MTR Corporation Limited

Shatin to Central Link - Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Works Contracts 1103, 1106 and 1111

Baseline Monitoring Report

(October 2012)

Certified by: Richard Kwan

Position: Environmental Team Leader

Date: 19 October 2012

MTR Corporation Limited

Shatin to Central Link - Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

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Baseline Monitoring Report

(October 2012)

Verified by: Tom Chapman

Position: Independent Environmental Checker

Date: 19/10/12

AECOM

MTR Corporation Limited

Consultancy Agreement No. C11033

Shatin to Central Link - Tai Wai to Hung Hom Section and Mong Kok East to Hung Hom Section

Works Contracts 1103, 1106 and 1111 Baseline Monitoring Report

October 2012

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EXECUTIVE SUMMARY

The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the EAL at Hung Hom across the harbour to Admiralty Station (ADM).

EIA Reports for SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)], SCL Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] and SCL – Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] were approved on 17 February 2012 under the *Environmental Impact Assessment Ordinance (*EIAO). The current valid Environmental Permit (EP) covering SCL (TAW-HUH) and SCL (HHS) is EP No: EP-438/2012/A, while the EP covering SCL (MKK-HUH) and SCL (HHS) is EP No: EP-437/2012, for their construction and operation.

In accordance with the approved Environmental Monitoring and Audit Manuals (EM&A Manuals) for the Project, baseline environmental monitoring should be conducted prior to the commencement of construction works. Pursuant to Condition 3.3 of the EPs, Baseline Monitoring Report shall be submitted to the Director of Environmental Protection at least 2 weeks before the commencement of construction of the Project. As the construction of Works Contracts 1103, 1106 and 1111 (i.e. Hin Keng to Diamond Hill Tunnels; Diamond Hill Station (DIH) ; and Hung Hom North Approach Tunnels, respectively) are tentatively scheduled to commence between October 2012 and December 2012, baseline air quality and airborne noise monitoring was therefore conducted according to the EM&A Manuals before the commencement of construction works from Hin Keng to Diamond Hill and Hung Hom.

The baseline air quality and airborne noise monitoring was carried out between 10 May 2012 and 10 October 2012 at the monitoring locations sited in the vicinity of the works areas. Background air quality was measured in terms of 1-hr total suspended particulate (TSP) and 24-hr TSP. Continuous baseline noise monitoring for A-weighted levels L_{eq}, L_{10} and L_{90} was conducted in a sample period of 30 minutes for non-restricted hours (0700 – 1900 hrs of normal weekdays) and 5 minutes for restricted hours (1900 – 2300 hrs and 2300 – 0700 hrs of normal weekdays and whole day of Sundays and Public Holidays). Baseline monitoring for air quality and airborne noise was conducted for a period of at least 14 consecutive days or at least two weeks.

The averaged baseline 1-hr TSP levels and 24-hr TSP levels at Air Quality Monitoring Stations at Hin Keng to Diamond Hill and Hung Hom areas are summarized in the following table:

Baseline TSP Monitoring Results	**Air Quality Monitoring Locations[4]**				
	C.U.H.K.A.A. Thomas Cheung School	**Price Memorial Catholic Primary School**	**Hong Kong Sheng Kung Hui Nursing Home**	**Rhythm Garden, Block 1**	**No. 234 - 238 Chatham Road North**
Air Quality Monitoring Station ID	**DMS-1[1]**	**DMS-2[1]**	**DMS-3[1] / DMS-4[2]**	**DMS-4[1] / DMS-3[2]**	**DMS-11[1] / DMS-2[2] / AM1[3]**
Environmental Permit	**EP-438/2012/A**	**EP-438/2012/A**	**EP-438/2012/A**	**EP-438/2012/A**	**EP-438/2012/A & EP-437/2012**
ASR ID in EIA	**TAW-6-7[1]**	**DIH-22-1[1]**	**DIH-9-1[1][2]**	**DIH-14-5[1][2]**	**HUH-1-3[1][2] / HHA2[3]**
1-hr TSP					
Average (µg/m^3)	52.1	40.3	43.6	44.3	30.8
Range (µg/m^3)	45.8 - 60.3	30.2 - 50	32.7 - 65	34.2 - 68.4	26.7 - 36.1
24-hr TSP					
Average (µg/m^3)	28.8	57.6	44.8	46.7	82.9
Range (µg/m^3)	6.6 – 97.2	24.7 - 88.1	11.9 - 100.6	14.3 - 84.0	45.7 - 109.8

Remarks:

(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).
(4) The set up of the air quality monitoring station and baseline monitoring at the designated locations in the EM&A Manual, Harbourfront Horizon, were completed by Kwun Tong Line Extension project and is not included in this baseline monitoring report.

The averaged baseline airborne noise levels at Airborne Noise Monitoring Stations at Hin Keng to Diamond Hill and Hung Hom areas are summarized in the following table:

Baseline Airborne Noise Levels	**Noise Monitoring Locations**						
	C.U.H.K.A. A. Thomas Cheung School	**Price Memorial Catholic Primary School**	**Hong Kong Sheng Kung Hui Nursing Home**	**Rhythm Garden, Block 1 (north-eastern facade)**	**Rhythm Garden, Block 1 (northern facade)**	**No. 234 - 238 Chatham Road North[5]**	**Carmel Secondary School (South Block)**
Noise Monitoring Station ID	**NMS-CA -1[2]**	**NMS-CA -2[2]**	**NMS-CA -3[2] / NMS-CA-4 [3]**	**NMS-CA-4[2] / NMS-CA-3[3]**	**NMS-CA-5 [2] / NMS-CA-2[3]**	**NMS-CA -11[2] / NMS-CA-1[3] / NM2[4]**	**NM1[4]**
Environment - al Permit	**EP-438/2012/A**	**EP-438/ 2012/A**	**EP-438/ 2012/A**	**EP-438/ 2012/A**	**EP-438/ 2012/A**	**EP-438/2012 /A & EP-437/ 2012**	**EP-437/ 2012**
NSR ID in EIA	**TAW-6-7[2]**	**DIH-22-1[2]**	**DIH-9-1[2][3]**	**DIH-14-5[2][3]**	**DIH-14-4[2][3]**	**HUH-1-3 [2][3]/ HH2[4]**	**OM4a**
Averaged baseline noise level during daytime of normal weekdays ($L_{eq, 30min}$, dB(A))[1]	57	**66**	73	71	**74**[6]	**79**	68
Averaged baseline noise level during evening time of normal weekdays ($L_{eq, 5min}$, dB(A))	55	65	71	70	72	73	67
Averaged baseline noise level during daytime and evening time of General Holiday including Sunday ($L_{eq, 5min}$, dB(A))	54	65	71	70	72	73	68
Averaged baseline noise level during night-time ($L_{eq, 5min}$, dB(A))	54	61	68	65	68	72	65

Remarks:
(1) Numbers in bold and underlined indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 75dB(A) for residential premises or 70dB(A) during normal school days for educational institutions. Numbers in bold indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 65dB(A) during examination for educational institutions.
(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(4) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).
(5) A façade correction of +3dB(A) has been included in the free field monitoring data.
(6) As permissions of access could not be obtained from the designated location, Canossa Primary School (San Po Kong) which is a school, the baseline monitoring has been conducted at the alternative location Rhythm Garden, Block 1 (northern façade). EIAO construction noise limits for educational institutions (i.e. 70dB(A) during normal school days and 65dB(A) during examination) has been adopted as the limit level during non-restricted hours, i.e. daytime of normal weekdays.

1 INTRODUCTION

1.1 Background

1.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the EAL at Hung Hom across the harbour to Admiralty Station (ADM).

1.1.2 EIA Reports for SCL – Tai Wai to Hung Hom Section [SCL (TAW-HUH)], SCL Stabling Sidings at Hung Hom Freight Yard [SCL (HHS)] and SCL – Mong Kok East to Hung Hom Section [SCL (MKK-HUH)] were approved on 17 February 2012 under the *Environmental Impact Assessment Ordinance (*EIAO). Following the approval of the EIA Reports, two Environmental Permits (EPs) were granted on 22 March 2012, one covers SCL (TAW-HUH) and SCL (HHS) (EP No: EP-438/2012) and the other covers SCL (MKK-HUH) and SCL (HHS) (EP No: EP-437/2012), for their construction and operation. Variation of Environmental Permit (VEP) was subsequently applied for EP-438/2012 and the latest Environmental Permit (EP No: EP-438/2012/A) was issued by Director of Environmental Protection (DEP) on 12 July 2012.

1.1.3 Prior to the commencement of construction works, baseline environmental monitoring should be conducted to review the baseline conditions and establish Action and Limit Levels, according to the approved EM&A Manuals. Noise and dust monitoring were conducted at the designated monitoring stations during the construction of Works Contracts 1103, 1106 and 1111 (i.e. Hin Keng to Diamond Hill Tunnels; Diamond Hill Station (DIH); and Hung Hom North Approach Tunnels, respectively). As the Stabling Sidings at Hung Hom Freight Yard is the selected option for SCL, the associated environmental impacts and the EM&A requirements of SCL (TAW-HUH) and SCL (MKK-HUH) at HUH, Kai Tak Station (KAT) and DIH were superseded by the approved SCL (HHS) EIA Report and SCL (HHS) EM&A Manual.

1.1.4 **Table 1.1** presents the tentative construction programme of Works Contracts 1103, 1106 and 1111, and the programme of baseline monitoring at the designated monitoring stations sited in the vicinity of these works areas.

Table 1.1 Tentative Programme of Works Contracts and Baseline Monitoring

Works Contract	Contract Title	Works Covered in Environmental Permit No.	Tentative Contract Award Date	Baseline Monitoring Commencement Date
1103	Hin Keng to Diamond Hill Tunnels	EP-438/2012/A	October 2012	August 2012
1106	Diamond Hill Station	EP-438/2012/A	December 2012	September 2012
1111	Hung Hom North Approach Tunnels	EP-437/2012 & EP-438/2012/A	December 2012	May 2012

1.1.5 The overall view of SCL (TAW-HUH) alignment is shown in **Figure C11033/C/SCL/ACM/M50/001** and the tentative locations of off-site works areas (e.g. office, general storage, barging facilities, magazine sites) are shown in **Figure C11033/C/SCL/ACM/M50/002**.

1.2 Purpose of the Baseline Monitoring Report

1.2.1 In accordance with the EM&A Manuals, environmental baseline monitoring was carried out at five air quality monitoring stations and at seven airborne noise monitoring stations, which are

located in the vicinity of the works areas from Hin Keng to Diamond Hill and in Hung Hom. This Baseline Monitoring Report presents baseline findings of these monitoring stations.

1.2.2 The purposes of this Baseline Monitoring Report are to:

- Summarise the findings of baseline air quality and airborne noise monitoring; and
- Establish the Action and Limit (A/L) levels in accordance with the EM&A Manuals for the subsequent impact monitoring during construction stage.

1.3 Report Structure

1.3.1 This Baseline Monitoring Report comprises the following sections:

- Section 1 introduces the background of the Project and purpose of this Report;
- Section 2 presents the baseline monitoring requirements, methodologies and monitoring results of air quality;
- Section 3 presents the baseline monitoring requirements, methodologies and monitoring results of airborne noise; and
- Section 4 concludes the findings of baseline monitoring.

2 AIR QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 In accordance with the EM&A Manuals, baseline 1-hr and 24-hr total suspended particulate (TSP) levels should be established by conducting baseline 1-hr and 24-hr TSP monitoring daily for at least 14 consecutive days or at least two weeks prior to the commissioning of major construction works.

2.2 Monitoring Equipments

2.2.1 24-hr TSP air quality monitoring at the monitoring stations were performed using High Volume Sampler (HVS), of which their locations and operation satisfy, as far as practicable, all the requirements stated in the EM&A Manuals. Portable direct reading dust meters were used to carry out the 1-hr TSP monitoring. Portable direct reading dust meters used in this baseline monitoring were proven to IEC to be capable of achieving comparable result as that of the HVS and could be used for sampling. Brand and model of the equipments are given in **Table 2.1**.

Table 2.1 Air Quality Monitoring Equipments

Equipments	Brand and Model	Quantity	Serial Number
Portable direct reading dust meter (1-hr TSP)	Sibata Digital Dust Monitor (Model No. LD-3 and LD-3B)	3	A.005. 9a, A.005.13a, A.005.14a
High Volume Sampler (24-hr TSP)	Tisch Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model No. TE-5170)	4	3175, 3454, 8259, 10216

2.2.2 The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.

2.2.3 Each HVS was calibrated using TE-5025A Calibration Kit prior to the commencement of baseline monitoring. Calibration certificate of the TE-5025A Calibration Kit and the HVSs are provided in **Appendix A**.

2.2.4 The 1-hr TSP meter was calibrated at 1-year interval against a continuous particulate TEOM Monitor, Series 1400ab. Calibration certificates of the Laser Dust Monitors are provided in **Appendix A**.

2.3 Monitoring Locations

2.3.1 Baseline monitoring were set up at the locations in accordance with the EM&A Manuals. However, permission of access could not be obtained from Shek On House and Wing Fung Building. The monitoring locations were relocated to Hong Kong Sheng Kung Hui Nursing Home and No. 234-248 Chatham Road North respectively. Both alternative monitoring locations have been approved by IEC and EPD.

2.3.2 **Table 2.2** describes the details of the air quality monitoring with the monitoring locations shown in **Figure nos. C11033/C/SCL/ACM/M62/020** to **023**.

Table 2.2 Details of Baseline Air Quality Monitoring

Environmental Permit	Air Monitoring Station ID	Original Monitoring Location in EM&A Manual [6]	Alternative Monitoring Location	Description	Monitoring Period
EP-438/2012/A	DMS-1[1]	C.U.H.K.A.A. Thomas Cheung School	-	Roof (8/F)	27 Aug – 10 Sept 2012

Environmental Permit	Air Monitoring Station ID	Original Monitoring Location in EM&A Manual [6]	Alternative Monitoring Location	Description	Monitoring Period
EP-438/2012/A	DMS-2[1]	Price Memorial Catholic Primary School	-	Roof (8/F)	13 Sept – 29 Sept 2012[4]
EP-438/2012/A	DMS-3[1] / DMS-4[2]	Shek On House	Hong Kong Sheng Kung Hui Nursing Home	Roof (6/F)	11 Sept – 25 Sept 2012
EP-438/2012/A	DMS-4[1] / DMS-3[2]	Rhythm Garden, Block 1	-	Roof (23/F)	11 Sept – 26 Sept 2012[5]
EP-438/2012/A & EP-437/2012	DMS-11[1] / DMS-2[2] / AM1[3]	Wing Fung Building	No. 234 - 238 Chatham Road North	Roof (7/F)	26 Sept – 10 Oct 2012

Remarks:
(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).
(4) As representative of Price Memorial Catholic Primary School was not available on Sundays to open the gate for changing the filter paper of HVS, the monitoring period was extended.
(5) As there was no electricity supply on 16 Sept, the monitoring period was extended.
(6) The set up of the air quality monitoring station and baseline monitoring at the designated locations in the EM&A Manual, Harbourfront Horizon, were completed by Kwun Tong Line Extension project and is not included in this baseline monitoring report.

2.4 Monitoring Parameters, Frequency and Duration

2.4.1 **Table 2.3** summarizes the monitoring parameters, frequency and duration of baseline TSP monitoring.

Table 2.3 Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Duration	Frequency and
1-hr TSP	14 consecutive days or at least two weeks prior to commencement of major construction works	3 times per day
Continuous 24-hr TSP		Daily

2.5 Monitoring Methodology

24-hr TSP Monitoring

2.5.1 With the consideration of criteria stated in the EM&A Manuals, the HVS was installed in the vicinity of the air sensitive receivers.

2.5.2 The relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any special phenomena observed were recorded. The weather information was referenced from Hong Kong Observatory (http://www.weather.gov.hk/wxinfo/pastwx/extractc.htm).

2.5.3 A HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS no.: 066), with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments, to handle the 24-hr TSP samples, was employed for sample analysis, and equipment calibration and maintenance.

2.5.4 Filter papers of size 8"x10" were labelled before sampling. They were inspected to be clean with no pin holes and conditioned in a humidity controlled chamber for over 24-hr and were pre-weighed before use for the sampling.

2.5.5 The 24-hr TSP levels were measured by following the standard high volume sampling method for TSP as set out in the Title 40 of the United States Code of Federal Regulations, Chapter 1 (Part 50), Appendix B. TSP was sampled by drawing air through a conditioned, pre-weighted filter paper inside the HVS at a controlled air flow rate. After 24-hr sampling, the filter papers loaded with dust were kept in a clean and tightly sealed plastic bag, and then returned to the

laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with a readout down to 0.1 mg.

2.5.6 All the collected samples were kept in a good condition for 6 months before disposal.

1-hr TSP Monitoring

2.5.7 The 1-hr TSP measurement followed manufacturer's instruction manual. Before initiating a measurement, zeroing the portable dust monitor was carried out to ensure maximum accuracy of concentration measurements.

2.5.8 The 1-hr TSP was sampled by drawing air into the portable dust monitor where particular concentrations were measured instantaneously with an in-built silicon detector sensing light scattered by the particulates in the sampled air. Continuous TSP levels were indicated and logged by a built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

2.6 Results and Observations

2.6.1 The baseline air quality monitoring was conducted between 27 August and 8 October 2012, during which, the weather was sunny and overcast. Major dust source affecting the monitoring results was observed as the nearby traffic emissions for all monitoring stations. For monitoring station at No. 234 - 238 Chatham Road North, traffic emission and construction dust from Kwun Tong Line Extension (KTE) were observed to be the major dust sources. Details of influencing factors such as weather conditions and site observation are presented in Appendix B.

2.6.2 The baseline monitoring results for 1-hr and 24-hr TSP are summarized in **Tables 2.4** and **2.5** respectively. Detailed air quality monitoring results are presented in **Appendix B**.

Table 2.4 Summary of 1-hr TSP Baseline Monitoring Results

1-hr TSP Levels	C.U.H.K.A.A. Thomas Cheung School	Price Memorial Catholic Primary School	Hong Kong Sheng Kung Hui Nursing Home	Rhythm Garden, Block 1	No. 234 - 238 Chatham Road North
Dust Monitoring Station ID	DMS-1(1)	DMS-2(1)	DMS-3(1) / DMS-4(2)	DMS-4(1) / DMS-3(2)	DMS-11(1) / DMS-2(2) / AM1(3)
Environmental Permit	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A & EP-437/2012
Average (μg/m^3)	52.1	40.3	43.6	44.3	31.1
Range (μg/m^3)	45.8 - 60.3	30.2 - 50	32.7 – 65.0	34.2 – 68.4	27.3 - 36.1

Remarks:
(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

Table 2.5 Summary of 24-hr TSP Baseline Monitoring Results

24-hr TSP Levels	C.U.H.K.A.A. Thomas Cheung School	Price Memorial Catholic Primary School	Hong Kong Sheng Kung Hui Nursing Home	Rhythm Garden, Block 1	No. 234 - 238 Chatham Road North
Dust Monitoring Station ID	DMS-1(1)	DMS-2(1)	DMS-3(1) / DMS-4(2)	DMS-4(1) / DMS-3(2)	DMS-11(1) / DMS-2(2) / AM1(3)
Environmental Permit	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A	EP-438/2012/A & EP-437/2012

24-hr TSP Levels	C.U.H.K.A.A. Thomas Cheung School	Price Memorial Catholic Primary School	Hong Kong Sheng Kung Hui Nursing Home	Rhythm Garden, Block 1	No. 234 - 238 Chatham Road North
Average (μg/m^3)	28.8	57.6	44.8	46.7	82.9
Range (μg/m^3)	6.6 – 97.2	24.7 - 88.1	11.9 - 100.6	14.3 – 84.0	45.7 - 109.8

Remarks:
(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

2.7 Action and Limit Levels

2.7.1 The air quality monitoring results, in terms of 1-hr TSP and 24-hr TSP, were below the Limit Level set out in the EIAO-TM and Air Quality Objective (AQO) respectively at the monitoring locations. The Action and Limit Levels for air quality impact monitoring were established according to the criteria and methodology in the EM&A Manuals as presented in **Table 2.6**.

Table 2.6 Derivation of Action and Limit Levels for Air Quality

Parameter	Action Level	Limit Level
1-hr TSP Level in μg/m^3	For Baseline Level ≤ 384 μg/m^3, Action Level = (baseline level *1.3 + Limit level) /2 For Baseline Level > 384 μg/m^3, Action Level = Limit Level	500 μg/m^3
24-hr TSP Level in μg/m^3	For Baseline Level ≤ 200 μg/m^3, Action Level = (baseline level *1.3 + Limit level) /2 For Baseline Level > 200 μg/m^3, Action Level = Limit Level	260 μg/m^3

2.7.2 **Table 2.7** shows the derived Action and Limit Levels for air quality impact monitoring for the Project**.**

Table 2.7 Action and Limit Levels for Air Quality

Parameter	Monitoring Station	Action Level (μg/m^3)	Limit Level (μg/m^3)
1-hr TSP Level in μg/m^3	DMS-1	283.9	500
	DMS-2	276.2	500
	DMS-3 / DMS-4	278.4	500
	DMS-4 / DMS-3	278.8	500
	DMS-11 / DMS-2 / AM1	270.0	500
24-hr TSP Level in μg/m^3	DMS-1	148.7	260
	DMS-2	167.4	260
	DMS-3 / DMS-4	159.1	260
	DMS-4 / DMS-3	160.4	260
	DMS-11 / DMS-2 / AM1	183.9	260

3 AIRBORNE NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 In accordance with the EM&A Manuals, baseline noise monitoring should be conducted for 14 consecutive days or at least two weeks to obtain background noise levels prior to the commissioning of major construction works.

3.2 Monitoring Equipment

3.2.1 Noise monitoring was performed using sound level meter at each monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrators were deployed to check the sound level meters at a known sound pressure level. The brand and model of the equipment is given in **Table 3.1**.

Table 3.1 Noise Monitoring Equipment

Equipment	Brand and Model	Quantity	Serial Number
Integrated Sound Level Meter	B&K (Model No. 2238)	4	2255677, 2255688, 2285692, 2800930
Acoustic Calibrator	B&K (Model No. 4231)	2	1790985, 1850426

3.2.2 The sound level meters and acoustic calibrators were verified by the certified laboratory once every two years. Calibration certificates of the sound level meters and acoustic calibrator are provided in **Appendix A**.

3.3 Monitoring Locations

3.3.1 Baseline monitoring were conducted at the locations in accordance with EM&A Manuals. However, permissions of access could not be obtained from Shek On House, Canossa Primary School (San Po Kong) and Wing Fung Building. Taking into consideration the selection criteria stated in the EM&A Manuals, these monitoring locations have been relocated to Hong Kong Sheng Kung Hui Nursing Home, Rhythm Garden (Block 1, northern façade) and No. 234-238 Chatham Road North respectively. These alternative monitoring locations were approved by IEC and EPD. The baseline airborne noise monitoring was conducted between 10 May and 10 October 2012. **Figure nos. C11033/C/SCL/ACM/M62/024** to **027** show the locations of the monitoring stations. **Table 3.2** describes the details of the noise monitoring.

Table 3.2 Locations of Baseline Noise Monitoring Stations

Environmental Permit No.	Noise Monitoring Station ID	Original Monitoring Location in EM&A Manual	Alternative Monitoring Location	Description	Monitoring Period
EP-438/2012/A	NMS-CA-1(1)	C.U.H.K.A.A. Thomas Cheung School	-	Roof (8/F)	27 Aug – 10 Sept 2012
EP-438/2012/A	NMS-CA-2(1)	Price Memorial Catholic Primary School	-	Roof (8/F)	26 Sept – 10 Oct 2012
EP-438/2012/A	NMS-CA-3(1) / NMS-CA-4(2)	Shek On House	Hong Kong Sheng Kung Hui Nursing Home	Roof (6/F)	12 Sept – 26 Sept 2012
EP-438/2012/A	NMS-CA-4(1) / NMS-CA-3(2)	Rhythm Garden, Block 1	-	Roof (23/F)	11 Sept – 25 Sept 2012

Environmental Permit No.	Noise Monitoring Station ID	Original Monitoring Location in EM&A Manual	Alternative Monitoring Location	Description	Monitoring Period
		(north-eastern façade)			
EP-438/2012/A	NMS-CA-5(1) / NMS-CA-2(2)	Canossa Primary School (San Po Kong)	Rhythm Garden, Block 1 (northern façade)	Roof (23/F)	11 Sept – 25 Sept 2012
EP-438/2012/A & EP-437/2012	NMS-CA-11(1) / NMS-CA-1(2) / NM2(3)	Wing Fung Building	No. 234 - 238 Chatham Road North	Roof (7/F)	25 Sept – 9 Oct 2012
EP-437/2012	NM1(3)	Carmel Secondary School (South Block)	-	Roof (4/F)	10 May – 24 May 2012

Remarks:
(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

3.4 Monitoring Parameters, Frequency and Duration

3.4.1 **Table 3.3** summarizes the monitoring parameters, frequency and duration of baseline noise monitoring.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Time Period	Duration, min	Parameters
Daytime: 0700-1900 hrs on normal weekdays	30 ($L_{eq(30\text{-}min)}$)	L_{eq}, L_{10} & L_{90}
Evening: 1900-2300 hrs on normal weekdays	15 (average of 3 consecutive $L_{eq(5\text{-}min)}$)	
General Holidays and Sundays 0700-2300 hrs		
Night-time: 2300-0700 hrs on all days		

3.5 Monitoring Methodology

3.5.1 The monitoring procedures are summarised as below:

(a) Façade measurements were made at all monitoring locations as far as practicable.

(b) The battery condition was checked to ensure the correct functioning of the meter.

(c) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

(i) frequency weighting: A
(ii) time weighting: Fast
(iii) parameters: L_{eq}, L_{10} and L_{90}
(iv) time measurement: $L_{eq(30\text{-}minutes)}$ during non-restricted hours i.e. 07:00 – 1900 hrs on normal weekdays; $L_{eq(5\text{-}minutes)}$ during restricted hours i.e. 19:00 – 23:00 hrs and 23:00 – 07:00 hrs of normal weekdays, whole day of Sundays and Public Holidays

(d) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be

considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

3.6 Results and Observations

3.6.1 There was no other major activity influencing the measured noise level during the baseline noise monitoring period. The dominant noise sources were community noise and nearby traffic. Details of influencing factors such as weather conditions and site observation are presented in Appendix C.

3.6.2 Baseline noise monitoring was conducted for 14 consecutive days or at least two weeks to obtain the background noise data. The baseline noise monitoring results are summarized in **Tables 3.4** to **3.6**. Detailed noise monitoring results are presented in **Appendix C**.

Table 3.4 Summary of Baseline Daytime Noise Monitoring Results of Normal Weekdays (0700 – 1900 hrs)

Environmental Permit No.	Noise Monitoring Station ID	Monitoring Location	30-min Average Noise Levels, dB(A)			Range, dB(A)		
			L_{eq}[4]	L_{10}	L_{90}	L_{eq}	L_{10}	L_{90}
EP-438/2012/A	NMS-CA-1[1]	C.U.H.K.A.A. Thomas Cheung School	57	59	53	55 - 62	57 - 62	52 - 55
EP-438/2012/A	NMS-CA-2[1]	Price Memorial Catholic Primary School	**66**	69	62	65 - 67	68 - 69	61 - 63
EP-438/2012/A	NMS-CA-3[1] / NMS-CA-4[2]	Hong Kong Sheng Kung Hui Nursing Home	73	75	68	72 - 73	75 - 76	67 - 68
EP-438/2012/A	NMS-CA-4[1] / NMS-CA-3[2]	Rhythm Garden, Block 1 (north-eastern façade)	71	72	70	71 - 72	72 - 73	69 - 71
EP-438/2012/A	NMS-CA-5[1] / NMS-CA-2[2]	Rhythm Garden, Block 1 (northern façade)	**74**[5]	75	72	73 - 75	74 - 76	72 - 73
EP-438/2012/A & EP-437/2012	NMS-CA-11[1] / NMS-CA-1[2] / NM2[3]	No. 234 - 238 Chatham Road North[6]	**79**	81	76	74 - 81	76 - 83	72 - 78
EP-437/2012	NM1[3]	Carmel Secondary School (South Block)	68	70	67	67 - 70	68 - 73	65 - 67

Remarks:

(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

(4) Numbers in bold and underlined indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 75dB(A) for residential premises or 70dB(A) during normal school days for educational institutions. Numbers in bold indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 65dB(A) during examination for educational institutions.

(5) As permissions of access could not be obtained from the designated location, Canossa Primary School (San Po Kong) which is a school, the baseline monitoring has been conducted at the alternative location Rhythm Garden, Block 1 (northern façade). EIAO construction noise limits for educational institutions (i.e. 70dB(A) during normal school days and 65dB(A) during examination) has been adopted as the limit level during non-restricted hours, i.e. daytime of normal weekdays.

(6) A façade correction of +3dB(A) has been included in the free field monitoring data.

Table 3.5 Summary of Baseline Evening Noise Monitoring Results of Normal Weekdays (1900 – 2300 hrs)

Environmental Permit No.	Noise Monitoring Station ID	Monitoring Location	5-min Average Noise Levels, dB(A)			Range, dB(A)		
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{10}	L_{90}
EP-438/2012/A	NMS-CA-1(1)	C.U.H.K.A.A. Thomas Cheung School	55	56	52	54 - 58	56 - 58	52 - 53
EP-438/2012/A	NMS-CA-2(1)	Price Memorial Catholic Primary School	65	67	61	64 - 66	66 - 69	60 - 62
EP-438/2012/A	NMS-CA-3(1) / NMS-CA-4(2)	Hong Kong Sheng Kung Hui Nursing Home	71	74	67	71 - 73	74 - 77	65 - 68
EP-438/2012/A	NMS-CA-4(1) / NMS-CA-3(2)	Rhythm Garden, Block 1 (north-eastern façade)	70	71	68	69 - 71	71 - 72	67 - 69
EP-438/2012/A	NMS-CA-5(1) / NMS-CA-2(2)	Rhythm Garden, Block 1 (northern façade)	72	73	71	72 - 73	73 - 74	70 - 72
EP-438/2012/A & EP-437/2012	NMS-CA-11(1) / NMS-CA-1(2) / NM2(3)	No. 234 - 238 Chatham Road North(4)	73	74	71	71 - 73	73 - 75	69 - 71
EP-437/2012	NM1(3)	Carmel Secondary School (South Block)	67	68	66	67 - 68	68 - 69	65 - 66

Remarks:

(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

(4) A façade correction of +3dB(A) has been included in the free field monitoring data.

Table 3.6 Summary of Baseline Daytime and Evening Noise Monitoring Results of Sunday and Public Holiday (0700 – 2300 hrs)

Environmental Permit No.	Noise Monitoring Station ID	Monitoring Location	5-min Average Noise Levels, dB(A)			Range, dB(A)		
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{10}	L_{90}
EP-438/2012/A	NMS-CA-1(1)	C.U.H.K.A.A. Thomas Cheung School	54	56	51	52 - 58	53 - 60	50 - 53
EP-438/2012/A	NMS-CA-2(1)	Price Memorial Catholic Primary School	65	68	61	62 - 67	64 - 69	58 - 62
EP-438/2012/A	NMS-CA-3(1) / NMS-CA-4(2)	Hong Kong Sheng Kung Hui Nursing Home	71	74	67	69 - 76	73 - 77	62 - 68
EP-438/2012/A	NMS-CA-4(1) / NMS-CA-3(2)	Rhythm Garden, Block 1 (north-eastern façade)	70	71	68	68 - 71	69 - 72	65 - 69
EP-438/2012/A	NMS-CA-5(1) / NMS-CA-2(2)	Rhythm Garden, Block 1 (northern façade)	72	73	70	70 - 73	72 - 74	67 - 72

Environment-al Permit No.	Noise Monitoring Station ID	Monitoring Location	5-min Average Noise Levels, dB(A)			Range, dB(A)		
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{10}	L_{90}
EP-438/2012/A & EP-437/2012	NMS-CA-11(1) / NMS-CA-1(2) / NM2(3)	No. 234 - 238 Chatham Road North(4)	73	75	71	72 - 74	74 - 75	69 - 72
EP-437/2012	NM1(3)	Carmel Secondary School (South Block)	68	69	66	66 - 71	67 - 73	64 - 69

Remarks:

(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

(4) A façade correction of +3dB(A) has been included in the free field monitoring data.

Table 3.7 Summary of Baseline Night-time Noise Monitoring Results of All Days (2300-0700 hrs)

Environment-al Permit No.	Noise Monitoring Station ID	Monitoring Location	5-min Average Noise Levels, dB(A)			Range, dB(A)		
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{10}	L_{90}
EP-438/2012/A	NMS-CA-1(1)	C.U.H.K.A.A. Thomas Cheung School	54	55	52	52 - 59	53 - 60	51 - 55
EP-438/2012/A	NMS-CA-2(1)	Price Memorial Catholic Primary School	61	64	56	56 - 66	59 - 69	52 - 61
EP-438/2012/A	NMS-CA-3(1) / NMS-CA-4(2)	Hong Kong Sheng Kung Hui Nursing Home	68	71	62	64 - 71	68 - 74	57 - 66
EP-438/2012/A	NMS-CA-4(1) / NMS-CA-3(2)	Rhythm Garden, Block 1 (north-eastern façade)	65	67	63	61 - 69	63 - 71	57 - 67
EP-438/2012/A	NMS-CA-5(1) / NMS-CA-2(2)	Rhythm Garden, Block 1 (northern façade)	68	70	65	63 - 72	66 - 73	59 - 70
EP-438/2012/A & EP-437/2012	NMS-CA-11(1) / NMS-CA-1(2) / NM2(3)	No. 234 - 238 Chatham Road North(4)	72	73	69	70 - 74	72 - 75	66 - 71
EP-437/2012	NM1(3)	Carmel Secondary School (South Block)	65	66	63	63 - 67	64 - 68	61 - 65

Remarks:

(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).

(4) A façade correction of +3dB(A) has been included in the free field monitoring data.

3.6.3 Results indicated that the average baseline daytime noise monitoring results at all monitoring locations are within the criteria of 75dB(A) for residential premises and 70dB(A) during normal school days and 65dB(A) during examination for educational institutions except No. 234-238 Chatham Road North and Rhythm Garden, Block 1 (northern façade). The major noise sources affecting the noise background at No. 234-238 Chatham Road North were observed to be traffic noise of Chatham Road North and the construction noise of KTE. For Rhythm Garden Block 1 (northern façade), traffic noise of Choi Hung Road was observed to be the major source of noise.

3.7 Action and Limit Levels

3.7.1 The Limit Levels are only applicable for the monitoring stations where no residual impact is anticipated. In the event that residual impact is predicted in the Construction Noise Mitigation Measures Plan (CNMMP) which would be submitted under EP-438/2012/A Condition 2.9 and EP-437/2012 Condition 2.7, the residual impact shall be taken into account by comparing the future impact monitoring results with the Predicted Construction Noise Levels in the CNMMP instead of the Limit Level.

3.7.2 During the impact monitoring period, the baseline noise level should be deducted from the future impact monitoring result for comparison with the Limit Level or the Predicted Construction Noise Level in case residual impact is anticipated as predicted in the approved CNMMP.

3.7.3 The Action and Limit Levels of noise monitoring have been set in accordance with the criteria specified in the EM&A Manual as shown in **Table 3.8** below.

Table 3.8 Criteria for Action and Limit Levels for Construction Noise

Time Period[4]	EIA NSR ID	Noise Monitoring Station ID	Monitoring Station	Action Level	Limit Level, dB(A)	Predicted Maximum Construction Noise Level[5][6], dB(A)
0700-1900 hrs of normal weekdays	TAW-6-7[1]	NMS-CA-1[1]	C.U.H.K.A.A. Thomas Cheung School	When one documented valid complaint is received.	70 (during normal school time) 65 (during examination period)	68 [SCL(TAW-HUH) EIA Report]
	DIH-22-1[1]	NMS-CA-2[1]	Price Memorial Catholic Primary School		70 (during normal school time) 65 (during examination period)	65 [SCL(TAW-HUH) EIA Report]
	DIH-9-1[1][2]	NMS-CA-3[1] / NMS-CA-4[2]	Hong Kong Sheng Kung Hui Nursing Home		75	70 [SCL(TAW-HUH) EIA Report]/ 63 [SCL(HHS) EIA Report]
	DIH-14-5[1][2]	NMS-CA-4[1] / NMS-CA-3[2]	Rhythm Garden, Block 1 (north-eastern façade)		75	**78** [SCL(TAW-HUH) EIA Report]/ 65 [SCL(HHS) EIA Report]

Time Period[4]	EIA NSR ID	Noise Monitoring Station ID	Monitoring Station	Action Level	Limit Level, dB(A)	Predicted Maximum Construction Noise Level[5][6], dB(A)
	DIH-14-4[1][2]	NMS-CA-5[1] / NMS-CA-2[2]	Rhythm Garden, Block 1 (northern façade)[7]		70 (during normal school time) 65 (during examination period)	69 [SCL(TAW-HUH) EIA Report] 64 [SCL(HHS) EIA Report]
	HUH-1-3[1][2] / HH2[3]	NMS-CA-11[1] / NMS-CA-1[2] / NM2[3]	No. 234 - 238 Chatham Road North		75	**<u>78</u>** [Cumulative noise level of SCL(HHS), SCL(MKK-HUH), SCL(HUH-ADM),SCL (TAW-HUH) and KTE]
	OM4a	NM1[3]	Carmel Secondary School (South Block)		70 (during normal school time) 65 (during examination period)	**70** [SCL(MKK-HUH) EIA Report]

Remarks:
(1) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).
(2) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).
(3) Station / NSR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).
(4) If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority should be followed.
(5) Predicted maximum construction noise levels are taken from the approved SCL(TAW-HUH), SCL(MKK-HUH) or SCL(HHS) EIA Reports for reference only. The latest predicted maximum construction noise levels should refer to the findings of the CNMMP.
(6) Numbers in bold and underlined indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 75dB(A) for residential premises or 70dB(A) during normal school days for educational institutions. Numbers in bold indicate the measured baseline daytime noise levels (Leq, 30min) exceed the stipulated EIAO noise limits of 65dB(A) during examination for educational institutions.
(7) As permissions of access could not be obtained from the designated location, Canossa Primary School (San Po Kong) which is a school, the baseline monitoring has been conducted at the alternative location Rhythm Garden, Block 1 (northern façade). EIAO construction noise limits for educational institutions (i.e. 70dB(A) during normal school days and 65dB(A) during examination) has been adopted as the limit level during non-restricted hours, i.e. daytime of normal weekdays.

