MOTT MACDONALD

Agreement No. CE 30/2018 (EP) Environmental Team for Kai Tak Sports Park – Design and Construction

Quarterly EM&A Report (Jul 2020 – Sep 2020)

Oct 2020

Home Affairs Bureau

Home Affairs Bureau
Kai Tak Sports Park Project Office
Suite 1801, 18/F Guardian House
32 Oi Kwan Road
Wanchai, Hong Kong

Agreement No. CE 30/2018 (EP) Environmental Team for Kai Tak Sports Park – Design and Construction

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Oct 2020

Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497

Home Affairs Bureau

Home Affairs Bureau
The Government of the Hong Kong Special Administrative Region

Environmental Permit No. EP-544/2017

Kai Tak Sports Park - Investigation

Independent Environmental Checker Verification

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Quarterly EM&A Report No. 6 (July to September 2020)
Date of Report:	October 2020
Date received by IEC:	20 October 2020

Reference EP Condition / EM&A Manual

EM&A Manual (AEIAR-204/2017) Sections 2.5.1 (v) & 14.1.1

The ET should prepare monthly, quarterly and final EM&A reports to summarize environmental performance and to anticipate future key issues.

The ET shall prepare baseline monitoring report, monthly EM&A reports, quarterly EM&A report and final EM&A report. They shall be submitted to the EPD in paper and electronic formats in a timely manner.

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-544/2017/EM&A Manual.

Ms Mandy To

Independent Environmental Checker

Date: 21 October 2020

Our ref: 0500384_IEC Verification Cert_KTSP_Quarterly EM&A Rpt No.6.docx

Home Affairs Bureau
The Government of the Hong Kong Special Administrative Region

MOTT MACDONALD

Environmental Permit No. EP- 544/2017

Kai Tak Sports Park – Investigation

Environmental Team Leader Certification

Reference Document /Plan

Document/~~Plan~~ to be Certified:	Quarterly EM&A Report (Jul 2020 – Sep 2020)
Date of Report:	October 2020
Date received by ETL:	21 October 2020

Reference EP Condition

EM&A Manual (AEIAR-204/2017) Sections 2.5.1 (v) & 14.1.1

The ET should prepare monthly, quarterly and final EM&A reports to summarize environmental performance and to anticipate future key issues.

The ET shall prepare baseline monitoring report, monthly EM&A reports, quarterly EM&A report and final EM&A report. They shall be submitted to the EPD in paper and electronic formats in a timely manner.

ETL Certification

I hereby certify that the above reference document complies with the above referenced condition of EP-544/2017.

Sunny Chan

Mr Sunny Chan
Environmental Team Leader Date: 21 October 2020

Contents

Tables

Executive Summary

This is the 6th Quarterly Environmental Monitoring & Audit (EM&A) Report for the construction phase of the Kai Tak Sports Park (KTSP) Project which summaries findings of the EM&A programme during the reporting period from 1 July 2020 to 30 September 2020 (the "reporting period") under the Environmental Permit (No. EP-544/2017) requirement.

Environmental Monitoring and Audit Progress

The monthly EM&A programme was implemented by Environmental Team (ET) in accordance with the approved EM&A Manual. A summary of the EM&A activities during the reporting period is presented below:

Activities	Locations	Dates
Air quality impact monitoring (1-hour TSP)	AMS1, AMS2	4, 10, 16, 22, 28 July 2020 3, 7, 13, 19, 25, 31 August 2020 4, 10, 16, 22, 28 September 2020
Noise impact monitoring ($L_{eq\ (30\ min)}$)	NMS1, NMS2	10, 16, 22, 28 July 2020 3, 13, 19, 25, 31 August 2020 4, 10, 16, 22, 28 September 2020
Weekly environmental site inspections	Kai Tak Sports Park Project Site	8, 15, 22, 29 July 2020 5, 12, 20, 26 August 2020 2, 9, 16, 22, 30 September 2020
Bi-weekly landscape and visual site inspections	Kai Tak Sports Park Project Site	8, 22 July 2020 5, 20 August 2020 9, 22 September 2020

Breaches of Action and Limit Levels

Air Quality

No Action and Limit Level exceedances of 1-hour TSP level was recorded at AMS1 and AMS2 during the reporting period.

Noise

No Action and Limit Level exceedances of noise at NMS1 and NMS2 was recorded during the reporting period.

Complaint Log

There was one complaint received during the reporting period.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Reporting Changes

There was no reporting change during the reporting period.

1 Project Information

1.1 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure of the key personnel are shown in **Appendix A**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Project Proponent (Home Affairs Bureau)	Project Director (Sports Park)	Victor Tai	3586 3403	3586 0591
Supervising Officer's Representative (Home Affairs Bureau)	Senior Engineer	Keith Man	3586 3149	3586 0591
Environmental Team (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Sunny Chan	2828 5962	2827 1823
	Deputy Environmental Team Leader	Henry Leung	2828 5876	2827 1823
Independent Environmental Checker (ERM Hong Kong Limited)	Independent Environmental Checker	Mandy To	2271 3000	2723 5660
Contracted Party (Kai Tak Sports Park Limited)	Senior Project Manager	Michael Wong	3552 5003	2845 9295
	Senior Environmental Engineer	Hiko Law	3552 5013	3552 5099
Hotel and Office Development				
Project Manager (Sanon Limited)	Senior Group Project Director	David Lee	2910 8368	2815 9949
	Project Manager	William Chan	2910 8363	2815 9949
Project Architect (P&T Architects & Engineers Limited)	Project Architect	Patrick Chan	2832 7205	-
Contractor (CR Construction Company Limited)	Contractor	Math Chan	3950 5714	-
24-hour Community Liaison Hotline	-	-	5587 6112	-

1.2 Works Area and Construction Programme

The construction works commenced on 8 April 2019. The works area of the Project is shown in **Appendix B**. The Construction Works Programme of the Project is provided in **Appendix C**.

1.3 Construction Works undertaken during the Reporting Period

A summary of construction activities undertaken during this reporting period is presented below:

Table 1.2: Construction Works undertaken during the Reporting Period

July 2020	August 2020	September 2020
KTSP		
• Ground investigation works; • Pile cap construction; • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; • Concreting and excavation; and • Hoarding modification.	• Ground investigation works; • Pile cap construction; • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; and • Concreting and excavation	• Ground investigation works; • Pile cap construction • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; and • Concreting and excavation
H/O Development		
-	• Pre-drilling works; and • Sheet piling	• Pre-drilling works; • Sheet piling; and • Socket H piling

2 Summary of EM&A Requirement

2.1 EM&A Requirement

In accordance with the EM&A Manual of the Project, the EM&A programme was established to assure compliance with the standards and predictions in the EIA study involving the construction and operation of the Project. The environmental performance was routinely monitored and audited for evaluating the effectiveness of the recommended mitigation measures or remedial action. Impact air quality and noise monitoring were required for the Project.

Air Quality

2.2 Air Quality Monitoring Parameters, Frequency and Duration

Table 2.1 summarises the monitoring parameters, frequency and duration of impact air quality monitoring.

Table 2.1: Air Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
1-hour TSP	3 times every six-days

2.3 Air Quality Monitoring Locations

According to the EM&A Manual, a total of five air quality monitoring stations are identified for impact monitoring. AMS1 and AMS2 were set up at the proposed locations for impact monitoring during the reporting period. AMS3, AMS4 and AMS5 are planned residential use and were currently not available for impact monitoring.

Table 2.2 describes the impact air quality monitoring stations and **Figure 2.1** shows their locations.

Table 2.2: Construction Dust Monitoring Locations

Monitoring Station	Location	Status
AMS1	Hong Kong Society for the Blind Workshop, Roof Floor	Existing Air Sensitive Receiver
AMS2	Sky Tower, Podium of Tower 7	Existing Air Sensitive Receiver
AMS3	Kai Tak Area 2B Site 4 (2B4) (residential use)	Planned Air Sensitive Receiver
AMS4	Kai Tak Area 1K Site 3 (1K3) (residential use)	Planned Air Sensitive Receiver
AMS5	Kai Tak Area 1L Site 3 (1L3) (residential use)	Planned Air Sensitive Receiver

2.4 Action and Limit Levels for Air Quality Monitoring

The Action and Limit Levels for 1-hr TSP are provided in **Table 2.3**.

Table 2.3: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
AMS1 – Hong Kong Society for the Blind Workshop, Roof Floor	283	500

AMS2 – Sky Tower, Podium of Tower 7	280	500
AMS3 - Kai Tak Area 2B Site 4 (2B4) (residential use)	287*	500
AMS4 - Kai Tak Area 1K Site 3 (1K3) (residential use)	287*	500
AMS5 - Kai Tak Area 1L Site 3 (1L3) (residential use)	287*	500

*Remarks: the Action Level for AMS3, AMS4 and AMS5 were derived from an alternative monitoring station AMS3-4-5 during the baseline monitoring.

The event and action plan is provided in **Appendix D**.

2.5 Wind Data

Wind data at Kai Tak automatic weather station collected from the Hong Kong Observatory (HKO) were used for the air quality monitoring for recording wind speed and wind direction. It is considered that the wind data obtained at the existing Kai Tak wind station are representative of the Project area and could be used for undertaking the construction phase baseline and impact air quality monitoring programme for the Project.

The detail of the wind data is shown in **Appendix F**.

Noise

2.6 Noise Monitoring Parameters, Frequency and Duration

Table 2.4 summarises the monitoring parameters, frequency and duration of impact noise monitoring.

Table 2.4: Noise Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
30-minutes measurement at each monitoring station between 0700 and 1900 on normal weekdays (Monday to Saturday). L_{eq}, L_{10} and L_{90} would be recorded.	At least once per week

2.7 Noise Monitoring Locations

According to the approved EM&A Manual, a total of seven noise monitoring stations were identified for the impact monitoring locations. NMS1 and NMS2 were set up at the proposed locations for impact monitoring during the reporting period. NMS1A, NMS2A, NMS3, NMS4 and NMS5 are planned residential use and were currently not available for impact monitoring.

Table 2.5 describes the details of the monitoring stations and **Figure 2.2** shows the locations of noise monitoring stations.

Table 2.5: Construction Noise Monitoring Locations

Monitoring Station	Location Description	Status
NMS1	Hong Kong Society for the Blind Workshop, Roof Floor	Existing Noise Sensitive Receiver
NMS2	Sky Tower, Podium of Tower 7	Existing Noise Sensitive Receiver
NMS1A	Sung Wong Toi Road Public Housing Site	Planned Noise Sensitive Receiver

NMS2A	Sung Wong Toi Road CDA Site (mixed use)	Planned Noise Sensitive Receiver
NMS3	Kai Tak Area 2B Site 4 (2B4) (residential use)	Planned Noise Sensitive Receiver
NMS4	Kai Tak Area 1K Site 3 (1K3) (residential use)	Planned Noise Sensitive Receiver
NMS5	Kai Tak Area 1L Site 3 (1L3) (residential use)	Planned Noise Sensitive Receiver

2.8 Action and Limit Levels for Noise Monitoring

The Action and Limit Levels for construction noise are defined in **Table 2.6**

Table 2.6: Action and Limit Level for Construction Noise

Monitoring Station	Time Period	Action Level	Limit Level
NMS1 NMS2	0700 – 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)

The event and action plan is provided in **Appendix D**.

3 Summary of Environmental Status

3.1 Construction Works undertaken during the Reporting Period

A summary of construction activities undertaken during this reporting period is presented below:

Table 3.1: Construction Works undertaken during the Reporting Period

July 2020	August 2020	September 2020
KTSP		
• Ground investigation works; • Pile cap construction; • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; • Concreting and excavation; and • Hoarding modification.	• Ground investigation works; • Pile cap construction; • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; and • Concreting and excavation	• Ground investigation works; • Pile cap construction; • Piling works (Percussive piling, Socket H piling and Bored piling); • Mobilization; and • Concreting and excavation
H/O Development		
-	• Pre-drilling works; and • Sheet piling.	• Pre-drilling works; • Sheet piling; and • Socket H piling.

3.2 Implementation Status of Environmental Mitigation Measures

Regular site inspections and audits were carried out to monitor the implementation of proper environmental pollution control mitigation measures for the Project. **Table 3.2** shows the summary of site inspection and audit conducted during the reporting period.

Table 3.2: Summary of Site Inspection and Landscape Audit during the Reporting Period

Activities	Locations	Dates
Weekly environmental site inspections	Kai Tak Sports Park Project Site	8, 15, 22, 29 July 2020 5, 12, 20, 26 August 2020 2, 9, 16, 22, 30 September 2020
Bi-weekly landscape and visual site inspections	Kai Tak Sports Park Project Site	8, 22 July 2020 5, 20 August 2020 9, 22 September 2020

A summary of the environmental mitigation measures implementation status is presented in **Appendix I**. Most of the necessary mitigation measures were implemented properly. A summary of the environmental licenses and permits is presented in **Appendix H**.

3.3 Monitoring Results

The monitoring results for 1-hour TSP at AMS1 and AMS2 are summarized in **Table 3.3**. Detailed impact air quality monitoring results are presented in **Appendix E**. The calibration certificate for the dust meter used during monitoring is shown in **Appendix K**

Table 3.3: Summary of 1-hour TSP Monitoring Results during the Reporting Period

Monitoring Station	Average, µg/m^3	Min, µg/m^3	Max, µg/m^3	Action Level, µg/m^3	Limit Level, µg/m^3
AMS1	45	21	102	283	500
AMS2	42	24	91	280	500

There was no Action and Limit Level exceedance of 1-hr TSP level recorded at station AMS1 and AMS2 by the ET during the reporting period.

The monitoring results for construction noise are summarized in **Table 3.4**. Detailed impact noise monitoring results and relevant graphical plots are presented in **Appendix E**. The calibration certificate for the noise meter used during monitoring is shown in **Appendix K**

Table 3.4: Summary of Construction Noise Monitoring Results during the Reporting Period

	Measured Noise Level $L_{eq\ (30\ mins)}$, dB(A)			
Monitoring Station	Average	Min	Max	Limit Level
NMS1	70	69	71	75
NMS2	69	69	70	75

No noise exceedances were recorded at stations NMS1 and NMS2 by the ET during the reporting period.

3.4 Solid and Liquid Waste Management Status

The summary of waste flow table during the reporting period is detailed in **Appendix G**.

The comparison of estimated amount of waste generated for construction of the Project and actual amount generated during the reporting period is showed in **Table 3.5**

Mitigation measures recommended in EIA Report were implemented by the Contractor as far as practicable and were considered effective in reducing the total quantity of waste generated during the reporting period.

Table 3.5: Comparison of Estimated Amount and Actual Amount of Waste Generated during the Reporting Period

Type of Waste	Estimated Amount for the Project in the EIA (m^3)	Actual Amount during Reporting Period (000kg)	Actual Amount during Reporting Period* (m^3)
Inert C&D materials (or public fills) to be disposed of	447,464	3,771	2,901
Non-inert C&D materials (or C&D waste) to be disposed of	68,110	2,375	2,969
Total C&D material of the Project	515,574	6,146	5,870

*Note:
Assumed Inert C&D waste density = 1,300 kg/m^3
Assumed Non-inert C&D waste density = 800 kg/m^3

3.5 Summary of Non-compliance Status

Exceedances

Air Quality

No Action and Limit Level exceedances of 1-hour TSP level was recorded at AMS1 and AMS2 during the reporting period.

