CONTRACT NO: HY/2020/08

FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD UNDER ENVIRONMENTAL PERMIT NO. EP-541/2017/A

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

APRIL 2022

CLIENTS:

Highways Department

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DATE:

11 May 2022

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Date: 13th May 2022

Highways Department
Works Division
Works Section / NT
7th Floor, Trade and Industry Tower,
3 Concorde Road, Kowloon

Dear Sirs,

Contract No. HY/2020/08
Flyover From Kwai Tsing Interchange Upramp to Kwai Chung Road
Independent Environmental Checker

Monthly Environmental Monitoring and Audit Report for April 2022

We refer to the Contract No. HY/2020/08 Flyover From Kwai Tsing Interchange Upramp to Kwai Chung Road under Environmental Permit No. EP-541/2017/A Monthly Environmental Monitoring and Audit Report certified by the Environmental Team. We hereby verified the Monthly Environmental Monitoring and Audit Report for April 2022 in accordance with the Condition 3.4 of EP-541/2017/A.

Should you have any query, please feel free to contact the undersigned at 2877 3122 (vegawong@nt.com.hk).

Yours Sincerely,
For and on behalf of
Nature & Technologies (HK) Limited

Vega Wong
Independent Environmental Checker
c.c.
WSP (Attn: Mr. Stephen Ho/Mr. Eric Hon) [by Email: Stephen.YC.Ho@wsp.com; Eric.Hon@wsp.com]
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EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – April 2022 of Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road under Environmental Permit no. EP-541/2017/A (Hereafter as "the Project"). The construction works of the Project was commenced on 20 September 2021. This is the 8th EM&A report presenting the environmental monitoring findings and information recorded during the period of 01 April 2022 to 30 April 2022. The cut-off date of reporting is at the end of each reporting month.

ii. In the reporting month, the principal work activities conducted are as follow:

- Tree transplant & preservation works
- Diversion of existing drain pipe & utilities in conflict with pile cap H2 before piling works
- Piling works for Bridge H & G
- Construction of pile caps for Footbridge
- Pile load test for the completed pile
- GI predrill works prior to piling works for Bridge H

Air Quality Monitoring

iii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted at three monitoring stations. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 day in the reporting month.

iv. Due to electricity interruption from 29 April 2022 to 05 May 2022, the 24hr TSP monitoring at AMC02 – Fung King House on 29 April 2022 was rescheduled to 06 May 2022.

v. No action or limit level exceedance was recorded in this reporting period.

Noise Monitoring

vi. Noise monitoring was conducted at three noise monitoring stations once per week in the reporting month.

vii. No action or limit level exceedance was recorded in this reporting period.

Site Inspections and Audit

viii. The Environmental Team (ET) conducted weekly site inspections on 07, 14, 19 and 28 April 2022 and biweekly landscape inspection on 14 and 28 April 2022. IEC attended the joint site inspection on 19 April 2022. No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

ix. No environmental complaint, notification of summons and successful prosecution regarding the construction works was recorded in the reporting period.

Reporting Changes

x. There are no particular reporting changes.

Future Key Issues

xi. In coming reporting 3 months, the scheduled construction activities and the recommended mitigation measures are listed as follows:

Key Construction Works	Recommended Mitigation Measures
• Tree transplant & preservation works • Diversion of existing drain pipe & utilities in conflict with pile cap H2 before piling works • Piling works for Bridge G & H • Pile load test for the completed pile • Construction of pile caps for Footbridge • Construction of Lift Tower, Pier & Staircase for Footbridge	• Regular maintenance and protection of all existing trees to be retained or transplanted • Implement proper measures to prevent silt or debris being deposited or washed into existing drainage systems • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system

1 Introduction

1.1 Scope of the Report

1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) under Environmental Permit (EP) no. EP-541/2017/A to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road (Register No.: AEIAR-190/2015).

1.1.2. In accordance with Clause 3.4 stated in EP-541/2017/A, 3 hard copies and 3 electronic copies of Monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of each reporting month.

1.1.3. According to Section 10.3.1 of the Project EM&A Manual, the Monthly EM&A Report should be submitted within 10 working days of the end of each reporting month, with the first report due in the month after construction commences.

1.2 Structure of the Report

Section 1 ***Introduction*** – details the scope and structure of the report.

Section 2 ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.

Section 4 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.

Section 5 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 6 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 7 **Environmental Site Audit** – summarizes the findings of weekly site

inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 8 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 9 ***Conclusion***

2 Project Background

2.1 Background

2.1.1. In order to cater the future traffic growth and prevent traffic congestion in the future during peak traffic flow hour at Tsuen Wan Road (TWR) near Kwai Tsing Interchange (KT I/C), an additional southbound lane (a separate viaduct) is introduced on TWR and connected to the existing lane on the west side of Kwai Chung Road (KCR). Widening of existing carriageway is also proposed to improve the road section to cope with the future traffic growth.

2.1.2. Based on the current design, the remaining capacity available on the two segregated KCR carriageways will be utilised for this proposed flyover. Location and layout of the proposed road works is shown in ***Figure 1.1***.

2.1.3. The Project consists of a designated project under Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) which is Item A.8 – *A road or railway bridge more than 100m in length between abutments*.

2.1.4. The major components of the Project under Environmental Permit (EP) (EP No. EP-541/2017/A) comprises: (i) an additional southbound lane from the west side of elevated Tsuen Wan Road to at-graded Kwai Chung Road; (ii) a widened section on the east side of elevated Tsuen Wan Road connecting Kwai Tsing Interchange upramp; (iii) modification of Kwai Chung Road; (iv) provision of noise mitigation measures; (v) demolition and re-provision of the existing footbridge NF303; and (vi) ancillary works including other associated road works, utilities diversion, street furniture and traffic aids, public lighting, drainage, landscaping, electrical and mechanical works.

2.2 Project Organization and Contact Personnel

2.2.1 Highways Department is the overall project controllers for the Project. For the construction phase of the Project, Project Engineer / Supervisor, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.2.2 The project organization and lines of communication with respect to environmental protection works are shown in ***Figure 2.1.*** Key personnel and contact particulars are summarized in ***Table 2.1***:

Table 2.1 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
Highways Department (HyD)	Project Proponent	Chief Engineer	Mr. Vincent Wong	3903 6888	3188 3418
WSP (Asia) Limited	Supervisor's Representative	Resident Engineer	Mr. Eric Hon	2320 2012	2320 2166
Peako Engineering Co. Limited	Contractor	Site Agent	Mr. TS Lam	2398 8001	2398 8301
		Deputy Site Agent	Mr. SH Shea		
		Deputy Construction Manager / Environmental Officer	Mr. CY Wong		
Nature & Technologies (HK) Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. Vega Wong	2877 3122	2511 0922
Lam Environmental Services Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.3 Construction Activities

2.3.1 In the reporting month, the principal work activities conducted are as follow.

- Tree transplant & preservation works
- Diversion of existing drain pipe & utilities in conflict with pile cap H2 before piling works
- Piling works for Bridge H & G
- Construction of pile caps for Footbridge
- Pile load test for the completed pile
- GI predrill works prior to piling works for Bridge H

2.3.2 In coming reporting 3 months, the scheduled construction activities are listed as follows:

- Tree transplant & preservation works
- Diversion of existing drain pipe & utilities in conflict with pile cap H2 before piling works
- Piling works for Bridge G & H

- Pile load test for the completed pile
- Construction of pile caps for Footbridge
- Construction of Lift Tower, Pier & Staircase for Footbridge

3 Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in ***Table 3.1***.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	Acknowledged by EPD on 21 June 2021.			
WPCO Discharge Licence	WT00040637-2022	25 Mar 2022	N/A	Valid
Environmental Permit	EP-541/2017/A	19 Nov 2020	N/A	Valid
Billing Account for Disposal of Construction Waste	7040908	14 July 2021	End of the Project	Valid
Registration as a Chemical Waste Producer	8834-326-P3431-01	08 July 2021	N/A	Valid
Water Pollution Ordinance Licence	Under liaison with EPD Regional Office			
Construction Noise Permit	N/A			

3.1.2. Implementation status of the recommended mitigation measures during this report month is presented in ***Appendix 3.1***.

3.2 Status of Submission under the EP-541/2017/A

3.2.1. A summary of the current status on submission under EP-541/2017/A is shown in ***Table 3.2***.

Table 3.2 Summary of submission status under EP-541/2017/A

EP Condition	Submission	Date of First Submission	Date of Latest Submission
Condition 1.12	Notification of Commencement Date of Works	27 July 2021	26 August 2021
Condition 2.3	Submission of Management Organization of Main Construction Companies	2 July 2021	4 May 2022
Condition 2.4	Submission of Landscape Plan	26 July 2021	4 May 2022
Condition 2.5	Submission of Traffic Noise Mitigation Plan	26 July 2021	23 February 2022
Condition 3.3	Submission of Baseline Monitoring Report	6 September 2021	28 January 2022

4 Monitoring Requirements

4.2 Noise Monitoring

NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 4.1*** and ***Figure 4.1.*** ***Appendix 4.1*** shows the established Action/Limit Levels for environmental monitoring.

Table 4.1 Noise Monitoring Station

Monitoring Station ID	Noise Sensitive Receivers	Measurement Type	Monitoring Location
NMC01	Lai King Catholic Secondary School	Free-Field	Roof Floor
NMC02	Fung King House	Free-Field	Roof Floor
NMC03	HKEAA-Lai King Assessment Centre	Free-Field	Ground Floor

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.2. For daytime construction work on normal weekdays (0700-1900 Monday to Saturday), one set of 30-min measurement shall be carried out at each NMS every week. Measurement procedures shall be referred to the Noise Control Ordinance-TM. Construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ 30min}$ shall be used as the monitoring parameter. As supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

MONITORING EQUIPMENT

4.1.3. Noise monitoring was performed using sound level meter at the designated monitoring locations. The sound level meters shall comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator shall be deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in ***Table 4.2***.

Table 4.2 Noise Monitoring Equipment

Equipment	Brand/Model	Series Number
Integrated Sound Level Meter	LxT1	0004797
Acoustic Calibrator	HLES-02	2019612534

4.1.4. The calibration certificates of the noise monitoring equipment are attached in ***Appendix 4.2.***

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.1.5. Monitoring Procedure

(a) The monitoring station shall normally be at a point 1m from the exterior of the sensitive

receiver's building façade and be at a position 1.2m above the ground.

(b) Façade measurements were made at the monitoring locations. For free-field measurement, a correction factor of +3 dB (A) would be applied.

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

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

(e) Frequency weighting: A, Time weighting: Fast, Measurement time set: continuous 5 mins

(f) Prior and after to the noise measurement, the meter was checked using the acoustic calibrator for 94dB (A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than ±1 dB (A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.

4.1.6. Maintenance and Calibration

(a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.

(b) The sound level meter and calibrator were calibrated at yearly intervals.

CONSTRUCTION NOISE LEVEL

4.1.1. The construction noise level refers the corrected noise level based on the calculated difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied and the Construction Noise Level would be indicated as below baseline noise level (<BL).

EVENT AND ACTION PLAN

4.1.7. Noise Standards for Daytime Construction Activities are specified under EIAO-TM. The Action and Limit levels for construction noise are defined in ***Table 4.3*** and ***Appendix 4.1***. Should non-compliance of the criteria occurs, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.3 Action and Limit Level for Noise Monitoring

Monitoring Station	Action Level	Limit Level (dB(A))		
		0700-1900 hrs on normal weekdays	0700-2300 hrs on holidays (including Sundays); and 1900-2300 hrs on all days[2]	2300-0700 hrs of all days
NMC01	When one documented complaint is received	65 / 70[1]	60 / 65 / 70[3]	45 / 50 / 55[3]
NMC02		75		45 / 50 / 55[3]
NMC03		65 / 70[1]		45 / 50 / 55[3]

Remark 1: Limit level of NMC01 and NMC03 reduce to 65 dB (A) during examination periods if any.
Remark 2: Construction noise during restricted hours is under the control of Noise Control Ordinance Limit Level to be selected based on Area Sensitivity Rating.
Remark 3: Limit Level for restricted hour monitoring shall act as reference level only. Investigation would be conducted on CNP compliance if exceedance recorded during restricted hour noise monitoring period.

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

4.2.1. The air monitoring stations for the Project are listed and shown in ***Table 4.4*** and ***Figure 4.2***. ***Appendix 4.1*** shows the established Action/Limit Levels for environmental monitoring.

Table 4.4 Air Quality Monitoring Station

Monitoring Station	Air Sensitive Receivers	Monitoring Location
AMC01	Lai King Catholic Secondary School	Roof Floor
AMC02	Fung King House	Roof Floor
AMC03A[1]	Ming King House	Roof Floor

Remark 1: Due to limited location access, lack of power supply and land availability problem for setting up air quality monitoring stations at HKEAA-Lai King Assessment Centre (AMC03) under EM&A manual, alternative monitoring location at Ming King House was proposed in accordance with Section 2.5.3 of the EM&A manual and proposal for alternative monitoring location was submitted to EPD for approval.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality.

4.2.3. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 days when the highest dust impact takes place.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

4.2.4. 24-hour TSP Measuring Installation (HVS)

(a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS.
(b) No furnace or incinerator flues were nearby.
(c) Airflow around the sampler was unrestricted
(d) 0.6 - 1.7 m^3 per minute adjustable flow range
(e) Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
(f) Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
(g) Equipped with a shelter to protect the filter and sampler;
(h) Capable of operating continuously for a 24-hour period.

4.2.5. 24-hour Measuring Procedures

(a) The power supply was checked to ensure the HVS works properly.
(b) The filter holder and the area surrounding the filter were cleaned.
(c) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
(d) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.

(e) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges.
(f) Then the shelter lid was closed and was secured with the aluminum strip.
(g) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
(h) A new flowrate record sheet was set into the flow recorder.
(i) The flow rate of the HVS was checked and adjusted at around 1.2 m^3 /min. The range specified in the EM&A Manual was between 0.6-1.7 m^3 /min.
(j) The programmable timer was set for a sampling period of 24 hrs + 1 hr, and the starting time, weather condition and the filter number were recorded.
(k) The initial elapsed time was recorded.
(l) At the end of sampling, the sampled filter was removed carefully and folded in half-length so that only surfaces with collected particulate matter were in contact.
(m) It was then placed in a clean plastic envelope and sealed.
(n) All monitoring information was recorded on a standard data sheet.
(o) Filters were sent to laboratory for further testing.

4.2.6. 1-hour Measuring Procedures

(a) Check the calibration period of portable direct reading dust meter prior to monitoring (The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly, details refer to Section 2.5.4)
(b) Record the site condition near / around the monitoring stations.
(c) Install the portable direct reading dust meter to the monitoring location.
(d) Slide the power switch to turn the power on.
(e) Check of portable direct reading dust meter to ensure the equipment operation in normal condition.
(f) Select the period of measurement to 60mins.
(g) Check and set the correct time.
(h) Select the appropriate unit display for the equipment.
(i) Slide the power switch to turn the power off when the monitoring period ended (3 times 1 hour TSP monitoring per day).
(j) Uninstall the portable direct reading dust meter
(k) Collected the sampled data for analysis.

Remark: Procedures (c) to (h) may be different subject to the brands and models of portable direct reading dust.

LABORATORY MEASUREMENT / ANALYSIS

4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited or other internationally accredited laboratory.

4.2.8. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.

4.2.9. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

4.2.10. Maintenance and Calibration

(a) The direct reading dust meter was calibrated at 2-years interval and checked with High Volume Sampler (HVS) yearly to determine the accuracy and validity of the results measured.

(b) Checking of direct reading dust meter will be carried out in order to determine the conversion factor between the direct reading dust meter and the standard equipment, HVS. The comparison check is to be considered valid based on correlation coefficient checked by HOKLAS laboratory

4.2.11. High Volume Sampler (HVS – Model TE-5170) completed with the appropriate sampling inlets were installed for the 24-hour TSP sampling. 1-hour TSP air quality monitoring was performed by using portable direct reading dust meters at each designated monitoring station, which was verified by IEC and approved by the Engineer's Representative (ER) on 16 July 2021 and 22 July 2021, respectively according to Section 2.2.2 and 2.3.6 of the Project EM&A Manual. The brand and model of the equipment are given in ***Table 4.5***.

Table 4.5 Air Quality Monitoring Equipment

Equipment	Brand and model	Series Number
Portable direct reading dust meter	Met One Aerocet 831	W15449 W16848 Y23153 Y23154
High Volume Sampler	TE-5170	HVS004 HVS014 HVS015
Wind Anemometer	YiGu	YGY-FSXY1

4.2.12. The calibration certificates of the air quality monitoring equipment are attached in ***Appendix 4.2.***

WIND DATA

4.2.13. Wind data monitoring equipment was set up at roof floor (about 15/F) of Fung King House for logging wind speed and wind direction such that the wind sensors were clear of obstructions or

turbulence caused by building. The wind data monitoring equipment was re-calibrated at least once every six months and the wind directions were divided into 16 sections of 22.5 degrees each.

4.2.14. As the wind anemometer is under maintenance and calibration. Wind speed and wind direction data of April 2022 were obtained from Hong Kong Observatory as provided in ***Appendix 4.3.***

EVENT AND ACTION PLAN

4.2.15. The Action and Limit levels for construction air quality are defined in ***Table 4.6*** and ***Appendix 4.1***. Should non-compliance of the air quality criteria occur, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.6 Action and Limit Level for Air Quality Monitoring

Parameter	Monitoring Station	Action Level (μg/m^3)	Limit Level (μg/m^3)
24-hour TSP Level	AMC01	144.8	260.0
	AMC02	144.3	260.0
	AMC03A	143.7	260.0
1-hour TSP Level	AMC01	256.2	500.0
	AMC02	256.7	500.0
	AMC03A	259.3	500.0

5 Monitoring Results

5.0.1 The environmental monitoring will be implemented based on the division of works areas of each designed projects. Overall layout showing work areas and monitoring stations is shown in ***Figure 2.1*** and ***Figure 4.1 – 4.2*** respectively**.**

5.0.2 The environment monitoring schedules for reporting month and coming month are presented in ***Appendix 5.1*****.**

5.1 Noise Monitoring Results

5.1.1 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 5.2***.

5.1.2 No action or limit level exceedance was recorded in this reporting month.

5.2 Air Monitoring Results

5.2.1 Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in ***Appendix 5.3***.

5.2.2 No action or limit level exceedance was recorded in this reporting month.

5.3 Waste Management

1.1.1 The quantities of waste for disposal in the Reporting Period are summarized in ***Table 5.1*** and ***Table 5.2***. The Monthly Summary Waste Flow Table is shown in ***Appendix 5.4***. Whenever possible, materials were reused on-site as far as practicable.

Table 5.1 Summary of Quantities of Inert C&D Materials

Waste Type	Quantity (this month)	Quantity (Project commencement to the end of last month)	Cumulative Quantity-to-Date
Hard Rock and Large Broken Concrete (Inert) (in '000m^3)	0	0	0
Reused in this Contract (Inert) (in '000m^3)	0	0	0

Waste Type	Quantity (this month)	Quantity (Project commencement to the end of last month)	Cumulative Quantity-to-Date
Reused in other Projects (Inert) (in '000m^3)	0	0	0
Disposal as Public Fill (Inert) (in '000m^3)	0.569	2.276	2.845

Table 5.2 Summary of Quantities of C&D Wastes

Waste Type	Quantity (this month)	Quantity (Project commencement to the end of last month)	Cumulative Quantity-to-Date
Metals (in '000kg)	0	26.24	26.24
Paper / Cardboard Packing (in '000kg)	0	0	0
Plastics (in '000kg)	0	0	0
Chemical Wastes (in '000kg)	0	0	0
General Refuses (in '000m^3)	0.010	0.185	0.195

6 Compliance Audit

6.1.1 The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 6.1.***

6.1.2 The summary of exceedance is presented in ***Appendix 6.2.***

6.2 Noise Monitoring

6.2.1 No action or limit level exceedance was recorded in this reporting period.

6.3 Air Quality Monitoring

6.3.1 No action or limit level exceedance was recorded in this reporting period.

6.4 Review of the Reasons for and the Implications of Non-compliance

6.4.1 No environmental non-compliance was recorded in the reporting month.

6.5 Summary of action taken in the event of and follow-up on non-compliance

6.5.1 There was no particular action taken since no non-compliance was recorded in the reporting period.

7 Environmental Site Audit

7.0.1. Within this reporting month, weekly environmental site audits were conducted on 07, 14, 19 and 28 April 2022. Biweekly landscape site audits were conducted on 14 and 28 April 2022. IEC attended the joint site inspection on 19 April 2022.

7.0.2. No non-compliance was found during the site inspection while reminders on environmental measures were recommended. Results and findings of these inspections in this reporting month are listed below in ***Table 7.1 and Table 7.2***.

Table 7.1 Summary of Environmental Inspections

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20220407_2	7-Apr-2022	Sand and silt deposited on public road shall be cleared properly.	As observed on 19 April 2022, the deposited sand and silt were removed.	Closed
20220414_2	14-Apr-2022	Muddy water shall be pumped to the wastewater treatment tank before discharge.	Muddy water was pumped to the wastewater treatment tank as observed on 19 April 2022.	Closed
20220419_1	19-Apr-2022	Open stockpiles shall be covered properly with tarpaulin during rainstorm.	As observed on 28 April 2022, the stockpiles were covered with tarpaulin.	Closed
20220419_2	19-Apr-2022	Wheel washing shall be provided for vehicle leaving the construction site or the section of road leading to site exit shall be compacted.	As observed on 28 April 2022, the exit area was compacted.	Closed
20220428_1	28-Apr-2022	Chemical containers shall be provided with drip tray.	As observed on 05 May 2022, the chemical containers were removed	Closed
20220428_3	28-Apr-2022	Stock of cement bags with a quantity more than 20 shall be covered with tarpaulin.	The concerned stock of cement bags was no observed on 5 May 2022.	Closed

Table 7.2 Summary of Landscape Site Inspections

Item	Date	Reminder(s)/ Observation(s)	Action taken by Contractor	Outcome
20220414_1	14-Apr-2022	Dead branch and construction sundries shall be removed from tree protection area.	As observed on 28 Apr 2022, the tree protection area was maintained.	Closed

8. Complaints, Notification of Summons and Prosecution

8.0.1. No environmental complaint, notification of summons and successful prosecution regarding construction works was recorded in the reporting period.