4 CONCLUSION

4.1 Air Quality

4.1.1 Baseline air quality monitoring was carried out between 27 August and 8 October 2012 at 5 monitoring stations in the Hin Keng to Diamond Hill and Hung Hom areas. Among these 5 monitoring stations, DMS-3 for SCL(TAW-HUH)/ DMS-4 for SCL(HHS) and DMS-11 for SCL(TAW-HUH)/ DMS-2for SCL(HHS)/ AM1 for SCL (MKK-HUH) as specified in EM&A Manual were inaccessible for monitoring respectively. Details of selection of alternative locations have been discussed, and therefore there is no revision for inclusion in the EM&A Manual.

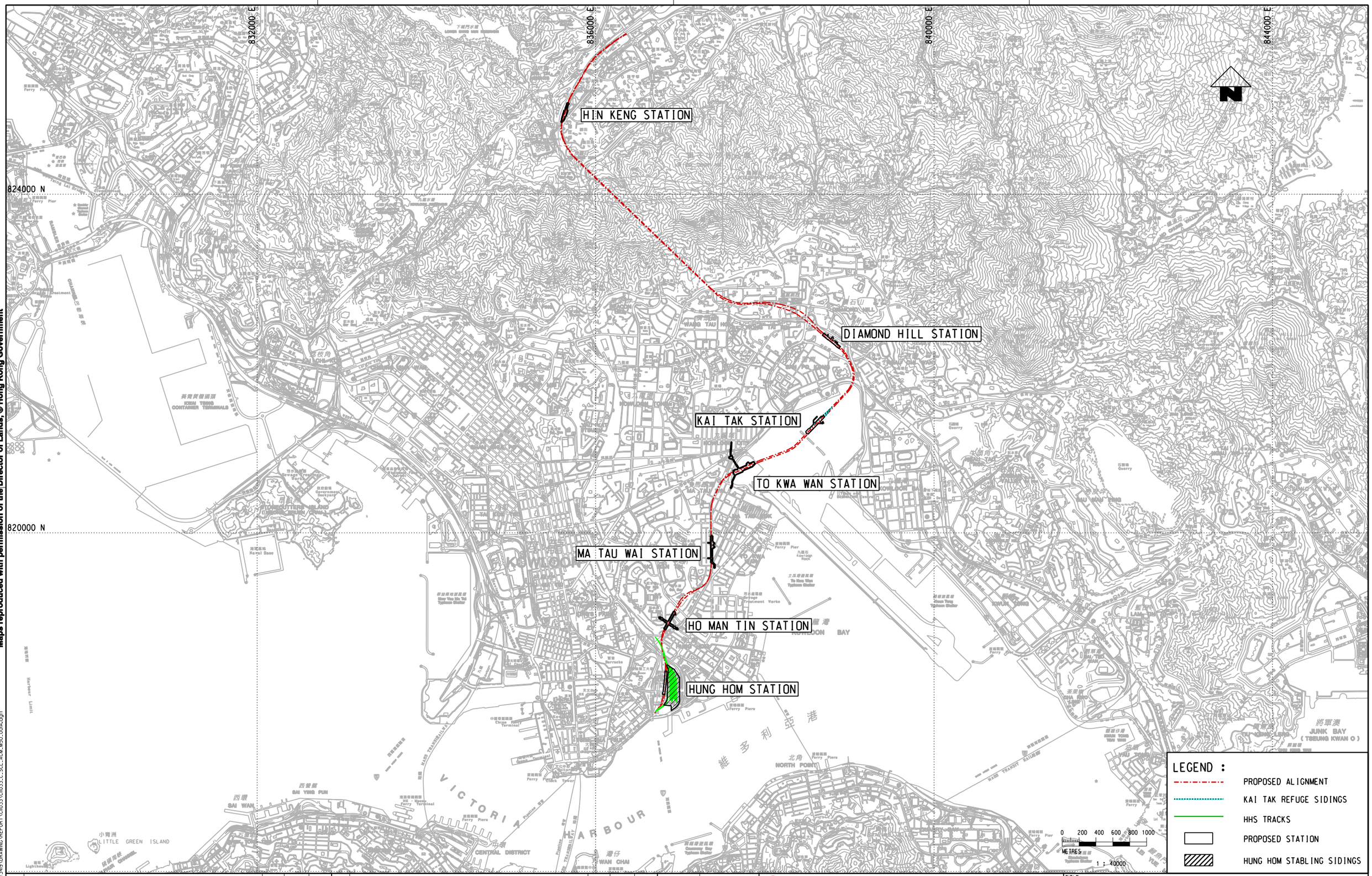
4.1.2 The air quality monitoring results, in terms of 1-hr TSP and 24-hr TSP, were below the Limit Level set out in the EIAO-TM and Air Quality Objective (AQO) respectively at all monitoring locations. Action and Limit Levels for air quality at each location were derived from the baseline monitoring results.

4.2 Airborne Construction Noise

4.2.1 Baseline noise monitoring was carried out between 10 May and 10 October 2012 at 7 monitoring stations at Hin Keng to Diamond Hill and Hung Hom areas. Among these 7 monitoring stations, 3 monitoring stations, including NMS-CA-3 for SCL(TAW-HUH)/ NMS-CA-4 for SCL(HHS), NMS-CA-5 for SCL(TAW-HUH)/ NMS-CA-2 for SCL(HHS) and NMS-CA-11 for SCL(TAW-HUH)/ NMS-CA-1 for SCL(HHS)/ NM2 for SCL (MKK-HUH) as specified in EM&A Manuals, were inaccessible and thus they were relocated to other locations. Proposal for this alternative location was submitted and approved by EPD, and therefore there is no revision for inclusion in the EM&A Manual.

4.2.2 The averaged baseline daytime noise monitoring results are complied with the criteria of 75dB(A) for residential premises and 70dB(A) during normal school days and 65dB(A) during examination for educational institutions at all monitoring locations except No. 234-238 Chatham Road North (NMS-CA-11 for SCL(TAW-HUH), NMS-CA-1 for SCL(HHS), NM2 for SCL(MKK-HUH)) and Rhythm Garden, Block 1 (northern façade) (NMS-CA-5 for SCL(TAW-HUH), NMS-CA-2 for SCL(HHS)). The major noise sources affecting the noise background at No. 234-238 Chatham Road North and Rhythm Garden, Block 1 (northern façade) were observed to be traffic noise from the adjoining roads, Chatham Road North and Choi Hung Road respectively. In addition to traffic noise, background noise at No. 234-238 Chatham Road North was observed to be affected by the construction of KTE.

4.2.3 The Action Level of construction noise is based on documented valid complaints received, while the Limit Level for each monitoring location is set at a specific limit according to EIAO-TM and the EM&A Manual. In the event that residual impact is predicted in the CNMMP which would be submitted under EP-438/2012/A Condition 2.9 and EP-437/2012 Condition 2.7, the residual impact shall be taken into account by comparing the future impact monitoring results with the Predicted Construction Noise Levels in the CNMMP instead of the Limit Level.



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DATE	12/SEP/2012

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SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

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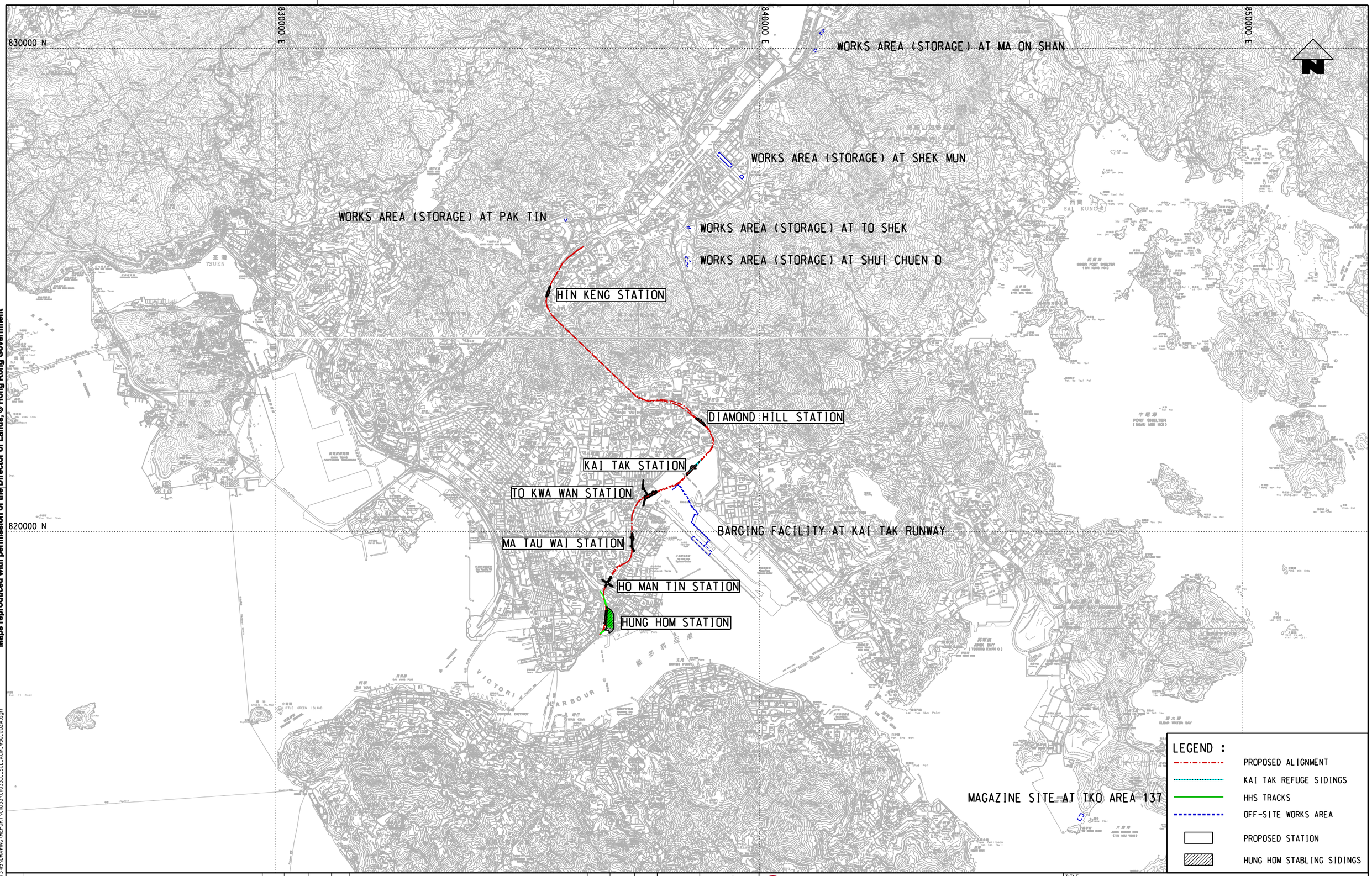
TITLE

C11033
SCL (TAW-HUH)
GENERAL ALIGNMENT OF SCL (TAI WAI TO HUNG HOM)

SCALE 1 : 40000 (A3)

FIGURE NO. C11033/C/SCL/ACM/M50/001

REV. A



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DATE	12/SEP/2012

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SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

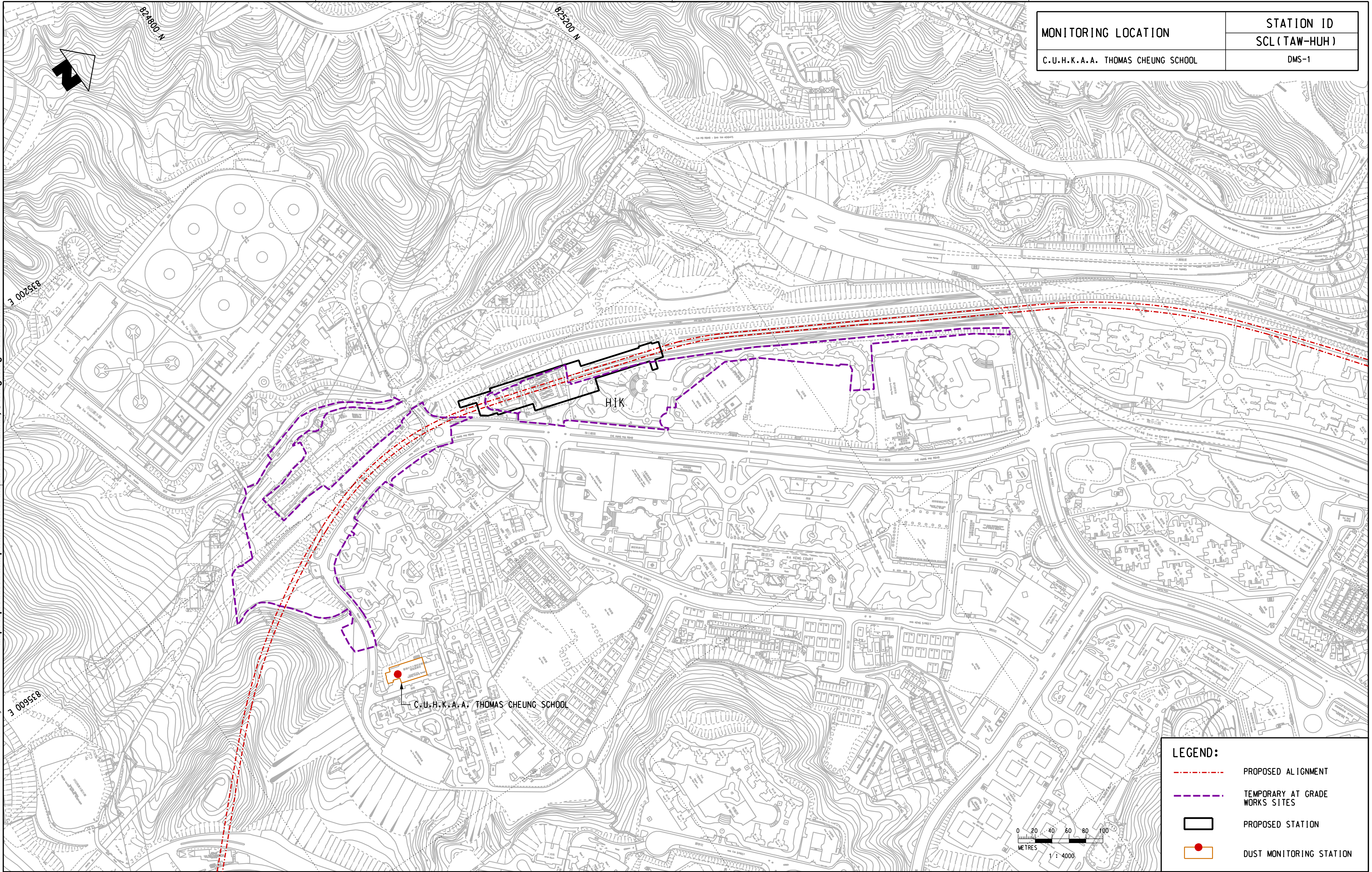
CADD REF. C11033_C_SCL_ACM_M50_002A.dgn

TITLE
C11033
SCL (TAW-HUH)
LOCATIONS OF OFF-SITE WORKS AREAS

SCALE 1 : 70000 (A3)

FIGURE NO. C11033/C/SCL/ACM/M50/002

REV. A



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APPROVED	IMW
DATE	18/MAY/2009

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SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

CADD REF. C11033_C_SCL_ACM_M62_020A.dgn

TITLE

C11033
SCL (TAW - HUH)
LOCATION OF DUST MONITORING STATION

SCALE 1 : 4000 (A3)

FIGURE NO. C11033/C/SCL/ACM/M62/020

REV. A

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MONITORING LOCATION	STATION ID
	SCL(TAW-HUH)
PRICE MEMORIAL CATHOLIC PRIMARY SCHOOL	DMS-2

837600 E

838000 E

823600 N

823200 N

CHUK YUEN ROAD

LUNG CHEUNG ROAD

PRICE MEMORIAL CATHOLIC PRIMARY SCHOOL

0 20 40 60 80 100
METRES
1 : 4000

LEGEND:

- PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- DUST MONITORING STATION

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DATE	09/OCT/2012

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SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

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TITLE

C11033
SCL (TAW - HUH)
LOCATION OF DUST MONITORING STATION

SCALE	FIGURE NO.	REV.
1 : 4000 (A3)	C11033/C/SCL/ACM/M62/021	A

MONITORING LOCATION	STATION ID	
	SCL(TAW-HUH)	SCL(HHS)
HONG KONG SHENG KUNG HUI NURSING HOME	DMS-3	DMS-4
RHYTHM GARDEN, BLOCK 1	DMS-4	DMS-3

838800 E

839200 E

822800 N

DIAMOND HILL

LUNG CHEUNG ROAD

DIH

RHYTHM GARDEN, BLOCK 1

HONG KONG SHENG KUNG HUI NURSING HOME

0 20 40 60 80 100
METRES
1 : 4000

LEGEND:
- PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- DUST MONITORING STATION

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APPROVED	IMW
DATE	13/SEP/2012

MTR

SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

CADD REF. C11033_C_SCL_ACM_M62_022A.dgn

TITLE

C11033
SCL (TAW - HUH)
LOCATION OF DUST MONITORING STATION

SCALE	FIGURE NO.	REV.
1 : 4000 (A3)	C11033/C/SCL/ACM/M62/022	A

MONITORING LOCATION	STATION ID		
	SCL(TAW-HUH)	SCL(HHS)	SCL (MKK-HUH)
NO. 234-238 CHATHAM ROAD NORTH	DMS-11	DMS-2	AM1

836400 E

836800 E

818800 N

PRINCESS MARGARET ROAD

HO MAN TIN

HOM BY OTHER DP (KTE)

NO. 234-238 CHATHAM ROAD NORTH

GILLIES AVENUE SOUTH

MA TAU WAI ROAD

KOWLOON CITY ROAD

MTW

0 20 40 60 80 100
METRES

1 : 4000

LEGEND:

- PROPOSED ALIGNMENT
- HHS TRACKS
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- DUST MONITORING STATION
- HUNG HOM STABLING SIDINGS

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PRINTED ON: 2010/10/0 10:26:47

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	KTH
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IMW
DATE	18/MAY/2009

MTR

SHATIN TO CENTRAL LINK

ORIGINATOR

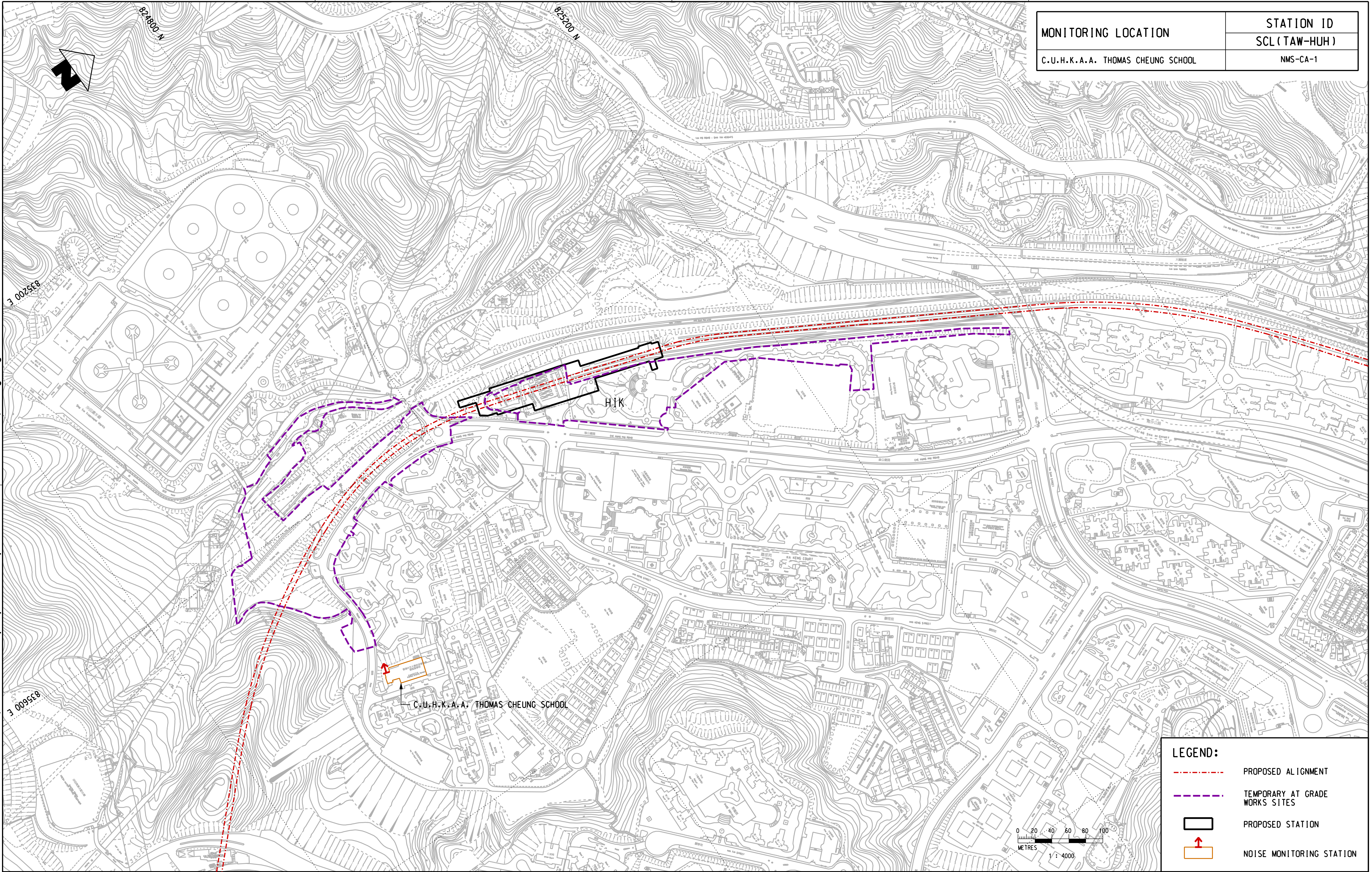
AECOM

CADD REF. C11033_C_SCL_ACM_M62_023A.dgn

TITLE

C11033
SCL (TAW - HUH)
LOCATION OF DUST MONITORING STATION

SCALE	FIGURE NO.	REV.
1 : 4000 (A3)	C11033/C/SCL/ACM/M62/023	A



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MODELNAME: MODEL PRINTED BY: YANJP 2012/10/10
FILENAME: P:\projects\60273419\DRAWING\REPORT\C1033\C1033_C_SCL_ACM_M62_024A.dgn

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED
					A	-	---	DDMMM09	---

DRAWN	KTH
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IMW
DATE	18/MAY/2009

MTR

SHATIN TO CENTRAL LINK

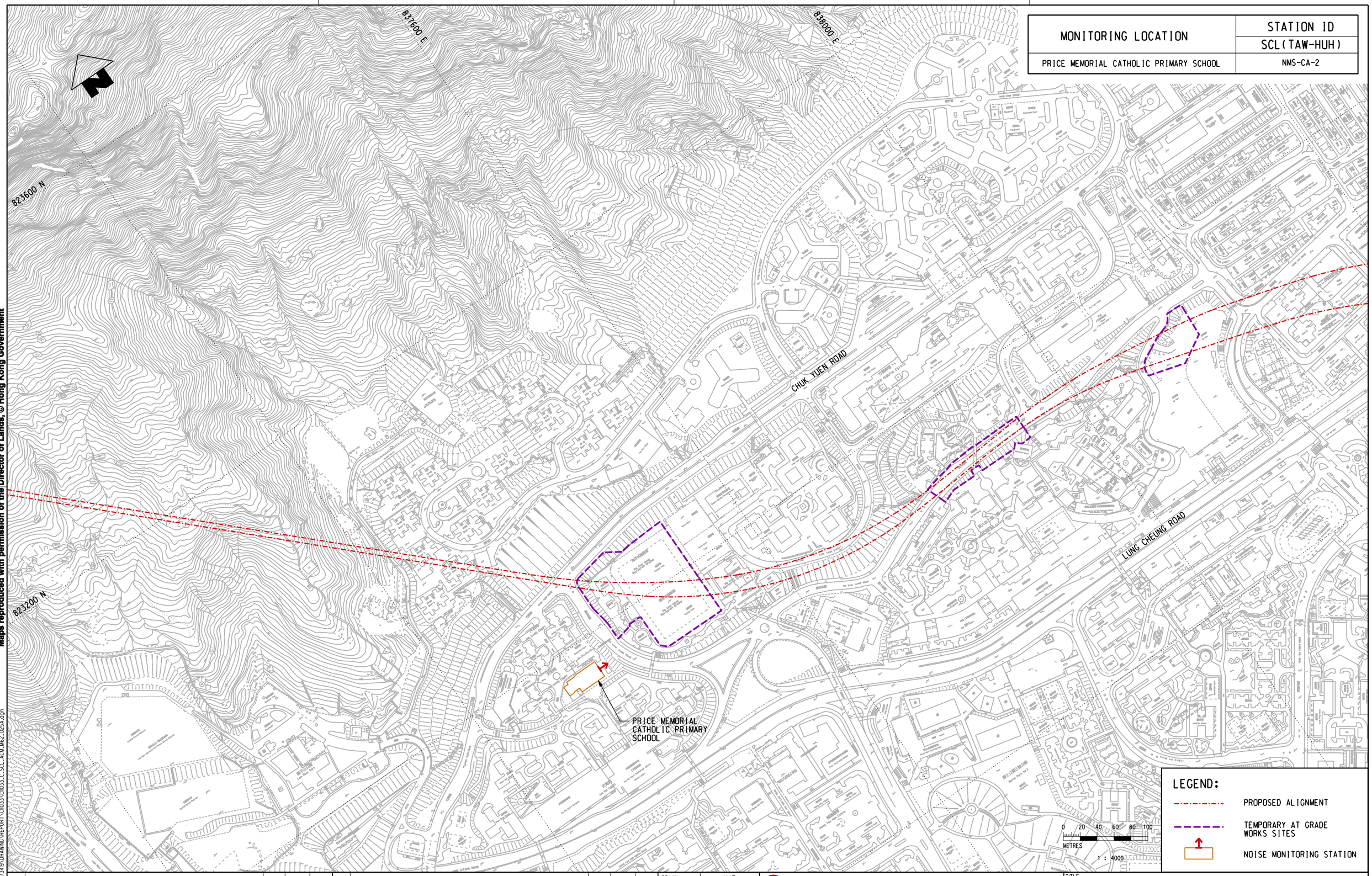
ORIGINATOR: AECOM

CADD REF. C11033_C_SCL_ACM_M62_024A.dgn

TITLE
C11033
SCL (TAW - HUH)
LOCATIONS OF NOISE MONITORING STATIONS
(CONSTRUCTION AIRBORNE NOISE)

SCALE 1 : 4000 (A3) | FIGURE NO. C11033/C/SCL/ACM/M62/024 | REV. A

MONITORING LOCATION	STATION ID
	SCL(TAW-HUH)
PRICE MEMORIAL CATHOLIC PRIMARY SCHOOL	NMS-CA-2



LEGEND:

- PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- NOISE MONITORING STATION

REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	YJP
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IMW
DATE	09/OCT/2012

MTR

SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

CADD REF. C11033_C_SCL_ACM_M62_025A.dgn

TITLE

C11033

SCL (TAW - HUH)

LOCATIONS OF NOISE MONITORING STATIONS (CONSTRUCTION AIRBORNE NOISE)

SCALE	FIGURE NO.	REV.
1 : 4000 (A3)	C11033/C/SCL/ACM/M62/025	A

PLOT DRV: V:\ustnset\MTR\PLOTDRIVER\WINDOWS\A3 COLOUR.plt
MODEL: P:\projects\602734\DRAWING\REPORT\C11033\C11033_C_SCL_ACM_M62_025A.dgn
FILENAME: PRINTED BY: LAU IP 2012/10/10 10:48:40

MONITORING LOCATION	STATION ID	
	SCL(TAW-HUH)	SCL(HHS)
HONG KONG SHENG KUNG HUI NURSING HOME	NMS-CA-3	NMS-CA-4
RHYTHM GARDEN, BLOCK 1 (NORTH-EASTERN FACADE)	NMS-CA-4	NMS-CA-3
RHYTHM GARDEN, BLOCK 1 (NORTHERN FACADE)	NMS-CA-5	NMS-CA-2

838800 E
839200 E
822800 N
DIAMOND HILL
LUNG CHEUNG ROAD
DIH
NORTH-EASTERN FACADE
NORTHERN FACADE
RHYTHM GARDEN, BLOCK 1
HONG KONG SHENG KUNG HUI NURSING HOME
PRINCE EDWARD ROAD EAST
EASTERN ROAD

LEGEND:
- PROPOSED ALIGNMENT
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- NOISE MONITORING STATION

0 20 40 60 80 100
METRES
1 : 4000

PLOT DRV: V:\ustnet\MTRPLOTDRIVER\WNDOWS\A3 COLOUR.plt
MODEL NAME: Default PRINTED BY: HANC 2012/10/10 16:56:04
FILENAME: P:\projects\6027349\DRAWING REPORT\C11033\C11033_C_SCL_ACM_M62_026A.dgn

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	KTH
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IWW
DATE	13/SEP/2012

MTR

SHATIN TO CENTRAL LINK

ORIGINATOR
AECOM

CADD REF.
C11033_C_SCL_ACM_M62_026A.dgn

TITLE
C11033
SCL (TAW - HUH)
LOCATIONS OF NOISE MONITORING STATIONS
(CONSTRUCTION AIRBORNE NOISE)

SCALE
1 : 4000 (A3)

FIGURE NO.
C11033/C/SCL/ACM/M62/026

REV.
A

MONITORING LOCATION	STATION ID		
	SCL (TAW-HUH)	SCL (HHS)	SCL (MKK-HUH)
NO. 234-238 CHATHAM ROAD NORTH	NMS-CA-11	NMS-CA-1	NM2
CARMEL SECONDARY SCHOOL (SOUTH BLOCK)	-	-	NM1

836400 E

836800 E

818800 N

818400 N

HO MAN TIN

PRINCESS MARGARET ROAD

CARMEL SECONDARY SCHOOL (SOUTH BLOCK)

HOM BY OTHER DP (KTE)

NO. 234-238 CHATHAM ROAD NORTH

GILLIES AVENUE SOUTH

MA TAU WAI ROAD

KOWLOON CITY ROAD

MTW

LEGEND:

- PROPOSED ALIGNMENT
- HHS TRACKS
- TEMPORARY AT GRADE WORKS SITES
- PROPOSED STATION
- NOISE MONITORING STATION
- HUNG HOM STABLING SIDINGS

0 20 40 60 80 100
METRES

1 : 4000

PLOT DRV: V:\ustnset\MTR\PLOTDRIVER\WINDOWS\HJ3 COLOUR.pit
MODELNAME: Default
FILENAME: P:\projects\60273413\DRAWINGS\REPORT\CH033\CH033_C_SCL_ACM_M62_027A.dgn
PRINTED BY: HAKF 2012/10/10 H56d5

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	KTH
DESIGNED	LCLL
CHECKED	LCLL
APPROVED	IMW
DATE	18/MAY/2009

MTR

SHATIN TO CENTRAL LINK

ORIGINATOR

AECOM

CADD REF. C11033_C_SCL_ACM_M62_027A.dgn

TITLE

C11033
SCL (TAW - HUH)
LOCATIONS OF NOISE MONITORING STATIONS (CONSTRUCTION AIRBORNE NOISE)

SCALE	FIGURE NO.	REV.
1 : 4000 (A3)	C11033/C/SCL/ACM/M62/027	A

APPENDIX A

CALIBRATION CERTIFICATES OF MONITORING EQUIPMENTS

TISCH ENVIROMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 15, 2012 Rootsmeter S/N 0438320 Ta (K) - 295
Operator Tisch Orifice I.D. - 0988 Pa (mm) - 751.84

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3860	3.2	2.00
2	NA	NA	1.00	0.9700	6.4	4.00
3	NA	NA	1.00	0.8690	7.9	5.00
4	NA	NA	1.00	0.8290	8.8	5.50
5	NA	NA	1.00	0.6840	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9951	0.7179	1.4137		0.9957	0.7184	0.8859
0.9908	1.0215	1.9993		0.9915	1.0222	1.2528
0.9887	1.1378	2.2353		0.9894	1.1385	1.4007
0.9876	1.1913	2.3444		0.9883	1.1921	1.4690
0.9824	1.4363	2.8275		0.9831	1.4372	1.7717
Qstd slope (m) =		1.97048		Qa slope (m) =		1.23388
intercept (b) =		-0.00546		intercept (b) =		-0.00342
coefficient (r) =		0.99991		coefficient (r) =		0.99991
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	CUHKAA Thomas Chueng School; SCL - DMS - 1	Operator:	Shum Kam Yuen
Cal. Date:	27-Aug-12	Next Due Date:	27-Oct-12
Equipment No.:	A-001-81T	Serial No.	3454

Ambient Condition			
Temperature, Ta (K)	304.6	Pressure, Pa (mmHg)	757.1

Orifice Transfer Standard Information					
Serial No:	843	Slope, mc	2.00834	Intercept, bc	-0.02923
Last Calibration Date:	15-Nov-11	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-Nov-12	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.7	2.74	1.38	44.0	43.44
13	6.4	2.50	1.26	40.0	39.49
10	5.1	2.23	1.12	34.0	33.57
7	3.4	1.82	0.92	28.0	27.64
5	2.2	1.46	0.74	22.0	21.72

By Linear Regression of Y on X

Slope , mw = 34.2305 **Intercept, bw =** -3.9759

Correlation Coefficient* = 0.9961

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **41.05**

Remarks: _____

QC Reviewer: K.K. CHAN Signature: _____ Date: 28/8/12

Station	CUHKAA Thomas Chueng School; SCL - DMS - 1
Cal. Date:	27-Aug-12
Next Due Date:	27-Oct-12
Set Point (IC)	41.05

IC (CFM)	Qstd (m^3/min)
24	0.817
25	0.846
26	0.876
27	0.905
28	0.934
29	0.963
30	0.993
31	1.022
32	1.051
33	1.080
34	1.109
35	1.139
36	1.168
37	1.197
38	1.226
39	1.255
40	1.285
41	1.314
42	1.343
43	1.372
44	1.402
45	1.431
46	1.460
47	1.489
48	1.518
49	1.548
50	1.577
51	1.606
52	1.635
53	1.664
54	1.694
55	1.723
56	1.752
57	1.781
58	1.811
59	1.840
60	1.869
61	1.898
62	1.927
63	1.957
64	1.986
65	2.015

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Price Memorial Catholic Primary School; DMS - 2	Operator:	Choi Wing Ho
Cal. Date:	13-Sep-12	Next Due Date:	13-Nov-12
Equipment No.:	---	Serial No.	3175

Ambient Condition			
Temperature, Ta (K)	304.0	Pressure, Pa (mmHg)	753.3

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97048	Intercept, bc	-0.00546
Last Calibration Date:	15-May-12	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-May-13	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	7.5	2.70	1.37	44.0	43.37
13	6.3	2.47	1.26	40.0	39.43
10	5.0	2.20	1.12	36.0	35.49
7	3.4	1.82	0.93	30.0	29.57
5	2.2	1.46	0.74	22.0	21.69

By Linear Regression of Y on X

Slope , mw = 33.6191 **Intercept, bw =** -2.5504

Correlation Coefficient* = 0.9933

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **41.75**

Remarks:

QC Reviewer: WS CHAN Signature: Date: 14/9/12

Station **Price Memorial Catholic Primary School; DMS - 2**

Cal. Date: **13-Sep-12**

Next Due Date: **13-Nov-12**

Set Point (IC) **41.75**

IC (CFM)	Qstd (m^3/min)
24	0.790
25	0.819
26	0.849
27	0.879
28	0.909
29	0.938
30	0.968
31	0.998
32	1.028
33	1.057
34	1.087
35	1.117
36	1.147
37	1.176
38	1.206
39	1.236
40	1.266
41	1.295
42	1.325
43	1.355
44	1.385
45	1.414
46	1.444
47	1.474
48	1.504
49	1.533
50	1.563
51	1.593
52	1.623
53	1.652
54	1.682
55	1.712
56	1.742
57	1.771
58	1.801
59	1.831
60	1.861
61	1.890
62	1.920
63	1.950
64	1.980
65	2.009

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	HKSKH Nursing Home; SCL - DMS - 3	Operator:	Choi Wing Ho
Cal. Date:	11-Sep-12	Next Due Date:	11-Nov-12
Equipment No.:	A-001-81T	Serial No.	3454

Ambient Condition			
Temperature, Ta (K)	303.2	Pressure, Pa (mmHg)	758.6

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97048	Intercept, bc	-0.00546
Last Calibration Date:	15-May-12	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-May-13	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	7.7	2.75	1.40	44.0	43.58
13	6.4	2.51	1.27	40.0	39.62
10	5.1	2.24	1.14	34.0	33.68
7	3.4	1.83	0.93	28.0	27.73
5	2.2	1.47	0.75	22.0	21.79

By Linear Regression of Y on X

Slope , mw = 33.5852 **Intercept, bw =** -3.5823

Correlation Coefficient* = 0.9961

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **40.46**

Remarks:

QC Reviewer: WS CHAN Signature: R Date: 12/9/12

Station	HKSKH Nursing Home; SCL - DMS - 3
Cal. Date:	11-Sep-12
Next Due Date:	27-Oct-12
Set Point (IC)	40.46

