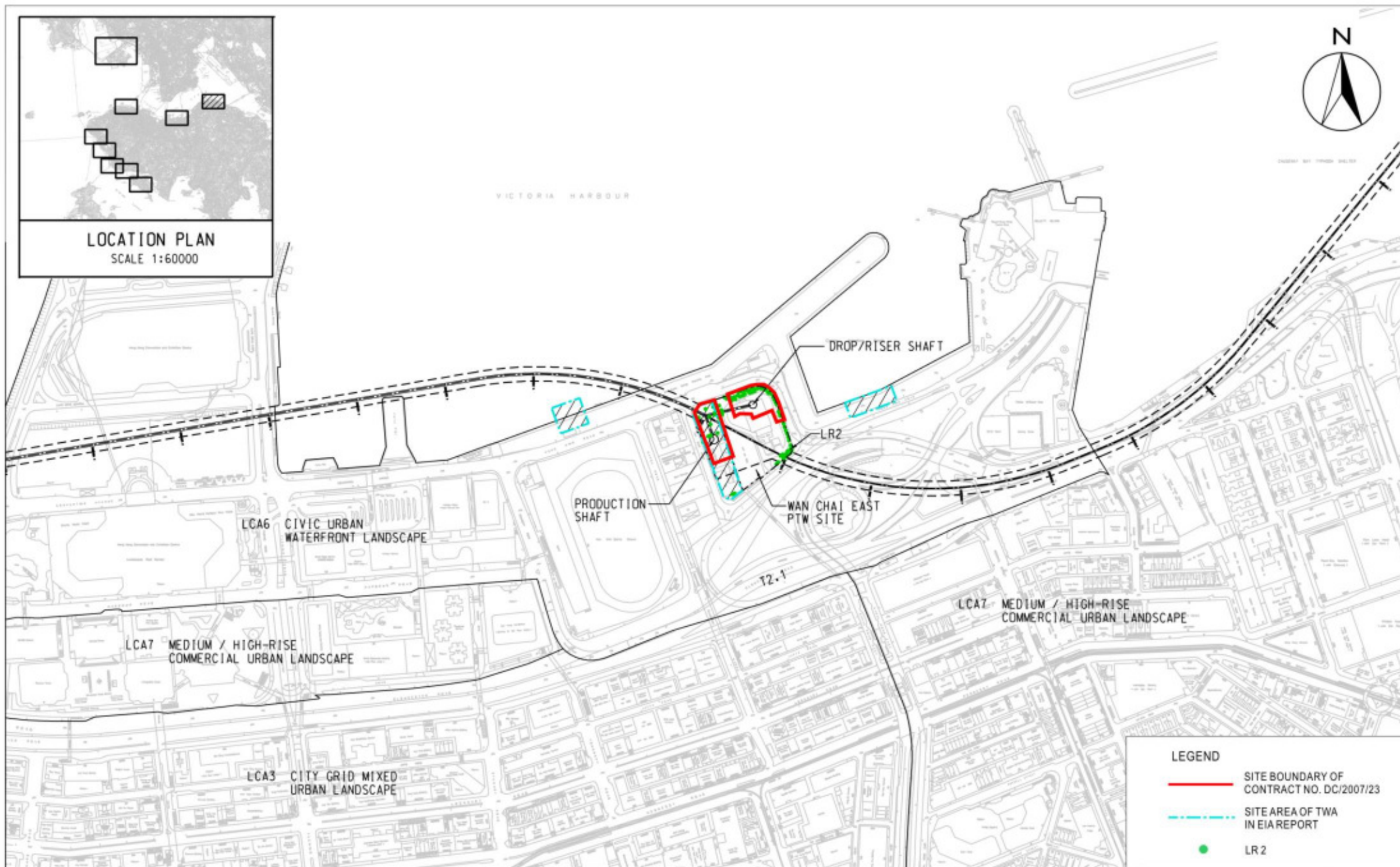


Figure 4.2

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Landscape Monitoring Locations in Wan Chai East

FILE: 0104887-HATS-LandIB-4.2-LRLCALocation-WCE  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management