8.0.2. The details of cumulative complaint log and updated summary of complaints are presented in ***Appendix 8.1.***

8.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 8.1*** and ***Table 8.2*** respectively.

Table 8.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
April 2022	0
Project commencement to the end of last reporting month	-
Total	**0**

Table 8.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
Total	**-**	**0**	**0**

9. Conclusion

9.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

9.0.2. Mitigation measures according to the environmental mitigation implementation schedule and the EIA were generally implemented by the Contractor. Hence, the EM&A programme was considered effective and shall be maintained.

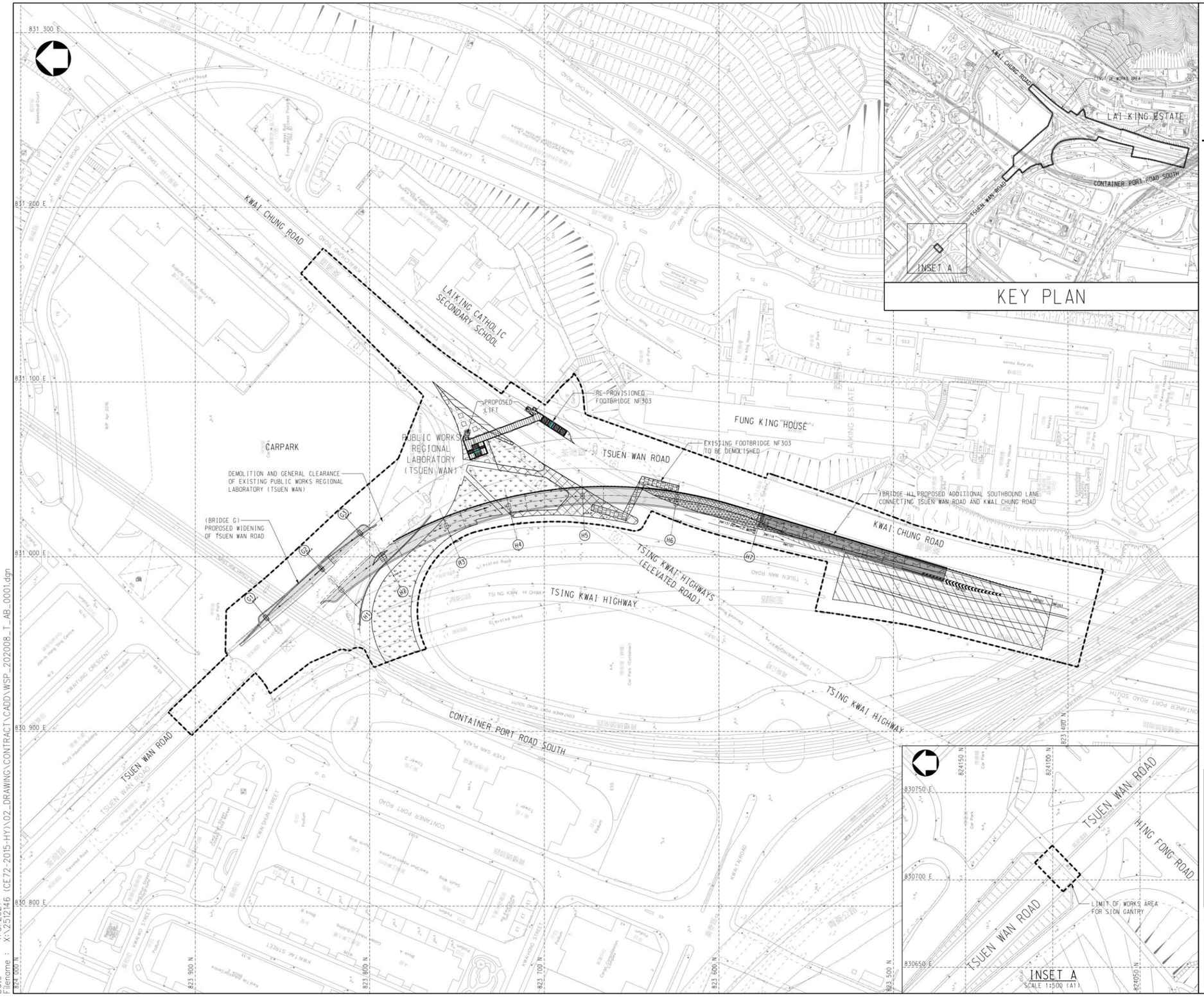
9.0.3. The scheduled construction activities and the recommended mitigation measures for the coming 3 months are listed in ***Table 9.1***. The construction programmes of the Project are provided in ***Appendix 9.1.***

Table 9.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting 3 Months

Key Construction Works	Recommended Mitigation Measures
• Tree transplant & preservation works • Diversion of existing drain pipe & utilities in conflict with pile cap H2 before piling works • Piling works for Bridge G & H • Pile load test for the completed pile • Construction of pile caps for Footbridge • Construction of Lift Tower, Pier & Staircase for Footbridge	• Regular maintenance and protection of all existing trees to be retained or transplanted • Implement proper measures to prevent silt or debris being deposited or washed into existing drainage systems • Implement proper noise mitigation measures to prevent potential noise nuisances to nearby sensitive receivers • Provision of protection to ensure no runoff out of site area or direct discharge into public drainage system

Figure 1.1

Project Layout



NOTES :

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
3. SECTIONS OF THE EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

LEGEND :

LIMIT OF WORK SITE

Rev	Description	By	Date
-	ISSUE FOR TENDER	EW	01/21

Consultant

wsp

Project title

CONTRACT NO. HY/2020/08

FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD

Figure 1.1

Project Layout

Scale 1:1000 (A1)

Status CONTRACT

路政署
HIGHWAYS DEPARTMENT
工程部
WORKS DIVISION

Date : 4/5/2021
Filename : X:\2512\46 (CE72-2015-HY)\02_DRAWING\CONTRACT\CADD\WSP_202008_T_AB_0001.dgn

Figure 2.1

Project Organization Chart

Project Organization Chart

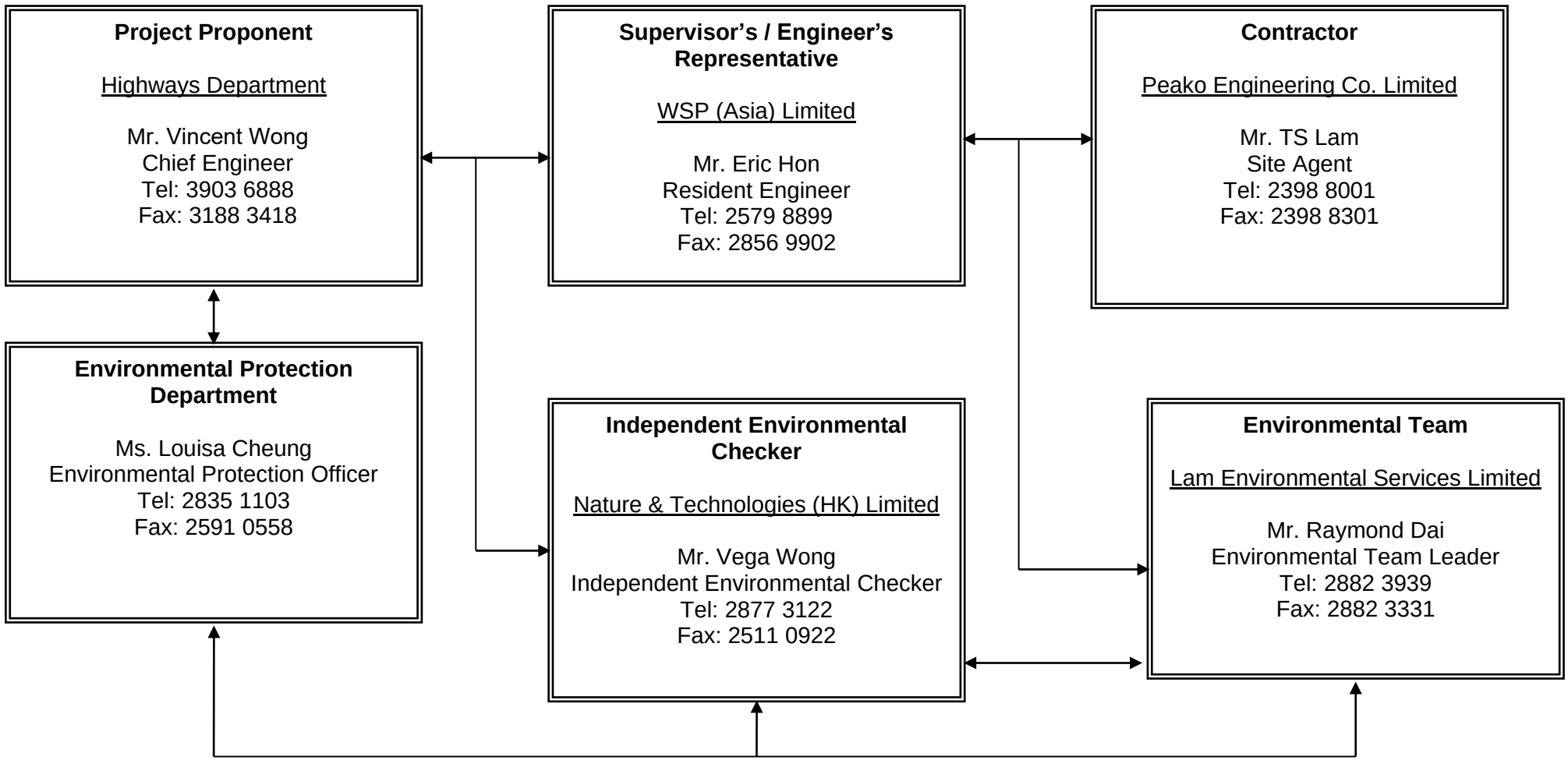
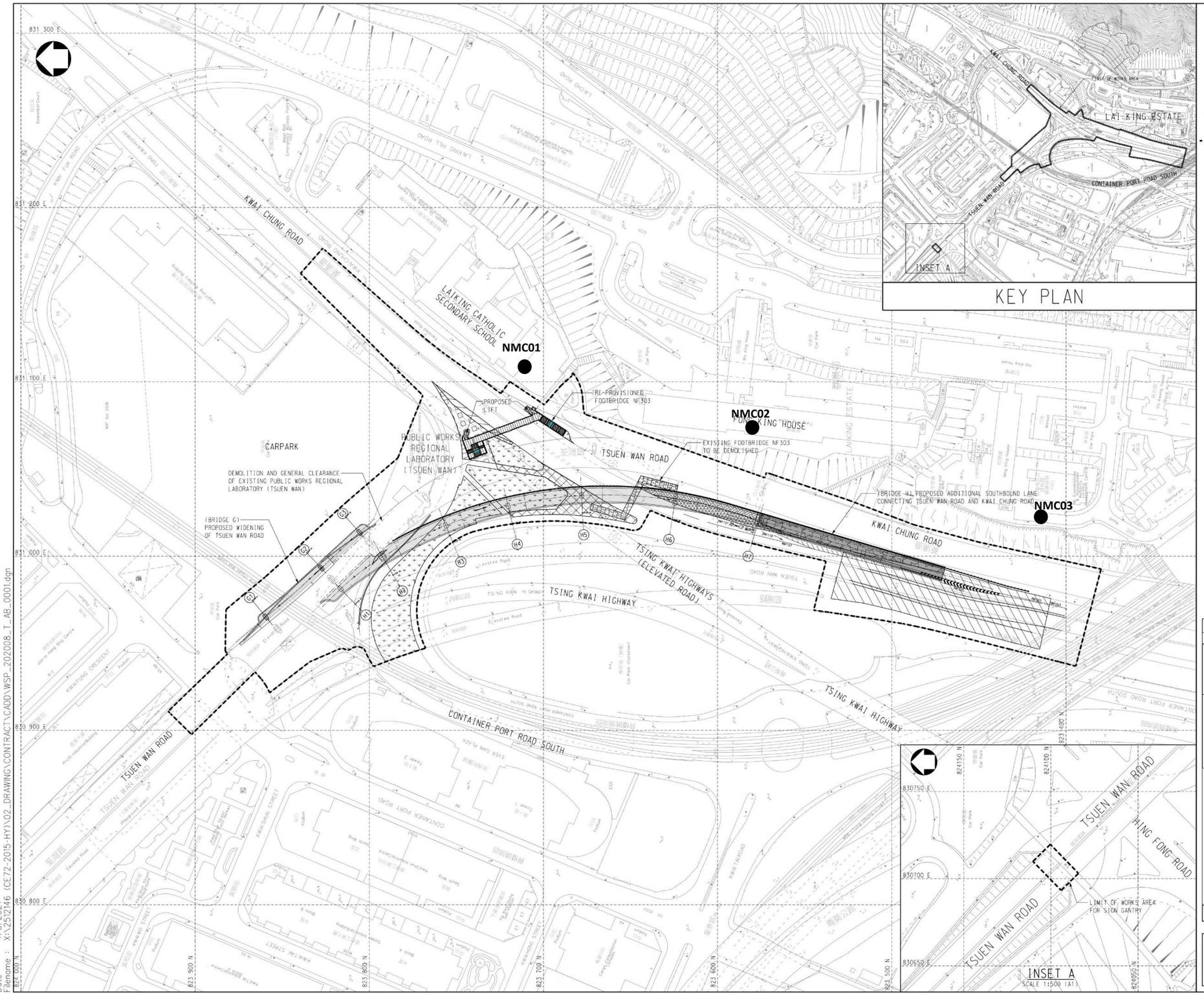


Figure 4.1

Location of Noise Monitoring Stations



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LEGEND :

LIMIT OF WORK SITE

Noise Monitoring Locations

Rev	Description	By	Date
-	ISSUE FOR TENDER	EW	01/21

Consultant

wsp

Project title

CONTRACT NO. HY/2020/08

FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD

Figure 4.1

Location of Noise Monitoring Stations

Scale 1:1000 (A1)

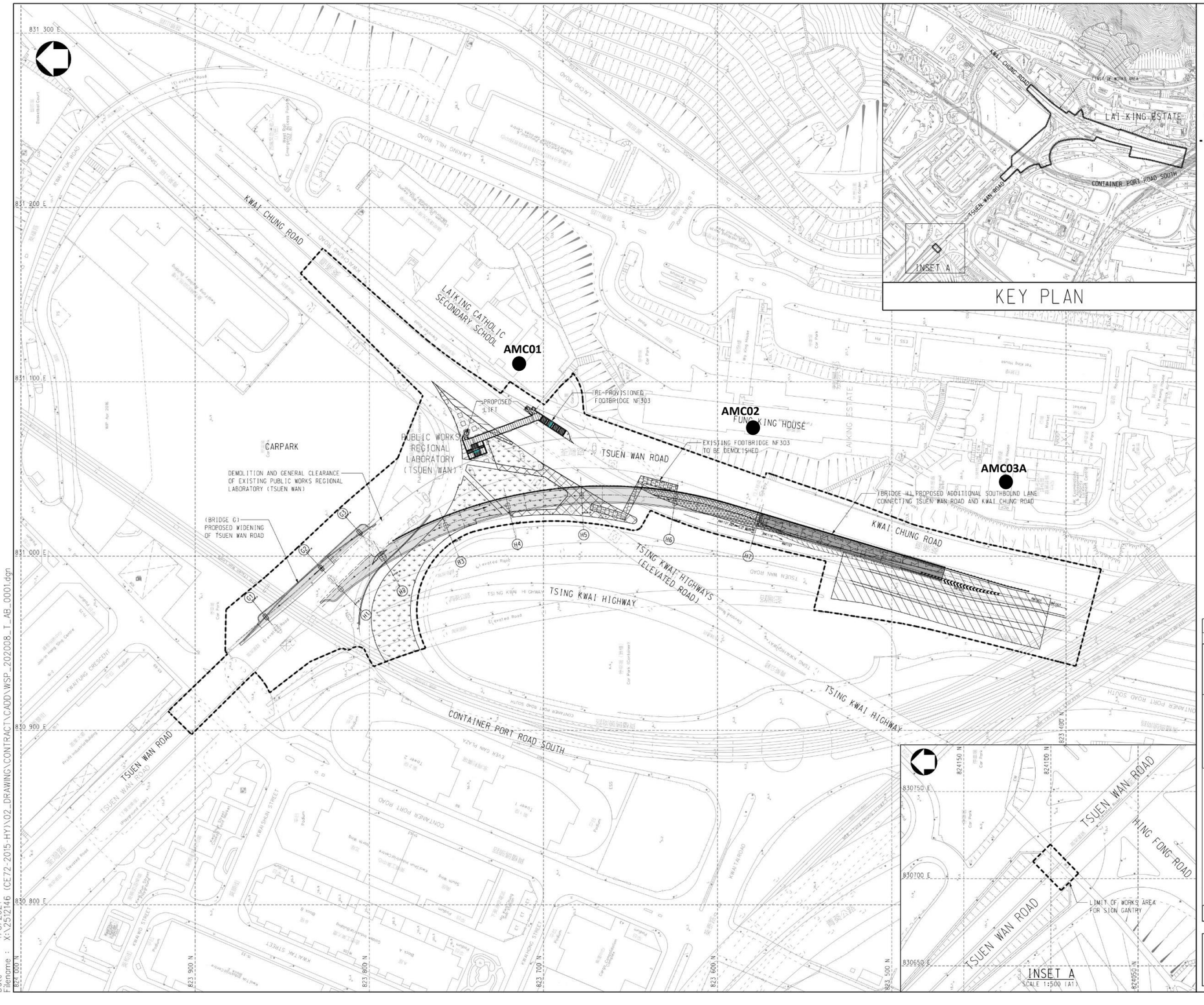
Status CONTRACT

路政署
HIGHWAYS DEPARTMENT
工程部
WORKS DIVISION

Date : 4/5/2021
Filename : X:\2512146 (CE72-2015-HY)\02_DRAWING\CONTRACT\CADD\WSP_202008_T_AB_0001.dgn

Figure 4.2

Location of Air Quality Monitoring Stations



NOTES :

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3. SECTIONS OF THE EXISTING CARRIAGEWAYS AND FOOTPATHS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

LEGEND :

LIMIT OF WORK SITE

Air Monitoring Locations

Rev	Description	By	Date
-	ISSUE FOR TENDER	EW	01/21

Consultant

wsp

Project title

CONTRACT NO. HY/2020/08

FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD

Figure 4.2

Location of Air Quality Monitoring Stations

Scale 1:1000 (A1)

Status CONTRACT

路政署
HIGHWAYS DEPARTMENT
工程部
WORKS DIVISION

Date : 4/5/2021
Filename : X:\2512146 (CE72-2015-HY)\02_DRAWING\CONTRACT\CADD\WSP_202008_T_AB_0001.dgn

