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Materialab

BASELINE MONITORING REPORT

February 2016

Client : Civil Engineering and Development
Department, HKSAR

Contract No. : KLN/2015/07

Contract Name : Environmental Monitoring Works for
Contract KL/2014/03 – Kai Tak Development
– Stage 3 Infrastructure Works for Developments
at the Southern Part of the Former Runway

Report No. : 0405/15/ED/0307C


EP-337/2009 New Distributor Roads Serving the Planned Kai Tak
Development Area

EP-339/2009/A Decommissioning of the Remaining Parts (Ex-GFS
Building, Radar Station and Hong Kong Aviation Club)
of the former Kai Tak Airport

EP-451/2013 Trunk Road T2

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Materialab Consultants Limited

22 February 2016

Ref.: CEDKTDS3EM00_0_0035L.16

22 February 2016

Hyder-Meinhardt Joint Venture
Site Office
11 Shing Kai Road
Kowloon Bay
Kowloon

By E-mail and Fax (2983 6214)

Attention: Mr. Pat T. H. Lam

Dear Mr. Lam,

Re: Contract No. KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway Baseline Monitoring Report (Report No. 0405/15/ED/0307C)

Reference is made to the Environmental Team's submission of the captioned *Baseline Monitoring Report* (Report No. 0405/15/ED/0307C) we received by e-mail on 22 February 2016.

Please be informed that we have no adverse comment on the captioned report. We hereby verify the captioned submission according to Condition 3.3 of EP-451/2013. (No conditions of EP-337/2009 and EP-339/2009/A are relevant to this submission.)

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

Yours sincerely,
For and on behalf of
Ramboll Environ Hong Kong Limited



F. C. Tsang
Independent Environmental Checker

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	HMJV	Attn.: Mr. Sam K. P. Lee	Fax: 2540 1580
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EXECUTIVE SUMMARY

- i. The Civil Engineering and Development Department HKSAR has appointed MaterialLab Consultants Limited (MCL) to undertake the Environmental Team services for the Project and carry out the baseline monitoring.
- ii. This Baseline Monitoring Report presents the air quality and noise baseline monitoring works. The air quality and noise baseline monitoring was conducted from 20 January 2016 to 6 February 2016 at three monitoring locations KTD1a, KTD2a and KER1a.
- iii. The average results and Action and Limit Levels (A/L Levels) of 1-hr TSP, 24-hr TSP and noise baseline monitoring at the three monitoring locations are summarized in **Table I, II and III** respectively. The Action and Limit Levels for air quality impact monitoring were derived based on the criteria adopted from the EM&A Manual.

Table I Summary of 1-hr TSP Baseline Monitoring Results and A/L Levels

Monitoring Station	Average (Range) in $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
KTD1a	54 (20 - 307)	285	500
KTD2a	44 (7 - 127)	279	500
KER1a	69 (15 - 413)	295	500

Table II Summary of 24-hr TSP Baseline Monitoring Results and A/L Levels

Monitoring Station	Average (Range) in $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
KTD1a	73 (12 - 184)	177	260
KTD2a	42 (17 - 75)	157	260
KER1a	65 (17 - 129)	172	260

Table III Summary of Noise Baseline Monitoring Results and A/L Levels

Time Period	Monitoring Station	Monitoring Results Average (Range)	Action Level	Limit Level
Leq (30min) , dB(A) (0700-1900 hrs on normal weekday)	KTD1a	78 (53 - 92)	When one documented complaint is received	75 dB(A)
	KTD2a	64 (53 - 75)		
	KER1a	65 (51 - 79)		

Note:

Baseline Leq (30min) was measured at day-time (0700-1900 hrs) on all days. Log-average is presented.

1. INTRODUCTION

1.1 The Kai Tak Development is located in the south-eastern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.

1.2 Contract No. KL/2014/03 is the works package to construct an approximately 420m long supporting underground structure (SUS) underneath Shing Cheong Road and Cheung Yip Street. The EM&A programme under this Contract is governed by three EPs (EP-337/2009, EP-339/2009/A and EP-451/2013) and two EM&A Manuals (AEIAR-130/2009 and AEIAR-174/2013). The Works to be executed under this Contract and corresponding EPs include but not be limited to the following main items:

EP-451/2013 – Trunk Road T2

(i) Construction of approximately 420m long supporting underground structure (SUS) including diaphragm walls, barrettes, piled foundation, top and bottom slabs, end wall and adits underneath Shing Cheong Road and Cheung Yip Street;

EP-337/2009 – New Distributor Roads Serving the Planned Kai Tak Development

- (ii) Widening and re-alignment of Cheung Yip Street of approximately 330m long and associated footpaths;
- (iii) Demolition, reconstruction and widening of Shing Cheong Road of approximately 410m long and associated footpaths;
- (iv) Construction of drainage outfall and modification of existing seawall;
- (v) Construction of ancillary works including surface drainage, sewerage, water, fire fighting, street lighting, street furniture, road marking, road signage, utilities and services, irrigation and landscape works.

EP-339/2009/A – Decommissioning of the Remaining Parts (Ex-GFS Building, Radar Station and Hong Kong Aviation Club) of the former Kai Tak Airport

(vi) Demolition of RADAR Tower and guard house;

Other works not covered by any EP

- (vii) Construction of two subways between Phase II of New Acute Hospital (Site A) and Hong Kong Children's Hospital (Site C), and between Phase I of New Acute Hospital (Site B) and Site C;
- (viii) Construction of District Cooling System (DCS) along Cheung Yip Street and Shing Cheong Road

1.3 The project proponent was the Civil Engineering and Development Department, HKSAR (CEDD). Hyder Meinhardt Joint Venture (HMJV) was commissioned by CEDD as the Engineer for the Project. Ramboll Environ Hong Kong Limited was commissioned as the Independent Environmental Checker (IEC). China Road and Bridge Corporation (Hong Kong) (CRBC) was appointed as the main contractor for the construction works under the contract KL/2014/03. MaterialLab Consultants Limited (MCL) was appointed as the Environmental Team (ET) by CEDD to implement the EM&A programme for the Project. The location and boundary of the site is shown in **Figure 1**.

1.4 Purpose of Baseline Monitoring Report

1.4.1 This baseline monitoring report is required under EP-451/2013 Condition 3.3 for Trunk Road T2. The purpose of this report is to establish the baseline conditions of air quality and noise

levels in accordance with the Trunk Road T2 EM&A Manual (AEIAR-174/2013) (hereafter referred as EM&A Manual). These levels are intended as the basis for assessing environmental impact and compliance during construction phase of the Project.

- 1.4.2 No conditions in EP-337/2009 and EP-339/2009/A are relevant to this baseline monitoring report.
- 1.4.3 This report presents the baseline monitoring requirements, methodologies and results of baseline measurements in accordance with the requirements, where applicable, in the EM&A Manual.
- 1.4.4 The baseline monitoring work was conducted from 20 January 2016 to 6 February 2016.

2. AIR QUALITY

2.1 Monitoring Requirement

The Baseline Air Quality Monitoring will be conducted to determine the ambient 1-hour and 24-hour average TSP levels at the monitoring locations prior to the commencement of the construction works. It will be carried out for a continuous period of at least two weeks with the 24-hour and three sets of 1-hour ambient measurements taken daily at all of the designated monitoring locations.

2.2 Monitoring Equipment

The 24-hour TSP air quality monitoring will be performed using High Volume Air Samplers (HVS) located at each of the designated monitoring station. While 1-hour TSP air quality monitoring will be performed using portable TSP monitors.

Table 2.1 summarizes the equipment used in air quality monitoring.

Table 2.1 Air Quality Monitoring Equipment

Item	Brand	Model	Equipment	Serial Number
1	Tisch	TE-5170 (TSP)	High Volume Sampler	
		TE-300-310X	- Mass Flow Controller	2037
		TE-5005X	- Blower Motor Assembly	3482
		TE-5007X	- Mechanical Timer	4488
		TE-5009X	- Continuous Flow Recorder	4371
2	Tisch	TE-5170 (TSP)	High Volume Sampler	
		TE-300-310X	- Mass Flow Controller	2364
		TE-5005X	- Blower Motor Assembly	3478
		TE-5007X	- Mechanical Timer	4492
		TE-5009X	- Continuous Flow Recorder	4377
3	Tisch	TE-5170 (TSP)	High Volume Sampler	
		TE-300-310X	- Mass Flow Controller	2618
		TE-5005X	- Blower Motor Assembly	3838
		G3031	- Mechanical Timer	2251
		G1051	- Continuous Flow Recorder	2307
4	Tisch	TE-5025A	HVS Sampler Calibrator	0438320 / 2154
5	Sibata	Model LD-3B	Sibata Portable TSP Monitors	567195
6	Sibata	Model LD-3B	Sibata Portable TSP Monitors	567191

2.3 Baseline Monitoring Parameters, Frequency and Duration

Table 2.2 summarizes the baseline monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 2.2 Baseline Monitoring Parameters, Duration and Frequency of Air Quality Monitoring

Parameter	Duration	Frequency
1-hr TSP	14 consecutive days	1 hour x 3 per day
24-hr TSP	14 consecutive days	24 hours per day

2.4 Monitoring Methodology

2.4.1 24-hour TSP air quality monitoring

HVS Installation

The following guidelines shall be adopted during the installation of HVS:

- Sufficient support is provided to secure the samplers against gusty wind.
- No two samplers are placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, is at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses is required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
- No furnaces or incineration flues are nearby.
- Airflow around the samplers is unrestricted.
- The samplers are more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

Filters Preparation

Fiberglass filters (provided by the HOKLAS accredited laboratory) shall be used (Note: these filters have a collection efficiency of larger than 99% for particles of 0.3 μm diameter). A HOKLAS accredited laboratory (ALS Technichem (HK) Pty Ltd.) is responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for monitoring team.

All filters are equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature is around 25°C and not variable by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) is < 50% and not variable by more than $\pm 5\%$. A convenient working RH is 40%.

Operating / Analytical Procedures

Operating / analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the HVS are properly set (between 1.1 $\text{m}^3/\text{min.}$ and 1.4 $\text{m}^3/\text{min.}$) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate shall be indicated on the flow rate chart.
- The power supply shall be checked to ensure the samplers worked properly.
- On sampling, the samplers shall be operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station.
- The filter holding frame is then removed by loosening the four nuts and carefully a weighted and conditioned filter is centered with the stamped number upwards, on a supporting screen.
- The filter shall be aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame is tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid shall be closed and secured with the aluminum strip.

- The timer is then programmed. Information shall be recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter shall be removed and sent to laboratory for weighing. The elapsed time is also recorded.
- Before weighing, all filters are equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) should be $< 50\%$ and not vary by more than $\pm 5\%$. A convenient working RH is 40%. Weighing results are returned to MCL for further analysis of TSP concentrations collected by each filter.

2.4.2 1-hour TSP air quality monitoring

Operating / Analytical Procedures

The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG once
- Push Start/Stop switch once
- Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

2.5 Maintenance / Calibration

2.5.1 24-hour TSP air quality monitoring

The following maintenance / calibration are required for the HVS:

- The high volume motors and their accessories are properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking are made to ensure that the equipments and necessary power supply are in good working condition.
- All HVS shall be calibrated (five point calibration) using Calibration Kit upon installation and thereafter in every 3 months.
- A copy of the calibration certificates for the HVS and calibrator are attached.

2.5.2 1-hour TSP air quality monitoring

The portable TSP monitor should be calibrated at 1 year intervals, relevant calibration certificates are given in **Appendix C**.

2.6 Monitoring Locations

2.6.1 According to the EM&A Manual, three air quality and noise monitoring locations, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two air quality monitoring locations, which are identified in Cha Kwo Ling

area, are farther than 500m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.

2.6.2 With reference to the EM&A Manual, the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for air quality monitoring, they are summarized in **Table 2.3** and shown in **Figure 2**. The alternative monitoring location proposal was certified by Environmental Team Leader (ETL), verified by IEC and approved by EPD accordingly under Condition 3.1 of EP-451/2013 (EP-337/2009 and EP-339/2009/A are not applicable). Such proposal is given in **Appendix B**.

Table 2.3 Location of Air Quality Monitoring Station

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children’s Hospital)
KTD2a	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
KER1a	Site Boundary at Cheung Yip Street

2.7 Results and Observations

2.7.1 Baseline air quality monitoring was conducted between 20 January 2016 and 4 February 2016. The detail monitoring schedule is shown in **Table 2.4**.

Table 2.4 Baseline Monitoring Schedule for 1-hr TSP Monitoring

SUN	MON	TUE	WED	THU	FRI	SAT
17 Jan	18	19	20 24-hr TSP	21 1-hr TSP 24-hr TSP (without KER1a)	22 1-hr TSP 24-hr TSP	23 1-hr TSP 24-hr TSP
24 1-hr TSP 24-hr TSP	25 1-hr TSP 24-hr TSP	26 1-hr TSP 24-hr TSP	27 1-hr TSP 24-hr TSP	28 1-hr TSP 24-hr TSP	29 1-hr TSP 24-hr TSP	30 1-hr TSP 24-hr TSP
31 1-hr TSP 24-hr TSP	1 Feb 1-hr TSP 24-hr TSP	2 1-hr TSP 24-hr TSP	3 1-hr TSP 24-hr TSP (KER1a only)	4	5	6

Note:

1-hr TSP was conducted for three times per day for 14 consecutive days; 24-hr TSP monitoring was conducted for 14 consecutive days before commencement of construction works.

Due to mal-functioning of monitoring equipment, 24-hr TSP at KER1a conducted on 21 January 2016 is considered invalid, and an additional monitoring for 1 day 24-hr TSP is conducted on 3 February 2016.

2.7.2 During the baseline monitoring, at KTD1a, non-project related construction activities at the nearby construction site and road traffic along Shing Cheong Road were observed in the surroundings.

2.7.3 At KTD2a, road traffic along the Kwun Tong By-pass was observed during the baseline monitoring.

2.7.4 At KER1a, road traffic along Cheung Yip Street was observed during the baseline monitoring.

2.7.5 The weather conditions during the monitoring were fine, rainy and cloudy. The prevailing weather conditions, wind speed and wind direction are provided in **Appendix F**.

2.7.6 The monitoring data of 1-hr TSP and 24-hr TSP are summarized in **Table 2.5** and **2.6** respectively. Detailed monitoring data are presented in **Appendix D**.

Table 2.5 Summary of 1-hr TSP Baseline Monitoring Results

Parameter	Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)
1-hr TSP in $\mu\text{g}/\text{m}^3$	KTD1a	54	20 – 307
	KTD2a	44	7 – 127
	KER1a	69	15 – 413

Table 2.6 Summary of 24-hr TSP Baseline Monitoring Results

Parameter	Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)
24-hr TSP in $\mu\text{g}/\text{m}^3$	KTD1a	73	12 – 184
	KTD2a	42	17 – 75
	KER1a	65	17 – 129

2.8 Action and Limit Levels for TSP Monitoring

2.8.1 **Table 2.7** summarizes the Action and Limit (A/L) Levels to be used for construction dust.

Table 2.7 Action and Limit Levels for Construction Dust Impact Monitoring

Parameter	Action Level	Limit Level
1-hr TSP (average)	BL \leq 384 $\mu\text{g}/\text{m}^3$, AL = (BL x 1.3 + LL)/2 BL > 384 $\mu\text{g}/\text{m}^3$, AL = LL	500 $\mu\text{g}/\text{m}^3$
24-hr TSP (average)	BL \leq 200 $\mu\text{g}/\text{m}^3$, AL = (BL x 1.3 + LL)/2 BL > 200 $\mu\text{g}/\text{m}^3$, AL = LL	260 $\mu\text{g}/\text{m}^3$

Note:

BL= Baseline Level; AL = Action Level; LL = Limit Level

2.8.2 Following the above guidelines, the Action and Limit Levels for air quality impact monitoring have been set, as presented in **Table 2.8** and **2.9**:

Table 2.8 Action and Limit Levels for 1-hr TSP

Parameter	Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
1-hr TSP ($\mu\text{g}/\text{m}^3$)	KTD1a	285	500
	KTD2a	279	
	KER1a	295	

Table 2.9 Action and Limit Levels for 24-hr TSP

Parameter	Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
24-hr TSP ($\mu\text{g}/\text{m}^3$)	KTD1a	177	260
	KTD2a	157	
	KER1a	172	

2.9 Event and Action Plan

2.9.1 The Event and Action Plan for Air Quality are given in **Table 2.10**.

Table 2.10 Event and Action Plan for Construction Dust Monitoring

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level				
Exceedance for one sample.	<ol style="list-style-type: none"> 1. Identify sources, investigate the causes of complaint and propose remedial measures. 2. Inform IEC and ER. 3. Repeat measurement to confirm finding;. 4. Increase monitoring frequency 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods. 	<ol style="list-style-type: none"> 1. Notify the Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practices. 2. Amend working methods agreed with the ER as appropriate.
Exceedance for two or more consecutive samples.	<ol style="list-style-type: none"> 1. Identify sources. 2. Inform the IEC and ER. 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings. 5. Increase monitoring frequency to daily. 6. Discuss with the IEC, ER and Contractor on remedial action required. 7. If exceedance continues, arrange meeting with the IEC, Contractor and ER. 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods. 3. Discuss with the ET, ER and Contractor on possible remedial measures if required. 4. Advise the ER on the effectiveness of proposed remedial measures if required. 	<ol style="list-style-type: none"> 1. Notify the Contractor. 2. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial action to the ER within 3 working days of notification. 2. Implement the agreed proposals. 3. Amend proposal as appropriate
Limit Level				
Exceedance for one sample.	<ol style="list-style-type: none"> 1. Identify sources, investigate causes of exceedance and proposed remedial measures. 2. Inform the IEC, ER, and Contractor. 3. Repeat measurement to confirm finding. 4. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of the Contractor's remedial action and keep the IEC and ER informed of the results 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods. 3. Discuss with the ET, ER and Contractor on possible remedial measures. 4. Advise the ER and ET on the effectiveness of the proposed remedial measures. 5. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of the notification of exceedance in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Amend proposal as appropriate.
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify the IEC, ER and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. . Discuss amongst the ER, ET and Contractor on the potential remedial action. 2. Review the Contractor's remedial action whenever necessary to assure their 	<ol style="list-style-type: none"> 1. Confirm receipt of the notification of exceedance in writing. 2. Notify the Contractor. 3. In consultation with the IEC and ET, agree with the Contractor on the remedial measures to be 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the IEC and ET within 3 working days of notification.

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EVENT	ACTION			
	ET	IEC	ER	Contractor
	<p>5. Carry out analysis of the Contractor's working procedures with the ER to determine the possible mitigation to be implemented.</p> <p>6. Arrange meeting with the IEC and ER to discuss the remedial action to be taken.</p> <p>7. Assess the effectiveness of the Contractor's remedial action and keep the IEC, EPD and ER informed of the results.</p> <p>8. If exceedance stops, cease additional monitoring</p>	<p>effectiveness and advise the ER and ET accordingly.</p> <p>3. Supervise the implementation of remedial measures.</p>	<p>implemented.</p> <p>4. Ensure remedial measures are properly implemented.</p> <p>5. If exceedance continues, consider what portion of works is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated.</p>	<p>3. Implement the agreed proposals.</p> <p>4. Resubmit proposals if problems still not under control.</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</p>

3. NOISE

3.1 Monitoring Requirement

Baseline Noise Monitoring will be conducted for a period of 14 consecutive days prior to the commencement of construction works at a minimum logging interval of 30 minutes during the daytime between 0700 and 1900 at the designated monitoring locations.

3.2 Monitoring Equipment

The sound level meter used in noise monitoring will comply with the International Electrotechnical Commission Publication (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum issued under the Noise Control Ordinance (NCO).

Sound level calibrator will be used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class 1 and ANSI S1.40 - 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0dB.

Measurements shall be recorded to the nearest 0.1dB. This noise monitors are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 during the daytime. The noise measurement shall be conducted for 14 consecutive days.

Table 3.1 summarizes the noise monitoring equipment model being used for this project. Copies of equipment catalogue are given **Appendix C**.

Table 3.1 Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial Number
1	Casella	CEL-63X Series	Integrating Sound Level Meter	2451028
2	Casella	CEL-63X Series	Integrating Sound Level Meter	2451083
3	Casella	CEL-63X Series	Integrating Sound Level Meter	2451048
4	Casella	CEL-120/1	Calibrator	5230950
5	Casella	CEL-120/1	Calibrator	5230923
6	Casella	CEL-120/1	Calibrator	5230758*

Note:

*Sound Calibrator (5230758) is only used between 21 January 2016 and 1 February 2016.

3.3 Monitoring Parameters and Frequency

Table 3.2 presents the baseline noise monitoring parameters and frequencies.

Table 3.2 Baseline Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency and Period
LAeq (30min) L10 and L90 will be recorded for reference	Continuously throughout the measurement period (Daytime: 0700-1900) for 14 consecutive days

3.4 Monitoring Methodology

The monitoring procedures are as follows:

- The monitoring station will set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time will set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - measurement time : Daily for 24 hours
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station shall be checked with the portable wind meter. Noise monitoring should be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the Leq, L10 and L90 shall be recorded. In addition, site conditions and noise sources should be recorded on a standard record sheet.

3.5 Maintenance / Calibration

Maintenance and Calibration procedures are as follows:

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
- Relevant calibration certificates are provided in **Appendix C**.

3.6 Monitoring Locations

- 3.6.1 According to the EM&A Manual, three noise monitoring locations, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two noise monitoring locations, which are identified in Cha Kwo Ling area, are farther than 300m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.
- 3.6.2 With reference to the EM&A Manual, the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for noise monitoring, they are summarized in **Table 3.3** and shown in **Figure 2**. The alternative monitoring location proposal was certified by Environmental Team Leader (ETL), verified by IEC and approved by EPD accordingly under Condition 3.1 of EP-451/2013 (EP-337/2009 and EP-339/2009/A are not applicable). Such proposal is given in **Appendix B**.

Table 3.3 Location of Noise Monitoring Station

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children’s Hospital)
KTD2a	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
KER1a	Site Boundary at Cheung Yip Street

3.7 Results and Observations

3.7.1 Baseline noise monitoring was conducted at three monitoring stations between 21 January 2016 and 6 February 2016. With reference to the Hong Kong Observatory data and site observation, rainy or windy (over 5m/s average wind speed) weather was observed and data collected during these intervals are excluded for data analysis. The detail monitoring schedule is shown in **Table 3.4** and the time periods with rainy or windy weather are summarized in **Table 3.5**. The prevailing weather conditions, wind speed and wind direction are provided in **Appendix F**.

Table 3.4 Baseline Monitoring Schedule for Noise Monitoring

SUN	MON	TUE	WED	THU	FRI	SAT
17 Jan 16	18	19	20	21 N	22 N	23 N
24 N	25 N	26 N	27 N	28 N	29 N	30 N
31 N	1 Feb N	2 N	3 N	4 N	5 N	6 N

Legend:

N: Noise monitoring at KTD1a, KTD2a and KER1a for at least 14 consecutive days before commencement of construction work.

Remarks:

Noise monitoring data collected during rainy or windy periods are summarized in **Table 3.5**, and are excluded for data analysis.

Table 3.5 Time Periods with Rainy or Windy weather

Date	Time Period																							
	7:00 – 7:30	7:30 – 8:00	8:00 – 8:30	8:30 – 9:00	9:00 – 9:30	9:30 – 10:00	10:00 – 10:30	10:30 – 11:00	11:00 – 11:30	11:30 – 12:00	12:00 – 12:30	12:30 – 13:00	13:00 – 13:30	13:30 – 14:00	14:00 – 14:30	14:30 – 15:00	15:00 – 15:30	15:30 – 16:00	16:00 – 16:30	16:30 – 17:00	17:00 – 17:30	17:30 – 18:00	18:00 – 18:30	18:30 – 19:00
21/01/16																								
22/01/16						W	W	W	W				R	R										W
23/01/16							W						W	W	W	W	W	W				W	W	W
24/01/16	W	W	W	W	W	W	W	W	W	W	W	W		R	R								W	W
25/01/16																								
26/01/16																								
27/01/16												W												
28/01/16					R	R	R	R					R	R										
29/01/16									R	R														
30/01/16														W	W	W	W			W	W			
31/01/16	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W					
01/02/16																								

Table 3.8 Event and Action Plan for Noise Impact

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify the IEC, ER and Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and Contractor. 4. Discuss jointly with the ER and Contractor and formulate remedial measures. 5. Increase the monitoring frequency to check the mitigation effectiveness 	<ol style="list-style-type: none"> 1. Review the monitoring data submitted by the ET. 2. Review the construction methods and proposed remedial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient 	<ol style="list-style-type: none"> 1. Notify the Contractor. 2. Require the Contractor to propose remedial measures for implementation if required. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to the ER and copy to the IEC and ET. 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Notify the IEC, ER and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Carry out analysis of the Contractor's working procedures with the ER and Contractor to determine possible mitigations to be implemented. 5. Record the causes and action taken for the exceedances. 6. Increase the monitoring frequency. 7. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results. 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst the ER, ET and Contractor on the potential remedial action. 2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problems. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what portion of work is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problems still not under control. 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

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4. REVISIONS FOR INCLUSION IN THE EM&A MANUAL

The baseline environmental monitoring was conducted according to the EM&A Manual for air quality and noise. The monitoring methodology and parameters monitored are all in line with the EM&A Manual.