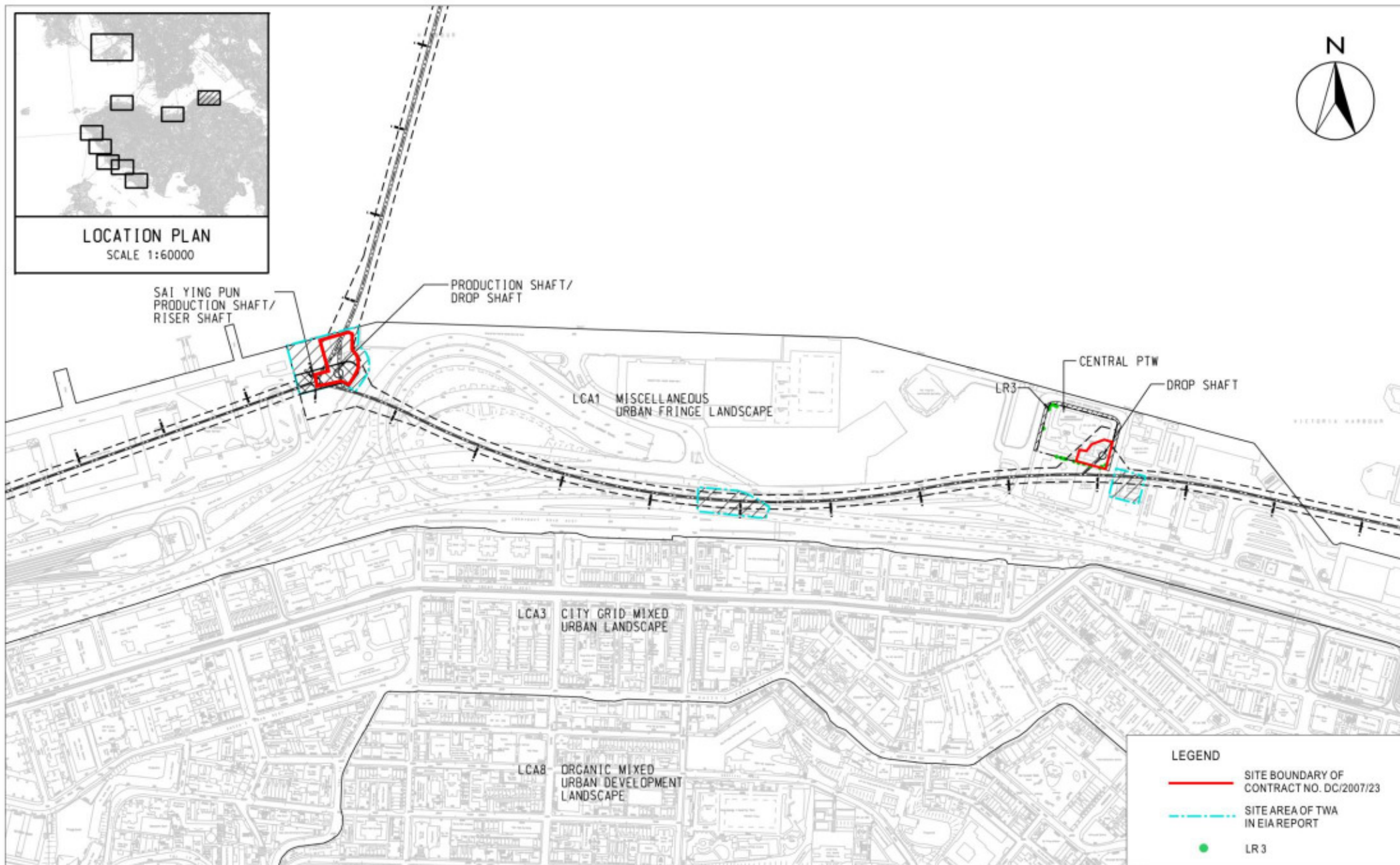


Figure 4.3

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Landscape Monitoring Locations in Central & Sai Ying Pun

FILE: 0104887-HATS-LandIB-4.3-LRLCALocation-C  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management