Appendix 3.1

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Air Quality Monitoring							
S3.5.8	Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:						
	• Every temporary access road shall be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical.	To minimize the dust impact	Contractor and Subcontractors	All works sites	Construction Phase	Air Pollution Control (Construction Dust) Regulation	^
	• Any stockpile of dusty materials shall be covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides, or sprayed with water or a dust suppression chemical.						^
	• All dusty materials shall be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation						^
	• Vehicles used for transporting dusty materials should be covered with tarpaulin.						^
	• Vehicle wheel washing facilities should be provided at each construction site exit.						v
	• Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures ?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	• The speed of vehicles on unpaved road within the site should be controlled to about 10 km/hr.						^
	• Routing of vehicles and positioning of construction plants should be arranged at maximum possible distances from the sensitive receivers.						^
	• Every stock of more than 20 bags of cement and dry pulverized fuel ash (PFA) shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.						^
	• Loading, unloading, transfer, handling or storage of large amount of cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with the an effective fabric filter or equivalent air pollution control system.						^
	• Exposed earth shall be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within 6 months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures ?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Noise Monitoring							
S4.8.1	• Selection and optimisation of construction programmes, avoidance of parallel operation of noisy PME, and/or reduction in the proportion of usage of PME during noise sensitive periods such as school examination period;	To reduce potential construction noise impact	Contractor	All works sites	Construction Phase	EIAO-TM, NCO	^
	• Use of "quiet" PME and working methods;						^
	• Use of temporary at-source noise mitigation measures such as noise barriers, acoustic fabric, noise enclosures, noise jacket and mufflers; and						^
	• Use of good site practice to limit noise emission from construction site.						^
S4.8.2	Selection and Programming of Construction Processes						
	• The timing and sequencing of the various construction activities shall be carefully arranged according to the actual site work situation, in order to limit the amount of concurrent activities and where applicable, to avoid parallel operation of noisy PME in order to minimize the total noise generated during construction periods.	To reduce potential construction noise impact	Contractor	All works sites	Construction Phase	EIAO-TM, NCO	^
	• Limiting the quantity of PME to be operated concurrently and also their proportion of usage were recommended in the Project and incorporated in this assessment.						^
	• In the case during school examination when more stringent construction noise criteria should be imposed, the potentially most disruptive construction activities should be avoided, and arranged to be conducted during school holidays as far as practicable.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures ?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S4.8.3 – 4.8.5	Use of "Quiet" Alternative Plant and Working Methods						
	• The use of particular plant with equipment noise levels quieter than those specified in the GW-TM can result in reduction of noise levels generated by the plant. The level of noise reduction achieved is dependent on the Contractor's chosen methods of working. It is possible for the Contractor to achieve noise reductions from the adopted working methodologies by specifying maximum limits of sound power level for specific plant.	To reduce potential construction noise impact	Contractor	All works sites	Construction Phase	EIAO-TM, NCO	^
S4.8.6 – S4.8.9	Temporary Noise Barrier						
	• Use of Temporary Noise Barrier/ Acoustic Fabric for breaker, mini-robot mounted; excavator/loader, wheeled/tracked; lorry; lorry with crane/grab; mobile crane; poker vibratory, hand-held (electric); road roller; hand-held chain saw; concrete pump, lorry mounted; asphalt paver; air compressor. The minimum surface density of the movable noise barrier is 10kg/m^2.	To reduce potential construction noise impact	Contractor	All works sites	Construction Phase	EIAO-TM, NCO	v
	• A not less than 8m high movable barrier with skid footing and a small cantilevered upper portion to be located within a few metres of the grab and chisel piling plants.						N/A
	• When temporary noise barriers are not practicable or noise reduction achieved is insufficient, noise jacket/muffler can be applied to cover the noisy part of the engine or at the engine exhaust of particular mobile plants respectively.						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures ?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S4.8.10	Good Site Practice:						
	• Use of well-maintained and regularly-serviced plant during the works;	To reduce potential construction noise impact	Contractor	All works sites	Construction Phase	EIAO-TM, NCO	^
	• Plant operating on intermittent basis should be turned off or throttled down when not in active use;						^
	• Plant that is known to emit noise strongly in one direction should be orientated to face away from the NSRs;						^
	• Silencers, mufflers and enclosures for plant should be used where possible and maintained adequately throughout the works;						N/A
	• Where possible fixed plants should be sited away from NSRs; and						^
	• Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Water Quality Control							
S5.9.2 S4.8.2	In accordance with ProPECC PN 1/94, construction phase mitigation measures with good management practices should include the following:						
	• At the establishment of works site, perimeter drains to direct off-site water around the Site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided to divert the stormwater to silt removal facilities. The design of the temporary onsite drainage system will be undertaken by the Contractor prior to the commencement of construction;	To control water quality impact from construction site runoff	Contractor and Sub-contractors	All work sites	Construction Phase	Water Pollution Control Ordinance, ProPECC PN 1/94	^
	• Dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the run-off discharge into an appropriate watercourse, through a silt/sediment trap. Silt/sediment traps should also be incorporated in the permanent drainage channels to enhance deposition rates;						^
	• The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt / sand traps should be 5 minutes under maximum flow conditions. A sedimentation basin would be required when necessary. The detailed design of the silt / sand traps should be undertaken by the Contractor prior to the commencement of construction;						^
	• The construction works should be programmed to minimise surface excavation works during rainy seasons (April to September), as possible. All exposed earth areas should be						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	completed and vegetated as soon as possible after the earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means;						
	• The overall slope of works sites should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads should be protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during the prolonged periods of inclement weather and the reduction of surface sheet flows;						N/A
	• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure their proper and efficient operation at all times particularly following rainstorms. Deposited silts and grits should be removed regularly and disposed of by spreading evenly over stable, vegetated areas;						^
	• Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet season is inevitable, they should be dug and backfilled in short sections wherever practicable. The water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;						N/A
	• All open stockpiles of construction materials (for example, aggregates, sand and fill material) should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	• Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers;						^
	• Precautions to be taken at any time of the year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted and during or after rainstorms, are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface run-off during storm events;						^
	• All vehicles and plant should be cleaned before leaving the Site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities / bay should be provided at the exit of the Site where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-washing bay to public roads should be paved with sufficient backfall toward the wheel washing bay to prevent vehicle tracking of soil and silty water to public roads and drains;						^
	• Oil interceptors should be provided in the drainage system downstream of any oil / fuel pollution sources. Oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for oil interceptors to prevent flushing during heavy rain;						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	• The construction solid waste, debris and rubbish onsite should be collected, handled and disposed of properly to avoid causing any water quality impacts; and						^
	• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds with adequate storage capacity to prevent spilled fuel oils.						^
S5.9.5	Control of effluent discharge						
	• A discharge licence for discharge of effluent from the construction site under the WPCO shall be applied to the EPD for. The discharge quality must meet the requirements specified in the discharge licence.	To control the effluent discharge from the Site	Contractor and Sub-contractors	All work sites	Construction Phase	Water Pollution Control Ordinance	^
	• All the run-off and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the Technical Memorandum. Minimum distances of 100m should be maintained between the discharge points of construction site effluent and the existing seawater intakes.						^
	• No new effluent discharges in nearby typhoon shelters should be allowed.						N/A
	• The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., would minimize water consumption and reduce the effluent discharge volume.						^
S5.9.6	Sewage from Workforce						
	• Portable chemical toilets and sewage holding tanks are recommended for the handling of the construction sewage generated by the workforce.	To control Sewage	Contractor and Sub-workers	All work sites	Construction Phase	Water Pollution	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	• A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	generated from onsite construction				Control Ordinance and Waste Disposal Ordinance	^
S5.9.7 – S5.9.8	Accidental Spillage of Chemicals						
	• The Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities.	To control accidental spillage of chemicals	Contractor and Sub-contractors	All work sites	Construction Phase	EIAO-TM, Water Pollution Control Ordinance and Waste Disposal (Chemical Waste) (General) Regulation	^
	• Any maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided.						^
	• Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.						^
S5.9.9	Provision of surface runoff collection system						
	• All surface runoff on the road shall be direct to the system.	To control road surface runoff	Contractor and Sub-contractors	Along Road Alignment	Design and Construction Phases	Water Pollution Control Ordinance	^
	• The capacity of the system should be properly designed to cater for all surface water.						^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Waste Management							
S6.6.3	Waste Management Plan (WMP) should be prepared and submitted for approval by the Engineer prior to any construction activities. During the construction period the WMP should be used as a working document to detail the on-going management procedures and to record waste arising from construction works and import of fill throughout the Contract. The WMP shall be subject to audit under the requirements of the Environmental Monitoring and Audit (EM&A) Procedures set out in the EM&A Manual accompanying this EIA Report.	Preparation and approval of WMP	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	^
S6.6.4 and S6.6.5	The WMP shall be developed and implemented according to a best-practice philosophy of waste management. There are various waste management options, which can be categorised in terms of preference from an environmental viewpoint. The options considered to be more preferable have the least impacts and are more sustainable in a longterm context. The hierarchy is as follows: • Avoidance and minimisation, i.e. avoiding or not generating waste through changing or improving practices and design; • Reuse of materials, thus avoiding disposal (generally with only limited reprocessing); • Recovery and recycling, thus avoiding disposal (although reprocessing may be required); • Treatment and disposal, according to relevant laws, guidelines and good practice; and • The suitability (or otherwise) of material for reuse on site shall be detailed in the WMP. If, for any reason, the recommendations cannot be implemented, full justification should be given in the WMP for approval by the Engineer.	To minimise waste generation	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S6.6.6	To facilitate adoption of the best-practice philosophy, training shall be provided to all personnel working on site. The training shall promote the concept of general site cleanliness and clearly explain the appropriate waste management procedures defined in the WMP.	To encourage all workers to reduce, reuse and recycle wastes.	Contractor	All works sites	Construction Phase	EIAO-TM	^
S6.6.7	a. During construction, the WMP should be kept up-to-date on a monthly basis with records of the actual quantities of wastes generated, recycled and disposed of off-site.	To keep trace of waste generation, minimisation, reuse and disposal	Contractor	All works sites	Construction Phase	ETWB TC(W) No. 19/2005	^
	b. Quantities shall be determined by weighing each load or other methods agreed to by the Engineer's Representative. Waste shall only be disposed of at licensed sites and the WMP should include procedures to ensure that illegal disposal of wastes does not occur.						^
	c. Only waste haulers authorised to collect the specific category of waste concerned should be employed and a trip ticket system shall be implemented for offsite disposal of inert C&D material and C&D waste at public fill reception facilities and landfills.						^
	d. Appropriate measures should be employed to minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers.						^
S6.6.8	The WMP shall include plans indicating specific areas designated for the storage of particular types of waste, reusable and recyclable materials as well as areas and management proposals for any stockpiling areas. Generally, waste storage areas should be well maintained and cleaned regularly.	Work site(s):- a. Arrange and manage to facilitate the proper management of wastes and materials. b. Design to avoid cross	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
		contamination of materials and pollution of the surrounding environment.					
S6.6.9	The design of formwork should maximise the use of standard wooden panels so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse.	To maximise reuse of inert C&D Materials	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	N/A
S6.6.10 and S6.6.11	a. Inert C&D materials should be segregated on site into different waste and material types. Where materials cannot be reused on site, opportunities for recycling materials off-site shall be explored.	To maximise reuse and facilitate recycling by segregating inert C&D Materials	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	^
	b. Potential opportunities for recycling and reuse of inert C&D materials from the Project include:						
	• Milling wastes arising from regrading of the existing pavement could be recycled on site and reused as either road-base in the new carriageways or fill for new embankments;						N/A
	• Existing marginal roadside barriers comprise pre-cast units, it may be possible to re-use these following widening works; and						N/A
	• Existing bridge parapets comprise aluminium post and railings, these have a recyclable value and could be sold on for reconditioning or reused for scrap metal.						N/A
S6.6.12	Any stockpile should be sited away from existing watercourses and suitably covered.	To prevent wind erosion and impacts on air and water quality	Contractor	All works sites	Design and Construction Phases	ETWB TC(W) No. 19/2005	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S6.6.13	C&D waste which cannot be reused or recycled should be segregated and stored in different containers or skips from the inert C&D material and should be disposed of to landfill.	To facilitate disposal of C&D waste	Contractor	All works sites	Construction Phase	ETWB TC(W) No. 19/2005	^
S6.6.14	Workers should, when necessary, wear appropriate personal protective equipment (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.	To minimise the exposure to contaminated materials	Contractor	All works sites when necessary	Construction Phase	Practice Guide, Guidance Note, Guidance Manual	N/A
S6.6.15 and S6.6.16	a. The marine sediment should be excavated, transported and processed properly.	To minimise any potential adverse impacts arising from the handling, treatment and reuse of the marine sediment	Contractor	All works sites	Design and Construction Phases	Practice Guide, Guidance Note, Guidance Manual	N/A
	b. Stockpiling of contaminated sediments should be avoided as far as possible.						N/A
	c. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiling areas should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials.						N/A
	d. Leachate, if any, should be collected and discharged according to the WPCO.						N/A
	e. The approved Sediment Assessment Plan and Sediment Assessment Report with Remediation Plan shall be incorporated to the WMP.						N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
S6.6.17	Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of chemical Wastes as follows. Containers used for the storage of chemical wastes should:						
	• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;	To reduce environmental impacts in packaging, handling and storage of chemical wastes	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	^
	• Have a capacity of less than 450L unless the specifications have been approved by the EPD; and						^
	• Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.						^
S6.6.18	The storage area for chemical wastes should:						
	• Be clearly labelled and used solely for the storage of chemical waste;	To reduce environmental impacts by managing storage area for chemical wastes	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	^
	• Be enclosed on at least 3 sides;						^
	• Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;						^
	• Have adequate ventilation ;						^
	• Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and						^
	• Be arranged so that incompatible materials are adequately separated.						^
S6.6.19	The Contractor shall register with EPD as a Chemical Waste Producer. Waste oils and other chemical wastes as defined in the Waste Disposal (Chemical Waste) (General) Regulation will require disposal by appropriate means and could require pre-notification to EPD prior to disposal. Appropriate means include disposal:						

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
	• Be via a licensed waste collector; and	To reduce environmental impacts in disposing chemical wastes.	Contractor	All works sites	Design and Construction Phases	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	^
	• Be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers						^
S6.6.20 and S6.6.21	a. General refuse generated on-site should be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.	To reduce environmental impacts in handling general refuse.	Contractor	All works sites	Construction Phase	Waste Disposal Ordinance (Cap 354)	^
	b. General refuse is generated largely by food service activities on site, so reusable rather than disposable dishware should be used if feasible. Aluminum cans are often recovered from the waste stream by individual collectors if they are segregated or easily accessible. Therefore separate, labelled bins for their deposit should be provided if feasible.						^
S6.6.22	Office waste can be reduced through recycling of paper if volumes are large enough to warrant collection. Opportunities for participation in a local collection scheme should be investigated.	To reduce office waste	Contractor	All works sites	Construction Phase	Waste Disposal Ordinance (Cap 354)	^

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
Landscape and Visual							
S7.9.6	Mitigation Planting: • Replanting of disturbed vegetation should be undertaken at the earliest possible stage of the construction phase of the project and this should use the recommended transplant trees identified in the Tree Removal Recommendation.	To avoid potential damage to these identified transplant trees	Contractor	Identified locations for tree planting	Construction Phase	Follow the relevant guidelines in the ETWB TC(W) 10/2013; ETWB TC(W)2/2004; ETWB TC(W)29/2004 ; ETWB TC(W)7/2002; Tree Planting and Maintenance in HK, HKSAR 1991 Relevant sections of the latest version of General Specifications for Civil Engineering	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	When to implement the measures?	What requirements or standards for the measure to achieve	Status
						Works, HKSAR	
S7.9.6	Development Site and Temporary Works Area						
	• The construction area and Contractor's temporary works area should be minimized to avoid impacts on adjacent landscape	To minimize potential impacts on adjacent landscape and VSRs	Contractor	The project area where appropriate	Construction Phase	N/A	^
	• The landscape of these works areas will be restored following the completion of the construction phase	To minimize potential impacts on the landscape	Contractor	The project area where appropriate	Construction Phase		N/A
	• Construction site controls shall be enforced, where possible, to ensure that the landscape and visual impacts arising from the construction phase activities are minimized including the storage of materials	To minimize potential visual impacts on identified VSRs	Contractor	The project area where appropriate	Construction Phase		^
	• The location and appearance of site accommodation and the careful design of site lighting to prevent light spillage	To minimize potential impacts on identified VSRs	Contractor	The project area where appropriate	Construction Phase		N/A
	• Screen hoarding may be a practicable for this project due to the viewing distances is short in a lot of site situation	To minimize potential impacts on identified VSRs	Contractor	The project area where appropriate	Construction Phase		N/A

Remarks:

^	Implemented
v	Partially implemented
*	To be followed-up by Contractor
#	Not Implemented
N/A	Not Applicable

Appendix 4.1

Action and Limit Level

Action and Limit Levels

Air Quality Monitoring

Monitoring Station	1-hour TSP Level in μg/m³		24-hour TSP Level in μg/m³	
	Action Level	Limit Level	Action Level	Limit Level
AMC01	256.2	500	144.8	260
AMC02	256.7	500	144.3	260
AMC03A	259.3	500	143.7	260

Noise Monitoring

Monitoring Station	Action Level	Limit Level (dB(A))		
		0700-1900 hrs on normal weekdays	0700-2300 hrs on holidays (including Sundays); and 1900-2300 hrs on all days[2]	2300-0700 hrs of all days
NMC01	When one documented complaint is received	65 / 70[1]	60 / 65 / 70[3]	45 / 50 / 55[3]
NMC02		75		45 / 50 / 55[3]
NMC03		65 / 70[1]		45 / 50 / 55[3]

Remark 1: Limit level of NMC01 and NMC03 reduce to 65 dB (A) during examination periods if any.

Remark 2: Construction noise during restricted hours is under the control of Noise Control Ordinance Limit Level to be selected based on Area Sensitivity Rating.

Remark 3: Limit Level for restricted hour monitoring shall act as reference level only. Investigation would be conducted on CNP compliance if exceedance recorded during restricted hour noise monitoring period.

Appendix 4.2

Copies of Calibration Certificates

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

CERTIFICATE OF CALIBRATION

Certificate No.: 21CA0526 02-01 **Page** 1 **of** 2

Item tested

Description:	Sound Level Meter (Type 1)	Microphone	Preamp
Manufacturer:	Larson Davis	PCB	PCB
Type/Model No.:	LxT1	377B02	PRMLxT1L
Serial/Equipment No.:	0004797	163704	042622
Adaptors used:	-	-	-

Item submitted by

Customer Name:	Lam Environmental Services Limited.
Address of Customer:	-
Request No.:	-
Date of receipt:	26-May-2021

Date of test: 27-May-2021

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2021	CIGISMEC
Signal generator	DS 360	61227	31-Dec-2021	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

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

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

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

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory: Feng Junqi **Date:** 28-May-2021 **Company Chop:**

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

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

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 21CA0526 02-01 **Page** 2 **of** 2

1, Electrical Tests

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

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

2, Acoustic tests

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

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

3, Response to associated sound calibrator

N/A

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

- End -

Calibrated by: Fung Chi Yip **Date:** 27-May-2021

Checked by: Chan Yuk Yiu **Date:** 28-May-2021

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

綜合試驗有限公司
SOILS & MATERIALS ENGINEERING CO., LTD.
香港新界葵涌永基路22-24號好爸爸創科大廈
Good Ba Ba Hitech Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong
Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com

CERTIFICATE OF CALIBRATION

Certificate No.: 21CA1021 05-02 **Page:** 1 **of** 2

Item tested

Description:	Acoustical Calibrator (Class 1)
Manufacturer:	Honglim Co., Ltd.
Type/Model No.:	HLES-02
Serial/Equipment No.:	2019612534
Adaptors used:	-

Item submitted by

Curstomer:	Lam Environmental Services Limited.
Address of Customer:	-
Request No.:	-
Date of receipt:	21-Oct-2021

Date of test: 25-Oct-2021

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	04-May-2022	SCL
Preamplifier	B&K 2673	2239857	31-May-2022	CEPREI
Measuring amplifier	B&K 2610	2346941	01-Jun-2022	CEPREI
Signal generator	DS 360	33873	27-May-2022	CEPREI
Digital multi-meter	34401A	US36087050	27-May-2022	CEPREI
Audio analyzer	8903B	GB41300350	28-May-2022	CEPREI
Universal counter	53132A	MY40003662	02-Jun-2022	CEPREI

Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

Test specifications

1. The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
2. The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
3. The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

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

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

Approved Signatory: Feng Junqi **Date:** 26-Oct-2021 **Company Chop:** SOILS AND MATERIALS ENGINEERING COMPANY LTD. 綜合試驗有限公司

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

綜合試驗有限公司
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CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.: 21CA1021 05-02 **Page:** 2 **of** 2

1, Measured Sound Pressure Level

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

(Output level in dB re 20 μPa)

Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	94.02	0.10

2, Sound Pressure Level Stability - Short Term Fluctuations

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

At 1000 Hz **STF = 0.011 dB**

Estimated expanded uncertainty 0.005 dB

3, Actual Output Frequency

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

At 1000 Hz **Actual Frequency = 998.27 Hz**

Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

4, Total Noise and Distortion

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

At 1000 Hz **TND = 0.4 %**

Estimated expanded uncertainty 0.7 %

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

- End -

Calibrated by: Fung Chi Yip **Date:** 25-Oct-2021

Checked by: Chan Yuk Yiu **Date:** 26-Oct-2021

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

TISCH Environmental

RECALIBRATION DUE DATE:
August 3, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	August 3, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 750.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3166**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3610	3.2	2.00
2	3	4	1	0.9540	6.4	4.00
3	5	6	1	0.8460	7.9	5.00
4	7	8	1	0.8070	8.7	5.50
5	9	10	1	0.6630	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H(Ta/Pa)}$ (y-axis)
0.9930	0.7296	1.4123	0.9957	0.7316	0.8868
0.9888	1.0365	1.9973	0.9915	1.0393	1.2541
0.9868	1.1664	2.2330	0.9895	1.1696	1.4021
0.9857	1.2215	2.3420	0.9884	1.2248	1.4705
0.9804	1.4788	2.8246	0.9831	1.4828	1.7735
QSTD	**m=**	**1.88375**	**QA**	**m=**	**1.17957**
	b=	**0.03970**		**b=**	**0.02493**
	r=	**0.99998**		**r=**	**0.99998**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

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Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC01	**Calbration Date**	:	05-Feb-22
Equipment no.	:	HVS004	**Calbration Due Date**	:	07-Apr-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	288.2	Kelvin	**Pressure, P_a**	1023	mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
1	1.5	1.5	3.0	0.9185	30	30.6575
2	2.4	2.4	4.8	1.1675	36	36.7889
3	3.8	3.8	7.6	1.4745	44	44.9643
4	4.8	4.8	9.6	1.6598	50	51.0958
5	5.8	5.8	11.6	1.8266	56	57.2272

By Linear Regression of Y on X

Slope, m	=	28.9609	Intercept, b	=	3.3302
Correlation Coefficient*	=	0.9968			
Calibration Accepted	=	Yes/~~No~~**			

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

_____

Calibrated by	:	Alan Ng	**Checked by**	:	Jodie Chen
Date	:	05-Feb-22	**Date**	:	05-Feb-22

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC01	**Calbration Date**	:	07-Apr-22
Equipment no.	:	HVS004	**Calbration Due Date**	:	07-Jun-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T_a	295.8 Kelvin	**Pressure, P_a**	1017 mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.6	1.6	3.2	0.9337	30	30.1633
2	2.4	2.4	4.8	1.1483	38	38.2069
3	3.7	3.7	7.4	1.4309	45	45.2450
4	4.8	4.8	9.6	1.6327	52	52.2831
5	5.7	5.7	11.4	1.7811	56	56.3049

By Linear Regression of Y on X

Slope, m	=	30.4107	Intercept, b	=	2.3119
Correlation Coefficient*	=	0.9981			
Calibration Accepted	=	Yes/~~No~~**			

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by	:	Harry Po	**Checked by**	:	Jodie Chen
Date	:	07-Apr-22	**Date**	:	07-Apr-22

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC02	**Calbration Date**	:	05-Feb-22
Equipment no.	:	HVS015	**Calbration Due Date**	:	07-Apr-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	288.2	Kelvin	**Pressure, P_a**	1023	mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
1	1.4	1.4	2.8	0.8867	30	30.6575
2	2.3	2.3	4.6	1.1424	38	38.8328
3	3.8	3.8	7.6	1.4745	46	47.0081
4	5.0	5.0	10.0	1.6944	52	53.1396
5	6.2	6.2	12.4	1.8892	58	59.2711