Noise

No Action and Limit Level exceedances of noise at NMS1 and NMS2 was recorded during the reporting period.

Complaints

There was one complaint received in relation to the environmental impact during the reporting period.

Table 3.6: Summary of Complaints during the reporting period

Date of Notification from EPD	Date of Complaint	Description of Complaint	Recommendations / Actions	Close-Out Date / Status
14 Sep 2020	8 Sep 2020	-Complaint of polluting effluent discharged from your construction site into the nearby seashore. -Please closely monitor the effluent of your wastewater treatment plants, provide sufficient wastewater treatment capacity and take appropriate actions to prevent discharge of muddy water including surface run-off from your site. Please ensure the works comply with all relevant environmental legislations.	1. Footing of hoarding near the sea side has been re-sealed. 2. Regular sampling at wastewater treatment tank discharge, checking of the water body quality and taking record of muddy water discharged from box culvert. 3. Regular cleaning of the sedimentation tanks and treatment plants to comply with the water quality requirement. 4. Sedimentation ponds and tanks have been provided for temporary wastewater storage.	18 Sep 2020

Detail of complaint investigation is shown in **Appendix L**.

Notification of Summons and Successful Prosecution

No notification of summons or prosecutions was received during the reporting period.

Statistics on notifications of summons and successful prosecutions are summarized in **Appendix J**.

4 Comments, Recommendations and Conclusion

4.1 Comments

Mitigation measures in the EM&A Manual were implemented during the reporting period. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended were effectively implemented. Based on observation from the site inspections, landscape audits, and the air quality and noise impact monitoring results recorded, it was considered that mitigation measures were effective and efficient in controlling the potential impacts due to construction of the project during the reporting period.

4.2 Recommendations

During the reporting period, the following recommendations were provided:

July 2020

KTSP

- The contractor was reminded to provide NRMM label for the generator on site.
- The contractor was reminded to provide water spraying on site.
- The contractor was reminded to provide mitigation measure to prevent site runoff.
- The contractor was reminded to provide covering for the stockpile on site.
- The contractor was reminded to clear the effluent tank as soon as possible.
- The contractor was reminded to clear the drainage channel and wheel washing bay as soon as possible.
- The contractor was reminded to provide drip tray for the chemical container on site.
- The contractor was reminded to provide impervious covering for the cement if the stack exceeds 20 bags.
- The contractor was reminded to clear the rubbish bin regularly to avoid over accumulation of general refuse.
- The contractor was reminded to clear the bubble as soon as possible to keep the effluent tank in good condition.

August 2020

KTSP

- The contractor was reminded to clear the drainage channel regularly.
- The contractor was reminded to clear the stagnant water on site.
- The contractor was reminded to provide NRMM label for generator on site.
- The contractor was reminded to clear the wastewater treatment tank regularly to ensure clear water quality at effluent tank.
- The contractor was reminded to clear the muddy water on site.
- The contractor was reminded to ensure the chemical waste storage area with correct labelling and only for storage of chemical waste.
- The contractor was reminded to fix the leakage as soon as possible.

- The contractor was reminded to provide appropriate mitigation measure to reduce noise emission.
- The contractor was reminded to provide covering for the stockpiles on site.
- The contractor was reminded to replace the faded colour NRMM label for the generator.
- The contractor was reminded to clear the rubbish bin regularly.
- The contractor was reminded to provide covering or water spraying for the stockpile on site.
- The contractor was reminded to provide regular water spraying to maintain wet surface at the haul road.
- The contractor was reminded to provide drip tray for the chemical container on site.

H/O Development

- The contractor was reminded to provide drip tray for the chemical container on site.
- The contractor was reminded to provide designated area for temporary storage and sorting C&D material on site.
- The contractor was reminded to fix the leakage as soon as possible.
- The contractor was reminded to clear the stagnant water near site hoarding as soon as possible.
- The contractor was reminded to provide covering for the stockpile on site.

September 2020

KTSP

- The contractor was reminded to display the NRMM label for the generator on site.
- The contractor was reminded to provide covering for storing over 20 bags of cement.
- The contractor was reminded to adjust the pH value of the wastewater treatment plant at northern site.
- The contractor was reminded to check the drainage channel to maintain good condition of the drainage channel.
- The contractor was reminded to clear the stagnant water.
- The container was reminded to provide drip tray for the chemical containers.
- The contractor was reminded to display the environmental permit/licenses.
- The contractor was reminded to replace the NRMM label for the generator.
- The contractor was reminded to fix the leakage.
- The contractor was reminded to provide covering for the cement bags.
- The contractor was reminded to provide covering for the stockpile.
- The contractor was reminded to provide covering for the dusty materials.

H/O Development

- The contractor was reminded to provide drip tray for the chemical container on site.
- The contractor was reminded to clear the stagnant water in the drip tray.
- The contractor was reminded to clean the filter of the generator regularly to maintain good condition.
- The contractor was reminded to replace the NRMM label.

Review of the effectiveness and efficiency of the EM&A programme will be continued, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

4.3 Conclusions

General

The construction works for the Project commenced on 8 April 2019.This is the 6th Quarterly EM&A Report for the Project summarises findings of the EM&A works during the reporting period from 1 July 2020 to 30 September 2020. (the “reporting period”).

Breaches of Action and Limit Levels

Air Quality

No Action and Limit Level exceedances of 1-hour TSP level was recorded at AMS1 and AMS2 during the reporting period.

Noise

No Action and Limit Level exceedances of noise at NMS1 and NMS2 was recorded during the reporting period.

Environmental Site Inspections

Environmental site inspections were carried out thirteen times during the reporting period. Recommendations on remedial actions were given to the Contracted Party for the deficiencies identified during the site inspections.

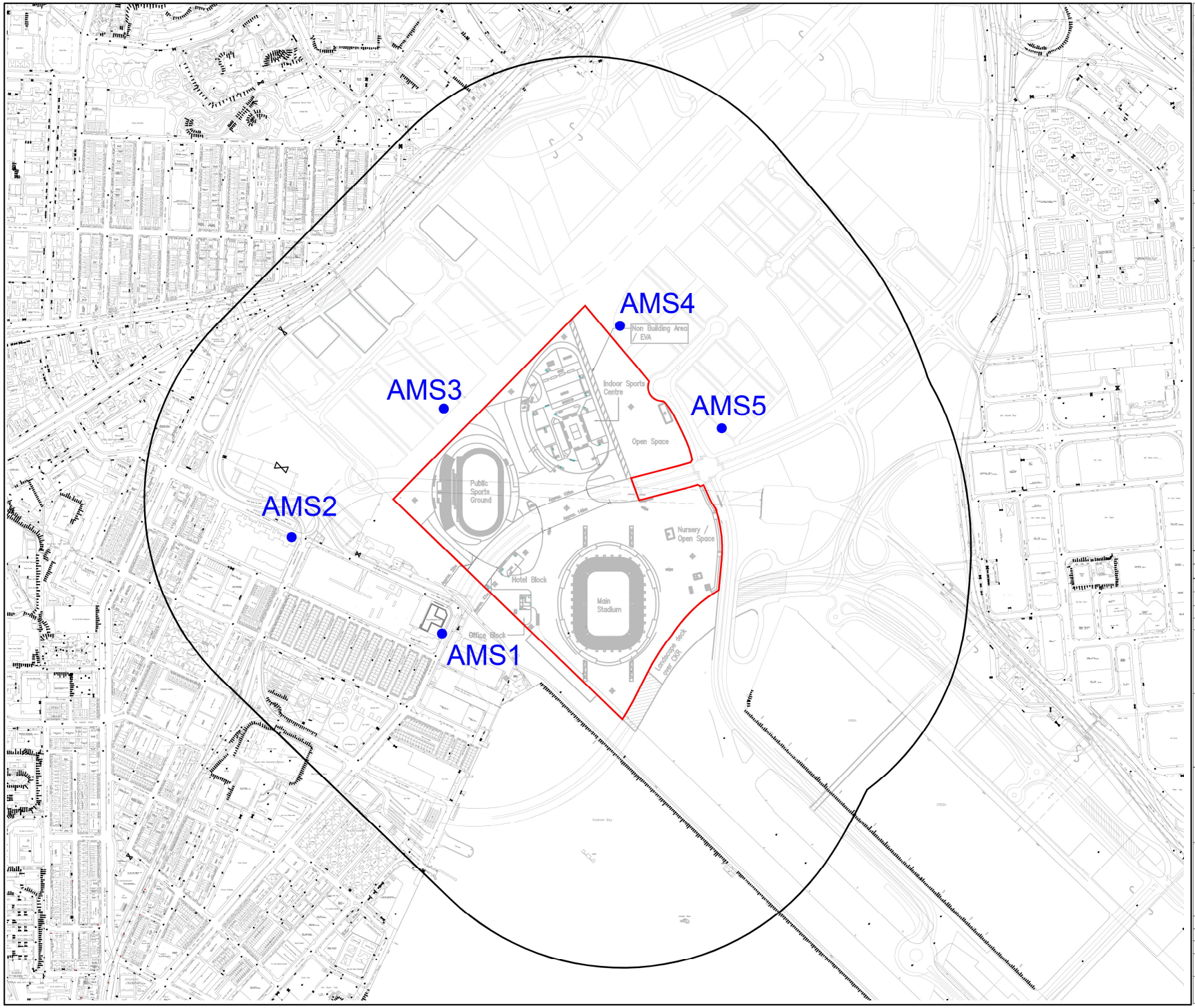
Complaints

There was one complaint received in relation to the environmental impact during the reporting period. Follow up actions have been taken and investigation reports was shown in **Appendix L.**

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during the reporting period.

Figures



Key Plan:

Notes:

1. ALL LEVELS ARE METRES TO PRINCIPAL DATUM (PD) UNLESS NOTED OTHERWISE.
2. ALL CO-ORDINATES REFER TO HONG KONG (1980) METRIC GRID CO-ORDINATES SYSTEM.
3. PIPE AND BOX CULVERT SIZES ARE SHOWN IN MILLIMETERS

Key to symbols:

LEGEND:

- Project Site
- 500m from Site Boundary
- AMS1 Air Monitoring Station 1

Rev	Date	Drawn	Description	Ch'k'd	App'd

MOTT MACDONALD
3/F Mapletree Bay Point
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

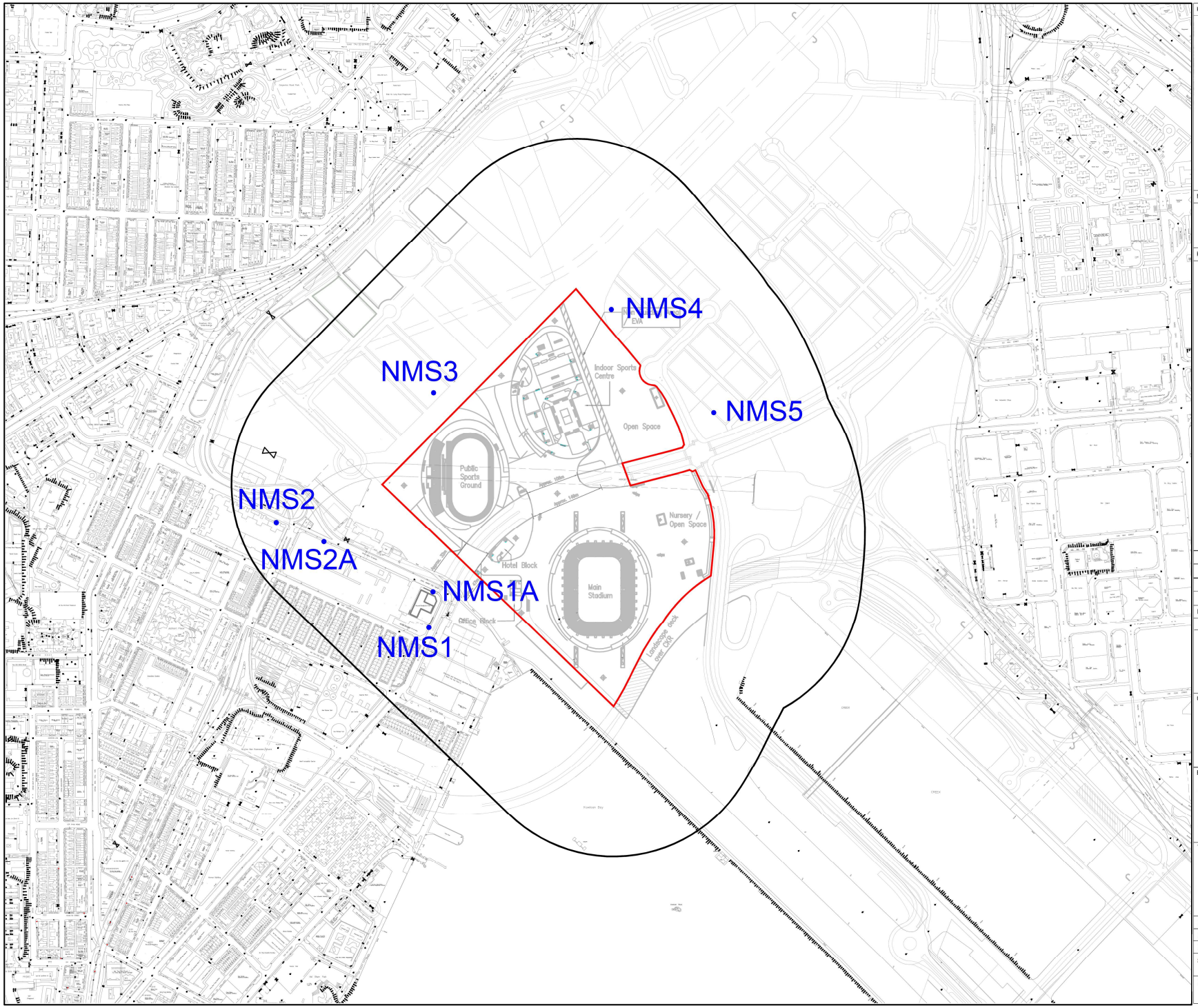
Project

Title

Figure 2.1
Location of Air Quality Monitoring Stations

Designed			Eng check		
Drawn			Coordination		
Dwg check			Approved		
Scale at A3		Status		Rev	

Drawing Number



Key Plan:

Notes:

1. ALL LEVELS ARE METRES TO PRINCIPAL DATUM (PD) UNLESS NOTED OTHERWISE.
2. ALL CO-ORDINATES REFER TO HONG KONG 1980 METRIC GRID CO-ORDINATES SYSTEM.
3. PIPE AND BOX CULVERT SIZES ARE SHOWN IN MILLIMETERS

Key to symbols:

LEGEND:

Project Site

300m from Site Boundary

NMS1 Construction Noise Monitoring Station 1

Rev	Date	Drawn	Description	Ch'k'd	App'd

MOTT MACDONALD

3/F Mapletree Bay Point
348 Kwun Tong Road
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T +852 2828 5757
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Client