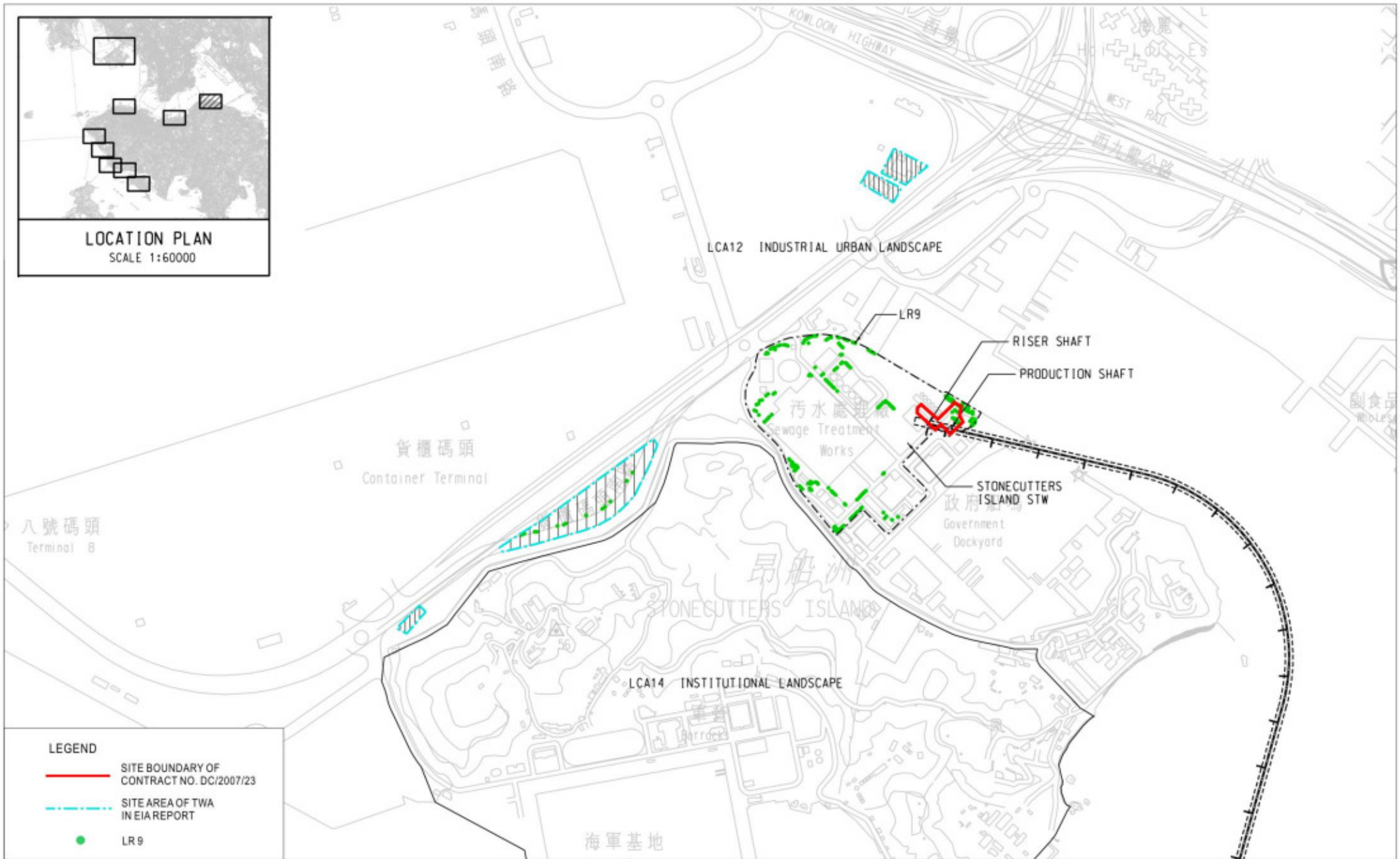


Figure 4.4

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Landscape Monitoring Locations in Stonecutters Island

FILE: 0104887-HATS-LandIB-4.4-LRLCALocation-SI  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management







LCA1 – Miscellaneous Urban Fringe Landscape



LCA2 –Civic Urban Waterfront Landscape



LCA3 – Transportation Corridor Landscape



LCA4 – Residential Urban Landscape



LCA5 – Industrial Urban Landscape

Landscape Character Area (LCA)  
LCA1 – Miscellaneous Urban Fringe Landscape  
LCA2 –Civic Urban Waterfront Landscape  
LCA3 – Transportation Corridor Landscape  
LCA4 – Residential Urban Landscape  
LCA5 – Industrial Urban Landscape

Figure 4.5

Contract No. DC/2007/23  
Harbour Area Treatment Scheme Stage 2A  
Construction of Sewage Conveyance System from North Point to Stonecutters Island  
Baseline Landscape Monitoring - Existing Landscape Character Areas (LCAs)