By Linear Regression of Y on X

Slope, m = 27.8993 Intercept, b = 6.2360

Correlation Coefficient* = 0.9990

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by	:	Alan Ng	**Checked by**	:	Jodie Chen
Date	:	05-Feb-22	**Date**	:	05-Feb-22

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC02	**Calbration Date**	:	07-Apr-22
Equipment no.	:	HVS015	**Calbration Due Date**	:	07-Jun-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T_a	295.8 Kelvin	**Pressure, P_a**	1017 mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3\times298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.3	1.3	2.6	0.8396	32	32.1742
2	2.1	2.1	4.2	1.0728	38	38.2069
3	3.7	3.7	7.4	1.4309	46	46.2504
4	4.9	4.9	9.8	1.6498	53	53.2885
5	6.0	6.0	12.0	1.8279	60	60.3266

By Linear Regression of Y on X

Slope, m = 27.6260 Intercept, b = 8.3624

Correlation Coefficient* = 0.9944

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by	:	Harry Po	**Checked by**	:	Jodie Chen
Date	:	07-Apr-22	**Date**	:	07-Apr-22

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC3A	**Calbration Date**	:	05-Feb-22
Equipment no.	:	HVS014	**Calbration Due Date**	:	07-Apr-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T_a	288.2 Kelvin	**Pressure, P_a**	1023 mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** ($W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31$) **Y-axis**
1	1.5	1.5	3.0	0.9185	24	24.5260
2	2.3	2.3	4.6	1.1424	34	34.7451
3	3.7	3.7	7.4	1.4547	44	44.9643
4	4.9	4.9	9.8	1.6772	50	51.0958
5	6.2	6.2	12.4	1.8892	56	57.2272

By Linear Regression of Y on X

Slope, m = 33.0745 Intercept, b = -4.3354

Correlation Coefficient* = 0.9954

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by	:	Alan Ng	**Checked by**	:	Jodie Chen
Date	:	05-Feb-22	**Date**	:	05-Feb-22

Lam Environmental Services Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	AMC3A	**Calbration Date**	:	07-Apr-22
Equipment no.	:	HVS014	**Calbration Due Date**	:	07-Jun-22

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition					
Temperature, T_a	295.8	Kelvin	**Pressure, P_a**	1017	mmHg

Orifice Transfer Standard Information					
Equipment No.	**3166**	**Slope, m_c**	1.88375	**Intercept, bc**	0.03970
Last Calibration Date	03-Aug-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$			
Next Calibration Date	03-Aug-22	$= m_c \times Q_{std} + b_c$			

Calibration of TSP						
Calibration Point	**Manometer Reading H (inches of water)** (up)	(down)	(difference)	**Q_{std}** (m^3 / min.) **X-axis**	**Continuous Flow Recorder, W** (CFM)	**IC** $(W(P_a/1013.3 \times 298/T_a)^{1/2}/35.31)$ **Y-axis**
1	1.6	1.6	3.2	0.9337	24	24.1307
2	2.4	2.4	4.8	1.1483	32	32.1742
3	3.9	3.9	7.8	1.4696	45	45.2450
4	5.1	5.1	10.2	1.6836	53	53.2885
5	6.1	6.1	12.2	1.8432	58	58.3157

By Linear Regression of Y on X

Slope, m = 38.1552 Intercept, b = -11.3848

Correlation Coefficient* = 0.9994

Calibration Accepted = Yes/~~No~~**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by	:	Harry Po	**Checked by**	:	Jodie Chen
Date	:	07-Apr-22	**Date**	:	07-Apr-22

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	Metone AEROCET 831
Model Number	:	831
Serial Number	:	W15449
Performance Check Date	:	18-Jun-21

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	HVS018
Last Calibration Date	:	06-May-21

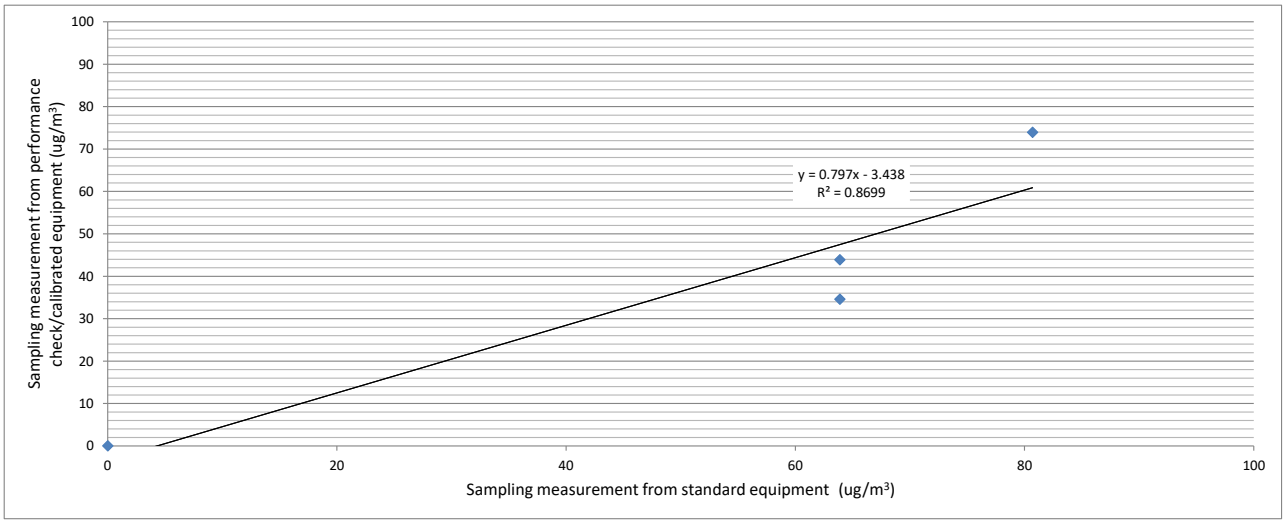
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (˚C)	Concentration in ug/m^3 (Standard equipment) (X - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	18/6/2021 08:00	1007	28	0	0
1	18/6/2021 09:30	1007	28	81	74
2	18/6/2021 10:31	1007	28	64	44
3	18/6/2021 13:00	1007	28	64	35

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.1000
Correlation Coefficient	:	0.9327
Validity of Performance Check / Calibration Record	:	18/6/2022



Operator:	Alan Ng	Date:	18-Jun-21
Checked by:	James Chu	Date:	19-Jun-21

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	AEROCET831
Serial Number	:	W16848
Performance Check Date	:	11-Feb-22

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	HVS018 (S/N:2656)
Last Calibration Date	:	30-Dec-21

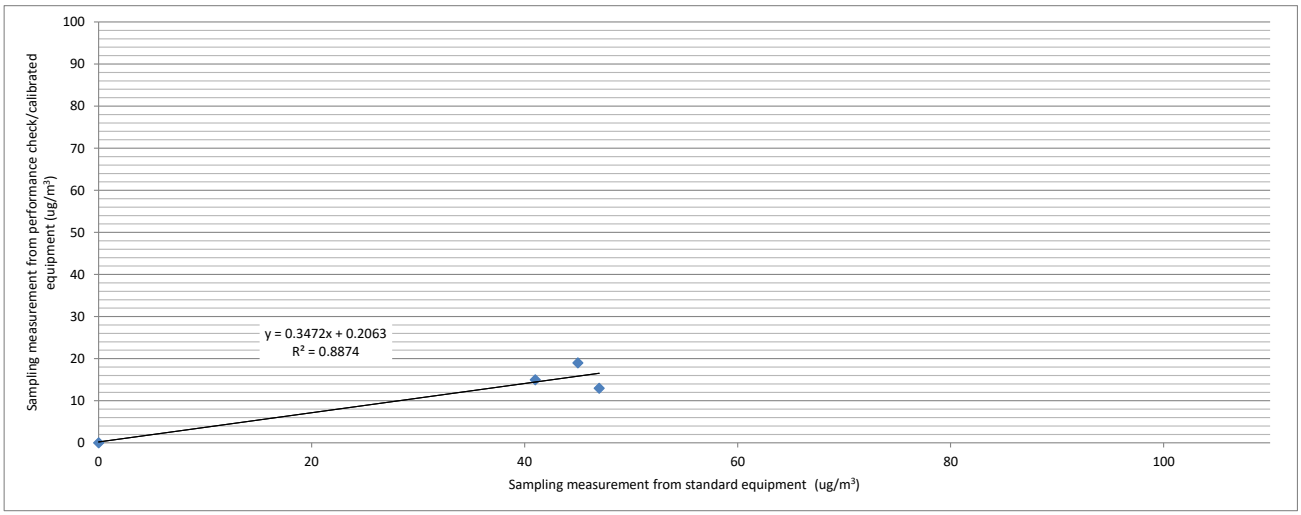
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (˚C)	Concentration in ug/m^3 (Standard equipment) (X - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	11/2/2022	1017	19	0	0
1	11/2/22 08:32	1017	19	45	19
2	11/2/22 09:32	1017	19	41	15
3	11/2/22 10:32	1017	19	47	13

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	2.6000
Correlation Coefficient	:	0.9420
Validity of Performance Check / Calibration Record	:	11/2/2023



Operator:	Alan Ng	Date:	11-Feb-22
Checked by:	Derek Lo	Date:	11-Feb-22

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	Metone AEROCET 831
Model Number	:	831
Serial Number	:	Y23153
Performance Check Date	:	30-Sep-21

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	HVS018
Last Calibration Date	:	6-Sep-21

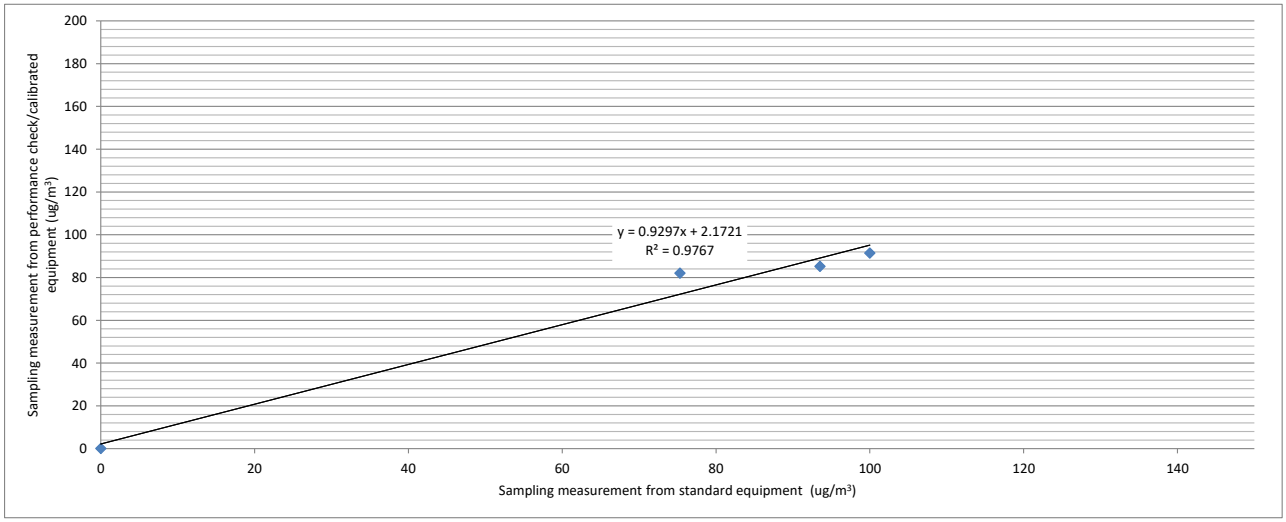
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (˚C)	Concentration in ug/m^3 (Standard equipment) (X - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	30/9/2021 08:00	1008	30	0	0
1	30/9/2021 09:26	1008	30	94	85
2	30/9/2021 10:27	1008	30	100	91
3	30/9/2021 11:28	1008	30	75	82

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.1000
Correlation Coefficient	:	0.9883
Validity of Performance Check / Calibration Record	:	30/9/2022



Operator:	Henry Lau	Date:	30-Sep-21
Checked by:	James Chu	Date:	1-Oct-21

Lam Environmental Services Limited

Portable Dust Meter Performance Check Record

Portable Dust Meter

Type	:	Particulare Monitor
Manufacturer	:	MET ONE INSTRUMENTS
Model Number	:	AEROCET831
Serial Number	:	Y23154
Performance Check Date	:	11-Feb-22

Standard Equipment

Type	:	High Volume Sampler
Manufacturer	:	TISCH
Model Number	:	TE-5170
Equipment Number	:	HVS018 (S/N:2656)
Last Calibration Date	:	30-Dec-21

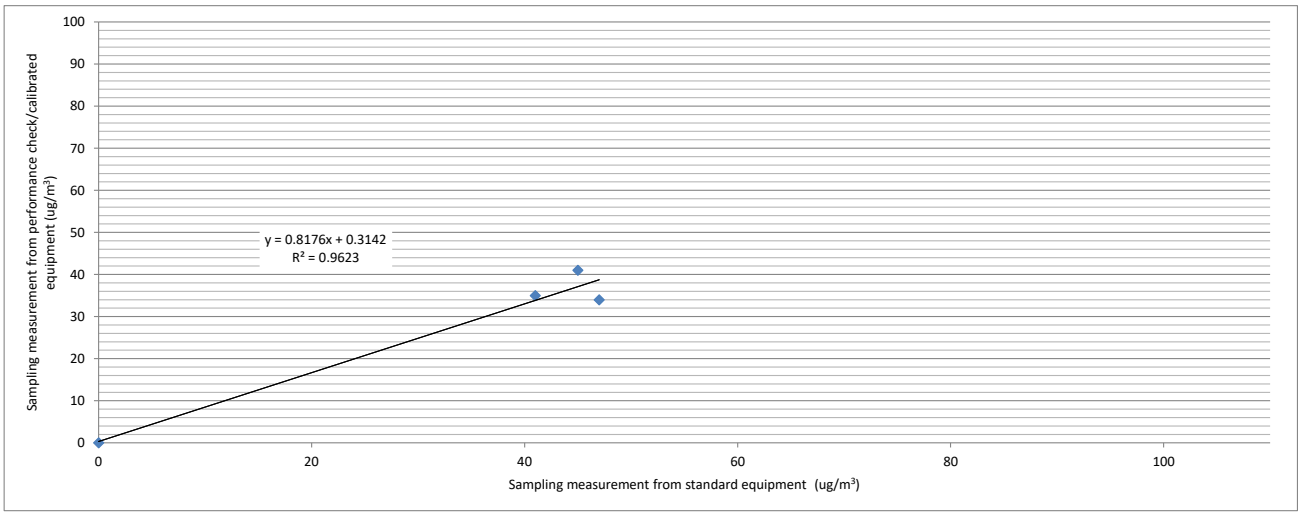
Portable Dust Meter Performance Check Results

Trial no. in 1-hr period	Time	Mean Pressure (hPa)	Mean Temp (˚C)	Concentration in ug/m^3 (Standard equipment) (X - Axis)	Concentration in ug/m^3 (Performance Check / Calibrated equipment) (Y - Axis)
Zero Check	11/2/2022	1017	19	0	0
1	11/2/22 08:45	1017	19	45	41
2	11/2/22 09:45	1017	19	41	35
3	11/2/22 10:45	1017	19	47	34

* Filter paper weighting was conducted by HOKLAS accredited laboratory.

Linear Regression of Y on X

Slope (K- factor)	:	1.2000
Correlation Coefficient	:	0.9810
Validity of Performance Check / Calibration Record	:	11/2/2023



Operator:	Alan Ng	Date:	19-Feb-22
Checked by:	Derek Lo	Date:	19-Feb-22

出 厂 检 验 报 告

产品名称：在线式风速风向仪

产品型号：YGY-FSXY1

武汉辰云科技有限公司

2021 年 9 月 7 日

1. 检验类别

一、在线式风速风向仪

检验项目	检测要求	检测结果
外观检查	1. 要求成品外观无破损，各部件完整，无掉漆，无凹陷变形； 2. 采集仪内部无目视可见灰尘杂物油污，布局整洁美观； 3. 芯线，航插完整，保护皮无破损，无油污；	
结构检查	1. 内部电路板固定牢固可靠，无挤压，无晃动； 2. 检查防尘防水措施是否到位，密封是否严密，端子与外壳缝隙不宜过大，以不透光为原则；	

二、风速风向传感器示值校准结果

实际风速（m/s）	指示风速（m/s）
0.5	启动
1	0.9
5	4.8
10	9.9
15	15.1
20	20.1
25	25.2
30	28.7

实际风向（°）	指示风向（°）
45	44
90	91
135	136
200	201
235	237
275	276
315	314
359	0

2. 备注 NOTE

数据采集仪数据显示风速、风向值正常，通过 RJ45 通讯与电脑连接，仪器软件数据显示正常。

3. 检验结论：

各项检测和实验结果表明：

在线式风速风向仪 仪器全部测试通过，系统硬件测试符合工厂（武汉易谷科技有限公司检验标准）测试标准。符合技术文件的要求，检验合格，准予出厂。

4. 校准的环境条件：

环境条件： 温度：26.3，相对湿度：62.8%RH，大气压力：1010.8hpa

测试员：李元华

检验员：吴肖

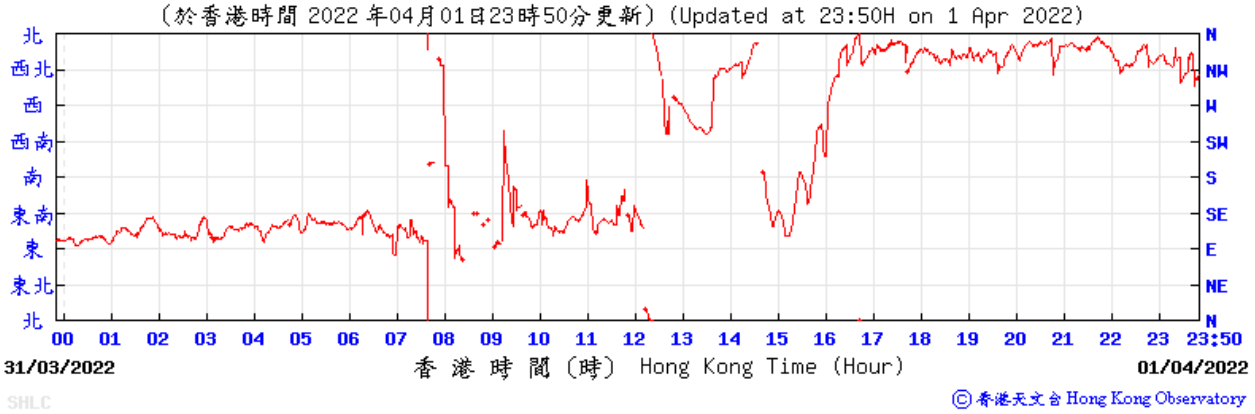
检验合格

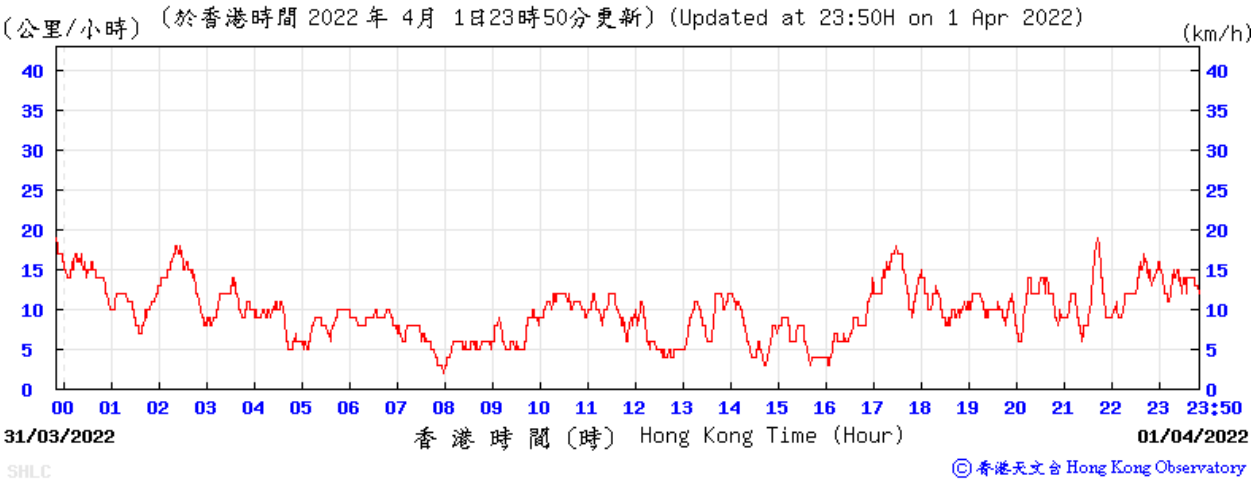
测试日期：2021 年 9 月 7 日

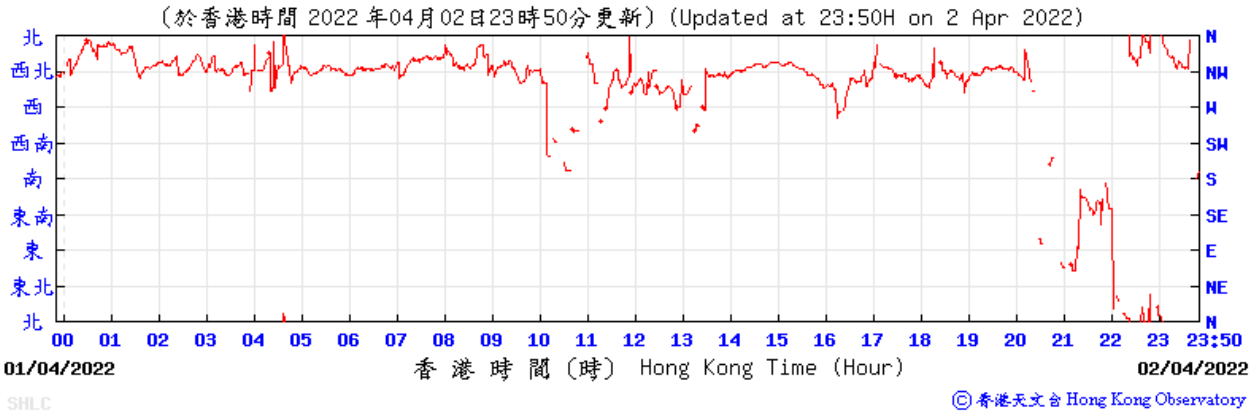
Appendix 4.3

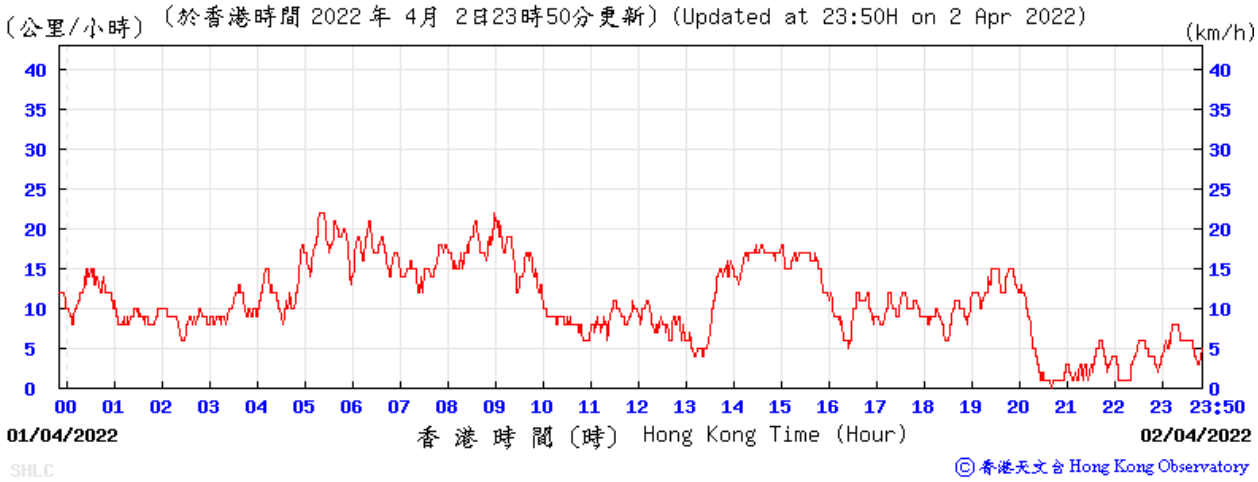
Wind Data

Wind Data (Wind Direction and Wind Speed) extracted from the Hong Kong Observatory (HKO)