Project

Title

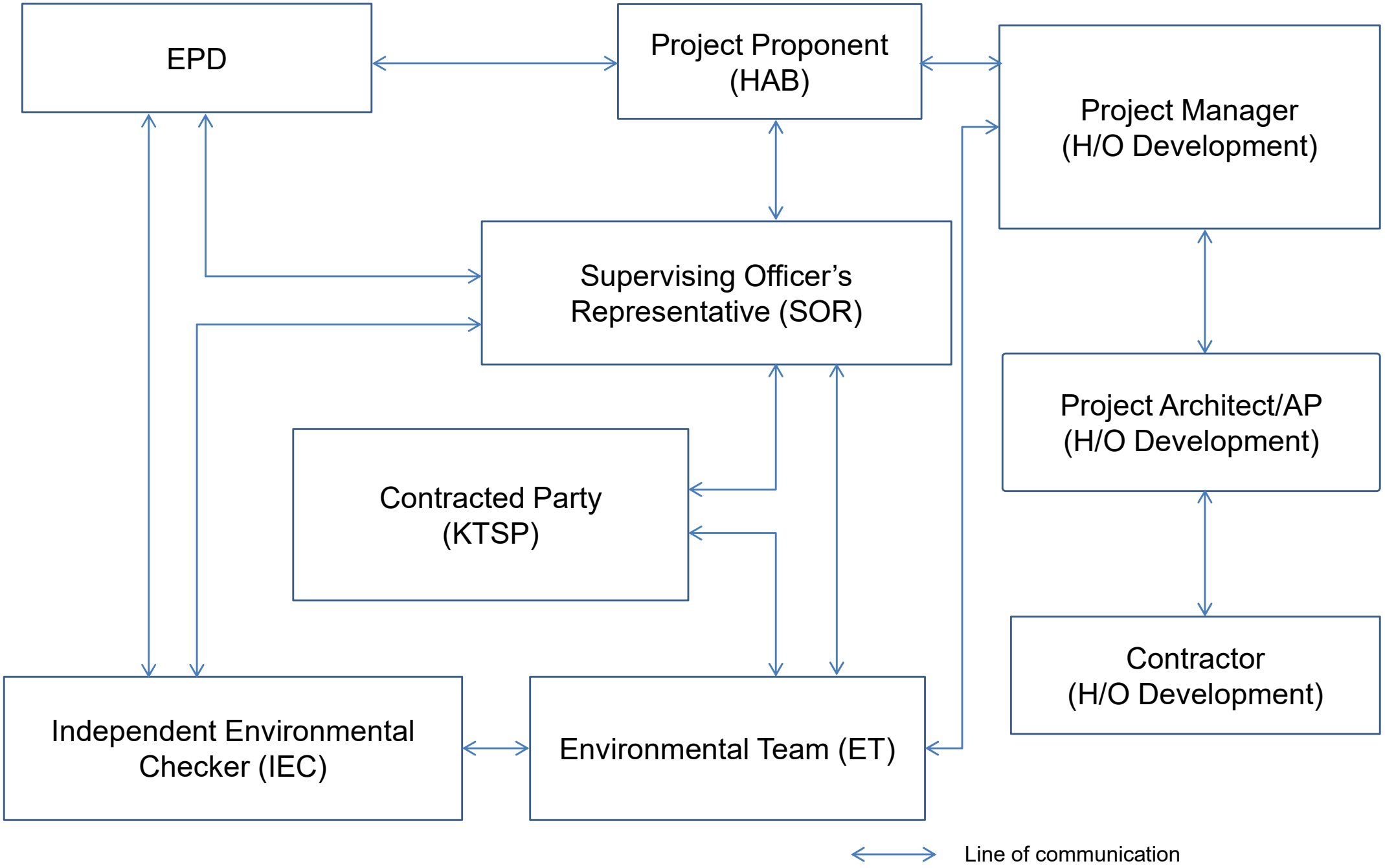
Figure 2.2
Location of Noise Monitoring Stations

Designed			Eng check		
Drawn			Coordination		
Dwg check			Approved		
Scale at A3		Status		Rev	

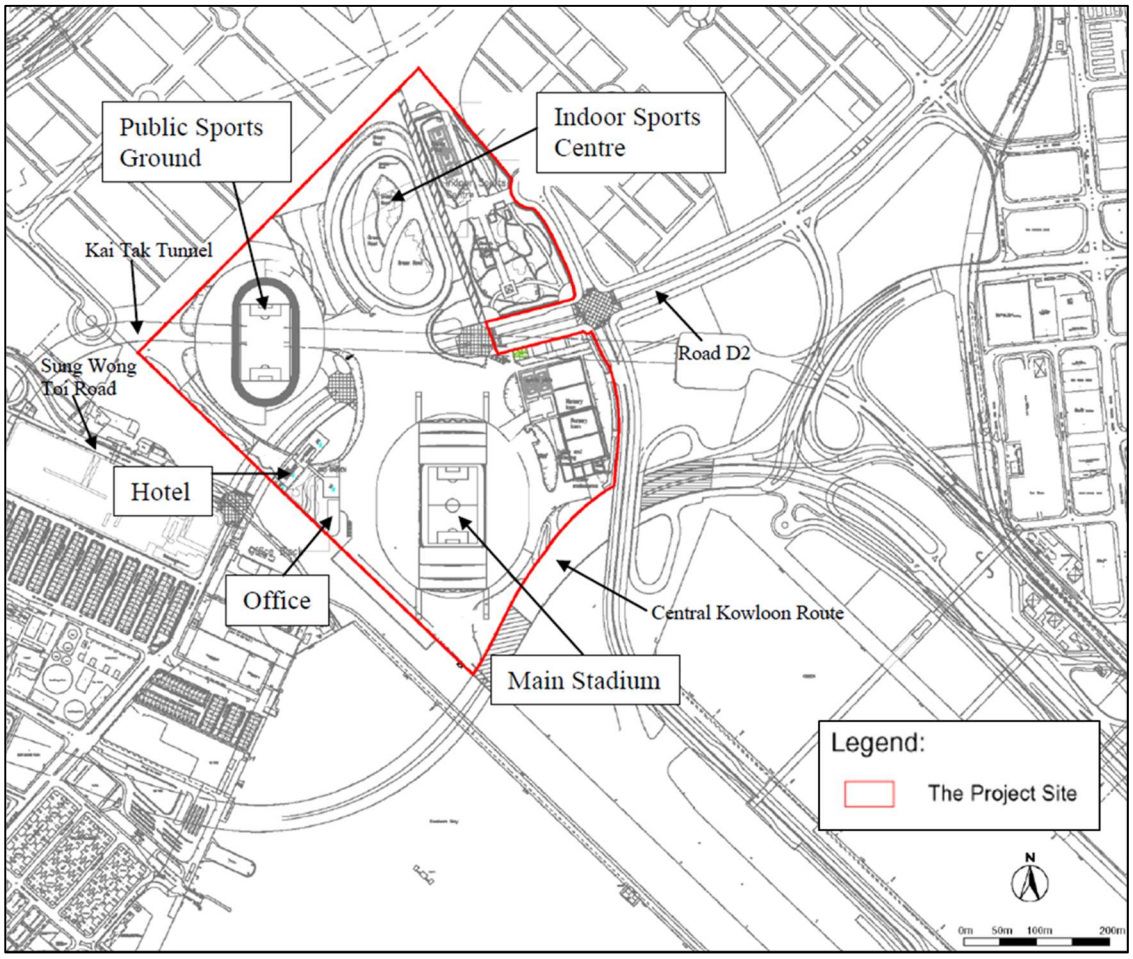
Drawing Number

Appendix A. Project Organization for Environmental Works

Project Organisation for Environmental Works



Appendix B. Location of Works Areas



Appendix C. Construction Programme

Construction Programme (Jul 2020 to Sep 2020)

Kai Tak Sports Park

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plants Mobilization												
C&D Waste Disposal (By vessel)												
Pile Cap Construction												
Loading/ Unloading of Materials												
Excavation												
Ground Investigation												
C&D Waste Disposal												
Piling (Percussive Piling)												
Piling (Socket H Piling)												
Piling (Bored Piling)												
Concreting												
Lifting												
C&D Materials Internal Transportation												
Hoarding Modification												

Hotel and Office Development

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-drilling												
Socket H Piling												
Loading/ Unloading of Materials												
Excavation												
Sheet Piling												
C&D Waste Disposal												

Appendix D. Event and Action Plan

Should non-compliance of the air quality criteria occur, actions in accordance with the Event and Action Plan in **Table D.1** and **Table D.2** shall be carried out.

Table D.1: Event and Action Plan for Construction Air Quality (Action Level)

Event	Action			
	ET	IEC	SOR	Contracted Party
Action Level				
Exceedance for one sample	1. Inform IEC, SOR and Contracted Party; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm finding.	1. Check monitoring data submitted by ET; 2. Check Contracted Party's working method.	1. Notify Contracted Party.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Exceedance for two or more consecutive samples	1. Inform IEC, SOR and Contracted Party; 2. Identify source; 3. Advise the SOR on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, SOR and Contracted Party on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and SOR; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contracted Party's working method; 3. Discuss with ET and Contracted Party on possible remedial measures; 4. Advise the ET/SOR on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contracted Party; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to SOR and IEC within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Table D.2: Event and Action Plan for Construction Air Quality (Limit Level)

Event	Action			
	ET	IEC	ET	Contracted Party
Limit Level				
Exceedance for one sample	1. Inform IEC, SOR, Contracted Party and EPD; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contracted Party's remedial actions and keep IEC, EPD and SOR informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contracted Party's working method; 3. Discuss with ET and Contracted Party on possible remedial measures; 4. Advise the SOR on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contracted Party; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on remedial actions; 3. Submit proposals for remedial actions to IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, SOR, Contracted Party and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contracted Party's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and SOR and Contracted Party to discuss the remedial actions to be taken; 7. Assess effectiveness of Contracted Party's remedial actions and keep IEC, EPD and SOR informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contracted Party's working method; 3. Discuss amongst SOR, ET, and Contracted Party on the potential remedial actions; 4. Review Contracted Party's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contracted Party; 3. In consultation with the IEC, agree with the Contracted Party on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contracted Party to terminate that portion of work until the exceedance ceases.	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on remedial actions; 3. Submit proposals for remedial actions to SOR and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the SOR until the exceedance ceases.

Should non-compliance of the noise criteria occur, actions in accordance with the Event and Action Plan in **Table D.3** shall be carried out.

Table D.3: Event and Action Plan for Construction Noise

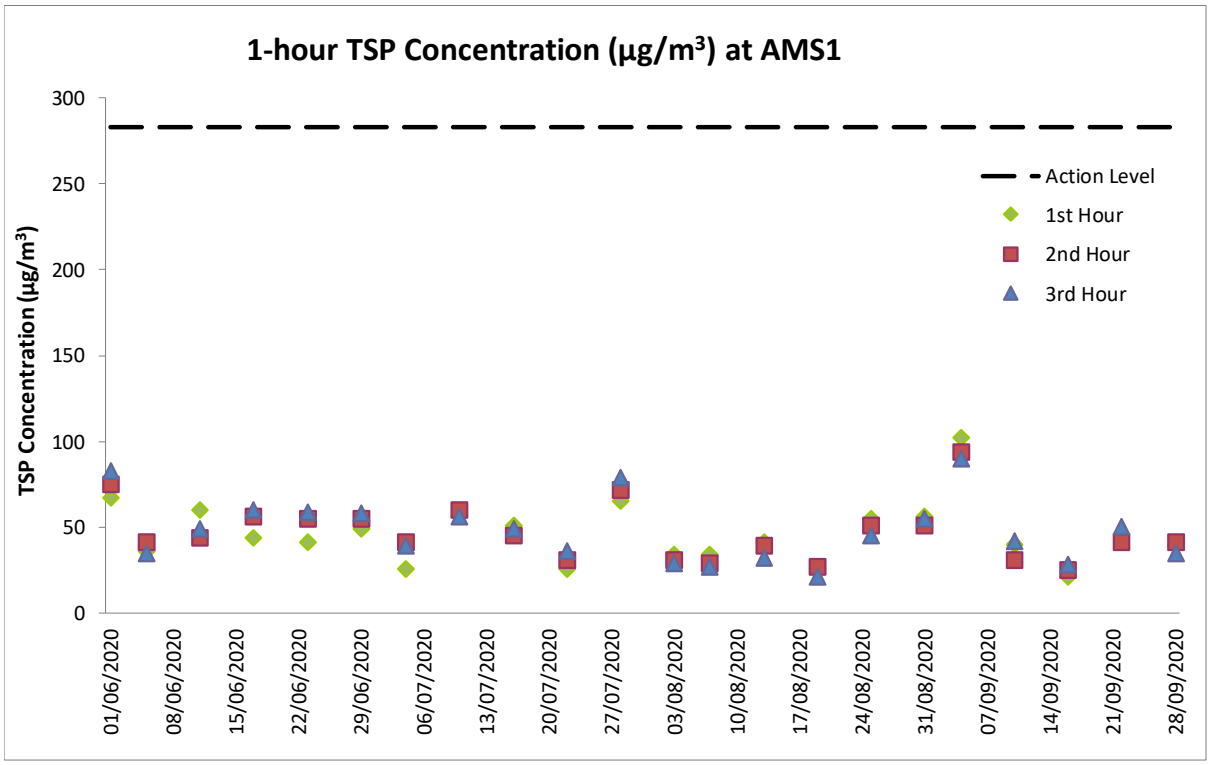
Event	Action			
	ET	IEC	ET	Contracted Party
Action Level	1. Notify IEC, SOR and Contracted Party of exceedance; 2. Identify source; 3. Investigate the causes of exceedance and propose remedial measures; 4. Report the results of investigation to the IEC, SOR and Contracted Party; 5. Discuss with the IEC, SOR and Contracted Party and formulate remedial measures; 6. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contracted Party and advise the SOR accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contracted Party; 3. Require Contracted Party to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to SOR with copy to ET and IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, SOR, EPD and Contracted Party; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contracted Party's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, SOR and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contracted Party's remedial actions and keep IEC, EPD and SOR informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst SOR, ET, and Contracted Party on the potential remedial actions; 2. Review Contracted Party's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contracted Party; 3. Require Contracted Party to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; 5. If exceedance continues, investigate what portion of the work is responsible and instruct the Contracted Party to terminate that portion of work until the exceedance ceases.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to SOR with copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Terminate the relevant portion of works as determined by the SOR until the exceedance ceases.