5. CONCLUSIONS

- 5.1.1 The baseline air quality and noise monitoring was conducted from 20 January 2016 to 6 February 2016. The baseline monitoring results were used to determine the appropriate Action and Limit Levels with the Limit Levels set against statutory or otherwise agreed limit.
- 5.1.2 The baseline monitoring were carried out in accordance with the EM&A Manual, in respect of the methodology, equipment, location and monitoring parameters.
- 5.1.3 Baseline air quality and noise monitoring was conducted at monitoring stations KTD1a, KTD2a and KER1a. The baseline results are considered representative to the ambient conditions of the respective sensitive receivers.
- 5.1.4 The Action and Limit Levels were derived based on the baseline monitoring results, impact monitoring will be conducted in the construction phase and the Event and Action Plan will be triggered based on the established Action and Limit Levels.

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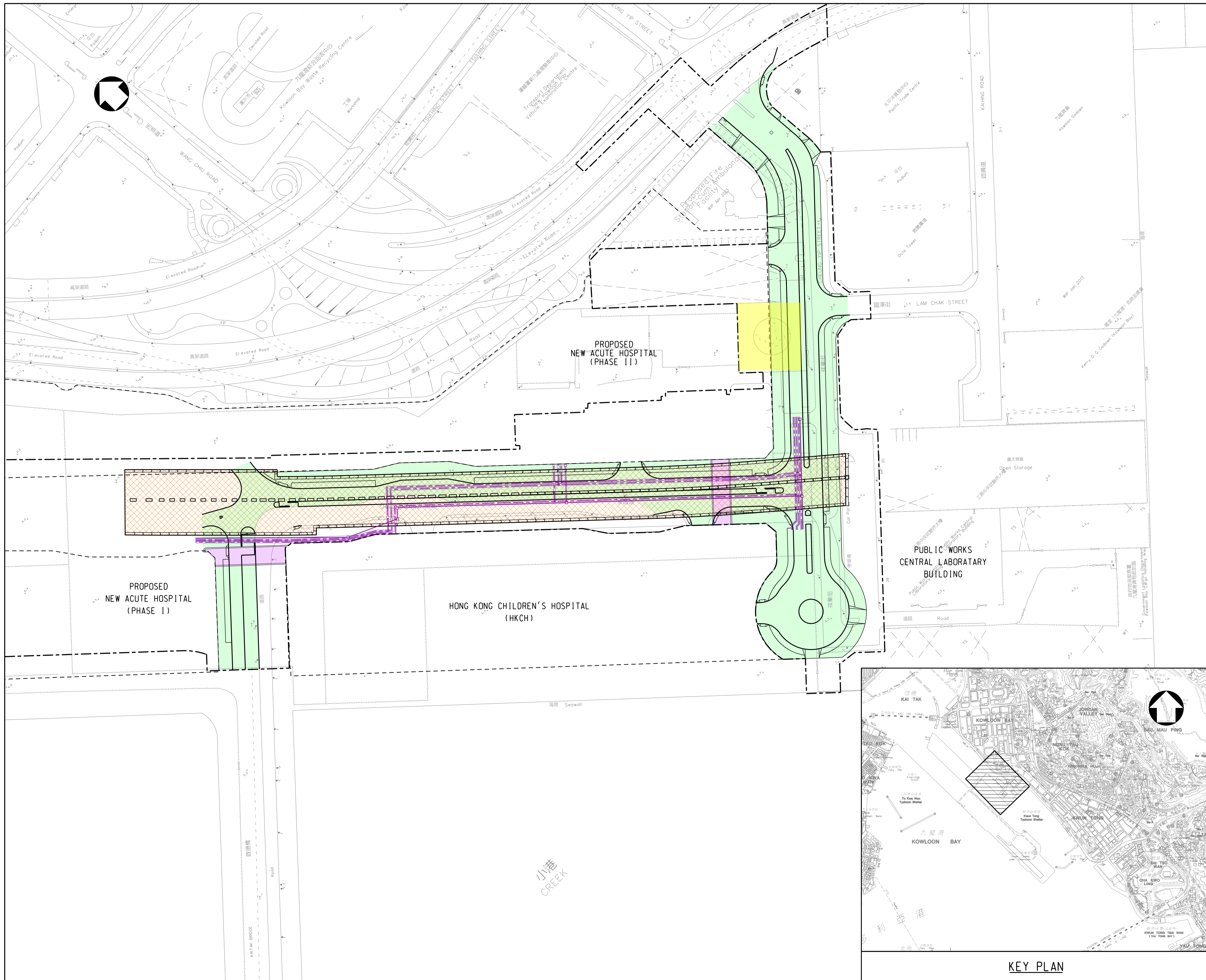
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Figure 1

Project General Layout



LEGENDS:

	SITE BOUNDARY
	HOSPITAL SITE BOUNDARY
	PROPOSED SUPPORTING UNDERGROUND STRUCTURE
	PROPOSED SUBWAYS
	PROPOSED ROADWORKS
	PROPOSED DISTRICT COOLING SYSTEM
	DEMOLITION OF RADAR TOWER

Rev.	Date	Drawn	Description	Checked	Approved



PROJECT
CONTRACT NO. KL/2014/03
KAI TAK DEVELOPMENT - STAGE 3
INFRASTRUCTURE WORKS FOR
DEVELOPMENTS AT THE SOUTHERN PART OF
THE FORMER RUNWAY

TITLE
GENERAL LAYOUT PLAN

DESIGNED	ENG. CHECK
DRAWN	COORDINATION
DWG. CHECK	APPROVED
SCALE AT A1 1 : 1000	STATUS REV A

Drawing No. **FIGURE 1.0**
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FILENAME: K:\91164 Trunk Road T2\Tender Drawing (Contract I)\Figure 1.dgn

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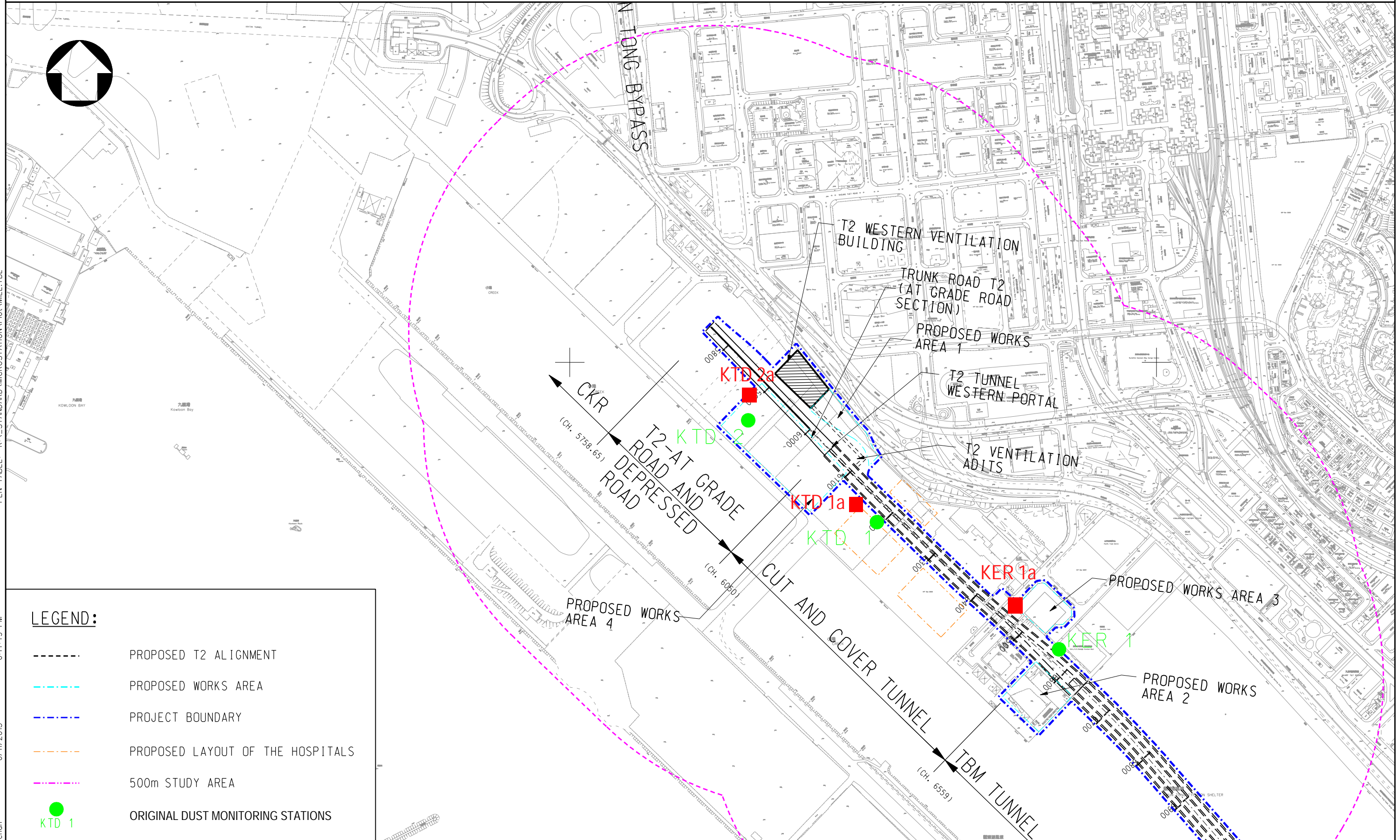
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Figure 2

Baseline Monitoring Locations



LEGEND:

-  PROPOSED T2 ALIGNMENT
-  PROPOSED WORKS AREA
-  PROJECT BOUNDARY
-  PROPOSED LAYOUT OF THE HOSPITALS
-  500m STUDY AREA
-  ORIGINAL DUST MONITORING STATIONS

	PROPOSED DUST MONITORING STATIONS
	ORIGINAL DUST MONITORING STATIONS

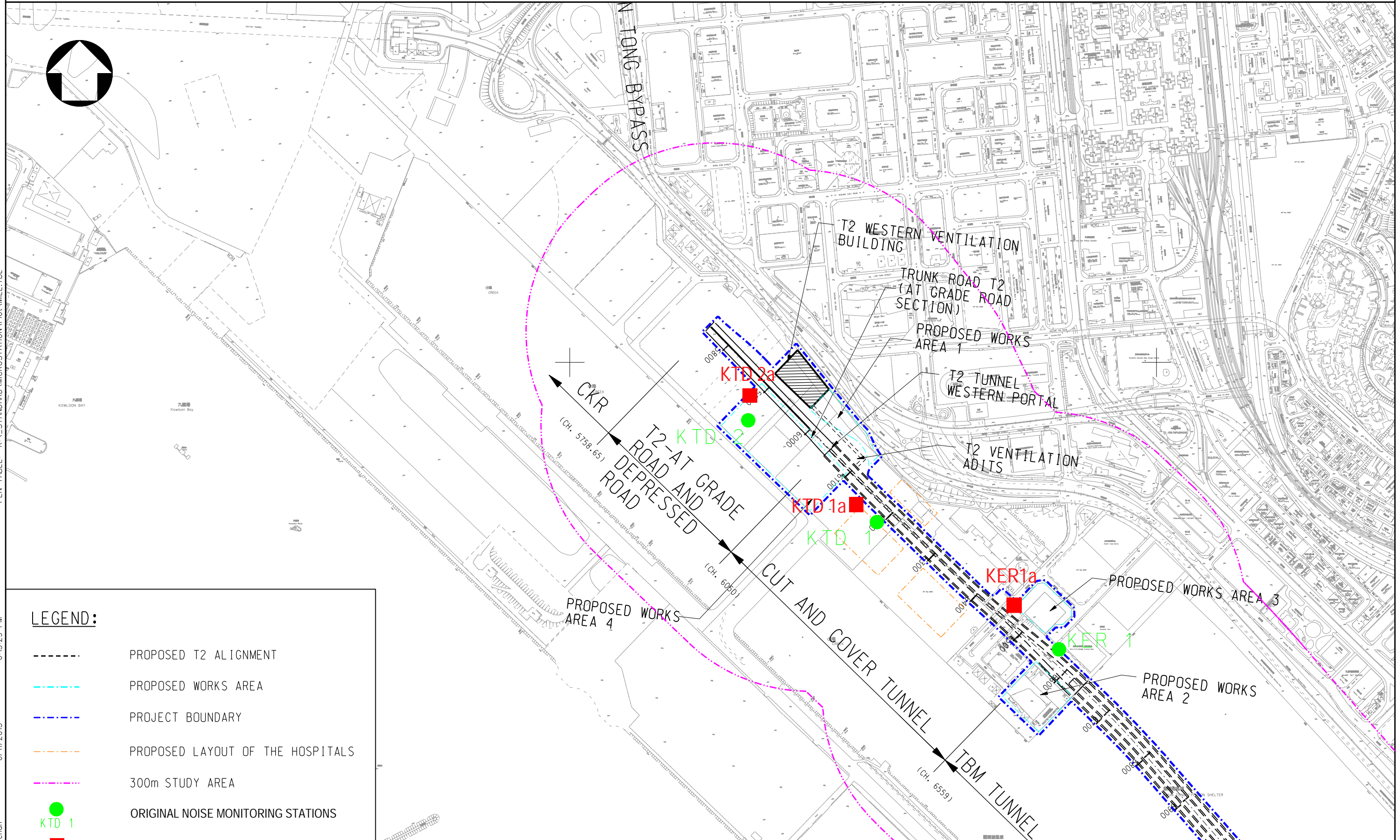
Rev.	Description	Date

Drawing title








IDENTIFIED DUST MONITORING STATIONS AT SOUTH APRON OF FORMER KAI TAK AIRPORT

Original Size	A3	Scale	1 : 6000	Date	30/01/2012
© Copyright reserved		File name			
		Drawing No.	FIGURE 2.1a(revised)		
		Rev.	--		

PRINTER NAME: PDFCreator
 PLOT DRV: k:\91164 Trunk Road t2\Cad Admin\A3_colour.plt
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LEGEND:

-  PROPOSED T2 ALIGNMENT
-  PROPOSED WORKS AREA
-  PROJECT BOUNDARY
-  PROPOSED LAYOUT OF THE HOSPITALS
-  300m STUDY AREA
-  ORIGINAL NOISE MONITORING STATIONS
-  PROPOSED NOISE MONITORING STATIONS

KTD 1

KTD 1a

PROPOSED NOISE MONITORING STATIONS

Drawing title

IDENTIFIED NOISE MONITORING STATIONS AT SOUTH APRON OF FORMER KAI TAK AIRPORT

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A3

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FIGURE 3.1a (revised)

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Appendix A

Construction Programme

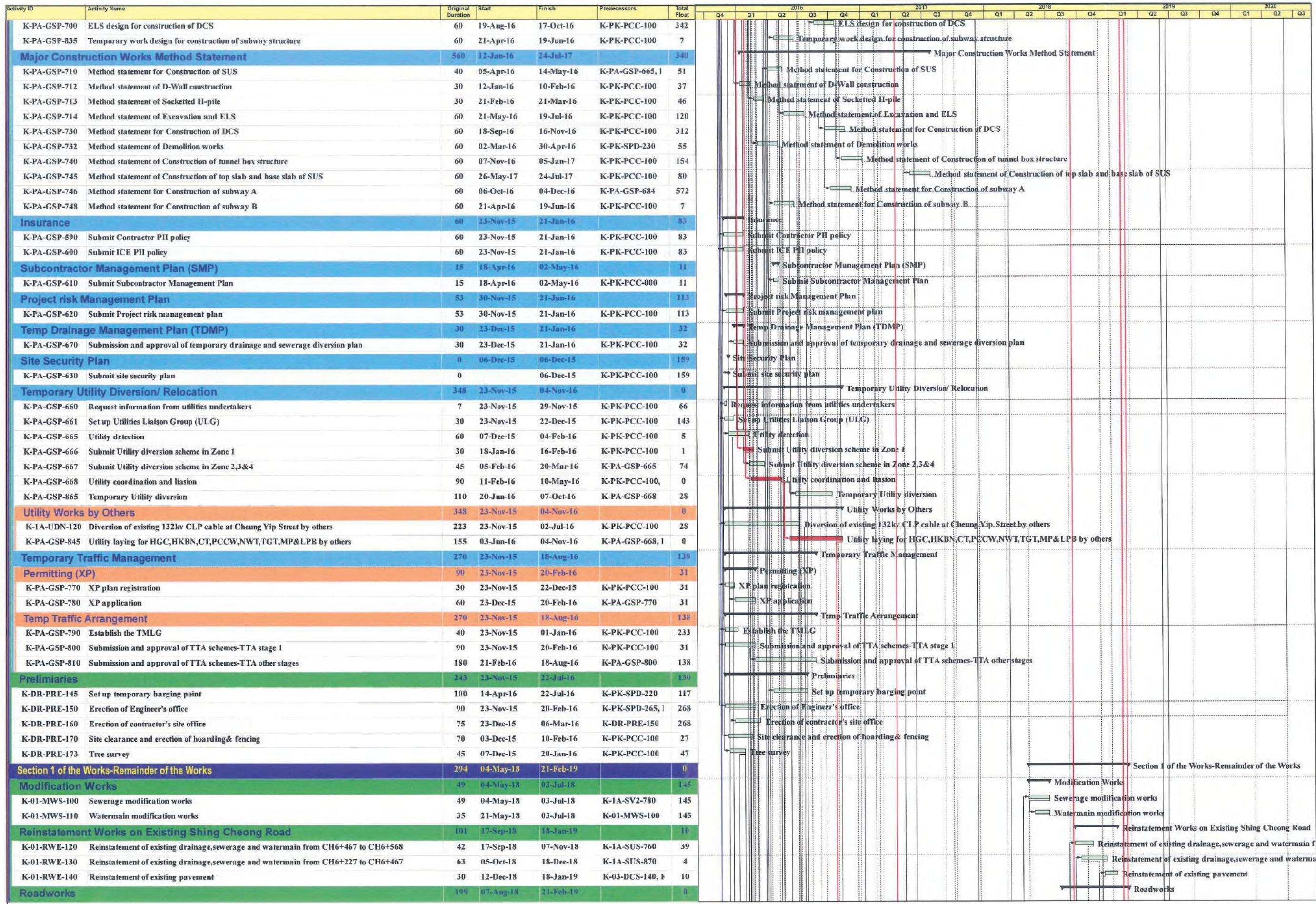
KL/2014/03 Kai Tak Development-Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway

Activity ID	Activity Name	Original Duration	Start	Finish	Predecessors	Total Float	2016												2017				2018				2019			2020			
							Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
KL/2014/03-Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway							1684																								12-Nov-15	21-Jun-20	0
Project Key Dates							1684																								12-Nov-15	21-Jun-20	0
Project Commencement and Completion							1684																								12-Nov-15	21-Jun-20	0
K-PK-PCC-000	Letter of Acceptance	0	12-Nov-15*			0																											
K-PK-PCC-100	Project Commencement Date	0	23-Nov-15*		K-PK-PCC-000	0																											
K-PK-PCC-110	Project Completion Date	0		21-Jun-20*	K-PA-GSP-790, 1	0																											
Project Completion Date							974																								21-Oct-17	21-Jun-20	0
K-PK-PCD-100	Section 1-Remainder of the Works (i.e. all Works except Works included in other Section of the Wor	0		21-Feb-19*	K-PK-SCC-190,	0																											
K-PK-PCD-110	Section 1A - Construction of supporting underground structure	0		20-Jun-19*	K-PK-SCC-200,	0																											
K-PK-PCD-120	Section 2 - Demolition of Radar Tower and Guard House within Portions X and P of the Site	0		21-Oct-17*	K-PK-SCC-204,	0																											
K-PK-PCD-130	Section 3 - Construction of District Cooling System (DCS)	0		21-Feb-19*	K-PK-PCC-100,	0																											
K-PK-PCD-140	Section 4A - Construction of Subway A	0		21-Jan-19*	K-PK-SCC-210,	0																											
K-PK-PCD-150	Section 4B - Construction of Subway B	0		20-Dec-18*	K-PK-PCC-100,	0																											
K-PK-PCD-160	Section 5 - Completion of All Landscape Softworks	0		20-Jun-19*	K-PK-PCC-100,	0																											
K-PK-PCD-170	Section 6 - Completion of all Establishment Works for all Landscape Softworks	0		21-Jun-20*	K-PK-PCC-100,	0																											
K-PK-PCD-180	Section 7 - Preservation and Protection of Existing Trees	0		20-Jun-19*	K-PK-PCC-100,	0																											
Site Possession Date							617																								23-Nov-15	01-Aug-17	0
K-PK-SPD-100	Portion A	0	02-May-16*		K-PK-PCC-100	0																											
K-PK-SPD-110	Portion B	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-120	Portion B1	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-130	Portion C	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-140	Portion D	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-150	Portion E	0	01-Mar-16*		K-PK-PCC-100	0																											
K-PK-SPD-160	Portion F	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-170	Portion H	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-180	Portion I	0	01-Apr-17*		K-PK-PCC-100	0																											
K-PK-SPD-190	Portion K	0	01-Aug-17*		K-PK-PCC-100	0																											
K-PK-SPD-200	Portion M	0	23-Jan-16*		K-PK-PCC-100	0																											
K-PK-SPD-210	Portion N	0	23-Jan-16*		K-PK-PCC-100	0																											
K-PK-SPD-220	Portion O	0	25-Mar-16*		K-PK-PCC-100	0																											
K-PK-SPD-230	Portion P	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-240	Portion Q	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-250	Portion R	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-260	Portion X	0	23-Nov-15*		K-PK-PCC-100	0																											
K-PK-SPD-265	Works Area WA1	0	23-Nov-15*		K-PK-PCC-100	0																											
Site Handover Date							1150																								28-Apr-17	21-Jun-20	0
K-PK-SHD-100	Portion A	0		21-Jun-20	K-PK-PCC-100	0																											
K-PK-SHD-110	Portion B	0		28-Apr-17*	K-PK-PCC-100,	0																											
K-PK-SHD-120	Portion B1	0		30-Mar-18*	K-PK-PCC-100	0																											
K-PK-SHD-130	Portion C	0		31-Jul-18*		0																											
K-PK-SHD-140	Portion D	0		30-Nov-18*	K-PK-PCC-100	0																											
K-PK-SHD-150	Portion E	0		29-Dec-17*	K-PK-PCC-100	0																											
K-PK-SHD-160	Portion F	0		29-Dec-17*	K-PK-PCC-100,	0																											
K-PK-SHD-170	Portion H	0		31-Jul-18*	K-PK-PCC-100	0																											
K-PK-SHD-180	Portion I	0		21-Jun-20	K-PK-PCC-100	0																											
K-PK-SHD-190	Portion K	0		31-Dec-18*	K-PK-PCC-100	0																											
K-PK-SHD-200	Portion M	0		21-Jun-20	K-PK-PCC-100	0																											
K-PK-SHD-210	Portion N	0		28-Sep-18*	K-PK-PCC-100,	0																											
K-PK-SHD-220	Portion O	0		31-Dec-18*	K-PK-PCC-100	0																											
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K-PK-SHD-255	Portion X	0		21-Jun-20	K-PK-PCC-100	0																											
K-PK-SHD-260	Works Area WA1	0		21-Jun-20	K-PK-PCC-100	0																											
Preliminaries, Alternative Design, Submission and Approval							614																								18-Nov-15	24-Jul-17	340
Alternative Design for Supporting Underground Structure(SUS)							185																								23-Nov-15	25-May-16	114

█ Remaining Level of Effort █ Remaining Work
█ Actual Work █ Critical Remaining Work

Initial Works Programme Rev.1

Date	Revision	Checked	Approved
11-Jan-16	1		



█ Remaining Level of Effort Remaining Work
█ Actual Work Critical Remaining Work

Initial Works Programme Rev.1

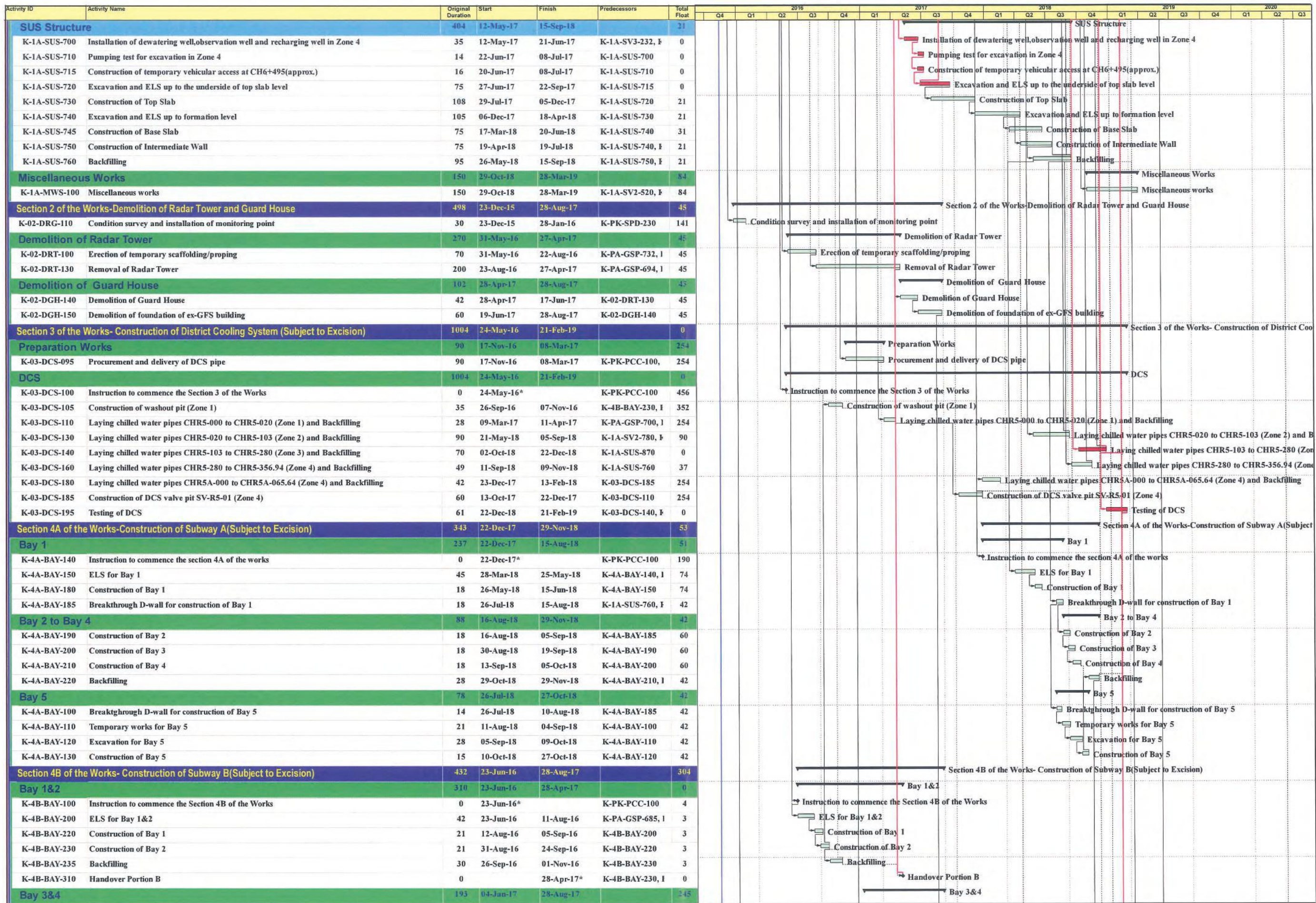
Date	Revision	Checked	Approved
11-Jan-16	1		