FILE: 0104887-HATS-LandIB-4.5-LCA  
DATE: 02/11/2009

Environmental  
Resources  
Management





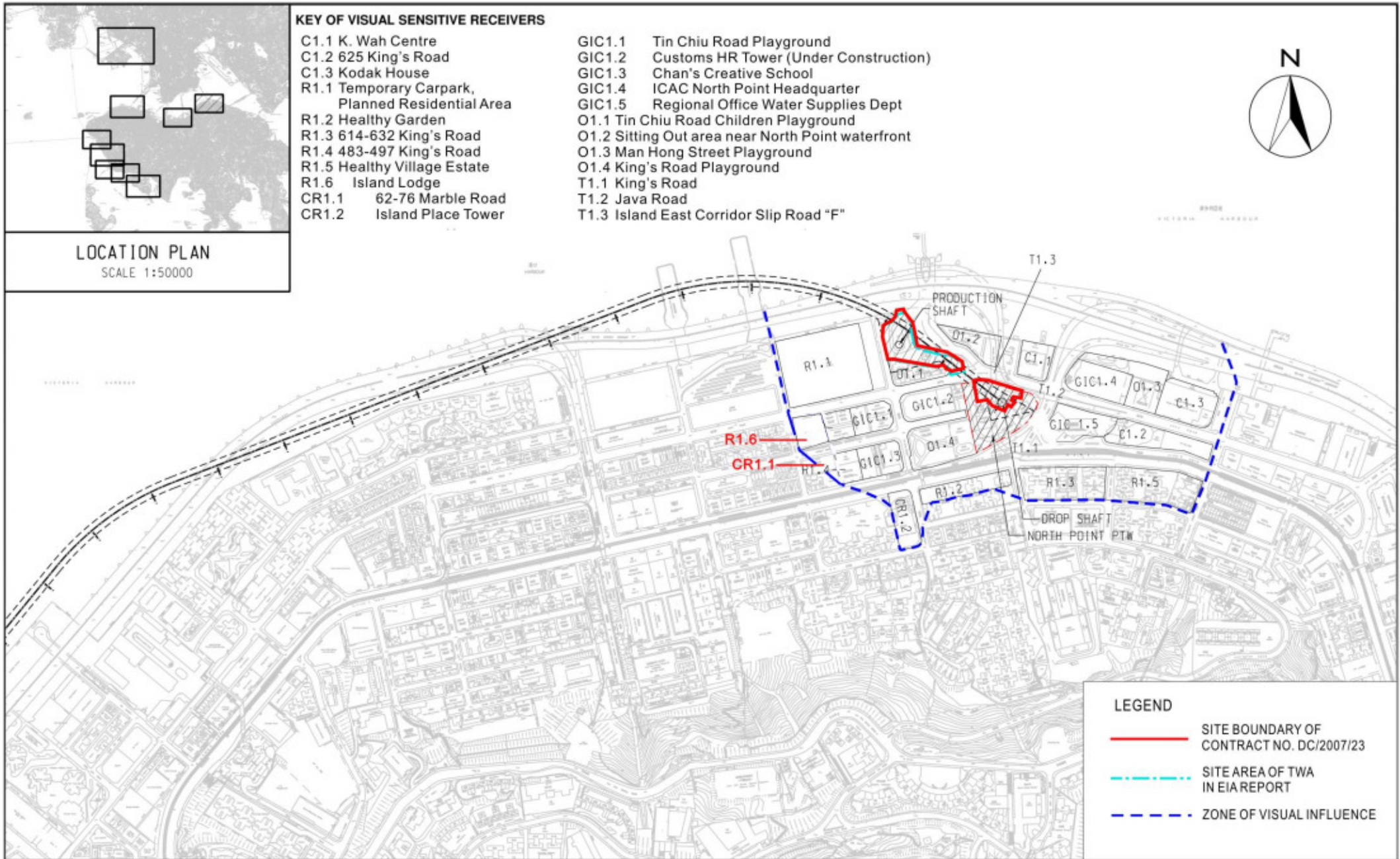


Figure 4.6

Contract No. DC/2007/23  
Harbour Area Treatment Scheme Stage 2A  
Construction of Sewage Conveyance System from North Point to Stonecutters Island  
Baseline Visual Monitoring Locations in North Point