IC (CFM)	Qstd (m^3/min)
24	0.821
25	0.851
26	0.881
27	0.911
28	0.940
29	0.970
30	1.000
31	1.030
32	1.059
33	1.089
34	1.119
35	1.149
36	1.179
37	1.208
38	1.238
39	1.268
40	1.298
41	1.327
42	1.357
43	1.387
44	1.417
45	1.447
46	1.476
47	1.506
48	1.536
49	1.566
50	1.595
51	1.625
52	1.655
53	1.685
54	1.715
55	1.744
56	1.774
57	1.804
58	1.834
59	1.863
60	1.893
61	1.923
62	1.953
63	1.982
64	2.012
65	2.042

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station	Rhythm Garden, Block 1; DMS - 4	Operator:	Choi Wing Ho
Cal. Date:	11-Sep-12	Next Due Date:	11-Nov-12
Equipment No.:	A-001-53T	Serial No.	10216

Ambient Condition			
Temperature, Ta (K)	303.2	Pressure, Pa (mmHg)	758.6

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.97048	Intercept, bc	-0.00546
Last Calibration Date:	15-May-12	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-May-13	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X - axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	7.4	2.69	1.37	40.0	39.62
13	5.7	2.36	1.20	36.0	35.66
10	4.7	2.15	1.09	34.0	33.68
7	3.3	1.80	0.92	31.0	30.70
5	2.2	1.47	0.75	28.0	27.73

By Linear Regression of Y on X

Slope , mw = 18.7459 **Intercept, bw =** 13.4959

Correlation Coefficient* = 0.9943

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **38.23**

Remarks: _____

QC Reviewer: WS CHAN Signature: _____ Date: 12/9/12

C:\Documents and Settings\hungtc\Local Settings\Temporary Internet Files\Content.Outlook\CCLUC3PM\DMS - 4 - 120911

Station	**Rhythm Garden, Block 1; DMS - 4**
Cal. Date:	**11-Sep-12**
Next Due Date:	**11-Nov-12**
Set Point (IC)	**38.23**

IC (CFM)	Qstd (m^3/min)
24	0.560
25	0.614
26	0.667
27	0.720
28	0.774
29	0.827
30	0.880
31	0.934
32	0.987
33	1.040
34	1.094
35	1.147
36	1.200
37	1.254
38	1.307
39	1.361
40	1.414
41	1.467
42	1.521
43	1.574
44	1.627
45	1.681
46	1.734
47	1.787
48	1.841
49	1.894
50	1.947
51	2.001
52	2.054
53	2.107
54	2.161
55	2.214
56	2.267
57	2.321
58	2.374
59	2.427
60	2.481
61	2.534
62	2.587
63	2.641
64	2.694
65	2.747

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station: 234 - 238 Chatham Road North; SCL - DMS - 11 | Operator: Shum Kam Yuen
Cal. Date: 25-Sep-12 | Next Due Date: 25-Nov-12
Equipment No.: --- | Serial No. 8259

Ambient Condition			
Temperature, Ta (K)	302.4	Pressure, Pa (mmHg)	760.5

Orifice Transfer Standard Information					
Serial No:	843	Slope, mc	2.00834	Intercept, bc	-0.02923
Last Calibration Date:	15-Nov-11	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-Nov-12	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m^3/min) **X-axis**	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) **Y-axis**
18	8.7	2.93	1.47	49.0	48.66
13	7.4	2.70	1.36	45.0	44.69
10	6.1	2.45	1.24	39.0	38.73
7	4.4	2.08	1.05	32.0	31.78
5	3.1	1.75	0.89	26.0	25.82

By Linear Regression of Y on X

Slope , mw = 39.3953 **Intercept, bw =** -9.3816

Correlation Coefficient* = 0.9978

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]$^{1/2}$= **42.13**

Remarks:

QC Reviewer: K. H. SHEK Signature: Mike Date: 26 Sept. 12

Station: 234 - 238 Chatham Road North; SCL - DMS - 11

Cal. Date: 25-Sep-12

Next Due Date: 27-Oct-12

Set Point (IC) 42.13

IC (CFM)	Qstd (m^3/min)
24	0.847
25	0.873
26	0.898
27	0.924
28	0.949
29	0.974
30	1.000
31	1.025
32	1.050
33	1.076
34	1.101
35	1.127
36	1.152
37	1.177
38	1.203
39	1.228
40	1.253
41	1.279
42	1.304
43	1.330
44	1.355
45	1.380
46	1.406
47	1.431
48	1.457
49	1.482
50	1.507
51	1.533
52	1.558
53	1.583
54	1.609
55	1.634
56	1.660
57	1.685
58	1.710
59	1.736
60	1.761
61	1.787
62	1.812
63	1.837
64	1.863
65	1.888

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3***
Equipment No.:	***A.005.09a***
Sensitivity Adjustment Scale Setting:	***797 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*5 May 2012*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *797* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *797* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*02-06-12*	*13:30 - 14:30*	*27.9*	*63*	*0.04070*	*1626*	*27.10*
2	*02-06-12*	*14:30 - 15:30*	*27.9*	*63*	*0.04167*	*1667*	*27.78*
3	*02-06-12*	*15:30 - 16:30*	*28.2*	*64*	*0.04283*	*1708*	*28.47*
4	*02-06-12*	*16:30 - 17:30*	*28.1*	*63*	*0.04146*	*1659*	*27.65*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9949*

Validity of Calibration Record: *1 June 2013*

Remarks:

QC Reviewer: *YW Fung* Signature: *YF* Date: 4 June 2012

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3B***
Equipment No.:	***A.005.13a***
Sensitivity Adjustment Scale Setting:	***643 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*5 May 2012*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *643* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *643* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*02-06-12*	*13:30 - 14:30*	*27.9*	*63*	*0.04070*	*1623*	*27.05*
2	*02-06-12*	*14:30 - 15:30*	*27.9*	*63*	*0.04167*	*1663*	*27.72*
3	*02-06-12*	*15:30 - 16:30*	*28.2*	*64*	*0.04283*	*1771*	*28.52*
4	*02-06-12*	*16:30 - 17:30*	*28.1*	*63*	*0.04146*	*1656*	*27.60*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0015*
Correlation coefficient: *0.9988*

Validity of Calibration Record: *1 June 2013*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 4 June 2012

EQUIPMENT CALIBRATION RECORD

Type:	***Laser Dust Monitor***
Manufacturer/Brand:	***SIBATA***
Model No.:	***LD-3B***
Equipment No.:	***A.005.14a***
Sensitivity Adjustment Scale Setting:	***786 CPM***
Operator:	*Mike Shek (MSKM)*

Standard Equipment

Equipment:	*Rupprecht & Patashnick TEOM®*		
Venue:	*Cyberport (Pui Ying Secondary School)*		
Model No.:	*Series 1400AB*		
Serial No:	Control: *140AB219899803*		
	Sensor: *1200C143659803*	K_o: *12500*	
Last Calibration Date*:	*5 May 2012*		

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): *786* CPM
Sensitivity Adjustment Scale Setting (After Calibration): *786* CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration[1] (mg/m^3) **Y-axis**	Total Count[2]	Count/ Minute[3] **X-axis**
			Temp (°C)	R.H. (%)			
1	*02-06-12*	*13:15 - 14:15*	*27.9*	*63*	*0.04073*	*1746*	*29.10*
2	*02-06-12*	*14:15 - 15:15*	*27.9*	*63*	*0.04154*	*1778*	*29.63*
3	*02-06-12*	*15:15 - 16:15*	*28.1*	*64*	*0.04269*	*1830*	*30.50*
4	*02-06-12*	*16:15 - 17:15*	*28.1*	*64*	*0.04136*	*1769*	*29.48*

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
2. Total Count was logged by Laser Dust Monitor
3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
Slope (K-factor): *0.0014*
Correlation coefficient: *0.9963*

Validity of Calibration Record: *1 June 2013*

Remarks:

QC Reviewer: *YW Fung* Signature: Date: 4 June 2012

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel : (852) 2873 6860
Fax : (852) 2555 7533

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CERTIFICATE OF CALIBRATION

Certificate No.: 11CA1116 04 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2255688	,	2141430
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	16-Nov-2011

Date of test: 21-Nov-2011

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	09-May-2012	CIGISMEC
Signal generator	DS 360	33873	30-May-2012	CEPREI
Signal generator	DS 360	61227	30-May-2012	CEPREI

Ambient conditions

Temperature:	(23 ± 1) °C
Relative humidity:	(55 ± 10) %
Air pressure:	(1005 ± 5) hPa

Test specifications

1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.

2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.

3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min, Feng Jun Qi **Date:** 21-Nov-2011 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
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香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
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Fax : (852) 2555 7533

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 11CA1116 04 **Page** 2 **of** 2

1, Electrical Tests

The electrical tests were perfomed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Uncertanity (dB) / Coverage Factor	
Self-generated noise	A	Pass	0.3	
	C	Pass	1.0	2.1
	Lin	Pass	2.0	2.2
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100μs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor $1/10^3$ at 4kHz	Pass	0.3	
	1 ms burst duty factor $1/10^4$ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Uncertanity (dB) / Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3
	Weighting A at 8000 Hz	Pass	0.5

3, Response to associated sound calibrator

N/A

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Chan Chun Lam
Date: 21-Nov-2011

Checked by: Feng Jun Qi
Date: 21-Nov-2011

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel : (852) 2873 6860
Fax : (852) 2555 7533

HKLAS 028

CERTIFICATE OF CALIBRATION

Certificate No.: 11CA0711 01-01

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2255677	,	2250455
Adaptors used:	-	,	-

Item submitted by

Customer Name:	AECOM ASIA CO., LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	11-Jul-2011

Date of test: 11-Jul-2011

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	09-May-2012	CIGISMEC
Signal generator	DS 360	33873	30-May-2012	CEPREI
Signal generator	DS 360	61227	30-May-2012	CEPREI

Ambient conditions

Temperature:	(22 ± 1) °C
Relative humidity:	(55 ± 5) %
Air pressure:	(990 ± 5) hPa

Test specifications

1. The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
2. The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
3. The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory: Huang Jian Min/Feng Jun Qi Date: 12-Jul-2011 Company Chop:

SOILS & MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
6/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
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CERTIFICATE OF CALIBRATION

(Continuation Page)

1, Electrical Tests

The electrical tests were perfomed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Uncertainty (dB) / Coverage Factor	
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range , Step 5 dB at 4 kHz	Pass	0.3	
Frequency weightings	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100μs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor $1/10^3$ at 4kHz	Pass	0.3	
	1 ms burst duty factor $1/10^4$ at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Uncertainty (dB) / Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3
	Weighting A at 8000 Hz	Pass	0.5

3, Response to associated sound calibrator

N/A

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip Date: 11-Jul-2011

Checked by: Chan Chun Lam Date: 13-Jul-2011

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

Brüel & Kjær

SPECTRIS CHINA LIMITED
思 百 吉 中 國 有 限 公 司

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS12-DEMO

Calibration of :

Description	:	Sound Level Meter	,	Microphone
Manufacture	:	Brüel & Kjær		
Type No.	:	2238	,	4188
Serial No.	:	2285692	,	2641129

Client :

Spectris China Limited
706 Miramar Tower
132 Nathan Road
TST, Kln.
HK

Calibration Conditions :

Air Temperature	:	23	**°C**
Air Pressure	:	101.0	**kPa**
Relative Humidity	:	59	**%**

Test Specifications :

The Sound Level Meter has been calibrated in accordance with the requirements as specified in IEC 60651 and IEC 60804 type 1, and vendor specific procedures.

The measurements has been performed with the assistance of :
Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999
The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

Date of Calibration : 22 April, 2012
Calibrated By :

Jacky Leung

Certificate issued : 22 April, 2012
Approved signatory :

Jacky Leung

Unit 706 7/F., Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
香 港 九 龍 尖 沙 咀 彌 敦 道 1 3 2 號 美 麗 華 大 廈 7 樓 7 0 6 室

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Spectris Offices in China: Beijing • Chengdu • Guangzhou • Hong Kong • Shanghai • Shenyang
Technical Centres in China : Guangzhou • Wuhan • Xian
Web Site: www.bksv.com

spectris

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS12-DEMO

Results :

List of performed (sub) test with test status:

"OK" Means the result of the (sub)test is Inside the tolerances stated in the test specifications.

" - " Means the result of the (sub)test is Outside these tolerances.

Test :	Subtest :	Status :
Noise	A	-
Noise	C	-
Noise	Lin	-
Acoustic Response	A	OK
Acoustic Response	Lin	OK

Calibration Equipment :

Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999

Description :	Make & Model :	Serial No. :	Last Cal. Date :	Traceable to:
Digital Multi-meter	Datron 1281	27361	23 Sept, 2011	HKSCL (HOKLAS)
Sine/Noise Generator	B&K 1049	1314978	Test	B&K Conformance
Test Waveform Generator	B&K 5918	1482949	Test	B&K Conformance
Acoustical Calibrator	B&K 4226	1843104	09 Aug, 2011	NPL via B&K (UKAS)

Calibrated By :
Date : 22 April, 2012

Checked By :
Date : 22 April, 2012

Sound Level Meter Type 2238 SerialNo. 2285692 Date 22.04.2012
Microphone ..... Type 4188 SerialNo. 2641129

B 20 SELF GENERATED NOISE

The noise test is performed in the most sensitive range of the SLM with the microphone replaced by an equivalent impedance.

Noise level : Calculated mean value of 10 measurements in dB measured using the DC output of the SLM, or value directly from indicator.

Noise Level in A Weighting dB
13.5

Noise Level in C Weighting dB
17.5

Noise Level in Lin dB
22.2

A 2 FREQUENCY WEIGHTING

The frequency response of the weighting networks has been tested electricaly with reference to 1000 Hz.
The test has been performed as an "Inverse curve test".
The input to the SLM has been increased by the same amount as the nominal attenuation of the filter.

The test level is FSD - 36 dB in the reference range.

Frequency : Frequency of input sine in Hz
Input Level : Level of input sine in dBuV
Exp. Level : Expected SLM reading in dB
Actual Level : Actual SLM reading in dB
Tolerance : IEC 651 tolerance

Sound Level Meter Type 2238 SerialNo. 2285692 Date 22.04.2012
Microphone ..... Type 4188 SerialNo. 2641129

A2 ACOUSTICAL RESPONSE

The acoustic response of the Sound Level Meter and the microphone is tested in the frequency range from 31.5 Hz. to 12.5 kHz. using a B&K type 4226 Multifunction Acoustic Calibrator.

The test can be performed in both linear and A weighting.

Reference frequency : 1 kHz.
Reference level : 94 dB.
Tolerance : IEC 651.

Acoustic response A.

		Level		Tolerance		
Frequency	FF-Corr.	Exp.	Actual	Pos.	Neg.	Dev
1000.0	0.2		93.8			
31.5	0.0	54.7	55.0	1.5	1.5	0.3
63.0	0.0	67.9	68.0	1.5	1.5	0.1
125.0	0.0	78.0	77.9	1.0	1.0	-0.1
250.0	0.0	85.4	85.3	1.0	1.0	-0.1
500.0	0.1	90.7	90.6	0.9	0.9	-0.1
2000.0	0.3	94.8	94.7	0.9	0.9	-0.1
4000.0	1.3	93.8	93.9	0.9	0.9	0.1
8000.0	4.0	88.9	89.2	1.3	2.8	0.3
12500.0	7.2	82.5	82.6	2.8	5.8	0.1

Acoustic response Lin.

		Level		Tolerance		
Frequency	FF-Corr.	Exp.	Actual	Pos.	Neg.	Dev
1000.0	0.2		93.8			
31.5	0.0	94.1	94.2	1.5	1.5	0.1
63.0	0.0	94.1	94.1	1.5	1.5	0.0
125.0	0.0	94.1	94.0	1.0	1.0	-0.1
250.0	0.0	94.0	93.9	1.0	1.0	-0.1
500.0	0.1	93.9	93.8	0.9	0.9	-0.1
2000.0	0.3	93.6	93.5	0.9	0.9	-0.1
4000.0	1.3	92.8	92.9	0.9	0.9	0.1
8000.0	4.0	90.0	90.5	1.3	2.8	0.5
12500.0	7.2	86.8	87.2	2.8	5.8	0.4

MANUFACTURER'S CERTIFICATE OF CONFORMANCE

We certify that Brüel & Kjær **-2238--001-** Serial No. **2800930** has been tested and passed all production tests, confirming compliance with the manufacturer's published specification at the date of the test.

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

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

Nærum 22-jun-2012

Torben Bjørn
Vice President, Operations

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

BA 0238 – 18

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

Brüel & Kjær

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Tel : (852) 2873 6860
Fax : (852) 2555 7533

CERTIFICATE OF CALIBRATION

Certificate No.: 11CA0711 01-04 **Page:** 1 of 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	B & K
Type/Model No.:	BK4231
Serial/Equipment No.:	1790985 / N.004.01
Adaptors used:	Yes

Item submitted by

Curstomer:	AECOM ASIA CO. LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	11-Jul-2011

Date of test: 11-Jul-2011

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	18-May-2012	SCL
Preamplifier	B&K 2673	2239857	14-Dec-2011	CEPREI
Measuring amplifier	B&K 2610	2346941	15-Dec-2011	CEPREI
Signal generator	DS 360	61227	30-May-2012	CEPREI
Digital multi-meter	34401A	US36087050	09-Dec-2011	CEPREI
Audio analyzer	8903B	GB41300350	27-May-2012	CEPREI
Universal counter	53132A	MY40003662	30-May-2012	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 5 %
Air pressure:	990 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 13-Jul-2011 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. Tel : (852) 2873 6860
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓 Fax : (852) 2555 7533
E-mail: smec@cigismec.com Website: www.cigismec.com

HOKLAS 028

CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 11CA0711 01-04 **Page:** 2 of 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Uncertainty dB
1000	94.00	94.08	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz **STF = 0.002 dB**

Estimated uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz **Actual Frequency = 999.8 Hz**

Estimated uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz **TND = 0.4%**

Estimated uncertainty 0.7%

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip **Date:** 11-Jul-2011

Checked by: Chan Chun Lam **Date:** 13-Jul-2011

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong.
香港黃竹坑道37號利達中心地下，9樓，12樓，13樓及20樓
E-mail: smec@cigismec.com Website: www.cigismec.com
Tel : (852) 2873 6860
Fax : (852) 2555 7533

HOKLAS 028 CAL

CERTIFICATE OF CALIBRATION

Certificate No.: 12CA0823 01 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	B & K
Type/Model No.:	4231
Serial/Equipment No.:	1790985 / N.004.01
Adaptors used:	-

Item submitted by

Curstomer:	AECOM Asia Company Limited
Address of Customer:	-
Request No.:	-
Date of receipt:	23-Aug-2012

Date of test: 23-Aug-2012

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	29-May-2013	SCL
Preamplifier	B&K 2673	2239857	05-Jan-2013	CEPREI
Measuring amplifier	B&K 2610	2346941	29-Dec-2012	CEPREI
Signal generator	DS 360	61227	29-May-2013	CEPREI
Digital multi-meter	34401A	US36087050	16-Dec-2012	CEPREI
Audio analyzer	8903B	GB41300350	29-May-2013	CEPREI
Universal counter	53132A	MY40003662	29-May-2013	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	60 ± 10 %
Air pressure:	1000 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 23-Aug-2012 **Company Chop:**

SOILS & MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 12CA0823 01 **Page:** 2 **of** 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Uncertainty dB
1000	94.00	94.08	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz **STF = 0.001 dB**

Estimated uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz **Actual Frequency = 999.8 Hz**

Estimated uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz **TND = 0.5 %**

Estimated uncertainty 0.7 %

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip **Date:** 23-Aug-2012

Checked by: Feng Jun Qi **Date:** 23-Aug-2012

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
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CERTIFICATE OF CALIBRATION

Certificate No.: 11CA0711 01-03 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	B & K
Type/Model No.:	BK4231
Serial/Equipment No.:	1850426 / N.004.02
Adaptors used:	Yes

Item submitted by

Curstomer:	AECOM ASIA CO. LTD.
Address of Customer:	-
Request No.:	-
Date of receipt:	11-Jul-2011

Date of test: 11-Jul-2011

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	18-May-2012	SCL
Preamplifier	B&K 2673	2239857	14-Dec-2011	CEPREI
Measuring amplifier	B&K 2610	2346941	15-Dec-2011	CEPREI
Signal generator	DS 360	61227	30-May-2012	CEPREI
Digital multi-meter	34401A	US36087050	09-Dec-2011	CEPREI
Audio analyzer	8903B	GB41300350	27-May-2012	CEPREI
Universal counter	53132A	MY40003662	30-May-2012	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 5 %
Air pressure:	990 ± 5 hPa

Test specifications

1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.

2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.

3, The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on **page 2** of this certificate.

Approved Signatory: Huang Jian Min/Feng Jun Qi **Date:** 13-Jul-2011 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

綜合試驗有限公司
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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 11CA0711 01-03 **Page:** 2 of 2

1, Measured Sound Pressure Level

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Uncertainty dB
1000	94.00	94.07	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

At 1000 Hz **STF = 0.002 dB**

Estimated uncertainty 0.005 dB

3, Actual Output Frequency

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

At 1000 Hz **Actual Frequency = 999.8 Hz**

Estimated uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

At 1000 Hz **TND = 0.5%**

Estimated uncertainty 0.7%

The uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95 %. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by: Fung Chi Yip **Date:** 11-Jul-2011

Checked by: Chan Chun Lam **Date:** 13-Jul-2011

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.

APPENDIX B

BASELINE AIR QUALITY MONITORING RESULTS

Appendix B
Baseline Air Quality Monitoring Results
1-hour TSP Monitoring Results

Station ID: DMS-1 (1) (C.U.H.K.A.A. Thomas Cheung School)

Date	Start Time (hh:mm)	1st Hour Conc. (μg/m^3)	2nd Hour Conc. (μg/m^3)	3rd Hour Conc. (μg/m^3)
27-Aug-12	14:50	47.0	52.0	53.0
28-Aug-12	14:00	53.1	50.2	51.2
29-Aug-12	14:10	45.8	48.9	53.1
30-Aug-12	14:10	58.3	54.2	55.6
31-Aug-12	14:20	48.8	52.1	50.6
1-Sep-12	14:20	49.6	51.1	50.6
2-Sep-12	14:05	51.1	53.9	48.9
3-Sep-12	14:15	49.0	51.9	53.6
4-Sep-12	14:10	51.9	50.7	51.2
5-Sep-12	14:00	53.8	58.2	56.3
6-Sep-12	14:10	52.6	53.2	49.8
7-Sep-12	14:10	49.5	51.5	50.4
8-Sep-12	14:10	51.2	49.2	49.9
9-Sep-12	14:20	57.1	60.3	59.0
			Average	52.1
			Min	45.8
			Max	60.3

Station ID: DMS-2 (1) (Price Memorial Catholic Primary School)

Note: Price Memorial Catholic Primary School was inaccessible on Sundays (16 and 23 Sep).

Date	Start Time (hh:mm)	1st Hour Conc. (μg/m^3)	2nd Hour Conc. (μg/m^3)	3rd Hour Conc. (μg/m^3)
13-Sep-12	11:20	38.8	37.6	40.2
14-Sep-12	11:40	40.2	41.4	43.2
15-Sep-12	11:50	42.6	45.4	42.0
17-Sep-12	11:50	45.4	43.6	42.8
18-Sep-12	11:50	45.2	46.1	46.9
19-Sep-12	11:50	45.4	47.3	48.2
20-Sep-12	11:50	38.0	39.5	38.6
21-Sep-12	10:30	50.0	49.1	48.1
22-Sep-12	10:40	42.6	41.6	41.9
24-Sep-12	10:50	39.4	37.5	37.7
25-Sep-12	11:55	33.2	34.7	35.2
26-Sep-12	11:20	36.8	33.8	36.2
27-Sep-12	11:20	35.0	36.6	33.2
28-Sep-12	11:24	31.1	30.2	31.6
			Average	40.3
			Min	30.2
			Max	50.0

Appendix B
Baseline Air Quality Monitoring Results
1-hour TSP Monitoring Results

Station ID: DMS-3 (1) / DMS-4 (2) (Hong Kong S.K.H. Nursing Home)

Date	Start Time (hh:mm)	1st Hour Conc. (μg/m^3)	2nd Hour Conc. (μg/m^3)	3rd Hour Conc. (μg/m^3)
11-Sep-12	10:30	40.6	32.7	38.4
12-Sep-12	10:30	41.2	38.6	37.4
13-Sep-12	10:50	39.6	41.0	37.8
14-Sep-12	10:40	41.6	46.2	42.4
15-Sep-12	10:50	38.4	42.6	40.0
16-Sep-12	10:55	42.8	45.4	42.0
17-Sep-12	10:40	41.6	43.8	42.8
18-Sep-12	10:40	47.4	48.6	45.3
19-Sep-12	10:40	42.8	45.3	44.5
20-Sep-12	10:40	41.0	39.9	40.6
21-Sep-12	11:00	63.4	65.0	64.4
22-Sep-12	11:05	42.2	44.1	43.1
23-Sep-12	11:13	46.2	41.8	42.9
24-Sep-12	11:25	41.6	44.5	40.9
			Average	43.6
			Min	32.7
			Max	65.0

Station ID: DMS-4 (1) / DMS-3 (2) (Rhythm Garden, Block 1)

Date	Start Time (hh:mm)	1st Hour Conc. (μg/m^3)	2nd Hour Conc. (μg/m^3)	3rd Hour Conc. (μg/m^3)
11-Sep-12	11:35	38.9	41.2	40.8
12-Sep-12	11:35	41.1	37.3	39.4
13-Sep-12	11:40	39.2	34.2	35.8
14-Sep-12	11:15	38.4	41.6	44.2
15-Sep-12	11:20	38.3	39.6	38.0
16-Sep-12	11:30	43.4	46.2	41.3
17-Sep-12	11:20	41.4	38.3	41.9
18-Sep-12	11:20	46.2	47.7	49.1
19-Sep-12	11:20	47.4	46.1	46.6
20-Sep-12	11:20	52.3	51.1	51.6
21-Sep-12	11:47	67.3	67.8	68.4
22-Sep-12	11:50	44.7	45.6	45.9
23-Sep-12	11:41	39.2	40.9	41.1
24-Sep-12	11:50	38.5	41.6	42.8
			Average	44.3
			Min	34.2
			Max	68.4

Appendix B
Baseline Air Quality Monitoring Results
1-hour TSP Monitoring Results

Station ID: DMS-11 (1) / DMS-2 (2) / AM1(3) (234-238 Chatham Road North)

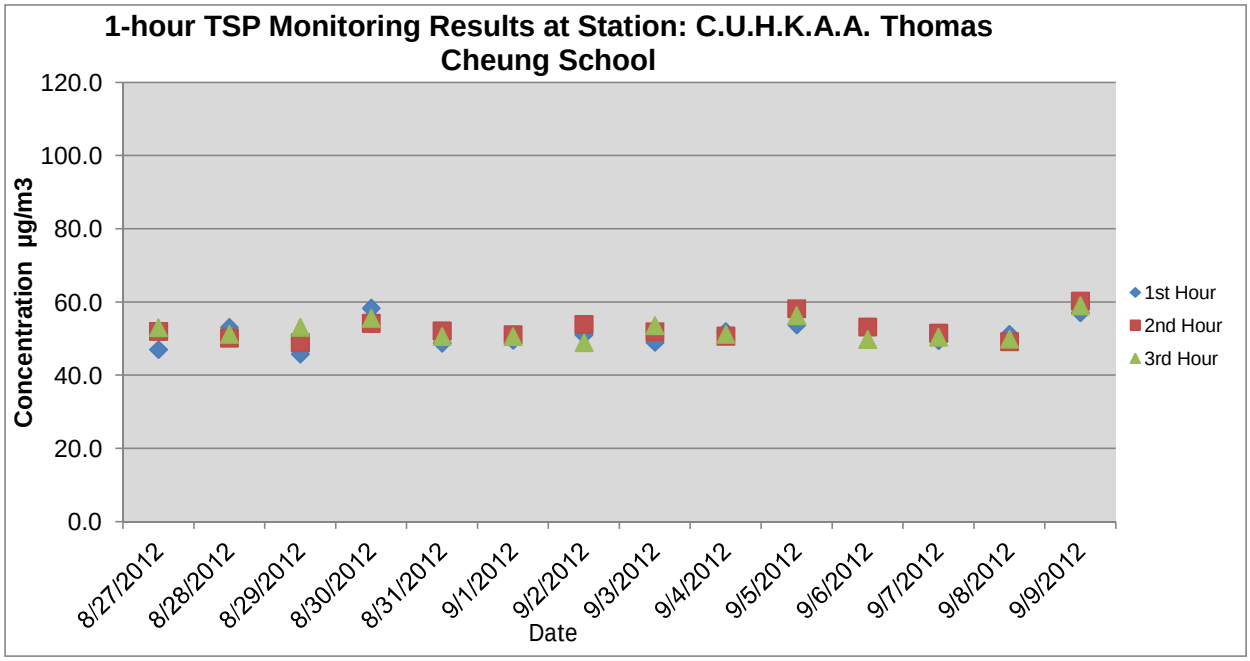
Date	Start Time (hh:mm)	1st Hour Conc. ($\mu g/m^3$)	2nd Hour Conc. ($\mu g/m^3$)	3rd Hour Conc. ($\mu g/m^3$)
26-Sep-12	10:55	26.7	27.5	28.4
27-Sep-12	11:00	27.7	29.2	27.4
28-Sep-12	11:25	30.3	31.2	30.7
29-Sep-12	11:25	29.9	30.2	31.3
30-Sep-12	11:25	29.2	30.0	31.2
1-Oct-12	12:20	30.5	31.2	29.7
2-Oct-12	11:30	30.0	29.4	29.7
3-Oct-12	11:35	28.3	30.3	27.3
4-Oct-12	11:35	31.2	33.3	34.8
5-Oct-12	11:35	32.2	32.6	30.2
6-Oct-12	11:50	31.0	29.9	31.6
7-Oct-12	12:00	32.5	31.4	32.2
8-Oct-12	12:00	36.1	35.1	31.9
9-Oct-12	12:05	35.3	33.4	32.5
			Average	30.8
			Min	26.7
			Max	36.1

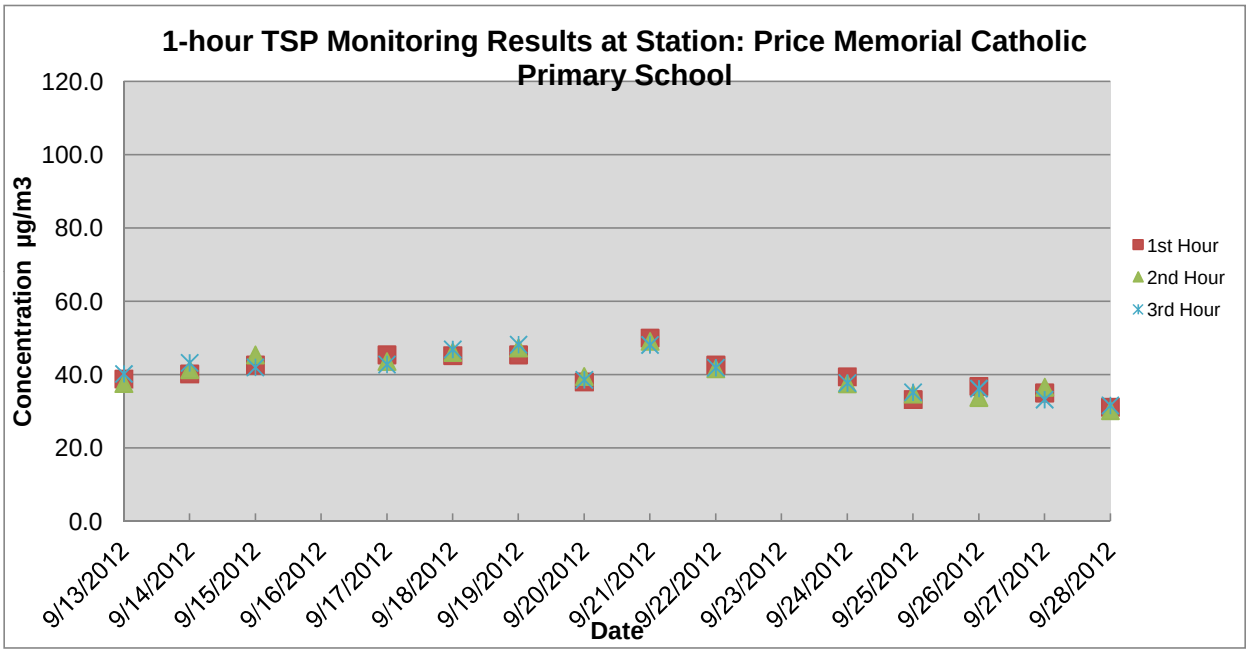
Remarks:

(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).


1-hour TSP Monitoring Results at Station: C.U.H.K.A.A. Thomas Cheung School
Concentration µg/m3
120.0
100.0
80.0
60.0
40.0
20.0
0.0
8/27/2012
8/28/2012
8/29/2012
8/30/2012
8/31/2012
9/1/2012
9/2/2012
9/3/2012
9/4/2012
9/5/2012
9/6/2012
9/7/2012
9/8/2012
9/9/2012
Date
1st Hour
2nd Hour
3rd Hour


1-hour TSP Monitoring Results at Station: Price Memorial Catholic Primary School
Concentration µg/m3
120.0
100.0
80.0
60.0
40.0
20.0
0.0
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
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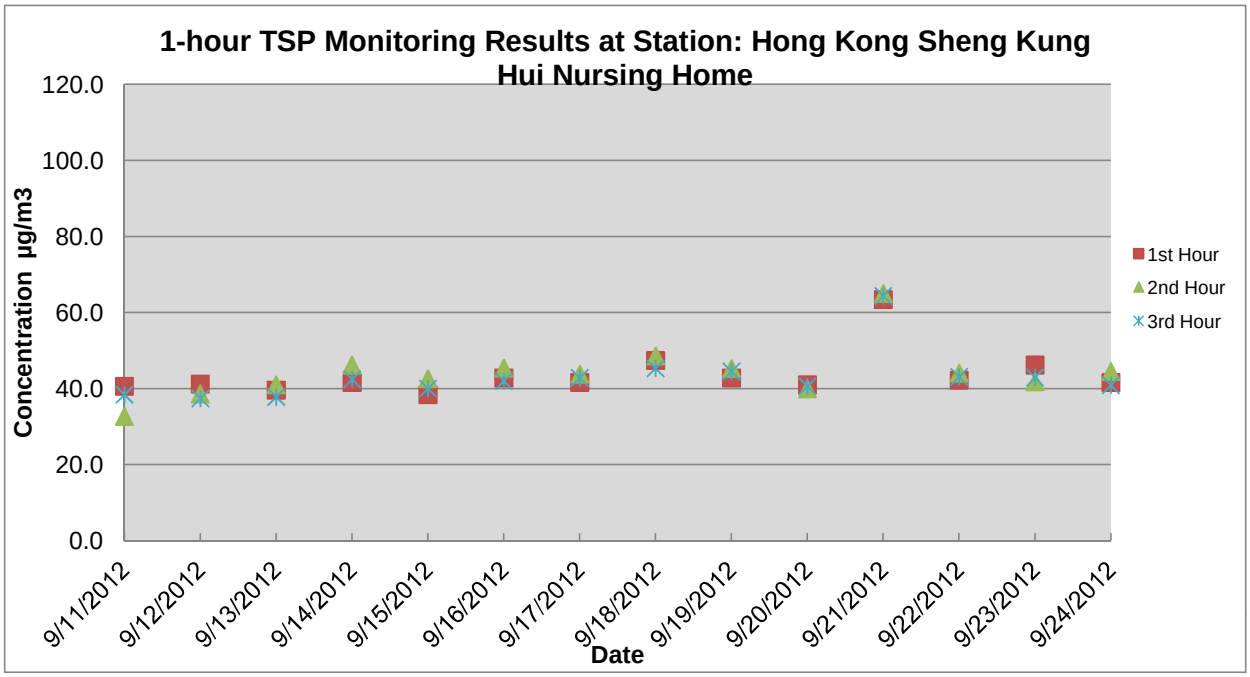
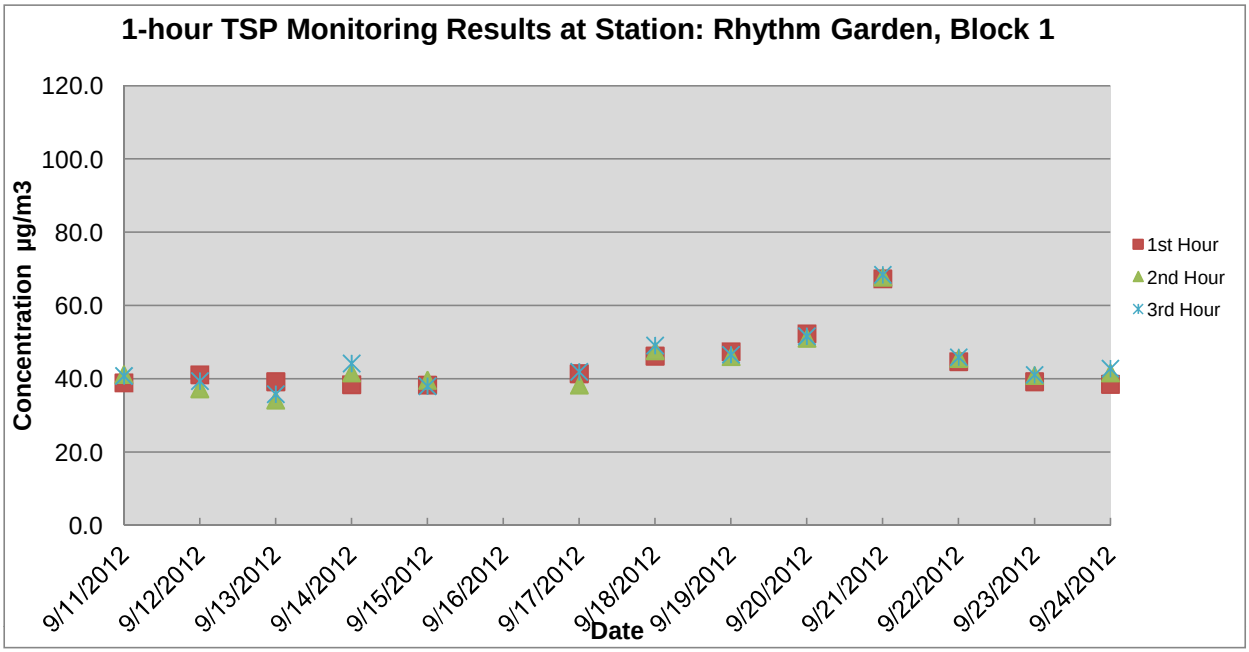
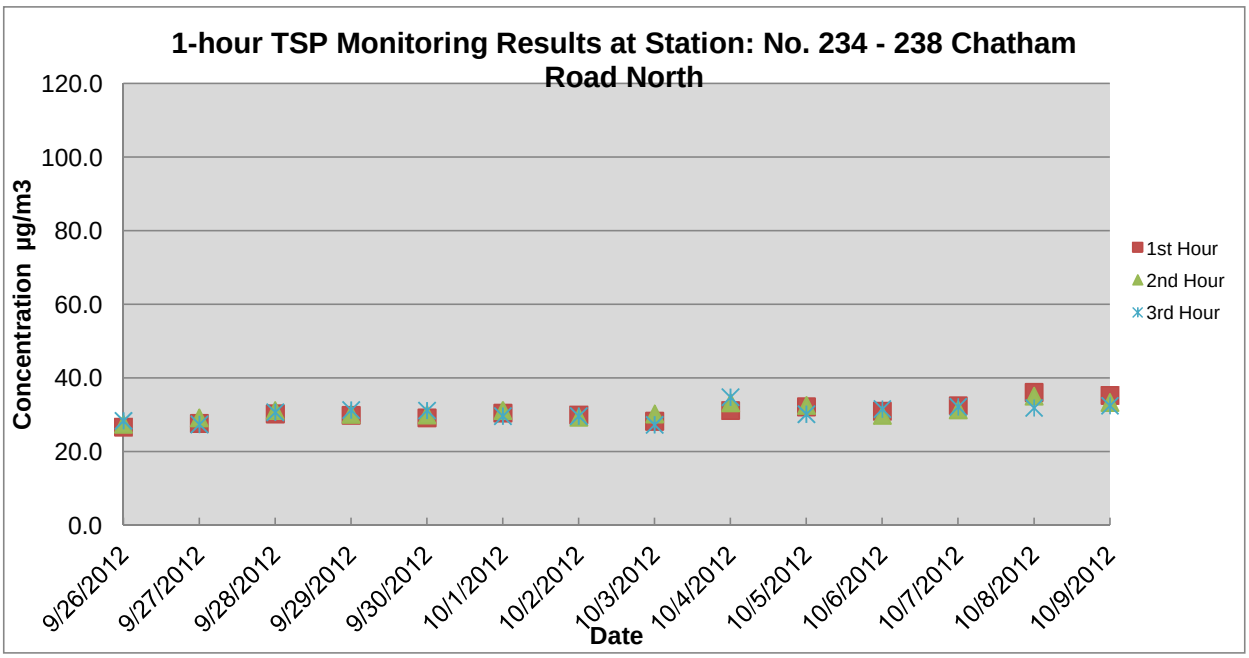
Date
1st Hour
2nd Hour
3rd Hour


1-hour TSP Monitoring Results at Station: Hong Kong Sheng Kung Hui Nursing Home
Concentration µg/m3
120.0
100.0
80.0
60.0
40.0
20.0
0.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date
1st Hour
2nd Hour
3rd Hour


1-hour TSP Monitoring Results at Station: Rhythm Garden, Block 1
Concentration µg/m3
120.0
100.0
80.0
60.0
40.0
20.0
0.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date
1st Hour
2nd Hour
3rd Hour


1-hour TSP Monitoring Results at Station: No. 234 - 238 Chatham Road North
Concentration µg/m3
120.0
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80.0
60.0
40.0
20.0
0.0
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
Date
1st Hour
2nd Hour
3rd Hour

Appendix B
Baseline Air Quality Monitoring Results
24-hour TSP Monitoring Results

Station ID: DMS-1 [1] (C.U.H.K.A.A. Thomas Cheung School)

Site Observation: No construction works were conducted in the vicinity during the monitoring period.