Appendix E. Monitoring Data and Graphical Plots (Air Quality and Noise)

Data for 1-hour TSP Monitoring at Station AMS1

Date	Start Time	Finish Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hour TSP (µg/m3)
04-Jul-20	8:45	9:45	Fine	1.1	144	26
04-Jul-20	9:45	10:45	Fine	3.1	146	41
04-Jul-20	10:45	11:45	Fine	2.5	145	39
10-Jul-20	9:05	10:05	Cloudy	3.1	185	57
10-Jul-20	10:05	11:05	Cloudy	2.5	182	60
10-Jul-20	11:05	12:05	Cloudy	3.3	192	56
16-Jul-20	9:47	10:47	Fine	2.8	236	51
16-Jul-20	10:47	11:47	Fine	3.3	245	45
16-Jul-20	11:47	12:47	Fine	3.3	237	49
22-Jul-20	9:02	10:02	Cloudy	1.7	134	26
22-Jul-20	10:02	11:02	Cloudy	1.1	108	31
22-Jul-20	11:02	12:02	Cloudy	1.4	103	36
28-Jul-20	9:08	10:08	Fine	2.5	258	65
28-Jul-20	10:08	11:08	Fine	1.4	235	72
28-Jul-20	11:08	12:08	Fine	2.8	231	79
03-Aug-20	9:00	10:00	Cloudy	3.6	103	34
03-Aug-20	10:00	11:00	Cloudy	2.8	115	31
03-Aug-20	11:00	12:00	Cloudy	2.2	122	29
07-Aug-20	8:30	9:30	Fine	3.3	87	34
07-Aug-20	9:30	10:30	Fine	2.8	128	29
07-Aug-20	10:30	11:30	Fine	2.5	132	27
13-Aug-20	9:56	10:56	Fine	4.4	119	41
13-Aug-20	10:56	11:56	Fine	3.3	108	39
13-Aug-20	11:56	12:56	Fine	5.8	123	32
19-Aug-20	13:45	14:45	Cloudy	5.3	107	26
19-Aug-20	14:45	15:45	Cloudy	2.2	135	27
19-Aug-20	15:45	16:45	Cloudy	2.2	110	21
25-Aug-20	9:05	10:05	Sunny	3.3	240	55
25-Aug-20	10:05	11:05	Sunny	3.6	256	51
25-Aug-20	11:05	12:05	Sunny	4.2	274	45
31-Aug-20	9:03	10:03	Sunny	4.7	95	56
31-Aug-20	10:03	11:03	Sunny	3.9	91	51
31-Aug-20	11:03	12:03	Sunny	3.3	110	55
04-Sep-20	8:50	9:50	Fine	1.7	130	102
04-Sep-20	9:50	10:50	Fine	3.1	123	94
04-Sep-20	10:50	11:50	Fine	3.3	133	90
10-Sep-20	10:02	11:02	Cloudy	0.3	278	40
10-Sep-20	11:02	12:02	Cloudy	0.8	186	31
10-Sep-20	12:02	13:02	Cloudy	1.1	218	42
16-Sep-20	9:02	10:02	Cloudy	3.3	82	21
16-Sep-20	10:02	11:02	Cloudy	3.9	85	25
16-Sep-20	11:02	12:02	Cloudy	4.7	80	28
22-Sep-20	9:05	10:05	Cloudy	3.3	109	46
22-Sep-20	10:05	11:05	Cloudy	5.8	86	41
22-Sep-20	11:05	12:05	Cloudy	4.4	101	50
28-Sep-20	9:10	10:10	Cloudy	4.4	107	39
28-Sep-20	10:10	11:10	Cloudy	4.7	81	41
28-Sep-20	11:10	12:10	Cloudy	4.4	93	35

Graphical Presentation for 1-hour TSP Monitoring at AMS1



KTSP

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plants Mobilization												
C&D Waste Disposal (By vessel)												
Pile Cap Construction												
Loading/ Unloading of Materials												
Excavation												
Ground Investigation												
C&D Waste Disposal												
Piling (Percussive Piling)												
Piling (Socket H Piling)												
Piling (Bored Piling)												
Concreting												
Lifting												
C&D Materials Internal Transportation												
Hoarding Modification												

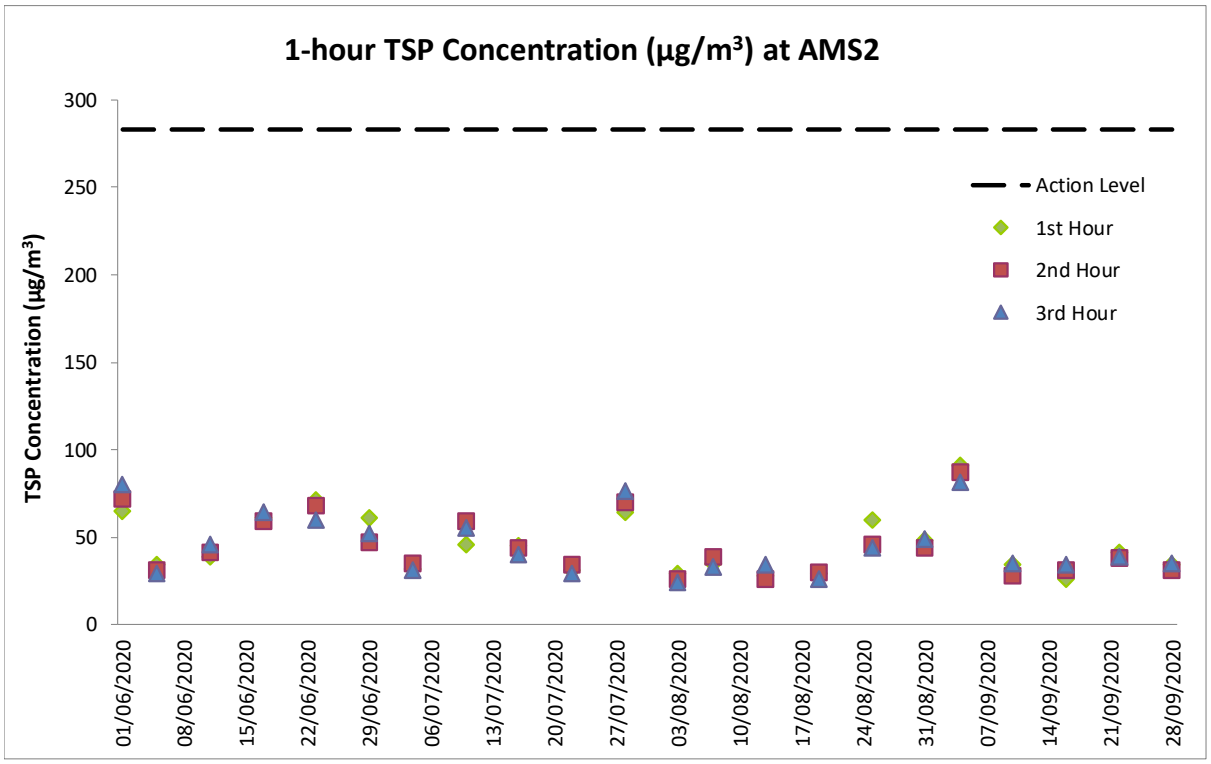
Hotel and Office Development

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-drilling												
Socket H Piling												
Loading/ Unloading of Materials												
Excavation												
Sheet Piling												
C&D Waste Disposal												

Data for 1-hour TSP Monitoring at Station AMS2

Date	Start Time	Finish Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hour TSP (µg/m3)
04-Jul-20	8:30	9:30	Fine	0.8	128	32
04-Jul-20	9:30	10:30	Fine	1.7	155	35
04-Jul-20	10:30	11:30	Fine	2.5	134	31
10-Jul-20	8:20	9:20	Cloudy	1.7	196	46
10-Jul-20	9:20	10:20	Cloudy	2.5	180	59
10-Jul-20	10:20	11:20	Cloudy	3.9	189	55
16-Jul-20	8:57	9:57	Fine	4.2	264	45
16-Jul-20	9:57	10:57	Fine	3.3	229	44
16-Jul-20	10:57	11:57	Fine	3.1	237	40
22-Jul-20	8:21	9:21	Cloudy	2.2	23	31
22-Jul-20	9:21	10:21	Cloudy	2.2	132	34
22-Jul-20	10:21	11:21	Cloudy	2.2	135	29
28-Jul-20	8:25	9:25	Fine	1.1	254	64
28-Jul-20	9:25	10:25	Fine	2.2	262	70
28-Jul-20	10:25	11:25	Fine	2.2	226	76
03-Aug-20	8:15	9:15	Cloudy	0.3	variable	29
03-Aug-20	9:15	10:15	Cloudy	4.2	114	26
03-Aug-20	10:15	11:15	Cloudy	3.1	100	24
07-Aug-20	8:20	9:20	Fine	3.1	90	35
07-Aug-20	9:20	10:20	Fine	2.2	115	39
07-Aug-20	10:20	11:20	Fine	3.3	120	33
13-Aug-20	9:06	10:06	Fine	3.3	105	28
13-Aug-20	10:06	11:06	Fine	4.2	120	26
13-Aug-20	11:06	12:06	Fine	3.3	133	34
19-Aug-20	13:30	14:30	Cloudy	4.7	98	29
19-Aug-20	14:30	15:30	Cloudy	4.2	115	30
19-Aug-20	15:30	16:30	Cloudy	1.7	124	26
25-Aug-20	8:22	9:22	Sunny	3.3	265	60
25-Aug-20	9:22	10:22	Sunny	4.4	252	46
25-Aug-20	10:22	11:22	Sunny	2.8	254	44
31-Aug-20	8:15	9:15	Sunny	3.3	100	48
31-Aug-20	9:15	10:15	Sunny	4.2	89	44
31-Aug-20	10:15	11:15	Sunny	3.3	90	49
04-Sep-20	8:35	9:35	Fine	0.3	126	91
04-Sep-20	9:35	10:35	Fine	3.3	131	87
04-Sep-20	10:35	11:35	Fine	3.3	132	81
10-Sep-20	9:06	10:06	Cloudy	0.0	Variable	34
10-Sep-20	10:06	11:06	Cloudy	1.1	281	28
10-Sep-20	11:06	12:06	Cloudy	1.1	183	35
16-Sep-20	8:25	9:25	Cloudy	3.9	109	26
16-Sep-20	9:25	10:25	Cloudy	3.9	74	31
16-Sep-20	10:25	11:25	Cloudy	4.2	97	34
22-Sep-20	8:20	9:20	Cloudy	4.2	82	41
22-Sep-20	9:20	10:20	Cloudy	4.2	85	38
22-Sep-20	10:20	11:20	Cloudy	4.7	90	39
28-Sep-20	8:25	9:25	Cloudy	5.3	99	34
28-Sep-20	9:25	10:25	Cloudy	4.7	102	31
28-Sep-20	10:25	11:25	Cloudy	4.7	82	35

Graphical Presentation for 1-hour TSP Monitoring at AMS2



KTSP

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plants Mobilization												
C&D Waste Disposal (By vessel)												
Pile Cap Construction												
Loading/ Unloading of Materials												
Excavation												
Ground Investigation												
C&D Waste Disposal												
Piling (Percussive Piling)												
Piling (Socket H Piling)												
Piling (Bored Piling)												
Concreting												
Lifting												
C&D Materials Internal Transportation												
Hoarding Modification												

Hotel and Office Development

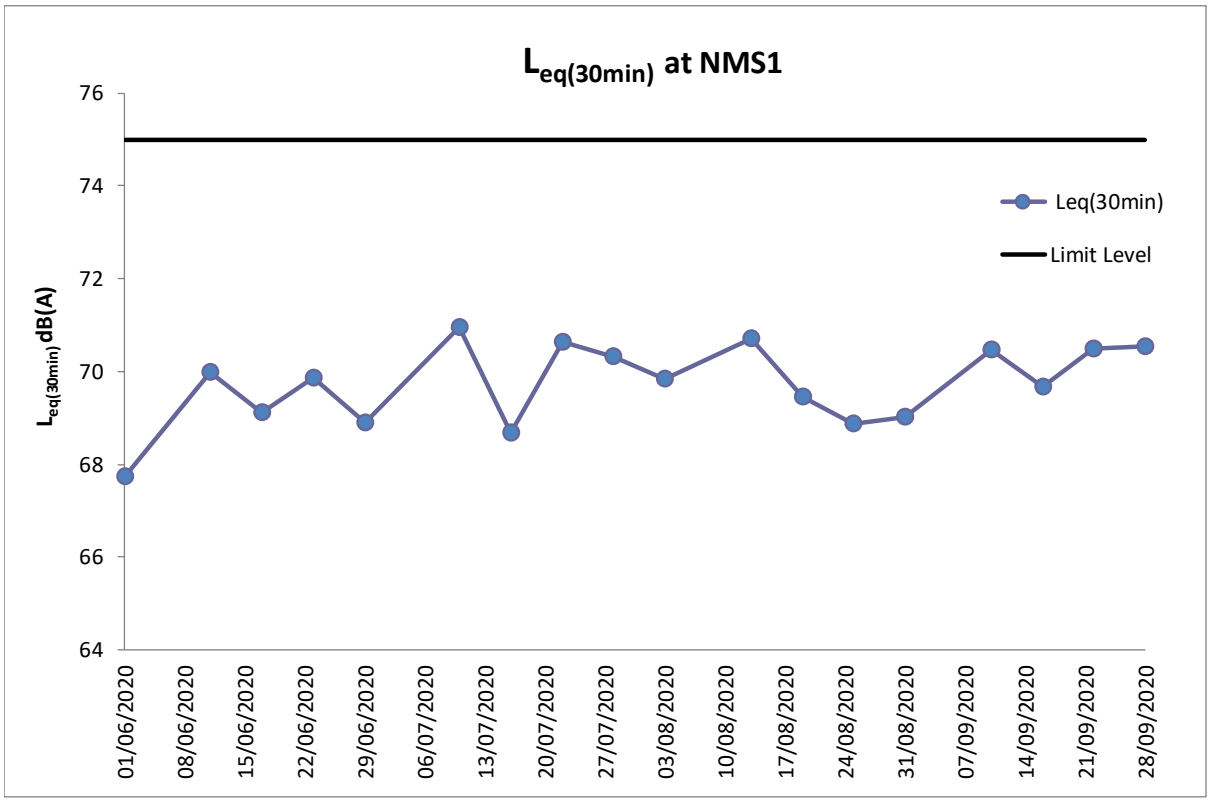
	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-drilling												
Socket H Piling												
Loading/ Unloading of Materials												
Excavation												
Sheet Piling												
C&D Waste Disposal												