FILE: 0104887-HATS-VisualB-4.6-VSRLocation-NP  
DATE: 02/11/2009

**Environmental  
Resources  
Management**



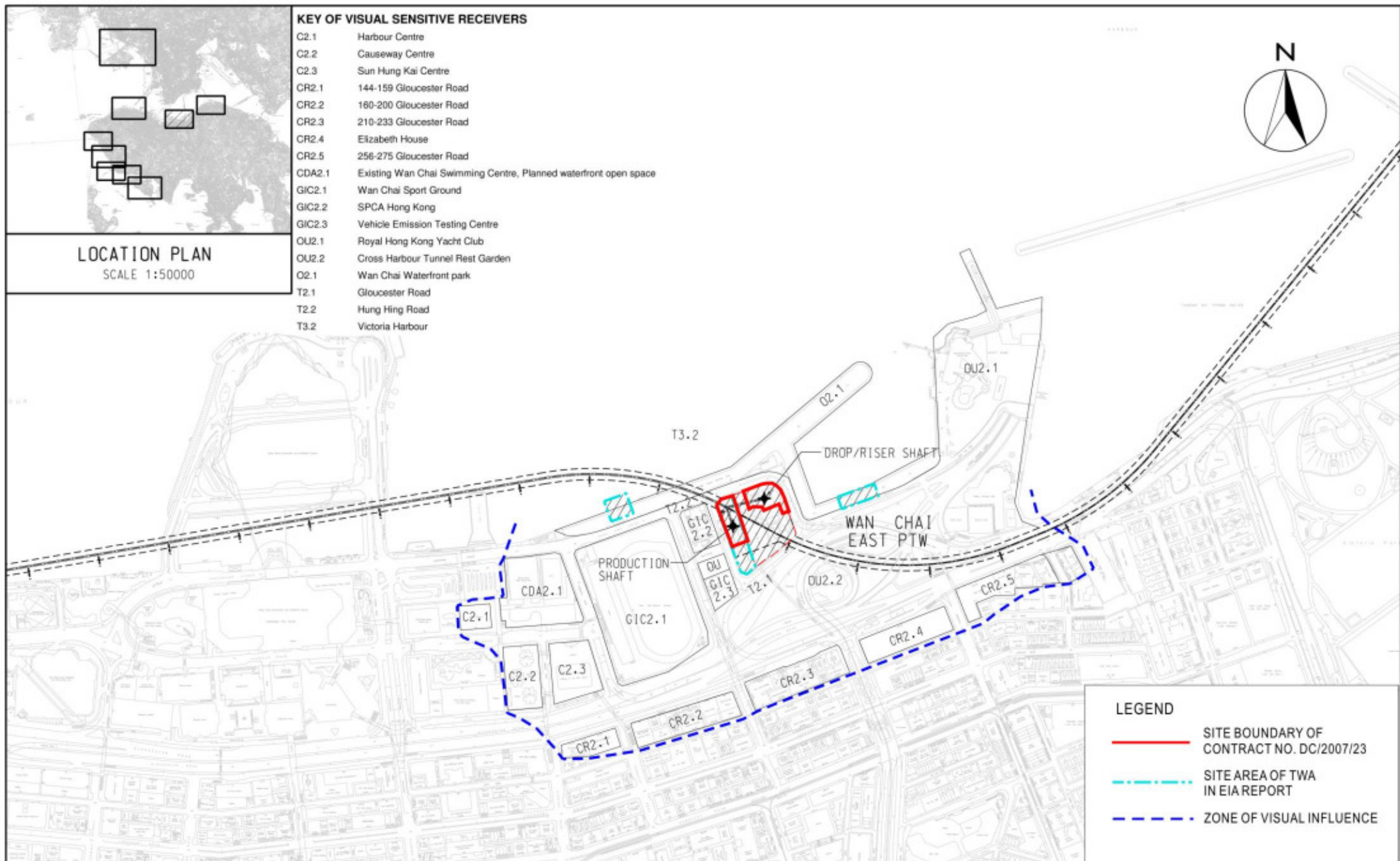


Figure 4.7

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations in Wan Chai East

FILE: 0104887-HATS-VisualB-4.7-VSRLocation-WCE  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management





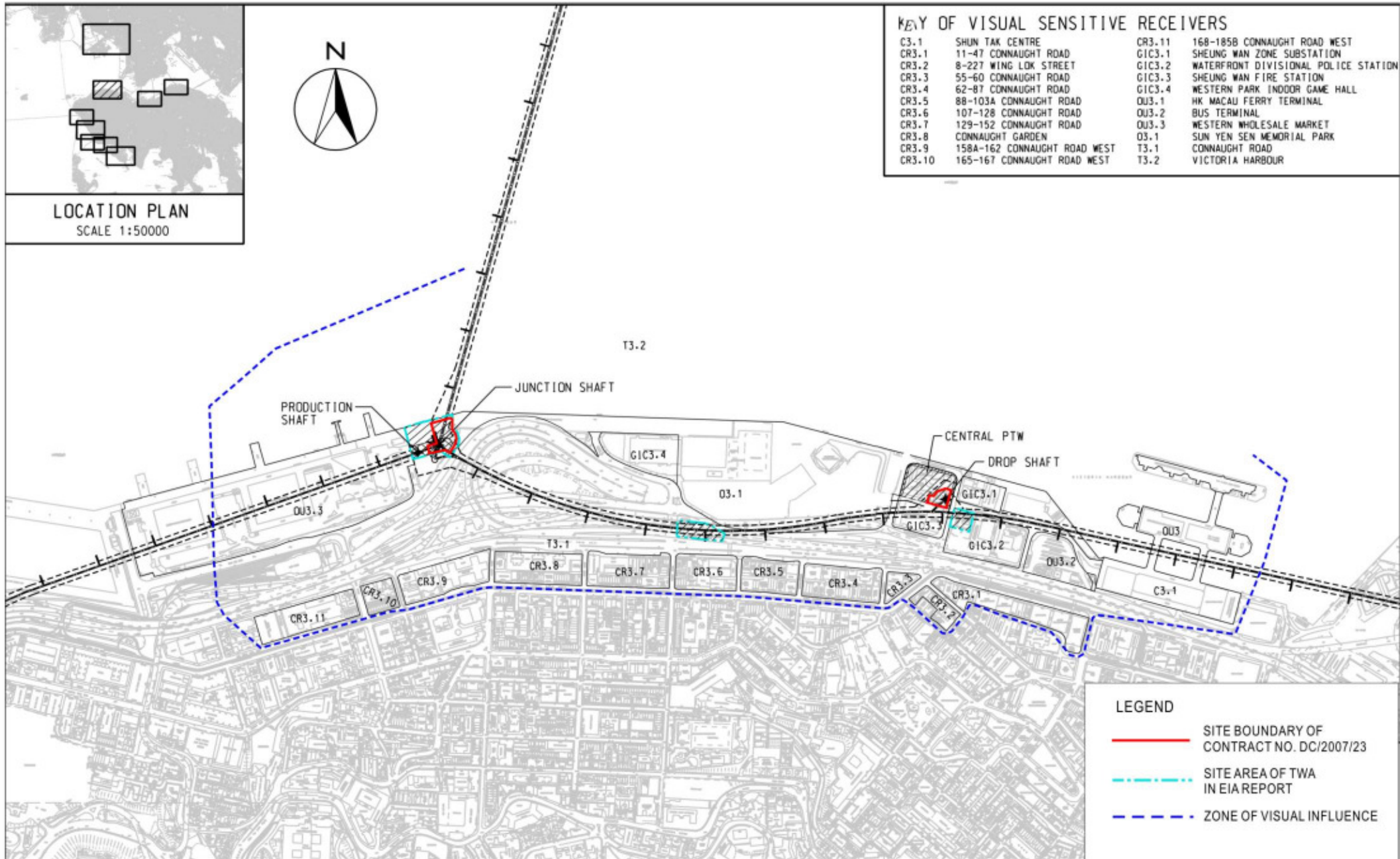


Figure 4.8

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations in Central & Sai Ying Pun