Date	Weather Condition	Air Temp. (^{o}C)	Atmospheric Pressure (hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
27-Aug-12	Sunny	30.2	1001.2	1.34	1.34	1.34	1926.7	2.7193	2.9069	0.1876	861.81	885.81	24.00	97.2
28-Aug-12	Fine	30.2	1004.2	1.34	1.34	1.34	1926.7	2.7357	2.8422	0.1065	885.81	909.81	24.00	55.2
29-Aug-12	Sunny	29.7	1007.0	1.34	1.34	1.34	1926.7	2.7146	2.7775	0.0629	909.81	933.81	24.00	32.6
30-Aug-12	Sunny	29.1	1007.3	1.34	1.34	1.34	1926.7	2.7445	2.7945	0.0500	933.81	957.81	24.00	25.9
31-Aug-12	Sunny	28.5	1007.7	1.34	1.34	1.34	1926.7	2.7031	2.7363	0.0332	957.81	981.81	24.00	17.2
1-Sep-12	Fine	27.5	1007.9	1.34	1.34	1.34	1926.7	2.7517	2.7792	0.0275	981.81	1005.81	24.00	14.3
2-Sep-12	Sunny	28.4	1008.3	1.34	1.34	1.34	1926.7	2.7415	2.7664	0.0249	1005.81	1029.81	24.00	12.9
3-Sep-12	Sunny	29.4	1008.4	1.34	1.34	1.34	1926.7	2.7279	2.7406	0.0127	1029.81	1053.81	24.00	6.6
4-Sep-12	Rainy	27.9	1010.3	1.34	1.34	1.34	1926.7	2.7225	2.7484	0.0259	1053.81	1077.81	24.00	13.4
5-Sep-12	Sunny	28.2	1012.6	1.34	1.34	1.34	1926.7	2.7678	2.8236	0.0558	1077.81	1101.81	24.00	28.9
6-Sep-12	Sunny	29.0	1013.1	1.34	1.34	1.34	1926.7	2.7017	2.7587	0.0570	1101.81	1125.81	24.00	29.5
7-Sep-12	Sunny	28.6	1013.3	1.34	1.34	1.34	1926.7	2.8063	2.8440	0.0377	1125.81	1149.81	24.00	19.5
8-Sep-12	Sunny	28.8	1012.1	1.34	1.34	1.34	1926.7	2.8021	2.8609	0.0588	1149.81	1173.81	24.00	30.5
9-Sep-12	Sunny	29.5	1010.9	1.34	1.34	1.34	1926.7	2.8125	2.8510	0.0385	1173.81	1197.81	24.00	20.0
													Average	28.8
													Min	6.6
													Max	97.2

Station ID: DMS-2 [1] (Price Memorial Catholic Primary School)

Site Observation: No construction works were conducted in the vicinity during the monitoring period.
Note: Price Memorial Catholic Primary School was inaccessible on Sundays (16 and 23 Sep).

Date	Weather Condition	Air Temp. (^{o}C)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. ($\mu g/m^3$)
13-Sep-12	Sunny	29.0	1008.5	1.41	1.41	1.41	2036.2	2.7100	2.7648	0.0548	596.99	620.99	24.00	27.0
14-Sep-12	Sunny	26.9	1009.3	1.27	1.27	1.27	1823.0	2.7194	2.8422	0.1228	620.99	644.99	24.00	67.1
15-Sep-12	Sunny	26.5	1010.3	1.27	1.27	1.27	1823.0	2.7628	2.8848	0.1220	644.99	668.99	24.00	66.7
17-Sep-12	Fine	27.0	1011.3	1.50	1.50	1.50	2165.8	2.7722	2.9588	0.1866	668.99	692.99	24.00	86.4
18-Sep-12	Fine	27.4	1010.1	1.03	1.03	1.03	1480.3	2.7152	2.8049	0.0897	692.99	716.99	24.00	60.5
19-Sep-12	Sunny	26.9	1011.0	1.50	1.50	1.50	2165.0	2.7836	2.9404	0.1568	716.99	740.99	24.00	72.6
20-Sep-12	Cloudy	27.2	1011.6	1.27	1.27	1.27	1823.0	2.7659	2.8880	0.1221	740.99	764.99	24.00	66.8
21-Sep-12	Sunny	27.7	1010.7	1.27	1.27	1.27	1823.0	2.7613	2.8479	0.0866	764.99	788.99	24.00	47.4
22-Sep-12	Cloudy	28.0	1009.1	1.21	1.21	1.21	1736.6	2.7916	2.8347	0.0431	788.99	812.99	24.00	24.7
24-Sep-12	Sunny	27.7	1007.4	1.21	1.21	1.21	1736.6	2.7871	2.8506	0.0635	813.02	837.02	24.00	36.4
25-Sep-12	Sunny	26.8	1009.9	1.27	1.27	1.27	1792.7	2.8204	2.9245	0.1041	837.02	860.62	23.60	57.9
26-Sep-12	Sunny	27.0	1010.7	1.27	1.27	1.27	1775.9	2.8041	2.9080	0.1039	860.62	884.00	23.38	58.3
27-Sep-12	Sunny	28.2	1009.6	1.27	1.27	1.27	1823.0	2.7750	2.8602	0.0852	884.62	908.62	24.00	46.6
28-Sep-12	Sunny	28.2	1009.3	1.27	1.27	1.27	1823.0	2.7224	2.8836	0.1612	908.00	932.00	24.00	88.1
													Average	57.6
													Min	24.7
													Max	88.1

Appendix B
Baseline Air Quality Monitoring Results
24-hour TSP Monitoring Results

Station ID: DMS-3 (1) / DMS-4 (2) (Hong Kong S.K.H. Nursing Home)

Site Observation: No construction works were conducted in the vicinity during the monitoring period.

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure (hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)
11-Sep-12	Sunny	29.9	1009.9	1.30	1.30	1.30	1869.1	2.7870	2.8216	0.0346	1197.81	1221.81	24.00	18.5
12-Sep-12	Sunny	29.8	1009.1	1.18	1.18	1.18	1697.8	2.7284	2.7486	0.0202	1221.81	1245.81	24.00	11.9
13-Sep-12	Sunny	29.0	1008.5	1.42	1.42	1.42	2040.5	2.7174	2.7996	0.0822	1245.81	1269.81	24.00	40.2
14-Sep-12	Sunny	26.9	1009.3	1.48	1.48	1.48	2115.4	2.7764	2.8824	0.1060	1269.81	1293.81	24.00	49.7
15-Sep-12	Sunny	26.5	1010.3	1.42	1.42	1.42	2040.5	2.7825	2.8823	0.0998	1293.81	1317.81	24.00	48.8
16-Sep-12	Sunny	27.0	1010.8	1.42	1.42	1.42	2040.2	2.7696	2.9053	0.1357	1317.81	1341.81	24.00	66.4
17-Sep-12	Fine	27.0	1011.3	1.48	1.48	1.48	2125.4	2.7168	2.9312	0.2144	1341.81	1365.81	24.00	100.6
18-Sep-12	Fine	27.4	1010.1	1.36	1.36	1.36	1954.1	2.8062	2.9205	0.1143	1365.81	1389.81	24.00	58.4
19-Sep-12	Rainy	26.9	1011.0	1.42	1.42	1.42	2079.4	2.7679	2.8997	0.1318	1389.81	1413.81	24.00	64.5
20-Sep-12	Cloudy	27.2	1011.6	1.36	1.33	1.35	1932.5	2.7756	2.8857	0.1101	1413.81	1437.81	24.00	56.8
21-Sep-12	Sunny	27.7	1010.7	1.33	1.33	1.33	1910.9	2.7237	2.7954	0.0717	1437.81	1461.81	24.00	37.4
22-Sep-12	Cloudy	28.0	1009.1	1.45	1.30	1.37	1976.4	2.7759	2.8201	0.0442	1461.81	1485.81	24.00	22.4
23-Sep-12	Cloudy	28.5	1007.3	1.31	1.31	1.31	1882.1	2.7704	2.8058	0.0354	1485.81	1509.81	24.00	18.8
24-Sep-12	Sunny	27.7	1007.4	1.31	1.31	1.31	1882.1	2.7785	2.8395	0.0610	1509.81	1533.81	24.00	32.3
													Average	44.8
													Min	11.9
													Max	100.6

Station ID: DMS-4 (1) / DMS-3 (2) (Rhythm Garden, Block 1)

Site Observation: No construction works were conducted in the vicinity during the monitoring period.
Remarks: As there was no electricity supply on 16 Sept, the monitoring period was extended.

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)
11-Sep-12	Sunny	29.9	1009.9	1.20	1.20	1.20	1728.0	2.8234	2.8666	0.0432	17100.11	17124.11	24.00	25.0
12-Sep-12	Sunny	29.8	1009.1	1.20	1.20	1.20	1728.0	2.7296	2.7594	0.0298	17124.11	17148.11	24.00	17.2
13-Sep-12	Sunny	29.0	1008.5	1.41	1.41	1.41	2036.2	2.6905	2.7737	0.0832	17148.11	17172.11	24.00	41.0
14-Sep-12	Sunny	26.9	1009.3	1.09	1.09	1.09	1575.4	2.7106	2.7990	0.0884	17172.11	17196.11	24.00	56.3
15-Sep-12	Sunny	26.5	1010.3	1.20	1.20	1.20	1728.0	2.7739	2.8630	0.0891	17196.11	17220.11	24.00	51.6
17-Sep-12	Sunny	27.0	1011.3	1.20	1.20	1.20	1728.0	2.7189	2.8640	0.1451	17220.11	17244.11	24.00	84.0
18-Sep-12	Fine	27.4	1010.1	1.84	1.84	1.84	2651.0	2.7903	2.9437	0.1534	17244.11	17268.11	24.00	57.9
19-Sep-12	Fine	26.9	1011.0	1.20	1.20	1.20	1728.0	2.7738	2.8932	0.1194	17268.11	17292.11	24.00	69.1
20-Sep-12	Cloudy	27.2	1011.6	1.63	1.63	1.63	2342.9	2.8698	3.0250	0.1552	17292.44	17316.44	24.00	66.1
21-Sep-12	Sunny	27.7	1010.7	1.57	1.57	1.57	2266.6	2.7018	2.7819	0.0801	17316.11	17340.11	24.00	35.4
22-Sep-12	Cloudy	28.0	1009.1	1.63	1.63	1.63	2342.9	2.7037	2.7373	0.0336	17340.11	17364.11	24.00	14.3
23-Sep-12	Cloudy	28.5	1007.3	1.24	1.24	1.24	1782.7	2.7893	2.8288	0.0395	17364.11	17388.11	24.00	22.1
24-Sep-12	Sunny	27.7	1007.4	1.24	1.24	1.24	1782.7	2.8771	2.9731	0.0960	17386.07	17410.07	24.00	53.8
25-Sep-12	Sunny	26.8	1009.9	1.41	1.41	1.41	2036.2	2.8065	2.9281	0.1216	17410.07	17434.07	24.00	59.9
													Average	46.7
													Min	14.3
													Max	84.0

Appendix B
Baseline Air Quality Monitoring Results
24-hour TSP Monitoring Results

Station ID: DMS-11 (1) / DMS-2 (2) / AM1(3) (234-238 Chatham Road North)

Site Observation: Construction work of KTE was conducted in the vicinity during the monitoring period.

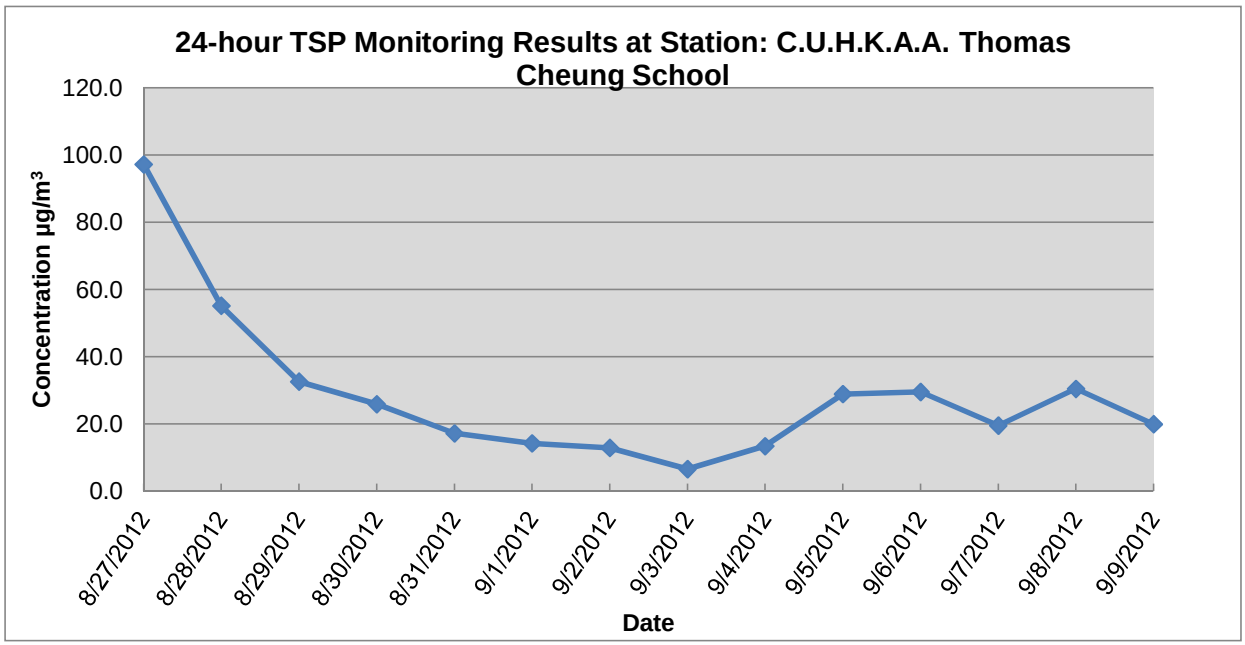
Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure (hPa)	Flow Rate (m^3/min.) Initial	Flow Rate (m^3/min.) Final	Av. flow (m^3/min)	Total vol. (m^3)	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate weight(g)	Elapse Time Initial	Elapse Time Final	Sampling Time(hrs.)	Conc. (μg/m^3)
26-Sep-12	Sunny	27.0	1010.7	1.25	1.25	1.25	1804.3	2.7307	2.8508	0.1201	11380.87	11404.87	24.00	66.7
27-Sep-12	Sunny	28.2	1009.6	1.25	1.25	1.25	1804.3	2.7075	2.8452	0.1377	11404.87	11428.87	24.00	76.5
28-Sep-12	Sunny	28.2	1009.3	1.25	1.25	1.25	1804.3	2.6990	2.8966	0.1976	11428.87	11452.87	24.00	109.8
29-Sep-12	Sunny	27.5	1011.3	1.25	1.25	1.25	1804.3	2.6977	2.8385	0.1408	11452.87	11476.87	24.00	78.2
30-Sep-12	Sunny	26.0	1013.4	1.25	1.25	1.25	1804.3	2.7097	2.8861	0.1764	11476.87	11500.87	24.00	98.0
1-Oct-12	Sunny	26.0	1013.8	1.25	1.25	1.25	1804.3	2.7189	2.8909	0.1720	11500.87	11524.87	24.00	95.6
2-Oct-12	Sunny	26.2	1013.3	1.25	1.25	1.25	1804.3	2.7366	2.8948	0.1582	11524.87	11548.87	24.00	87.9
3-Oct-12	Sunny	26.1	1010.8	1.25	1.25	1.25	1804.3	2.6999	2.8782	0.1783	11548.84	11572.84	24.00	99.1
4-Oct-12	Sunny	26.0	1010.4	1.25	1.25	1.25	1804.3	2.6746	2.8141	0.1395	11572.87	11596.87	24.00	77.5
5-Oct-12	Sunny	26.6	1013.4	1.25	1.25	1.25	1804.3	2.7138	2.7958	0.0820	11596.97	11620.87	23.90	45.7
6-Oct-12	Sunny	26.9	1015.3	1.25	1.25	1.25	1804.3	2.7213	2.8093	0.0880	11620.87	11644.87	24.00	48.9
7-Oct-12	Sunny	26.6	1015.6	1.25	1.25	1.25	1804.3	2.7264	2.8704	0.1440	11644.87	11668.87	24.00	80.0
8-Oct-12	Sunny	26.5	1014.1	1.25	1.25	1.25	1804.3	2.7188	2.8753	0.1565	11668.87	11692.87	24.00	86.9
9-Oct-12	Sunny	26.3	1013.0	1.25	1.25	1.25	1804.3	2.7166	2.9142	0.1976	11692.86	11716.86	24.00	109.8
													Average	82.9
													Min	45.7
													Max	109.8

Remarks:

(1) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(TAW-HUH).

(2) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL(HHS).

(3) Station / ASR ID as identified in approved EM&A Manual / EIA Report for SCL (MKK-HUH).


24-hour TSP Monitoring Results at Station: C.U.H.K.A.A. Thomas Cheung School
Concentration µg/m³
120.0
100.0
80.0
60.0
40.0
20.0
0.0
8/27/2012
8/28/2012
8/29/2012
8/30/2012
8/31/2012
9/1/2012
9/2/2012
9/3/2012
9/4/2012
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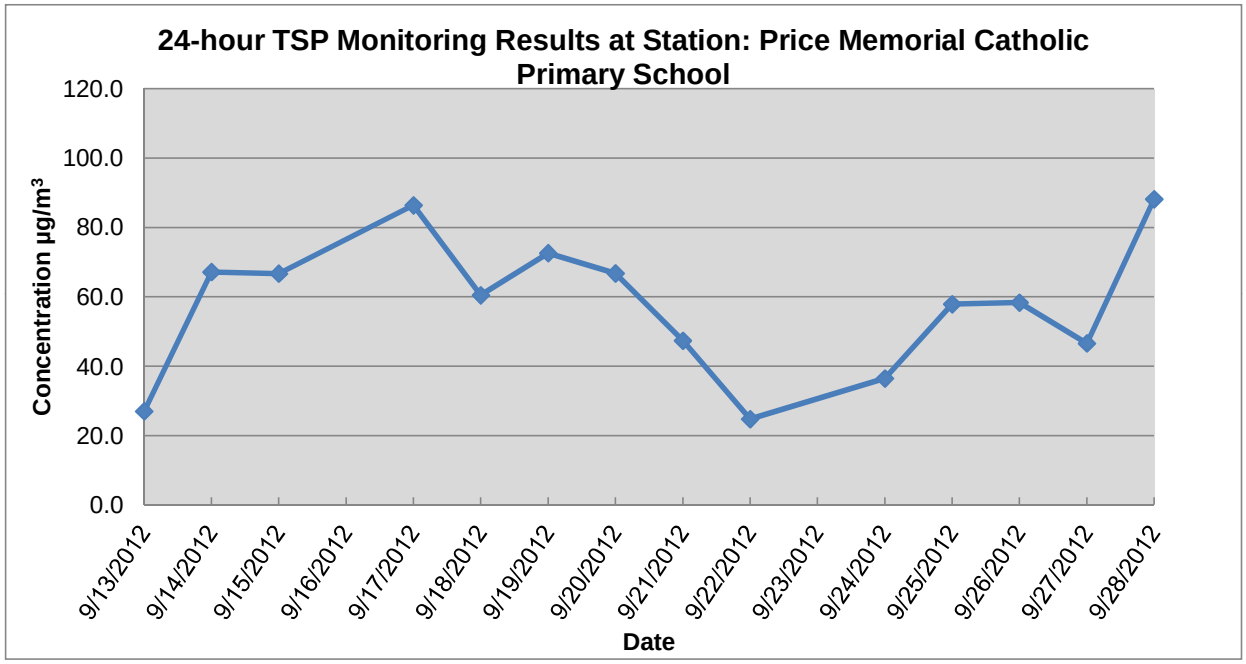
9/7/2012
9/8/2012
9/9/2012
Date


24-hour TSP Monitoring Results at Station: Price Memorial Catholic Primary School
Concentration µg/m³
120.0
100.0
80.0
60.0
40.0
20.0
0.0
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
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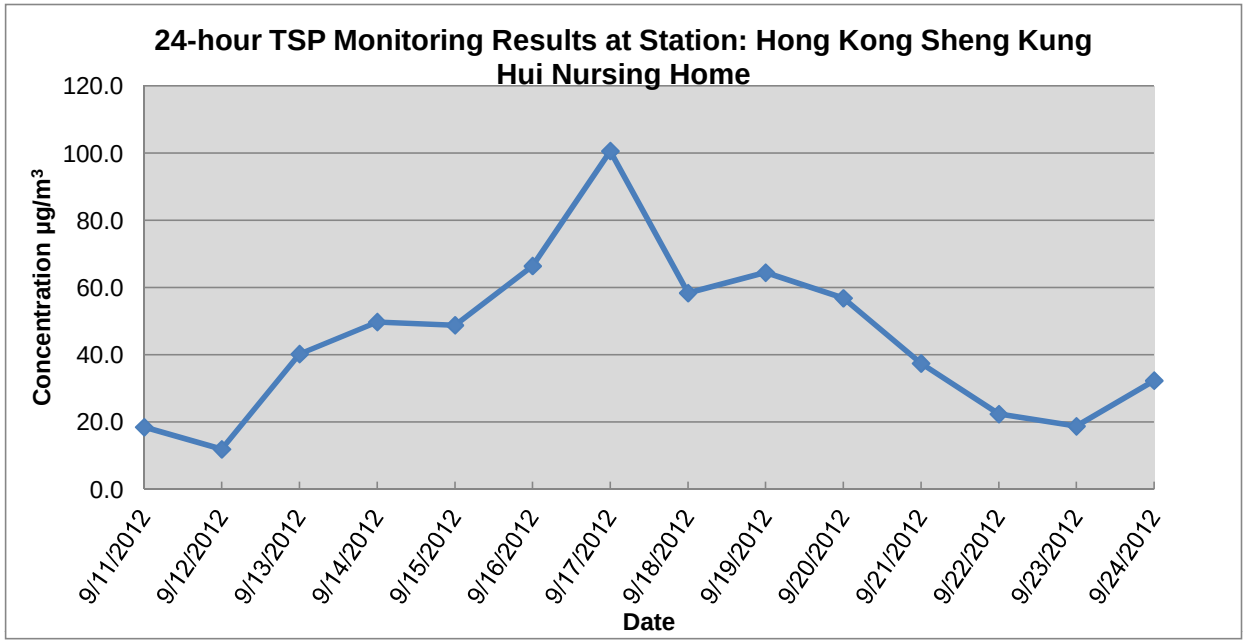
9/26/2012
9/27/2012
9/28/2012
Date


24-hour TSP Monitoring Results at Station: Hong Kong Sheng Kung Hui Nursing Home
Concentration µg/m³
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80.0
60.0
40.0
20.0
0.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
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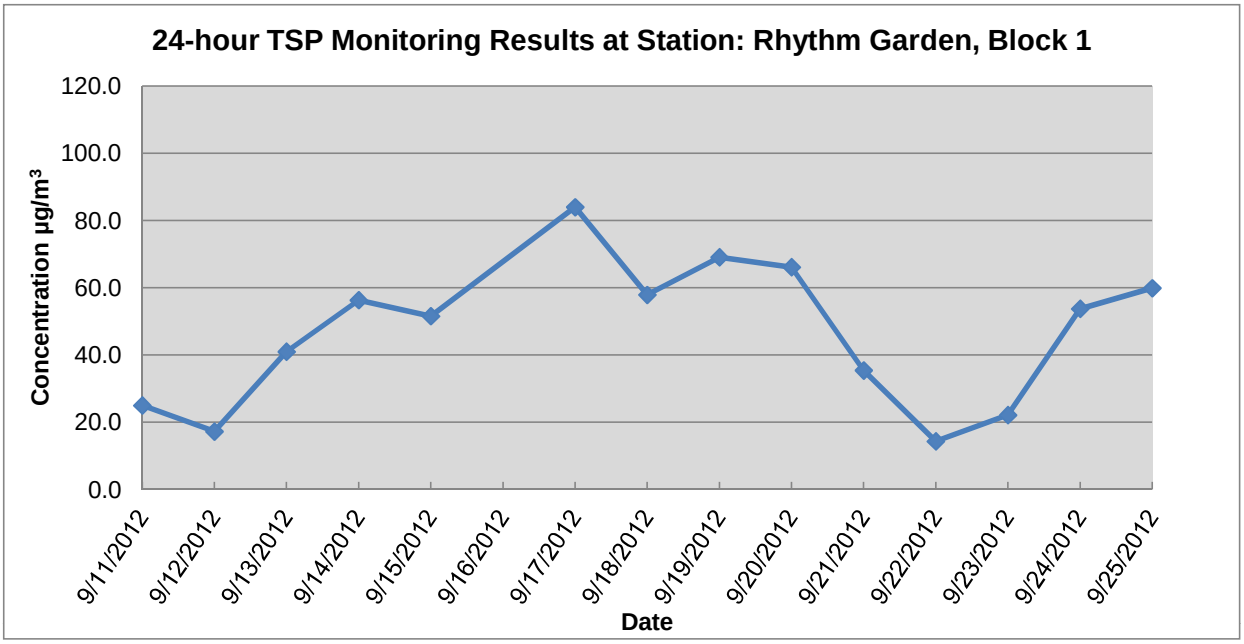
9/22/2012
9/23/2012
9/24/2012
Date


24-hour TSP Monitoring Results at Station: Rhythm Garden, Block 1
Concentration µg/m³
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80.0
60.0
40.0
20.0
0.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
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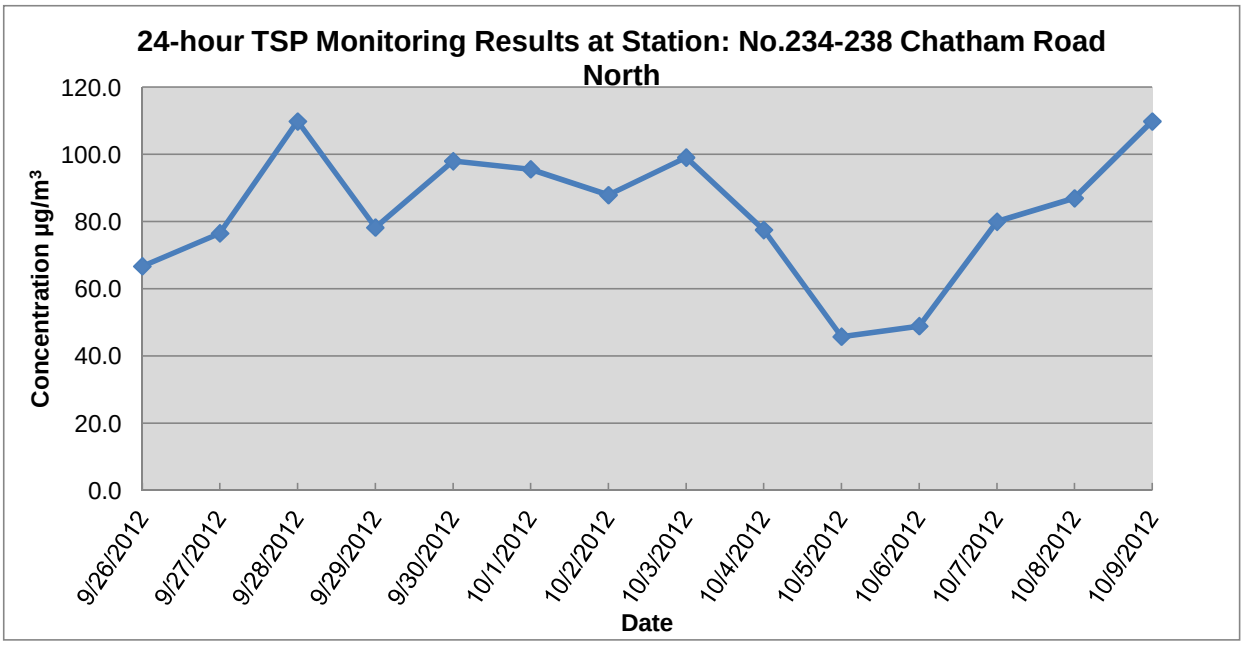
Date


24-hour TSP Monitoring Results at Station: No.234-238 Chatham Road North
Concentration µg/m³
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80.0
60.0
40.0
20.0
0.0
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
Date

APPENDIX C

BASELINE NOISE MONITORING RESULTS

Baseline Noise Monitoring Result

Location:	NMS-CA-1 for SCL(TAW-HUH) C.U.H.K.A.A. Thomas Cheung School
Baseline monitoring period:	27/8/2012 - 10/9/2012
Site observation:	No construction works were conducted in the vicinity during the monitoring period.
Weather condition:	The weather was sunny and overcast during monitoring period.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	56.2	58.0	52.7
07:30-08:00	58.5	60.6	54.1
08:00-08:30	56.0	58.1	52.6
08:30-09:00	56.0	57.7	52.8
09:00-09:30	56.2	58.1	53.1
09:30-10:00	57.5	59.8	53.9
10:00-10:30	59.3	62.0	54.9
10:30-11:00	57.1	59.2	53.3
11:00-11:30	57.2	59.1	53.2
11:30-12:00	55.9	57.8	52.5
12:00-12:30	56.5	58.6	52.5
12:30-13:00	56.6	58.6	52.3
13:00-13:30	56.2	58.0	53.0
13:30-14:00	61.9	60.2	53.8
14:00-14:30	55.4	57.3	52.4
14:30-15:00	55.5	57.4	52.3
15:00-15:30	56.6	58.7	52.7
15:30-16:00	56.2	58.1	52.6
16:00-16:30	55.8	57.5	52.0
16:30-17:00	55.4	57.3	52.2
17:00-17:30	55.8	58.1	51.9
17:30-18:00	55.7	58.0	51.5
18:00-18:30	54.5	56.9	51.5
18:30-19:00	54.9	56.6	51.7
Average	56.8	58.6	52.8
Max	61.9	62.0	54.9
Min	54.5	56.6	51.5

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	54.5	56.2	51.7
	54.2	55.7	51.8
	54.4	56.0	52.0
19:15-19:30	54.1	55.9	51.9
	54.2	55.7	52.1
	54.5	56.1	52.1
19:30-19:45	54.8	56.5	52.2
	54.7	56.3	52.2
	54.8	56.4	52.3
19:45-20:00	55.2	56.9	52.3
	55.6	57.2	52.3
	55.1	56.7	52.3
20:00-20:15	55.1	56.8	52.1
	54.7	56.1	52.1
	55.0	56.2	52.1
20:15-20:30	55.1	56.4	52.2
	54.2	55.7	52.2
	54.5	56.3	52.2
20:30-20:45	54.6	56.5	52.3
	54.6	56.3	52.2
	55.3	57.1	52.9
20:45-21:00	55.5	57.6	52.6
	54.6	56.3	52.4
	54.9	56.4	52.6
21:00-21:15	54.5	56.1	52.5
	54.9	56.7	52.5
	54.5	56.2	52.5
21:15-21:30	54.4	55.9	52.4
	54.3	55.9	52.4
	54.5	56.0	52.4
21:30-21:45	56.0	57.0	52.7
	55.0	56.6	52.6
	54.3	55.6	52.5
21:45-22:00	54.6	56.0	52.6
	58.0	57.5	52.6
	55.1	56.9	52.6
22:00-22:15	54.6	56.0	52.7
	54.8	56.2	52.8
	54.9	56.4	52.7
22:15-22:30	55.0	56.8	52.7
	55.4	57.1	52.7
	55.0	56.6	52.7
22:30-22:45	54.5	55.9	52.7
	54.2	55.7	52.6
	54.7	56.2	52.8
22:45-23:00	55.0	56.8	52.8
	54.5	56.0	52.5
	54.5	56.1	52.4
Average	54.9	56.4	52.4
Max	58.0	57.6	52.9
Min	54.1	55.6	51.7

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	53.5	55.3	51.8
	53.2	54.0	51.5
	53.3	54.3	51.8
07:15-07:30	53.4	54.5	51.8
	53.4	54.8	51.8
	53.0	54.0	51.5
07:30-07:45	54.1	55.6	52.0
	53.3	54.3	51.8
	53.1	54.3	51.5
07:45-08:00	52.8	54.0	51.5
	53.1	54.3	51.5
	53.2	54.8	51.5
08:00-08:15	54.1	55.8	52.0
	53.6	55.1	51.8
	55.0	56.8	52.5
08:15-08:30	55.0	56.8	52.3
	54.2	55.8	52.0
	55.0	56.8	52.8
08:30-08:45	54.3	56.0	51.8
	53.6	55.5	51.5
	54.0	55.1	51.8
08:45-09:00	55.6	56.9	52.0
	54.7	56.5	51.8
	53.7	56.0	51.3
09:00-09:15	54.1	55.3	51.8
	53.3	54.5	51.5
	55.3	57.6	52.0
09:15-09:30	54.8	56.8	51.8
	55.1	57.5	52.0
	54.3	56.9	51.3
09:30-09:45	54.7	56.4	52.0
	52.7	54.0	51.0
	53.8	55.8	51.0
09:45-10:00	52.9	54.8	51.0
	53.2	55.5	51.3
	53.9	56.0	51.3
10:00-10:15	52.8	54.3	50.8
	53.8	56.1	51.0
	53.2	55.0	51.0
10:15-10:30	53.0	54.5	51.3
	52.4	53.8	50.8
	53.4	55.3	51.0
10:30-10:45	52.9	54.3	51.0
	53.2	54.8	51.3
	53.4	55.6	50.8
10:45-11:00	53.9	55.8	51.3
	54.0	56.0	51.0
	53.9	56.0	50.8
11:00-11:15	54.1	56.3	51.0
	54.3	56.8	51.5
	53.8	55.3	50.8
11:15-11:30	54.0	56.3	51.0
	52.6	54.0	50.8
	53.9	55.8	50.5