Data for Noise Monitoring at Station NMS1

Date	Time	Weather	$L_{eq(5min)}$	L_{10}	L_{90}	Measured $L_{eq(30min)}$
10-Jul-20	09:07	Cloudy	69.7	71.9	65.1	71.0
10-Jul-20	09:12	Cloudy	71.4	73.6	66.4	
10-Jul-20	09:17	Cloudy	71.9	73.5	66.7	
10-Jul-20	09:22	Cloudy	72.1	74.2	65.2	
10-Jul-20	09:27	Cloudy	70.9	73.0	65.0	
10-Jul-20	09:32	Cloudy	68.8	71.1	64.9	
16-Jul-20	09:46	Fine	69.0	72.5	62.2	68.7
16-Jul-20	09:51	Fine	67.3	69.4	62.7	
16-Jul-20	09:56	Fine	68.8	72.6	62.4	
16-Jul-20	10:01	Fine	68.4	71.0	64.6	
16-Jul-20	10:06	Fine	68.3	71.7	62.7	
16-Jul-20	10:11	Fine	69.9	72.6	62.9	
22-Jul-20	09:04	Cloudy	69.7	71.5	67.1	70.6
22-Jul-20	09:09	Cloudy	71.4	73.0	68.9	
22-Jul-20	09:14	Cloudy	70.6	72.4	68.2	
22-Jul-20	09:19	Cloudy	70.7	72.6	68.6	
22-Jul-20	09:24	Cloudy	69.7	71.5	67.1	
22-Jul-20	09:29	Cloudy	71.4	73.6	69.0	
28-Jul-20	09:10	Fine	69.2	71.4	64.1	70.3
28-Jul-20	09:15	Fine	70.1	72.3	65.7	
28-Jul-20	09:20	Fine	71.0	73.8	65.9	
28-Jul-20	09:25	Fine	70.9	72.7	64.6	
28-Jul-20	09:30	Fine	69.9	71.5	64.0	
28-Jul-20	09:35	Fine	70.6	72.3	65.9	
03-Aug-20	09:02	Cloudy	68.2	70.0	65.8	69.8
03-Aug-20	09:07	Cloudy	69.7	71.4	67.6	
03-Aug-20	09:12	Cloudy	70.1	72.5	68.0	
03-Aug-20	09:17	Cloudy	70.4	72.6	68.4	
03-Aug-20	09:22	Cloudy	69.9	71.6	67.1	
03-Aug-20	09:27	Cloudy	70.4	72.3	68.2	
13-Aug-20	09:58	Fine	71.9	75.1	65.6	70.7
13-Aug-20	10:03	Fine	69.6	73.2	65.3	
13-Aug-20	10:08	Fine	71.8	74.2	65.4	
13-Aug-20	10:13	Fine	70.2	72.7	64.4	
13-Aug-20	10:18	Fine	70.6	73.1	63.6	
13-Aug-20	10:23	Fine	69.6	72.6	64.2	
19-Aug-20	13:50	Cloudy	68.2	70.0	66.4	69.4
19-Aug-20	13:55	Cloudy	69.4	71.5	67.6	
19-Aug-20	14:00	Cloudy	70.1	72.3	68.5	
19-Aug-20	14:05	Cloudy	69.2	71.6	67.4	
19-Aug-20	14:10	Cloudy	70.1	72.4	68.3	
19-Aug-20	14:15	Cloudy	69.4	71.6	67.1	
25-Aug-20	09:07	Sunny	68.2	70.0	66.4	68.9
25-Aug-20	09:12	Sunny	69.1	71.3	67.5	
25-Aug-20	09:17	Sunny	69.4	71.5	67.7	
25-Aug-20	09:22	Sunny	70.2	72.4	68.8	
25-Aug-20	09:27	Sunny	68.2	70.6	66.9	
25-Aug-20	09:32	Sunny	67.7	69.8	65.1	
31-Aug-20	09:05	Sunny	68.2	70.1	66.3	69.0
31-Aug-20	09:10	Sunny	68.8	70.4	66.7	
31-Aug-20	09:15	Sunny	69.7	71.5	67.0	
31-Aug-20	09:20	Sunny	69.4	71.3	67.3	
31-Aug-20	09:25	Sunny	68.2	70.0	66.1	
31-Aug-20	09:30	Sunny	69.6	71.9	67.4	

Date	Time	Weather	$L_{eq(5min)}$	L_{10}	L_{90}	Measured $L_{eq(30min)}$
10-Sep-20	10:00	Cloudy	70.1	72.8	65.3	70.5
10-Sep-20	10:05	Cloudy	71.2	73.6	65.9	
10-Sep-20	10:10	Cloudy	69.7	72.6	64.8	
10-Sep-20	10:15	Cloudy	70.2	72.3	65.7	
10-Sep-20	10:20	Cloudy	70.1	72.6	65.6	
10-Sep-20	10:25	Cloudy	71.3	73.9	66.0	
16-Sep-20	09:04	Cloudy	69.2	71.4	65.8	69.7
16-Sep-20	09:09	Cloudy	70.1	72.3	66.7	
16-Sep-20	09:14	Cloudy	68.8	70.5	65.0	
16-Sep-20	09:19	Cloudy	69.2	71.5	66.9	
16-Sep-20	09:24	Cloudy	70.1	72.6	66.4	
16-Sep-20	09:29	Cloudy	70.4	72.7	66.6	
22-Sep-20	09:07	Cloudy	69.2	72.1	66.3	70.5
22-Sep-20	09:12	Cloudy	70.1	73.0	67.1	
22-Sep-20	09:17	Cloudy	69.8	72.9	66.7	
22-Sep-20	09:22	Cloudy	71.1	73.3	67.5	
22-Sep-20	09:27	Cloudy	71.4	73.5	67.6	
22-Sep-20	09:32	Cloudy	70.9	73.6	66.3	
28-Sep-20	09:12	Cloudy	69.2	71.4	66.1	70.5
28-Sep-20	09:17	Cloudy	70.1	72.3	67.2	
28-Sep-20	09:22	Cloudy	69.4	71.5	66.3	
28-Sep-20	09:27	Cloudy	70.6	72.7	67.4	
28-Sep-20	09:32	Cloudy	71.4	73.8	67.9	
28-Sep-20	09:37	Cloudy	71.9	73.0	67.8	

Graphical Presentation for Noise Monitoring at NMS1



KTSP

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plants Mobilization												
C&D Waste Disposal (By vessel)												
Pile Cap Construction												
Loading/ Unloading of Materials												
Excavation												
Ground Investigation												
C&D Waste Disposal												
Piling (Percussive Piling)												
Piling (Socket H Piling)												
Piling (Bored Piling)												
Concreting												
Lifting												
C&D Materials Internal Transportation												
Hoarding Modification												

Hotel and Office Development

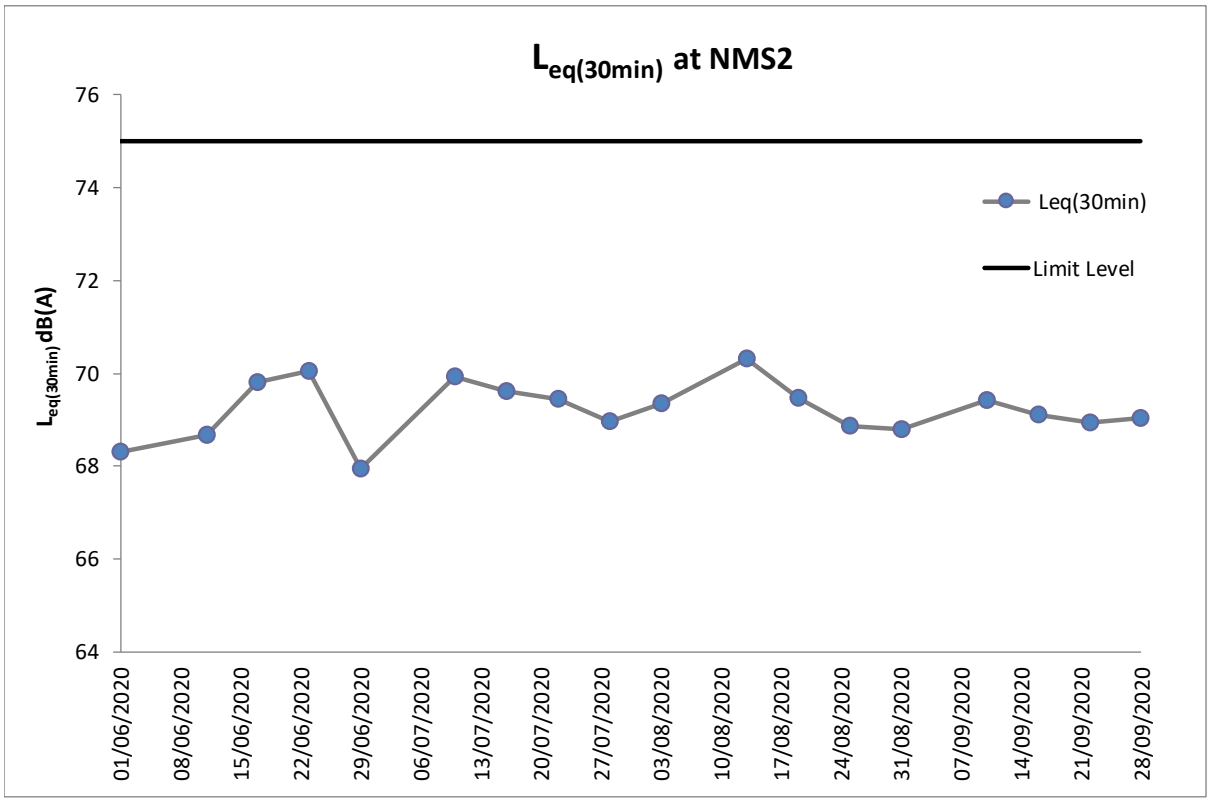
	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-drilling												
Socket H Piling												
Loading/ Unloading of Materials												
Excavation												
Sheet Piling												
C&D Waste Disposal												

Data for Noise Monitoring at Station NMS2

Date	Time	Weather	$L_{eq(5min)}$	L_{10}	L_{90}	Measured $L_{eq(30min)}$
10-Jul-20	08:23	Cloudy	68.2	70.4	64.1	69.9
10-Jul-20	08:28	Cloudy	69.7	71.4	65.1	
10-Jul-20	08:33	Cloudy	70.1	72.2	66.4	
10-Jul-20	08:38	Cloudy	70.2	72.6	65.9	
10-Jul-20	08:43	Cloudy	69.9	71.8	65.8	
10-Jul-20	08:48	Cloudy	71.0	73.4	66.7	
16-Jul-20	09:00	Fine	68.8	70.9	66.2	69.6
16-Jul-20	09:05	Fine	68.0	70.2	64.8	
16-Jul-20	09:10	Fine	70.1	71.9	66.4	
16-Jul-20	09:15	Fine	70.7	72.6	66.4	
16-Jul-20	09:20	Fine	69.5	72.0	66.4	
16-Jul-20	09:25	Fine	70.1	72.5	66.4	
22-Jul-20	08:23	Cloudy	68.2	70.0	66.2	69.4
22-Jul-20	08:28	Cloudy	69.4	71.5	67.1	
22-Jul-20	08:33	Cloudy	69.1	71.3	67.4	
22-Jul-20	08:38	Cloudy	70.2	72.4	68.0	
22-Jul-20	08:43	Cloudy	70.1	72.5	68.3	
22-Jul-20	08:48	Cloudy	69.4	71.6	67.1	
28-Jul-20	08:27	Fine	67.9	69.4	65.7	69.0
28-Jul-20	08:32	Fine	68.4	70.5	66.6	
28-Jul-20	08:37	Fine	69.1	71.3	67.3	
28-Jul-20	08:42	Fine	68.8	70.3	66.5	
28-Jul-20	08:47	Fine	69.2	71.0	67.2	
28-Jul-20	08:52	Fine	70.1	72.6	68.2	
03-Aug-20	08:18	Cloudy	67.9	69.4	64.8	69.4
03-Aug-20	08:23	Cloudy	68.4	70.6	65.2	
03-Aug-20	08:28	Cloudy	68.9	70.7	65.7	
03-Aug-20	08:33	Cloudy	69.2	71.4	66.9	
03-Aug-20	08:38	Cloudy	70.1	72.3	67.0	
03-Aug-20	08:43	Cloudy	70.9	72.5	67.2	
13-Aug-20	09:09	Fine	71.5	73.4	66.2	70.3
13-Aug-20	09:14	Fine	70.7	73.4	66.0	
13-Aug-20	09:19	Fine	69.9	72.5	66.0	
13-Aug-20	09:24	Fine	70.5	73.1	66.8	
13-Aug-20	09:29	Fine	70.1	72.6	66.6	
13-Aug-20	09:34	Fine	68.6	70.7	64.8	
19-Aug-20	14:42	Cloudy	67.9	69.4	65.1	69.5
19-Aug-20	14:47	Cloudy	68.7	70.6	66.2	
19-Aug-20	14:52	Cloudy	69.1	71.6	67.5	
19-Aug-20	14:57	Cloudy	69.2	71.5	67.6	
19-Aug-20	15:02	Cloudy	70.1	72.6	68.1	
19-Aug-20	15:07	Cloudy	71.1	73.1	69.2	
25-Aug-20	08:25	Sunny	68.1	70.4	66.3	68.9
25-Aug-20	08:30	Sunny	67.2	69.5	65.0	
25-Aug-20	08:35	Sunny	67.9	69.6	65.3	
25-Aug-20	08:40	Sunny	69.1	71.5	67.7	
25-Aug-20	08:45	Sunny	69.9	71.8	67.6	
25-Aug-20	08:50	Sunny	70.2	72.7	68.3	
31-Aug-20	08:18	Sunny	68.2	70.3	65.7	68.8
31-Aug-20	08:23	Sunny	67.9	69.4	64.1	
31-Aug-20	08:28	Sunny	69.1	71.5	66.0	
31-Aug-20	08:33	Sunny	68.2	70.6	65.2	
31-Aug-20	08:38	Sunny	70.1	72.4	66.1	
31-Aug-20	08:43	Sunny	68.9	70.6	65.7	

Date	Time	Weather	$L_{eq(5min)}$	L_{10}	L_{90}	Measured $L_{eq(30min)}$
10-Sep-20	09:09	Cloudy	68.2	70.2	65.4	69.4
10-Sep-20	09:14	Cloudy	68.2	70.7	64.9	
10-Sep-20	09:19	Cloudy	68.4	71.3	64.5	
10-Sep-20	09:24	Cloudy	69.9	73.1	65.6	
10-Sep-20	09:29	Cloudy	69.0	71.4	64.9	
10-Sep-20	09:34	Cloudy	71.7	73.0	64.9	
16-Sep-20	08:27	Cloudy	68.2	70.7	64.1	69.1
16-Sep-20	08:32	Cloudy	67.9	69.4	63.9	
16-Sep-20	08:37	Cloudy	68.4	70.6	65.2	
16-Sep-20	08:42	Cloudy	69.2	71.5	65.8	
16-Sep-20	08:47	Cloudy	69.7	71.6	65.2	
16-Sep-20	08:52	Cloudy	70.6	72.2	66.1	
22-Sep-20	08:24	Cloudy	67.1	69.7	64.1	68.9
22-Sep-20	08:29	Cloudy	68.4	70.6	65.3	
22-Sep-20	08:34	Cloudy	69.3	71.1	67.2	
22-Sep-20	08:39	Cloudy	68.4	71.0	65.5	
22-Sep-20	08:44	Cloudy	69.7	71.4	66.8	
22-Sep-20	08:49	Cloudy	70.1	72.7	66.9	
28-Sep-20	08:28	Cloudy	68.2	70.4	65.1	69.0
28-Sep-20	08:33	Cloudy	69.1	71.5	66.0	
28-Sep-20	08:38	Cloudy	68.5	70.6	65.7	
28-Sep-20	08:43	Cloudy	70.1	72.3	66.8	
28-Sep-20	08:48	Cloudy	69.4	71.3	66.9	
28-Sep-20	08:53	Cloudy	68.6	70.7	65.9	