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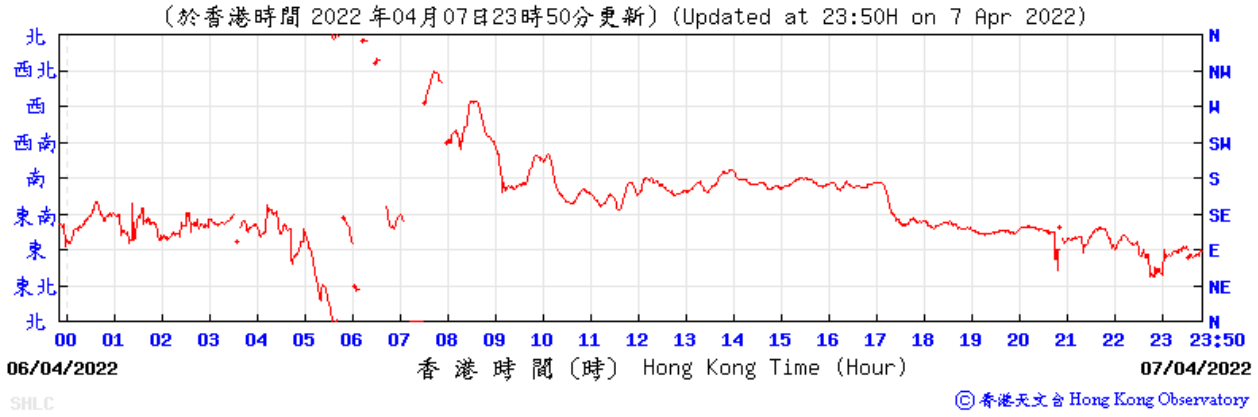
© 香港天文台 Hong Kong Observatory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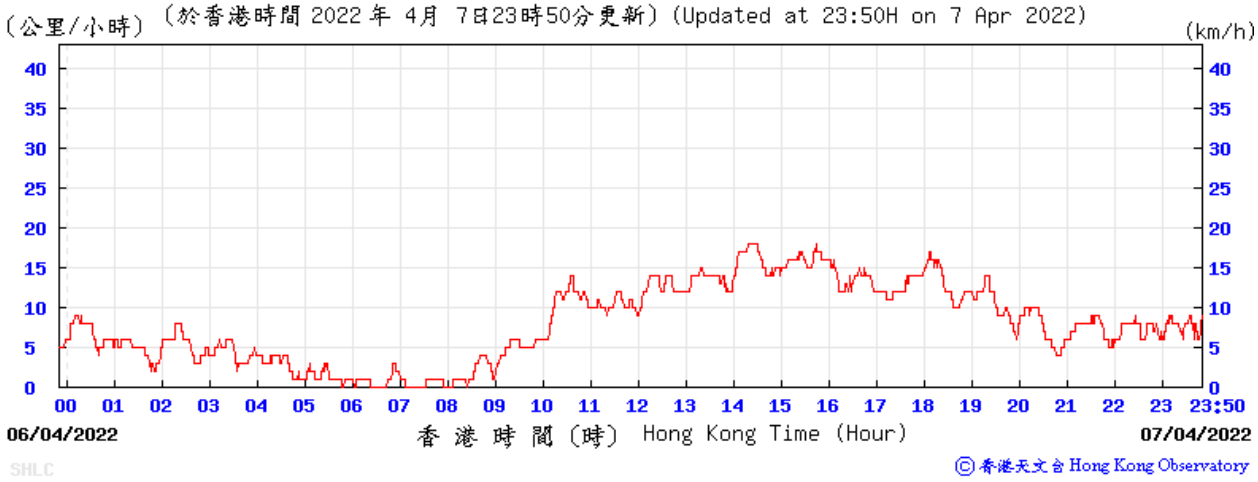
© 香港天文台 Hong Kong Observatory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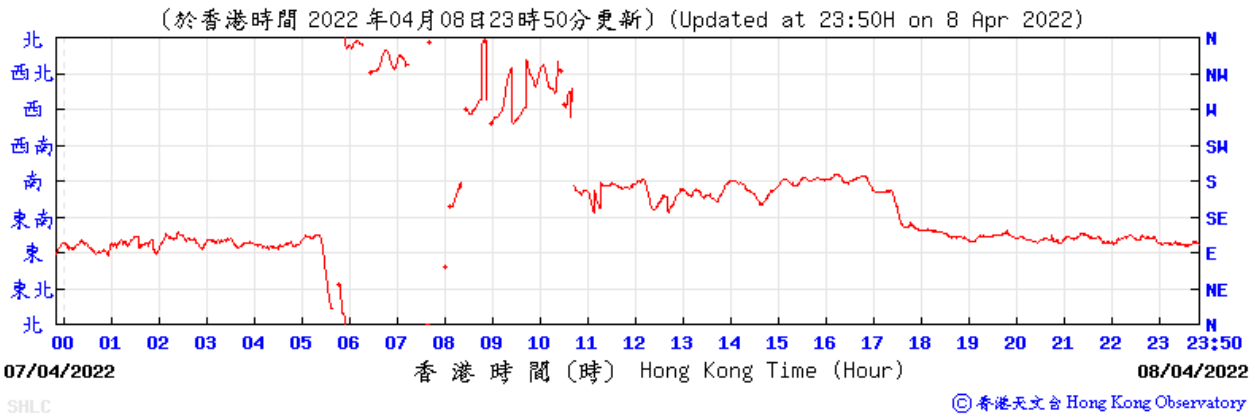
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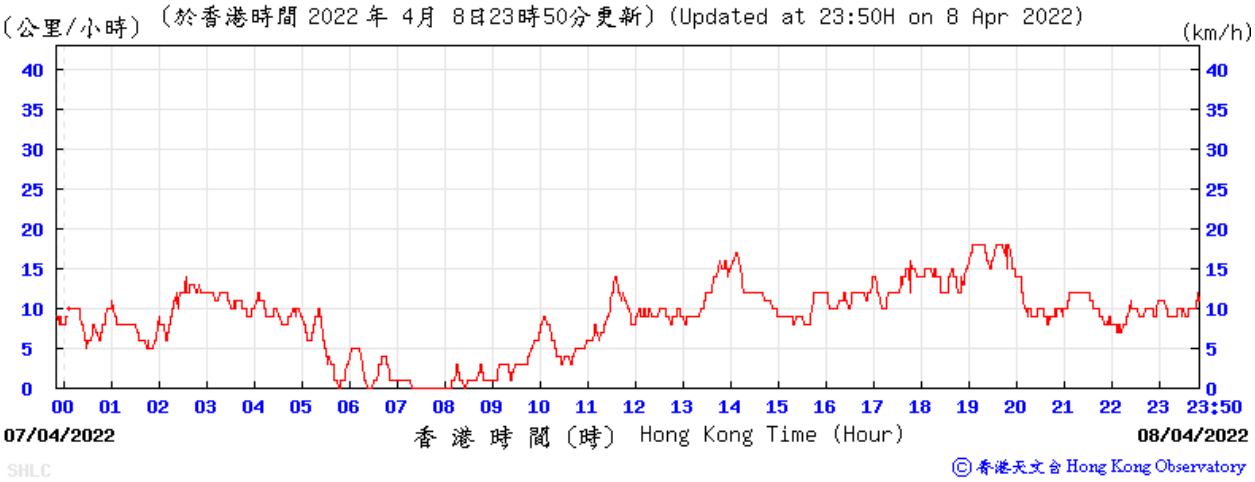
© 香港天文台 Hong Kong Observatory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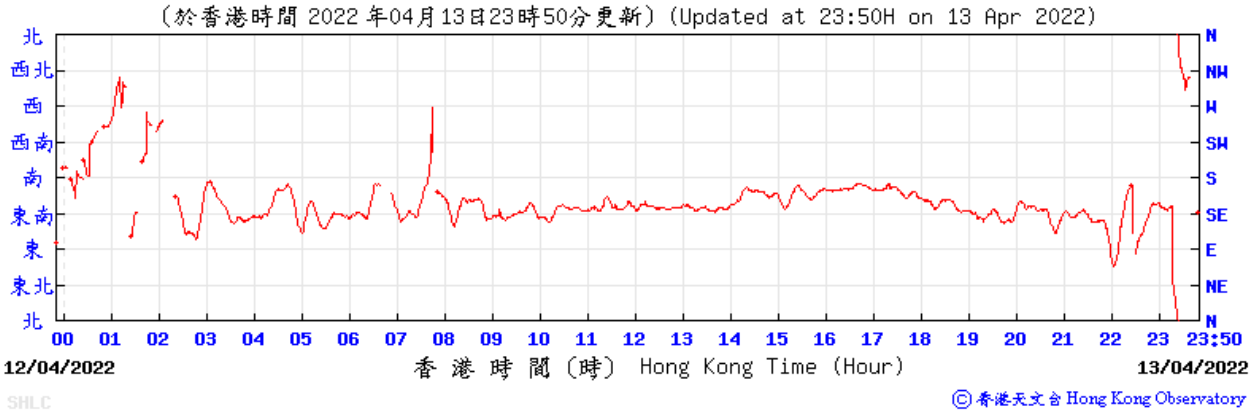
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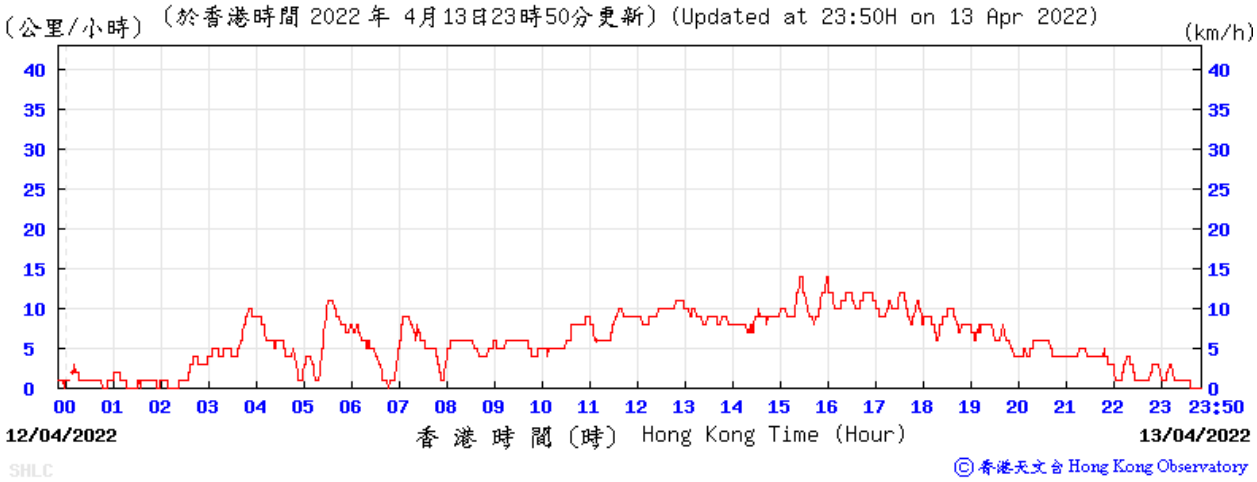
© 香港天文台 Hong Kong Observatory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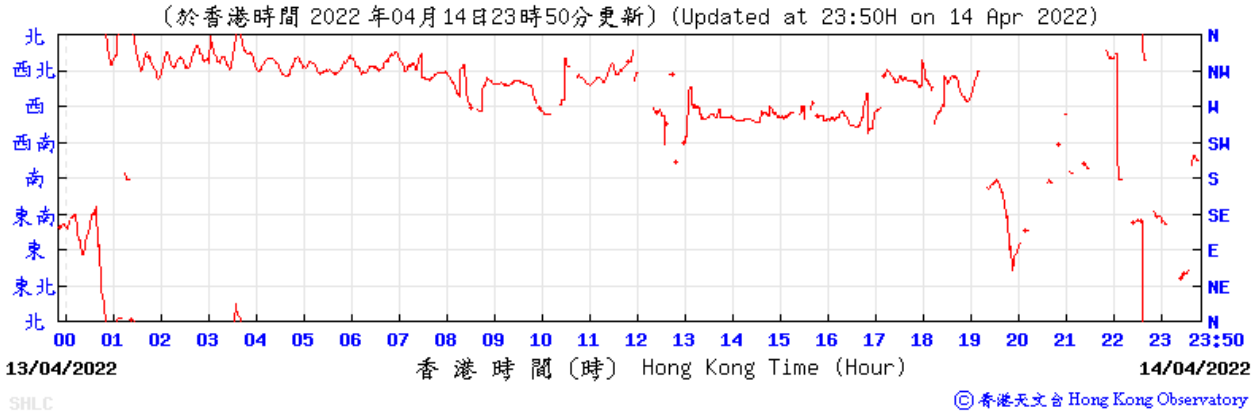
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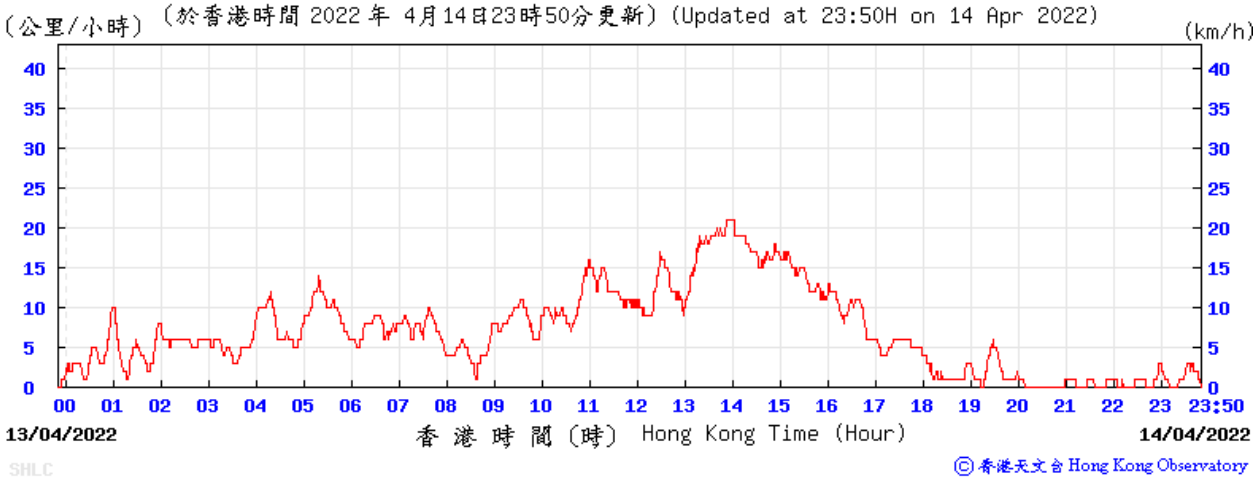
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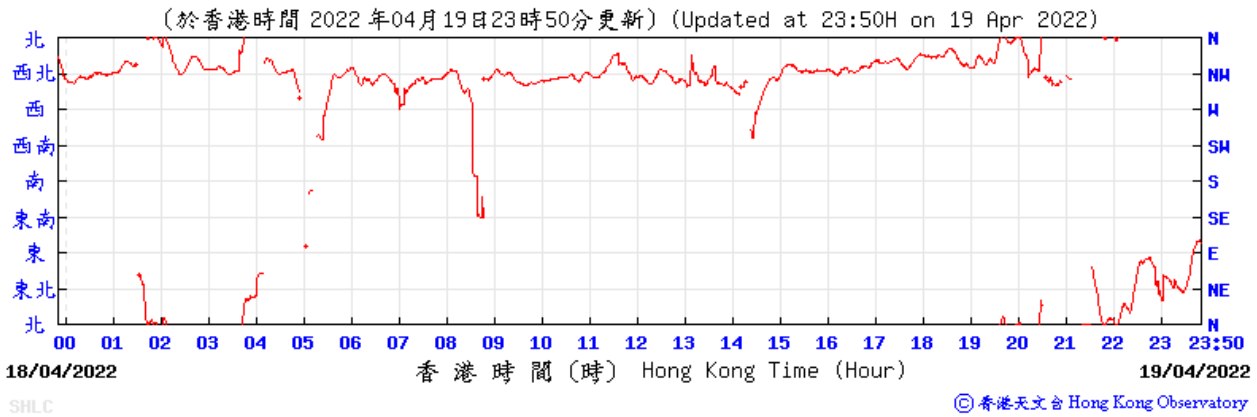
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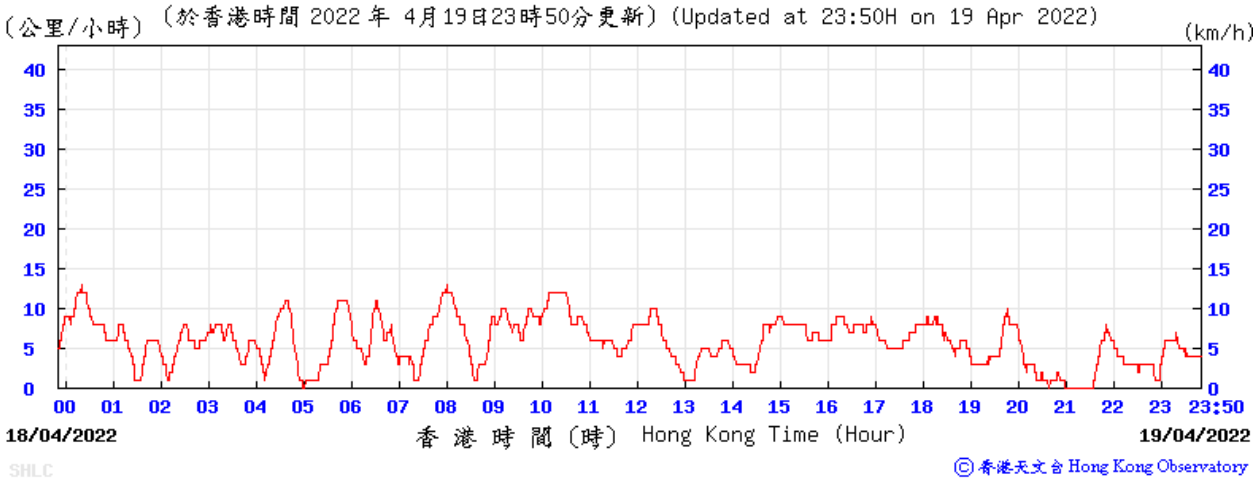
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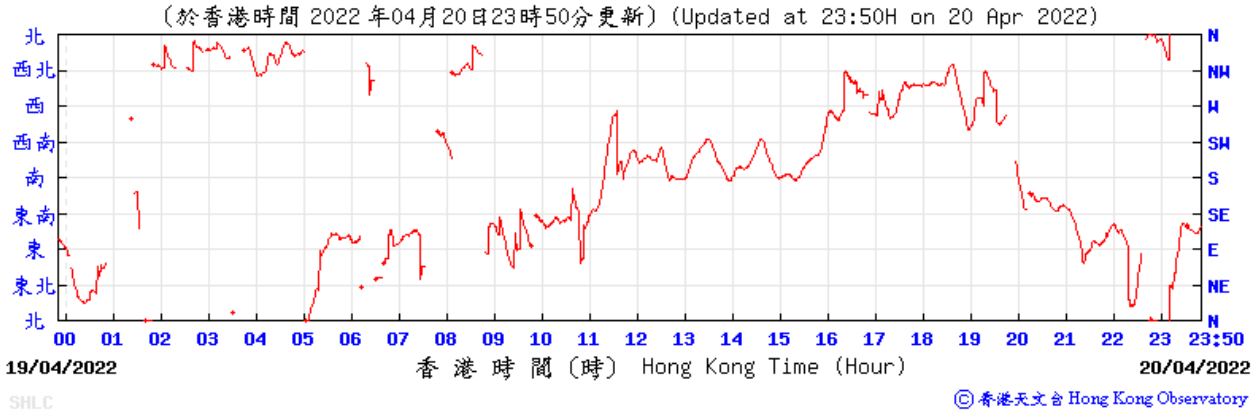
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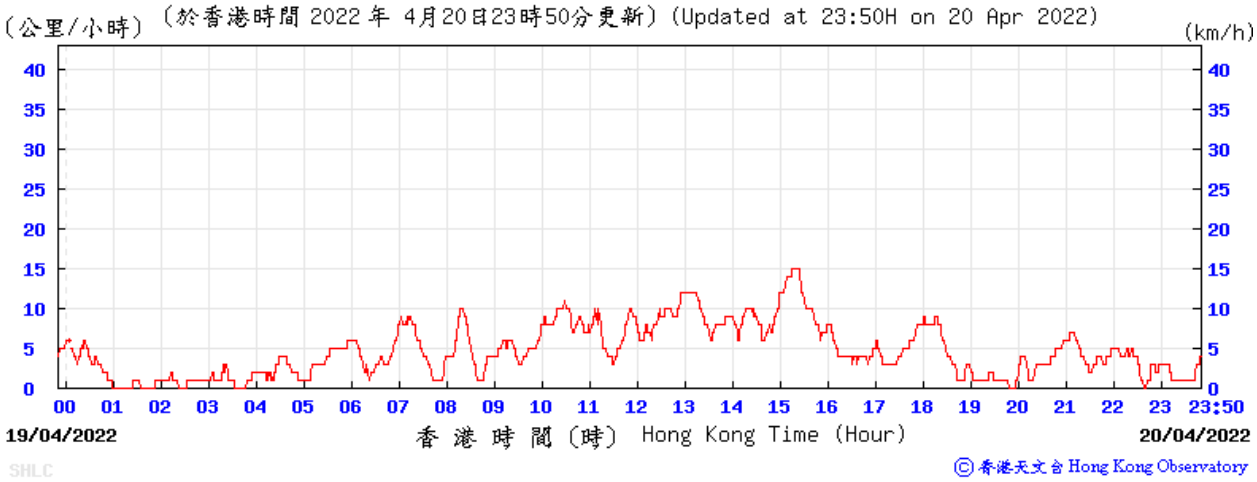
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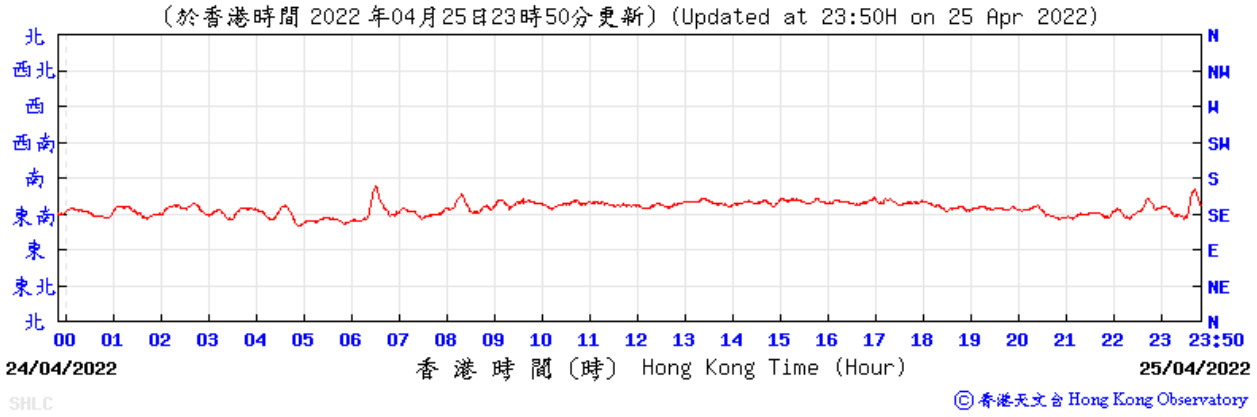
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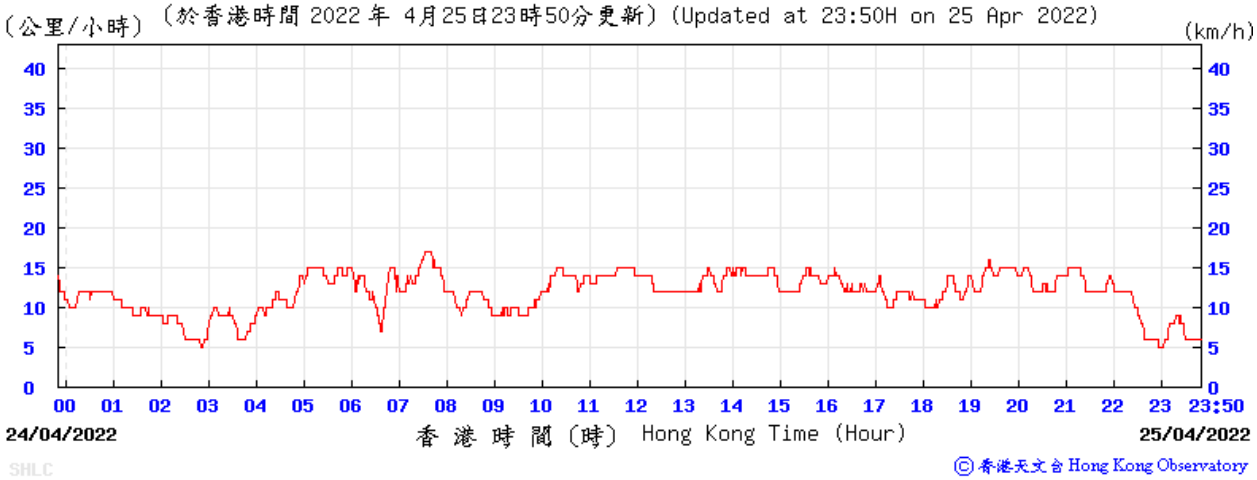
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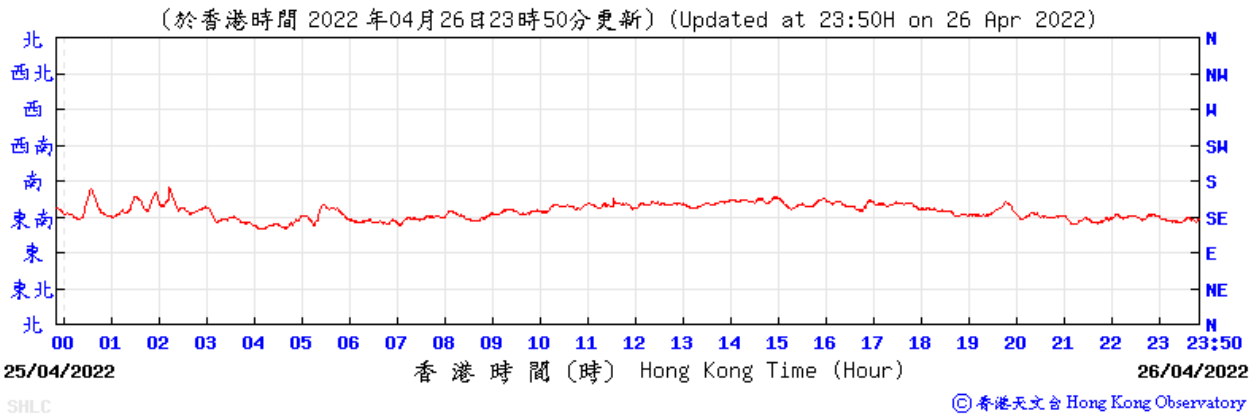
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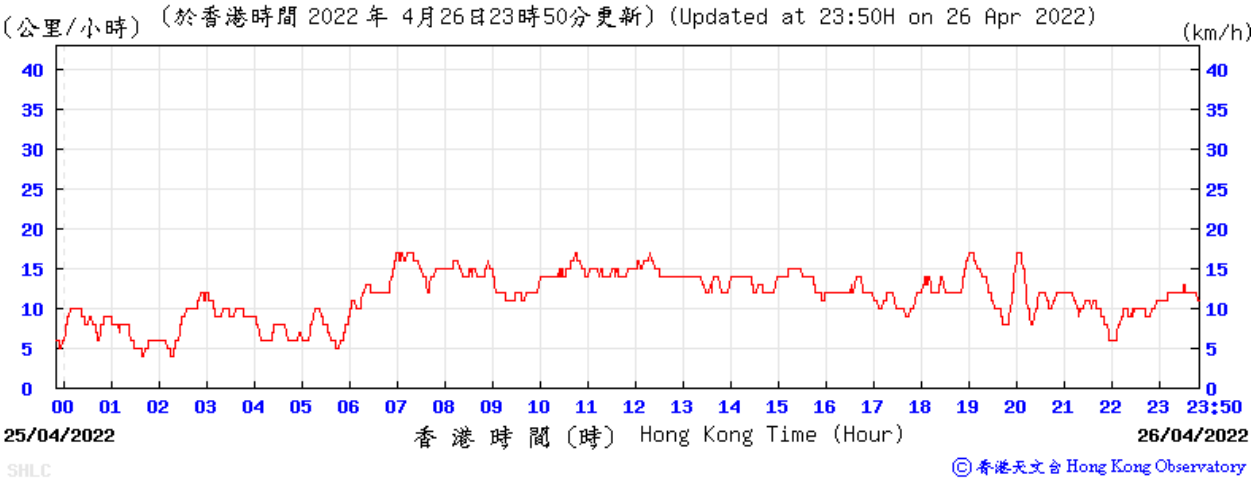
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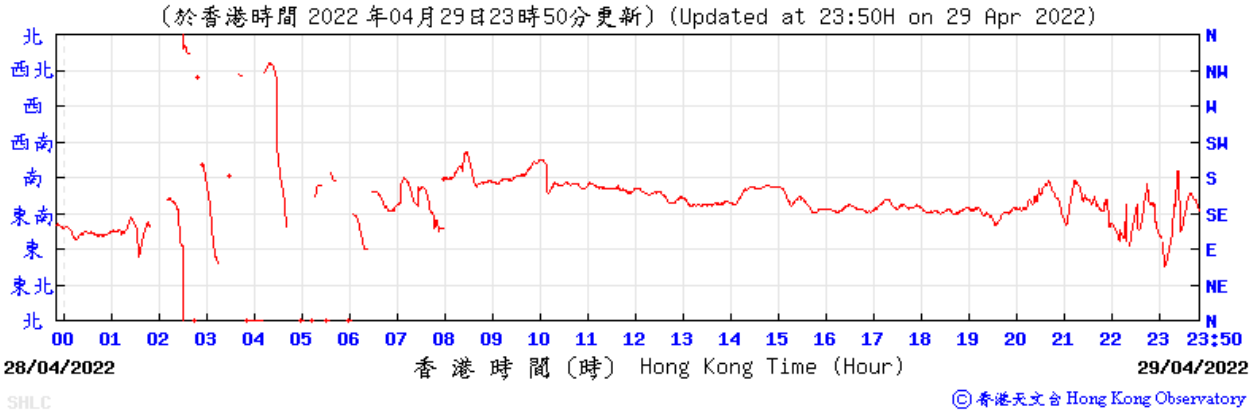
© 香港天文台 Hong Kong Observatory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香 港 時 間（時） Hong Kong Time (Hour)
29/04/2022
SHLC
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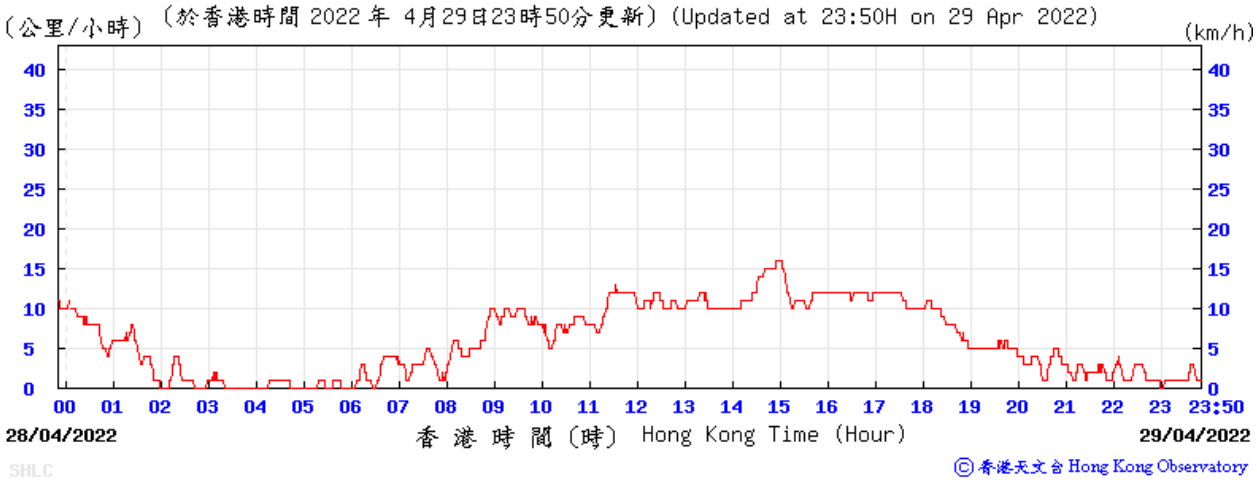
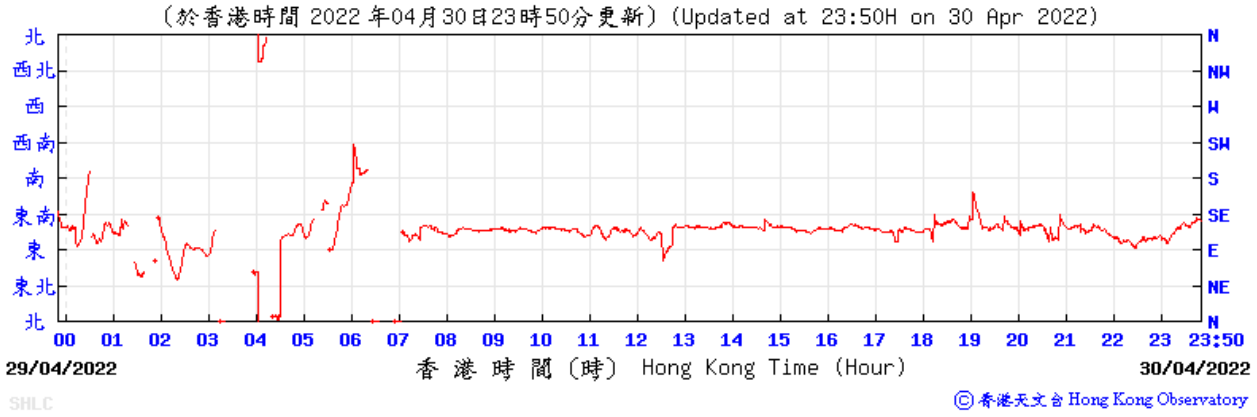
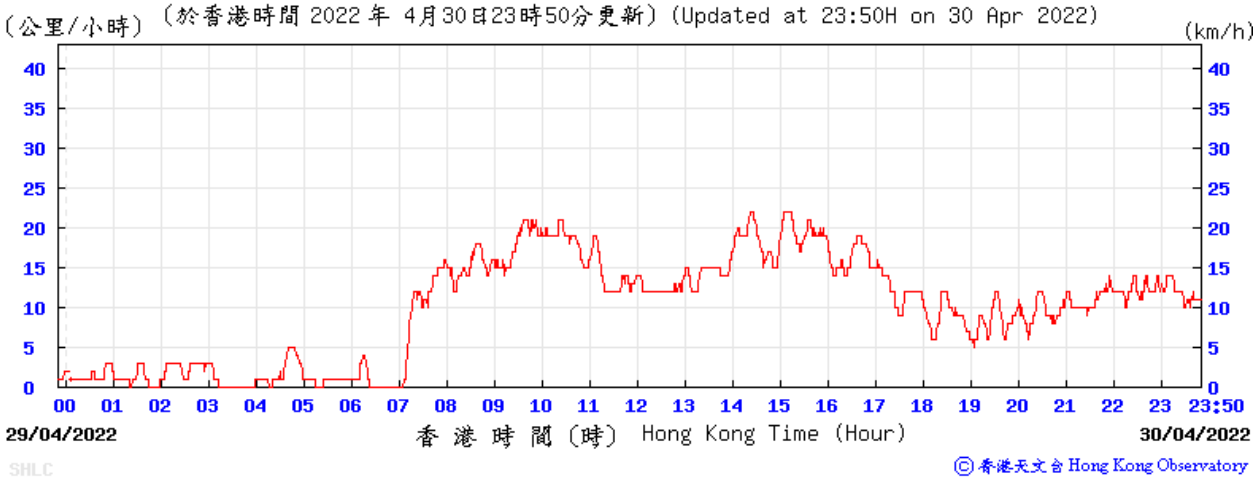