11:30-11:45	53.3	55.5	50.5
	54.2	56.1	50.8
	53.6	55.3	50.8
11:45-12:00	54.7	56.5	51.0
	57.7	60.4	52.6
	56.7	58.5	52.8
12:00-12:15	54.4	56.8	50.8
	52.6	54.3	50.3
	54.9	56.4	50.8
12:15-12:30	53.4	55.4	50.5
	53.5	55.1	50.8
	52.8	54.5	50.5
12:30-12:45	53.0	55.0	50.5
	55.7	56.6	50.8
	54.0	55.8	50.8
12:45-13:00	52.9	55.0	50.3
	52.4	53.8	49.8
	53.4	55.3	50.3
13:00-13:15	54.4	56.1	50.8
	52.8	54.8	50.3
	53.8	55.5	50.3
13:15-13:30	53.6	55.9	50.8
	53.4	55.5	50.5
	52.9	54.5	50.5
13:30-13:45	54.9	56.4	50.8
	53.6	55.3	50.5
	53.0	54.8	50.0
13:45-14:00	54.4	56.8	50.0
	53.5	55.5	50.5
	53.5	55.8	50.5
14:00-14:15	55.0	55.6	50.3
	53.1	55.0	50.3
	52.3	53.8	50.0
14:15-14:30	53.4	55.3	50.0
	54.9	56.8	50.5
	52.9	55.3	50.3
14:30-14:45	52.2	53.6	50.0
	53.4	55.5	50.3
	52.6	54.6	50.0
14:45-15:00	55.5	56.3	50.3
	52.4	54.6	49.8
	52.2	53.5	50.0
15:00-15:15	53.5	56.0	50.5
	53.3	55.8	50.5
	54.6	56.5	50.0
15:15-15:30	53.6	56.1	50.5
	54.4	56.1	50.8
	51.6	52.8	50.3
15:30-15:45	52.6	54.6	50.0
	53.1	55.1	50.5
	53.6	55.5	50.3
15:45-16:00	52.8	54.8	50.3
	51.9	53.3	50.0
	52.9	55.1	50.3
16:00-16:15	52.9	54.3	50.8
	52.9	54.5	50.5
	53.6	55.8	50.5

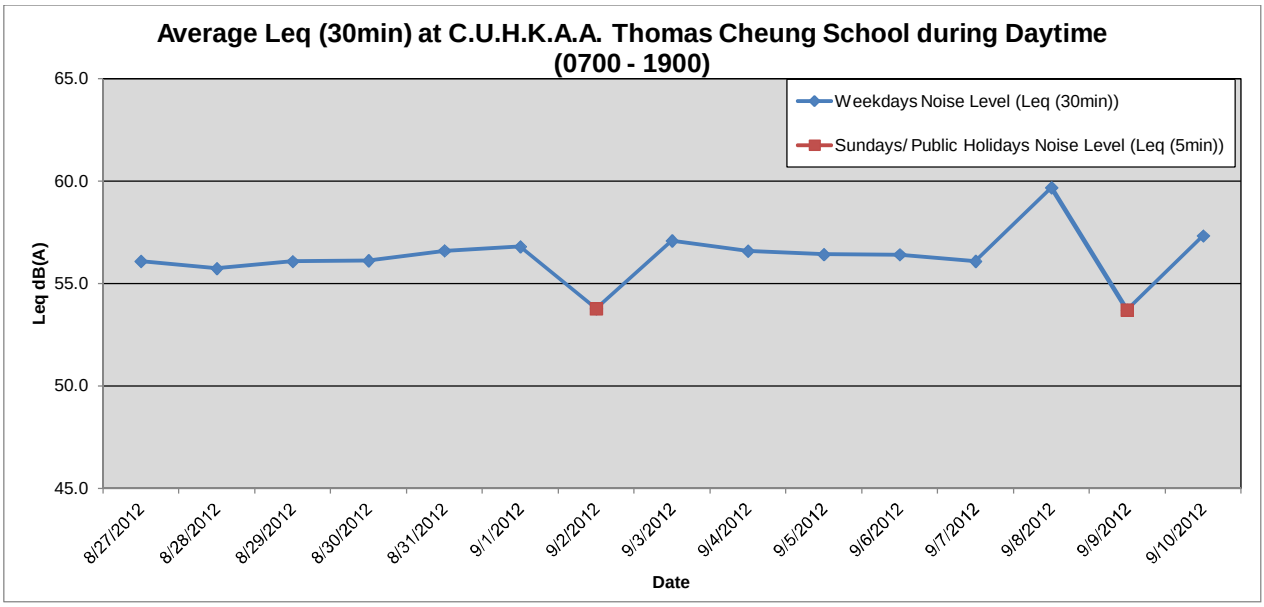
16:15-16:30	53.2	54.8	51.0
	52.5	53.9	50.5
	52.9	54.3	50.8
16:30-16:45	52.8	55.0	50.3
	53.5	54.8	50.5
	53.0	54.5	51.0
16:45-17:00	53.9	55.8	51.0
	53.1	54.8	51.3
	52.7	54.3	50.8
17:00-17:15	53.9	56.0	51.0
	53.9	55.8	51.3
	54.2	55.8	50.8
17:15-17:30	53.5	55.3	51.0
	53.1	54.5	51.3
	53.7	54.8	51.0
17:30-17:45	54.7	55.9	51.3
	53.1	54.6	51.0
	54.7	56.3	51.3
17:45-18:00	54.5	57.4	51.3
	52.5	53.8	50.8
	53.5	55.5	51.3
18:00-18:15	53.6	55.8	51.3
	54.0	55.6	51.3
	54.4	56.5	51.3
18:15-18:30	53.9	55.8	51.0
	53.8	54.8	50.8
	53.8	55.9	51.3
18:30-18:45	54.6	56.1	51.3
	54.3	57.1	51.3
	53.2	54.5	51.0
18:45-19:00	53.5	55.3	51.0
	54.0	55.5	51.8
	54.0	56.1	52.0
19:00-19:15	54.0	55.9	51.8
	54.9	56.5	51.5
	54.9	57.1	51.5
19:15-19:30	54.5	55.0	51.5
	54.0	55.6	51.5
	55.0	56.9	52.0
19:30-19:45	54.0	56.0	51.8
	54.8	56.1	52.0
	56.4	56.0	52.0
19:45-20:00	55.8	57.3	51.8
	53.5	55.6	51.3
	54.0	56.4	51.8
20:00-20:15	54.5	56.3	52.0
	54.6	56.3	52.0
	53.3	54.5	51.5
20:15-20:30	56.0	56.8	52.0
	54.4	56.3	51.8
	54.3	56.0	52.0
20:30-20:45	54.1	55.3	52.5
	55.3	57.5	52.5
	55.0	57.5	52.5
20:45-21:00	54.7	56.0	52.3
	56.5	58.8	52.5
	54.7	56.3	52.3

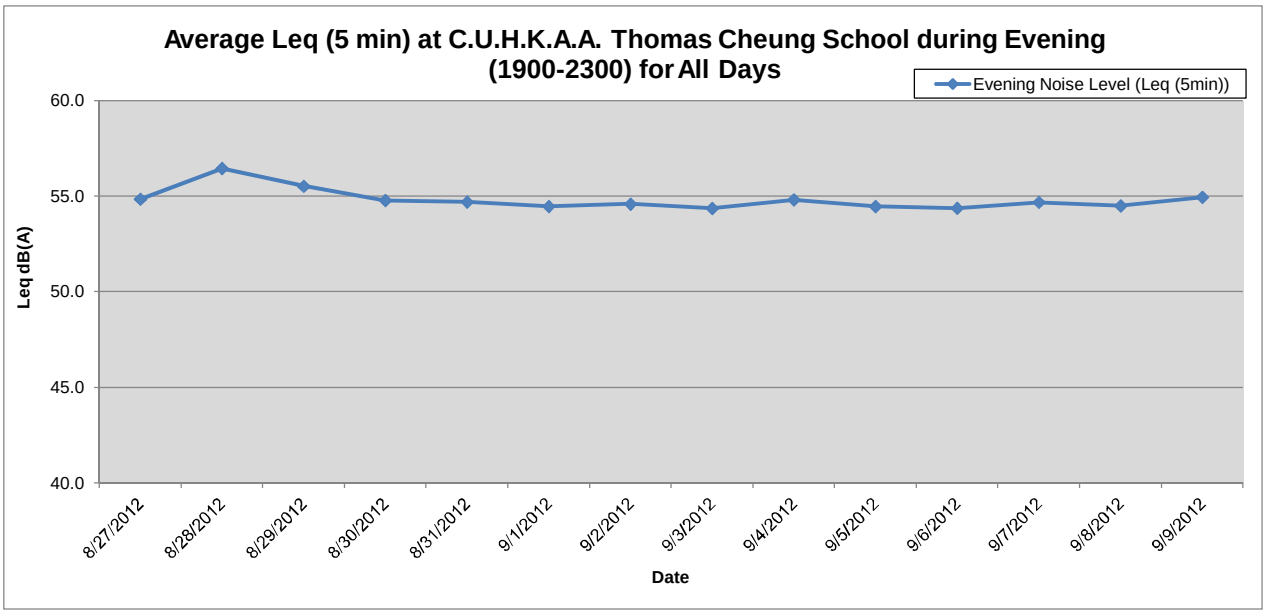
21:00-21:15	55.0	56.8	52.8
	54.8	56.5	52.5
	54.8	56.8	52.3
21:15-21:30	55.3	57.1	52.8
	54.9	56.4	52.3
	54.8	56.0	52.5
21:30-21:45	55.8	57.6	52.5
	54.7	56.5	52.8
	54.6	56.3	52.8
21:45-22:00	54.2	55.8	52.5
	54.7	56.5	52.8
	55.1	56.9	52.5
22:00-22:15	55.1	56.8	52.8
	54.1	55.6	52.5
	54.8	56.3	52.5
22:15-22:30	54.5	55.8	52.8
	54.7	56.0	52.3
	54.9	56.5	52.5
22:30-22:45	53.8	54.3	52.5
	55.5	57.8	52.8
	55.0	56.5	52.3
22:45-23:00	54.3	56.0	52.5
	54.2	55.9	52.3
	54.0	55.6	52.3
Average	54.0	55.8	51.4
Max	57.7	60.4	52.8
Min	51.6	52.8	49.8

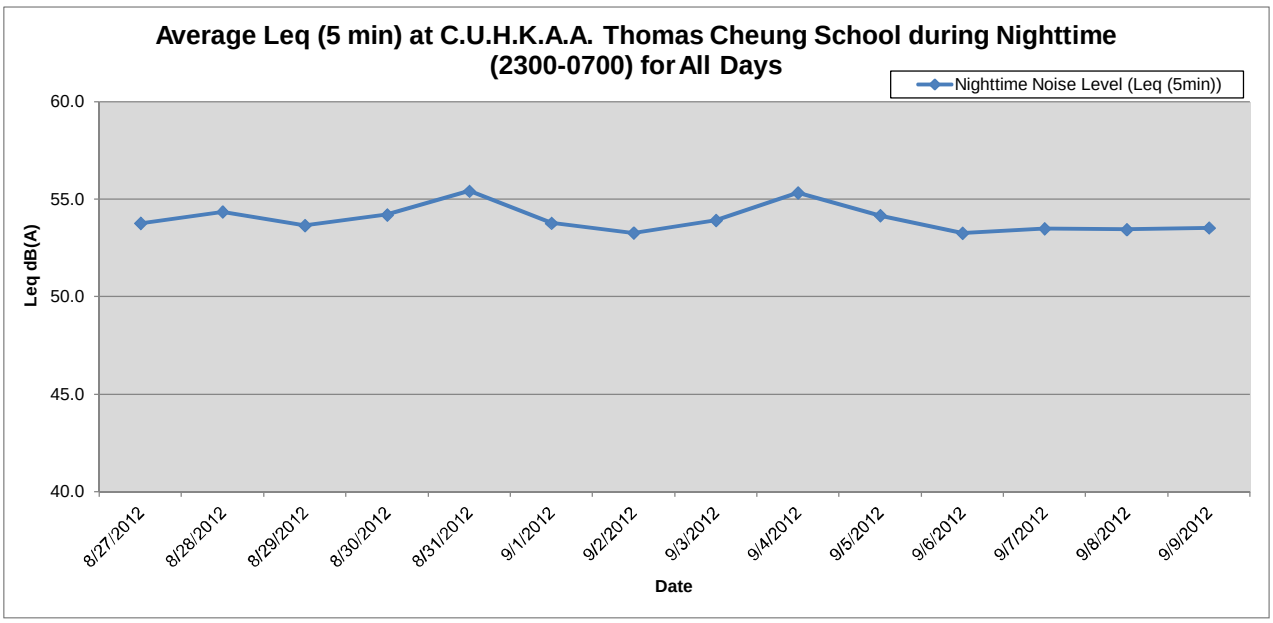
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	54.8	56.1	52.6
	54.7	56.6	52.6
	55.0	57.0	52.6
23:15-23:30	55.1	56.8	52.8
	55.7	57.6	52.8
	55.5	57.1	52.8
23:30-23:45	54.4	55.9	52.6
	54.5	56.1	52.6
	54.9	56.6	52.5
23:45-00:00	54.4	56.0	52.6
	54.3	55.8	52.5
	54.3	55.8	52.5
00:00-00:15	54.2	55.6	52.4
	54.3	55.8	52.4
	54.1	55.6	52.5
00:15-00:30	54.2	55.4	52.3
	54.3	55.8	52.4
	53.5	54.6	52.2
00:30-00:45	54.0	55.3	52.2
	54.0	55.2	52.2
	53.6	54.6	52.1
00:45:01:00	54.1	55.2	52.0
	53.5	54.7	51.9
	53.9	55.3	52.0
01:00-01:15	53.7	55.1	52.0
	53.8	55.4	52.0
	53.7	54.9	51.9
01:15-01:30	53.1	54.1	51.8
	54.0	55.7	51.9
	54.8	56.3	52.5
01:30-01:45	53.5	54.8	51.8
	53.1	54.3	51.7
	53.5	54.6	52.0
01:45-02:00	53.3	54.5	51.9
	53.0	53.9	51.9
	53.4	54.5	51.9
02:00-02:15	53.5	54.6	51.8
	53.1	54.2	51.9
	52.8	53.3	51.9
02:15-02:30	52.9	53.8	51.9
	52.9	53.9	51.8
	52.8	53.6	51.8
02:30-02:45	52.8	53.6	51.8
	52.9	53.5	51.8
	52.9	53.6	51.7
02:45-03:00	52.7	53.4	51.7
	53.1	53.9	51.7
	52.6	53.2	51.7
03:00-03:15	52.7	53.4	51.7
	52.6	53.5	51.5
	52.8	53.4	51.6
03:15-03:30	52.7	53.4	51.6
	53.7	56.5	51.6
	54.3	56.3	51.9

03:30-03:45	55.2	57.3	52.1
	52.9	53.8	51.7
	54.7	58.1	51.6
03:45-04:00	55.4	59.3	51.8
	53.1	54.6	51.7
	52.8	53.7	51.7
04:00-04:15	53.1	54.1	51.7
	52.5	53.0	51.7
	52.5	53.0	51.6
04:15-04:30	52.8	53.2	51.6
	52.5	53.1	51.6
	52.6	53.2	51.6
04:30-04:45	52.6	53.2	51.6
	52.5	52.9	51.5
	52.6	53.1	51.6
04:45-05:00	52.4	52.8	51.5
	52.4	52.9	51.4
	52.4	53.1	51.5
05:00-05:15	52.3	52.9	51.4
	53.5	55.7	51.5
	52.8	53.8	51.6
05:15-05:30	52.8	53.7	51.7
	52.7	53.9	51.6
	52.5	53.4	51.5
05:30-05:45	52.7	53.4	51.6
	52.7	53.5	51.6
	52.9	53.7	51.7
05:45-06:00	52.9	53.8	51.7
	53.7	54.3	51.7
	57.1	58.9	54.5
06:00-06:15	54.6	56.1	52.2
	53.4	54.6	52.0
	54.1	55.7	52.2
06:15-06:30	53.6	55.0	52.0
	53.9	55.4	52.1
	54.0	55.6	52.1
06:30-06:45	55.7	57.7	52.3
	56.9	59.1	52.2
	55.1	57.1	52.2
06:45-07:00	54.2	55.7	52.1
	56.1	57.9	52.7
	58.5	60.4	54.1
Average	53.9	55.3	52.0
Max	58.5	60.4	54.5
Min	52.3	52.8	51.4


Average Leq (30min) at C.U.H.K.A.A. Thomas Cheung School during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
65.0
60.0
55.0
50.0
45.0
8/27/2012
8/28/2012
8/29/2012
8/30/2012
8/31/2012
9/1/2012
9/2/2012
9/3/2012
9/4/2012
9/5/2012
9/6/2012
9/7/2012
9/8/2012
9/9/2012
9/10/2012
Date


Average Leq (5 min) at C.U.H.K.A.A. Thomas Cheung School during Evening (1900-2300) for All Days
Evening Noise Level (Leq (5min))
Leq dB(A)
60.0
55.0
50.0
45.0
40.0
8/27/2012
8/28/2012
8/29/2012
8/30/2012
8/31/2012
9/1/2012
9/2/2012
9/3/2012
9/4/2012
9/5/2012
9/6/2012
9/7/2012
9/8/2012
9/9/2012
Date


Average Leq (5 min) at C.U.H.K.A.A. Thomas Cheung School during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
60.0
55.0
50.0
45.0
40.0
8/27/2012
8/28/2012
8/29/2012
8/30/2012
8/31/2012
9/1/2012
9/2/2012
9/3/2012
9/4/2012
9/5/2012
9/6/2012
9/7/2012
9/8/2012
9/9/2012
Date

Baseline Noise Monitoring Result

Location:	NMS-CA-2 for SCL(TAW-HUH) Price Memorial Catholic Primary School
Baseline monitoring period:	26/9/2012 - 10/10/2012
Site observation:	No construction works were conducted in the vicinity during the monitoring period.
Weather condition:	The weather was sunny and overcast during monitoring period.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	66.1	68.8	61.9
07:30-08:00	66.7	69.2	62.8
08:00-08:30	67.2	69.4	63.0
08:30-09:00	66.6	69.1	62.8
09:00-09:30	66.4	68.9	62.5
09:30-10:00	66.3	68.8	62.4
10:00-10:30	66.4	68.9	62.7
10:30-11:00	65.8	68.1	61.9
11:00-11:30	65.6	68.1	61.7
11:30-12:00	65.4	67.8	61.5
12:00-12:30	65.5	67.9	61.6
12:30-13:00	65.4	67.9	61.3
13:00-13:30	65.4	67.8	61.6
13:30-14:00	65.8	68.2	61.8
14:00-14:30	66.0	68.4	62.3
14:30-15:00	66.0	68.4	62.2
15:00-15:30	66.0	68.4	62.3
15:30-16:00	66.2	68.6	62.3
16:00-16:30	66.4	68.8	62.5
16:30-17:00	66.4	68.7	62.5
17:00-17:30	66.5	69.0	62.6
17:30-18:00	66.2	68.6	62.2
18:00-18:30	66.1	68.6	62.0
18:30-19:00	65.9	68.3	61.8
Average	66.1	68.6	62.2
Max	67.2	69.4	63.0
Min	65.4	67.8	61.3

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	65.8	68.5	61.8
	65.2	67.7	61.5
	65.7	68.0	62.1
19:15-19:30	65.5	67.8	61.7
	65.6	68.3	61.1
	65.6	68.3	61.4
19:30-19:45	65.1	67.6	61.4
	65.3	67.8	61.4
	65.3	67.8	61.4
19:45-20:00	65.4	67.9	61.7
	65.2	67.6	61.4
	64.7	67.2	60.9
20:00-20:15	65.1	67.3	60.7
	64.8	67.3	61.1
	64.8	67.4	60.6
20:15-20:30	64.9	67.4	61.0
	64.5	66.9	60.2
	65.2	67.7	61.2
20:30-20:45	65.2	67.9	60.8
	64.1	66.4	60.2
	64.8	67.4	60.5
20:45-21:00	64.8	66.8	60.2
	64.2	66.8	60.1
	64.3	66.9	60.0
21:00-21:15	65.3	67.9	60.5
	64.9	67.7	60.7
	64.3	66.9	59.9
21:15-21:30	64.7	67.5	60.6
	64.4	66.8	60.2
	64.4	67.1	60.1
21:30-21:45	64.5	67.0	60.7
	64.4	66.9	60.4
	64.4	67.1	60.2
21:45-22:00	64.5	66.9	60.7
	64.3	66.7	60.3
	64.7	67.1	60.6
22:00-22:15	64.3	66.7	60.4
	64.4	66.9	60.2
	64.9	67.6	60.4
22:15-22:30	64.2	66.8	59.8
	64.1	66.8	59.9
	64.6	67.4	60.4
22:30-22:45	64.8	67.6	60.2
	64.9	67.3	60.9
	64.1	66.6	59.7
22:45-23:00	64.6	67.2	60.4
	64.9	67.5	60.7
	64.3	66.9	59.9
Average	64.8	67.3	60.7
Max	65.8	68.5	62.1
Min	64.1	66.4	59.7

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	63.4	66.7	58.1
	63.1	66.4	58.3
	62.3	65.2	57.5
07:15-07:30	62.0	64.3	58.1
	65.0	68.0	60.2
	63.8	66.7	59.5
07:30-07:45	63.6	66.8	59.0
	64.2	66.1	59.2
	64.2	67.4	59.3
07:45-08:00	64.8	67.5	60.0
	63.6	66.6	59.3
	64.2	67.0	58.8
08:00-08:15	64.8	67.8	60.0
	63.8	66.8	58.9
	64.7	67.8	59.2
08:15-08:30	64.2	67.2	59.2
	64.8	67.9	59.7
	64.3	67.2	59.8
08:30-08:45	64.3	67.0	59.6
	65.0	67.6	60.8
	64.4	67.0	59.9
08:45-09:00	64.3	66.9	60.4
	64.6	67.7	60.6
	64.1	66.7	59.8
09:00-09:15	65.9	68.8	61.3
	64.1	66.8	60.2
	64.7	67.5	60.4
09:15-09:30	65.2	67.5	60.9
	64.8	67.7	60.0
	63.9	66.3	59.7
09:30-09:45	65.5	68.5	60.4
	64.3	67.3	60.1
	64.8	67.3	61.0
09:45-10:00	64.4	66.9	60.3
	65.0	67.5	60.9
	64.4	66.9	60.0
10:00-10:15	65.0	67.6	60.8
	65.3	68.1	60.6
	64.3	66.8	60.3
10:15-10:30	64.8	67.8	60.1
	64.7	67.5	60.6
	64.9	67.4	60.8
10:30-10:45	65.5	67.1	60.3
	64.5	67.1	60.0
	65.1	67.6	60.9
10:45-11:00	64.7	67.3	60.5
	63.8	66.1	59.6
	65.2	67.4	61.3
11:00-11:15	65.1	67.9	60.8
	64.1	66.5	59.4
	64.6	67.0	60.3
11:15-11:30	64.4	66.9	60.1
	64.8	67.5	60.3
	64.8	67.6	60.5

11:30-11:45	64.5	67.4	60.3
	65.5	68.1	60.6
	64.7	67.7	60.6
11:45-12:00	65.2	67.3	61.5
	64.4	67.2	60.3
	65.9	68.3	61.0
12:00-12:15	65.4	67.9	60.9
	64.8	67.5	60.3
	64.6	67.3	60.2
12:15-12:30	65.5	68.4	60.3
	65.5	67.8	61.1
	66.1	68.8	61.4
12:30-12:45	64.9	67.8	60.5
	65.4	68.5	60.4
	64.2	66.3	60.5
12:45-13:00	65.5	68.4	60.8
	65.0	68.1	60.3
	64.7	67.5	60.5
13:00-13:15	65.3	67.9	60.8
	64.7	67.1	60.2
	65.3	68.1	60.5
13:15-13:30	65.4	67.9	60.6
	64.9	67.3	60.2
	65.1	67.8	61.0
13:30-13:45	65.8	68.8	61.3
	64.9	67.7	60.8
	65.4	68.2	61.1
13:45-14:00	65.1	67.5	61.2
	65.4	67.7	61.6
	65.0	67.7	60.9
14:00-14:15	65.3	68.1	60.8
	65.8	68.4	61.1
	65.6	68.2	61.1
14:15-14:30	65.6	68.4	60.5
	64.7	67.6	60.6
	64.9	67.3	60.8
14:30-14:45	65.6	68.4	60.8
	65.0	67.6	60.9
	64.9	67.6	60.9
14:45-15:00	65.4	68.0	61.0
	64.7	67.3	60.3
	65.3	67.9	61.4
15:00-15:15	65.2	68.3	60.6
	65.4	68.1	61.0
	64.9	67.7	60.2
15:15-15:30	65.3	68.1	60.6
	65.2	67.9	60.8
	64.6	66.9	59.8
15:30-15:45	65.8	68.7	60.9
	65.3	67.7	60.9
	65.3	67.5	61.4
15:45-16:00	65.8	68.3	62.1
	65.5	68.0	61.2
	65.4	68.0	60.4
16:00-16:15	65.4	68.3	61.3
	65.0	67.8	61.1
	66.2	69.0	61.4

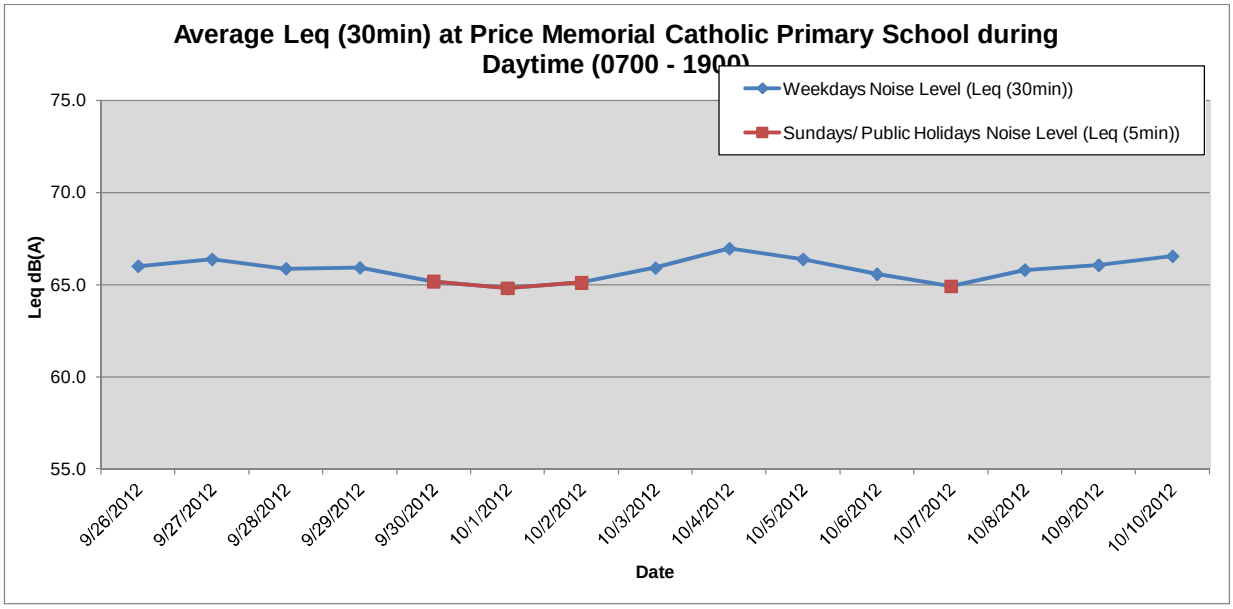
16:15-16:30	65.5	68.1	60.9
	65.3	67.8	61.1
	65.3	68.0	60.0
16:30-16:45	66.7	69.3	62.4
	65.2	67.2	61.7
	66.5	69.3	61.3
16:45-17:00	65.9	68.5	61.4
	65.5	67.9	61.4
	65.1	67.5	61.3
17:00-17:15	65.8	68.1	61.8
	65.4	68.0	61.5
	65.5	68.0	62.0
17:15-17:30	64.7	67.1	60.8
	65.9	68.1	62.1
	65.3	67.9	61.1
17:30-17:45	65.6	68.1	61.6
	64.6	67.2	60.5
	65.3	67.8	60.9
17:45-18:00	64.8	67.7	60.6
	66.0	68.3	62.4
	65.0	67.6	60.8
18:00-18:15	65.0	67.7	61.2
	64.9	67.3	60.7
	65.3	67.7	61.3
18:15-18:30	65.2	67.4	61.3
	65.4	68.0	61.2
	64.0	66.2	60.4
18:30-18:45	64.8	67.1	61.3
	65.7	68.2	61.0
	64.9	67.4	61.0
18:45-19:00	64.6	67.3	60.4
	66.2	68.6	61.4
	64.5	66.6	60.4
19:00-19:15	65.1	67.7	61.3
	64.8	67.4	61.0
	64.7	67.4	60.2
19:15-19:30	64.5	67.3	60.3
	64.5	67.1	60.4
	64.4	66.9	60.5
19:30-19:45	64.4	66.9	60.2
	63.5	65.7	60.4
	64.4	67.0	59.8
19:45-20:00	64.3	67.0	59.5
	65.3	68.4	60.3
	64.1	66.7	59.9
20:00-20:15	64.3	66.9	60.1
	63.4	65.8	59.8
	64.2	66.8	60.2
20:15-20:30	64.7	67.3	60.6
	64.6	67.4	60.3
	64.3	66.7	60.5
20:30-20:45	64.5	67.1	59.7
	63.5	65.8	59.2
	64.9	67.3	60.3
20:45-21:00	64.2	66.4	60.1
	64.4	66.9	60.4
	64.6	67.2	60.8

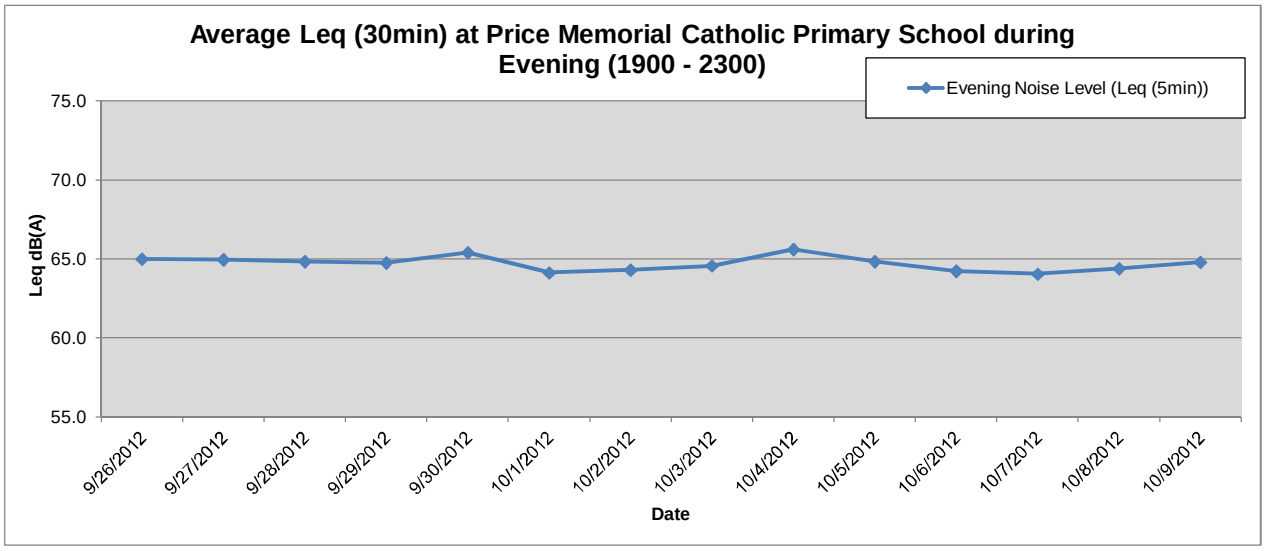
21:00-21:15	64.4	67.3	60.3
	63.9	66.6	59.9
	64.2	66.8	60.4
21:15-21:30	64.6	67.1	61.1
	64.3	66.5	60.7
	64.7	67.1	61.0
21:30-21:45	64.4	67.0	61.0
	64.7	67.3	60.9
	64.2	66.7	60.3
21:45-22:00	65.4	67.8	61.4
	65.0	67.1	61.2
	64.6	66.9	60.6
22:00-22:15	64.5	67.3	60.6
	65.2	67.7	61.3
	64.0	65.9	60.5
22:15-22:30	64.8	67.5	61.1
	64.8	67.2	61.0
	64.8	67.2	61.1
22:30-22:45	64.6	67.1	60.8
	64.7	67.1	60.7
	63.4	65.9	59.0
22:45-23:00	65.6	68.1	60.8
	64.7	67.4	60.6
	64.2	67.0	60.4
Average	64.9	67.5	60.6
Max	66.7	69.3	62.4
Min	62.0	64.3	57.5

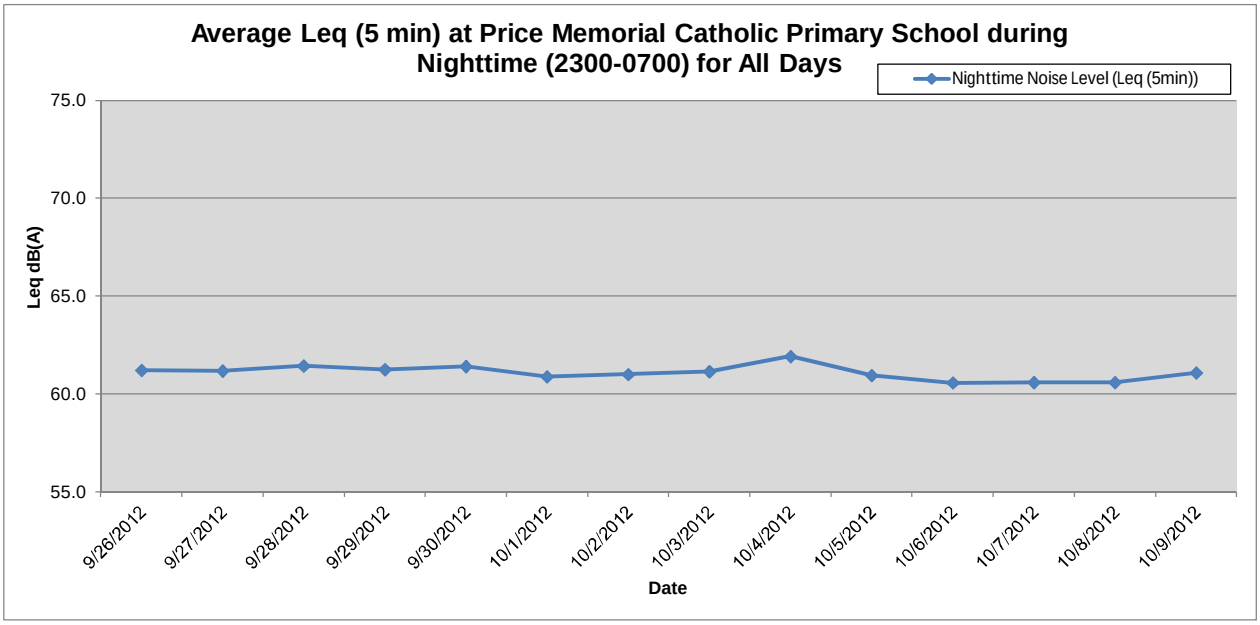
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	64.5	67.4	60.0
	64.5	67.2	59.9
	64.0	66.7	59.8
23:15-23:30	63.5	65.9	59.5
	64.3	67.1	59.7
	63.9	66.7	59.5
23:30-23:45	64.2	67.1	59.6
	65.2	67.9	59.5
	63.5	66.2	59.1
23:45-00:00	64.1	67.0	59.3
	63.9	66.8	59.1
	63.9	66.8	59.2
00:00-00:15	63.6	66.4	58.9
	63.5	66.2	58.6
	63.3	66.1	58.4
00:15-00:30	63.1	66.0	58.4
	62.0	64.7	57.2
	63.0	65.9	57.7
00:30-00:45	62.3	65.1	57.5
	62.4	65.2	57.0
	60.9	63.0	56.4
00:45:01:00	60.9	63.7	55.8
	60.9	63.3	56.0
	60.7	63.1	55.8
01:00-01:15	60.4	63.0	55.5
	60.1	62.7	55.1
	60.0	62.7	54.6
01:15-01:30	60.3	63.1	54.9
	59.7	62.2	54.2
	58.5	61.4	53.9
01:30-01:45	58.1	60.5	53.7
	57.9	60.2	53.8
	58.5	61.2	54.0
01:45-02:00	58.0	60.4	53.6
	57.8	60.0	53.0
	58.3	60.3	53.4
02:00-02:15	57.9	60.5	53.3
	57.8	60.4	53.3
	58.6	60.6	53.4
02:15-02:30	57.8	60.5	53.1
	57.6	59.9	52.7
	57.9	60.1	52.9
02:30-02:45	57.6	59.9	52.3
	57.6	60.1	52.7
	58.4	60.8	52.7
02:45-03:00	57.4	60.3	52.6
	56.6	59.1	52.2
	57.3	59.7	52.3
03:00-03:15	57.8	59.9	52.2
	57.2	59.7	51.8
	56.4	59.0	51.9
03:15-03:30	56.5	59.0	51.8
	57.2	59.8	52.0
	58.1	60.6	52.1

03:30-03:45	56.7	59.3	51.6
	57.2	59.6	51.7
	57.3	59.9	51.9
03:45-04:00	57.3	60.0	52.1
	57.2	59.9	52.1
	56.6	59.1	51.8
04:00-04:15	56.2	58.9	51.8
	56.3	58.8	51.5
	56.9	59.4	51.6
04:15-04:30	56.6	59.0	51.6
	58.7	61.7	52.1
	58.2	60.9	52.2
04:30-04:45	58.4	60.7	52.5
	58.6	61.1	52.4
	58.3	61.0	52.5
04:45-05:00	56.8	59.3	52.2
	57.4	59.8	52.1
	57.3	59.7	52.5
05:00-05:15	57.7	60.2	52.5
	57.3	59.6	52.7
	57.5	59.9	53.0
05:15-05:30	58.7	61.3	53.4
	58.8	61.5	53.5
	60.2	63.2	54.0
05:30-05:45	60.3	63.0	54.2
	60.6	63.7	54.8
	61.4	64.9	54.8
05:45-06:00	61.2	64.2	55.1
	60.3	62.8	55.1
	61.1	64.4	55.5
06:00-06:15	63.6	66.9	57.6
	62.3	65.4	57.3
	63.5	66.6	58.1
06:15-06:30	63.4	66.5	58.7
	63.2	66.2	58.2
	63.7	66.6	58.9
06:30-06:45	64.2	66.9	59.7
	64.0	67.0	59.0
	65.5	68.6	60.0
06:45-07:00	64.4	67.4	59.5
	64.5	67.3	59.9
	65.0	67.7	60.6
Average	61.1	63.9	56.1
Max	65.5	68.6	60.6
Min	56.2	58.8	51.5


Average Leq (30min) at Price Memorial Catholic Primary School during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
75.0
70.0
65.0
60.0
55.0
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
10/10/2012
Date


Average Leq (30min) at Price Memorial Catholic Primary School during Evening (1900 - 2300)
Evening Noise Level (Leq (5min))
Leq dB(A)
75.0
70.0
65.0
60.0
55.0
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
Date


Average Leq (5 min) at Price Memorial Catholic Primary School during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
75.0
70.0
65.0
60.0
55.0
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
Date

Baseline Noise Monitoring Result

Location: NMS-CA-3 for SCL(TAW-HUH) / NMS-CA-4 SCL(HHS)
Hong Kong Sheng Kung Hui Nursing Home

Baseline monitoring period: 12/9/2012 - 26/9/2012

Site observation: No construction works were conducted in the vicinity during the monitoring period.