Activity ID	Activity Name	Original Duration	Start	Finish	Predecessors	Total Float	2016												2017				2018				2019				2020		
							Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			
Road D4-3																																	
K-01-RWS-102	Drainage,sewerage works, water works, road pavement and furniture in Zone 2	60	05-Sep-18	21-Feb-19	K-1A-SV2-780, F	109																											
K-01-RWS-104	Drainage,sewerage works, water works, road pavement and furniture in Zone 3	61	22-Dec-18	21-Feb-19	K-1A-SUS-870, F	0																											
K-01-RWS-106	Drainage,sewerage works, water works, road pavement and furniture in Zone 4	60	09-Nov-18	08-Jan-19	K-03-DCS-160, F	44																											
Road D4-4																																	
CH100 to CH190																																	
K-01-RWS-270	Drainage,sewerage works and water works	60	07-Aug-18	18-Oct-18	K-1A-SV2-203, F	21																											
CH190 to CH420																																	
K-01-RWS-200	Drainage,sewerage works and water works	50	29-Sep-18	28-Nov-18	K-03-DCS-185, F	32																											
K-01-RWS-240	Pavement and road furniture	35	29-Nov-18	11-Jan-19	K-01-RWS-200	32																											
Seawall Modification Works																																	
K-01-RWS-350	Demolition of existing seawall	14	06-Oct-18	23-Oct-18	K-01-RWS-270	21																											
K-01-RWS-360	Laying drain pipe and modification of seawall	42	24-Oct-18	11-Dec-18	K-01-RWS-350	21																											
K-01-RWS-370	Pavement and road furniture	35	12-Dec-18	24-Jan-19	K-01-RWS-270, I	21																											
Section 1A of the Works -Construction of Supporting Underground Structure(Alternative Design)																																	
SUS and Ventilation Adits from CH6+150 to CH6+227 in Zone 1																																	
Preparation Works																																	
K-1A-SV1-007	Additional Ground investigation work	35	04-Jan-16	16-Feb-16	K-PA-GSP-665	5																											
K-1A-SV1-008	Fabrication and delivery of ELS strut/waling	110	17-Mar-16	01-Aug-16	K-PA-ADS-100	89																											
Temporary D-Wall and Piling Works																																	
K-1A-SV1-100	Predrilling works	22	17-Feb-16	12-Mar-16	K-1A-SV1-007, F	5																											
K-1A-SV1-110	Plant mobilization and setup for D-wall	30	23-Feb-16	31-Mar-16	K-PK-SPD-140, I	5																											
K-1A-SV1-115	Construction of guide wall	15	05-Mar-16	22-Mar-16	K-1A-SV1-110, F	12																											
K-1A-SV1-120	Construction of temporary D-wall eastbound and End Wall (CH6+150 - CH6+227)	85	01-Apr-16	14-Jul-16	K-1A-SV1-100, F	5																											
K-1A-SV1-130	Construction of temporary D-wall westbound (CH6+150 - CH6+227)	65	19-Apr-16	07-Jul-16	K-1A-SV1-120	53																											
K-1A-SV1-135	Installation of temporary bulkhead wall at CH6+227	21	20-Jun-16	14-Jul-16	K-1A-SV1-120	47																											
K-1A-SV1-140	Installation of socketted H-piles (Intermediate Wall)	70	09-Apr-16	04-Jul-16	K-PA-ADS-110, I	23																											
K-1A-SV1-340	Installation of socketted H-piles (Eastbound and Westbound)	70	14-Apr-16	08-Jul-16	K-PA-GSP-713, I	19																											
K-1A-SV1-462	Loading test for socketted H-Piles	8	09-Jul-16	18-Jul-16	K-1A-SV1-340, F	19																											
Tunnel Box Structure																																	
K-1A-SV1-200	Installation of dewatering well,observation well and recharging well in Zone 1	30	30-Jun-16	04-Aug-16	K-1A-SV1-140, F	82																											
K-1A-SV1-210	Pumping test for excavation in Zone 1	14	05-Aug-16	20-Aug-16	K-1A-SV1-200	82																											
K-1A-SV1-220	Excavation and ELS up to formation level of tunnel box(6+150-6+200)	55	10-Aug-16	15-Oct-16	K-PA-GSP-687, I	82																											
K-1A-SV1-350	Construction of tunnel box structure (CH6+150 to CH6+200)	120	27-Feb-17	24-Jul-17	K-1A-SV1-330, F	82																											
K-1A-SV1-402	Backfilling	60	12-Jul-17	19-Sep-17	K-1A-SV1-350	82																											
K-1A-SV1-412	Temporary road construction	30	03-May-18	07-Jun-18	K-1A-SV2-780, F	47																											
K-1A-SV1-422	Excavation and ELS up to formation level of tunnel box(6+200-6+227)	30	08-Jun-18	14-Jul-18	K-1A-SV1-412	47																											
K-1A-SV1-432	Construction of tunnel box structure (CH6+200 to CH6+227)	50	30-Aug-18	30-Oct-18	K-1A-SV1-422, F	47																											
K-1A-SV1-452	Backfilling	45	31-Oct-18	21-Dec-18	K-1A-SV1-432	47																											
Ventilation Adits																																	
K-1A-SV1-300	Installation of sheetpile for adits(6+150-6+200)	30	04-Oct-16	08-Nov-16	K-PA-GSP-683, I	82																											
K-1A-SV1-310	Excavation and ELS for ventilation adit 1,2&3(6+150-6+200)	35	09-Nov-16	19-Dec-16	K-1A-SV1-300, F	82																											
K-1A-SV1-330	Construction of ventilation adit 1,2&3 and service adit(6+150-6+200)	63	20-Dec-16	09-Mar-17	K-1A-SV1-310	82																											
K-1A-SV1-472	Installation of sheetpile for adits(6+200-6+227)	15	16-Jul-18	01-Aug-18	K-1A-SV1-422	47																											
K-1A-SV1-482	Excavation and ELS for ventilation adit 2(6+200-6+227)	15	31-Jul-18	16-Aug-18	K-1A-SV1-472	47																											
K-1A-SV1-492	Construction of ventilation adit 2 and service adit(6+15200-6+227)	21	11-Aug-18	04-Sep-18	K-1A-SV1-482	47																											
SUS and Ventilation Adits from CH6+227 to CH6+348 in Zone 2																																	
D-Wall and Piling Works																																	
D-Wall E/B and Socketted H-Piles(CH6+227 to CH6+348) in TTA Stage 1																																	
K-1A-SV2-100	Implementation of TTA stage 1	7	22-Feb-16	29-Feb-16	K-PK-SPD-130, I	26																											
K-1A-SV2-110	Predrilling works	32	14-Mar-16	23-Apr-16	K-PK-SPD-150, I	85																											
K-1A-SV2-125	Construction of guide wall	35	25-Apr-16	06-Jun-16	K-1A-SV2-110, F	85																											
K-1A-SV2-128	Plant mobilization and set up for D-wall and socketted H-Pile	7	15-Jul-16	22-Jul-16	K-1A-SV2-110, F	47																											
K-1A-SV2-130	Construction of D-wall eastbound(CH6+227 to CH6+348)	152	23-Jul-16	23-Jan-17	K-PA-ADS-115, I	47																											
K-1A-SV2-140	Installation of socketted H-piles (CH6+227 to CH6+348)	112	19-Jul-16	29-Nov-16	K-PK-SPD-250, I	19																											
K-1A-SV2-800	Loading test for socketted H-Piles	8	30-Nov-16	08-Dec-16	K-1A-SV2-140	19																											
D-Wall W/B (CH6+227 to CH6+348) in TTA Stage 2																																	
K-1A-SV2-203	Construction of temporary diversion road	60	05-Nov-16	03-Jan-17	K-PA-GSP-845, I	0																											

█ Remaining Level of Effort █ Remaining Work
█ Actual Work █ Critical Remaining Work

Initial Works Programme Rev.1

Date	Revision	Checked	Approved
11-Jan-16	1		



█ Remaining Level of Effort █ Remaining Work
█ Actual Work █ Critical Remaining Work

Initial Works Programme Rev.1

Date	Revision	Checked	Approved
11-Jan-16	1		

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Appendix B

Alternative Monitoring Location Proposal

Alternative Monitoring Locations Proposal

B.1 Original Noise and TSP Monitoring Locations covered under this Contract

Noise and TSP monitoring should be conducted at the designated monitoring stations during the construction of Works Contract KL/2014/03. **Table B.1** shows the designated air quality and noise monitoring locations identified in the T2 EM&A Manual (AEIAR-174/2013).

Table B.1 Original Air Quality and Noise Monitoring Stations

SR and NSR ID	Location
KTD 1	Centre of Excellence in Paediatrics
KTD 2	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
KER 1	Future Residential Development at Kerry Godown

Site visit was conducted at the designated monitoring location KTD 1, KTD 2 and KER 1 in November 2015. Site conditions was evaluated and it was found that all of them are future sensitive receivers, their current conditions are summarized in **Table B.2**.

Table B.2 Current Conditions of Original Monitoring Locations

ASR and NSR ID	Location	Current Conditions
KTD 1	Centre of Excellence in Paediatrics	Renamed as Children's Hospital, currently under construction
KTD 2	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)	Currently no work in progress
KER 1	Future Residential Development at Kerry Godown	Operates as a warehouse for dangerous goods.

B.2 Alternative Monitoring Locations

When alternative air quality monitoring locations are proposed, the following criteria, as far as practicable, shall be followed:

- (i) At the site boundary or such locations close to the major dust emission source;
- (ii) Close to the ASRs;
- (iii) Proper position/sitting and orientation of the monitoring equipment; and
- (iv) Take into account the prevailing meteorological conditions.

In addition, with reference to T2 EM&A Manual (AEIAR-174/2013) Section 3.3.1.2, when alternative noise monitoring locations are proposed, they should be chosen based on the following criteria:

- (i) The monitoring locations close to the major construction works activities that are likely to have noise impacts;
- (ii) The monitoring close to the NSRs as defined in the EIAO-TM; and
- (iii) The assurance of the minimal disturbance and working under a safe condition to the occupants during the monitoring in the vicinity of the NSRs.

In view of the above selection criteria, the proposed alternative monitoring location and reason of selection are listed in **Table B.3**.

Table B.3 Alternative Air Quality and Noise Monitoring Locations

Original Monitoring Station ID	Original Monitoring Location in T2 EM&A Manual (AEIAR-174/2013)	Alternative Monitoring Station ID	Alternative Monitoring Location	Reasons
KTD 1	Centre of Excellence in Paediatrics (Children's Hospital)	KTD 1a	Centre of Excellence in Paediatrics (Children's Hospital)	<ol style="list-style-type: none"> The original monitoring location situates at the site entrance of the Children's Hospital construction site and would be heavily affected by the construction works and associated activities of the hospital. The alternative location is at the site boundary of this contract and close to the future Children's Hospital, the interference from existing non-project related construction activities is minimized. Thus it is a suitable alternative noise and TSP monitoring location.
KTD 2	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)	KTD 2a	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)	<ol style="list-style-type: none"> The original monitoring location is located at the site of future hospital, the construction of this future hospital is planned to commence in later stage. Considering its close proximity to the future construction site, non-project related dust and noise interference will be anticipated. The alternative location is at the site boundary of the future hospital, and interference should be minimized. Thus it is considered as a suitable monitoring location.
KER 1	Future Residential Development at Kerry Godown	KER 1a	Site Boundary at Cheung Yip Street	<ol style="list-style-type: none"> The original monitoring location is in operation as a warehouse for dangerous goods. Warehouse activities, including frequent traffic of goods vehicles and loading and unloading of goods would generate non-project related dust and noise interference to the monitoring. Also, as the site may develop into residential building, any demolition/construction works involved will also generate dust and noise impact which are not related to this project. The alternative monitoring location situates at the site boundary of this contract and close to the alignment of the Trunk Road T2. It is also in close proximity and representative to the existing Kerry Godown (future sensitive receiver), thus, it is a suitable monitoring location.

Note:

Façade noise measurement will be conducted for KTD 1a;

Free field noise measurement will be conducted for KTD 2a and KER 1a.

B.2.1 The proposed alternative monitoring locations satisfy the selection criteria as stated above, that the locations are situated at the site boundary and close to the sensitive receivers.

B.2.2 The alternative monitoring locations are listed in **Table B.4** and indicated in **Figure 2**.

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is white and is set against a black rectangular background that has a thin white border.

Table B.4 Location of noise monitoring station

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2a	G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
KER1a	Site Boundary at Cheung Yip Street

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

Appendix C

Calibration Certificates of Monitoring Equipment



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE
 VILLAGE OF CLEVES, OH
 45002
 513.467.9000
 877.263.7610 TOLL FREE
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 02, 2015 Rootsmeter S/N 0438320 Ta (K) - 292
 Operator Tisch Orifice I.D. - 2154 Pa (mm) - 754.38

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	1.4720	3.2	2.00
2	NA	NA	1.00	1.0450	6.4	4.00
3	NA	NA	1.00	0.9320	7.9	5.00
4	NA	NA	1.00	0.8900	8.8	5.50
5	NA	NA	1.00	0.7330	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0087	0.6852	1.4234	0.9957	0.6764	0.8799
1.0044	0.9612	2.0130	0.9915	0.9488	1.2443
1.0023	1.0754	2.2506	0.9894	1.0616	1.3912
1.0012	1.1249	2.3604	0.9883	1.1105	1.4591
0.9959	1.3587	2.8468	0.9831	1.3412	1.7597
Qstd slope (m) = 2.11451		Qa slope (m) = 1.32407		intercept (b) = -0.01402	
intercept (b) = -0.02267		intercept (b) = -0.01402		coefficient (r) = 0.99995	
coefficient (r) = 0.99995		coefficient (r) = 0.99995			
y axis = $\text{SQRT}[\text{H}_2\text{O}(\text{Pa}/760)(298/\text{Ta})]$			y axis = $\text{SQRT}[\text{H}_2\text{O}(\text{Ta}/\text{Pa})]$		

CALCULATIONS

$V_{std} = \text{Diff. Vol} [(\text{Pa} - \text{Diff. Hg}) / 760] (298 / \text{Ta})$
 $Q_{std} = V_{std} / \text{Time}$

$V_a = \text{Diff Vol} [(\text{Pa} - \text{Diff Hg}) / \text{Pa}]$
 $Q_a = V_a / \text{Time}$

For subsequent flow rate calculations:

$Q_{std} = 1/m \{ [\text{SQRT}(\text{H}_2\text{O}(\text{Pa}/760)(298/\text{Ta}))] - b \}$
 $Q_a = 1/m \{ [\text{SQRT} \text{H}_2\text{O}(\text{Ta}/\text{Pa})] - b \}$

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmental Monitoring Works For Contract No. KLN/2015/07			Date of Calibration: 19-Jan-16		
Location : KTD2a			Next Calibration Date: 18-Apr-16		
Brand:	Tisch		Technician: Jimmy Lui		
Model:	TE-5170	S/N:	3838		

CONDITIONS					
Sea Level Pressure (hPa):	1020.1	Corrected Pressure (mm Hg):	765		
Temperature (°C):	18	Temperature (K):	291		

CALIBRATION ORIFICE					
Make:	Tisch	Qstd Slope:	2.11451		
Model:	TE-5025A	Qstd Intercept:	-0.02267		
Calibration Date:	2-Feb-15	Expiry Date:	2-Feb-16		
S/N:	2154				

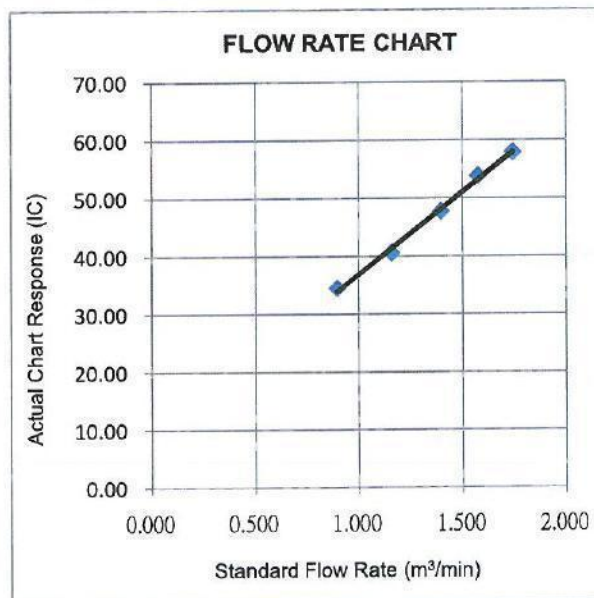
CALIBRATIONS							
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m ³ /min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	8.30	-4.70	13.000	1.742	57.00	57.87	Slope = 28.3252 Intercept = 8.5930 Corr. coeff. 0.9981
13	7.10	-3.50	10.600	1.574	53.00	53.81	
10	5.90	-2.40	8.300	1.394	47.00	47.72	
7	4.60	-1.10	5.700	1.157	40.00	40.61	
5	3.50	0.10	3.400	0.896	34.00	34.52	

Calculations:

$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta)) - b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$
 Qstd = standard flow rate
 IC = corrected chart response
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pa = actual pressure during calibration (mm Hg)
 Tstd = 298 deg K
 Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)] - b)$
 m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure



AS

CHOI KAM HO
Project Consultant

Report Date: 19th January, 2016

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmental Monitoring Works For Contract No. KLN/2015/07		Date of Calibration: 19-Jan-16	
Location : KTD1a		Next Calibration Date: 18-Apr-16	
Brand:	Tisch	Technician: Jimmy Lui	
Model:	TE-5170	S/N:	3478

CONDITIONS			
Sea Level Pressure (hPa):	1020.1	Corrected Pressure (mm Hg):	765
Temperature (°C):	18	Temperature (K):	291

CALIBRATION ORIFICE			
Make:	Tisch	Qstd Slope:	2.11451
Model:	TE-5025A	Qstd Intercept:	-0.02267
Calibration Date:	2-Feb-15	Expiry Date:	2-Feb-16
S/N:	2154		

CALIBRATIONS							
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m ³ /min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	8.00	-4.40	12.400	1.701	58.00	58.89	Slope = 36.0577 Intercept = -2.2566 Corr. coeff. 0.9984
13	6.30	-3.30	9.600	1.498	52.00	52.79	
10	5.80	-2.30	8.100	1.377	46.00	46.70	
7	4.40	-0.90	5.300	1.116	37.00	37.57	
5	3.30	0.30	3.000	0.842	28.00	28.43	

Calculations:

$Qstd = 1/m[\text{sqrt}(\text{H2O}(\text{Pa}/\text{Pstd})(\text{Tstd}/\text{Ta})) - b]$

$IC = I[\text{sqrt}(\text{Pa}/\text{Pstd})(\text{Tstd}/\text{Ta})]$

Qstd = standard flow rate

IC = corrected chart response

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pa = actual pressure during calibration (mm Hg)

Tstd = 298 deg K

Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

$1/m((I[\text{sqrt}(298/\text{Tav})(\text{Pav}/760)] - b)$

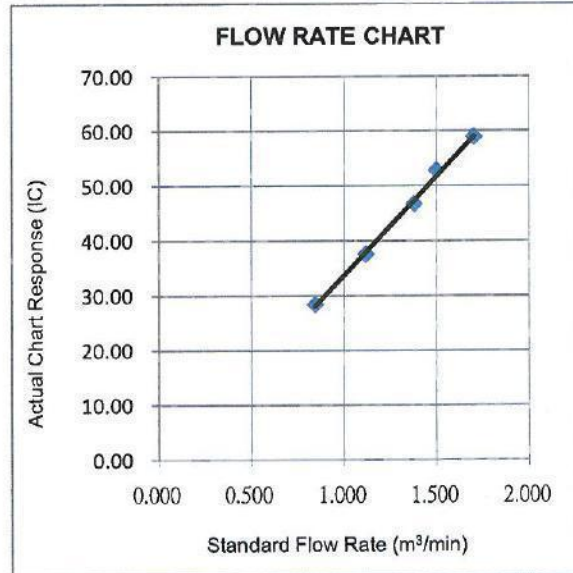
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



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 Project Consultant

Report Date: 19th January, 2016

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmental Monitoring Works For Contract No. KLN/2015/07		Date of Calibration: 19-Jan-16	
Location : KER1a		Next Calibration Date: 18-Apr-16	
Brand:	Tisch	Technician: Jimmy Lui	
Model:	TE-5170	S/N:	3482

CONDITIONS			
Sea Level Pressure (hPa):	1020.1	Corrected Pressure (mm Hg):	765
Temperature (°C):	18	Temperature (K):	291

CALIBRATION ORIFICE			
Make:	Tisch	Qstd Slope:	2.11451
Model:	TE-5025A	Qstd Intercept:	-0.02267
Calibration Date:	2-Feb-15	Expiry Date:	2-Feb-16
S/N:	2154		

CALIBRATIONS							
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m ³ /min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	7.80	-4.30	12.100	1.681	59.00	59.90	Slope = 34.6096 Intercept = 1.3613 Corr. coeff. 0.9994
13	6.60	-3.30	9.900	1.521	53.00	53.81	
10	5.50	-2.00	7.500	1.326	46.00	46.70	
7	4.10	-0.70	4.800	1.063	38.00	38.58	
5	3.20	0.20	3.000	0.842	30.00	30.46	

Calculations:

$Qstd = 1/m[\sqrt{(H2O(Pa/Pstd)(Tstd/Ta))}-b]$

$IC = I[\sqrt{(Pa/Pstd)(Tstd/Ta)}$

Qstd = standard flow rate

IC = corrected chart response

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pa = actual pressure during calibration (mm Hg)

Tstd = 298 deg K

Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

$1/m((I[\sqrt{(298/Tav)(Pav/760)}]-b)$

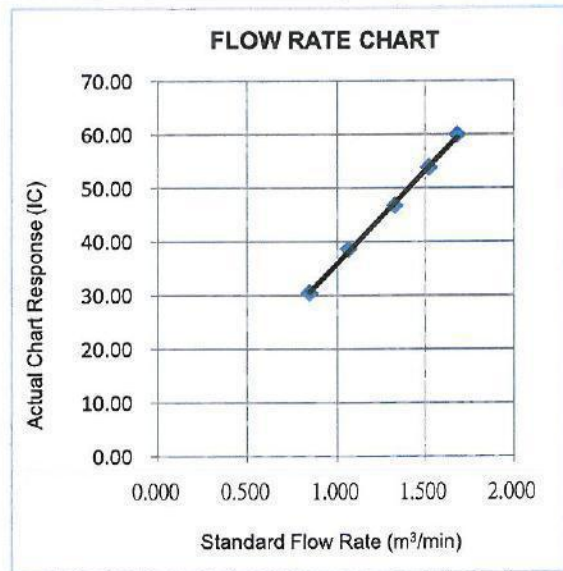
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



CHOI KAM HO
Project Consultant

Report Date: 19th January, 2016

CALIBRATION CERTIFICATE

Date: August 4, 2015

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	567195
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	552CPM
Scale Setting	:	June 8, 2015

We hereby certify that the avobe mentioned instrmnt has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Shintaro Okamura

Shintaro Okamura

Overseas Sales Division

FUGRO TECHNICAL SERVICES LIMITED

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Materialab

Report no. : 940891CA151495(3)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser Dust Monitor
Manufacturer : SIBATA
Model No. : LD-3B
Serial No. : 567195
Specification Limit : NA
Next Calibration Date : 18-Aug-2016

Laboratory Information


Description : Reference balance
Equipment ID. : R-039-4
Date of Calibration : 19-Aug-2015 Ambient Temperature : 32 °C
Calibration Location : Calibration Lab. of Materialab
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.0948	1111	18.52
0.1254	1342	22.37
0.1028	1191	19.85

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x UUT reading (CPM) where K = 0.00533
3. Correlation coefficient (r) : 0.9956

Checked by : 
CA-R-297 (22/07/2009)

Date : 24-8-2015

Certified by :


So Chi Kuen (Engineer)

Date : 24 Aug., 2015

** End of Report **

CALIBRATION CERTIFICATE

Date: August 4, 2015

Equipment Name	:	Digital Dust Indicator, Model LD-3B
Code No.	:	080000-42
Quantity	:	1 unit
Serial No.	:	567191
Sensitivity	:	0.001 mg/m ³
Sensitivity Adjustment	:	528CPM
Scale Setting	:	June 8, 2015

We hereby certify that the above mentioned instrument has been calibrated satisfactorily.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Shintaro Okamura

Shintaro Okamura

Overseas Sales Division

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre,
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Report no. : 940891CA151495(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser Dust Monitor
Manufacturer : SIBATA
Model No. : LD-3B
Serial No. : 567191
Specification Limit : NA
Next Calibration Date : 18-Aug-2016

Laboratory Information

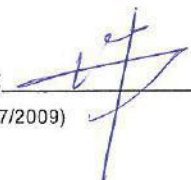
Description : Reference balance
Equipment ID. : R-039-4
Date of Calibration : 19-Aug-2015 Ambient Temperature : 32 °C
Calibration Location : Calibration Lab. of Materialab
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.0948	1108	18.47
0.1254	1752	29.20
0.1028	1330	22.17


Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x UUT reading (CPM) where K = 0.00456
3. Correlation coefficient (r) : 0.9958

Checked by : 
CA-R-297 (22/07/2009)

Date : 14-8-2015

Certified by :


So Chi Kuen (Engineer)

Date :

24 Aug, 2015

** End of Report **

Certificate of Conformity and Calibration

Instrument Model:- CEL-633C
Serial Number 2451083
Firmware revision V129-08

Microphone Type:- CEL-251
Serial Number 938

Preamplifier Type:- CEL-495
Serial Number 002845

Instrument Class/Type:- 1



Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
 IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.