Remark(s): As the wind anemometer is under repair and calibration check. The wind data of Apr 2022 were reference to the wind data obtained from Hong Kong Observatory, i.e. Tsing Yi Weather Station.

Appendix 5.1

Monitoring Schedule for Reporting Month and Next Reporting Month

Contract No. HY/2020/08
Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Environmental Impact Monitoring Schedule
April 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Apr 24hr TSP	02-Apr 1hr TSP & Noise
03-Apr	04-Apr	05-Apr	06-Apr	07-Apr 24hr TSP	08-Apr 1hr TSP & Noise	09-Apr
10-Apr	11-Apr	12-Apr	13-Apr 24hr TSP	14-Apr 1hr TSP & Noise	15-Apr	16-Apr
17-Apr	18-Apr	19-Apr 24hr TSP	20-Apr 1hr TSP & Noise	21-Apr	22-Apr	23-Apr
24-Apr	25-Apr 24hr TSP	26-Apr 1hr TSP & Noise	27-Apr	28-Apr	29-Apr 24hr TSP	30-Apr 1hr TSP & Noise

Remark(s): (i) Due to case(s) tested positive for SARS-CoV-2 virus occurred at Fung King House (AMC02) announced by the Centre for Health Protection, 24-hour TSP monitorings were temporarily suspended on 01, 13, 19 and 25 Apr 2022.
(ii) TSP monitoring at AMC02 was suspended on 29 April 2022 as power interruption was experienced from 29 April 2022 to 05 May 2022.
(iii) Due to case(s) tested positive for SARS-CoV-2 virus occurred at Ming King House (AMC03A) announced by the Centre for Health Protection, 24-hour TSP monitorings were temporarily suspended on 01, 07, 13 and 19 Apr 2022.

Contract No. HY/2020/08
Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Tentative Environmental Impact Monitoring Schedule
May 2022

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-May	02-May	03-May	04-May 24hr TSP	05-May 1hr TSP & Noise	06-May 24hr TSP (AMC02)	07-May
08-May	09-May	10-May 24hr TSP	11-May 1hr TSP & Noise	12-May	13-May	14-May
15-May	16-May 24hr TSP	17-May 1hr TSP & Noise	18-May	19-May	20-May	21-May 24hr TSP
22-May	23-May 1hr TSP & Noise	24-May	25-May	26-May	27-May 24hr TSP	28-May 1hr TSP & Noise
29-May	30-May	31-May				

Remark(s): (i) Power interruption was experienced at AMC02 from 29 April 2022 to 05 May 2022, TSP monitoring was rescheduled to 06 May 2022.