Weather condition: The weather was sunny and overcast during monitoring period.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	71.6	74.7	67.1
07:30-08:00	72.6	75.2	67.6
08:00-08:30	72.7	75.3	67.8
08:30-09:00	72.9	75.4	68.1
09:00-09:30	72.8	75.5	67.9
09:30-10:00	72.7	75.4	67.9
10:00-10:30	72.7	75.5	67.8
10:30-11:00	72.7	75.4	67.7
11:00-11:30	72.6	75.3	67.7
11:30-12:00	72.3	75.1	67.8
12:00-12:30	72.3	75.1	67.7
12:30-13:00	72.2	74.9	67.7
13:00-13:30	72.3	74.9	67.8
13:30-14:00	72.3	75.1	67.6
14:00-14:30	72.3	75.0	67.8
14:30-15:00	72.4	75.2	67.6
15:00-15:30	72.5	75.2	67.9
15:30-16:00	72.5	75.2	67.9
16:00-16:30	72.9	75.4	68.0
16:30-17:00	72.6	75.2	67.9
17:00-17:30	72.6	75.3	67.9
17:30-18:00	72.6	75.3	67.9
18:00-18:30	72.9	75.6	67.9
18:30-19:00	72.1	74.9	67.5
Average	72.5	75.2	67.8
Max	72.9	75.6	68.1
Min	71.6	74.7	67.1

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	72.2	74.7	67.8
	72.2	75.2	67.3
	71.8	74.9	67.2
19:15-19:30	71.7	74.6	66.6
	71.9	74.8	67.5
	71.8	74.7	67.0
19:30-19:45	71.7	74.6	67.2
	72.0	74.8	67.0
	72.1	74.7	67.7
19:45-20:00	71.6	74.5	67.1
	71.8	74.4	67.6
	71.5	74.3	67.2
20:00-20:15	71.9	74.8	67.6
	71.4	74.3	66.5
	71.4	74.3	66.9
20:15-20:30	71.7	75.0	66.8
	71.5	74.5	67.0
	71.3	74.3	66.6
20:30-20:45	71.0	74.2	65.6
	71.2	74.1	66.3
	71.3	74.3	66.7
20:45-21:00	71.0	74.0	66.0
	71.2	74.1	66.6
	71.1	74.1	66.5
21:00-21:15	71.2	74.2	66.2
	70.9	73.7	66.0
	70.8	74.1	66.3
21:15-21:30	70.9	73.9	65.9
	71.2	74.2	66.8
	70.8	73.9	65.7
21:30-21:45	70.9	73.9	66.6
	70.9	74.1	66.1
	70.7	74.0	65.9
21:45-22:00	70.8	73.7	65.9
	70.9	74.1	66.0
	72.2	74.7	67.1
22:00-22:15	70.9	73.9	66.1
	73.3	77.0	66.8
	71.3	74.3	66.4
22:15-22:30	71.3	74.3	67.0
	71.6	74.2	66.2
	71.0	74.0	66.5
22:30-22:45	70.7	73.8	65.8
	70.9	73.8	65.7
	70.7	74.1	65.3
22:45-23:00	71.1	74.4	66.5
	70.9	73.8	66.1
	70.8	73.7	65.7
Average	71.4	74.4	66.6
Max	73.3	77.0	67.8
Min	70.7	73.7	65.3

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	69.3	73.7	62.3
	69.4	72.6	63.7
	70.4	73.8	66.4
07:15-07:30	69.9	73.4	64.7
	70.6	74.1	65.1
	71.0	73.7	65.6
07:30-07:45	70.9	74.2	65.6
	69.8	73.3	63.9
	71.3	73.7	66.1
07:45-08:00	70.5	73.7	64.9
	71.3	73.6	67.2
	72.2	74.8	68.4
08:00-08:15	69.6	73.6	63.1
	70.9	73.3	66.9
	71.0	74.2	66.7
08:15-08:30	71.0	74.3	66.3
	70.8	73.5	66.3
	71.8	75.2	66.8
08:30-08:45	71.0	73.9	65.3
	71.3	74.3	66.5
	71.7	74.1	66.8
08:45-09:00	71.9	74.7	67.9
	71.8	75.1	68.4
	72.0	75.1	67.5
09:00-09:15	71.3	74.4	66.8
	71.2	74.0	67.7
	72.1	74.9	67.4
09:15-09:30	71.3	74.1	67.2
	71.2	74.9	66.3
	71.6	74.0	66.1
09:30-09:45	71.5	74.5	66.9
	71.5	73.9	67.4
	71.2	73.9	66.7
09:45-10:00	72.5	76.0	67.3
	70.9	74.5	66.3
	71.8	74.6	67.6
10:00-10:15	70.4	73.2	65.2
	70.8	74.0	65.2
	71.7	74.8	66.8
10:15-10:30	71.2	73.8	65.7
	71.6	74.9	66.9
	70.9	73.9	66.0
10:30-10:45	71.6	74.8	67.0
	70.9	73.1	66.1
	71.6	74.2	67.3
10:45-11:00	71.0	74.3	66.7
	70.6	73.8	66.2
	71.0	73.8	66.7
11:00-11:15	71.4	74.2	67.0
	71.0	74.2	66.0
	70.8	73.4	66.3
11:15-11:30	70.9	73.9	66.0
	71.0	74.2	67.0
	70.9	73.6	66.5

11:30-11:45	71.3	74.4	65.1
	70.9	73.8	67.3
	71.9	74.6	67.9
11:45-12:00	71.2	73.7	66.2
	71.2	74.2	66.0
	71.2	73.7	66.1
12:00-12:15	71.7	75.0	66.9
	71.0	74.6	66.5
	71.0	74.8	65.9
12:15-12:30	71.8	74.3	67.9
	71.2	73.7	67.0
	71.4	74.1	65.7
12:30-12:45	71.8	74.3	66.6
	70.3	73.6	63.9
	72.9	74.7	66.8
12:45-13:00	71.6	74.7	68.1
	70.9	74.0	66.2
	71.6	74.8	66.8
13:00-13:15	71.2	74.3	66.8
	75.5	77.3	67.6
	71.1	74.4	66.1
13:15-13:30	71.1	74.1	67.3
	72.0	73.8	67.4
	71.2	74.0	65.9
13:30-13:45	71.0	74.3	64.7
	70.9	73.9	66.2
	71.3	74.4	66.8
13:45-14:00	71.2	74.6	67.1
	71.7	75.4	67.9
	70.7	73.1	65.5
14:00-14:15	71.1	73.8	66.1
	71.6	74.8	65.8
	71.6	74.5	67.4
14:15-14:30	71.2	74.4	66.1
	72.8	75.5	66.7
	71.3	73.8	67.3
14:30-14:45	71.3	74.2	65.6
	71.7	74.2	65.8
	71.1	74.6	65.4
14:45-15:00	70.8	73.9	65.1
	71.7	74.5	68.0
	71.7	74.6	66.5
15:00-15:15	71.6	75.0	66.8
	71.3	74.0	67.0
	71.8	75.2	66.4
15:15-15:30	71.4	74.1	66.6
	71.1	74.3	66.7
	71.5	74.4	67.5
15:30-15:45	71.1	74.1	66.0
	70.8	73.4	65.3
	71.4	73.9	67.5
15:45-16:00	71.6	73.8	67.5
	70.7	74.0	64.3
	72.0	74.6	66.5
16:00-16:15	71.5	74.5	66.9
	71.1	73.5	66.1
	71.8	74.5	68.0

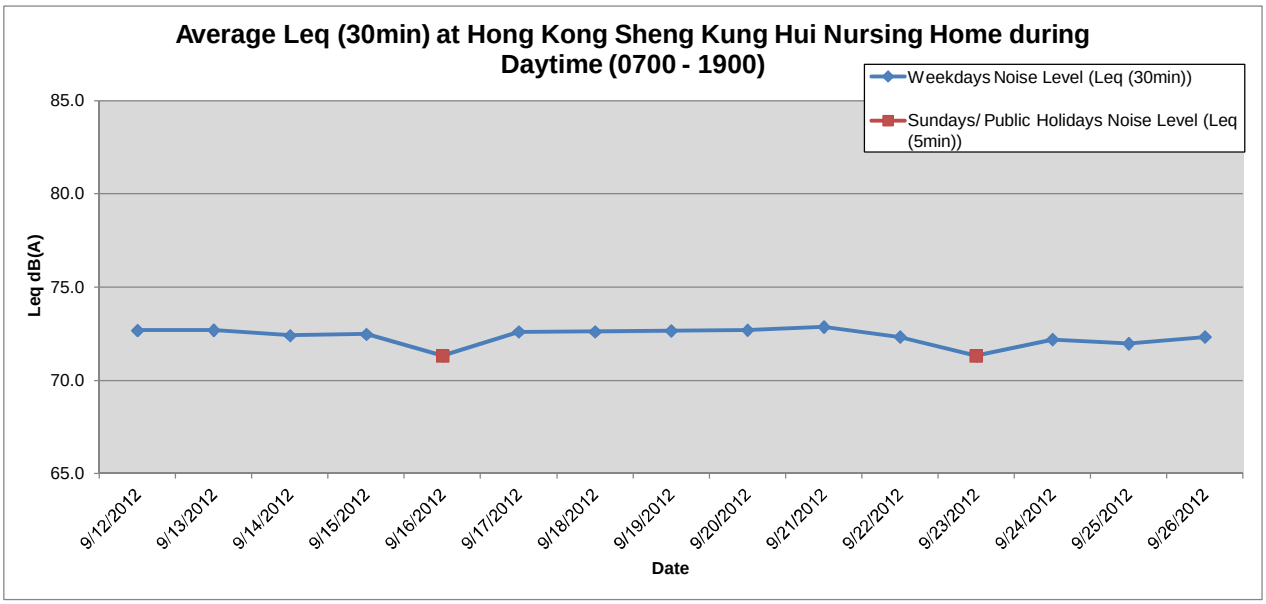
16:15-16:30	71.1	74.0	66.9
	71.1	74.7	64.3
	71.1	74.3	67.7
16:30-16:45	71.1	74.4	65.7
	72.1	75.4	67.8
	70.7	74.3	65.4
16:45-17:00	71.7	74.6	67.5
	70.8	73.8	66.8
	72.2	75.4	68.4
17:00-17:15	70.9	73.8	66.9
	71.6	74.1	67.3
	71.9	74.3	68.2
17:15-17:30	71.1	74.6	67.0
	71.9	75.1	67.2
	71.0	74.5	65.8
17:30-17:45	71.1	73.7	66.9
	71.3	74.6	66.4
	71.4	74.1	67.3
17:45-18:00	71.6	74.9	67.8
	71.3	74.8	67.7
	71.0	74.6	67.1
18:00-18:15	71.2	74.4	66.4
	71.6	74.8	67.3
	71.0	74.3	66.0
18:15-18:30	71.8	74.0	67.4
	71.4	74.5	67.6
	70.8	74.4	64.7
18:30-18:45	70.9	74.8	64.9
	72.3	74.8	67.2
	70.7	74.4	65.3
18:45-19:00	70.9	73.5	66.2
	70.8	74.4	66.4
	70.9	74.2	66.7
19:00-19:15	70.6	73.2	67.2
	71.0	73.5	66.5
	71.0	74.3	66.4
19:15-19:30	71.4	75.3	66.2
	70.7	73.1	67.0
	70.5	74.1	65.3
19:30-19:45	70.8	73.7	65.7
	71.5	74.5	67.0
	70.2	73.4	64.5
19:45-20:00	70.9	73.9	65.2
	70.8	73.6	66.1
	71.1	73.9	66.4
20:00-20:15	70.9	73.8	66.9
	71.1	73.9	65.9
	70.8	74.3	66.3
20:15-20:30	71.0	74.4	66.2
	70.4	74.4	65.1
	70.8	74.4	65.6
20:30-20:45	70.4	73.3	65.5
	70.2	73.7	65.3
	71.4	74.5	67.7
20:45-21:00	70.9	74.5	66.2
	71.3	73.6	66.5
	70.7	74.6	66.1

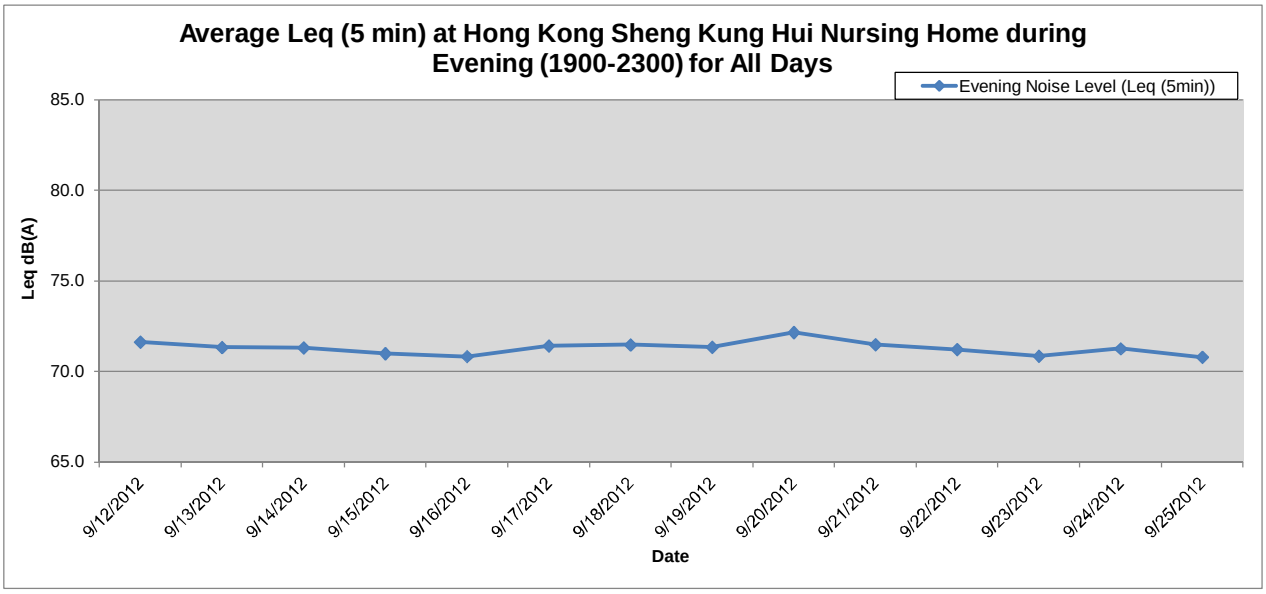
21:00-21:15	71.0	74.2	66.9
	70.2	74.1	64.8
	70.2	73.2	65.7
21:15-21:30	71.3	74.3	65.8
	71.2	73.9	66.4
	71.1	74.4	66.2
21:30-21:45	70.8	74.4	65.3
	70.8	73.4	66.1
	70.9	74.1	65.9
21:45-22:00	70.8	73.9	65.7
	71.0	74.6	66.5
	71.1	73.9	67.2
22:00-22:15	71.4	74.5	66.4
	71.0	73.7	66.1
	70.5	73.8	65.6
22:15-22:30	70.7	74.2	63.9
	70.0	73.4	65.2
	71.0	74.5	65.9
22:30-22:45	70.7	73.6	65.0
	70.9	73.8	66.1
	71.2	74.2	67.0
22:45-23:00	70.3	73.4	65.3
	70.4	73.7	65.3
	70.7	73.2	65.6
Average	71.2	74.2	66.5
Max	75.5	77.3	68.4
Min	69.3	72.6	62.3

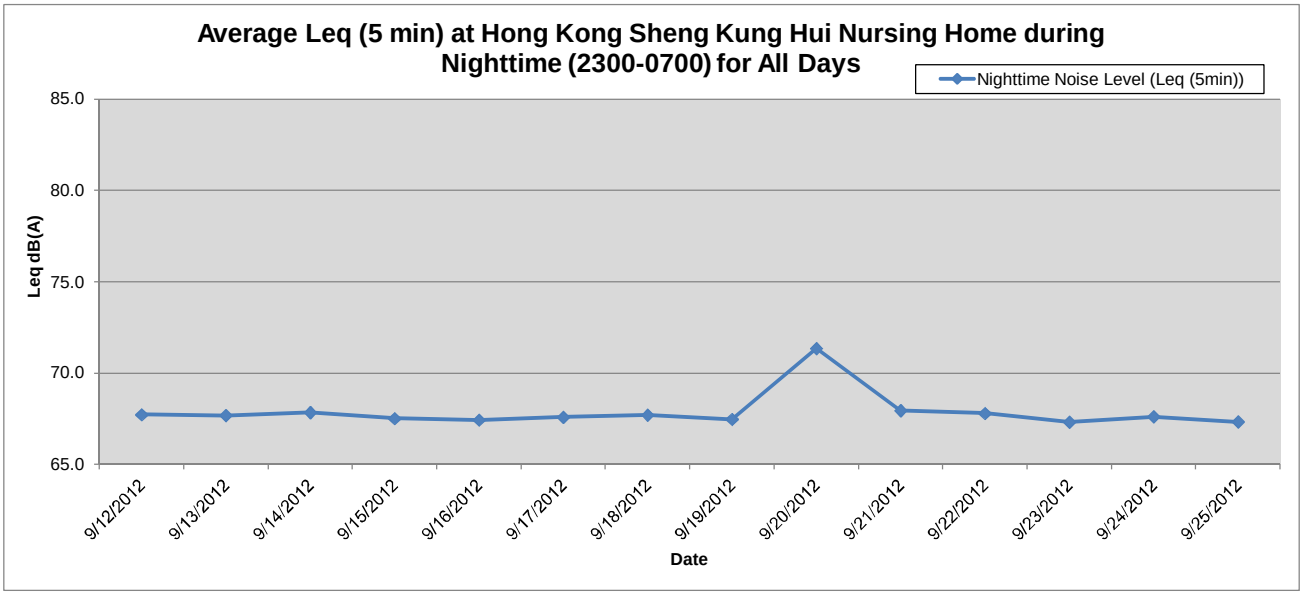
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	70.9	74.3	65.9
	70.8	73.9	66.1
	70.7	73.6	65.3
23:15-23:30	70.9	74.0	65.8
	70.8	74.0	65.8
	70.8	74.0	65.4
23:30-23:45	70.9	73.9	65.8
	70.5	74.0	65.3
	70.5	73.7	65.0
23:45-00:00	70.6	73.8	65.1
	70.8	74.0	66.1
	70.1	73.4	64.6
00:00-00:15	70.4	73.7	65.0
	70.0	73.5	64.2
	69.4	72.9	63.3
00:15-00:30	69.9	73.1	64.1
	70.3	73.6	64.4
	69.8	73.1	63.9
00:30-00:45	69.4	72.4	62.8
	69.2	72.6	62.9
	69.0	72.4	62.7
00:45:01:00	68.8	72.0	61.9
	68.0	71.2	61.1
	68.2	71.3	60.9
01:00-01:15	67.7	71.2	60.7
	67.0	70.6	60.1
	66.1	69.5	58.2
01:15-01:30	66.5	70.5	59.3
	66.3	70.2	58.7
	65.7	69.5	58.6
01:30-01:45	67.2	70.8	59.8
	66.7	70.7	60.2
	65.9	69.8	57.8
01:45-02:00	65.7	69.9	58.2
	65.8	69.9	58.7
	65.7	69.7	58.3
02:00-02:15	65.8	70.1	58.1
	65.0	69.0	57.7
	65.3	69.6	57.7
02:15-02:30	65.6	69.4	58.4
	65.6	69.5	58.7
	64.8	68.9	57.7
02:30-02:45	64.9	68.9	57.6
	64.7	68.7	56.9
	64.4	68.4	57.0
02:45-03:00	65.9	70.0	58.8
	64.6	68.5	57.0
	65.0	68.9	58.0
03:00-03:15	64.8	68.7	58.0
	64.8	69.0	57.9
	64.2	68.2	57.0
03:15-03:30	64.7	68.5	57.4
	64.4	68.3	57.0
	64.1	68.4	56.9

03:30-03:45	63.9	67.9	56.8
	64.1	67.8	56.8
	64.5	68.6	57.0
03:45-04:00	65.2	69.1	57.7
	64.4	68.4	56.8
	63.8	67.9	56.5
04:00-04:15	64.1	68.1	56.9
	63.9	68.1	56.7
	64.1	68.0	56.9
04:15-04:30	64.0	67.9	56.9
	65.0	69.0	57.7
	65.2	69.2	57.8
04:30-04:45	66.2	70.2	58.0
	64.3	68.0	57.1
	64.1	68.3	56.5
04:45-05:00	64.9	69.2	56.9
	64.7	69.1	57.1
	65.4	69.5	57.8
05:00-05:15	64.4	68.5	57.0
	64.8	69.0	57.2
	65.9	69.7	58.9
05:15-05:30	65.2	69.5	57.7
	64.8	69.0	57.1
	65.4	69.4	57.8
05:30-05:45	65.8	69.6	58.1
	65.9	69.9	58.8
	66.0	69.9	58.3
05:45-06:00	66.6	70.5	59.5
	66.7	70.2	59.5
	66.9	70.0	59.5
06:00-06:15	67.0	70.6	59.9
	67.9	71.4	61.2
	68.4	71.7	61.8
06:15-06:30	68.7	72.1	62.7
	68.9	72.6	62.6
	69.3	72.8	63.4
06:30-06:45	69.6	73.0	63.4
	70.1	73.3	64.5
	70.3	73.6	64.8
06:45-07:00	70.3	73.7	64.7
	70.4	73.5	65.0
	71.0	74.1	66.2
Average	67.6	71.2	61.5
Max	71.0	74.3	66.2
Min	63.8	67.8	56.5


Average Leq (30min) at Hong Kong Sheng Kung Hui Nursing Home during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
9/25/2012
9/26/2012
Date


Average Leq (5 min) at Hong Kong Sheng Kung Hui Nursing Home during Evening (1900-2300) for All Days
Evening Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
9/25/2012
Date


Average Leq (5 min) at Hong Kong Sheng Kung Hui Nursing Home during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
9/25/2012
Date

Baseline Noise Monitoring Result

Location: NMS-CA-4 for SCL(TAW-HUH) / NMS-CA-3 for SCL(HHS)
Rhythm Garden, Block 1 (north-eastern facade)

Baseline monitoring period: 11/9/2012 - 25/9/2012

Site observation: No construction works were conducted in the vicinity during the monitoring period.

Weather condition: The weather was sunny and overcast during monitoring period.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	70.7	71.8	69.1
07:30-08:00	71.8	72.7	70.5
08:00-08:30	71.8	72.8	70.4
08:30-09:00	71.4	72.5	70.0
09:00-09:30	71.5	72.5	70.1
09:30-10:00	71.3	72.3	69.9
10:00-10:30	71.2	72.1	69.8
10:30-11:00	71.1	72.0	69.7
11:00-11:30	71.1	72.0	69.7
11:30-12:00	71.1	72.0	69.7
12:00-12:30	71.1	72.0	69.6
12:30-13:00	70.9	71.9	69.4
13:00-13:30	70.9	71.9	69.5
13:30-14:00	70.9	71.9	69.5
14:00-14:30	71.0	71.9	69.6
14:30-15:00	71.1	72.0	69.7
15:00-15:30	71.1	72.0	69.7
15:30-16:00	71.0	71.9	69.6
16:00-16:30	71.1	72.0	69.8
16:30-17:00	71.2	72.2	69.8
17:00-17:30	71.3	72.2	69.9
17:30-18:00	71.3	72.3	69.8
18:00-18:30	71.2	72.3	69.8
18:30-19:00	70.9	71.9	69.4
Average	71.2	72.1	69.8
Max	71.8	72.8	70.5
Min	70.7	71.8	69.1

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	70.6	71.7	69.1
	70.8	71.8	69.2
	70.9	72.1	69.3
19:15-19:30	70.4	71.5	68.8
	70.5	71.6	68.9
	70.5	71.6	68.9
19:30-19:45	70.4	71.4	68.7
	70.3	71.4	68.8
	70.5	71.6	68.8
19:45-20:00	70.5	71.4	68.8
	70.3	71.4	68.7
	70.1	71.2	68.6
20:00-20:15	70.0	71.0	68.4
	69.9	71.1	68.3
	69.8	70.9	68.1
20:15-20:30	69.8	71.0	68.3
	69.8	70.8	68.3
	70.4	71.0	68.1
20:30-20:45	69.5	70.5	67.9
	69.6	70.8	67.9
	69.4	70.6	67.7
20:45-21:00	69.5	70.7	67.7
	69.4	70.6	67.8
	69.3	70.6	67.4
21:00-21:15	69.3	70.6	67.6
	69.5	70.7	67.7
	69.8	70.8	68.2
21:15-21:30	69.7	70.8	68.1
	69.7	70.9	68.0
	69.6	70.7	67.8
21:30-21:45	69.5	70.7	67.9
	69.5	70.6	67.9
	69.8	71.0	68.1
21:45-22:00	69.8	71.0	67.9
	69.7	70.9	68.1
	69.7	70.9	67.8
22:00-22:15	69.3	70.6	67.6
	69.3	70.6	67.4
	69.3	70.6	67.5
22:15-22:30	69.4	70.7	67.5
	69.3	70.5	67.7
	69.4	70.7	67.6
22:30-22:45	69.5	70.8	67.6
	69.3	70.6	67.4
	69.5	70.6	67.3
22:45-23:00	70.7	70.8	67.8
	69.9	70.9	67.5
	69.3	70.5	67.4
Average	69.9	71.0	68.1
Max	70.9	72.1	69.3
Min	69.3	70.5	67.3

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	67.5	68.8	65.3
	67.7	69.5	65.0
	67.8	69.0	65.8
07:15-07:30	68.7	70.0	66.5
	68.1	69.5	66.0
	68.6	69.8	66.5
07:30-07:45	68.9	70.3	67.0
	68.7	70.0	66.8
	68.6	70.5	66.8
07:45-08:00	68.4	69.8	66.5
	68.7	70.0	67.0
	69.0	70.3	67.3
08:00-08:15	69.1	70.8	67.0
	69.1	70.5	66.8
	68.9	70.3	66.8
08:15-08:30	68.9	70.3	66.8
	69.0	70.0	67.3
	69.3	70.5	67.8
08:30-08:45	69.4	70.8	67.5
	69.5	70.8	67.5
	69.2	70.3	67.3
08:45-09:00	69.1	70.3	67.5
	69.2	70.5	67.0
	69.5	70.8	67.5
09:00-09:15	69.6	70.5	68.0
	69.2	70.5	67.5
	69.7	71.0	67.8
09:15-09:30	69.5	70.8	67.8
	69.9	71.5	67.8
	69.6	70.8	68.0
09:30-09:45	69.4	70.8	67.8
	69.9	71.3	67.8
	69.5	70.5	67.8
09:45-10:00	69.9	71.0	68.3
	69.5	70.5	67.5
	69.6	70.8	67.5
10:00-10:15	69.6	70.8	67.8
	69.3	70.5	67.5
	70.0	71.3	68.5
10:15-10:30	69.6	70.8	67.8
	69.9	71.0	68.3
	69.9	71.0	68.0
10:30-10:45	69.6	70.8	67.8
	69.8	71.0	68.3
	69.4	70.3	68.0
10:45-11:00	69.9	71.3	68.3
	69.7	70.8	68.3
	69.9	71.0	68.3
11:00-11:15	69.6	70.8	68.0
	69.7	70.5	68.0
	69.9	71.0	68.0
11:15-11:30	69.7	70.8	67.8
	69.9	71.3	68.3
	69.7	71.0	68.0

11:30-11:45	70.0	71.5	68.3
	69.6	70.8	68.0
	69.1	70.0	67.8
11:45-12:00	69.9	71.0	68.3
	69.9	71.0	68.3
	70.0	71.0	68.3
12:00-12:15	69.7	70.8	68.0
	69.8	70.5	68.3
	70.1	71.3	68.5
12:15-12:30	70.0	71.3	68.3
	70.2	71.8	68.3
	70.1	70.8	68.8
12:30-12:45	70.1	71.3	68.5
	69.6	70.8	68.0
	69.8	70.8	68.3
12:45-13:00	69.8	70.8	68.3
	70.0	71.3	68.5
	69.9	70.8	68.3
13:00-13:15	69.6	70.5	68.0
	69.8	71.0	68.5
	69.7	70.8	68.0
13:15-13:30	69.8	71.0	68.3
	70.0	71.3	68.5
	70.2	71.5	68.3
13:30-13:45	69.9	71.0	68.5
	69.7	70.8	68.0
	70.0	71.3	68.3
13:45-14:00	69.9	71.0	68.3
	70.2	71.5	68.5
	69.8	71.0	68.0
14:00-14:15	70.2	71.3	68.3
	69.9	71.0	68.3
	69.9	70.8	68.3
14:15-14:30	70.1	71.3	68.3
	70.2	71.3	68.5
	69.7	70.8	68.0
14:30-14:45	69.7	70.8	68.3
	70.1	71.0	68.5
	70.0	71.3	68.3
14:45-15:00	69.9	71.0	68.3
	70.0	71.0	68.5
	70.1	71.5	68.0
15:00-15:15	70.2	71.3	68.5
	69.9	71.0	68.3
	69.9	71.0	68.5
15:15-15:30	70.0	71.5	68.0
	69.7	70.8	68.0
	69.8	70.8	68.5
15:30-15:45	69.7	71.0	68.0
	69.9	71.0	68.5
	69.9	70.8	68.0
15:45-16:00	70.0	71.0	68.5
	69.9	71.3	68.3
	70.0	71.0	68.0
16:00-16:15	69.8	71.0	68.0
	69.8	71.0	68.0
	69.9	71.3	68.3

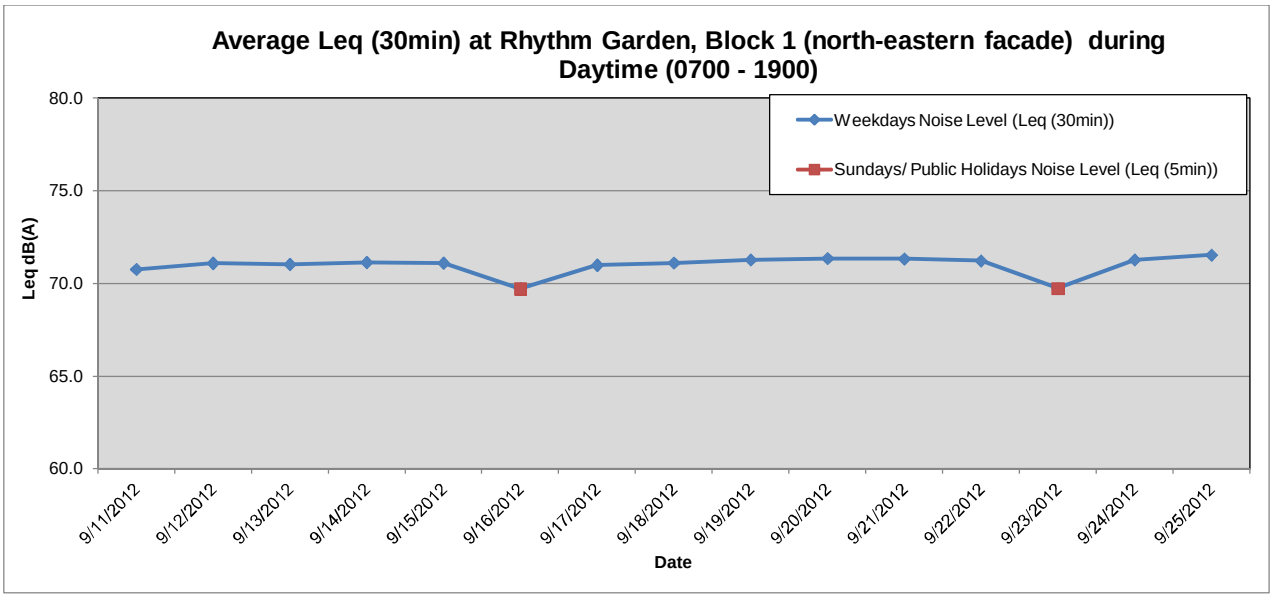
16:15-16:30	70.2	71.3	68.5
	69.9	71.0	68.0
	70.2	71.3	68.3
16:30-16:45	70.0	71.0	68.3
	69.9	71.3	67.8
	70.1	71.3	68.5
16:45-17:00	69.9	70.8	68.3
	70.2	71.3	68.3
	69.8	70.5	68.3
17:00-17:15	70.2	71.5	68.3
	70.2	71.3	68.3
	70.2	71.3	68.8
17:15-17:30	70.1	71.0	68.3
	70.2	71.5	68.8
	70.2	71.5	68.5
17:30-17:45	70.2	71.5	68.3
	70.5	71.8	68.8
	70.0	71.0	68.5
17:45-18:00	70.2	71.0	68.8
	70.3	71.3	68.8
	70.2	71.5	68.5
18:00-18:15	70.3	71.5	69.0
	70.2	71.3	68.8
	70.2	71.3	68.8
18:15-18:30	70.2	71.0	69.0
	70.3	71.5	68.5
	70.1	71.0	68.8
18:30-18:45	70.2	71.3	68.8
	70.2	71.3	68.8
	70.0	71.3	68.3
18:45-19:00	69.9	70.8	68.5
	69.7	70.8	68.0
	69.6	70.8	68.0
19:00-19:15	69.7	71.3	67.8
	69.6	70.8	68.0
	69.7	70.8	68.0
19:15-19:30	69.8	71.3	68.3
	69.5	70.5	68.3
	69.6	70.8	67.8
19:30-19:45	69.1	70.0	67.5
	69.2	70.0	67.5
	69.0	70.0	67.3
19:45-20:00	68.9	70.0	67.0
	69.3	70.5	67.5
	68.8	70.0	67.0
20:00-20:15	69.2	70.3	67.5
	69.1	70.3	67.5
	68.9	70.0	67.3
20:15-20:30	69.1	70.3	67.5
	69.5	70.8	68.0
	69.0	70.0	67.8
20:30-20:45	69.4	70.5	67.5
	69.2	70.0	67.5
	69.2	70.5	67.5
20:45-21:00	69.4	70.5	67.8
	69.2	70.6	67.5
	69.2	70.3	67.8

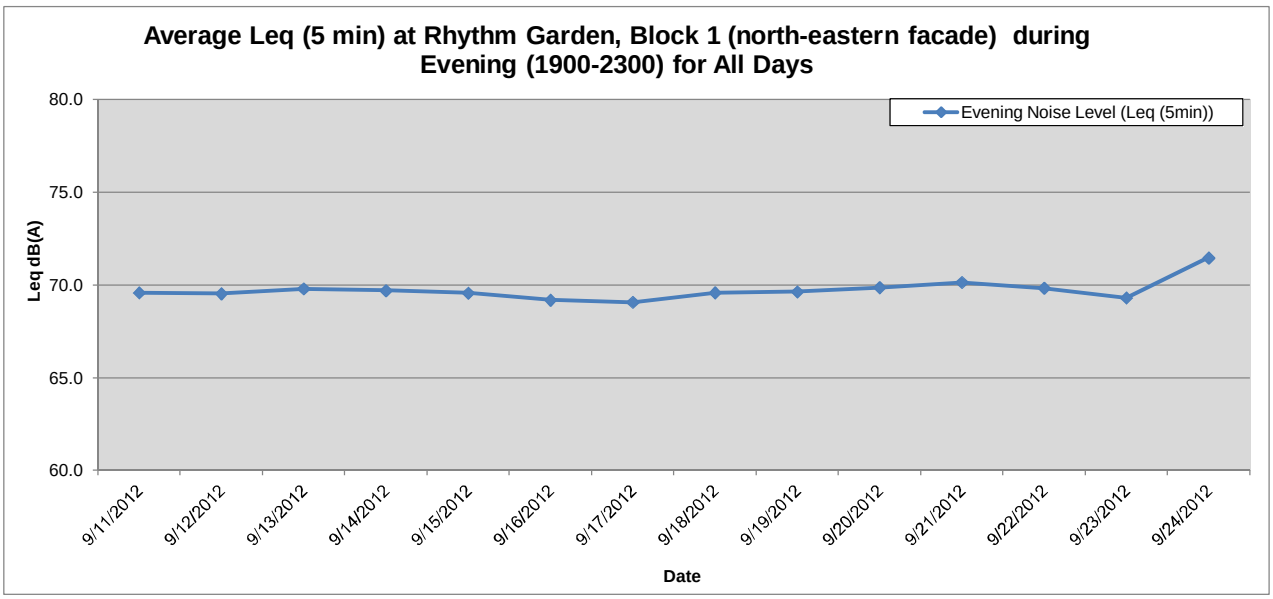
21:00-21:15	69.4	70.3	67.8
	69.6	70.8	67.8
	69.5	70.3	67.8
21:15-21:30	69.3	70.3	67.8
	69.8	70.8	67.8
	69.3	70.3	67.5
21:30-21:45	69.5	70.3	68.0
	69.6	70.8	68.0
	69.5	70.8	67.8
21:45-22:00	69.7	70.5	68.0
	69.7	71.0	68.3
	69.2	70.5	67.8
22:00-22:15	69.1	70.3	67.3
	69.1	70.0	67.5
	69.1	70.0	67.5
22:15-22:30	69.4	70.5	67.8
	69.1	70.3	67.3
	69.1	70.0	67.0
22:30-22:45	69.0	70.3	67.0
	69.1	70.0	67.5
	68.5	69.8	66.5
22:45-23:00	68.9	70.3	66.8
	68.7	70.0	66.5
	69.0	70.0	67.3
Average	69.6	70.8	67.9
Max	70.5	71.8	69.0
Min	67.5	68.8	65.0