Test Conditions:- 23.6 °C **Test Engineer:-** Millie Duncan
 44 %RH **Date of Issue:-** August 18, 2015
 1008.4 mBar

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

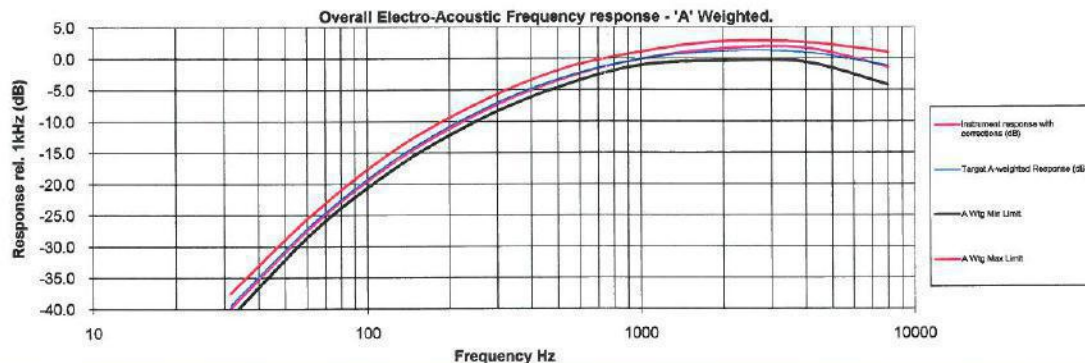
Test Summary:-

Self Generated Noise Test	All Tests Pass
Electrical Signal Test Of Frequency Weightings	All Tests Pass
Frequency & Time Weightings At 1 kHz	All Tests Pass
Level Linearity On The Reference Level Range	All Tests Pass
Toneburst Response Test	All Tests Pass
C-peak Sound Levels	All Tests Pass
Overload Indication	All Tests Pass
Acoustic Tests	All Tests Pass

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



Casella CEL
 Regen House, Wolsley Road,
 Kempston, Bedford
 MK42 7JY
 Phone: +44(0) 1234 844100
 Fax: +44(0) 1234 841490
 E-mail: info@casellameasurement.com
 Web: www.casellameasurement.com

Casella CEL, Inc. a subsidiary of IDEAL Industries, Inc.
 415 Lawrence Bell Drive
 Unit 4
 Buffalo, NY 14221
 Toll Free: (800) 365-2966
 Tel: (603) 672-0031 Fax: (603) 672-8053
 E-mail: info@casellausa.com
 Web: www.casellausa.com

Certificate of Conformity and Calibration

Instrument Model:-	CEL-633A		
Serial Number	2451048		
Firmware revision	V129-09		
Microphone Type:-	CEL-251	Preamplifier Type:-	CEL-495
Serial Number	1276	Serial Number	002748
Instrument Class/Type:-	1		



Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
 IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceded Sound Level Meter Standards - IEC60651 and IEC60804.

Test Conditions:-	29 °C	Test Engineer:-	Nicola Cartwright
	43 %RH	Date of Issue:-	December 18, 2015
	1000 mBar		

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

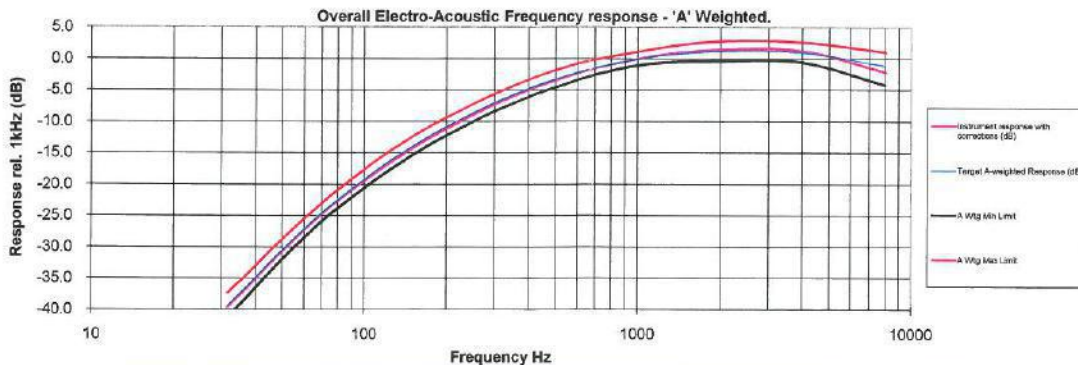
Test Summary:-

Self Generated Noise Test	All Tests Pass
Electrical Signal Test Of Frequency Weightings	All Tests Pass
Frequency & Time Weightings At 1 kHz	All Tests Pass
Level Linearity On The Reference Level Range	All Tests Pass
Toneburst Response Test	All Tests Pass
C-peak Sound Levels	All Tests Pass
Overload Indication	All Tests Pass
Acoustic Tests	All Tests Pass

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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 E-mail: info@casellausa.com
 Web: www.casellausa.com

Certificate of Conformity and Calibration

Instrument Model:- CEL-633A
Serial Number 2451028
Firmware revision V129-09

Microphone Type:- CEL-251
Serial Number 1163

Preamplifier Type:- CEL-495
Serial Number 002850

Instrument Class/Type:- 1



Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
 IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceded Sound Level Meter Standards - IEC60651 and IEC60804.

Test Conditions:- 21.3 °C **Test Engineer:-** Millie Duncan
 45.1 %RH **Date of Issue:-** October 26, 2015
 1008.8 mBar

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

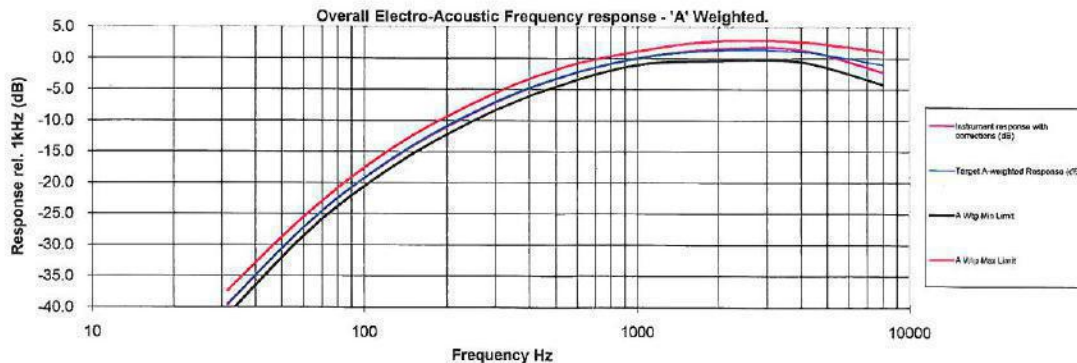
Test Summary:-

Self Generated Noise Test	All Tests Pass
Electrical Signal Test Of Frequency Weightings	All Tests Pass
Frequency & Time Weightings At 1 kHz	All Tests Pass
Level Linearity On The Reference Level Range	All Tests Pass
Toneburst Response Test	All Tests Pass
C-peak Sound Levels	All Tests Pass
Overload Indication	All Tests Pass
Acoustic Tests	All Tests Pass

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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校准证书

CALIBRATION CERTIFICATE

证书编号 SSD201504447
Certificate No.

第 1 页, 共 4 页
Page of

委托方 MaterialLab Consultants Limited
Client

委托方地址 Fugro Development Centre, 5 Lok Yi Street, Tai
Add. of Client Lam, Tuen Mun, N T., Hong Kong

计量器具名称 Sound Level Calibrator
Description

型号规格 CEL-120/1
Model/Type

制造厂 CASELLA
Manufacturer

出厂编号 5230950
Serial No.

设备编号
Equipment No.

接收日期 2015 年 07 月 27 日
Date of Receipt Y M D

结论 符合JJG 176-2005中1级技术要求
Conclusion

校准日期 2015 年 07 月 28 日
Date of Calibration Y M D

批准人 李叔江
Approved Signatory

核 验 陈油理
Checked by

校 准 何卓斌
Calibrated by

证书专用章
Stamp





华南国家计量测试中心
广东省计量科学研究所

SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY



说 明

证书编号 SSD201504447

Certificate No.

第 2 页, 共 4 页

Page of

DIRECTIONS

1. 本中心是国家质量监督检验检疫总局在华南地区设立的国家法定计量检定机构, 计量授权证书号是: (国) 法计 (2012) 01043号、(国) 法计 (2012) 01032号。本中心质量管理体系符合 ISO/IEC 17025:2005 标准的要求。

This laboratory is the National Legal Metrological Verification Institution in southern China set up by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ) under authorization certificates No.(2012)01043 & (2012)01032. The quality system is in accordance with ISO/IEC 17025:2005.

2. 本中心所出具的数据均可溯源至国家计量基准和国际单位制(SI)。

All data issued by this laboratory are traceable to national primary standards and International System of Units (SI).

3. 本次校准的技术依据:

Reference documents for the calibration:

JJG 176-2005 声校准器检定规程 V. R. of Sound Calibrators

4. 本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

设备名称/型号 Name of Equipment /Model	编号 Serial No.	证书号/有效期 Certificate No. /Due Date	计量特性 Metrological Characteristic
测量放大器 Measuring Amplifier /2636	2160821	SSD201500612 /2016-01-27	1 级 Grade 1
声校准器 Sound Calibrator /4231	2713562	SSD201503065 /2016-05-25	1 级 Grade 1

5. 校准地点、环境条件:

Place and environmental conditions of the calibration:

地点 声学/振动实验室 Acoustics/Vibration Lab.
Place

温度 (23±3) °C
Temperature

相对湿度 (50~60) %
R.H.

6. 被校准仪器限制使用条件:

Limiting condition of the instrument calibrated:

注: 1. 本证书校准结果只与受校准仪器有关。
2. 未经本机构书面批准, 不得部分复制此证书。

Note: 1. The results relate only to the items calibrated.

2. This certificate shall not be reproduced except in full, without the written approval of our laboratory.



校准结果

RESULTS OF CALIBRATION

证书编号: SSD201504447
Certification No.

原始记录编号: 2201504447
Record No.

第 3 页, 共 4 页
Page of

1 外观: 合格

Apparent inspection: Pass

2 声压级 (dB): 见表1

Sound Pressure Level: Showed in table 1

表1 Table 1

标称值 (dB) Nominal Value	实测值 (dB) Measured Value	允差 (dB) Tolerance	结论 Conclusion	稳定度 (dB) Stabilization	稳定度允差 (dB) Stabilization Tolerance	结论 Conclusion
94	93.93	±0.40	合格(Pass)	0.01	≤0.10	合格(Pass)
114	113.93	±0.40	合格(Pass)	0.01	≤0.10	合格(Pass)

3 频率: 见表2

Frequency: Showed in table 2

表2 Table 2

标称值 (Hz) Nominal Value	实测值 (Hz) Measured Value	允差 (%) Tolerance	结论 Conclusion
1000	1000.0	±1.0	合格(Pass)

4 总失真: 见表3

Total harmonic distortion: Showed in table 3

表3 Table 3

频率 (Hz) Frequency	声压级 (dB) Sound Pressure Level	总失真 (%) Total Harmonic Distortion	允差 (%) Tolerance	结论 Conclusion
1000	94	0.1	≤3	合格(Pass)
1000	114	0.2	≤3	合格(Pass)



华南国家计量测试中心
广东省计量科学研究院

SOUTH CHINA NATIONAL CENTER OF METROLOGY
GUANGDONG INSTITUTE OF METROLOGY



校准
CNAS L0730

校准结果 RESULTS OF CALIBRATION

证书编号: SSD201504447
Certification No.

原始记录编号: 2201504447
Record No.

第 4 页, 共 4 页
Page of

说明(Note):

1 测量结果扩展不确定度:

Expanded uncertainty of measurement:

声压级: $U=0.15$ dB, $k=2$

Sound Pressure Level Calibration

频率: $U_{rel}=0.1\%$, $k=2$

Frequency

失真度: $U_{rel}=1.4\%$, $k=2$

Harmonic distortion

(依据JJF 1059.1-2012 测量不确定度评定与表示)

(According to JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

2 建议校准周期不超过1年。

The interval of calibration advised within one year.

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

Materialab

Report no.: 940891CA150535

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model no. CEL-120/1)
Serial No. : 5230923 (Eq. No. N-15)
Next Calibration Date : 12-Mar-2016
Specification Limit : ± 0.5 dB

Laboratory Information

Description : B & K Acoustic Multifunction Calibrator 4226
Equipment ID. : R-108-1
Date of Calibration : 13-Mar-2015 Ambient Temperature : 21 °C
Calibration Location : Calibration Laboratory of Materialab
Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.2dB	± 0.5 dB
114dB	0.1dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. Sound level meter used is Casella sound level meter (S/N: 4637931).
4. The equipment does comply with specification limit.

Checked by : T.W.Tsang

Date : 16 Mar., 2015

Certified by : 

Date : 16 Mar, 2015

CA-R-297 (22/07/2009)

So Chi Kuen (Engineer)

** End of Report **

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

Materialab

Report no.: 940891CA150256(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model no. CEL-120/1)
Serial No. : 5230758
Next Calibration Date : 02-Feb-2016
Specification Limit : $\pm 0.5\text{dB}$

Laboratory Information


Description : B & K Acoustic Multifunction Calibrator 4226
Equipment ID. : R-108-1
Date of Calibration : 03-Feb-2015 Ambient Temperature : 21 °C
Calibration Location : Calibration Laboratory of Materialab
Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.2dB	$\pm 0.5\text{dB}$
114dB	0.2dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. Sound level meter used is client sound level meter (S/N: 3321814).
4. The equipment does comply with specification limit.

Checked by : T.W.Tsang Date : 03 Feb., 2015 Certified by :  Date : 03 Feb, 2015
CA-R-297 (22/07/2009) So Chi Kuen (Engineer)

** End of Report **

MATERIALAB CONSULTANTS LIMITED

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong..

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

Appendix D

Baseline Air Quality Monitoring Data

MATERIALAB CONSULTANTS LIMITED

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong..

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MaterialLab

1-hr TSP Monitoring

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

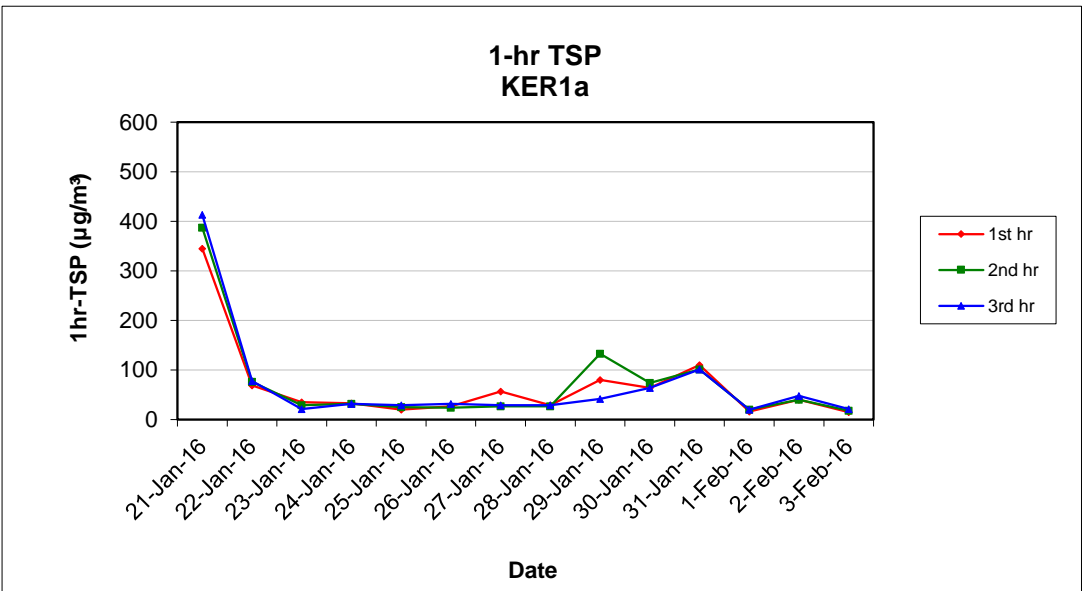
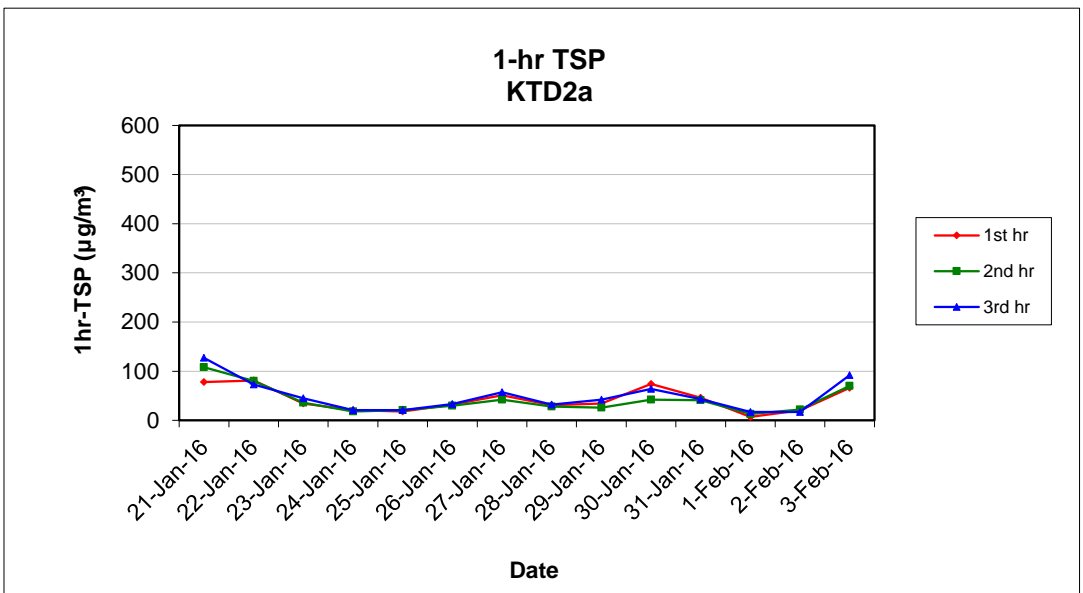
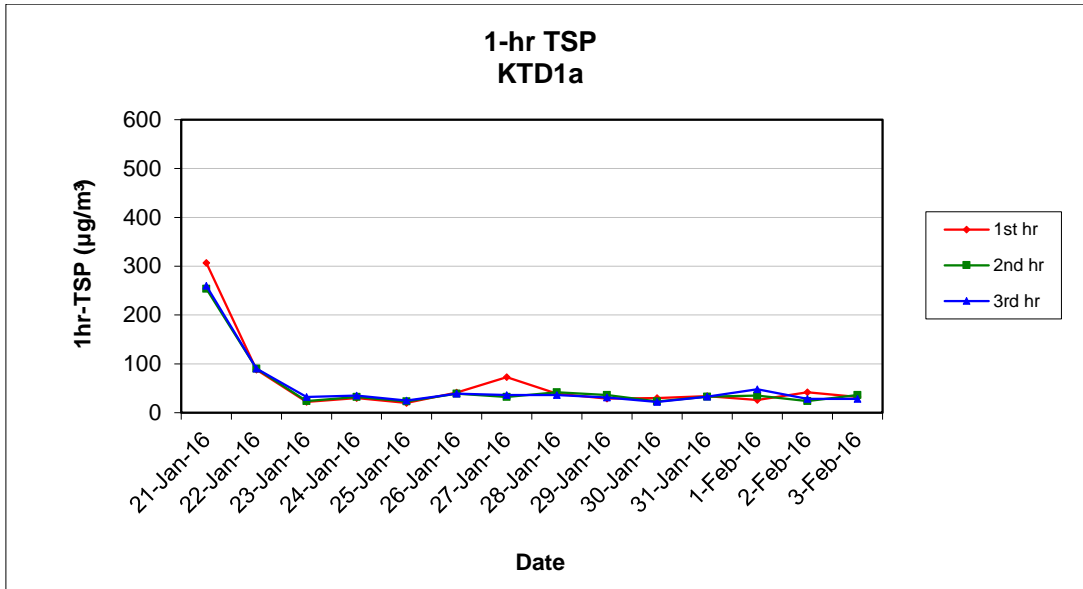
1-hour TSP ($\mu\text{g}/\text{m}^3$)					
Date	Start Time	1st hr	2nd hr	3rd hr	Weather
21-Jan-16	9:30	307	254	260	Fine
22-Jan-16	11:30	88	90	90	Rainy
23-Jan-16	9:35	22	24	32	Fine
24-Jan-16	10:20	30	32	35	Rainy
25-Jan-16	9:20	20	23	25	Sunny
26-Jan-16	13:51	41	39	39	Rainy
27-Jan-16	9:56	73	32	36	Rainy
28-Jan-16	13:59	39	42	36	Rainy
29-Jan-16	10:03	29	36	31	Rainy
30-Jan-16	10:00	30	23	22	Fine
31-Jan-16	9:19	34	33	33	Cloudy
1-Feb-16	13:59	26	35	48	Cloudy
2-Feb-16	9:55	42	24	28	Cloudy
3-Feb-16	13:58	32	36	28	Cloudy
Average		54			
Max		307			
Min		20			

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

1-hour TSP ($\mu\text{g}/\text{m}^3$)					
Date	Start Time	1st hr	2nd hr	3rd hr	Weather
21-Jan-16	12:40	78	108	127	Fine
22-Jan-16	12:05	81	80	73	Rainy
23-Jan-16	13:09	34	36	45	Fine
24-Jan-16	10:10	21	18	21	Rainy
25-Jan-16	9:05	18	21	21	Sunny
26-Jan-16	13:46	32	30	33	Rainy
27-Jan-16	9:52	51	42	57	Rainy
28-Jan-16	13:54	31	28	32	Rainy
29-Jan-16	11:25	34	26	42	Rainy
30-Jan-16	9:45	74	42	64	Fine
31-Jan-16	9:07	46	41	43	Cloudy
1-Feb-16	13:53	7	13	17	Cloudy
2-Feb-16	9:49	20	22	17	Cloudy
3-Feb-16	13:51	66	70	92	Cloudy
Average		44			
Max		127			
Min		7			

KER1a - Site Boundary ay Cheung Yip Street

1-hour TSP ($\mu\text{g}/\text{m}^3$)					
Date	Start Time	1st hr	2nd hr	3rd hr	Weather
21-Jan-16	12:30	345	387	413	Fine
22-Jan-16	15:15	69	76	78	Rainy
23-Jan-16	13:20	35	29	21	Fine
24-Jan-16	13:30	33	32	32	Rainy
25-Jan-16	12:30	20	25	29	Sunny
26-Jan-16	13:34	27	24	32	Rainy
27-Jan-16	9:41	57	27	29	Rainy
28-Jan-16	13:42	29	27	29	Rainy
29-Jan-16	9:40	80	133	42	Rainy
30-Jan-16	13:00	64	74	64	Fine
31-Jan-16	8:57	110	101	101	Cloudy
1-Feb-16	13:42	16	20	20	Cloudy
2-Feb-16	9:37	40	40	48	Cloudy
3-Feb-16	13:39	15	18	21	Cloudy
Average		69			
Max		413			
Min		15			