FILE: 0104887-HATS-VisualB-4.8-VSRLocation-C  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management



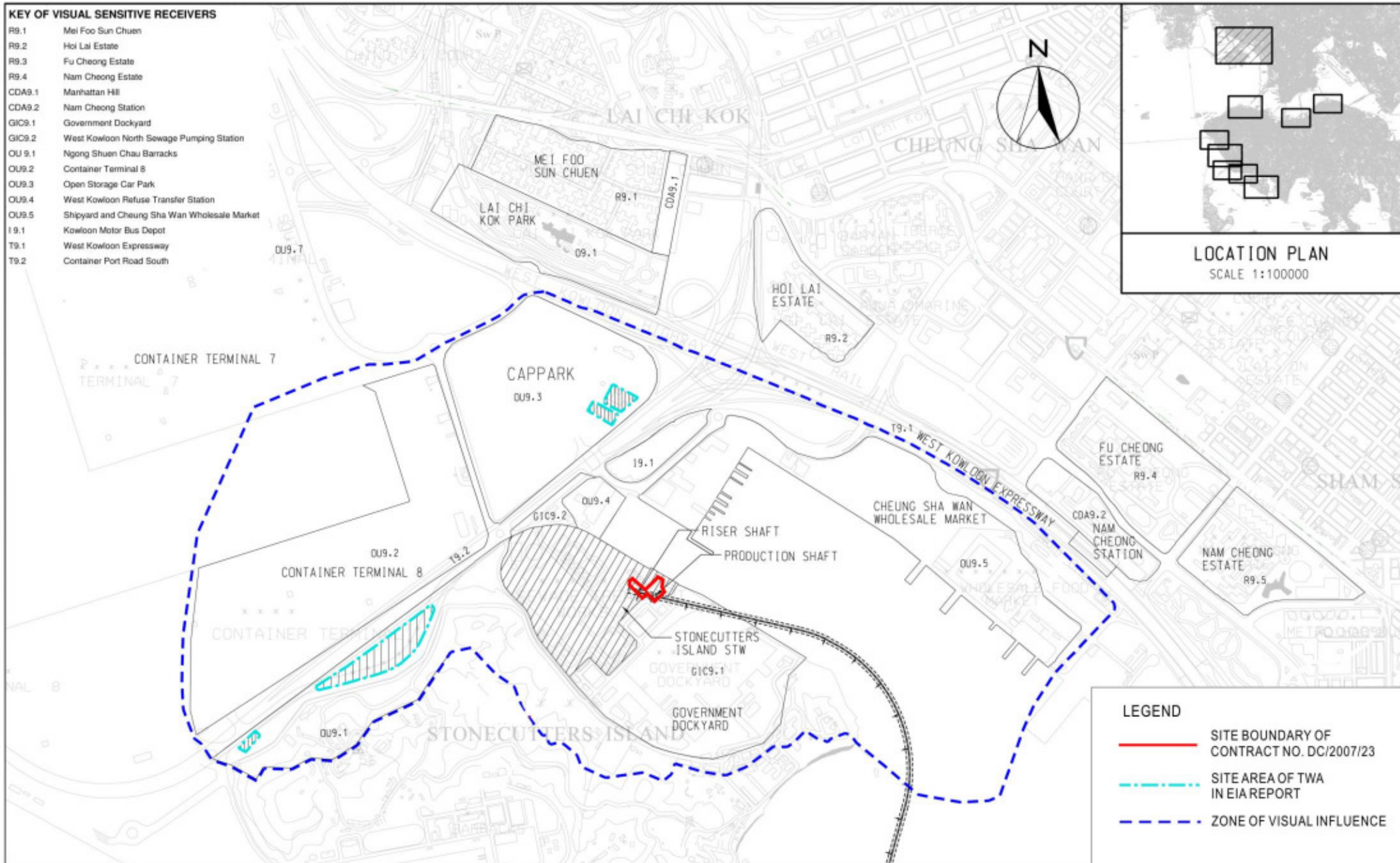


Figure 4.9

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations in Stonecutters Island

Environmental  
 Resources  
 Management







C1.1, C1.2, C1.3, R1.2, R1.3, R1.5, GIC1.4

Photo from EIA Report



Photo from Baseline Site Visit



R1.1, D1.1

Photo from EIA Report



Photo from Baseline Site Visit

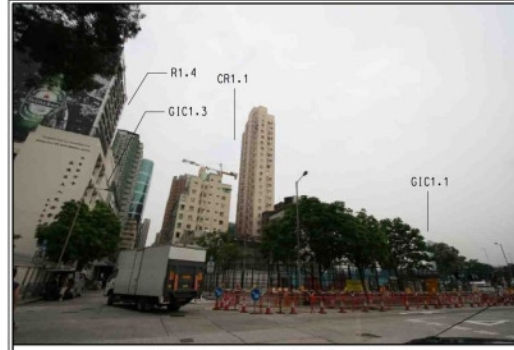


C1.2, R1.3, R1.5, GIC1.5

Photo from EIA Report



Photo from Baseline Site Visit



CR1.1, R1.4, GIC1.3, GIC1.1

Photo from EIA Report



Photo from Baseline Site Visit



GIC1.2 EXISTING CAR PARK, PLANNED CUSTOMS HR TOWER

Photo from EIA Report



Photo from Baseline Site Visit



D1.1 TIN CHIU ROAD CHILDREN PLAYGROUND

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.10

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in North Point

FILE: 0104887-HATS-VisualB-4.10-results-NP-001  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management