Appendix 5.2

Noise Monitoring Results and Graphical Presentations

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-01 - R/F, Lai King Catholic Secondary School

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
8 Apr 2022	Fine	9:00	65.4	66.5	63.5	66.3	74.5	<Baseline Level	70
		9:05	67.8	68.6	64.6				
		9:10	65.7	66.3	63.9				
		9:15	66.9	67.4	64.1				
		9:20	65.8	66.9	63.8				
		9:25	65.5	67.0	64.8				
14 Apr 2022	Fine	9:00	66.2	67.8	63.1	66.0	74.5	<Baseline Level	70
		9:05	65.9	68.3	63.5				
		9:10	65.7	67.7	64.1				
		9:15	65.5	68.0	62.9				
		9:20	66.3	67.8	64.7				
		9:25	66.4	68.3	63.2				
20 Apr 2022	Fine	13:00	67.2	69.4	65.2	68.1	74.5	<Baseline Level	70
		13:05	66.8	69.1	63.2				
		13:10	67.7	70.1	65.7				
		13:15	66.4	68.4	63.6				
		13:20	69.4	72.2	67.4				
		13:25	69.8	72.3	67.1				
26 Apr 2022	Fine	9:00	67.9	69.8	66.5	68.1	74.5	<Baseline Level	65
		9:05	68.4	70.1	65.8				
		9:10	68.9	69.9	65.5				
		9:15	68.3	69.8	66.5				
		9:20	67.3	70.1	66.8				
		9:25	67.8	71.3	66.3				

Remark(s):

i. A free field correction +3dB(A) was made to measurement result at NMC-01.

ii. The Construction Noise Level refers to the corrected noise level based on the difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied.

iii. Limit level of noise monitoring station NMC-01 would be adjusted to 65dB(A) during examination period.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-02 - R/F, Fung King House

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
8 Apr 2022	Fine	10:00	65.0	65.7	64.2	65.1	67.6	<Baseline Level	75
		10:05	64.8	65.8	63.6				
		10:10	64.9	65.8	64.0				
		10:15	65.5	67.5	64.3				
		10:20	65.2	65.7	63.8				
		10:25	65.3	66.4	64.2				
14 Apr 2022	Fine	10:00	66.2	68.4	63.9	66.6	67.6	<Baseline Level	75
		10:05	67.8	69.2	65.5				
		10:10	64.3	66.8	61.4				
		10:15	65.9	67.8	63.4				
		10:20	66.6	67.8	64.6				
		10:25	67.7	70.1	66.2				
20 Apr 2022	Fine	14:00	65.2	67.5	62.1	66.3	67.6	<Baseline Level	75
		14:05	65.5	68.1	63.2				
		14:10	65.1	66.7	63.1				
		14:15	68.3	70.2	63.8				
		14:20	66.4	67.2	64.3				
		14:25	66.5	68.8	64.6				
26 Apr 2022	Fine	10:00	66.9	68.6	66.1	66.4	67.6	<Baseline Level	75
		10:05	66.3	67.7	66.0				
		10:10	66.2	67.6	66.3				
		10:15	66.7	67.7	66.2				
		10:20	66.3	67.9	66.0				
		10:25	66.0	67.7	66.1				

Remark(s):

i. A free field correction +3dB(A) was made to measurement result at NMC-02.

ii. The Construction Noise Level refers to the corrected noise level based on the difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied.

iii. Due to cases Tested Positive for COVID-19 occurred at NMC02, noise monitoring was conducted at ground level instead of roof floor on 02, 14, 20 and 26 April 2022 to minimize the spread of virus as agreed with IEC.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMC-03 - G/F, HKEAA - Lai King Assessment Centre

Date	Weather	Time	Measurement Noise Level			Average Noise Level	Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq	Leq
			Unit: dB(A), (5-min)			Unit: dB(A), (30-min)			
8 Apr 2022	Fine	11:00	73.8	75.1	72.4	73.3	79.1	<Baseline Level	70
		11:05	73.5	74.5	72.0				
		11:10	72.9	73.8	71.9				
		11:15	73.4	74.5	72.2				
		11:20	73.0	74.0	71.7				
		11:25	73.1	74.1	72.0				
14 Apr 2022	Fine	11:00	74.8	77.7	72.1	75.5	79.1	<Baseline Level	70
		11:05	75.5	78.2	74.1				
		11:10	74.4	76.2	71.1				
		11:15	75.6	78.3	73.2				
		11:20	75.6	77.7	74.3				
		11:25	76.6	79.2	73.1				
20 Apr 2022	Fine	15:00	72.2	74.1	69.8	73.9	79.1	<Baseline Level	70
		15:05	73.3	76.7	71.5				
		15:10	72.6	75.4	70.6				
		15:15	73.3	75.5	71.1				
		15:20	76.2	79.8	73.1				
		15:25	74.3	78.8	71.0				
26 Apr 2022	Fine	11:00	72.2	74.8	70.1	71.9	79.1	<Baseline Level	65
		11:05	71.0	72.2	69.7				
		11:10	71.4	72.6	69.1				
		11:15	71.1	72.7	69.6				
		11:20	72.7	75.1	70.5				
		11:25	72.9	74.3	70.8				

Remark(s):

i. A free field correction +3dB(A) was made to measurement result at NMC-03.

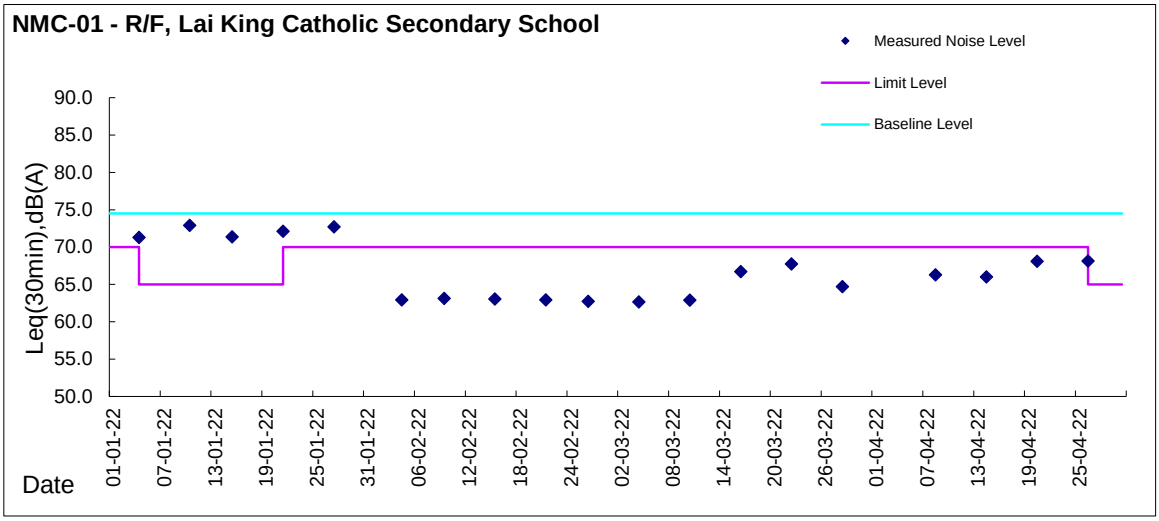
ii. The Construction Noise Level refers to the corrected noise level based on the difference between SPL of the Measured Noise Level and the SPL of the Baseline Noise Level. In the event of the Baseline Noise Level exceeds the Measured Noise Level, no correction would be applied.

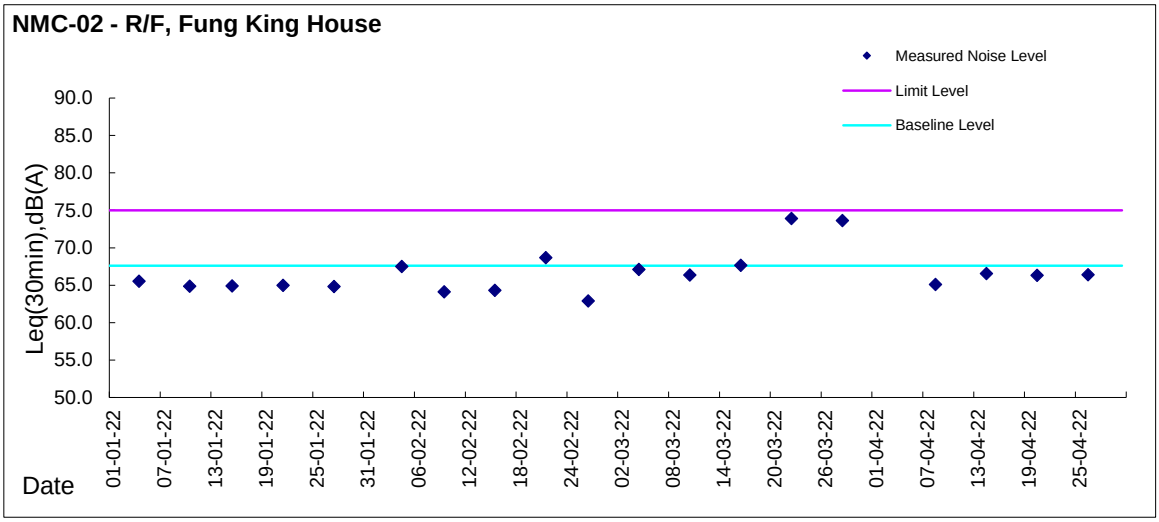
iii. As the baseline level of NMC-03 is higher than the measured average noise level on 08, 14, 20 and 26 Apr 2022, the noise monitoring results are not considered as noise exceedances.

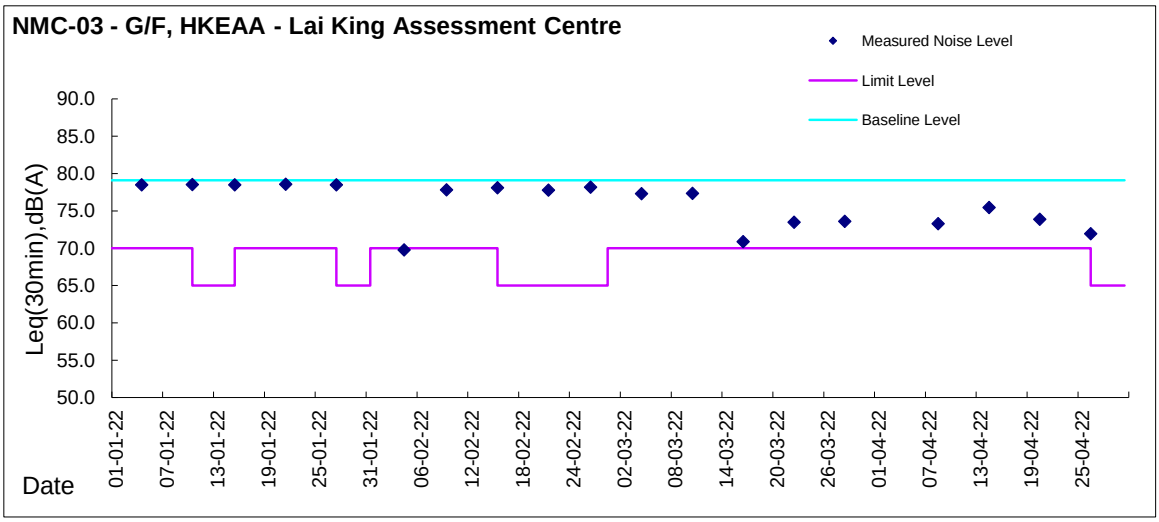
iv. Limit level of noise monitoring station NMC-03 would be adjusted to 65dB(A) during examination period.

Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)







Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations

Report on 1-hour TSP monitoring at AMC01- Lai King Catholic Secondary School

Action Level ($\mu g/m^3$) - 256.2

Limit Level ($\mu g/m^3$) - 500.0

Date	Weather Condition	Time	TSP Level ($\mu g/m^3$)
02-Apr-22	Fine	8:14	14.8
02-Apr-22	Fine	9:15	5.1
02-Apr-22	Fine	10:16	8.4
08-Apr-22	Fine	9:17	15.9
08-Apr-22	Fine	10:18	16.0
08-Apr-22	Fine	11:19	26.3
14-Apr-22	Fine	7:57	14.6
14-Apr-22	Fine	8:58	8.5
14-Apr-22	Fine	9:59	21.8
20-Apr-22	Fine	11:11	37.3
20-Apr-22	Fine	12:12	22.2
20-Apr-22	Fine	13:13	23.0
26-Apr-22	Cloudy	10:14	12.2
26-Apr-22	Cloudy	13:01	13.7
26-Apr-22	Cloudy	14:02	10.5
30-Apr-22	Cloudy	13:28	46.1
30-Apr-22	Cloudy	14:29	39.4
30-Apr-22	Cloudy	15:30	30.8

Report on 1-hour TSP monitoring at AMC02 - Fung King House

Action Level ($\mu g/m^3$) - 256.7

Limit Level ($\mu g/m^3$) - 500.0

Date	Weather Condition	Time	TSP Level ($\mu g/m^3$)
02-Apr-22	Fine	8:51	80.1
02-Apr-22	Fine	9:52	26.0
02-Apr-22	Fine	10:53	37.6
08-Apr-22	Fine	10:21	188.5
08-Apr-22	Fine	11:22	171.0
08-Apr-22	Fine	13:23	190.6
14-Apr-22	Fine	8:35	69.9
14-Apr-22	Fine	9:36	38.2
14-Apr-22	Fine	10:37	104.8
20-Apr-22	Fine	11:49	172.3
20-Apr-22	Fine	12:50	96.6
20-Apr-22	Fine	13:51	91.0
26-Apr-22	Cloudy	13:01	37.0
26-Apr-22	Cloudy	14:02	40.7
26-Apr-22	Cloudy	15:03	34.9
30-Apr-22	Cloudy	13:09	154.0
30-Apr-22	Cloudy	14:10	129.4
30-Apr-22	Cloudy	15:11	102.0

Remark(s): Due to by cases Tested Positive for COVID-19 occurred at AMC02 announced by CHP, air quality monitoring was conducted at ground level instead of roof floor on 02, 14, 20 and 26 April 2022 to minimize the spread of virus as agreed with IEC.

Report on 1-hour TSP monitoring at AMC03A - Ming King House

Action Level ($\mu g/m^3$) - 259.3

Limit Level ($\mu g/m^3$) - 500.0

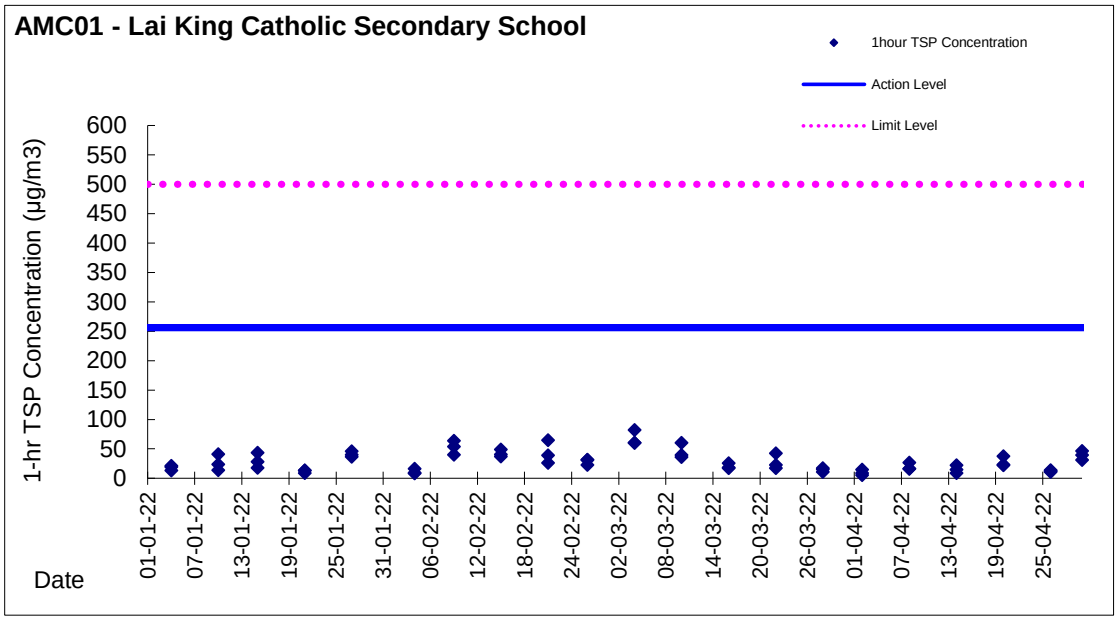
Date	Weather Condition	Time	TSP Level ($\mu g/m^3$)
02-Apr-22	Fine	8:22	20.1
02-Apr-22	Fine	9:23	7.0
02-Apr-22	Fine	10:24	11.3
08-Apr-22	Fine	9:46	106.0
08-Apr-22	Fine	10:47	97.3
08-Apr-22	Fine	13:00	90.8
14-Apr-22	Fine	8:05	49.8
14-Apr-22	Fine	9:06	29.0
14-Apr-22	Fine	10:07	77.6
20-Apr-22	Fine	11:19	120.7
20-Apr-22	Fine	12:20	71.8
20-Apr-22	Fine	13:21	65.9
26-Apr-22	Cloudy	13:00	37.2
26-Apr-22	Cloudy	14:01	36.3
26-Apr-22	Cloudy	15:02	33.9
30-Apr-22	Cloudy	13:36	142.3
30-Apr-22	Cloudy	14:37	124.6
30-Apr-22	Cloudy	15:38	98.5

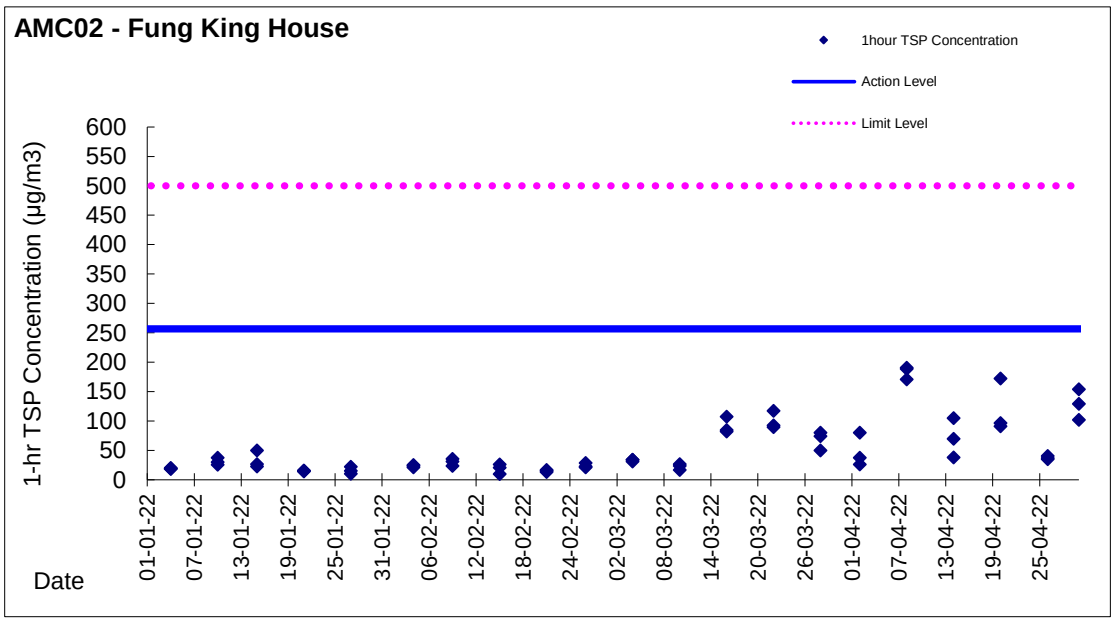
Remark(s): Due to case(s) Tested Positive for COVID-19 occurred at AMC03A announced by CHP, air quality monitoring was conducted at ground level instead of roof floor on 02, 08, 14 and 20 April 2022 to minimize the spread of virus as agreed with IEC.

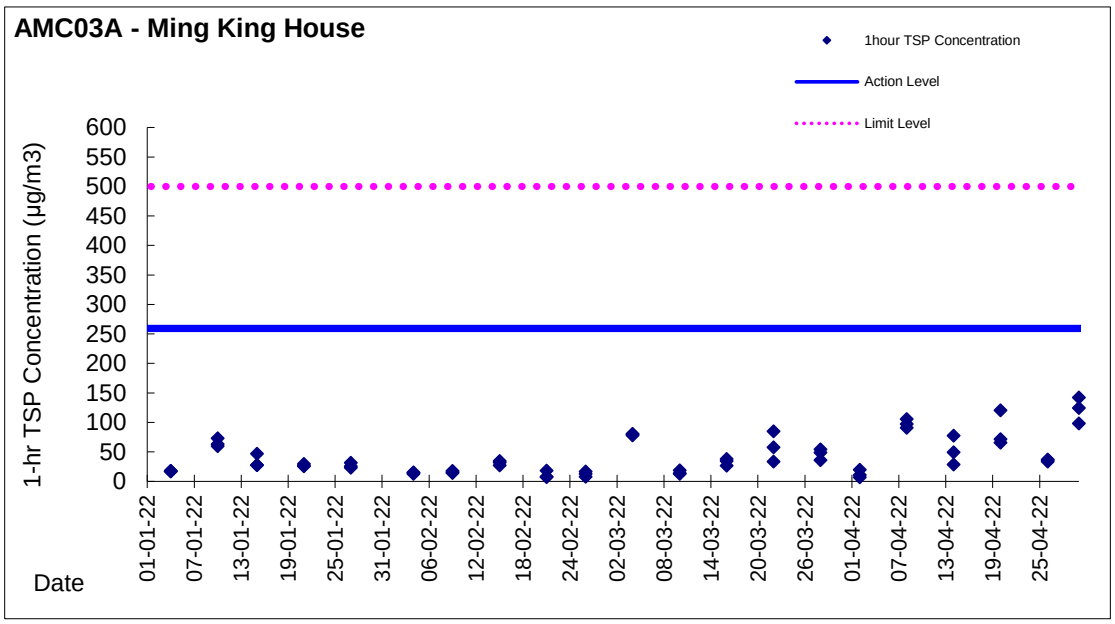
	Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu g/m^3$
					Initial	Final	Initial	Final		Initial, Qsi	Final, Qsf	Average		
AMC01	01-04-22	8:00	Fine	KC_AM1_24hr_008305	2.6995	2.7097	31576.28	31600.28	24.00	0.96	0.97	0.96	1389	7.3
	07-04-22	8:00	Fine	KC_AM1_24hr_009857	2.7341	2.8092	31576.28	31600.28	24.00	0.94	0.94	0.94	1352	55.5
	13-04-22	8:00	Fine	KC_AM1_24hr_010574	2.8014	2.8893	31624.28	31648.28	24.00	1.25	1.25	1.25	1794	49.0
	19-04-22	8:00	Fine	KC_AM1_24hr_010573	2.8059	2.8440	31648.28	31672.28	24.00	1.14	1.13	1.13	1632	23.3
	25-04-22	8:00	Fine	KC_AM1_24hr_010575	2.7899	2.8617	31672.28	31696.28	24.00	1.24	1.24	1.24	1788	40.2
	29-04-22	8:00	Fine	KC_AM1_24hr_010578	2.8131	2.8946	31696.28	31720.28	24.00	1.12	1.12	1.12	1613	50.5
AMC02	07-04-22	8:00	Fine	KC_AM1_24hr_008665	2.7075	2.7332	10223.17	10247.17	24.00	1.03	1.02	1.02	1475	17.4
AMC03a	25-04-22	8:00	Fine	KC_AM3_24hr_010579	2.8022	2.8711	10250.28	10274.28	24.00	1.70	1.70	1.70	2446	28.2
	29-04-22	8:00	Fine	KC_AM3_24hr_010580	2.7975	2.8386	10274.28	10298.28	24.00	1.30	1.30	1.30	1875	21.9

Remark(s): (i) Due to by cases Tested Positive for COVID-19 occurred at AMC02, 24-hr air quality monitoring on 01, 13, 19 and 25 Apr 2022 were suspended temprorarily to minimize the spread of virus as agreed with IEC.
(ii) The TSP monitoring at AMC02 was suspended on 29 April 2022 as power interruption was experienced from 29 April 2022 to 05 May 2022.
(iiI) Due to by cases Tested Positive for COVID-19 occurred at AMC03A, 24-hr air quality monitoring on 01, 07, 13 and 19 Apr 2022 was suspended temprorarily to minimize the spread of virus as agreed with IEC.