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24-hr TSP Monitoring

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

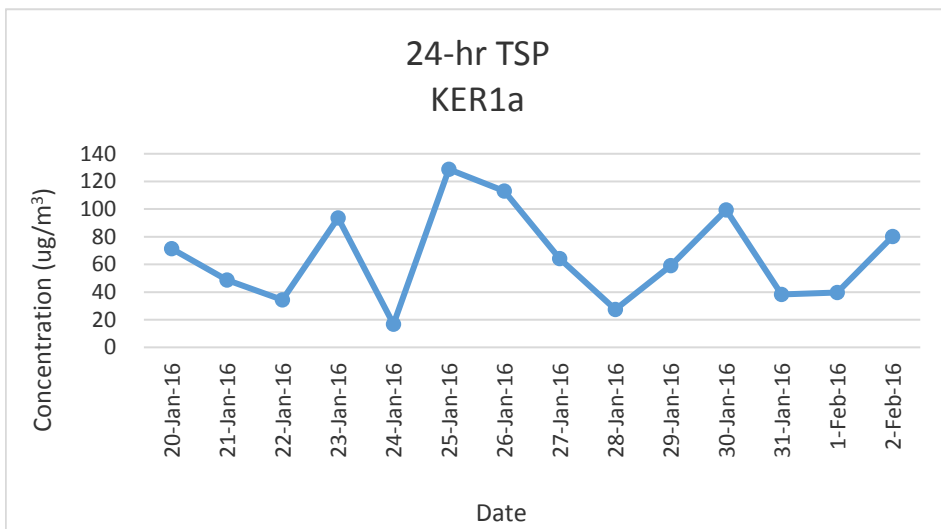
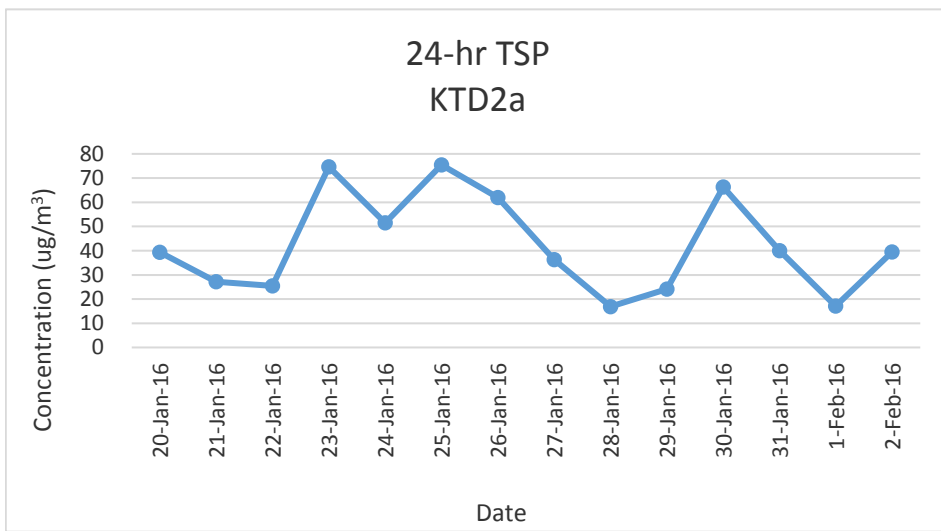
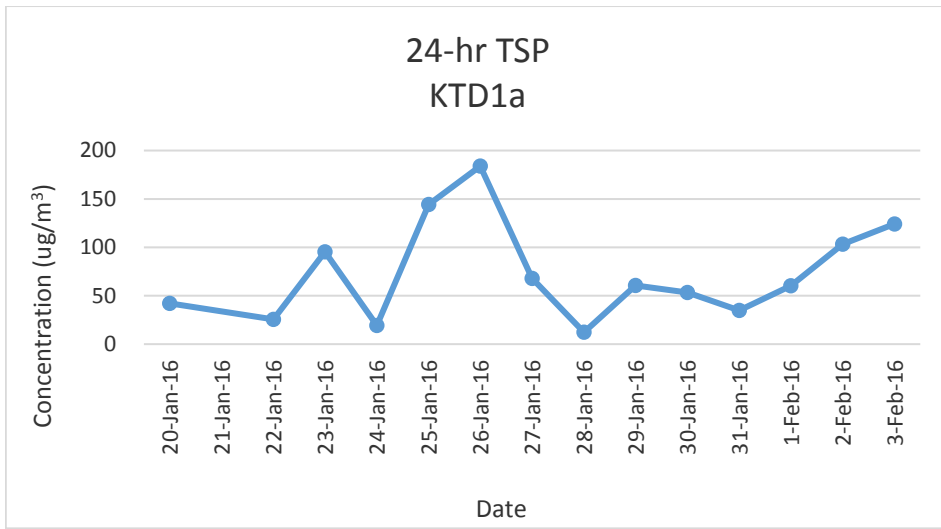
Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m ³ /min.)		Average flow (m ³ /min.)	Total volume (m ³)	Conc. (ug/m ³)
				Initial	Final			Initial	Final			
20-Jan-16	Rainy	288.5	764.8	2.6814	2.7518	0.0704	24	1.19	1.17	1.18	1672.6	42
22-Jan-16	Rainy	287.1	764.2	2.7117	2.7612	0.0495	24	1.37	1.34	1.35	1946.2	25
23-Jan-16	Fine	281.5	770.4	2.6837	2.8655	0.1818	24	1.38	1.34	1.36	1906.3	95
24-Jan-16	Rainy	277.9	766.0	2.6837	2.7195	0.0358	24	1.33	1.28	1.31	1862.5	19
25-Jan-16	Sunny	280.4	774.5	2.6886	2.9720	0.2834	24	1.39	1.34	1.36	1966.2	144
26-Jan-16	Rainy	283.4	770.4	2.6905	3.0354	0.3449	24	1.32	1.28	1.30	1875.8	184
27-Jan-16	Rainy	286.0	767.1	2.6925	2.8218	0.1293	24	1.31	1.28	1.30	1901.7	68
28-Jan-16	Rainy	289.1	763.7	2.6937	2.7165	0.0228	24	1.30	1.28	1.29	1862.9	12
29-Jan-16	Rainy	289.6	763.5	2.6983	2.8079	0.1096	24	1.30	1.28	1.29	1806.9	61
30-Jan-16	Fine	290.6	765.1	2.8575	2.9506	0.0931	24	1.25	1.23	1.24	1743.8	53
31-Jan-16	Cloudy	288.7	765.0	2.6972	2.7609	0.0637	24	1.31	1.28	1.29	1825.4	35
1-Feb-16	Cloudy	285.4	766.7	2.8627	2.9780	0.1153	24	1.31	1.34	1.33	1910.4	60
2-Feb-16	Cloudy	283.4	768.4	2.8842	3.0812	0.1970	24	1.38	1.28	1.33	1906.2	103
3-Feb-16	Cloudy	285.5	767.8	2.8695	3.1061	0.2366	24	1.32	1.28	1.30	1904.4	124
										Min		12
										Max		184
										Average		73

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m ³ /min.)		Average flow (m ³ /min.)	Total volume (m ³)	Conc. (ug/m ³)
				Initial	Final			Initial	Final			
20-Jan-16	Rainy	288.5	764.8	2.6795	2.7552	0.0757	24	1.35	1.32	1.33	1921.0	39
21-Jan-16	Fine	289.1	763.3	2.6817	2.7325	0.0508	24	1.27	1.32	1.30	1868.8	27
22-Jan-16	Rainy	287.1	764.2	2.6959	2.7449	0.0490	24	1.35	1.32	1.34	1923.7	25
23-Jan-16	Fine	281.5	770.4	2.6827	2.8316	0.1489	24	1.41	1.36	1.38	1990.6	75
24-Jan-16	Rainy	277.9	766.0	2.6750	2.7594	0.0844	24	1.16	1.11	1.13	1632.8	52
25-Jan-16	Sunny	280.4	774.5	2.6777	2.8091	0.1314	24	1.23	1.18	1.20	1731.6	75
26-Jan-16	Rainy	283.4	770.4	2.6682	2.7820	0.1138	24	1.29	1.25	1.27	1829.0	62
27-Jan-16	Rainy	286.0	767.1	2.7054	2.7642	0.0588	24	1.14	1.11	1.12	1616.5	36
28-Jan-16	Rainy	289.1	763.7	2.6895	2.7168	0.0273	24	1.13	1.11	1.12	1612.2	17
29-Jan-16	Rainy	289.6	763.5	2.6888	2.7277	0.0389	24	1.13	1.11	1.12	1611.4	24
30-Jan-16	Fine	290.6	765.1	2.8769	2.9906	0.1137	24	1.19	1.18	1.19	1709.2	66
31-Jan-16	Cloudy	288.7	765.0	2.8535	2.9243	0.0708	24	1.24	1.21	1.23	1769.1	40
1-Feb-16	Cloudy	285.4	766.7	2.8430	2.8743	0.0313	24	1.28	1.25	1.27	1822.5	17
2-Feb-16	Cloudy	283.4	768.4	2.8723	2.9447	0.0724	24	1.30	1.25	1.27	1832.6	39
										Min		17
										Max		75
										Average		42

KER1a - Site Boundary at Cheung Yip Street

Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m ³ /min.)		Average flow (m ³ /min.)	Total volume (m ³)	Conc. (ug/m ³)
				Initial	Final			Initial	Final			
20-Jan-16	Rainy	288.5	764.8	2.6789	2.7949	0.1160	24	1.14	1.12	1.13	1623.9	71
21-Jan-16	Fine	289.1	763.3	2.6830	2.7621	0.0791	24	1.14	1.12	1.13	1622.2	49
22-Jan-16	Rainy	287.1	764.2	2.6988	2.7555	0.0567	24	1.17	1.15	1.16	1648.9	34
23-Jan-16	Fine	281.5	770.4	2.6949	2.8552	0.1603	24	1.22	1.17	1.20	1712.2	94
24-Jan-16	Rainy	277.9	766.0	2.6704	2.6979	0.0275	24	1.16	1.12	1.14	1640.6	17
25-Jan-16	Sunny	280.4	774.5	2.6758	2.8916	0.2158	24	1.16	1.12	1.14	1675.7	129
26-Jan-16	Rainy	283.4	770.4	2.6844	2.8656	0.1812	24	1.15	1.12	1.14	1602.6	113
27-Jan-16	Rainy	286.0	767.1	2.7052	2.8159	0.1107	24	1.21	1.17	1.19	1724.6	64
28-Jan-16	Rainy	289.1	763.7	2.6959	2.7419	0.0460	24	1.14	1.12	1.13	1682.6	27
29-Jan-16	Rainy	289.6	763.5	2.6850	2.7807	0.0957	24	1.14	1.12	1.13	1616.8	59
30-Jan-16	Fine	290.6	765.1	2.8534	3.0273	0.1739	24	1.25	1.23	1.24	1751.5	99
31-Jan-16	Cloudy	288.7	765.0	2.6980	2.7588	0.0608	24	1.14	1.12	1.13	1590.6	38
1-Feb-16	Cloudy	285.4	766.7	2.8847	2.9530	0.0683	24	1.21	1.17	1.19	1726.7	40
2-Feb-16	Cloudy	283.4	768.4	2.8777	3.0174	0.1397	24	1.21	1.17	1.19	1740.9	80
										Min		17
										Max		129
										Average		65



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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

Appendix E

Baseline Noise Monitoring Data

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
21/1/2016	7:00	66	68	62	
21/1/2016	7:30	67	69	62	
21/1/2016	8:00	66	67	62	
21/1/2016	8:30	65	68	62	
21/1/2016	9:00	67	69	61	
21/1/2016	9:30	65	66	61	
21/1/2016	10:00	65	67	61	
21/1/2016	10:30	73	68	61	
21/1/2016	11:00	77	81	70	
21/1/2016	11:30	75	76	66	
21/1/2016	12:00	67	73	61	
21/1/2016	12:30	64	65	62	
21/1/2016	13:00	70	73	63	
21/1/2016	13:30	73	76	70	
21/1/2016	14:00	72	77	64	
21/1/2016	14:30	74	75	70	
21/1/2016	15:00	71	72	66	
21/1/2016	15:30	72	73	65	
21/1/2016	16:00	73	74	68	
21/1/2016	16:30	69	70	65	
21/1/2016	17:00		Maintenance		
21/1/2016	17:30		Maintenance		
21/1/2016	18:00	61	63	60	
21/1/2016	18:30	60	62	59	
22/1/2016	7:00	66	68	64	
22/1/2016	7:30	67	69	65	
22/1/2016	8:00	69	70	67	
22/1/2016	8:30	79	76	69	
22/1/2016	9:00	75	77	74	
22/1/2016	9:30	83	85	81	W
22/1/2016	10:00	82	83	82	W
22/1/2016	10:30	82	83	82	W
22/1/2016	11:00	82	83	81	W
22/1/2016	11:30	79	83	73	
22/1/2016	12:00		Maintenance		
22/1/2016	12:30	77	72	65	
22/1/2016	13:00	80	75	67	R
22/1/2016	13:30	80	81	74	R
22/1/2016	14:00	77	78	71	
22/1/2016	14:30	78	77	70	
22/1/2016	15:00	76	76	70	
22/1/2016	15:30	78	78	70	
22/1/2016	16:00	77	79	71	
22/1/2016	16:30	77	77	69	
22/1/2016	17:00	82	88	69	
22/1/2016	17:30	70	70	66	
22/1/2016	18:00	67	69	65	
22/1/2016	18:30	67	69	64	W
23/1/2016	7:00	62	65	59	
23/1/2016	7:30	65	66	60	
23/1/2016	8:00	72	72	61	
23/1/2016	8:30	83	84	82	
23/1/2016	9:00	83	84	82	
23/1/2016	9:30	83	84	82	
23/1/2016	10:00	83	84	83	W
23/1/2016	10:30	83	84	83	
23/1/2016	11:00	83	84	83	
23/1/2016	11:30	75	77	63	
23/1/2016	12:00	65	68	62	
23/1/2016	12:30	81	84	62	
23/1/2016	13:00	84	85	83	
23/1/2016	13:30	83	84	82	W
23/1/2016	14:00	83	84	83	W
23/1/2016	14:30	83	84	83	W
23/1/2016	15:00	81	84	65	W
23/1/2016	15:30	76	79	64	W
23/1/2016	16:00	67	69	63	W
23/1/2016	16:30	69	70	63	
23/1/2016	17:00	66	69	62	
23/1/2016	17:30	67	69	62	W

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
23/1/2016	18:00	65	67	62	W
23/1/2016	18:30	65	67	60	W
24/1/2016	7:00	58	59	53	W
24/1/2016	7:30	57	59	53	W
24/1/2016	8:00	59	60	55	W
24/1/2016	8:30	61	61	55	W
24/1/2016	9:00	63	66	55	W
24/1/2016	9:30	65	66	55	W
24/1/2016	10:00	63	66	56	W
24/1/2016	10:30	64	67	56	W
24/1/2016	11:00	64	66	56	W
24/1/2016	11:30	64	67	56	W
24/1/2016	12:00	64	67	56	W
24/1/2016	12:30	65	68	56	W
24/1/2016	13:00	65	68	56	W
24/1/2016	13:30	65	68	57	
24/1/2016	14:00	65	68	57	R
24/1/2016	14:30	67	69	56	R
24/1/2016	15:00	67	70	57	
24/1/2016	15:30	65	69	57	
24/1/2016	16:00	66	69	57	
24/1/2016	16:30	65	68	57	
24/1/2016	17:00	65	68	58	
24/1/2016	17:30	65	69	57	
24/1/2016	18:00	65	69	57	W
24/1/2016	18:30	64	68	55	W
25/1/2016	7:00	64	66	62	
25/1/2016	7:30	65	67	62	
25/1/2016	8:00	64	67	61	
25/1/2016	8:30	63	64	61	
25/1/2016	9:00	63	64	61	
25/1/2016	9:30	63	64	61	
25/1/2016	10:00	63	64	61	
25/1/2016	10:30	68	70	62	
25/1/2016	11:00	71	72	66	
25/1/2016	11:30	72	74	66	
25/1/2016	12:00	73	74	65	
25/1/2016	12:30	68	69	64	
25/1/2016	13:00	66	67	64	
25/1/2016	13:30	74	79	65	
25/1/2016	14:00	77	81	67	
25/1/2016	14:30	77	80	68	
25/1/2016	15:00	73	78	66	
25/1/2016	15:30	70	73	66	
25/1/2016	16:00	75	80	66	
25/1/2016	16:30	76	79	68	
25/1/2016	17:00	69	71	66	
25/1/2016	17:30	69	71	64	
25/1/2016	18:00	68	70	63	
25/1/2016	18:30	68	69	63	
26/1/2016	7:00	63	64	61	
26/1/2016	7:30	64	66	62	
26/1/2016	8:00	65	66	63	
26/1/2016	8:30	66	69	64	
26/1/2016	9:00	68	70	66	
26/1/2016	9:30	73	71	66	
26/1/2016	10:00	69	71	66	
26/1/2016	10:30	68	70	66	
26/1/2016	11:00	68	70	67	
26/1/2016	11:30	67	68	66	
26/1/2016	12:00	65	66	58	
26/1/2016	12:30	65	66	58	
26/1/2016	13:00	66	68	58	
26/1/2016	13:30	64	66	58	
26/1/2016	14:00	71	65	58	
26/1/2016	14:30	79	80	78	
26/1/2016	15:00	77	79	72	
26/1/2016	15:30	77	81	72	
26/1/2016	16:00	81	81	80	
26/1/2016	16:30	80	81	80	

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
26/1/2016	17:00	77	81	64	
26/1/2016	17:30	65	67	60	
26/1/2016	18:00	65	67	59	
26/1/2016	18:30	64	66	58	
27/1/2016	7:00	66	69	64	
27/1/2016	7:30	66	68	64	
27/1/2016	8:00	67	68	64	
27/1/2016	8:30	66	68	64	
27/1/2016	9:00	68	68	63	
27/1/2016	9:30	67	68	63	
27/1/2016	10:00	66	68	63	
27/1/2016	10:30	68	70	64	
27/1/2016	11:00	67	68	65	
27/1/2016	11:30	69	69	64	
27/1/2016	12:00	67	69	65	
27/1/2016	12:30	67	69	65	W
27/1/2016	13:00	67	69	65	
27/1/2016	13:30	72	73	66	
27/1/2016	14:00	69	71	66	
27/1/2016	14:30	75	77	67	
27/1/2016	15:00	73	75	67	
27/1/2016	15:30	73	77	66	
27/1/2016	16:00	70	72	66	
27/1/2016	16:30	71	72	66	
27/1/2016	17:00	69	71	65	
27/1/2016	17:30	67	68	65	
27/1/2016	18:00	67	68	64	
27/1/2016	18:30	66	68	64	
28/1/2016	7:00	65	66	61	
28/1/2016	7:30	65	66	61	
28/1/2016	8:00	64	65	60	
28/1/2016	8:30	64	66	60	
28/1/2016	9:00	65	67	60	R
28/1/2016	9:30	64	66	60	R
28/1/2016	10:00	65	67	60	R
28/1/2016	10:30	66	67	60	R
28/1/2016	11:00	64	66	59	
28/1/2016	11:30	67	70	63	
28/1/2016	12:00	64	66	62	
28/1/2016	12:30	66	69	63	
28/1/2016	13:00	78	78	66	R
28/1/2016	13:30	78	83	68	R
28/1/2016	14:00	77	81	69	
28/1/2016	14:30	81	85	69	
28/1/2016	15:00	82	85	68	
28/1/2016	15:30	81	86	69	
28/1/2016	16:00	81	85	71	
28/1/2016	16:30	82	82	67	
28/1/2016	17:00	67	70	63	
28/1/2016	17:30	65	67	62	
28/1/2016	18:00	63	66	61	
28/1/2016	18:30	63	65	62	
29/1/2016	7:00	64	65	61	
29/1/2016	7:30	65	67	63	
29/1/2016	8:00	65	67	63	
29/1/2016	8:30	69	72	64	
29/1/2016	9:00	78	77	68	
29/1/2016	9:30	87	91	71	
29/1/2016	10:00	83	85	74	
29/1/2016	10:30	83	85	77	
29/1/2016	11:00	82	85	78	R
29/1/2016	11:30	84	85	66	R
29/1/2016	12:00	66	69	60	
29/1/2016	12:30	66	68	63	
29/1/2016	13:00	82	85	66	
29/1/2016	13:30	83	86	77	
29/1/2016	14:00	85	87	78	
29/1/2016	14:30	84	87	77	
29/1/2016	15:00	83	86	73	
29/1/2016	15:30	78	79	71	

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
29/1/2016	16:00	76	78	71	
29/1/2016	16:30	74	76	70	
29/1/2016	17:00	72	74	67	
29/1/2016	17:30	69	71	62	
29/1/2016	18:00	66	69	61	
29/1/2016	18:30	66	68	61	
30/1/2016	7:00	61	63	59	
30/1/2016	7:30	64	65	60	
30/1/2016	8:00	68	67	61	
30/1/2016	8:30	81	83	68	
30/1/2016	9:00	85	86	85	
30/1/2016	9:30	85	86	85	
30/1/2016	10:00	85	86	85	
30/1/2016	10:30		Maintenance		
30/1/2016	11:00		Maintenance		
30/1/2016	11:30	76	79	65	
30/1/2016	12:00	66	68	63	
30/1/2016	12:30	67	66	62	
30/1/2016	13:00	77	79	64	
30/1/2016	13:30	78	79	77	W
30/1/2016	14:00	78	79	77	W
30/1/2016	14:30	78	79	77	W
30/1/2016	15:00	78	79	77	W
30/1/2016	15:30	78	78	77	
30/1/2016	16:00	78	79	78	
30/1/2016	16:30	78	79	78	W
30/1/2016	17:00	78	79	78	W
30/1/2016	17:30	74	79	64	
30/1/2016	18:00	66	67	62	
30/1/2016	18:30	65	67	61	
31/1/2016	7:00	61	62	60	W
31/1/2016	7:30	62	63	61	W
31/1/2016	8:00	62	64	61	W
31/1/2016	8:30	63	64	61	W
31/1/2016	9:00	63	65	61	W
31/1/2016	9:30	65	67	62	W
31/1/2016	10:00		Maintenance		W
31/1/2016	10:30	64	66	61	W
31/1/2016	11:00	65	67	61	W
31/1/2016	11:30	64	65	60	W
31/1/2016	12:00	66	66	60	W
31/1/2016	12:30	67	66	60	W
31/1/2016	13:00	65	66	61	W
31/1/2016	13:30	66	68	62	W
31/1/2016	14:00	66	68	62	W
31/1/2016	14:30	67	68	62	W
31/1/2016	15:00	66	68	62	W
31/1/2016	15:30	66	68	61	W
31/1/2016	16:00	66	68	61	W
31/1/2016	16:30	66	68	61	
31/1/2016	17:00	65	67	61	
31/1/2016	17:30	65	67	61	
31/1/2016	18:00	66	67	61	
31/1/2016	18:30	65	67	61	
1/2/2016	7:00	61	63	56	
1/2/2016	7:30	64	65	59	
1/2/2016	8:00	65	67	61	
1/2/2016	8:30	64	67	61	
1/2/2016	9:00	64	67	61	
1/2/2016	9:30	66	68	61	
1/2/2016	10:00	64	66	60	
1/2/2016	10:30	60	63	56	
1/2/2016	11:00	62	65	56	
1/2/2016	11:30	62	66	56	
1/2/2016	12:00	63	66	57	
1/2/2016	12:30	63	67	57	
1/2/2016	13:00	64	67	56	
1/2/2016	13:30	76	69	57	
1/2/2016	14:00	66	69	57	
1/2/2016	14:30	66	68	58	

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
1/2/2016	15:00	67	69	58	
1/2/2016	15:30	67	69	59	
1/2/2016	16:00	67	69	60	
1/2/2016	16:30	66	69	58	
1/2/2016	17:00	67	69	59	
1/2/2016	17:30	67	70	58	
1/2/2016	18:00	66	69	58	
1/2/2016	18:30	65	68	58	
2/2/2016	7:00	64	65	63	W
2/2/2016	7:30	64	65	63	W
2/2/2016	8:00	64	65	63	W
2/2/2016	8:30	65	67	64	W
2/2/2016	9:00	71	74	63	
2/2/2016	9:30	76	82	63	
2/2/2016	10:00	84	85	83	
2/2/2016	10:30	84	86	82	
2/2/2016	11:00	84	86	83	
2/2/2016	11:30	78	84	70	
2/2/2016	12:00	70	72	67	
2/2/2016	12:30	77	83	68	
2/2/2016	13:00	84	86	83	
2/2/2016	13:30	84	86	83	
2/2/2016	14:00	84	85	83	
2/2/2016	14:30	83	85	82	
2/2/2016	15:00	83	84	82	
2/2/2016	15:30	84	86	83	
2/2/2016	16:00	85	85	83	
2/2/2016	16:30	84	85	82	
2/2/2016	17:00	76	82	67	
2/2/2016	17:30	69	71	67	
2/2/2016	18:00	68	70	66	
2/2/2016	18:30	67	69	66	
3/2/2016	7:00	66	67	65	
3/2/2016	7:30	67	69	65	
3/2/2016	8:00	68	70	66	
3/2/2016	8:30	80	83	68	
3/2/2016	9:00	83	84	82	
3/2/2016	9:30	Maintenance			
3/2/2016	10:00	84	84	83	
3/2/2016	10:30	83	84	83	
3/2/2016	11:00	84	85	83	
3/2/2016	11:30	80	85	75	
3/2/2016	12:00	75	76	75	
3/2/2016	12:30	77	83	68	
3/2/2016	13:00	84	85	83	W
3/2/2016	13:30	85	86	83	W
3/2/2016	14:00	85	86	85	
3/2/2016	14:30	87	89	81	
3/2/2016	15:00	88	89	87	
3/2/2016	15:30	90	92	88	
3/2/2016	16:00	92	93	91	
3/2/2016	16:30	92	93	91	
3/2/2016	17:00	89	93	67	
3/2/2016	17:30	68	70	66	
3/2/2016	18:00	68	70	66	
3/2/2016	18:30	68	69	65	
4/2/2016	7:00	64	62	55	
4/2/2016	7:30	58	59	54	
4/2/2016	8:00	57	58	53	
4/2/2016	8:30	56	57	52	
4/2/2016	9:00	55	57	52	
4/2/2016	9:30	66	57	50	
4/2/2016	10:00	55	55	49	
4/2/2016	10:30	60	54	49	
4/2/2016	11:00	53	55	50	
4/2/2016	11:30	53	55	51	
4/2/2016	12:00	53	55	51	
4/2/2016	12:30	56	56	51	
4/2/2016	13:00	56	57	52	
4/2/2016	13:30	58	59	52	

KTD1a - Centre of Excellence in Paediatrics (Children's Hospital)