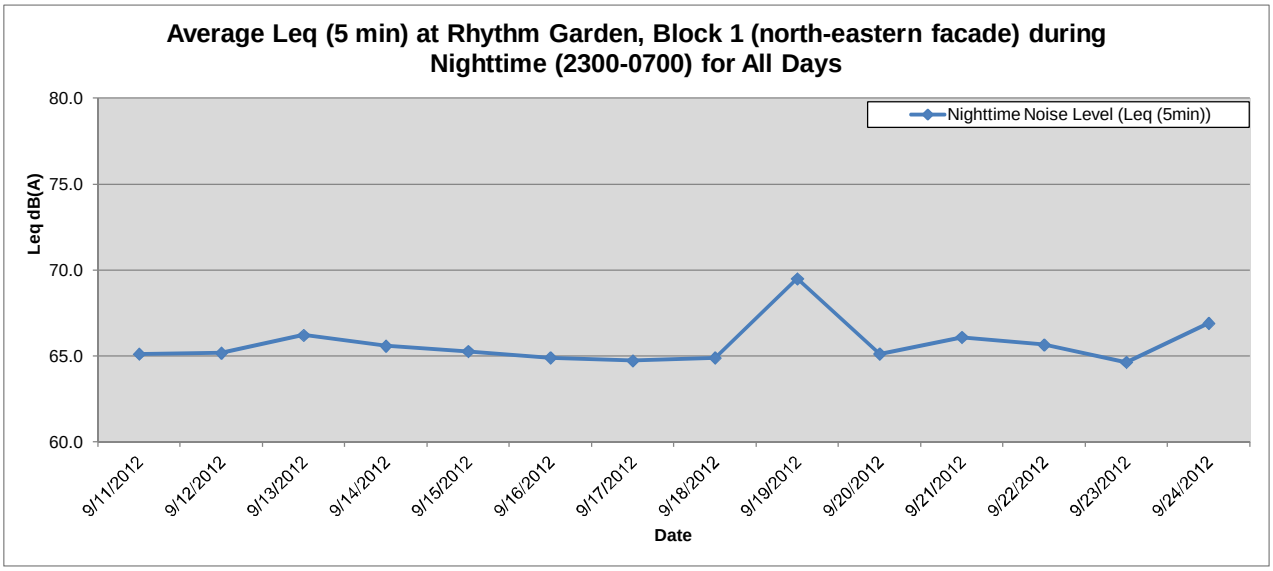
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	69.3	70.7	67.3
	69.1	70.5	67.1
	69.4	70.4	66.9
23:15-23:30	69.1	70.4	67.2
	69.2	70.7	67.2
	68.9	70.3	67.0
23:30-23:45	68.8	70.1	66.6
	68.7	70.3	66.4
	68.3	69.8	66.0
23:45-00:00	68.6	70.1	66.4
	68.4	70.0	66.3
	68.2	69.8	65.9
00:00-00:15	67.9	69.3	65.9
	67.9	69.5	65.8
	67.6	69.1	65.2
00:15-00:30	67.7	69.2	65.5
	67.4	69.0	65.2
	67.2	68.8	64.7
00:30-00:45	66.9	68.5	64.4
	66.8	68.4	64.4
	66.5	68.2	64.0
00:45:01:00	66.3	68.0	64.0
	66.4	68.0	63.8
	65.5	67.3	63.1
01:00-01:15	65.2	67.1	62.6
	65.0	66.9	61.9
	63.9	65.7	61.1
01:15-01:30	63.9	65.6	61.3
	63.9	65.8	60.9
	64.0	65.6	60.8
01:30-01:45	63.8	66.1	60.1
	63.3	65.5	59.9
	63.0	64.9	59.8
01:45-02:00	62.7	64.7	59.2
	62.7	64.6	59.5
	62.5	64.6	59.0
02:00-02:15	62.6	64.6	59.2
	62.5	64.6	59.1
	62.6	64.6	59.1
02:15-02:30	62.1	64.4	58.6
	62.6	64.7	59.0
	62.3	64.3	58.5
02:30-02:45	62.2	64.3	58.6
	61.8	63.9	58.3
	62.1	64.4	58.3
02:45-03:00	62.4	64.3	58.3
	62.6	65.0	58.5
	62.3	64.5	58.2
03:00-03:15	62.2	64.3	58.7
	61.8	64.1	58.3
	61.1	63.2	57.7
03:15-03:30	61.8	64.3	57.8
	61.7	64.0	57.4
	61.4	63.7	57.4

03:30-03:45	61.2	63.5	57.4
	61.4	63.8	57.5
	60.9	63.2	57.0
03:45-04:00	61.1	63.4	57.5
	61.5	63.6	57.1
	61.0	63.4	57.2
04:00-04:15	61.3	63.6	57.3
	61.3	63.8	57.5
	61.2	63.7	57.2
04:15-04:30	61.5	63.8	57.7
	61.7	64.1	57.7
	61.9	64.2	58.1
04:30-04:45	61.8	64.0	58.2
	62.4	64.7	58.5
	61.5	63.7	57.6
04:45-05:00	61.5	63.8	57.8
	61.8	63.9	58.0
	62.0	64.1	58.3
05:00-05:15	62.0	64.0	58.6
	62.7	64.7	58.9
	62.8	64.8	59.5
05:15-05:30	63.2	65.0	60.3
	62.7	64.7	59.6
	62.9	64.7	59.7
05:30-05:45	63.2	65.2	60.1
	63.6	65.6	60.3
	63.6	65.3	60.8
05:45-06:00	64.1	65.9	61.1
	64.6	66.2	62.0
	65.3	67.0	62.6
06:00-06:15	65.8	67.3	63.5
	66.3	67.8	63.9
	67.0	68.4	64.6
06:15-06:30	67.4	68.8	65.3
	67.5	68.9	65.3
	67.8	69.3	65.8
06:30-06:45	68.0	69.5	65.9
	68.2	69.6	66.2
	68.4	69.6	66.4
06:45-07:00	68.4	69.6	66.1
	68.8	70.2	66.6
	69.3	70.7	67.1
Average	65.4	67.1	62.9
Max	69.4	70.7	67.3
Min	60.9	63.2	57.0


Average Leq (30min) at Rhythm Garden, Block 1 (north-eastern facade) during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
9/25/2012
Date


Average Leq (5 min) at Rhythm Garden, Block 1 (north-eastern facade) during Evening (1900-2300) for All Days
Evening Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date


Average Leq (5 min) at Rhythm Garden, Block 1 (north-eastern facade) during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date

Baseline Noise Monitoring Result

Location: NMS-CA-5 for SCL(TAW-HUH) / NMS-CA-2 for SCL(HHS)
Rhymic Grden Block 1 (northern façade)

Baseline monitoring period: 11/9/2012 - 25/9/2012

Site observation: No construction works were conducted in the vicinity during the monitoring period.

Weather condition: The weather was sunny and overcast during monitoring.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	73.5	74.5	72.0
07:30-08:00	74.5	75.4	73.3
08:00-08:30	74.6	75.5	73.3
08:30-09:00	74.3	75.2	73.0
09:00-09:30	74.3	75.2	73.0
09:30-10:00	74.0	74.9	72.6
10:00-10:30	73.8	74.8	72.3
10:30-11:00	73.7	74.6	72.2
11:00-11:30	73.6	74.6	72.1
11:30-12:00	73.5	74.5	71.9
12:00-12:30	73.5	74.5	71.9
12:30-13:00	73.2	74.3	71.7
13:00-13:30	73.2	74.3	71.7
13:30-14:00	73.3	74.4	71.8
14:00-14:30	73.4	74.4	71.9
14:30-15:00	73.5	74.5	72.0
15:00-15:30	73.4	74.4	72.0
15:30-16:00	73.4	74.4	71.9
16:00-16:30	73.6	74.6	72.1
16:30-17:00	73.7	74.8	72.2
17:00-17:30	73.8	74.8	72.3
17:30-18:00	73.9	74.8	72.4
18:00-18:30	73.9	74.9	72.4
18:30-19:00	73.4	74.4	71.9
Average	73.7	74.7	72.3
Max	74.6	75.5	73.3
Min	73.2	74.3	71.7

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	73.2	74.2	71.6
	73.2	74.2	71.7
	73.0	74.1	71.4
19:15-19:30	73.0	74.0	71.4
	73.1	74.1	71.5
	72.9	74.0	71.4
19:30-19:45	73.0	74.0	71.3
	72.7	73.8	71.0
	72.8	73.9	71.0
19:45-20:00	72.8	74.0	71.1
	72.7	73.8	71.1
	72.6	73.8	70.8
20:00-20:15	72.5	73.6	70.8
	72.2	73.3	70.4
	72.3	73.5	70.5
20:15-20:30	72.9	73.6	70.6
	72.3	73.4	70.7
	72.0	73.3	70.1
20:30-20:45	71.9	73.2	70.0
	71.9	73.1	69.9
	71.9	73.1	70.0
20:45-21:00	71.7	73.0	69.6
	71.7	73.0	69.9
	71.9	73.0	70.0
21:00-21:15	72.1	73.2	70.3
	72.1	73.2	70.4
	72.1	73.3	70.3
21:15-21:30	72.2	73.3	70.4
	71.9	73.1	70.1
	72.2	73.2	70.3
21:30-21:45	72.1	73.2	70.4
	72.0	73.0	70.2
	72.1	73.3	70.3
21:45-22:00	72.4	73.6	70.5
	72.0	73.2	70.3
	71.9	73.1	70.0
22:00-22:15	71.9	73.3	70.2
	72.0	73.2	70.1
	71.9	73.1	70.0
22:15-22:30	72.0	73.2	70.3
	71.9	73.0	70.0
	72.0	73.2	70.1
22:30-22:45	72.3	73.4	70.3
	72.0	73.3	70.1
	72.9	73.1	70.1
22:45-23:00	72.1	73.4	70.2
	71.9	73.2	69.9
	71.8	73.1	69.9
Average	72.3	73.4	70.5
Max	73.2	74.2	71.7
Min	71.7	73.0	69.6

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	69.8	71.5	67.3
	70.1	71.8	67.3
	70.7	71.8	68.0
07:15-07:30	70.6	72.0	68.3
	70.7	72.3	68.3
	70.9	72.5	68.8
07:30-07:45	70.8	72.3	68.3
	70.8	72.3	68.8
	70.8	72.3	68.3
07:45-08:00	71.0	72.5	68.8
	71.1	72.8	69.0
	72.2	74.4	69.0
08:00-08:15	71.4	73.0	69.3
	71.4	73.0	68.8
	71.4	72.8	69.0
08:15-08:30	71.3	72.8	69.3
	71.9	73.0	70.0
	71.7	73.0	70.0
08:30-08:45	71.9	73.3	70.0
	71.5	72.8	69.3
	72.0	73.3	69.8
08:45-09:00	71.6	73.0	69.3
	71.6	73.0	69.5
	72.3	73.8	69.8
09:00-09:15	72.1	73.5	70.0
	71.7	72.8	69.8
	72.5	73.5	70.8
09:15-09:30	72.2	73.8	70.3
	72.2	73.3	70.5
	72.0	73.3	70.0
09:30-09:45	72.8	73.5	70.5
	71.9	73.0	70.0
	72.3	73.3	71.0
09:45-10:00	72.3	73.5	70.0
	71.7	73.0	69.5
	72.3	73.5	70.5
10:00-10:15	72.0	73.3	70.0
	72.2	73.5	70.5
	72.3	73.3	70.5
10:15-10:30	72.3	73.5	70.3
	72.5	73.8	70.3
	72.1	73.5	70.3
10:30-10:45	72.5	73.8	70.8
	72.3	73.5	70.3
	72.4	73.5	70.5
10:45-11:00	72.2	73.3	70.5
	72.5	73.8	70.8
	72.5	73.5	70.5
11:00-11:15	72.4	73.5	70.8
	72.2	73.5	70.0
	72.8	74.0	70.5
11:15-11:30	72.5	73.5	70.3
	72.8	74.0	71.0
	72.3	73.5	70.8

11:30-11:45	72.4	73.5	70.5
	72.4	73.5	70.5
	72.4	73.8	70.5
11:45-12:00	72.9	74.3	71.0
	72.5	73.5	70.8
	72.6	73.5	70.8
12:00-12:15	72.8	74.0	71.0
	72.8	74.0	71.0
	72.7	74.0	71.3
12:15-12:30	72.4	73.5	71.0
	72.8	74.0	71.0
	72.6	73.8	70.8
12:30-12:45	72.5	73.5	71.0
	72.3	73.3	71.0
	72.6	74.0	70.8
12:45-13:00	72.7	74.0	70.8
	72.4	73.5	70.8
	72.6	73.8	71.0
13:00-13:15	72.5	73.8	70.5
	72.5	73.5	71.0
	72.3	73.8	70.5
13:15-13:30	72.9	74.0	71.5
	72.5	73.8	71.0
	72.4	73.5	70.8
13:30-13:45	72.6	73.8	71.0
	72.6	73.8	70.8
	72.7	74.0	71.0
13:45-14:00	72.7	73.8	71.0
	72.7	73.8	71.0
	72.6	73.8	71.0
14:00-14:15	72.6	74.0	70.8
	72.5	73.8	70.8
	72.5	73.8	70.8
14:15-14:30	72.7	73.8	71.0
	72.5	73.8	70.8
	72.5	73.5	70.8
14:30-14:45	72.3	73.5	70.5
	72.6	73.8	70.8
	72.7	73.5	71.0
14:45-15:00	72.5	73.8	70.3
	72.7	74.0	71.0
	72.6	73.8	71.0
15:00-15:15	72.8	74.0	70.8
	72.6	73.8	70.5
	72.5	73.5	70.8
15:15-15:30	72.5	73.5	70.8
	72.5	73.5	70.8
	72.6	73.8	71.0
15:30-15:45	72.3	73.3	70.8
	72.5	73.8	71.0
	72.7	73.8	71.0
15:45-16:00	72.6	73.8	70.5
	72.4	73.5	71.0
	72.5	73.5	70.5
16:00-16:15	72.3	73.5	70.8
	72.6	73.5	70.8
	72.7	73.8	70.8

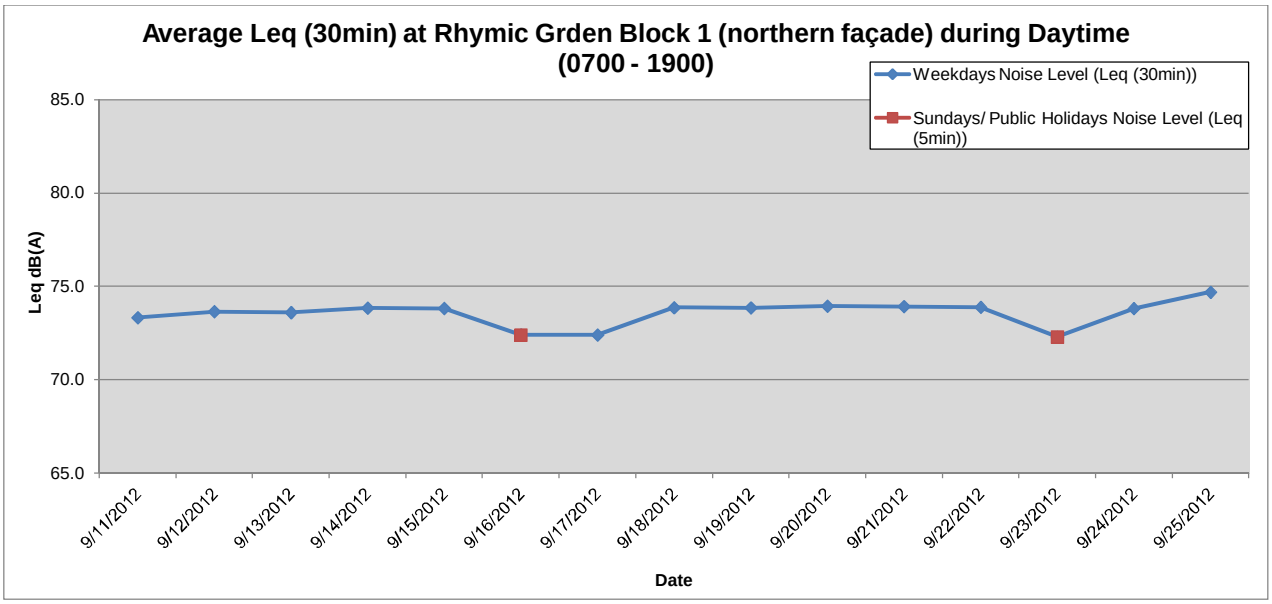
16:15-16:30	72.6	73.8	70.8
	72.9	73.8	71.0
	72.4	73.8	70.3
16:30-16:45	72.6	74.0	70.5
	72.7	73.8	71.3
	72.7	73.8	71.0
16:45-17:00	72.8	74.0	70.8
	72.7	73.5	71.0
	72.7	74.0	70.8
17:00-17:15	72.8	74.0	71.0
	72.8	73.8	71.3
	72.5	73.5	70.5
17:15-17:30	72.9	74.0	71.3
	72.9	74.0	71.5
	72.8	73.8	71.0
17:30-17:45	73.0	74.3	71.5
	73.0	73.8	71.5
	72.8	73.8	71.0
17:45-18:00	73.1	74.3	71.3
	72.9	73.8	71.3
	72.9	73.8	71.5
18:00-18:15	73.3	74.3	72.0
	72.8	73.8	71.3
	73.0	74.0	71.5
18:15-18:30	73.2	74.0	71.5
	73.1	74.0	71.5
	72.9	74.0	71.3
18:30-18:45	72.6	73.8	71.0
	72.5	73.5	71.0
	72.6	73.5	70.8
18:45-19:00	72.6	73.8	71.0
	72.2	73.5	70.3
	72.3	73.3	70.5
19:00-19:15	72.0	73.3	70.3
	72.1	73.3	70.3
	72.3	73.5	70.3
19:15-19:30	72.3	73.0	70.8
	71.9	73.0	70.0
	71.7	73.0	70.0
19:30-19:45	71.5	72.5	69.8
	71.6	72.8	70.0
	71.6	72.8	69.5
19:45-20:00	71.6	72.8	69.8
	71.7	72.8	70.0
	71.5	72.5	69.8
20:00-20:15	71.8	73.0	70.0
	71.4	72.8	69.5
	71.6	73.0	69.5
20:15-20:30	71.4	72.5	70.0
	72.0	73.0	70.3
	71.6	72.8	70.0
20:30-20:45	71.7	72.8	70.3
	71.8	73.0	70.3
	71.9	73.0	70.0
20:45-21:00	71.6	72.5	70.0
	71.8	72.8	70.0
	72.1	73.3	70.3

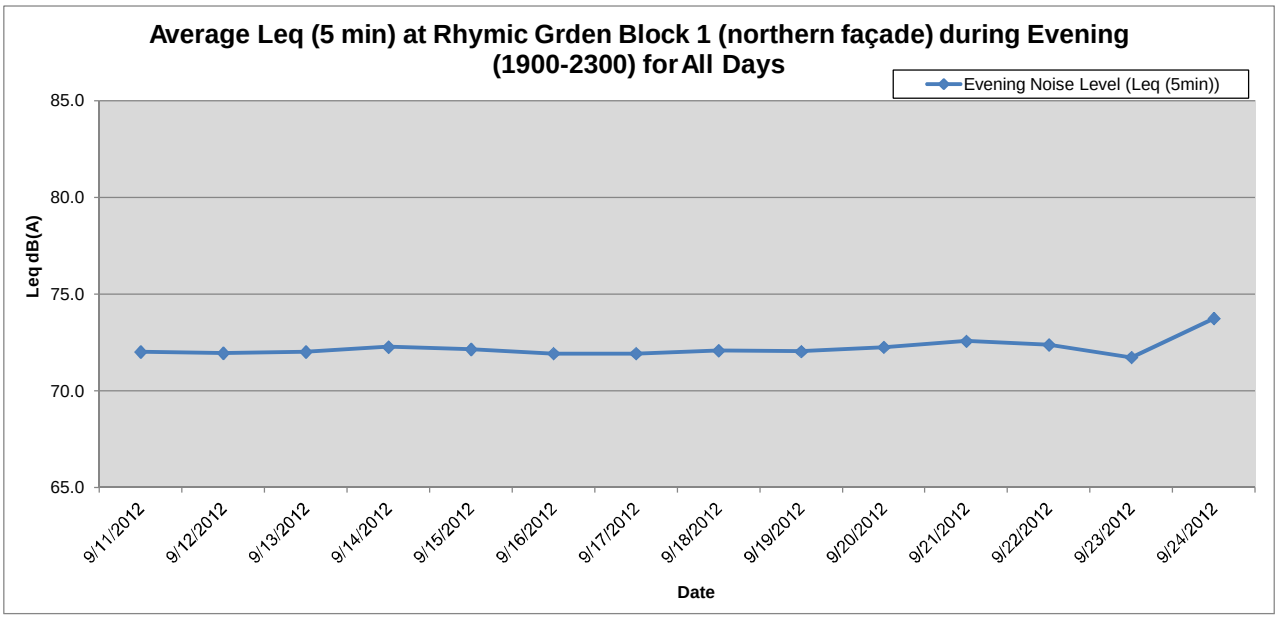
21:00-21:15	72.1	73.0	70.8
	71.9	72.8	70.3
	72.1	73.3	70.0
21:15-21:30	72.4	73.3	71.0
	72.1	73.0	70.5
	72.1	73.3	70.5
21:30-21:45	72.3	73.3	70.5
	72.3	73.0	70.8
	72.2	73.3	70.8
21:45-22:00	72.3	73.3	70.8
	72.1	73.0	70.5
	71.7	73.0	69.5
22:00-22:15	72.1	73.0	70.5
	71.8	73.0	70.0
	71.9	73.0	70.5
22:15-22:30	71.9	73.0	69.8
	72.0	73.0	70.3
	72.0	73.3	69.8
22:30-22:45	71.1	72.3	69.3
	71.8	73.0	69.3
	71.3	72.5	69.3
22:45-23:00	71.5	72.8	69.5
	72.1	72.8	69.5
	70.9	72.3	68.8
Average	72.2	73.4	70.4
Max	73.3	74.4	72.0
Min	69.8	71.5	67.3

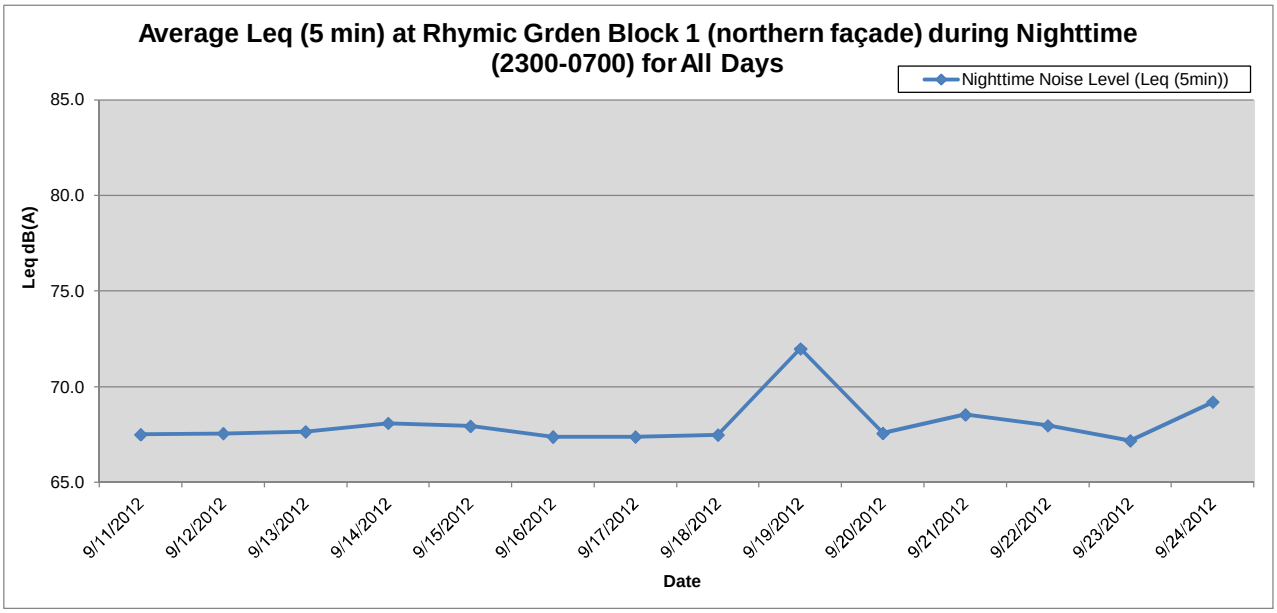
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	72.0	73.0	69.7
	71.6	72.9	69.6
	71.4	72.7	69.6
23:15-23:30	71.6	72.9	69.6
	71.3	72.7	69.4
	71.2	72.7	69.2
23:30-23:45	71.2	72.7	69.0
	70.9	72.2	68.9
	70.9	72.4	68.6
23:45-00:00	70.9	72.4	68.9
	70.7	72.2	68.4
	70.1	71.7	67.8
00:00-00:15	70.2	71.8	67.9
	70.3	71.7	67.9
	70.1	71.8	67.6
00:15-00:30	69.8	71.4	67.3
	69.6	71.2	67.0
	69.3	70.9	66.7
00:30-00:45	69.1	70.9	66.5
	68.8	70.3	66.4
	68.8	70.5	66.1
00:45:01:00	68.4	70.2	65.7
	68.3	70.1	65.1
	67.7	69.8	64.7
01:00-01:15	67.6	69.6	64.6
	66.9	68.8	63.9
	66.6	68.4	63.8
01:15-01:30	66.5	68.6	63.3
	66.3	68.3	63.1
	66.7	68.8	62.8
01:30-01:45	65.9	68.1	62.4
	65.5	67.4	62.1
	65.4	67.6	62.0
01:45-02:00	65.4	67.7	61.5
	65.0	67.3	61.5
	64.7	66.8	60.9
02:00-02:15	65.0	67.3	61.4
	64.7	67.0	61.1
	64.8	66.9	61.3
02:15-02:30	64.6	67.0	60.8
	64.5	67.0	60.4
	64.2	66.5	60.5
02:30-02:45	64.7	66.9	60.9
	64.0	66.4	60.0
	64.1	66.3	60.2
02:45-03:00	64.6	66.7	60.3
	64.3	66.8	60.0
	64.6	66.8	60.9
03:00-03:15	63.8	65.9	60.1
	63.8	66.2	59.5
	63.4	66.0	59.3
03:15-03:30	64.0	66.2	59.9
	63.7	66.2	59.3
	63.2	65.5	59.0

03:30-03:45	63.8	66.1	59.2
	63.5	66.1	59.3
	63.4	66.0	59.1
03:45-04:00	63.6	65.9	59.0
	63.6	66.1	59.1
	63.4	66.0	59.1
04:00-04:15	63.2	65.7	59.1
	63.7	66.1	59.7
	63.4	65.9	59.1
04:15-04:30	63.8	66.1	59.8
	63.6	66.0	59.7
	64.0	66.7	59.6
04:30-04:45	64.5	67.0	60.2
	64.2	66.7	59.6
	63.5	66.1	59.6
04:45-05:00	63.9	66.4	59.9
	64.5	67.0	60.1
	64.1	66.5	60.4
05:00-05:15	64.4	66.7	60.9
	65.2	67.5	61.0
	65.1	67.4	61.4
05:15-05:30	65.3	67.7	61.6
	65.4	67.5	62.0
	65.5	67.9	61.6
05:30-05:45	65.5	67.8	62.0
	66.3	68.5	62.9
	66.1	67.9	63.1
05:45-06:00	67.1	68.9	63.9
	67.6	69.5	64.8
	68.0	69.7	65.3
06:00-06:15	68.8	70.6	66.1
	69.2	71.0	66.3
	69.5	71.1	67.1
06:15-06:30	69.8	71.4	67.2
	70.1	71.7	67.7
	70.4	71.8	68.1
06:30-06:45	70.6	72.0	68.2
	70.9	72.4	68.8
	70.9	72.4	68.7
06:45-07:00	71.1	72.5	68.8
	71.6	73.0	69.3
	72.0	73.3	69.9
Average	67.8	69.6	65.1
Max	72.0	73.3	69.9
Min	63.2	65.5	59.0


Average Leq (30min) at Rhymic Grden Block 1 (northern façade) during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
9/25/2012
Date


Average Leq (5 min) at Rhymic Grden Block 1 (northern façade) during Evening (1900-2300) for All Days
Evening Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date


Average Leq (5 min) at Rhymic Grden Block 1 (northern façade) during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/11/2012
9/12/2012
9/13/2012
9/14/2012
9/15/2012
9/16/2012
9/17/2012
9/18/2012
9/19/2012
9/20/2012
9/21/2012
9/22/2012
9/23/2012
9/24/2012
Date

Baseline Noise Monitoring Result

Location:	NMS-CA-11 for SCL(TAW-HUH) / NMS-CA-1 for SCL(HHS) / NM2 for SCL(MKK-HUH) No. 234-238 Chatham Road North
Baseline monitoring period:	25/9/2012 - 9/10/2012
Site observation:	Construction work of KTE was conducted in the vicinity during the monitoring period.
Weather condition:	The weather was sunny and overcast during monitoring period.
Note:	A façade correction of +3dB(A) has been included in the free field monitoring data.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	74.5	75.9	72.1
07:30-08:00	74.6	75.9	72.3
08:00-08:30	77.8	79.7	74.9
08:30-09:00	80.4	82.4	77.3
09:00-09:30	80.5	82.4	77.6
09:30-10:00	80.6	82.5	77.9
10:00-10:30	80.4	82.3	77.4
10:30-11:00	80.2	82.1	77.2
11:00-11:30	80.0	82.0	76.9
11:30-12:00	77.2	79.2	74.1
12:00-12:30	75.6	77.6	72.6
12:30-13:00	74.2	75.9	71.6
13:00-13:30	78.9	80.9	75.8
13:30-14:00	80.0	81.9	77.0
14:00-14:30	80.2	82.2	76.9
14:30-15:00	79.7	81.8	76.4
15:00-15:30	80.0	82.1	76.4
15:30-16:00	80.1	82.3	76.7
16:00-16:30	80.2	82.3	76.8
16:30-17:00	80.2	82.3	76.6
17:00-17:30	80.2	82.3	76.6
17:30-18:00	78.8	81.0	75.2
18:00-18:30	78.6	80.9	74.5
18:30-19:00	74.6	76.7	71.5
Average	79.1	81.1	75.9
Max	80.6	82.5	77.9
Min	74.2	75.9	71.5

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	71.4	72.8	69.3
	71.8	73.2	69.7
	71.8	73.0	69.8
19:15-19:30	71.6	72.9	69.7
	71.7	72.9	69.8
	71.9	73.2	69.9
19:30-19:45	71.9	73.3	69.8
	71.9	73.3	69.6
	72.2	73.5	69.9
19:45-20:00	72.4	73.7	70.2
	72.2	73.5	69.9
	72.5	73.8	70.3
20:00-20:15	72.9	74.6	70.5
	72.9	74.3	70.6
	72.9	74.1	70.6
20:15-20:30	72.7	74.0	70.5
	72.9	74.2	70.8
	73.0	74.2	71.0
20:30-20:45	72.9	74.1	70.8
	72.8	74.2	70.9
	73.0	74.2	70.9
20:45-21:00	73.0	74.2	70.7
	73.0	74.3	70.9
	73.1	74.2	70.9
21:00-21:15	72.9	74.1	71.1
	73.1	74.4	71.0
	73.1	74.3	71.1
21:15-21:30	72.8	74.0	70.8
	73.0	74.3	70.9
	73.0	74.3	70.8
21:30-21:45	73.0	74.4	70.9
	73.1	74.4	71.1
	73.1	74.4	71.2
21:45-22:00	73.2	74.4	71.2
	73.3	74.6	71.0
	73.2	74.4	71.3
22:00-22:15	73.2	74.4	71.2
	73.1	74.3	71.0
	73.1	74.2	71.2
22:15-22:30	73.1	74.4	71.1
	73.1	74.4	71.0
	73.0	74.3	70.9
22:30-22:45	72.9	74.3	70.8
	72.9	74.2	71.0
	73.1	74.2	70.9
22:45-23:00	73.2	74.4	71.3
	73.2	74.5	71.0
	73.3	74.6	71.1
Average	72.8	74.1	70.7
Max	73.3	74.6	71.3
Min	71.4	72.8	69.3

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	72.4	74.2	69.2
	72.8	74.5	69.5
	72.5	74.3	69.3
07:15-07:30	72.4	74.0	69.4
	72.2	74.0	69.5
	72.0	73.8	69.1
07:30-07:45	72.2	74.1	68.6
	72.2	74.0	69.0
	72.2	74.0	69.1
07:45-08:00	72.4	74.1	69.8
	72.5	74.3	69.6
	72.7	74.5	70.1
08:00-08:15	72.5	74.3	69.9
	72.1	73.8	69.5
	72.1	73.9	69.1
08:15-08:30	72.1	74.0	68.9
	72.6	74.1	69.8
	72.4	74.3	69.4
08:30-08:45	72.8	74.5	69.6
	72.4	74.1	69.8
	72.6	74.4	70.0
08:45-09:00	72.9	74.3	70.5
	73.1	74.6	70.4
	73.1	74.5	70.5
09:00-09:15	72.9	74.4	70.3
	72.8	74.4	70.1
	72.7	74.3	69.9
09:15-09:30	73.0	74.3	70.3
	73.0	74.4	70.7
	72.9	74.5	70.2
09:30-09:45	73.2	74.8	70.7
	73.1	74.6	70.6
	72.7	74.3	70.4
09:45-10:00	73.2	74.8	71.0
	73.4	74.9	70.9
	73.3	74.6	71.1
10:00-10:15	72.9	74.4	70.5
	73.1	74.4	71.3
	73.3	74.8	71.0
10:15-10:30	73.1	74.5	70.4
	73.2	74.6	71.0
	73.1	74.5	70.8
10:30-10:45	73.1	74.5	71.1
	73.4	75.0	70.9
	73.1	74.6	70.6
10:45-11:00	73.5	74.9	71.1
	73.2	74.5	70.9
	73.4	75.0	71.0
11:00-11:15	73.0	74.4	70.7
	73.3	74.6	71.0
	73.2	74.6	70.9
11:15-11:30	73.1	74.3	71.3
	73.0	74.4	70.5
	73.2	74.6	70.9

11:30-11:45	73.3	74.6	71.3
	73.4	74.9	71.0
	73.3	74.6	70.9
11:45-12:00	73.2	74.4	71.1
	73.4	74.9	70.9
	73.4	74.6	71.1
12:00-12:15	73.3	74.6	71.3
	73.5	74.8	71.1
	73.4	74.6	71.0
12:15-12:30	73.4	74.8	71.1
	73.4	74.6	71.1
	73.4	74.7	70.9
12:30-12:45	73.1	74.4	71.0
	73.2	74.6	71.1
	73.3	74.5	71.4
12:45-13:00	72.9	74.3	70.6
	73.2	74.5	71.1
	73.4	74.6	71.3
13:00-13:15	73.3	74.5	71.5
	73.2	74.5	71.2
	73.1	74.4	71.1
13:15-13:30	73.2	74.6	71.0
	73.1	74.4	71.0
	73.3	74.6	71.3
13:30-13:45	73.3	74.6	71.0
	73.5	74.8	71.4
	73.2	74.5	71.1
13:45-14:00	73.5	74.9	71.3
	73.3	74.6	71.1
	73.5	74.9	71.5
14:00-14:15	73.2	74.6	71.0
	73.4	74.8	71.1
	73.6	75.0	71.6
14:15-14:30	73.7	74.9	71.4
	73.2	74.5	71.1
	73.2	74.6	70.9
14:30-14:45	73.3	74.6	71.4
	73.4	74.9	71.6
	73.3	74.8	71.1
14:45-15:00	73.7	74.9	71.4
	73.5	74.8	71.3
	73.4	74.6	71.4
15:00-15:15	73.3	74.5	71.4
	73.4	74.8	71.2
	73.3	74.5	71.1
15:15-15:30	73.3	74.6	71.3
	73.1	74.4	71.0
	73.4	74.6	71.6
15:30-15:45	73.3	74.5	70.9
	73.2	74.4	71.3
	73.4	74.6	71.4
15:45-16:00	73.2	74.6	71.0
	73.1	74.3	71.4
	73.2	74.5	71.0
16:00-16:15	73.4	74.5	71.4
	73.1	74.3	71.1
	73.2	74.4	71.0