Graphical Presentation for Noise Monitoring at NMS2



KTSP

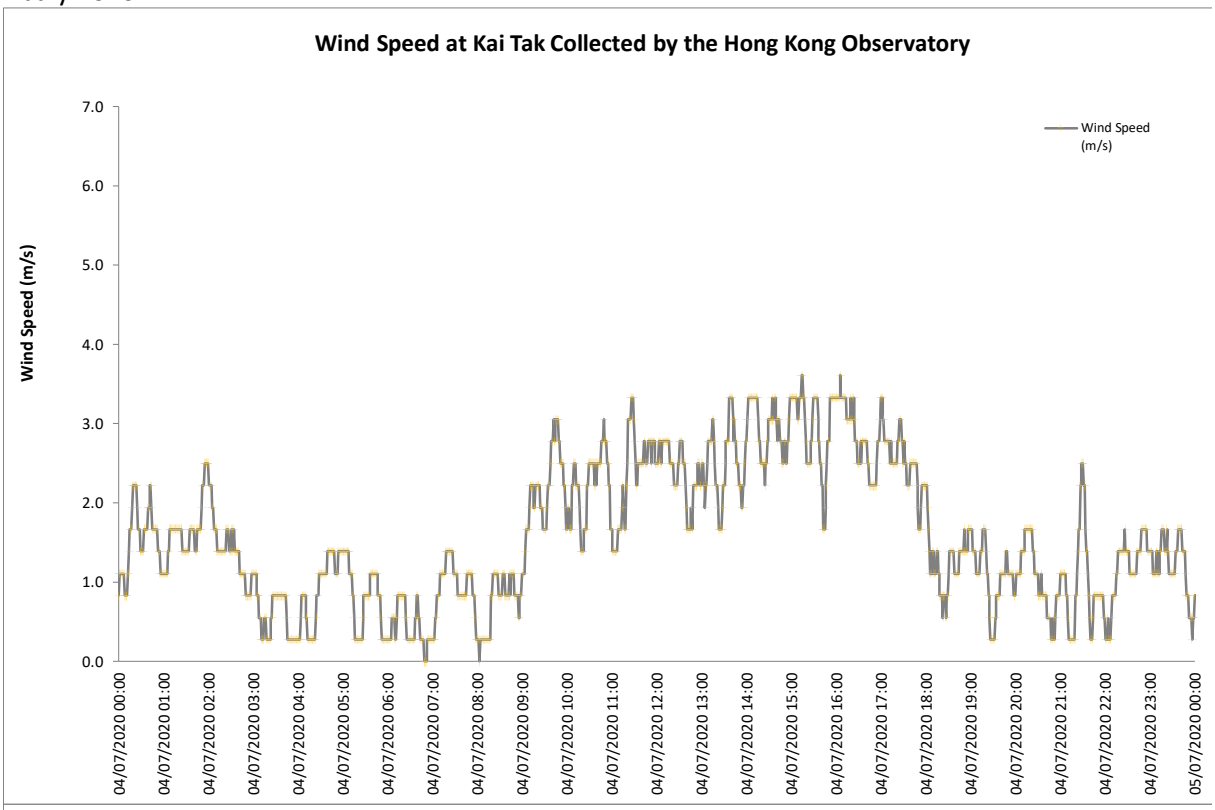
	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plants Mobilization												
C&D Waste Disposal (By vessel)												
Pile Cap Construction												
Loading/ Unloading of Materials												
Excavation												
Ground Investigation												
C&D Waste Disposal												
Piling (Percussive Piling)												
Piling (Socket H Piling)												
Piling (Bored Piling)												
Concreting												
Lifting												
C&D Materials Internal Transportation												
Hoarding Modification												

Hotel and Office Development

	2020											
Construction Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-drilling												
Socket H Piling												
Loading/ Unloading of Materials												
Excavation												
Sheet Piling												
C&D Waste Disposal												

Appendix F. Wind Data

4 July 2020


Wind Speed at Kai Tak Collected by the Hong Kong Observatory
Wind Speed (m/s)
Wind Speed (m/s)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
04/07/2020 00:00
04/07/2020 01:00
04/07/2020 02:00
04/07/2020 03:00
04/07/2020 04:00
04/07/2020 05:00
04/07/2020 06:00
04/07/2020 07:00
04/07/2020 08:00
04/07/2020 09:00
04/07/2020 10:00
04/07/2020 11:00
04/07/2020 12:00
04/07/2020 13:00
04/07/2020 14:00
04/07/2020 15:00
04/07/2020 16:00
04/07/2020 17:00
04/07/2020 18:00
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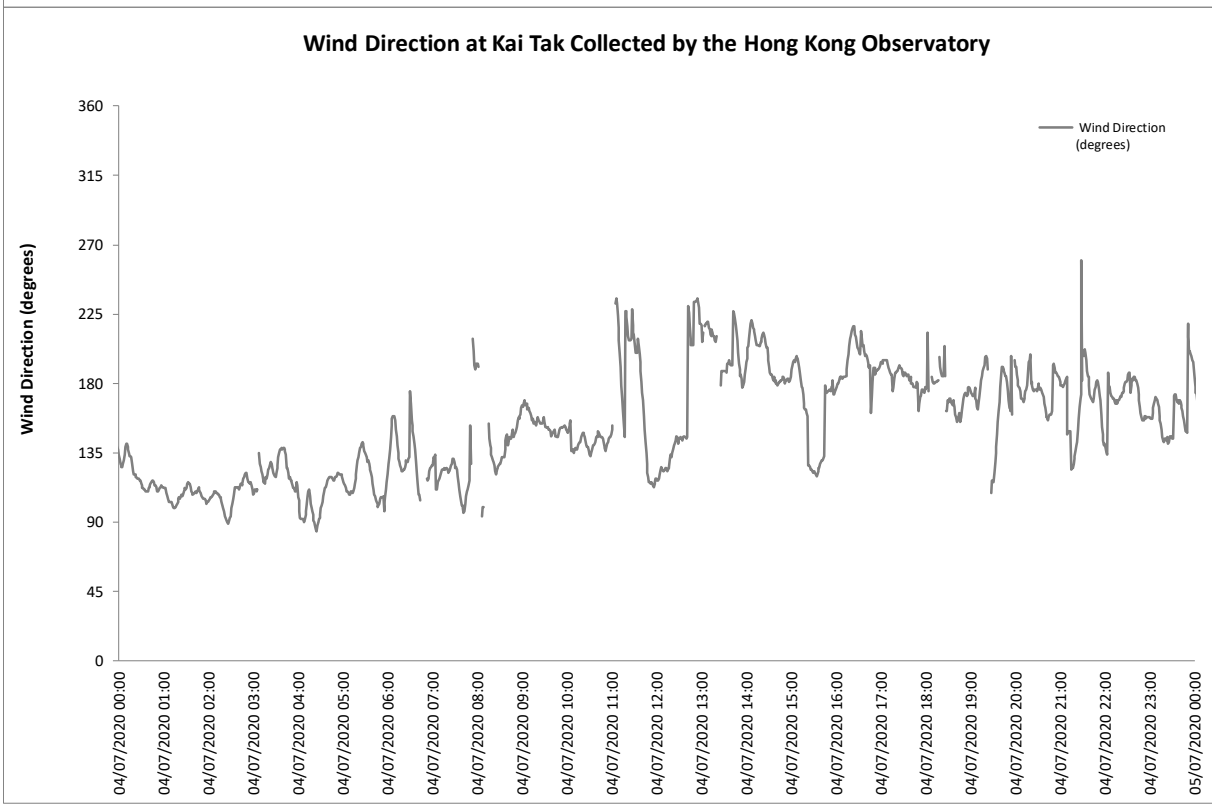
05/07/2020 00:00


Wind Direction at Kai Tak Collected by the Hong Kong Observatory
Wind Direction (degrees)
Wind Direction (degrees)
360
315
270
225
180
135
90
45
0
04/07/2020 00:00
04/07/2020 01:00
04/07/2020 02:00
04/07/2020 03:00
04/07/2020 04:00
04/07/2020 05:00
04/07/2020 06:00
04/07/2020 07:00
04/07/2020 08:00
04/07/2020 09:00
04/07/2020 10:00
04/07/2020 11:00
04/07/2020 12:00
04/07/2020 13:00
04/07/2020 14:00
04/07/2020 15:00
04/07/2020 16:00
04/07/2020 17:00
04/07/2020 18:00
04/07/2020 19:00
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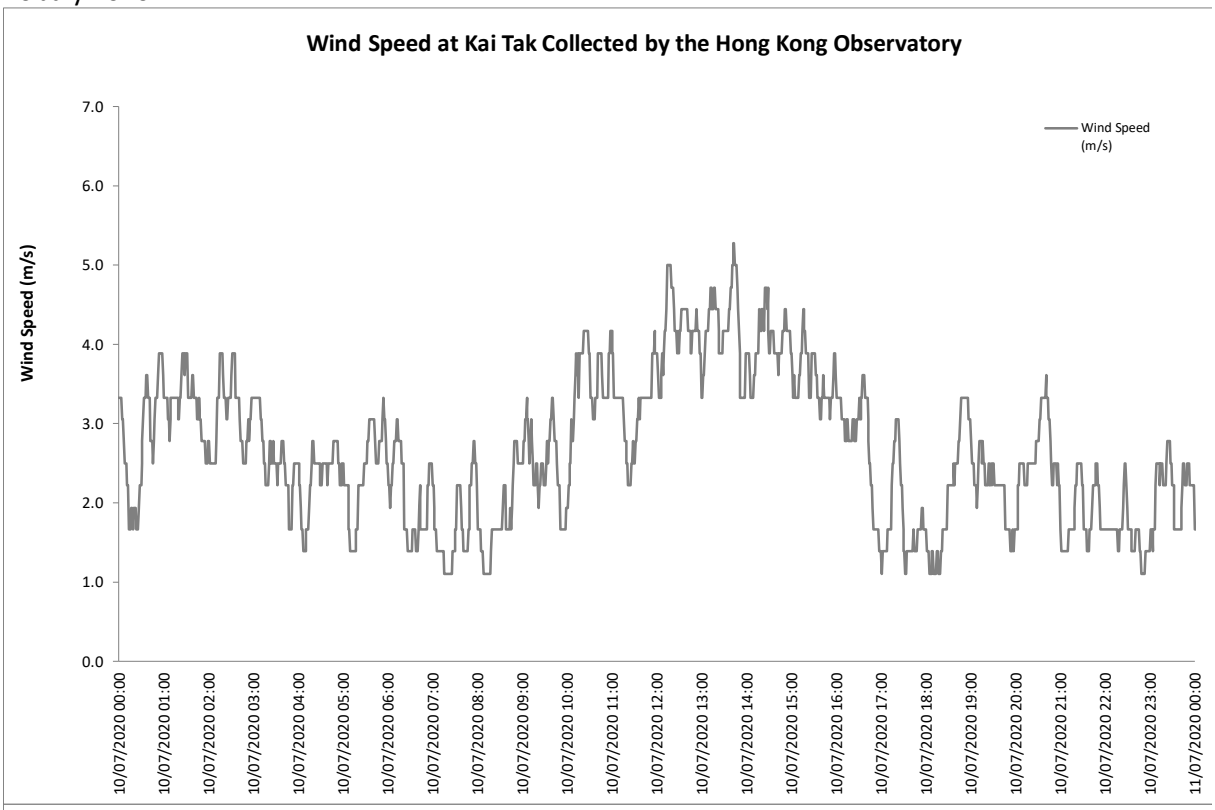
05/07/2020 00:00

10 July 2020


Wind Speed at Kai Tak Collected by the Hong Kong Observatory
Wind Speed (m/s)
Wind Speed (m/s)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10/07/2020 00:00
10/07/2020 01:00
10/07/2020 02:00
10/07/2020 03:00
10/07/2020 04:00
10/07/2020 05:00
10/07/2020 06:00
10/07/2020 07:00
10/07/2020 08:00
10/07/2020 09:00
10/07/2020 10:00
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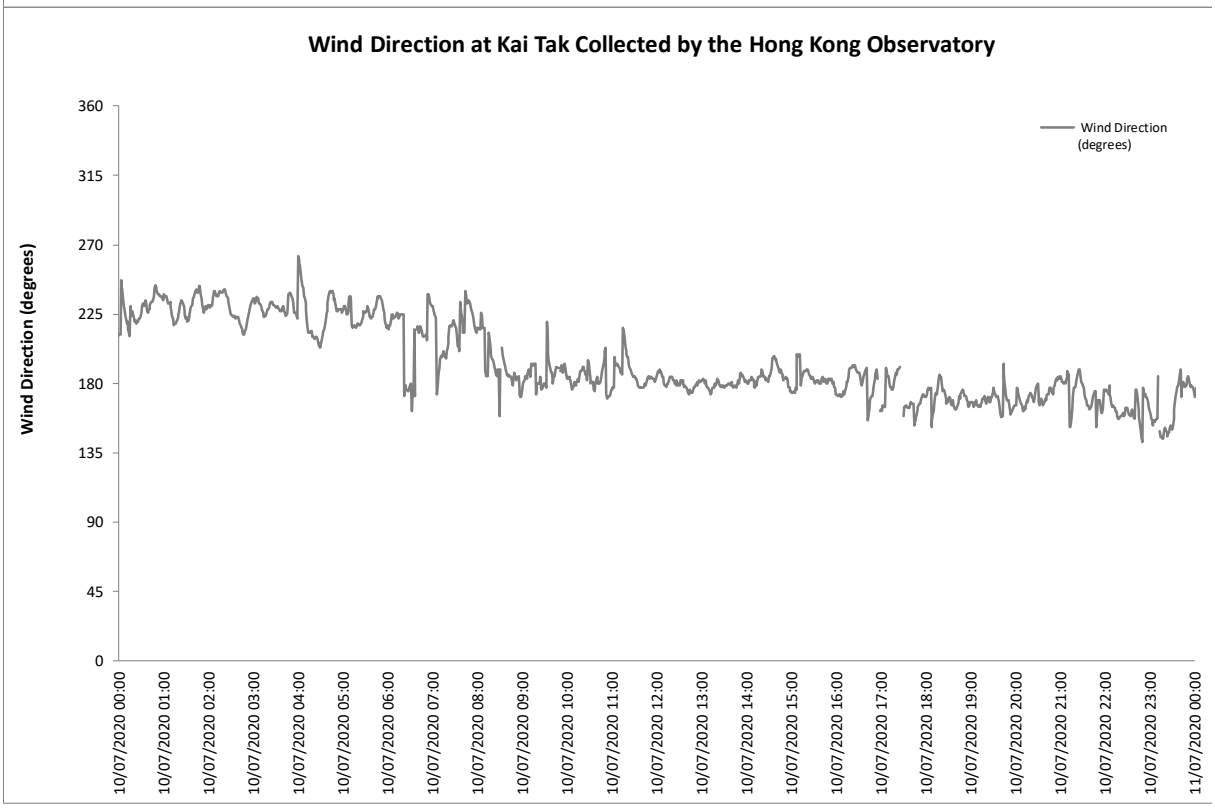
11/07/2020 00:00