01.4 KING'S ROAD PLAYGROUND

Photo from EIA Report



Photo from Baseline Site Visit



T1.1 KING'S ROAD

Photo from EIA Report



Photo from Baseline Site Visit



T1.2 JAVA ROAD

Photo from EIA Report



Photo from Baseline Site Visit



T1.3 ISLAND EAST CORRIDOR

Photo from EIA Report



Photo from Baseline Site Visit



01.2 SITTING OUT AREA NEAR NORTH POINT WATERFRONT

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.11

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in North Point

FILE: 0104887-HATS-VisualB-4.11-results-NP-002  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management





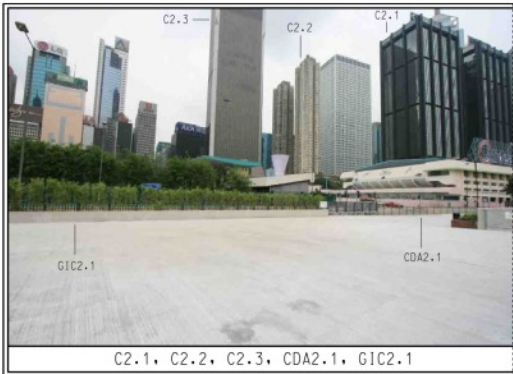


Photo from EIA Report



Photo from Baseline Site Visit

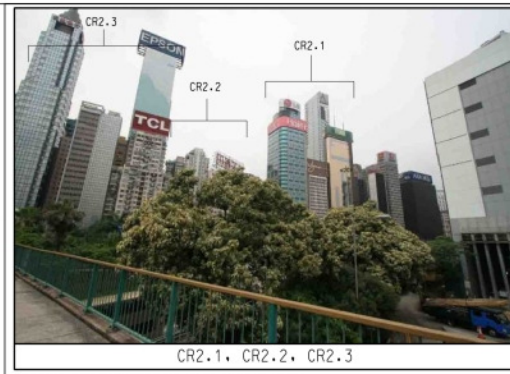


Photo from EIA Report



Photo from Baseline Site Visit

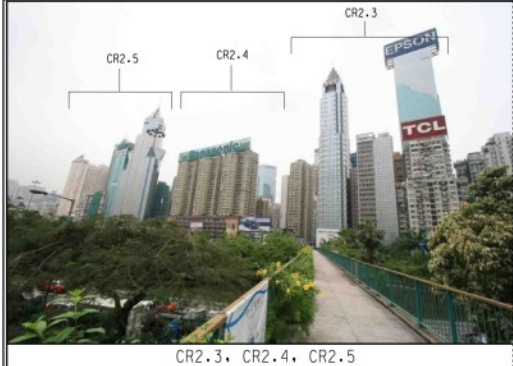


Photo from EIA Report



Photo from Baseline Site Visit



Photo from EIA Report



Photo from Baseline Site Visit



Photo from EIA Report



Photo from Baseline Site Visit



Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.12

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in Wan Chai East

FILE: 0104887-HATS-VisualB-4.12-results-WCE-001  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management







OU2.2

Photo from EIA Report



Photo from Baseline Site Visit



02.1

Photo from EIA Report



Photo from Baseline Site Visit



T2.1

Photo from EIA Report



Photo from Baseline Site Visit



T2.2

Photo from EIA Report



Photo from Baseline Site Visit



T3.2

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.13

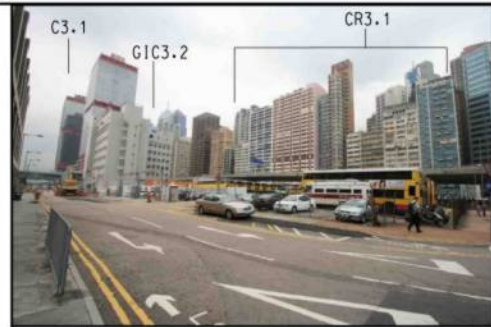
Contract No. DC/2007/23  
Harbour Area Treatment Scheme Stage 2A  
Construction of Sewage Conveyance System from North Point to Stonecutters Island  
Baseline Visual Monitoring Locations and Results in Wan Chai East