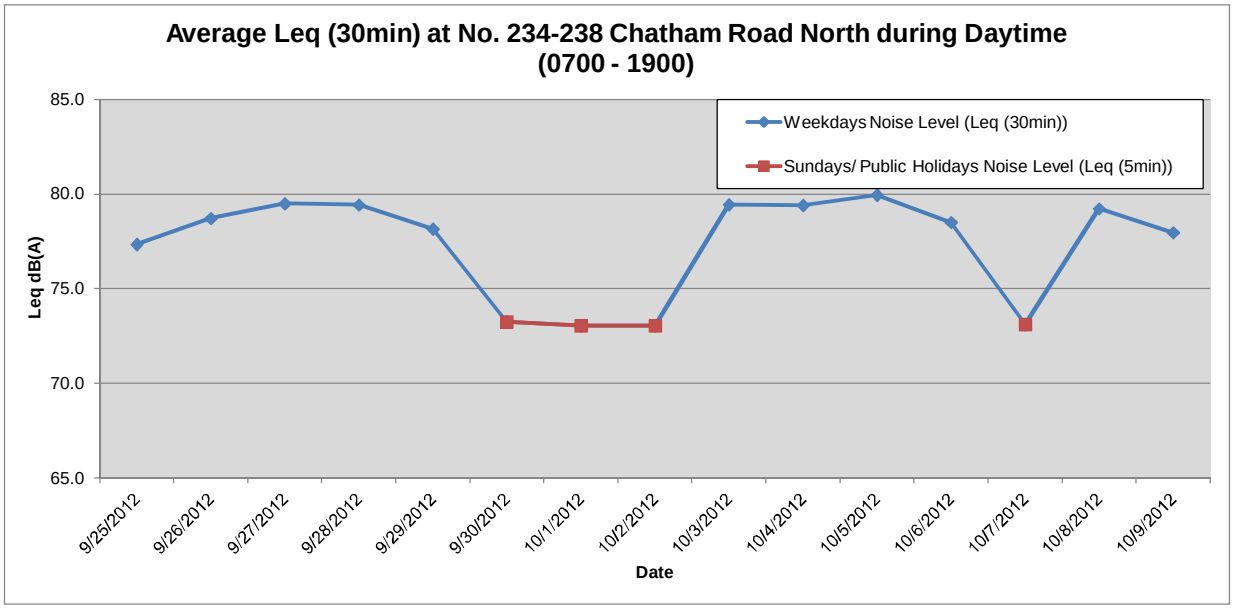
16:15-16:30	73.2	74.5	71.3
	73.2	74.5	71.1
	73.3	74.6	71.0
16:30-16:45	73.1	74.3	71.3
	73.3	74.6	71.3
	73.3	74.9	70.9
16:45-17:00	73.3	74.6	71.1
	73.4	74.5	71.5
	73.5	74.9	71.6
17:00-17:15	73.2	74.5	71.1
	73.5	74.8	71.2
	73.4	74.6	71.3
17:15-17:30	73.1	74.4	71.0
	73.2	74.4	71.1
	73.2	74.4	71.0
17:30-17:45	73.2	74.4	71.1
	73.1	74.4	71.0
	73.4	74.5	71.4
17:45-18:00	73.4	74.6	71.3
	73.3	74.5	71.4
	73.4	75.0	71.1
18:00-18:15	73.3	74.5	71.0
	73.1	74.1	71.4
	73.0	74.3	70.9
18:15-18:30	73.3	74.5	71.6
	73.0	74.3	71.1
	73.2	74.4	70.9
18:30-18:45	73.0	74.4	71.1
	73.0	74.3	70.9
	73.0	74.3	71.1
18:45-19:00	73.0	74.4	70.9
	73.0	74.1	71.0
	73.2	74.5	71.3
19:00-19:15	73.1	74.4	70.9
	73.2	74.5	70.9
	73.0	74.3	70.6
19:15-19:30	73.1	74.6	70.8
	72.8	74.3	70.4
	73.0	74.4	70.5
19:30-19:45	73.1	74.4	70.7
	73.3	74.6	70.8
	72.9	74.4	70.6
19:45-20:00	73.0	74.1	70.9
	73.2	74.6	70.9
	73.1	74.5	70.5
20:00-20:15	72.7	74.1	70.4
	73.1	74.4	70.8
	73.3	74.5	71.1
20:15-20:30	73.0	74.4	70.8
	73.0	74.5	70.8
	72.8	74.3	70.6
20:30-20:45	73.1	74.6	70.8
	73.6	75.3	70.9
	73.7	75.2	71.4
20:45-21:00	73.5	75.3	71.0
	73.4	74.8	71.1
	73.4	75.1	71.1

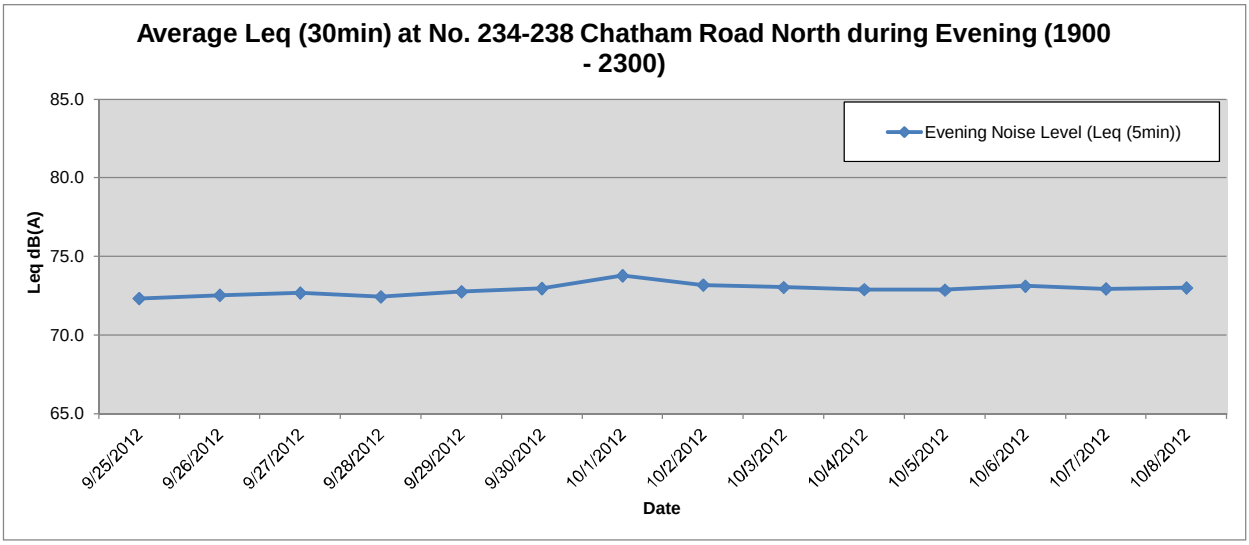
21:00-21:15	73.4	75.0	71.0
	73.3	74.8	70.8
	73.1	74.5	70.9
21:15-21:30	73.2	74.7	70.9
	73.4	74.5	71.4
	73.3	74.5	71.3
21:30-21:45	72.9	74.3	70.8
	73.3	74.5	71.0
	73.6	75.1	71.4
21:45-22:00	73.6	74.8	71.3
	73.4	74.8	71.1
	73.4	74.8	71.3
22:00-22:15	73.3	74.8	70.9
	73.3	74.6	70.9
	73.2	74.5	71.3
22:15-22:30	73.5	75.0	71.3
	73.7	75.1	71.5
	73.5	74.8	71.4
22:30-22:45	73.2	74.5	71.0
	73.3	74.7	70.9
	73.4	74.8	71.2
22:45-23:00	73.1	74.5	70.8
	73.2	74.8	70.9
	73.3	74.6	71.3
Average	73.1	74.5	70.9
Max	73.7	75.3	71.6
Min	72.0	73.8	68.6

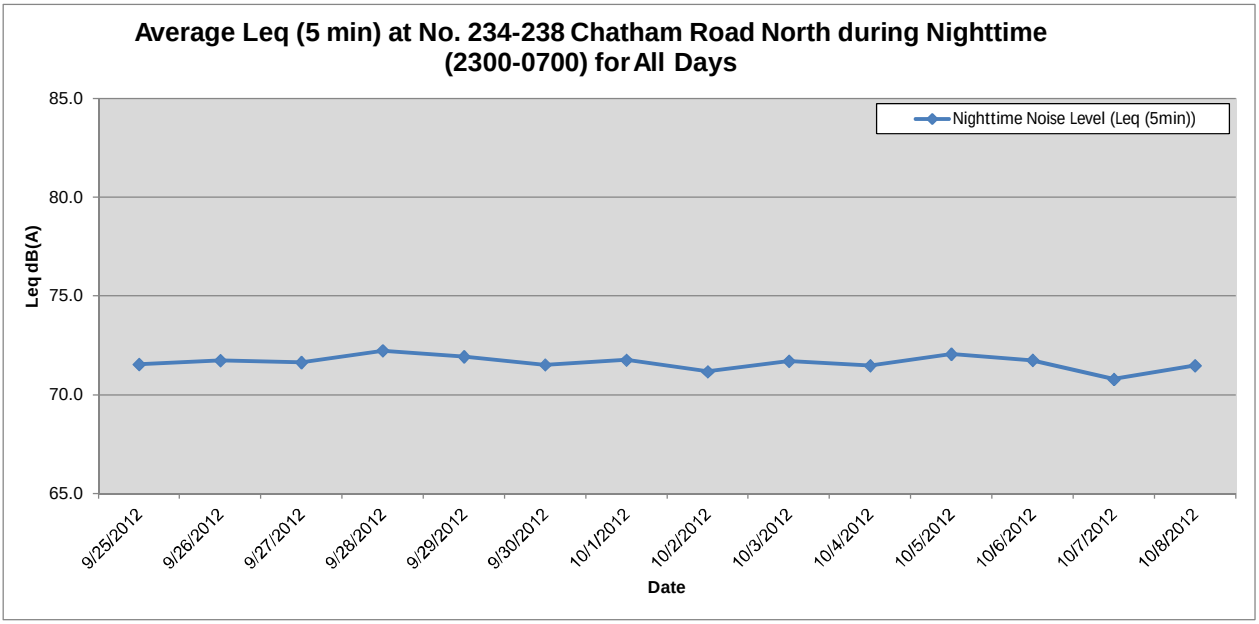
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	73.3	74.6	71.2
	73.2	74.5	71.2
	73.3	74.6	71.2
23:15-23:30	73.3	74.6	71.2
	73.3	74.7	71.1
	73.2	74.6	71.0
23:30-23:45	73.0	74.3	71.0
	73.2	74.6	71.0
	73.2	74.5	70.9
23:45-00:00	73.3	74.8	71.1
	73.0	74.3	70.8
	73.3	74.6	71.1
00:00-00:15	73.2	74.4	71.1
	73.2	74.5	71.0
	73.2	74.5	70.9
00:15-00:30	73.0	74.4	70.8
	72.9	74.2	70.7
	72.8	74.2	70.4
00:30-00:45	72.6	74.2	70.2
	72.5	73.9	69.7
	72.5	74.0	70.1
00:45:01:00	72.4	74.0	69.6
	72.1	73.7	69.5
	72.2	73.8	69.5
01:00-01:15	72.9	73.5	69.1
	72.0	73.6	69.1
	71.8	73.4	69.1
01:15-01:30	71.6	73.3	68.6
	71.7	73.3	68.9
	71.5	73.2	68.6
01:30-01:45	71.3	73.0	68.4
	71.2	72.9	68.2
	71.3	73.0	68.1
01:45-02:00	71.4	73.1	68.1
	71.1	72.9	67.7
	71.1	72.8	68.2
02:00-02:15	71.1	72.8	67.9
	71.2	72.8	67.9
	71.0	72.8	67.9
02:15-02:30	70.7	72.5	67.6
	70.8	72.6	67.4
	70.8	72.7	67.6
02:30-02:45	70.8	72.8	67.3
	70.7	72.7	66.8
	70.7	72.7	67.3
02:45-03:00	70.5	72.4	67.0
	70.5	72.5	66.8
	70.5	72.5	66.7
03:00-03:15	70.6	72.5	67.1
	70.6	72.5	67.1
	70.2	72.1	66.5
03:15-03:30	70.4	72.4	66.4
	70.5	72.5	66.7
	70.0	72.1	66.3

03:30-03:45	70.0	72.1	66.1
	70.1	72.1	66.4
	70.2	72.2	66.2
03:45-04:00	70.4	72.5	66.6
	70.1	72.1	66.3
	69.9	72.0	66.0
04:00-04:15	70.1	72.1	66.1
	69.9	72.0	65.9
	70.2	72.4	66.2
04:15-04:30	70.2	72.3	65.6
	70.1	72.2	66.2
	69.8	71.9	65.9
04:30-04:45	69.7	72.0	65.6
	70.1	72.2	66.2
	69.9	72.0	65.7
04:45-05:00	70.2	72.3	66.1
	70.3	72.5	66.1
	70.1	72.2	66.1
05:00-05:15	70.2	72.4	66.0
	70.2	72.3	65.9
	70.2	72.2	66.3
05:15-05:30	70.7	72.9	66.7
	70.5	72.7	66.7
	70.7	72.7	66.7
05:30-05:45	70.6	72.7	66.5
	70.6	72.7	66.7
	70.9	73.1	67.0
05:45-06:00	71.1	73.0	67.3
	70.9	73.0	67.1
	71.2	73.2	67.6
06:00-06:15	71.1	73.2	67.5
	71.6	73.5	67.9
	71.8	73.8	68.4
06:15-06:30	72.3	74.2	69.1
	72.4	74.1	69.3
	72.5	74.2	69.5
06:30-06:45	72.4	74.2	69.3
	73.0	74.7	70.2
	73.0	74.7	70.0
06:45-07:00	73.2	74.9	70.5
	73.5	75.1	70.9
	73.5	75.0	71.1
Average	71.6	73.4	68.6
Max	73.5	75.1	71.2
Min	69.7	71.9	65.6


Average Leq (30min) at No. 234-238 Chatham Road North during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/25/2012
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
10/9/2012
Date


Average Leq (30min) at No. 234-238 Chatham Road North during Evening (1900 - 2300)
Evening Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/25/2012
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
Date


Average Leq (5 min) at No. 234-238 Chatham Road North during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
85.0
80.0
75.0
70.0
65.0
9/25/2012
9/26/2012
9/27/2012
9/28/2012
9/29/2012
9/30/2012
10/1/2012
10/2/2012
10/3/2012
10/4/2012
10/5/2012
10/6/2012
10/7/2012
10/8/2012
Date

Baseline Noise Monitoring Result

Location:	NM1 for SCL (MKK-HUH) Carmel Secondary School (South Block)
Baseline monitoring	10/5/2012 - 24/5/2012
Site Observation:	No construction works were conducted in the vicinity during the monitoring period.
Weather condition:	Rainfall was observed throughout the monitoring period. Amber rainstorm warning signal was hoisted between 0855 and 1045 hrs on 18 May. Given the short period of rainstorm, it is considered that the data collected on 18 May remains valid.

Parameter: Leq

Time Slot Averaged Baselines

1) Weekdays Daytime Noise Level, dB(A)

Time slot	Leq, 30 min	L10	L90
07:00-07:30	67.1	68.0	65.4
07:30-08:00	67.5	68.6	65.9
08:00-08:30	68.4	70.1	66.1
08:30-09:00	67.7	68.6	66.2
09:00-09:30	67.7	68.7	66.2
09:30-10:00	68.2	69.3	66.6
10:00-10:30	67.7	68.6	66.2
10:30-11:00	67.8	69.0	66.1
11:00-11:30	67.6	68.6	66.1
11:30-12:00	67.6	68.5	66.1
12:00-12:30	67.7	68.7	66.1
12:30-13:00	68.9	70.4	66.7
13:00-13:30	68.4	69.5	66.8
13:30-14:00	68.0	69.0	66.5
14:00-14:30	67.6	68.6	66.2
14:30-15:00	67.4	68.3	66.0
15:00-15:30	68.3	69.5	66.6
15:30-16:00	69.8	71.5	67.1
16:00-16:30	70.4	72.6	67.3
16:30-17:00	70.0	71.9	67.2
17:00-17:30	70.0	71.8	67.1
17:30-18:00	69.9	72.1	66.9
18:00-18:30	68.3	69.5	66.6
18:30-19:00	67.8	68.8	66.3
Average	68.4	69.8	66.5
Max	70.4	72.6	67.3
Min	67.1	68.0	65.4

Noise Control Period Averaged Baselines

2) Weekdays Evening Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
19:00-19:15	67.4	68.3	65.9
	67.2	68.2	65.7
	67.1	68.0	65.7
19:15-19:30	67.2	68.2	65.8
	67.2	68.2	65.6
	67.3	68.1	65.8
19:30-19:45	67.4	68.5	65.8
	67.6	68.9	65.9
	67.5	68.6	65.9
19:45-20:00	67.6	68.6	66.0
	67.4	68.3	66.1
	67.4	68.4	66.0
20:00-20:15	67.5	68.6	66.0
	67.4	68.6	65.7
	67.3	68.3	65.7
20:15-20:30	67.2	68.2	65.8
	67.4	68.3	65.8
	67.1	68.1	65.6
20:30-20:45	67.1	68.0	65.6
	67.0	68.1	65.6
	67.0	68.0	65.4
20:45-21:00	67.4	68.5	65.7
	67.3	68.2	65.9
	67.3	68.2	65.9
21:00-21:15	67.3	68.2	65.9
	67.1	68.2	65.5
	67.0	68.0	65.5
21:15-21:30	67.1	68.0	65.7
	66.8	67.8	65.5
	66.9	68.1	65.6
21:30-21:45	67.0	67.9	65.6
	66.9	67.9	65.5
	67.0	68.0	65.7
21:45-22:00	67.0	67.9	65.5
	67.1	68.2	65.6
	66.9	67.9	65.4
22:00-22:15	67.1	68.0	65.7
	67.2	68.2	65.7
	67.1	68.0	65.8
22:15-22:30	67.2	68.1	65.8
	67.0	67.9	65.7
	66.9	67.8	65.5
22:30-22:45	66.9	67.9	65.6
	67.0	68.0	65.5
	66.9	67.9	65.4
22:45-23:00	66.8	67.6	65.4
	66.9	67.9	65.4
	66.7	67.6	65.3
Average	67.1	68.1	65.7
Max	67.6	68.9	66.1
Min	66.7	67.6	65.3

3) General Holidays (including Sundays) (0700-2300) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
0700-07:15	66.7	67.3	64.0
	65.6	67.0	63.8
	66.2	67.0	63.8
07:15-07:30	65.8	66.8	64.3
	66.1	67.8	64.0
	65.9	67.3	64.3
07:30-07:45	66.0	67.0	64.3
	66.0	67.3	64.3
	66.5	67.3	64.3
07:45-08:00	66.0	67.0	64.3
	66.3	67.3	64.8
	66.5	67.5	64.8
08:00-08:15	66.2	67.0	64.8
	66.2	67.3	64.8
	66.3	67.5	64.3
08:15-08:30	66.2	67.3	64.8
	66.7	67.8	65.0
	66.4	67.5	65.0
08:30-08:45	66.6	68.0	65.0
	66.5	67.5	64.8
	66.7	67.8	65.3
08:45-09:00	66.8	67.8	65.5
	67.1	68.0	65.5
	67.0	68.0	65.3
09:00-09:15	66.8	67.8	65.3
	67.1	68.0	65.8
	66.7	67.8	65.3
09:15-09:30	66.7	67.5	65.3
	67.3	68.3	66.0
	67.1	68.0	65.5
09:30-09:45	66.9	67.8	65.3
	67.7	69.1	65.8
	69.1	70.3	66.9
09:45-10:00	67.5	68.3	65.8
	67.7	68.5	66.0
	67.5	68.3	66.3
10:00-10:15	67.4	68.0	66.0
	67.2	68.3	65.5
	68.9	68.0	65.8
10:15-10:30	67.4	68.5	65.8
	67.2	68.3	65.8
	67.1	68.0	65.8
10:30-10:45	67.2	68.0	65.8
	67.2	68.0	66.0
	67.3	68.3	65.8
10:45-11:00	67.5	68.3	66.0
	68.1	69.5	66.0
	67.7	68.5	66.3
11:00-11:15	68.0	68.8	66.3
	67.6	68.5	66.3
	67.3	68.0	66.3
11:15-11:30	67.7	68.5	66.3
	67.7	68.5	66.3
	67.7	68.3	66.5

11:30-11:45	67.3	68.3	66.0
	67.7	68.5	66.0
	67.6	68.3	66.3
11:45-12:00	67.2	68.0	65.8
	67.3	68.5	65.8
	67.0	68.0	65.3
12:00-12:15	67.4	68.3	65.8
	67.5	68.5	65.8
	66.9	67.8	65.5
12:15-12:30	67.2	68.0	65.3
	67.3	68.3	65.8
	67.1	68.0	66.0
12:30-12:45	67.3	68.3	66.0
	67.3	68.5	65.8
	67.0	67.8	65.8
12:45-13:00	67.2	68.0	65.8
	67.0	68.0	65.5
	67.2	68.0	65.8
13:00-13:15	67.3	68.3	66.0
	68.2	68.5	66.0
	67.5	68.3	66.0
13:15-13:30	67.4	68.5	66.0
	67.5	68.8	65.8
	67.3	68.0	65.8
13:30-13:45	67.6	68.8	66.0
	68.0	69.6	66.0
	68.5	68.8	66.0
13:45-14:00	68.0	69.3	66.3
	68.0	69.6	66.0
	69.5	71.3	66.3
14:00-14:15	68.9	70.3	66.8
	68.1	69.3	66.0
	68.0	69.4	66.3
14:15-14:30	68.5	69.6	66.3
	68.9	70.8	66.5
	68.1	69.6	66.3
14:30-14:45	68.1	69.3	66.3
	68.0	69.3	66.5
	67.8	69.0	66.3
14:45-15:00	68.4	69.8	66.8
	69.1	70.4	67.3
	69.9	71.4	68.3
15:00-15:15	69.8	70.9	68.1
	71.0	72.9	68.3
	70.0	70.3	68.1
15:15-15:30	68.9	70.3	66.8
	68.3	69.3	66.3
	69.2	71.7	66.8
15:30-15:45	68.0	69.0	66.5
	68.6	70.1	66.8
	68.0	69.4	66.5
15:45-16:00	67.9	69.1	66.3
	68.3	69.9	66.0
	68.3	69.8	66.3
16:00-16:15	67.8	69.1	66.3
	67.5	68.0	66.0
	68.2	69.8	66.0

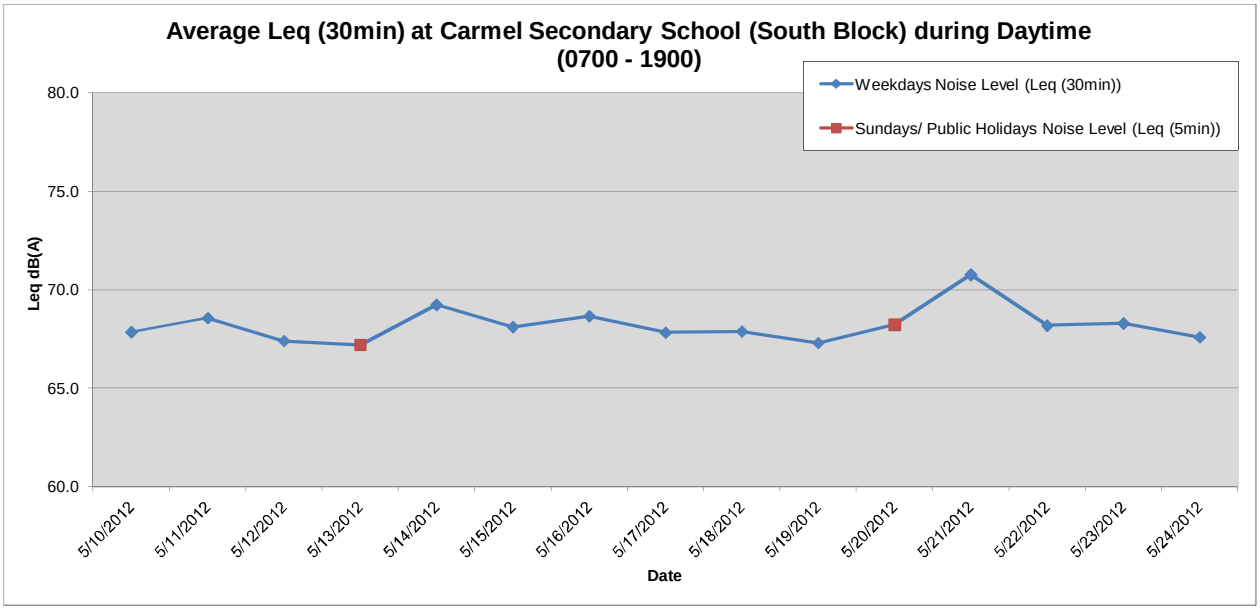
16:15-16:30	68.1	69.6	66.3
	68.3	69.9	66.0
	68.5	70.4	66.3
16:30-16:45	67.7	68.9	66.3
	68.1	69.6	66.0
	67.9	69.4	66.0
16:45-17:00	67.9	69.3	66.0
	67.8	69.6	65.8
	68.6	70.4	66.3
17:00-17:15	67.8	69.4	65.5
	67.9	69.0	66.0
	68.1	69.8	66.0
17:15-17:30	68.1	69.8	66.3
	68.0	69.4	65.8
	68.1	69.8	66.0
17:30-17:45	68.1	69.8	66.0
	69.4	71.5	66.0
	70.1	71.4	66.3
17:45-18:00	67.9	69.4	65.8
	69.0	71.5	66.1
	69.0	71.2	66.3
18:00-18:15	67.9	68.9	66.1
	67.8	69.3	65.8
	67.9	68.9	66.0
18:15-18:30	68.5	70.3	65.8
	68.0	69.6	66.0
	68.2	69.6	66.0
18:30-18:45	67.8	69.3	65.8
	67.0	68.1	65.5
	67.0	67.8	65.5
18:45-19:00	67.6	69.0	66.1
	67.8	69.1	66.0
	69.4	69.8	68.5
19:00-19:15	68.9	69.4	67.8
	67.9	69.3	66.8
	67.4	68.3	65.8
19:15-19:30	67.2	68.0	65.8
	67.3	68.3	65.8
	66.9	67.5	65.8
19:30-19:45	67.1	68.3	65.8
	67.2	68.5	65.3
	66.8	67.5	65.5
19:45-20:00	67.2	68.0	65.8
	66.7	67.8	65.3
	67.0	67.8	65.8
20:00-20:15	66.9	67.8	65.3
	66.9	67.5	65.8
	66.9	67.8	65.5
20:15-20:30	67.1	67.8	65.5
	67.1	68.0	65.5
	67.0	67.8	65.5
20:30-20:45	67.0	67.8	65.5
	67.1	67.8	65.8
	66.8	67.5	65.5
20:45-21:00	66.7	67.5	65.0
	66.8	67.8	65.5
	66.9	68.0	65.5

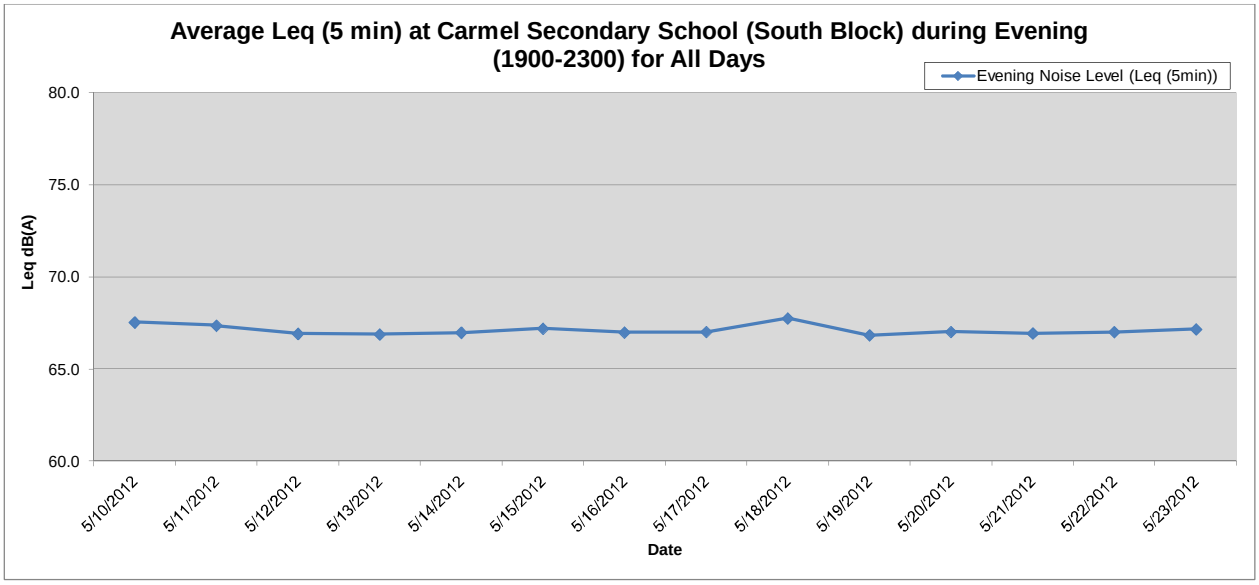
21:00-21:15	66.9	67.8	65.5
	66.7	67.8	65.5
	67.1	67.8	65.8
21:15-21:30	67.0	68.0	65.8
	67.1	68.3	65.5
	67.0	67.8	65.8
21:30-21:45	67.0	67.8	65.8
	67.0	68.0	65.5
	66.9	67.8	65.5
21:45-22:00	66.7	67.5	65.5
	66.8	67.5	65.5
	66.4	67.3	65.0
22:00-22:15	66.6	67.3	65.3
	66.7	67.8	65.5
	66.9	67.8	65.5
22:15-22:30	66.6	67.5	65.3
	66.6	67.5	65.3
	66.7	67.5	65.3
22:30-22:45	67.1	68.3	65.5
	66.9	67.8	64.8
	66.5	67.8	64.8
22:45-23:00	66.7	67.5	65.0
	66.8	67.5	65.0
	66.4	67.3	64.8
Average	67.6	68.7	65.8
Max	71.0	72.9	68.5
Min	65.6	66.8	63.8

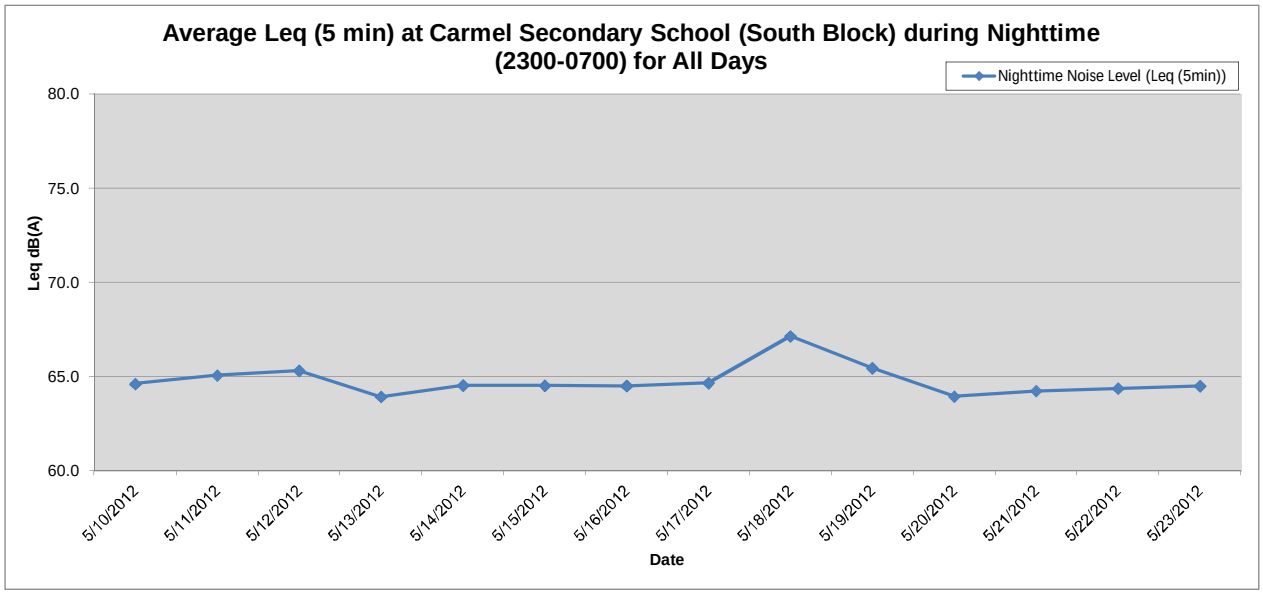
4) Night-time (for all days) Noise Level, dB(A)

Time Slot	Leq, 5min	L10	L90
23:00-23:15	66.8	67.8	65.2
	66.7	67.7	65.3
	66.6	67.6	65.2
23:15-23:30	66.7	67.7	65.3
	66.6	67.7	65.0
	66.6	67.7	65.1
23:30-23:45	66.6	67.6	65.1
	66.4	67.5	64.9
	66.4	67.5	64.7
23:45-00:00	66.5	67.5	64.9
	66.4	67.3	64.7
	66.0	67.1	64.6
00:00-00:15	66.1	67.1	64.5
	65.9	67.0	64.4
	65.9	66.8	64.3
00:15-00:30	65.9	67.0	64.3
	65.9	67.0	64.3
	65.8	66.8	64.2
00:30-00:45	65.8	66.8	64.2
	65.6	66.7	64.0
	65.2	66.3	63.6
00:45:01:00	65.2	66.3	63.7
	65.4	66.4	63.8
	65.2	66.2	63.4
01:00-01:15	65.2	66.4	63.4
	64.8	65.8	63.1
	64.7	65.8	63.0
01:15-01:30	64.6	65.6	62.9
	64.5	65.6	62.9
	64.6	65.7	62.9
01:30-01:45	64.3	65.3	62.6
	64.4	65.5	62.6
	64.2	65.3	62.4
01:45-02:00	64.1	65.2	62.4
	64.6	65.4	62.3
	64.0	65.1	62.2
02:00-02:15	63.9	65.1	62.2
	64.0	65.2	62.2
	63.9	65.0	62.2
02:15-02:30	63.8	64.9	62.0
	63.5	64.7	61.6
	63.7	64.9	61.8
02:30-02:45	63.8	65.0	61.9
	63.7	65.0	61.9
	63.5	64.7	61.7
02:45-03:00	63.4	64.8	61.5
	63.4	64.6	61.5
	63.5	64.7	61.6
03:00-03:15	63.3	64.6	61.3
	63.2	64.4	61.3
	63.2	64.5	61.2
03:15-03:30	63.1	64.4	61.2
	63.1	64.3	61.1
	63.0	64.2	60.9

03:30-03:45	63.0	64.2	60.9
	63.0	64.2	61.1
	62.9	64.0	60.7
03:45-04:00	62.9	64.3	60.8
	63.1	64.5	61.0
	62.8	64.2	60.8
04:00-04:15	62.9	64.0	60.9
	62.9	64.1	61.0
	62.8	64.1	60.7
04:15-04:30	62.8	64.1	60.7
	62.8	64.1	60.7
	62.9	64.1	60.9
04:30-04:45	63.0	64.3	60.9
	62.9	64.1	60.9
	62.9	64.2	60.8
04:45-05:00	63.4	64.5	61.3
	63.4	64.9	61.3
	63.1	64.5	60.9
05:00-05:15	63.1	64.5	60.8
	63.1	64.5	61.0
	62.9	64.1	60.9
05:15-05:30	63.3	64.6	61.4
	64.1	65.7	61.6
	64.1	65.7	61.9
05:30-05:45	63.9	65.3	62.0
	64.3	65.6	62.4
	64.4	65.8	62.4
05:45-06:00	64.6	65.8	62.5
	64.7	65.8	62.4
	64.7	65.9	62.4
06:00-06:15	64.4	65.9	62.3
	64.9	65.9	62.6
	64.5	65.8	62.6
06:15-06:30	64.9	66.2	63.0
	65.1	66.4	63.1
	65.2	66.5	63.4
06:30-06:45	65.5	66.6	63.2
	65.9	67.4	63.7
	65.9	67.0	64.0
06:45-07:00	66.0	67.2	64.3
	66.4	67.4	64.8
	66.5	67.5	64.9
Average	64.7	65.8	62.9
Max	66.8	67.8	65.3
Min	62.8	64.0	60.7


Average Leq (30min) at Carmel Secondary School (South Block) during Daytime (0700 - 1900)
Weekdays Noise Level (Leq (30min))
Sundays/ Public Holidays Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
5/10/2012
5/11/2012
5/12/2012
5/13/2012
5/14/2012
5/15/2012
5/16/2012
5/17/2012
5/18/2012
5/19/2012
5/20/2012
5/21/2012
5/22/2012
5/23/2012
5/24/2012
Date


Average Leq (5 min) at Carmel Secondary School (South Block) during Evening (1900-2300) for All Days
Evening Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
5/10/2012
5/11/2012
5/12/2012
5/13/2012
5/14/2012
5/15/2012
5/16/2012
5/17/2012
5/18/2012
5/19/2012
5/20/2012
5/21/2012
5/22/2012
5/23/2012
Date


Average Leq (5 min) at Carmel Secondary School (South Block) during Nighttime (2300-0700) for All Days
Nighttime Noise Level (Leq (5min))
Leq dB(A)
80.0
75.0
70.0
65.0
60.0
5/10/2012
5/11/2012
5/12/2012
5/13/2012
5/14/2012
5/15/2012
5/16/2012
5/17/2012
5/18/2012
5/19/2012
5/20/2012
5/21/2012
5/22/2012
5/23/2012
Date