Measurement Period: All Days 0700-1900

Measurement Type: Façade Measurement

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
4/2/2016	14:00	64	67	55	
4/2/2016	14:30	63	67	55	
4/2/2016	15:00	65	67	55	
4/2/2016	15:30	64	67	56	
4/2/2016	16:00	64	67	56	
4/2/2016	16:30	65	66	57	
4/2/2016	17:00	63	66	57	
4/2/2016	17:30	63	65	56	
4/2/2016	18:00	61	64	55	
4/2/2016	18:30	62	65	54	
5/2/2016	7:00	59	59	52	
5/2/2016	7:30	59	57	52	
5/2/2016	8:00	59	60	53	
5/2/2016	8:30	59	60	53	
5/2/2016	9:00	61	62	55	
5/2/2016	9:30	59	61	55	
5/2/2016	10:00	65	69	57	
5/2/2016	10:30	65	68	57	
5/2/2016	11:00	66	68	58	
5/2/2016	11:30	66	69	58	
5/2/2016	12:00	66	69	59	
5/2/2016	12:30	66	69	59	W
5/2/2016	13:00	65	68	58	W
5/2/2016	13:30	65	68	56	
5/2/2016	14:00	64	68	56	
5/2/2016	14:30	62	65	55	
5/2/2016	15:00	61	62	55	
5/2/2016	15:30	62	66	53	W
5/2/2016	16:00	63	66	52	W
5/2/2016	16:30	59	60	51	W
5/2/2016	17:00	66	63	51	
5/2/2016	17:30	58	56	50	W
5/2/2016	18:00	60	59	50	
5/2/2016	18:30	64	65	50	
6/2/2016	7:00	61	62	57	
6/2/2016	7:30	64	61	56	
6/2/2016	8:00	58	60	55	
6/2/2016	8:30	59	60	56	
6/2/2016	9:00	59	61	55	
6/2/2016	9:30	60	60	55	
6/2/2016	10:00	66	68	62	
6/2/2016	10:30	66	69	61	W
6/2/2016	11:00	66	68	61	
6/2/2016	11:30	66	69	61	
6/2/2016	12:00	65	67	61	W
6/2/2016	12:30	66	68	61	W
6/2/2016	13:00	66	69	61	W
6/2/2016	13:30	65	69	60	W
6/2/2016	14:00	65	68	60	W
6/2/2016	14:30	66	68	59	W
6/2/2016	15:00	66	69	60	
6/2/2016	15:30	71	69	60	W
6/2/2016	16:00	67	69	59	W
6/2/2016	16:30	67	69	59	
6/2/2016	17:00	65	69	59	
6/2/2016	17:30	67	68	59	
6/2/2016	18:00	65	68	59	W
6/2/2016	18:30	65	67	59	

Note:

W: Period with average wind speed over 5m/s

R: Period with rain

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
Measurement Period: All Days 0700-1900
Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
21/1/2016	7:00	63	64	63	
21/1/2016	7:30	63	64	63	
21/1/2016	8:00	63	63	62	
21/1/2016	8:30	62	63	62	
21/1/2016	9:00	62	63	62	
21/1/2016	9:30	63	63	62	
21/1/2016	10:00	62	63	62	
21/1/2016	10:30	65	66	64	
21/1/2016	11:00	65	66	64	
21/1/2016	11:30	64	65	63	
21/1/2016	12:00	64	65	63	
21/1/2016	12:30	64	65	64	
21/1/2016	13:00	65	65	64	
21/1/2016	13:30	65	66	64	
21/1/2016	14:00	65	66	64	
21/1/2016	14:30	65	66	64	
21/1/2016	15:00	66	67	64	
21/1/2016	15:30	66	67	64	
21/1/2016	16:00	65	67	64	
21/1/2016	16:30	65	66	64	
21/1/2016	17:00	65	66	64	
21/1/2016	17:30	65	65	64	
21/1/2016	18:00	64	65	63	
21/1/2016	18:30	63	64	63	
22/1/2016	7:00	63	64	63	
22/1/2016	7:30	65	66	63	
22/1/2016	8:00	65	66	64	
22/1/2016	8:30	68	70	65	
22/1/2016	9:00	67	68	65	
22/1/2016	9:30	66	67	65	W
22/1/2016	10:00	65	67	64	W
22/1/2016	10:30	66	68	63	W
22/1/2016	11:00	66	67	65	W
22/1/2016	11:30	64	65	64	
22/1/2016	12:00	64	65	64	
22/1/2016	12:30	67	69	64	
22/1/2016	13:00	67	68	65	R
22/1/2016	13:30	66	68	65	R
22/1/2016	14:00	68	68	66	
22/1/2016	14:30	67	68	66	
22/1/2016	15:00	68	69	67	
22/1/2016	15:30	68	69	66	
22/1/2016	16:00	68	70	66	
22/1/2016	16:30	66	68	64	
22/1/2016	17:00	67	68	65	
22/1/2016	17:30	68	69	66	
22/1/2016	18:00	67	68	66	
22/1/2016	18:30	65	66	65	W
23/1/2016	7:00	63	64	63	
23/1/2016	7:30	66	66	64	
23/1/2016	8:00	67	68	65	
23/1/2016	8:30	66	68	65	
23/1/2016	9:00	67	68	65	
23/1/2016	9:30	68	68	65	
23/1/2016	10:00		Maintenance		W
23/1/2016	10:30	67	68	65	
23/1/2016	11:00	66	67	65	
23/1/2016	11:30	66	67	65	
23/1/2016	12:00	64	66	64	
23/1/2016	12:30	65	66	64	
23/1/2016	13:00	65	66	64	
23/1/2016	13:30	66	67	65	W
23/1/2016	14:00	66	66	65	W
23/1/2016	14:30	65	66	65	W
23/1/2016	15:00	65	66	64	W
23/1/2016	15:30	65	66	65	W
23/1/2016	16:00	66	67	65	W
23/1/2016	16:30	67	69	65	
23/1/2016	17:00	67	68	65	
23/1/2016	17:30	66	67	65	W

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
Measurement Period: All Days 0700-1900
Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
23/1/2016	18:00	66	67	65	W
23/1/2016	18:30	68	68	65	W
24/1/2016	7:00	64	65	63	W
24/1/2016	7:30	65	67	63	W
24/1/2016	8:00	67	67	63	W
24/1/2016	8:30	67	68	63	W
24/1/2016	9:00	66	68	63	W
24/1/2016	9:30	66	67	63	W
24/1/2016	10:00	67	68	63	W
24/1/2016	10:30	68	69	65	W
24/1/2016	11:00	67	69	65	W
24/1/2016	11:30	66	67	65	W
24/1/2016	12:00	66	67	64	W
24/1/2016	12:30	67	67	64	W
24/1/2016	13:00	64	65	63	W
24/1/2016	13:30	65	66	64	
24/1/2016	14:00	67	68	64	R
24/1/2016	14:30	65	66	64	R
24/1/2016	15:00	64	66	63	
24/1/2016	15:30	65	66	64	
24/1/2016	16:00	64	65	63	
24/1/2016	16:30	64	64	63	
24/1/2016	17:00	64	66	63	
24/1/2016	17:30	64	65	63	
24/1/2016	18:00	64	65	63	W
24/1/2016	18:30	65	66	64	W
24/1/2016	19:00	64	65	63	
25/1/2016	7:30	65	66	64	
25/1/2016	8:00	66	67	65	
25/1/2016	8:30	65	66	64	
25/1/2016	9:00	67	68	64	
25/1/2016	9:30	67	69	64	
25/1/2016	10:00	67	67	64	
25/1/2016	10:30	65	66	63	
25/1/2016	11:00	65	66	63	
25/1/2016	11:30	64	65	63	
25/1/2016	12:00	64	65	63	
25/1/2016	12:30	64	65	63	
25/1/2016	13:00	65	66	63	
25/1/2016	13:30	65	68	63	
25/1/2016	14:00	66	68	63	
25/1/2016	14:30	66	69	64	
25/1/2016	15:00	65	66	63	
25/1/2016	15:30	64	66	63	
25/1/2016	16:00	64	65	63	
25/1/2016	16:30	64	65	63	
25/1/2016	17:00	64	65	63	
25/1/2016	17:30	64	65	64	
25/1/2016	18:00	64	65	64	
25/1/2016	18:30	63	64	63	
26/1/2016	7:00	63	64	62	
26/1/2016	7:30	64	65	63	
26/1/2016	8:00	64	65	63	
26/1/2016	8:30	64	65	63	
26/1/2016	9:00	64	65	63	
26/1/2016	9:30	65	66	64	
26/1/2016	10:00	66	69	64	
26/1/2016	10:30	67	69	65	
26/1/2016	11:00	66	68	65	
26/1/2016	11:30	65	66	64	
26/1/2016	12:00	64	66	63	
26/1/2016	12:30	64	65	63	
26/1/2016	13:00	66	67	64	
26/1/2016	13:30	65	67	64	
26/1/2016	14:00	66	67	64	
26/1/2016	14:30	66	67	65	
26/1/2016	15:00	66	67	65	
26/1/2016	15:30	66	67	65	
26/1/2016	16:00	66	67	65	
26/1/2016	16:30	65	66	65	

KTD2a - G/I/C Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
Measurement Period: All Days 0700-1900
Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
26/1/2016	17:00	65	66	65	
26/1/2016	17:30	65	67	65	
26/1/2016	18:00	65	66	65	
26/1/2016	18:30	65	65	64	
27/1/2016	7:00	65	66	64	
27/1/2016	7:30	66	67	65	
27/1/2016	8:00	66	67	65	
27/1/2016	8:30	67	68	65	
27/1/2016	9:00	66	67	65	
27/1/2016	9:30	Maintenance			
27/1/2016	10:00	66	67	64	
27/1/2016	10:30	65	66	64	
27/1/2016	11:00	65	66	64	
27/1/2016	11:30	65	66	64	
27/1/2016	12:00	65	66	64	
27/1/2016	12:30	66	67	64	W
27/1/2016	13:00	67	68	66	
27/1/2016	13:30	66	67	65	
27/1/2016	14:00	66	67	65	
27/1/2016	14:30	65	67	64	
27/1/2016	15:00	65	66	64	
27/1/2016	15:30	65	67	64	
27/1/2016	16:00	66	67	64	
27/1/2016	16:30	65	67	64	
27/1/2016	17:00	65	67	64	
27/1/2016	17:30	65	67	64	
27/1/2016	18:00	64	65	63	
27/1/2016	18:30	63	64	63	
28/1/2016	7:00	62	63	62	
28/1/2016	7:30	63	64	62	
28/1/2016	8:00	65	66	63	
28/1/2016	8:30	64	65	63	
28/1/2016	9:00	67	68	64	R
28/1/2016	9:30	69	70	67	R
28/1/2016	10:00	69	71	66	R
28/1/2016	10:30	68	71	65	R
28/1/2016	11:00	67	68	66	
28/1/2016	11:30	66	67	66	
28/1/2016	12:00	66	67	65	
28/1/2016	12:30	67	68	65	
28/1/2016	13:00	68	70	66	R
28/1/2016	13:30	68	70	67	R
28/1/2016	14:00	67	68	66	
28/1/2016	14:30	68	69	66	
28/1/2016	15:00	67	68	66	
28/1/2016	15:30	67	68	66	
28/1/2016	16:00	67	69	66	
28/1/2016	16:30	67	68	66	
28/1/2016	17:00	67	68	66	
28/1/2016	17:30	67	68	66	
28/1/2016	18:00	65	66	65	
28/1/2016	18:30	66	67	65	
29/1/2016	7:00	65	67	64	
29/1/2016	7:30	66	67	65	
29/1/2016	8:00	67	68	66	
29/1/2016	8:30	71	74	68	
29/1/2016	9:00	68	69	67	
29/1/2016	9:30	68	71	67	
29/1/2016	10:00	75	71	66	
29/1/2016	10:30	67	69	65	
29/1/2016	11:00	67	69	65	R
29/1/2016	11:30	Maintenance			R
29/1/2016	12:00	73	66	63	
29/1/2016	12:30	64	65	62	
29/1/2016	13:00	64	66	62	
29/1/2016	13:30	64	66	63	
29/1/2016	14:00	64	66	63	
29/1/2016	14:30	63	64	62	
29/1/2016	15:00	63	64	62	
29/1/2016	15:30	63	64	62	

KTD2a - G/I/C Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)
Measurement Period: All Days 0700-1900
Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
29/1/2016	16:00	62	64	62	
29/1/2016	16:30	62	64	61	
29/1/2016	17:00	62	63	61	
29/1/2016	17:30	62	63	61	
29/1/2016	18:00	61	63	60	
29/1/2016	18:30	61	62	60	
30/1/2016	7:00	59	60	58	
30/1/2016	7:30	62	63	59	
30/1/2016	8:00	60	62	59	
30/1/2016	8:30	62	63	61	
30/1/2016	9:00	61	63	60	
30/1/2016	9:30	Maintenance			
30/1/2016	10:00	Maintenance			
30/1/2016	10:30	61	62	60	
30/1/2016	11:00	63	64	62	
30/1/2016	11:30	63	65	61	
30/1/2016	12:00	61	62	60	
30/1/2016	12:30	60	62	59	
30/1/2016	13:00	62	64	60	
30/1/2016	13:30	64	66	62	W
30/1/2016	14:00	64	66	62	W
30/1/2016	14:30	65	66	62	W
30/1/2016	15:00	65	67	63	W
30/1/2016	15:30	64	65	62	
30/1/2016	16:00	64	66	62	
30/1/2016	16:30	62	64	61	W
30/1/2016	17:00	61	62	60	W
30/1/2016	17:30	61	62	60	
30/1/2016	18:00	60	62	60	
30/1/2016	18:30	60	61	59	
31/1/2016	7:00	66	69	58	W
31/1/2016	7:30	65	68	58	W
31/1/2016	8:00	68	71	59	W
31/1/2016	8:30	69	72	59	W
31/1/2016	9:00	68	68	59	W
31/1/2016	9:30	70	73	60	W
31/1/2016	10:00	71	74	61	W
31/1/2016	10:30	73	77	61	W
31/1/2016	11:00	69	71	60	W
31/1/2016	11:30	62	64	60	W
31/1/2016	12:00	61	63	59	W
31/1/2016	12:30	60	61	59	W
31/1/2016	13:00	61	63	60	W
31/1/2016	13:30	63	65	59	W
31/1/2016	14:00	61	62	59	W
31/1/2016	14:30	65	67	60	W
31/1/2016	15:00	68	71	61	W
31/1/2016	15:30	65	67	60	W
31/1/2016	16:00	62	64	59	W
31/1/2016	16:30	61	62	59	
31/1/2016	17:00	60	61	59	
31/1/2016	17:30	60	62	59	
31/1/2016	18:00	61	62	59	
31/1/2016	18:30	60	61	58	
1/2/2016	7:00	61	62	58	
1/2/2016	7:30	61	62	59	
1/2/2016	8:00	65	63	59	
1/2/2016	8:30	62	63	60	
1/2/2016	9:00	62	63	60	
1/2/2016	9:30	68	64	60	
1/2/2016	10:00	62	63	60	
1/2/2016	10:30	62	64	61	
1/2/2016	11:00	63	64	60	
1/2/2016	11:30	61	62	60	
1/2/2016	12:00	60	61	58	
1/2/2016	12:30	60	61	58	
1/2/2016	13:00	61	62	59	
1/2/2016	13:30	61	62	60	
1/2/2016	14:00	60	62	59	
1/2/2016	14:30	62	63	60	

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
1/2/2016	15:00	61	62	60	
1/2/2016	15:30	60	62	60	
1/2/2016	16:00	61	62	60	
1/2/2016	16:30	60	61	59	
1/2/2016	17:00	60	61	59	
1/2/2016	17:30	60	61	59	
1/2/2016	18:00	60	61	59	
1/2/2016	18:30	59	60	58	
2/2/2016	7:00	58	60	56	W
2/2/2016	7:30	61	63	58	W
2/2/2016	8:00	62	63	60	W
2/2/2016	8:30	62	64	61	W
2/2/2016	9:00	62	63	62	
2/2/2016	9:30	62	63	61	
2/2/2016	10:00	62	64	61	
2/2/2016	10:30	62	63	60	
2/2/2016	11:00	61	62	60	
2/2/2016	11:30	60	62	59	
2/2/2016	12:00	60	62	59	
2/2/2016	12:30	61	62	59	
2/2/2016	13:00	62	64	61	
2/2/2016	13:30	62	64	61	
2/2/2016	14:00	62	63	60	
2/2/2016	14:30	62	63	60	
2/2/2016	15:00	61	63	60	
2/2/2016	15:30	62	63	60	
2/2/2016	16:00	61	62	60	
2/2/2016	16:30	60	62	59	
2/2/2016	17:00	60	62	59	
2/2/2016	17:30	60	62	59	
2/2/2016	18:00	60	61	58	
2/2/2016	18:30	59	61	58	
3/2/2016	7:00	58	59	57	
3/2/2016	7:30	59	61	58	
3/2/2016	8:00	60	61	59	
3/2/2016	8:30	60	62	59	
3/2/2016	9:00	61	62	59	
3/2/2016	9:30	60	62	59	
3/2/2016	10:00	60	61	59	
3/2/2016	10:30	61	62	60	
3/2/2016	11:00	60	62	59	
3/2/2016	11:30	60	61	59	
3/2/2016	12:00	60	61	59	
3/2/2016	12:30	60	62	59	
3/2/2016	13:00	60	62	59	W
3/2/2016	13:30	60	62	59	W
3/2/2016	14:00	61	62	60	
3/2/2016	14:30	61	62	60	
3/2/2016	15:00	61	62	59	
3/2/2016	15:30	60	62	59	
3/2/2016	16:00	60	61	59	
3/2/2016	16:30	60	61	59	
3/2/2016	17:00	60	61	59	
3/2/2016	17:30	60	62	59	
3/2/2016	18:00	56	57	55	
3/2/2016	18:30	57	58	56	
4/2/2016	7:00	53	54	51	
4/2/2016	7:30	53	54	51	
4/2/2016	8:00	54	56	51	
4/2/2016	8:30	55	57	52	
4/2/2016	9:00	54	56	52	
4/2/2016	9:30	55	57	53	
4/2/2016	10:00	56	58	55	
4/2/2016	10:30	58	60	57	
4/2/2016	11:00	58	60	57	
4/2/2016	11:30	59	60	57	
4/2/2016	12:00	59	60	57	
4/2/2016	12:30	59	60	58	
4/2/2016	13:00	58	60	57	
4/2/2016	13:30	57	59	56	

KTD2a - G/IC Zone next to Kwun Tong Bypass (Future Hospital at Site 3C1)

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
4/2/2016	14:00	57	58	56	
4/2/2016	14:30	56	57	55	
4/2/2016	15:00	56	58	55	
4/2/2016	15:30	56	58	55	
4/2/2016	16:00	56	58	55	
4/2/2016	16:30	57	58	56	
4/2/2016	17:00	56	58	55	
4/2/2016	17:30	57	58	56	
4/2/2016	18:00	57	59	56	
4/2/2016	18:30	56	58	55	
5/2/2016	7:00	59	60	56	
5/2/2016	7:30	60	61	58	
5/2/2016	8:00	60	61	59	
5/2/2016	8:30	61	62	59	
5/2/2016	9:00	61	63	60	
5/2/2016	9:30	61	62	59	
5/2/2016	10:00	62	64	60	
5/2/2016	10:30	61	62	59	
5/2/2016	11:00	62	63	59	
5/2/2016	11:30	61	63	59	
5/2/2016	12:00	60	62	58	
5/2/2016	12:30	61	63	59	W
5/2/2016	13:00	61	62	59	W
5/2/2016	13:30	61	62	59	
5/2/2016	14:00	61	63	59	
5/2/2016	14:30	63	65	60	
5/2/2016	15:00	61	63	60	
5/2/2016	15:30	63	64	60	W
5/2/2016	16:00	62	65	60	W
5/2/2016	16:30	63	65	60	W
5/2/2016	17:00	61	64	59	
5/2/2016	17:30	62	63	59	W
5/2/2016	18:00	60	62	59	
5/2/2016	18:30	60	61	58	
6/2/2016	7:00	56	57	54	
6/2/2016	7:30	56	56	53	
6/2/2016	8:00	55	56	53	
6/2/2016	8:30	53	54	53	
6/2/2016	9:00	53	55	52	
6/2/2016	9:30	54	55	52	
6/2/2016	10:00	54	55	52	
6/2/2016	10:30	54	55	52	W
6/2/2016	11:00	53	54	52	
6/2/2016	11:30	53	55	52	
6/2/2016	12:00	54	55	52	W
6/2/2016	12:30	55	55	53	W
6/2/2016	13:00	55	56	54	W
6/2/2016	13:30	58	60	55	W
6/2/2016	14:00	59	61	58	W
6/2/2016	14:30	59	60	58	W
6/2/2016	15:00	58	59	57	
6/2/2016	15:30	58	59	56	W
6/2/2016	16:00	57	58	56	W
6/2/2016	16:30	57	58	56	
6/2/2016	17:00	57	59	56	
6/2/2016	17:30	58	59	56	
6/2/2016	18:00	57	58	56	W
6/2/2016	18:30	57	58	56	

Note:

W: Period with average wind speed over 5m/s

R: Period with rain

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
21/1/2016	7:00	64	68	53	
21/1/2016	7:30	64	68	54	
21/1/2016	8:00	65	68	54	
21/1/2016	8:30	66	68	55	
21/1/2016	9:00	64	68	56	
21/1/2016	9:30	66	70	55	
21/1/2016	10:00	67	71	56	
21/1/2016	10:30	68	72	60	
21/1/2016	11:00	66	70	58	
21/1/2016	11:30	67	71	58	
21/1/2016	12:00	69	72	58	
21/1/2016	12:30	69	72	58	
21/1/2016	13:00	70	73	59	
21/1/2016	13:30	68	71	59	
21/1/2016	14:00	68	71	57	
21/1/2016	14:30	65	69	56	
21/1/2016	15:00	66	70	55	
21/1/2016	15:30	65	69	55	
21/1/2016	16:00	68	71	55	
21/1/2016	16:30	68	70	55	
21/1/2016	17:00	66	70	55	
21/1/2016	17:30	65	69	55	
21/1/2016	18:00	66	70	54	
21/1/2016	18:30	65	68	60	
22/1/2016	7:00	58	60	48	
22/1/2016	7:30	55	56	49	
22/1/2016	8:00	59	64	49	
22/1/2016	8:30	61	64	51	
22/1/2016	9:00	61	63	50	
22/1/2016	9:30	63	67	51	W
22/1/2016	10:00	63	66	53	W
22/1/2016	10:30	63	67	52	W
22/1/2016	11:00	64	68	51	W
22/1/2016	11:30	63	67	52	
22/1/2016	12:00	64	69	54	
22/1/2016	12:30	65	69	57	
22/1/2016	13:00	65	69	52	R
22/1/2016	13:30	65	69	52	R
22/1/2016	14:00	65	69	53	
22/1/2016	14:30	67	71	53	
22/1/2016	15:00	66	70	53	
22/1/2016	15:30	66	70	53	
22/1/2016	16:00	65	69	53	
22/1/2016	16:30	66	69	53	
22/1/2016	17:00	66	70	53	
22/1/2016	17:30	64	69	53	
22/1/2016	18:00	65	69	52	
22/1/2016	18:30	64	68	52	W
23/1/2016	7:00	67	69	59	
23/1/2016	7:30	67	69	59	
23/1/2016	8:00	64	68	58	
23/1/2016	8:30	64	66	58	
23/1/2016	9:00	63	65	57	
23/1/2016	9:30	58	60	48	
23/1/2016	10:00	58	58	48	W
23/1/2016	10:30	59	55	45	
23/1/2016	11:00	55	55	45	
23/1/2016	11:30	61	63	50	
23/1/2016	12:00	59	63	50	
23/1/2016	12:30	60	63	51	
23/1/2016	13:00	61	64	50	
23/1/2016	13:30	59	62	48	W
23/1/2016	14:00	62	66	51	W
23/1/2016	14:30	62	65	51	W
23/1/2016	15:00	62	66	51	W
23/1/2016	15:30	62	67	51	W
23/1/2016	16:00	62	66	50	W
23/1/2016	16:30	62	66	53	
23/1/2016	17:00	60	65	50	
23/1/2016	17:30	61	66	50	W

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
23/1/2016	18:00	62	65	51	W
23/1/2016	18:30	58	62	50	W
24/1/2016	7:00	52	52	47	W
24/1/2016	7:30	55	56	48	W
24/1/2016	8:00	55	52	48	W
24/1/2016	8:30	56	55	48	W
24/1/2016	9:00	57	58	49	W
24/1/2016	9:30	57	58	50	W
24/1/2016	10:00	58	61	51	W
24/1/2016	10:30	59	62	50	W
24/1/2016	11:00	60	64	51	W
24/1/2016	11:30	61	66	51	W
24/1/2016	12:00	61	65	50	W
24/1/2016	12:30	62	67	51	W
24/1/2016	13:00	63	67	51	W
24/1/2016	13:30	65	68	51	
24/1/2016	14:00	63	67	51	R
24/1/2016	14:30	65	68	52	R
24/1/2016	15:00	66	68	54	
24/1/2016	15:30	65	68	54	
24/1/2016	16:00	64	67	55	
24/1/2016	16:30	64	67	54	
24/1/2016	17:00	65	68	53	
24/1/2016	17:30	63	67	52	
24/1/2016	18:00	63	67	51	W
24/1/2016	18:30	62	66	51	W
25/1/2016	7:00	63	67	51	
25/1/2016	7:30	64	68	51	
25/1/2016	8:00	62	66	51	
25/1/2016	8:30	62	66	51	
25/1/2016	9:00	64	68	51	
25/1/2016	9:30	63	67	51	
25/1/2016	10:00	62	66	52	
25/1/2016	10:30	63	66	53	
25/1/2016	11:00	63	66	52	
25/1/2016	11:30	67	70	55	
25/1/2016	12:00	75	75	59	
25/1/2016	12:30	70	71	60	
25/1/2016	13:00	66	70	55	
25/1/2016	13:30	63	68	53	
25/1/2016	14:00	63	66	56	
25/1/2016	14:30	59	56	50	
25/1/2016	15:00	62	57	46	
25/1/2016	15:30	51	50	47	
25/1/2016	16:00	63	62	47	
25/1/2016	16:30	63	67	52	
25/1/2016	17:00	63	67	56	
25/1/2016	17:30	59	62	49	
25/1/2016	18:00	58	61	49	
25/1/2016	18:30	58	59	50	
26/1/2016	7:00	62	64	59	
26/1/2016	7:30	61	63	56	
26/1/2016	8:00	63	66	57	
26/1/2016	8:30	63	66	57	
26/1/2016	9:00	64	66	60	
26/1/2016	9:30	64	65	61	
26/1/2016	10:00	62	65	53	
26/1/2016	10:30	54	54	53	
26/1/2016	11:00	54	54	53	
26/1/2016	11:30	60	63	53	
26/1/2016	12:00	59	63	54	
26/1/2016	12:30	61	65	55	
26/1/2016	13:00	65	68	56	
26/1/2016	13:30	61	64	56	
26/1/2016	14:00	63	66	56	
26/1/2016	14:30	64	66	55	
26/1/2016	15:00	61	64	55	
26/1/2016	15:30	60	63	55	
26/1/2016	16:00	61	64	55	
26/1/2016	16:30	60	62	54	