FILE: 0104887-HATS-VisualB-4.13-results-WCE-002  
DATE: 02/11/2009

Environmental  
Resources  
Management





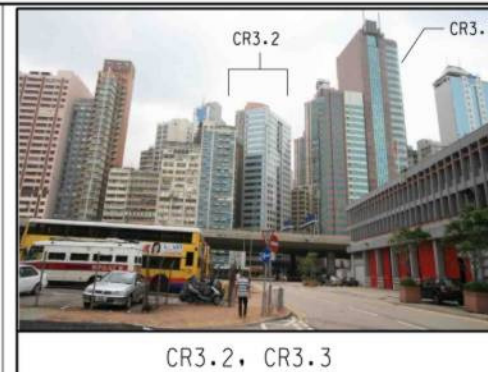


C3.1, GIC3.2, CR3.1

Photo from EIA Report



Photo from Baseline Site Visit

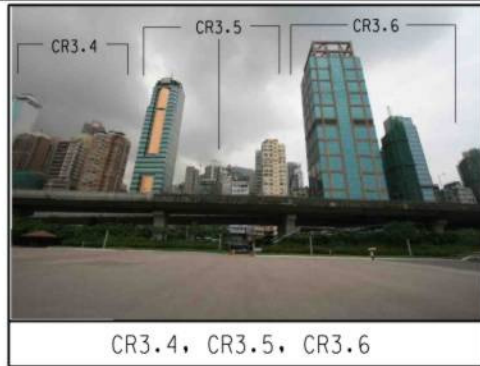


CR3.2, CR3.3

Photo from EIA Report



Photo from Baseline Site Visit

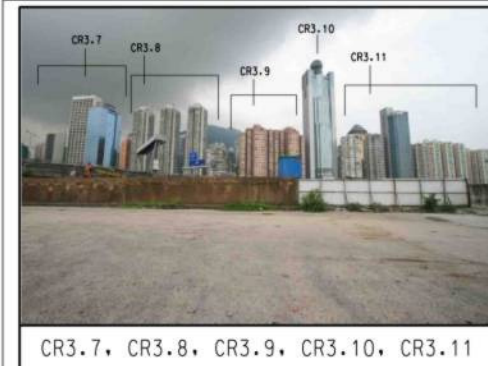


CR3.4, CR3.5, CR3.6

Photo from EIA Report



Photo from Baseline Site Visit



CR3.7, CR3.8, CR3.9, CR3.10, CR3.11

Photo from EIA Report



Photo from Baseline Site Visit



GIC3.1

Photo from EIA Report



Photo from Baseline Site Visit



GIC3.3

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.14

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in Central & Sai Ying Pun

FILE: 0104887-HATS-VisualB-4.14-results-C-001  
 DATE: 02/11/2009

Environmental  
 Resources  
 Management







GIC3.4

Photo from EIA Report



Photo from Baseline Site Visit



O3.1

Photo from EIA Report



Photo from Baseline Site Visit



T3.1

Photo from EIA Report



Photo from Baseline Site Visit



T3.2

Photo from EIA Report



T3.2

Photo from Baseline Site Visit



OU3.3

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.15

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in Central & Sai Ying Pun

FILE: 0104887-HATS-VisualB-4.15-results-C-002  
 DATE: 02/11/2009

Environmental  
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R9.1 MEI FOO SUN CHUEN

Photo from EIA Report



R9.2 HOI LAI ESTATE

Photo from Baseline Site Visit



R9.3 FU CHEONG ESTATE

Photo from EIA Report



Photo from Baseline Site Visit



R9.3 FU CHEONG ESTATE  
R9.4 NAM CHEONG ESTATE

Photo from EIA Report



Photo from Baseline Site Visit



G1C9.1 GOVERNMENT DOCKYARD

Photo from EIA Report



Photo from Baseline Site Visit



G1C9.2 WEST KOWLOON NORTH  
SEWAGE PUMPING STATION

Photo from EIA Report



Photo from Baseline Site Visit



OU9.1 NGONG SHUEN CHAU BARRACKS

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.16

Contract No. DC/2007/23  
Harbour Area Treatment Scheme Stage 2A  
Construction of Sewage Conveyance System from North Point to Stonecutters Island  
Baseline Visual Monitoring Locations and Results in Stonecutters Island

FILE: 0104887-HATS-VisualB-4.16results-SI-001  
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OU9.2 CONTAINER TERMINAL 8

Photo from EIA Report



Photo from Baseline Site Visit



OU9.3 OPEN STORAGE CAR PARK

Photo from EIA Report



Photo from Baseline Site Visit



OU9.4 WEST KOWLOON REFUSE TRANSFER STATION

Photo from EIA Report



Photo from Baseline Site Visit



OU9.5

Photo from EIA Report



Photo from Baseline Site Visit



T9.1

Photo from EIA Report



Photo from Baseline Site Visit



T9.1

Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.17

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in Stonecutters Island

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Photo from EIA Report



Photo from Baseline Site Visit



Photo from EIA Report



Photo from Baseline Site Visit



Photo from EIA Report



Photo from Baseline Site Visit

Figure 4.18

Contract No. DC/2007/23  
 Harbour Area Treatment Scheme Stage 2A  
 Construction of Sewage Conveyance System from North Point to Stonecutters Island  
 Baseline Visual Monitoring Locations and Results in Stonecutters Island

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