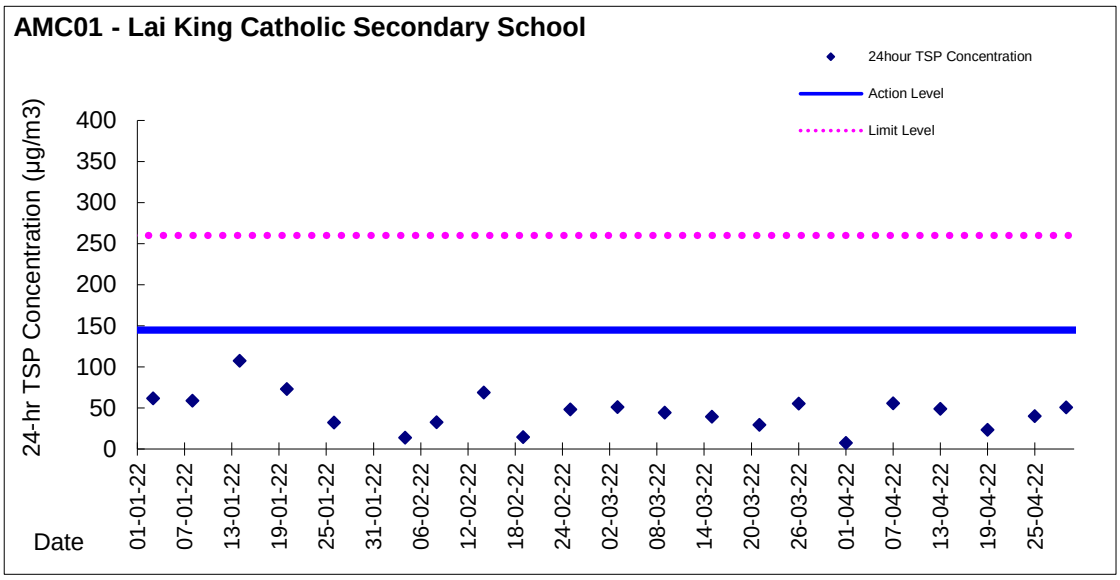
Graphic Presentation of 1-hour and 24-hour TSP Results

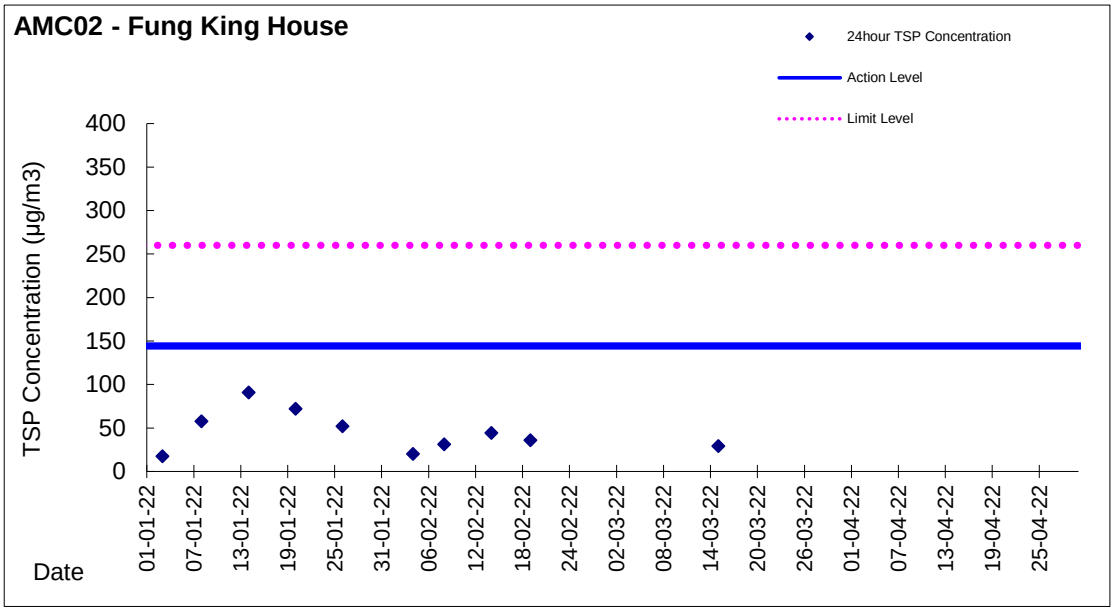


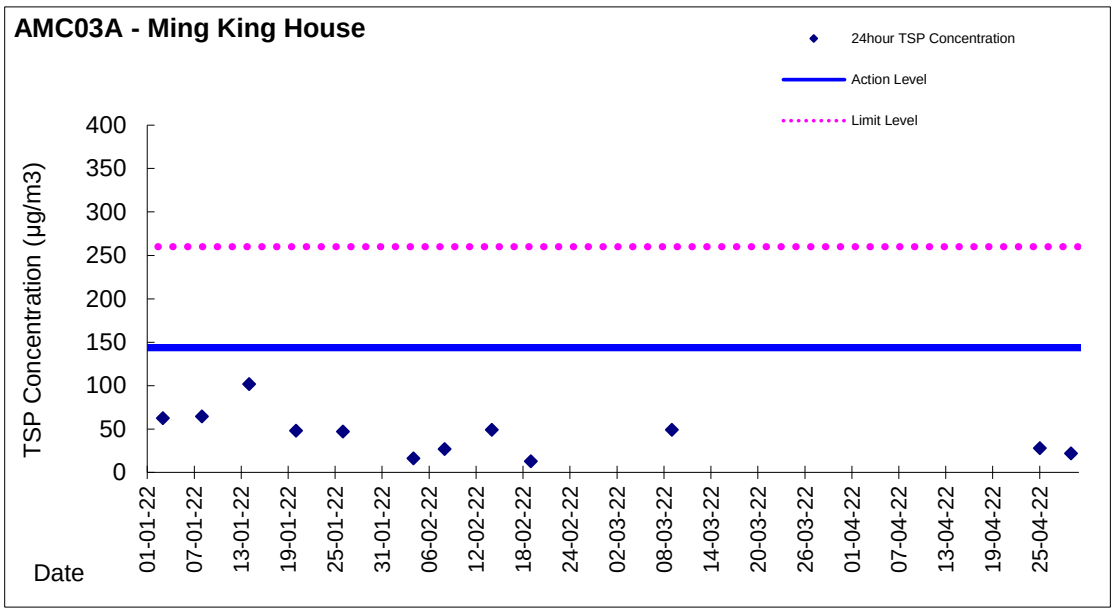




Graphic Presentation of 1-hour and 24-hour TSP Results







Appendix 5.4

Monthly Summary Waste Flow Table

Department: HyD
Contract : HY/2020/08 - Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Peako 必高工程

Monthly Summary Waste Flow Table for Year 2022

Month	Quantities of Inert C&D Materials Generated Monthly												Quantities of C&D Wastes Generated Monthly									
	Total Quantity Generated		Broken Concrete (see Note 2)		Reused in the Contract		Reused in other Projects		Disposed as Public Fill		Imported Fill		Metals		Paper / Cardboard packaging		Plastics (see Note 3)		Chemical Waste		Others, e.g. general refuse	
	(in '000m³)		(in '000m³)		(in '000m³)		(in '000m³)		(in '000m³)		(in '000m³)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000m³)	
	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.
Jan	0.02		0		0		0		0.02	0.448	0		0		0		0		0		0.02	0.01
Feb	0.02		0		0		0		0.02	0.135	0		0		0		0		0		0.02	0.005
Mar	0.02		0		0		0		0.02	0.243	0		0		0		0		0		0.01	0.025
Apr	0.02		0		0		0		0.02	0.569	0		0		0		0		0		0.01	0.01
May	0.02		0		0		0		0.02		0		0		0		0		0		0.005	
Jun	0.02		0		0		0		0.02		0		0		0		0		0.01		0.005	
Sub-total	0.12	0	0	0	0	0	0	0	0.12	1.395	0	0	0	0	0	0	0	0	0.01	0	0.07	0.05
Jul	0.2		0		0		0		0.2		0		0		0		0		0		0.005	
Aug	0.3		0		0		0		0.3		0		0		0		0		0		0.005	
Sep	0.3		0		0		0		0.3		0		0		0		0		0		0.005	
Oct	0.2		0		0		0		0.2		0		0		0		0		0		0.005	
Nov	0.2		0		0		0		0.2		0		0		0		0		0		0.005	
Dec	0.2		0		0		0		0.2		0		0		0		0		0.01		0.005	
Total	1.520	0	0	0	0	0	0	0	1.52	1.395	0	0	0	0	0	0	0	0	0.02	0	0.10	0.050

Forecast of Total Quantities of C&D Materials to be Generated from the Contract										
Total Quantity Generated	Broken Concrete (see Note 2)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
2.7	0	0	0	2.7	0	0.1	0.3	0.05	0.05	1.03

Notes: (1) The waste flow table shall also include C&D materials that are specified in the contract to be imported for use at the Site.
(2) Broken concrete for recycling into aggregates.
(3) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging material.

Appendix 6.1

Event and Action Plans

Event and Action Plan

Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitor frequency to check mitigation effectiveness;	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures.	1. Submit noise mitigation proposals to ET Leader / ER; 2. Implement noise mitigation proposals.
Limit Level exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

Event and Action Plan for Construction Dust Monitoring

Event	Action			
	ET	IEC	ER	Contractor
Action Level				
1. Exceedance for one sample	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	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods.	1. Notify the Contractor.	1. Rectify any unacceptable practices. 2. Amend working methods agreed with the ER as appropriate.
2. Exceedance for two or more consecutive samples	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.	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.	1. Notify the Contractor. 2. Ensure remedial measures properly implemented.	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				
1. Exceedance for one sample	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. Increase monitoring frequency to daily. 5. Assess effectiveness of the Contractor's remedial action and keep the IEC and ER informed of the results.	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.	1. Confirm receipt of the notification of exceedance in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented.	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.

Event	Action			
	ET	IEC	ER	Contractor
		5. Supervise the implementation of remedial measures.		
2. Exceedance for two or more consecutive samples	1. Notify the IEC, ER and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures with the ER to determine the possible mitigation to be implemented. 6. Arrange meeting with the IEC and ER to discuss the remedial action to be taken. 7. Assess the effectiveness of the Contractor's remedial action and keep the IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring.	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 and ET accordingly. 3. Supervise the implementation of remedial measures.	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 implemented. 4. Ensure remedial measures are properly implemented. 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.	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. 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.

Appendix 6.2

Summary of Notification of Exceedance

Summary for Notification of Exceedance

Ref No.	Date	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up Action
-	-	-	-	-	-	-	-

Ref. No.	Date	Time	Location	Construction Noise Level	Parameter	Action Level	Limit Level	Follow-up action
-	-	-	-	-	-	-	-	-

Appendix 8.1

Complaint Log

Environmental Complaints Log

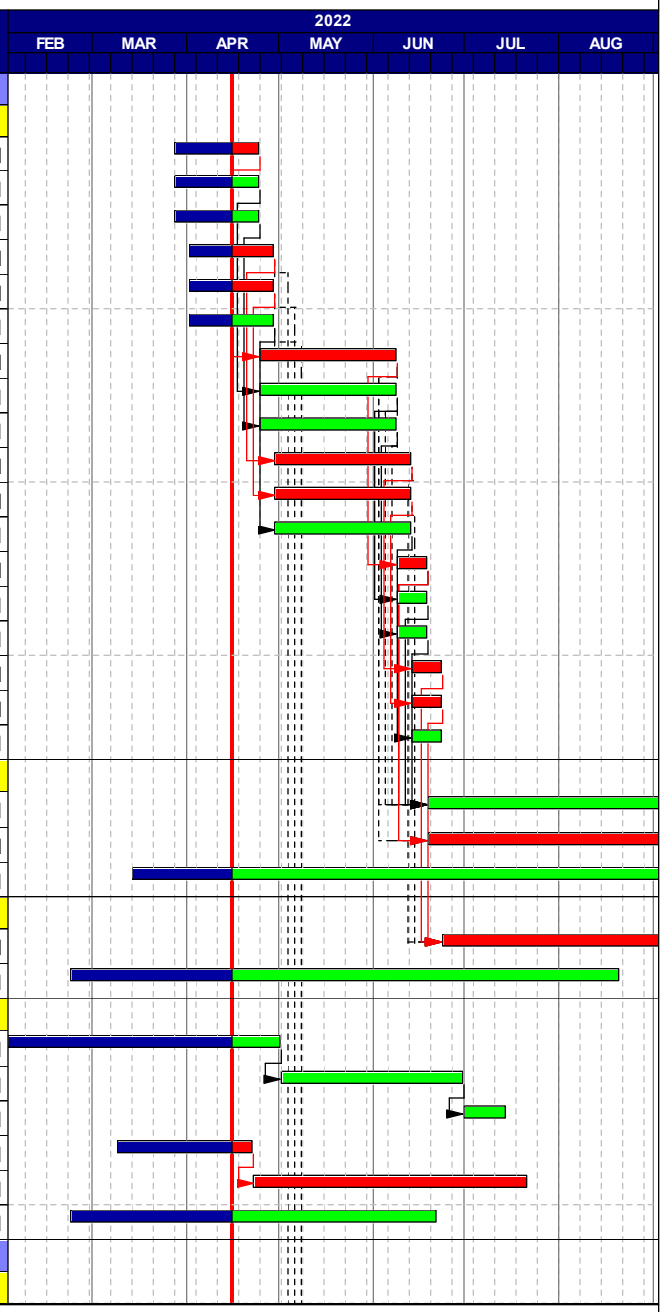
Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
-	-	-	-	-	-	-

Appendix 9.1

Construction Programme

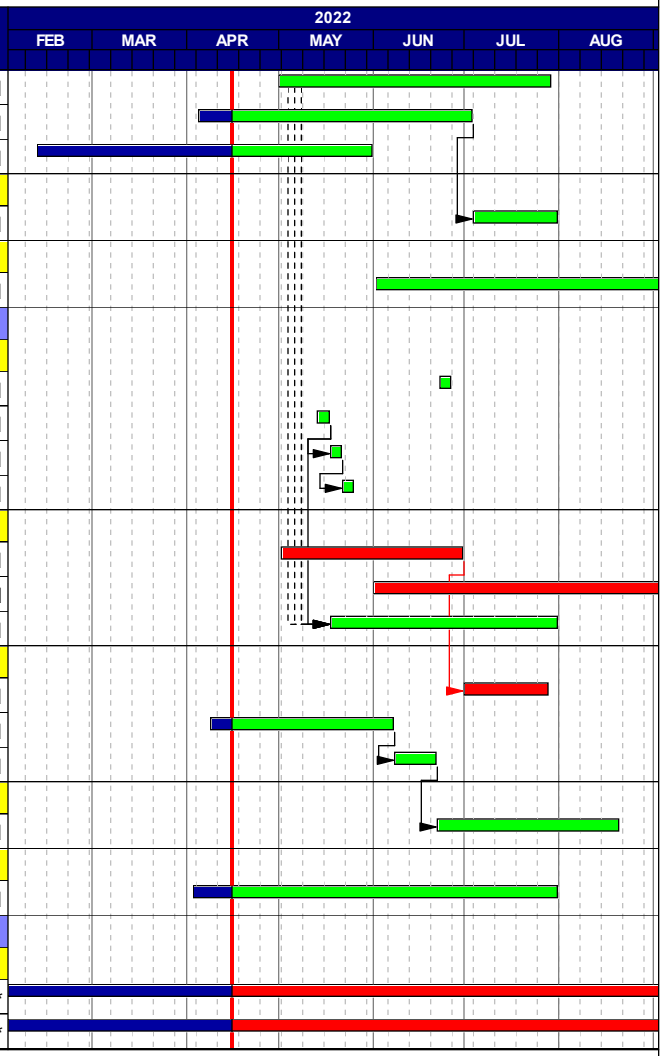
HyD Contract No. HY/2020/08
Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Act ID	Description	Orig Dur	Early Start	Early Finish	Total Float
Section I - Construction of New Footbridge					
Pile Cap Construction					
B1-3000	Excavation & Lateral Support - PC1	28	28MAR22 A	24APR22	-23d
B1-3010	Excavation & Lateral Support - PC5	28	28MAR22 A	24APR22	29d
B1-3011	Excavation & Lateral Support - PC3	28	28MAR22 A	24APR22	29d
B1-3020	Excavation & Lateral Support - PC2	28	02APR22 A	29APR22	-28d
B1-3030	Excavation & Lateral Support - PC4	28	02APR22 A	29APR22	-28d
B1-3040	Excavation & Lateral Support - PC6	28	02APR22 A	29APR22	24d
B1-4000	Construction of Pile Heads & Pile Cap - PC1	45	25APR22	08JUN22	-23d
B1-4010	Construction of Pile Heads & Pile Cap - PC5	45	25APR22	08JUN22	29d
B1-4011	Construction of Pile Heads & Pile Cap - PC3	45	25APR22	08JUN22	29d
B1-4020	Construction of Pile Heads & Pile Cap - PC2	45	30APR22	13JUN22	-28d
B1-4030	Construction of Pile Heads & Pile Cap - PC4	45	30APR22	13JUN22	-28d
B1-4040	Construction of Pile Heads & Pile Cap - PC6	45	30APR22	13JUN22	24d
B1-5000	Backfilling & Removal of ELS - PC1	10	09JUN22	18JUN22	-23d
B1-5010	Backfilling & Removal of ELS - PC5	10	09JUN22	18JUN22	29d
B1-5011	Backfilling & Removal of ELS - PC3	10	09JUN22	18JUN22	29d
B1-5020	Backfilling & Removal of ELS - PC2	10	14JUN22	23JUN22	-28d
B1-5030	Backfilling & Removal of ELS - PC4	10	14JUN22	23JUN22	-28d
B1-5040	Backfilling & Removal of ELS - PC6	10	14JUN22	23JUN22	24d
Lift Tower LT1 and Staircase					
B1-6000	Construction of Lift Tower	90	19JUN22	16SEP22	29d
B1-6100	Construction of Staircase	90	19JUN22	16SEP22	-23d
B1-6210	Manufacturing of Lift System	180	14MAR22 A	09SEP22	64d
Lift Tower LT2 and Staircase					
B1-7100	Construction of Staircase	90	24JUN22	21SEP22	-28d
B1-7210	Manufacturing of Lift System	180	22FEB22 A	20AUG22	84d
Footbridge					
B1-8000	Submission & Approval of Fabrication Drawings	90	01FEB22 A	01MAY22	13d
B1-8100	Prefabrication of Structural Steelwork	60	02MAY22	30JUN22	13d
B1-8110	Delivery of Steelwork to Site	14	01JUL22	14JUL22	13d
B1-8200	Submission & Approval of Bearing Design	45	09MAR22 A	22APR22	6d
B1-8210	Manufacturing of Bearings	90	23APR22	21JUL22	6d
B1-8300	Submission & Approval of TTA for Erection	120	22FEB22 A	21JUN22	78d
Section III - Bridge G					
Piling Works					



HyD Contract No. HY/2020/08
Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

Act ID	Description	Orig Dur	Early Start	Early Finish	Total Float
B3-2100	Construction of Piles - G1 (12 Nos.)	90	01MAY22	29JUL22	60d
B3-2110	Construction of Piles - G2 (16 Nos.)	90	05APR22 A	03JUL22	96d
B3-2120	Construction of Piles - G3 (16 Nos.)	90	11FEB22 A	31MAY22	132d
Pile Cap Construction					
B3-3010	Excavation & Lateral Support - G2	28	04JUL22	31JUL22	96d
Deck Stage 1 (G1-G2)					
B3-7010	Submission & Approval of Bearing Design	120	02JUN22	29SEP22	81d
Section IV - Bridge H					
Ground Investigation					
B4-1040	Pre-drilling - H5 (1 No.)	4	23JUN22	26JUN22	260d
B4-1050	Pre-drilling - H6 (1 No.)	4	14MAY22	17MAY22	238d
B4-1060	Pre-drilling - H7 (1 No.)	4	18MAY22	21MAY22	309d
B4-1070	Pre-drilling - Bay 1 (1 No.)	4	22MAY22	25MAY22	375d
Piling Works					
B4-2100	Construction of Piles - H1 (12 Nos.)	60	02MAY22 *	30JUN22	-4d
B4-2110	Construction of Piles - H2 (30 Nos.)	95	01JUN22 *	03SEP22	-69d
B4-2150	Construction of Piles - H6 (15 Nos.)	75	18MAY22	31JUL22	238d
Pile Cap Construction					
B4-3000	Excavation & Lateral Support - H1	28	01JUL22	28JUL22	-4d
B4-4030	Construction of Pile Heads & Pile Cap - H4	60	09APR22 A	07JUN22	336d
B4-5030	Backfilling & Removal of ELS - H4	14	08JUN22	21JUN22	336d
Piers and Abutment					
B4-6030	Construction of Pier H4	60	22JUN22	20AUG22	336d
Deck Stage 1 (H1-H2)					
B4-7010	Submission & Approval of Bearing Design	120	03APR22 A	31JUL22	39d
Section VI - Landscaping Works					
Preservation and Protection of Existing Trees					
B6-2000	Protection of Preserved Trees	1341	17JUN21 A	16FEB25 *	0 *
B6-2100	Updated Photo Records of Preserved Trees	1341	17JUN21 A	16FEB25 *	0 *



Start date	07JUN21
Must finish date	16FEB26

3-MONTH ROLLING PROGRAMME

Early bar
Progress bar
Critical bar
Start milestone point
Finish milestone point

Date	Revision	Checked	Approved
16APR22		CYW	TSL