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
26/1/2016	17:00	59	62	54	
26/1/2016	17:30	60	63	55	
26/1/2016	18:00	63	64	55	
26/1/2016	18:30	60	64	56	
27/1/2016	7:00	62	64	57	
27/1/2016	7:30	62	64	57	
27/1/2016	8:00	64	66	60	
27/1/2016	8:30	61	64	56	
27/1/2016	9:00	63	65	57	
27/1/2016	9:30	57	56	55	
27/1/2016	10:00	56	56	54	
27/1/2016	10:30	56	57	55	
27/1/2016	11:00	57	56	54	
27/1/2016	11:30	61	63	54	
27/1/2016	12:00	63	65	59	
27/1/2016	12:30	60	62	56	W
27/1/2016	13:00	65	70	58	
27/1/2016	13:30	61	65	56	
27/1/2016	14:00	62	65	55	
27/1/2016	14:30	62	64	55	
27/1/2016	15:00	60	63	55	
27/1/2016	15:30	59	62	55	
27/1/2016	16:00	61	63	55	
27/1/2016	16:30	60	62	54	
27/1/2016	17:00	60	62	54	
27/1/2016	17:30	60	64	55	
27/1/2016	18:00	62	65	55	
27/1/2016	18:30	60	62	55	
28/1/2016	7:00	65	68	57	
28/1/2016	7:30	61	65	54	
28/1/2016	8:00	65	67	59	
28/1/2016	8:30	64	66	62	
28/1/2016	9:00	66	65	63	R
28/1/2016	9:30	62	64	59	R
28/1/2016	10:00	56	56	53	R
28/1/2016	10:30	55	55	53	R
28/1/2016	11:00	56	55	53	
28/1/2016	11:30	61	64	54	
28/1/2016	12:00	61	64	54	
28/1/2016	12:30	62	65	56	
28/1/2016	13:00	61	64	55	R
28/1/2016	13:30	60	65	55	R
28/1/2016	14:00	63	66	54	
28/1/2016	14:30	61	64	54	
28/1/2016	15:00	61	65	54	
28/1/2016	15:30	60	63	54	
28/1/2016	16:00	61	64	54	
28/1/2016	16:30	61	65	53	
28/1/2016	17:00	60	62	53	
28/1/2016	17:30	62	64	54	
28/1/2016	18:00	60	61	53	
28/1/2016	18:30	59	61	53	
29/1/2016	7:00	62	64	56	
29/1/2016	7:30	64	66	58	
29/1/2016	8:00	63	66	58	
29/1/2016	8:30	66	64	55	
29/1/2016	9:00	62	62	59	
29/1/2016	9:30	65	61	46	
29/1/2016	10:00	61	64	54	
29/1/2016	10:30	68	71	56	
29/1/2016	11:00	67	70	55	R
29/1/2016	11:30	69	72	55	R
29/1/2016	12:00	71	73	58	
29/1/2016	12:30	Maintenance			
29/1/2016	13:00	68	71	62	
29/1/2016	13:30	69	72	62	
29/1/2016	14:00	70	73	64	
29/1/2016	14:30	69	72	62	
29/1/2016	15:00	69	72	62	
29/1/2016	15:30	68	71	61	

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
29/1/2016	16:00	68	71	61	
29/1/2016	16:30	67	71	62	
29/1/2016	17:00	66	69	60	
29/1/2016	17:30	68	68	59	
29/1/2016	18:00	65	68	59	
29/1/2016	18:30	65	68	58	
30/1/2016	7:00	66	68	62	
30/1/2016	7:30	64	67	56	
30/1/2016	8:00	62	66	57	
30/1/2016	8:30	63	66	58	
30/1/2016	9:00	67	68	60	
30/1/2016	9:30	79	85	61	
30/1/2016	10:00	65	69	60	
30/1/2016	10:30	66	69	59	
30/1/2016	11:00	66	68	61	
30/1/2016	11:30	64	67	60	
30/1/2016	12:00	66	69	58	
30/1/2016	12:30	63	67	57	
30/1/2016	13:00	65	68	59	
30/1/2016	13:30	66	69	59	W
30/1/2016	14:00	66	70	60	W
30/1/2016	14:30	71	71	62	W
30/1/2016	15:00	67	70	61	W
30/1/2016	15:30	66	69	61	
30/1/2016	16:00	66	69	60	
30/1/2016	16:30	66	69	60	W
30/1/2016	17:00	65	68	58	W
30/1/2016	17:30	64	68	59	
30/1/2016	18:00	64	68	58	
30/1/2016	18:30	64	67	56	
31/1/2016	7:00	61	63	55	W
31/1/2016	7:30	60	63	55	W
31/1/2016	8:00	60	63	55	W
31/1/2016	8:30	61	64	56	W
31/1/2016	9:00	63	66	56	W
31/1/2016	9:30	63	67	57	W
31/1/2016	10:00	64	67	56	W
31/1/2016	10:30	63	66	56	W
31/1/2016	11:00	65	68	57	W
31/1/2016	11:30	63	66	55	W
31/1/2016	12:00	66	67	55	W
31/1/2016	12:30	63	66	56	W
31/1/2016	13:00	63	66	56	W
31/1/2016	13:30	63	67	56	W
31/1/2016	14:00	64	67	56	W
31/1/2016	14:30	64	68	56	W
31/1/2016	15:00	66	70	57	W
31/1/2016	15:30	66	70	57	W
31/1/2016	16:00	64	67	56	W
31/1/2016	16:30	64	68	56	
31/1/2016	17:00	63	66	55	
31/1/2016	17:30	63	66	55	
31/1/2016	18:00	63	66	55	
31/1/2016	18:30	63	66	54	
1/2/2016	7:00	60	63	55	
1/2/2016	7:30	62	66	56	
1/2/2016	8:00	64	68	56	
1/2/2016	8:30	64	68	59	
1/2/2016	9:00	65	68	59	
1/2/2016	9:30	65	68	60	
1/2/2016	10:00	Maintenance			
1/2/2016	10:30	69	73	61	
1/2/2016	11:00	69	72	61	
1/2/2016	11:30	67	70	62	
1/2/2016	12:00	68	70	60	
1/2/2016	12:30	66	69	59	
1/2/2016	13:00	67	70	60	
1/2/2016	13:30	67	71	61	
1/2/2016	14:00	66	69	62	
1/2/2016	14:30	69	71	62	

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
1/2/2016	15:00	66	69	61	
1/2/2016	15:30	66	69	61	
1/2/2016	16:00	67	70	61	
1/2/2016	16:30	68	71	61	
1/2/2016	17:00	68	72	60	
1/2/2016	17:30	64	68	60	
1/2/2016	18:00	64	67	59	
1/2/2016	18:30	64	66	57	
2/2/2016	7:00	62	65	56	W
2/2/2016	7:30	62	66	57	W
2/2/2016	8:00	64	68	57	W
2/2/2016	8:30	66	70	59	W
2/2/2016	9:00	66	69	60	
2/2/2016	9:30	67	70	60	
2/2/2016	10:00	68	71	61	
2/2/2016	10:30	67	70	61	
2/2/2016	11:00	66	69	61	
2/2/2016	11:30	66	68	59	
2/2/2016	12:00	66	69	59	
2/2/2016	12:30	65	68	58	
2/2/2016	13:00	65	68	60	
2/2/2016	13:30	66	69	60	
2/2/2016	14:00	65	68	60	
2/2/2016	14:30	65	68	60	
2/2/2016	15:00	65	68	59	
2/2/2016	15:30	64	67	59	
2/2/2016	16:00	64	67	58	
2/2/2016	16:30	64	67	59	
2/2/2016	17:00	64	67	58	
2/2/2016	17:30	64	66	58	
2/2/2016	18:00	63	66	58	
2/2/2016	18:30	61	64	55	
3/2/2016	7:00	60	62	55	
3/2/2016	7:30	62	65	56	
3/2/2016	8:00	63	67	56	
3/2/2016	8:30	63	67	58	
3/2/2016	9:00	63	67	58	
3/2/2016	9:30	65	68	60	
3/2/2016	10:00	65	69	60	
3/2/2016	10:30	66	69	61	
3/2/2016	11:00	65	68	60	
3/2/2016	11:30	65	68	59	
3/2/2016	12:00	65	68	58	
3/2/2016	12:30	64	67	58	
3/2/2016	13:00	64	67	60	W
3/2/2016	13:30	66	69	59	W
3/2/2016	14:00	65	68	60	
3/2/2016	14:30	65	68	60	
3/2/2016	15:00	65	68	61	
3/2/2016	15:30	65	68	60	
3/2/2016	16:00	64	67	59	
3/2/2016	16:30	64	67	60	
3/2/2016	17:00	65	68	59	
3/2/2016	17:30	65	68	59	
3/2/2016	18:00	64	68	59	
3/2/2016	18:30	63	67	57	
4/2/2016	7:00	57	62	51	
4/2/2016	7:30	60	63	49	
4/2/2016	8:00	60	63	47	
4/2/2016	8:30	55	57	46	
4/2/2016	9:00	52	51	46	
4/2/2016	9:30	54	54	47	
4/2/2016	10:00	56	59	47	
4/2/2016	10:30	57	58	48	
4/2/2016	11:00	58	61	48	
4/2/2016	11:30	61	65	50	
4/2/2016	12:00	63	65	57	
4/2/2016	12:30	62	65	56	
4/2/2016	13:00	63	66	59	
4/2/2016	13:30	63	65	55	

KER1a - Site Boundary av Cheung Yip Street

Measurement Period: All Days 0700-1900

Measurement Type: Free Field Measurement (+3 dB(A) correction made)

Data	Start Time	Leq(30mins) dB(A)	L10 dB(A)	L90 dB(A)	Remarks
4/2/2016	14:00	64	65	58	
4/2/2016	14:30	57	59	53	
4/2/2016	15:00	56	56	53	
4/2/2016	15:30	53	54	52	
4/2/2016	16:00	57	56	52	
4/2/2016	16:30	62	65	52	
4/2/2016	17:00	63	65	57	
4/2/2016	17:30	66	69	64	
4/2/2016	18:00	65	69	61	
4/2/2016	18:30	64	65	61	
5/2/2016	7:00	60	62	56	
5/2/2016	7:30	62	64	56	
5/2/2016	8:00	62	66	55	
5/2/2016	8:30	65	67	61	
5/2/2016	9:00	61	64	55	
5/2/2016	9:30	62	64	55	
5/2/2016	10:00	55	55	52	
5/2/2016	10:30	54	54	52	
5/2/2016	11:00	53	53	52	
5/2/2016	11:30	62	64	53	
5/2/2016	12:00	60	62	54	
5/2/2016	12:30	60	64	54	W
5/2/2016	13:00	65	67	61	W
5/2/2016	13:30	61	63	57	
5/2/2016	14:00	62	65	57	
5/2/2016	14:30	61	64	57	
5/2/2016	15:00	62	64	57	
5/2/2016	15:30	60	62	56	W
5/2/2016	16:00	61	64	56	W
5/2/2016	16:30	61	62	55	W
5/2/2016	17:00	59	62	55	
5/2/2016	17:30	60	62	55	W
5/2/2016	18:00	62	63	56	
5/2/2016	18:30	68	63	61	
6/2/2016	7:00	64	66	56	
6/2/2016	7:30	64	67	55	
6/2/2016	8:00	66	69	60	
6/2/2016	8:30	64	67	61	
6/2/2016	9:00	64	67	57	
6/2/2016	9:30	57	59	54	
6/2/2016	10:00	55	54	53	
6/2/2016	10:30	62	63	53	W
6/2/2016	11:00	60	62	53	
6/2/2016	11:30	62	63	54	
6/2/2016	12:00	64	65	60	W
6/2/2016	12:30	64	65	62	W
6/2/2016	13:00	67	69	65	W
6/2/2016	13:30	67	68	65	W
6/2/2016	14:00	63	67	55	W
6/2/2016	14:30	63	66	55	W
6/2/2016	15:00	63	66	55	
6/2/2016	15:30	63	66	57	W
6/2/2016	16:00	64	67	55	W
6/2/2016	16:30	63	67	54	
6/2/2016	17:00	64	67	55	
6/2/2016	17:30	64	67	56	
6/2/2016	18:00	64	67	54	W
6/2/2016	18:30	63	64	54	

Note:

W: Period with average wind speed over 5m/s

R: Period with rain

MATERIALAB CONSULTANTS LIMITED

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The logo for MaterialLab, featuring the word "MaterialLab" in a bold, sans-serif font. The text is centered between two thick, horizontal black bars.

Appendix F

Weather and Meteorological Conditions during Baseline Monitoring Period

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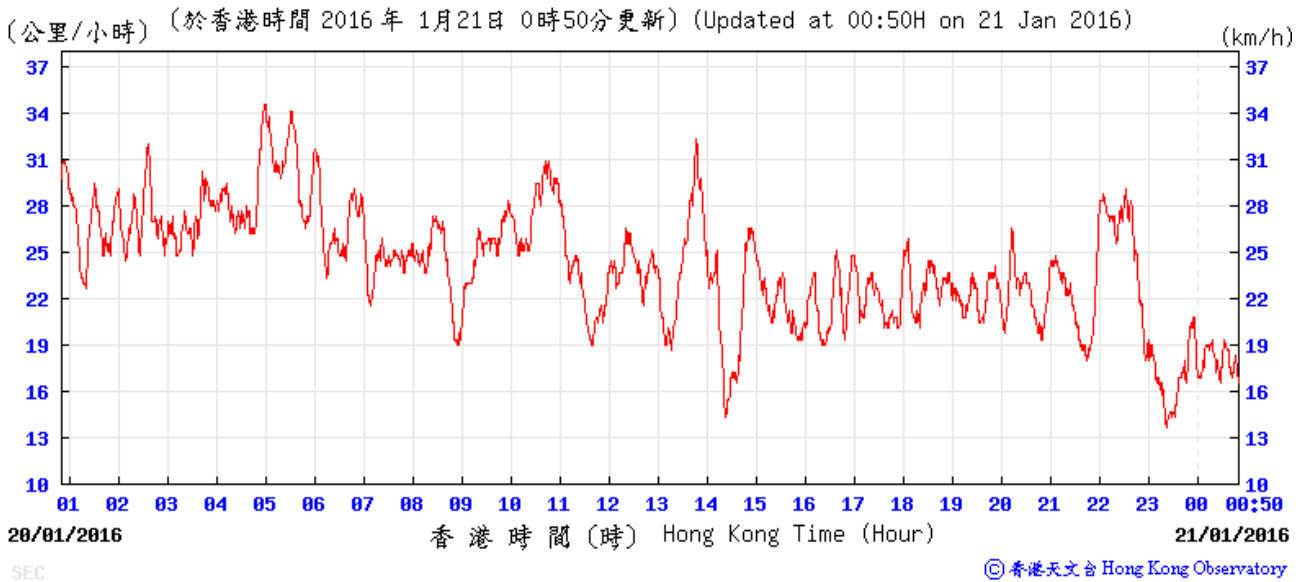
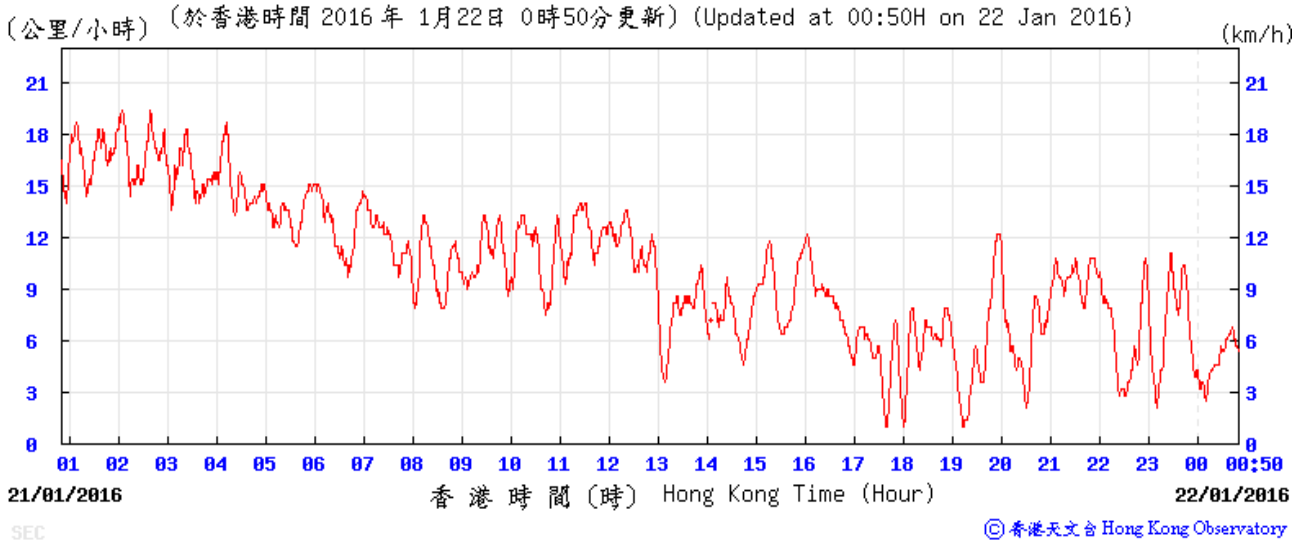


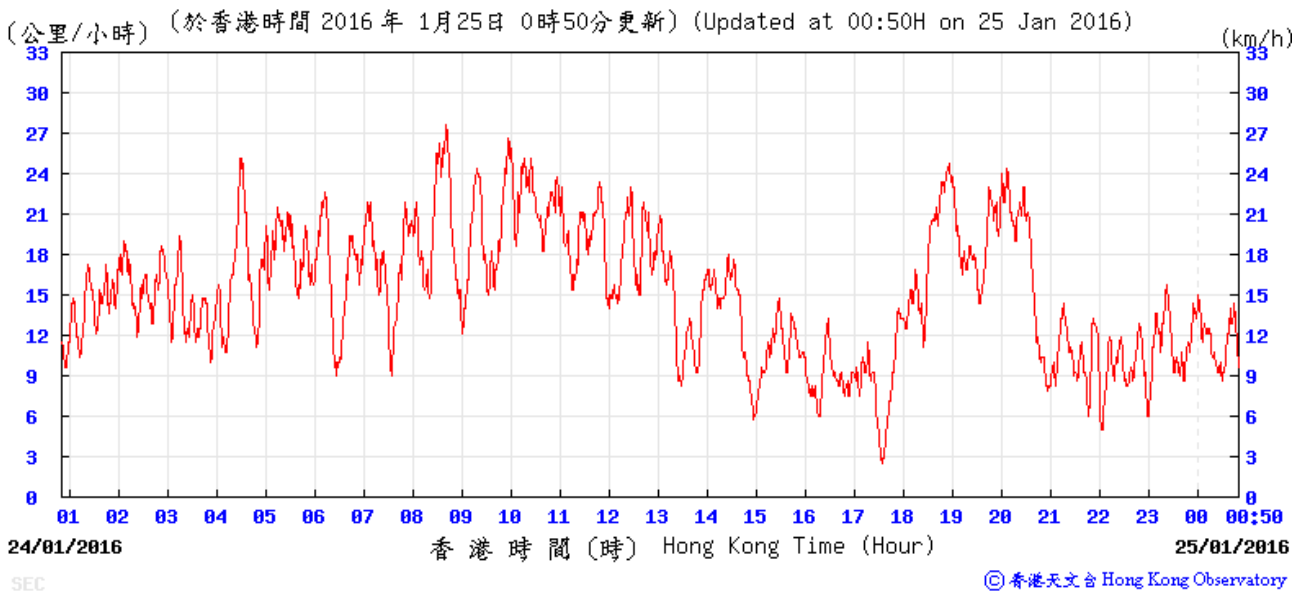
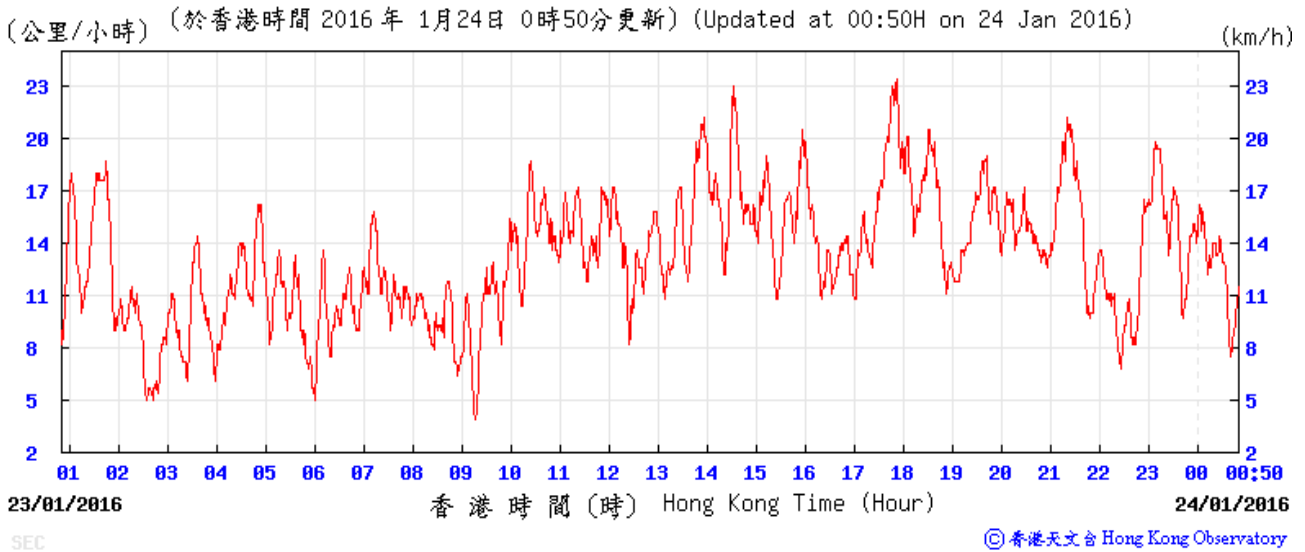
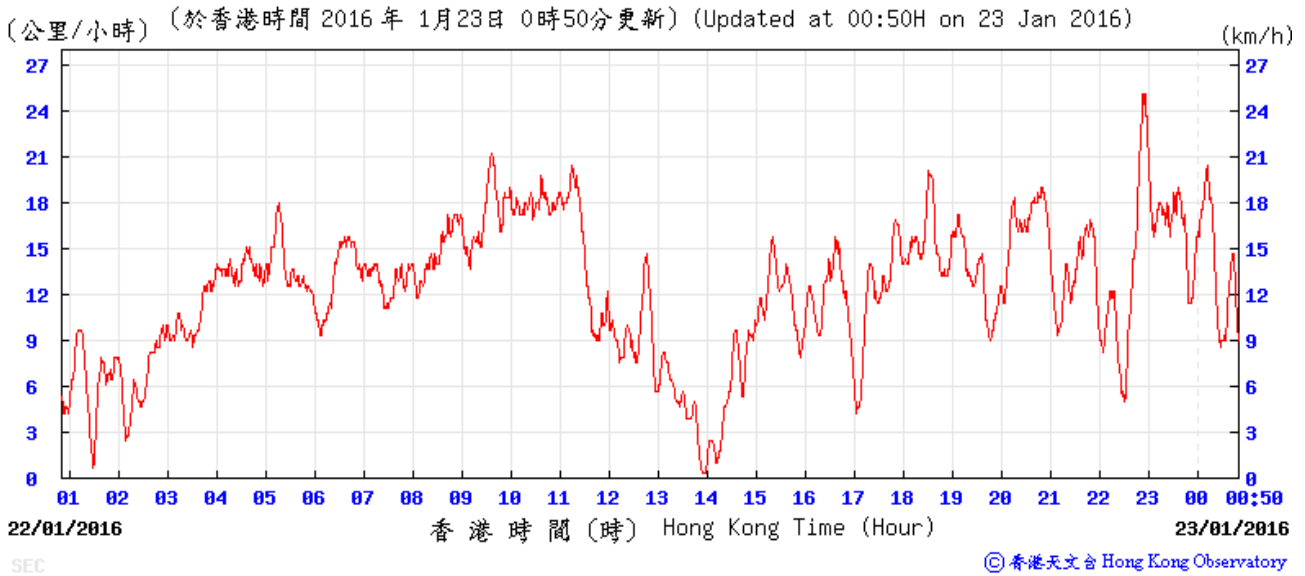
Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
January 2016						
20	1019.6	16.8	15.5	14.8	90	3.3
21	1017.7	17.1	16.1	15.1	95	0.1
22	1018.9	16.2	14.1	10.3	92	12.9
23	1027.1	10.4	8.5	7	70	0.5
24	1034.6	7.1	4.9	3.1	61	4
25	1032.6	10.8	7.4	4.3	46	0
26	1027.1	13.5	10.4	8.1	59	Trace
27	1022.7	15.3	13	9.8	92	3.5
28	1018.2	17.4	16.1	14.8	98	42.5
29	1017.9	17.4	16.6	15.9	96	32.8
30	1020	19.9	17.6	16.2	88	0
31	1019.9	16.2	15.7	15.3	86	0.3
February 2016						
1	1022.2	15.6	12.4	10.7	93	11.3
2	1024.4	11.2	10.4	9.4	79	Trace
3	1023.6	14.3	12.5	10.3	77	Trace
4	1021.8	18.8	15.2	13.3	76	0
5	1021.2	18.6	14.8	12.3	66	0
6	1024.9	17.4	13.6	11.2	39	0