Wind Direction at Kai Tak Collected by the Hong Kong Observatory
Wind Direction (degrees)
Wind Direction (degrees)
360
315
270
225
180
135
90
45
0
10/07/2020 00:00
10/07/2020 01:00
10/07/2020 02:00
10/07/2020 03:00
10/07/2020 04:00
10/07/2020 05:00
10/07/2020 06:00
10/07/2020 07:00
10/07/2020 08:00
10/07/2020 09:00
10/07/2020 10:00
10/07/2020 11:00
10/07/2020 12:00
10/07/2020 13:00
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10/07/2020 15:00
10/07/2020 16:00
10/07/2020 17:00
10/07/2020 18:00
10/07/2020 19:00
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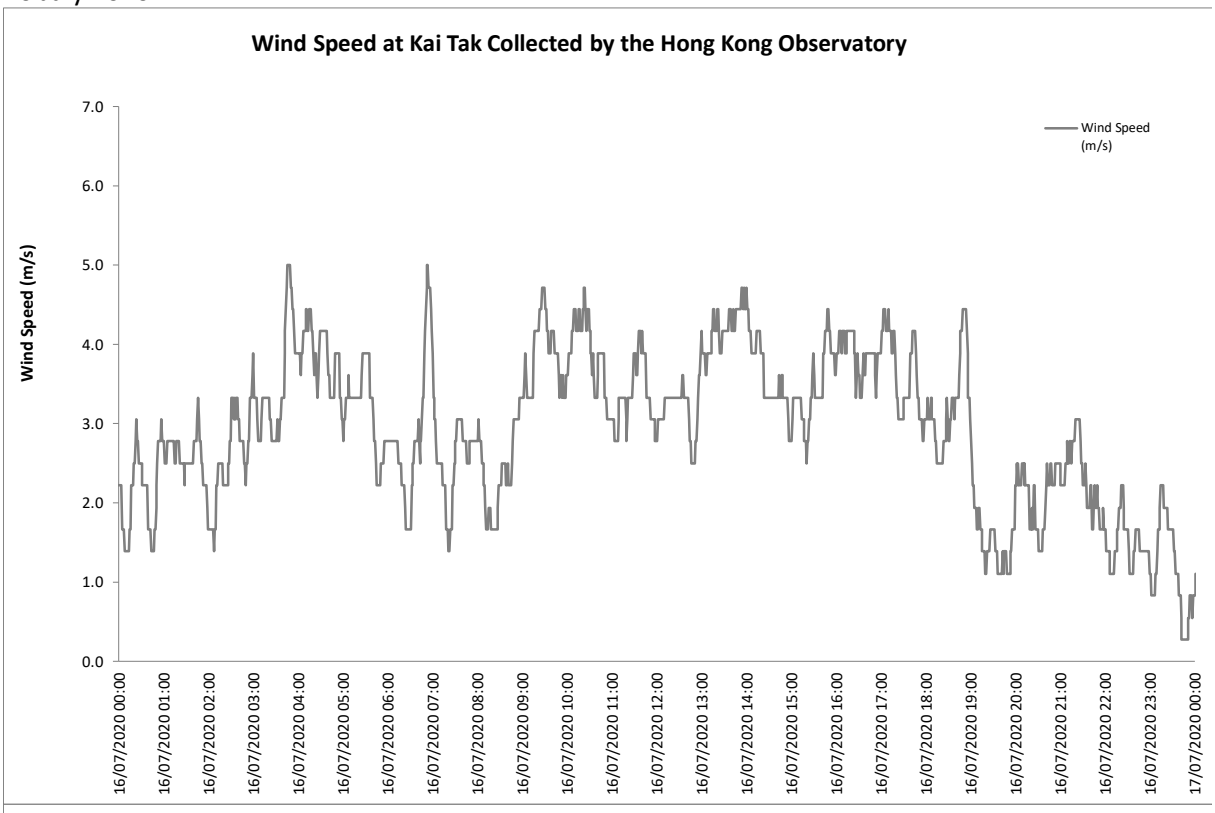
11/07/2020 00:00

16 July 2020


Wind Speed at Kai Tak Collected by the Hong Kong Observatory
Wind Speed (m/s)
Wind Speed (m/s)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
16/07/2020 00:00
16/07/2020 01:00
16/07/2020 02:00
16/07/2020 03:00
16/07/2020 04:00
16/07/2020 05:00
16/07/2020 06:00
16/07/2020 07:00
16/07/2020 08:00
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16/07/2020 16:00
16/07/2020 17:00
16/07/2020 18:00
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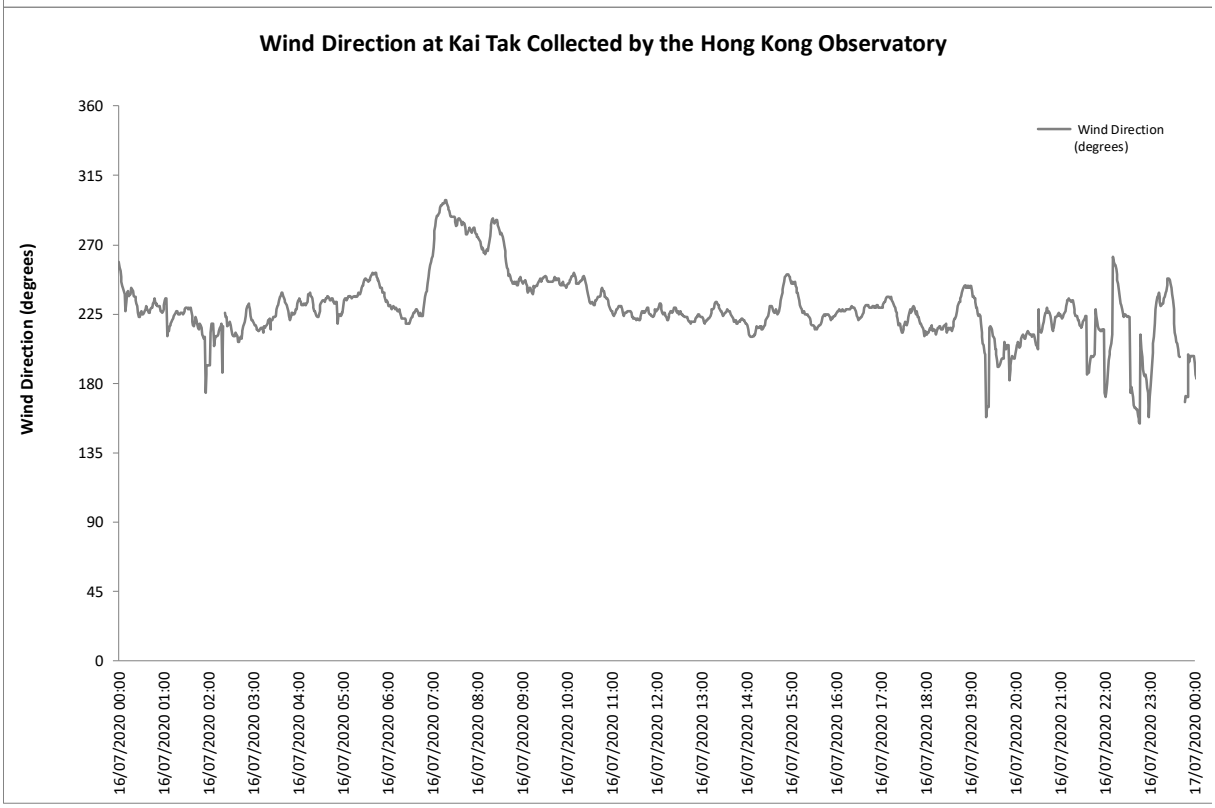
16/07/2020 22:00
16/07/2020 23:00
17/07/2020 00:00


Wind Direction at Kai Tak Collected by the Hong Kong Observatory
Wind Direction (degrees)
Wind Direction (degrees)
360
315
270
225
180
135
90
45
0
16/07/2020 00:00
16/07/2020 01:00
16/07/2020 02:00
16/07/2020 03:00
16/07/2020 04:00
16/07/2020 05:00
16/07/2020 06:00
16/07/2020 07:00
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16/07/2020 18:00
16/07/2020 19:00
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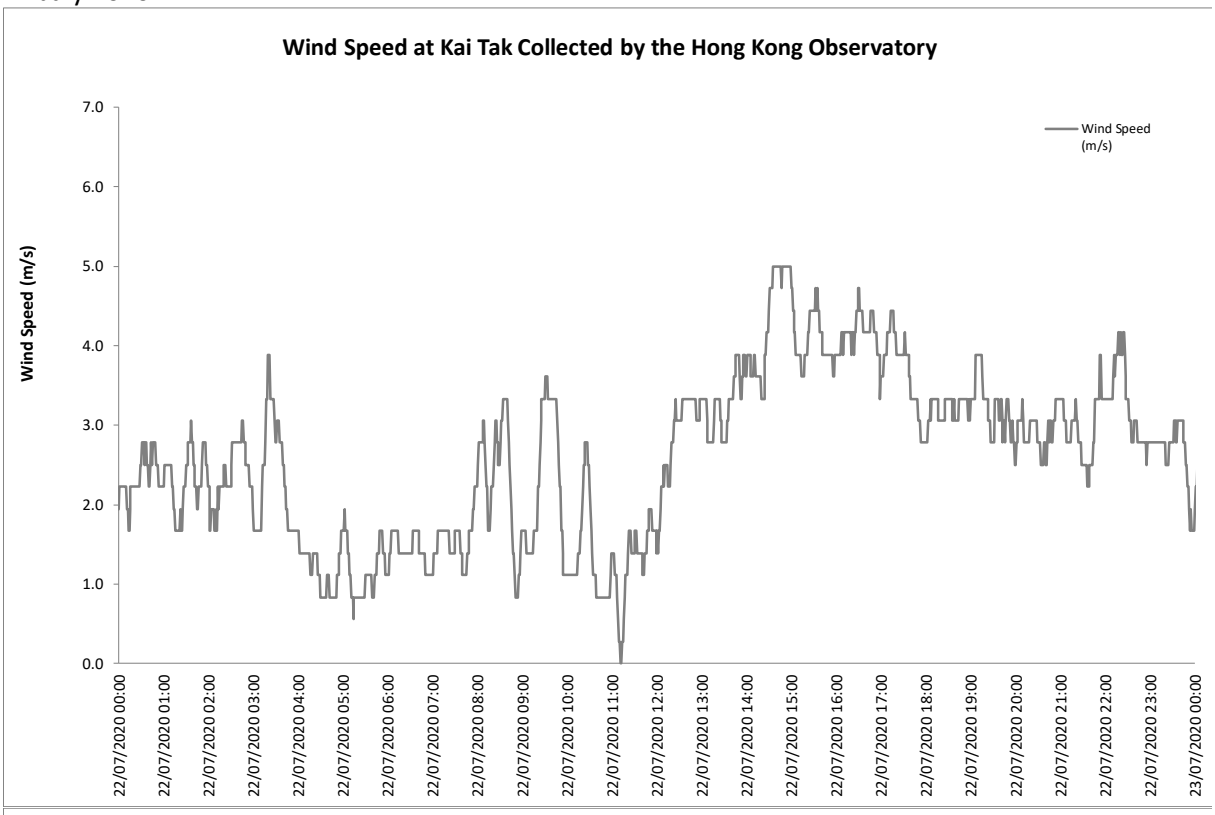
16/07/2020 22:00
16/07/2020 23:00
17/07/2020 00:00

22 July 2020


Wind Speed at Kai Tak Collected by the Hong Kong Observatory
Wind Speed (m/s)
Wind Speed (m/s)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
22/07/2020 00:00
22/07/2020 01:00
22/07/2020 02:00
22/07/2020 03:00
22/07/2020 04:00
22/07/2020 05:00
22/07/2020 06:00
22/07/2020 07:00
22/07/2020 08:00
22/07/2020 09:00
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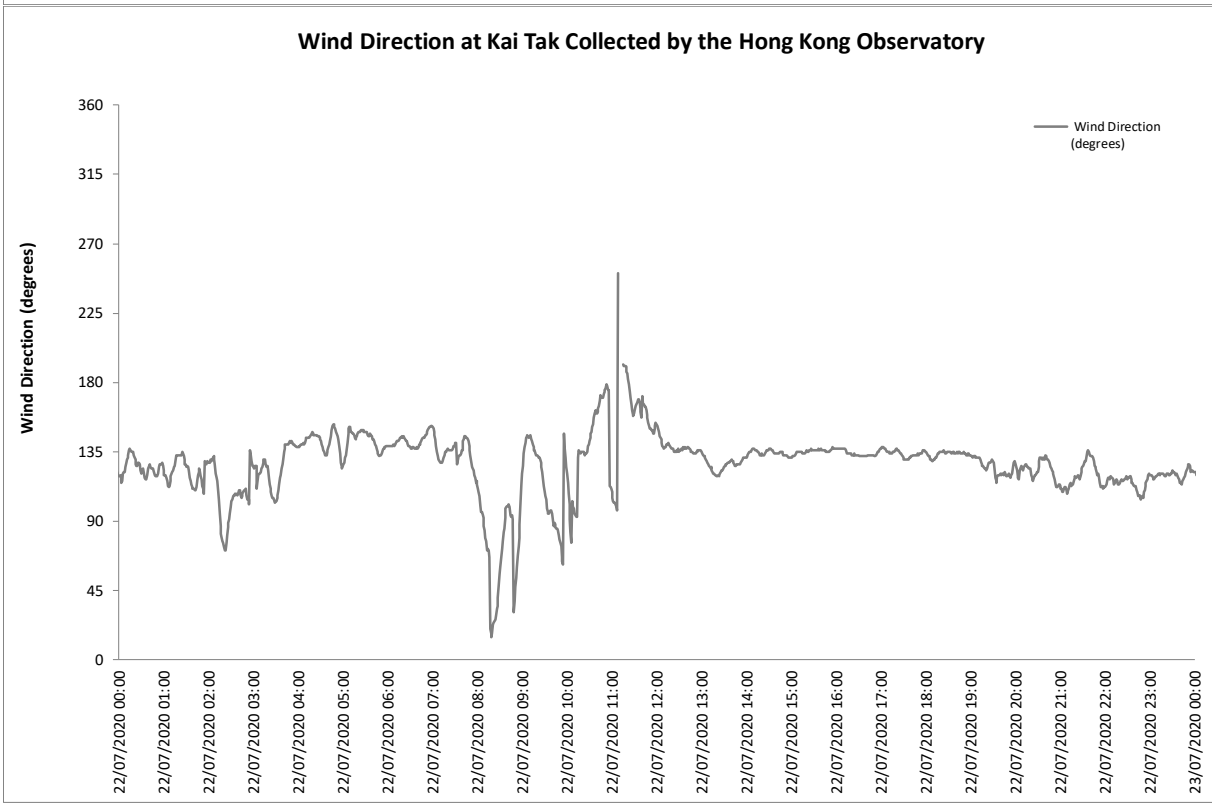
22/07/2020 18:00
22/07/2020 19:00
22/07/2020 20:00
22/07/2020 21:00
22/07/2020 22:00
22/07/2020 23:00
23/07/2020 00:00