Source: Hong Kong Observatory – Hong Kong Observatory

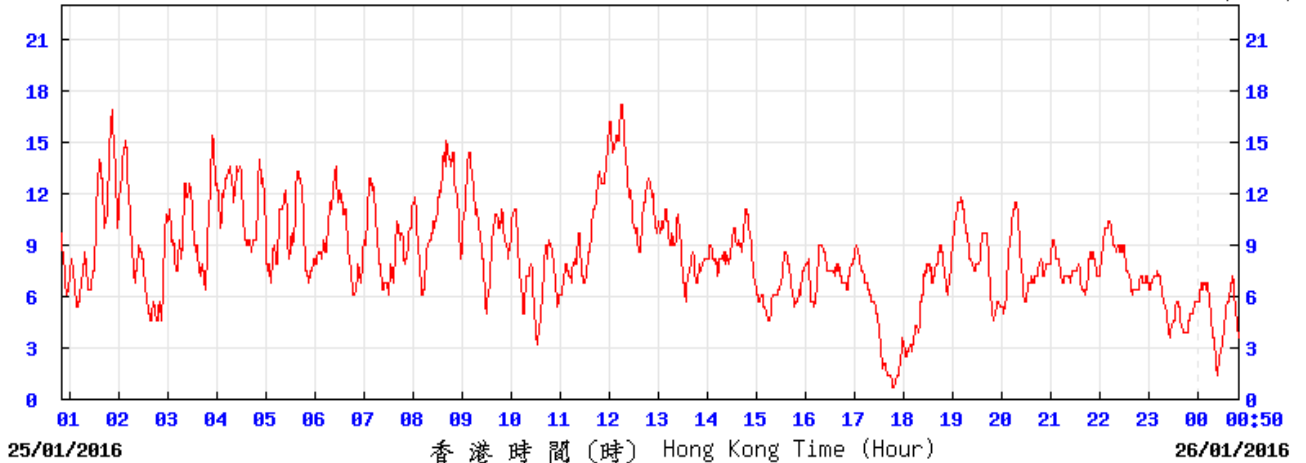
Wind Speed and Wind Direction Data by Hong Kong Observatory – Kai Tak

Elevation of station: 3m above mean sea level
Elevation of Anemometer: 16m above mean sea level





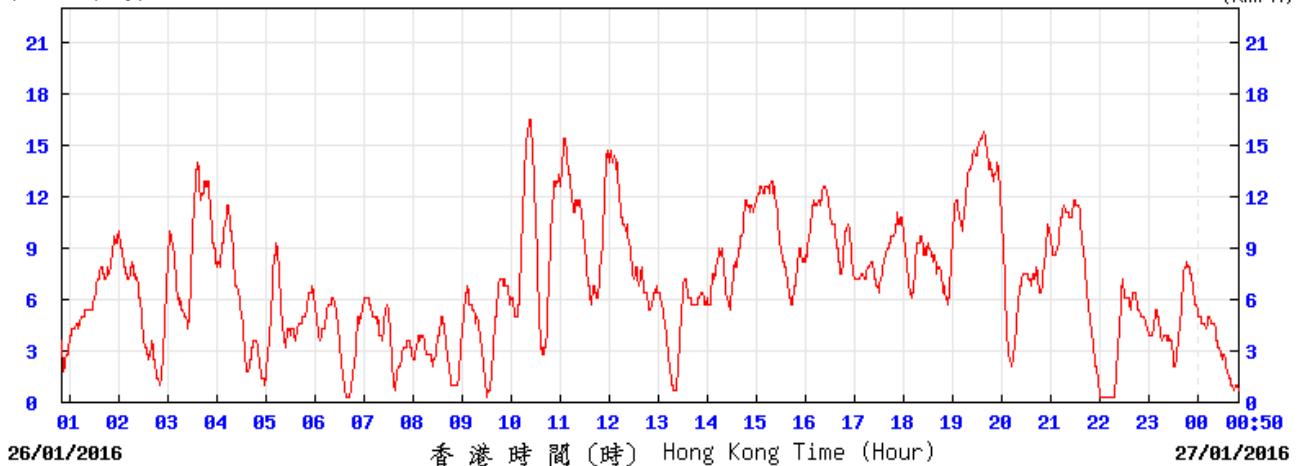
(公里/小時) (於香港時間 2016 年 1月26日 0時50分更新) (Updated at 00:50H on 26 Jan 2016) (km/h)



SEC

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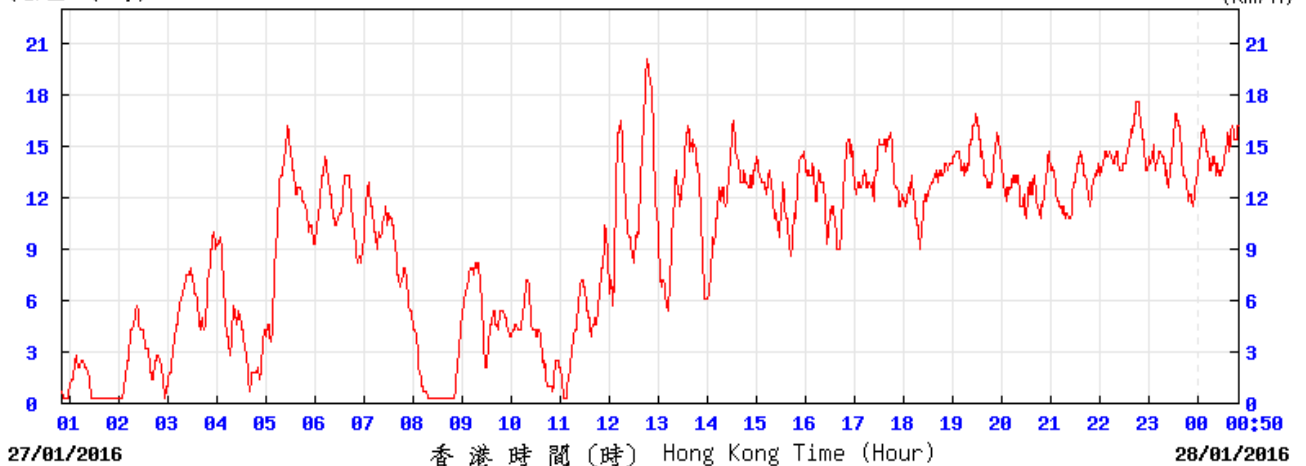
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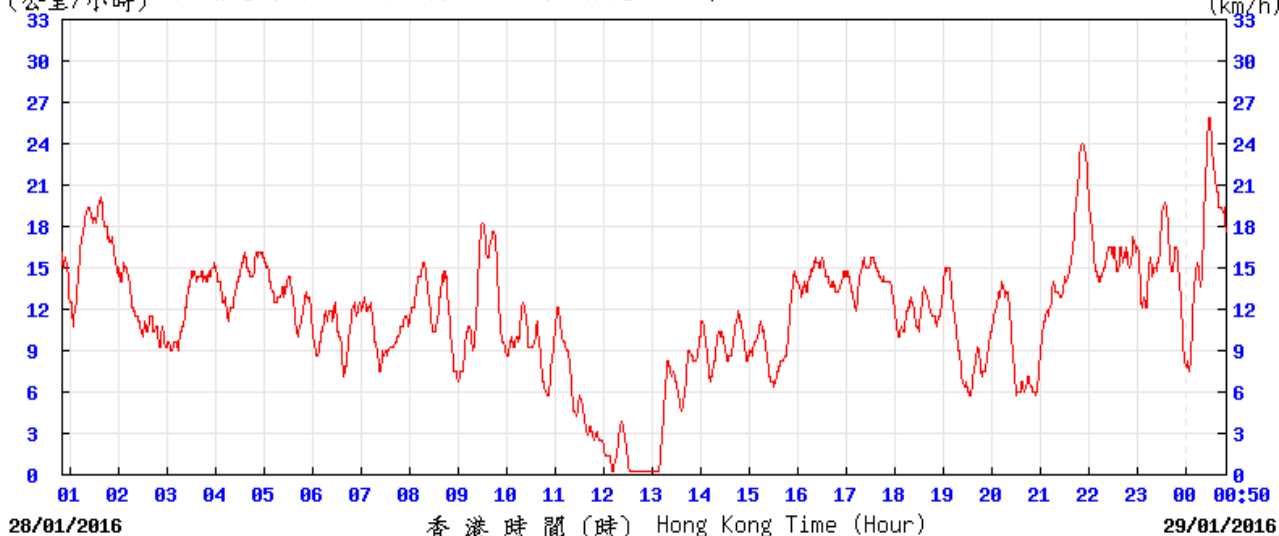
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SEC

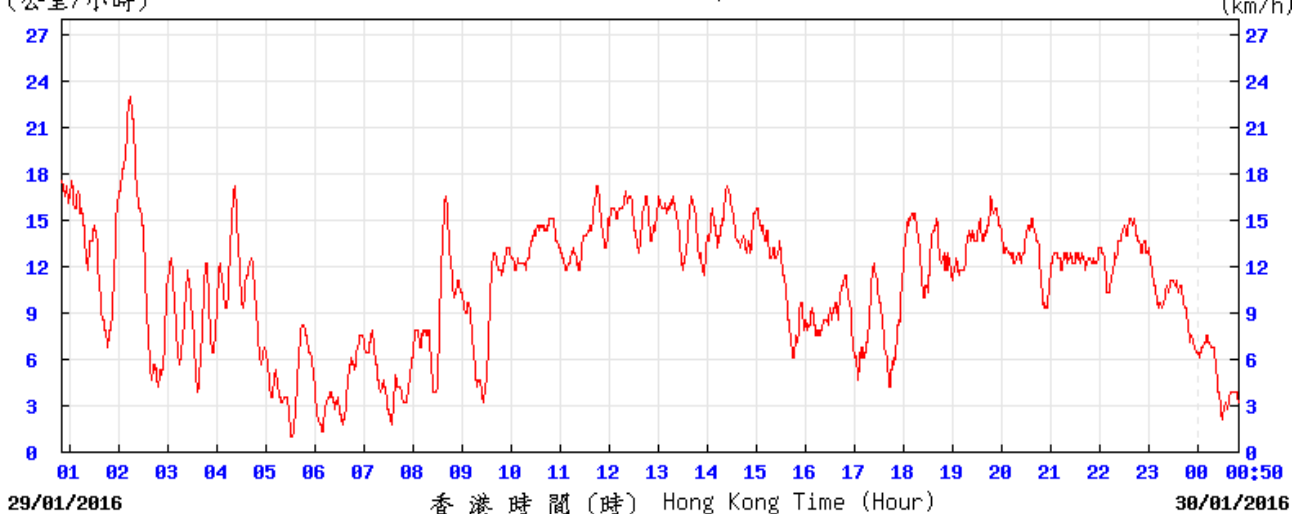
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(公里/小時) (於香港時間 2016 年 1 月 29 日 0 時 50 分更新) (Updated at 00:50H on 29 Jan 2016)



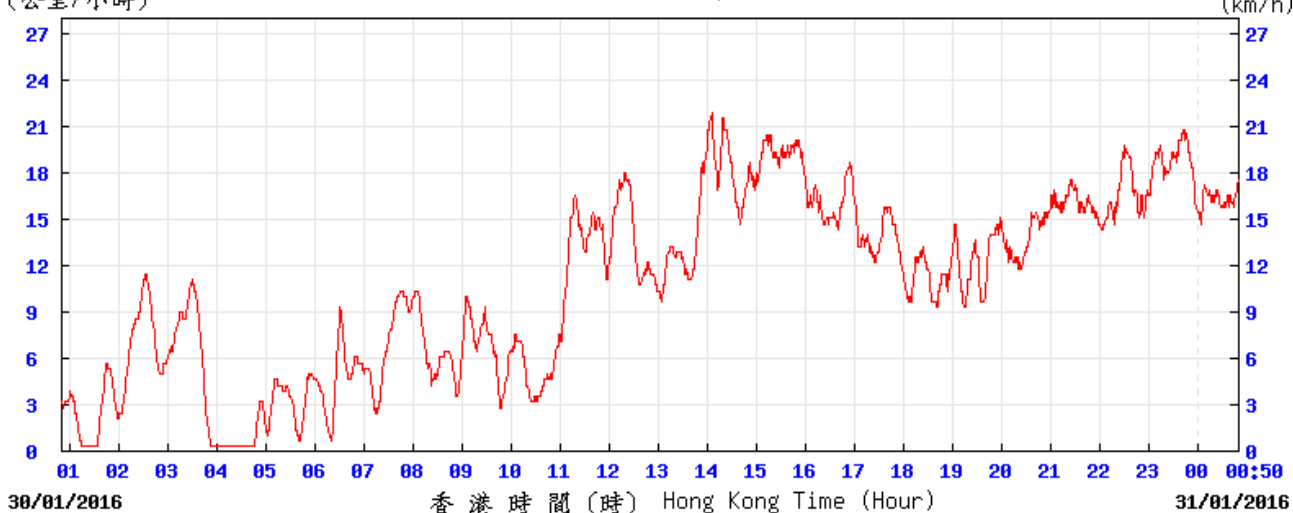
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(公里/小時) (於香港時間 2016 年 1 月 30 日 0 時 50 分更新) (Updated at 00:50H on 30 Jan 2016)



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(公里/小時) (於香港時間 2016 年 1 月 31 日 0 時 50 分更新) (Updated at 00:50H on 31 Jan 2016)



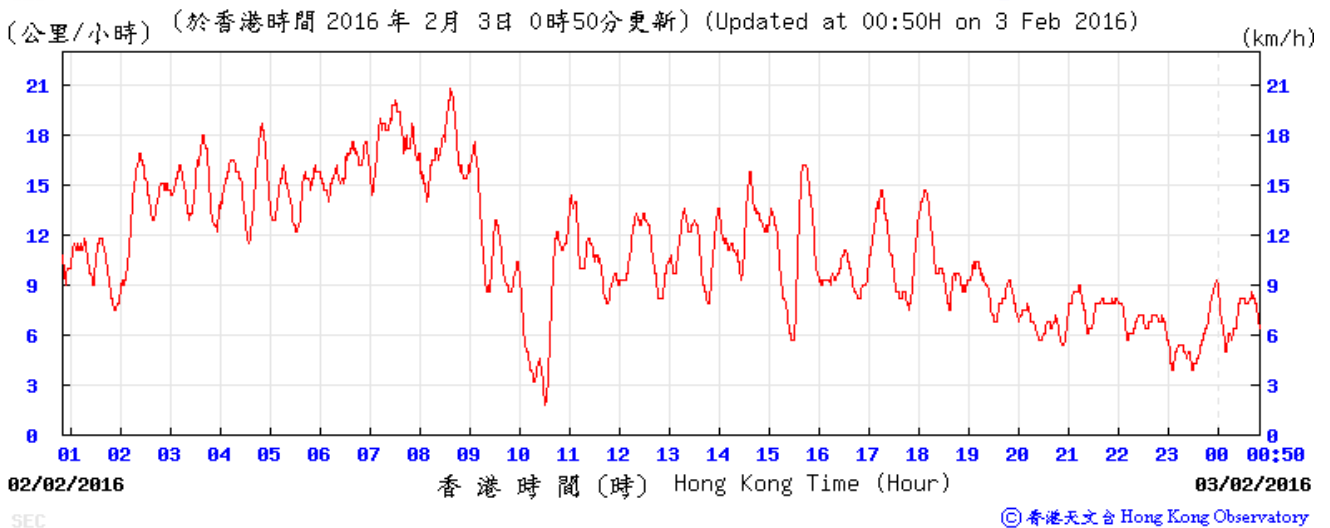
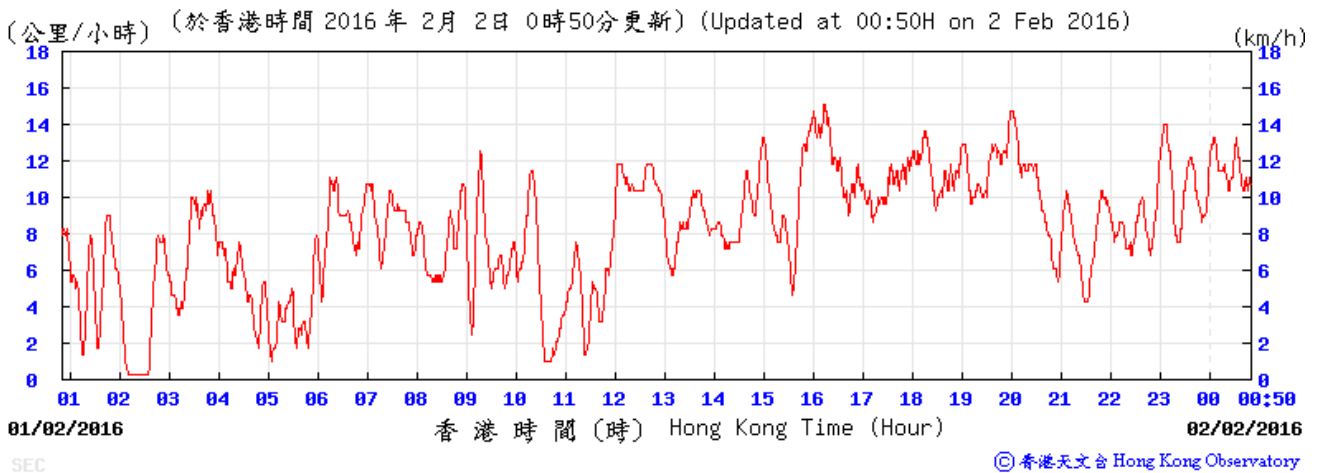
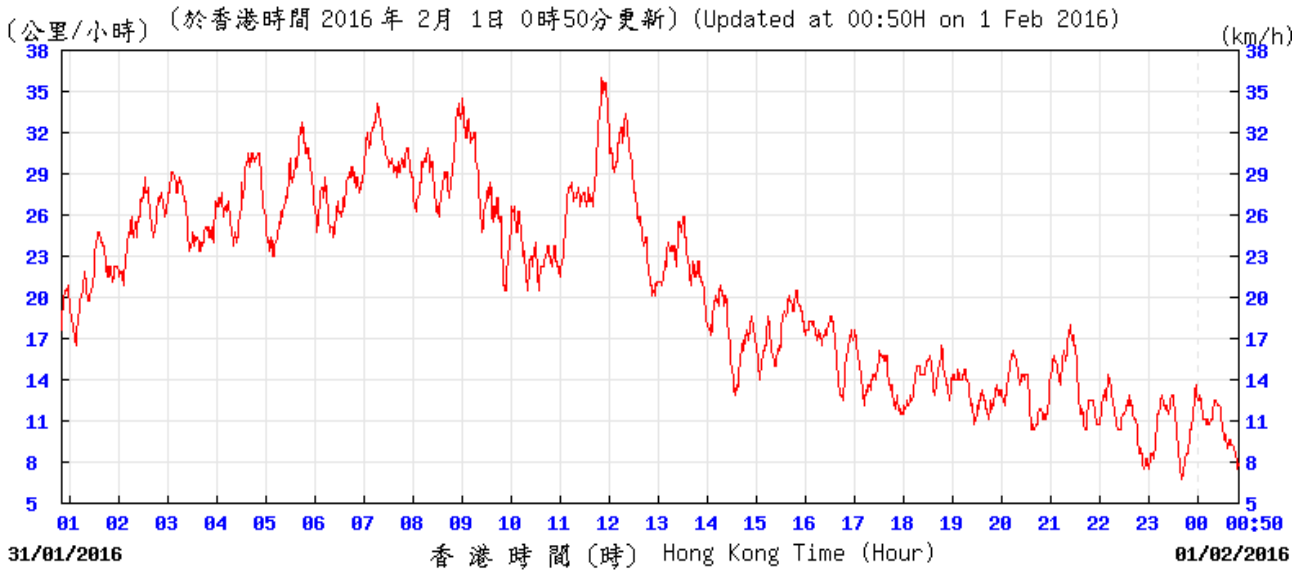
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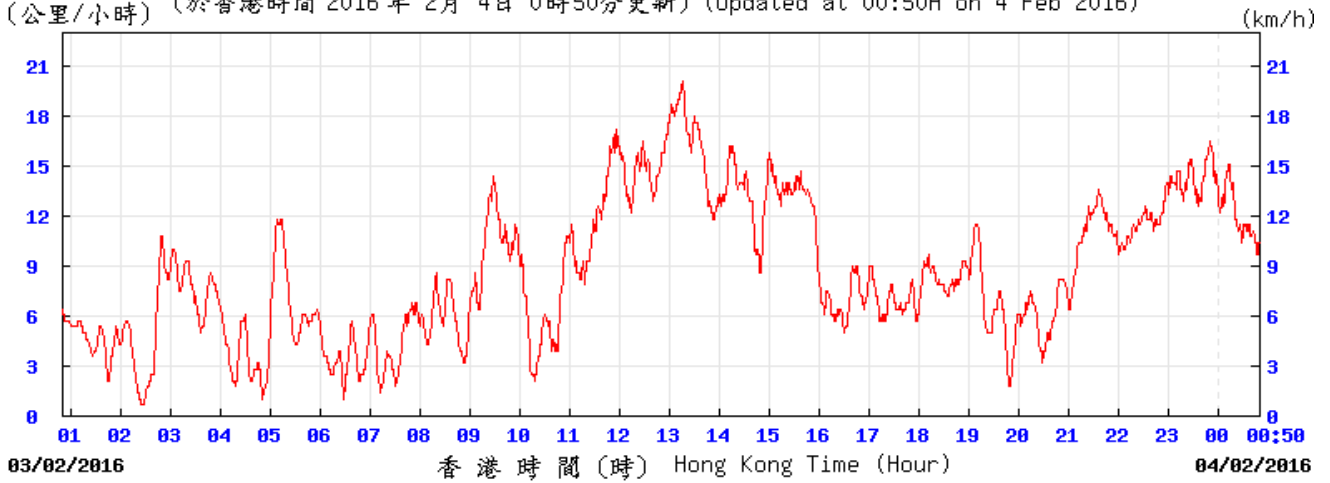
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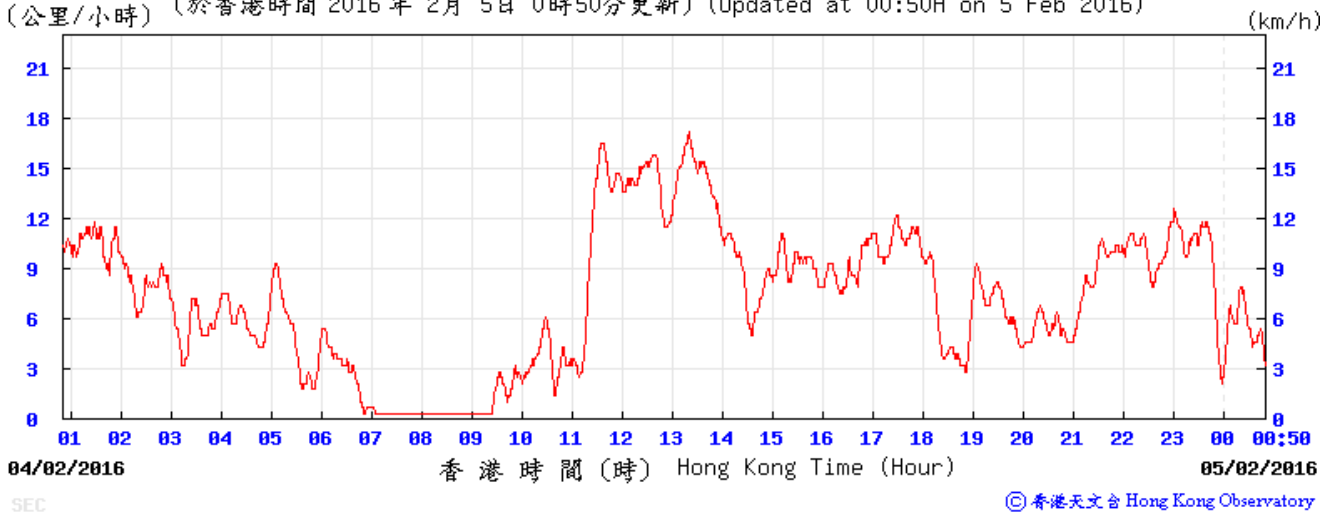
MaterialLab



(公里/小時) (於香港時間 2016 年 2 月 4 日 0時50分更新) (Updated at 00:50H on 4 Feb 2016)



(公里/小時) (於香港時間 2016 年 2 月 5 日 0時50分更新) (Updated at 00:50H on 5 Feb 2016)



(公里/小時) (於香港時間 2016 年 2 月 6 日 0時50分更新) (Updated at 00:50H on 6 Feb 2016)