Wind Direction at Kai Tak Collected by the Hong Kong Observatory
Wind Direction (degrees)
Wind Direction (degrees)
360
315
270
225
180
135
90
45
0
22/07/2020 00:00
22/07/2020 01:00
22/07/2020 02:00
22/07/2020 03:00
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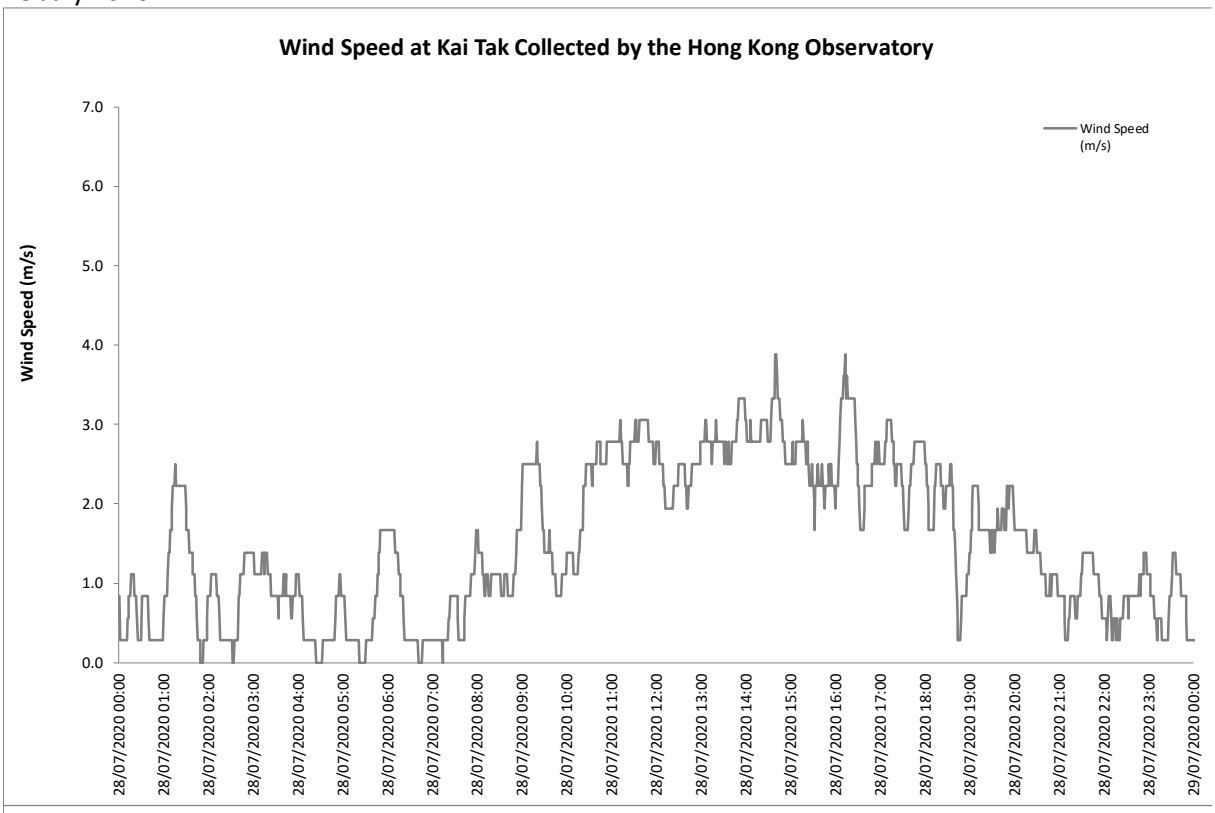
22/07/2020 23:00
23/07/2020 00:00

28 July 2020


Wind Speed at Kai Tak Collected by the Hong Kong Observatory
Wind Speed (m/s)
Wind Speed (m/s)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
28/07/2020 00:00
28/07/2020 01:00
28/07/2020 02:00
28/07/2020 03:00
28/07/2020 04:00
28/07/2020 05:00
28/07/2020 06:00
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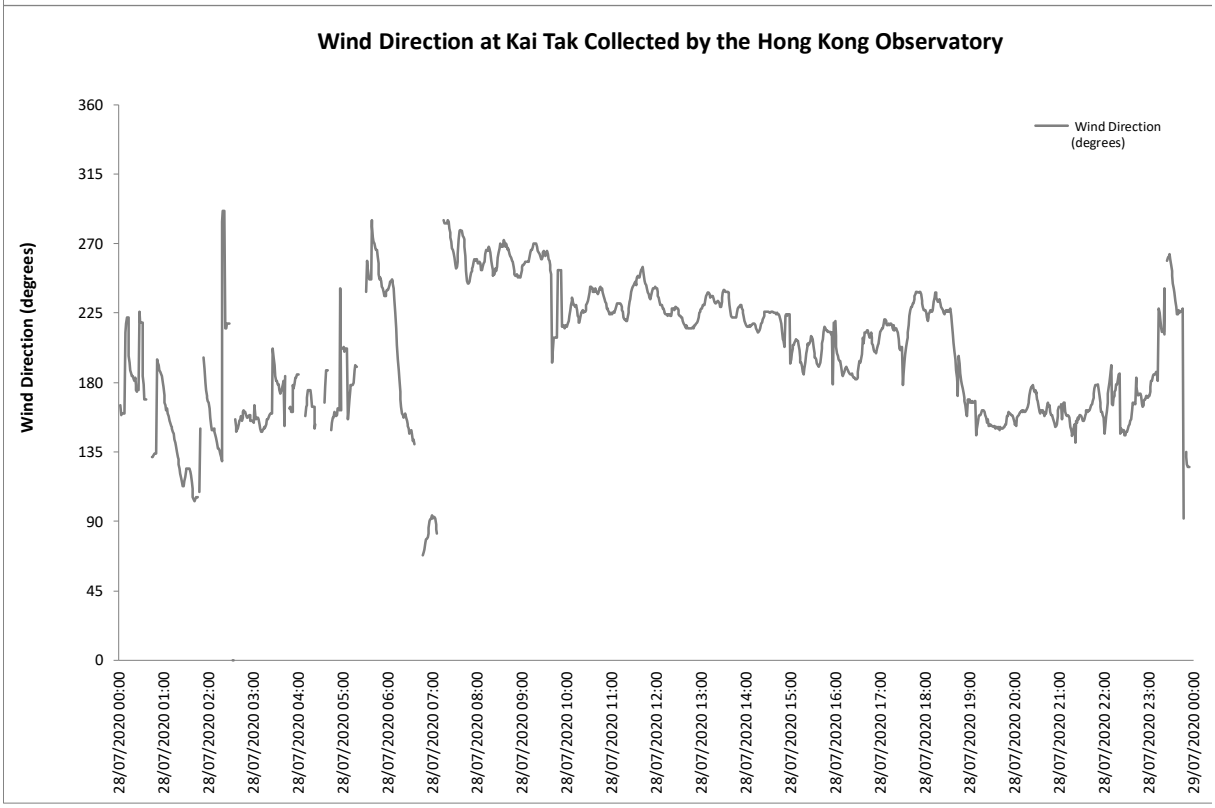
28/07/2020 18:00
28/07/2020 19:00
28/07/2020 20:00
28/07/2020 21:00
28/07/2020 22:00
28/07/2020 23:00
29/07/2020 00:00


Wind Direction at Kai Tak Collected by the Hong Kong Observatory
Wind Direction (degrees)
Wind Direction (degrees)
360
315
270
225
180
135
90
45
0
28/07/2020 00:00
28/07/2020 01:00
28/07/2020 02:00
28/07/2020 03:00
28/07/2020 04:00
28/07/2020 05:00
28/07/2020 06:00
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28/07/2020 18:00
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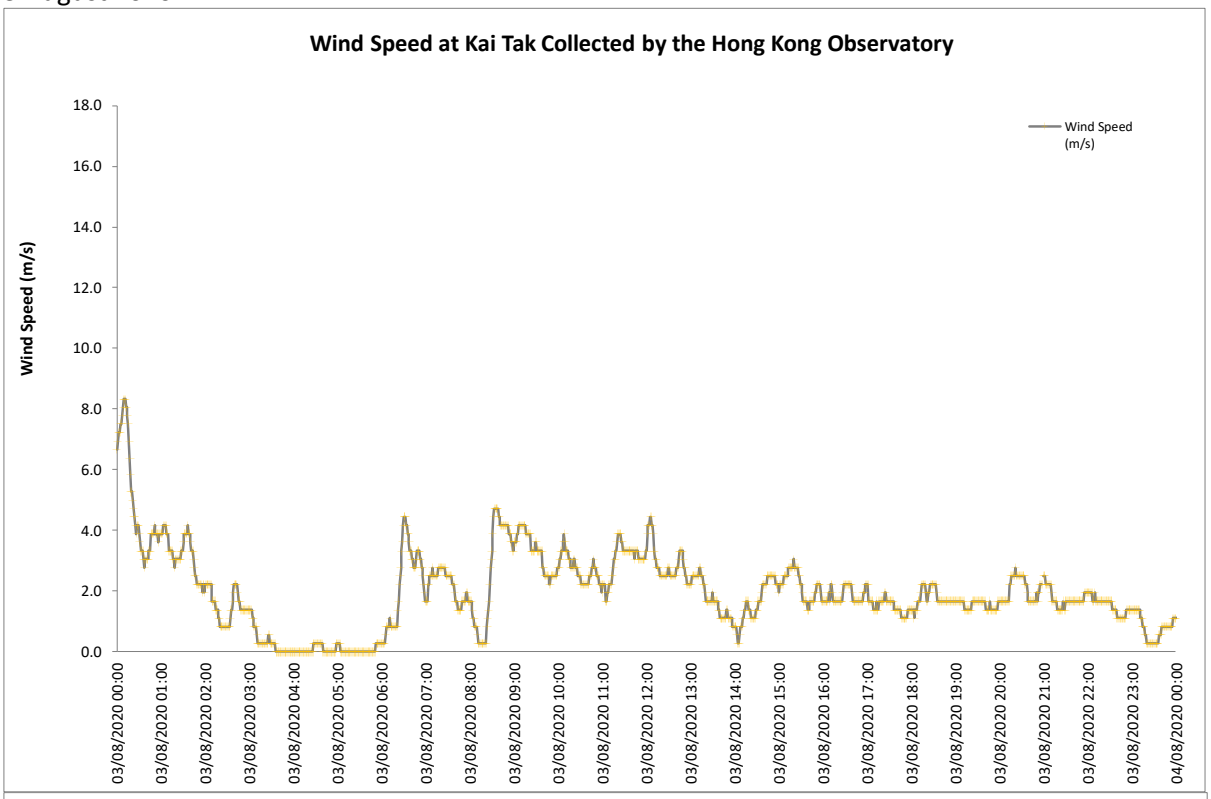
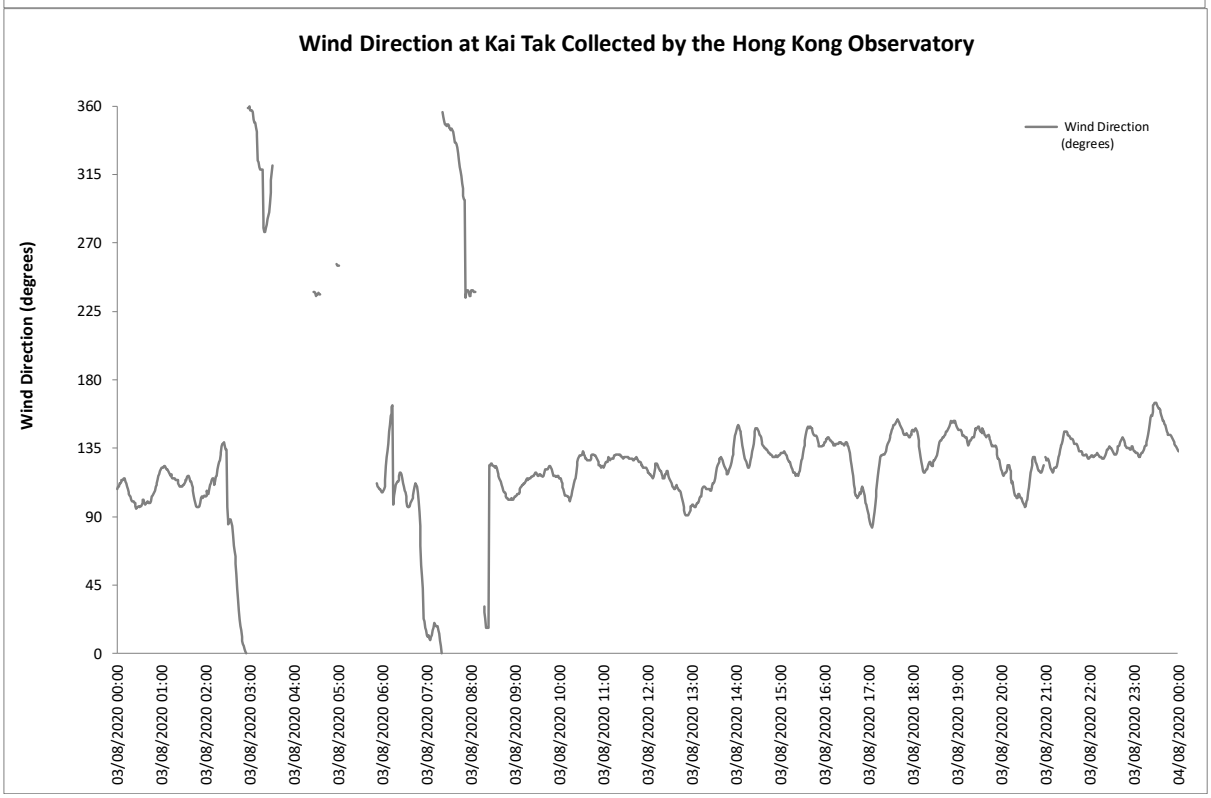
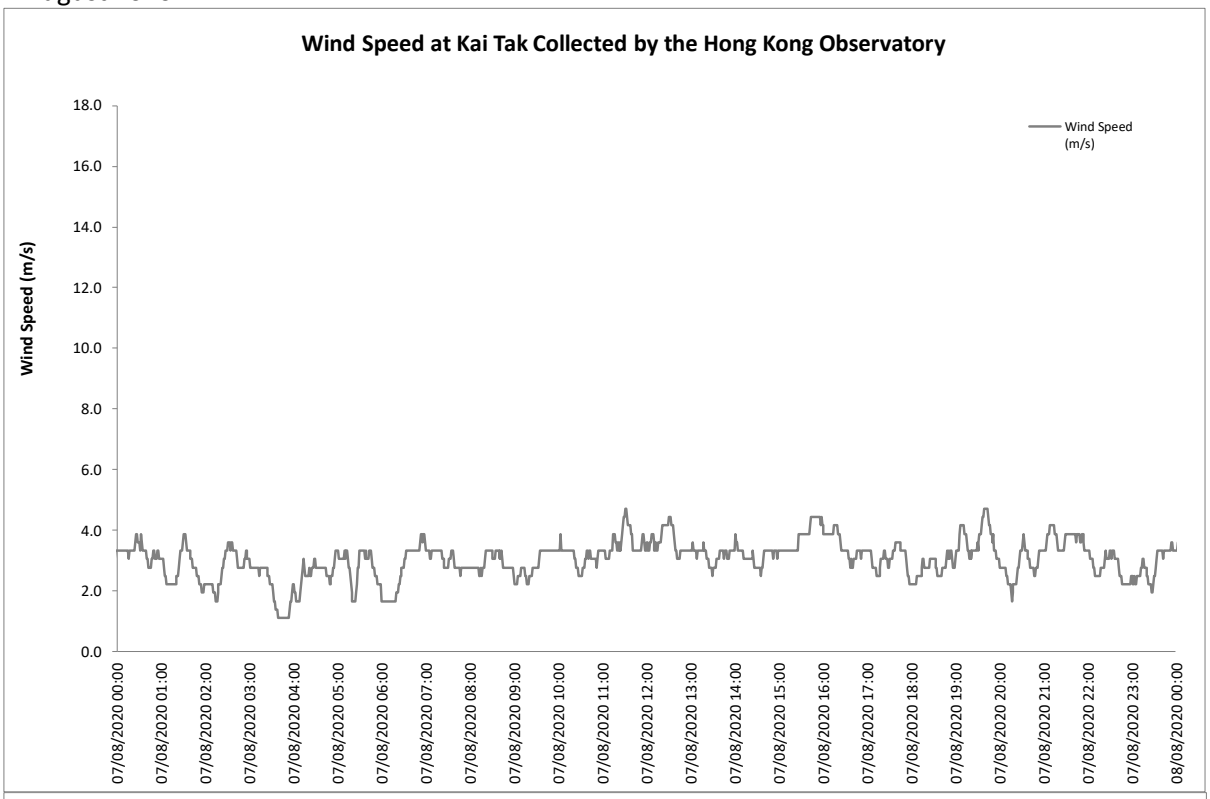
28/07/2020 22:00
28/07/2020 23:00
29/07/2020 00:00

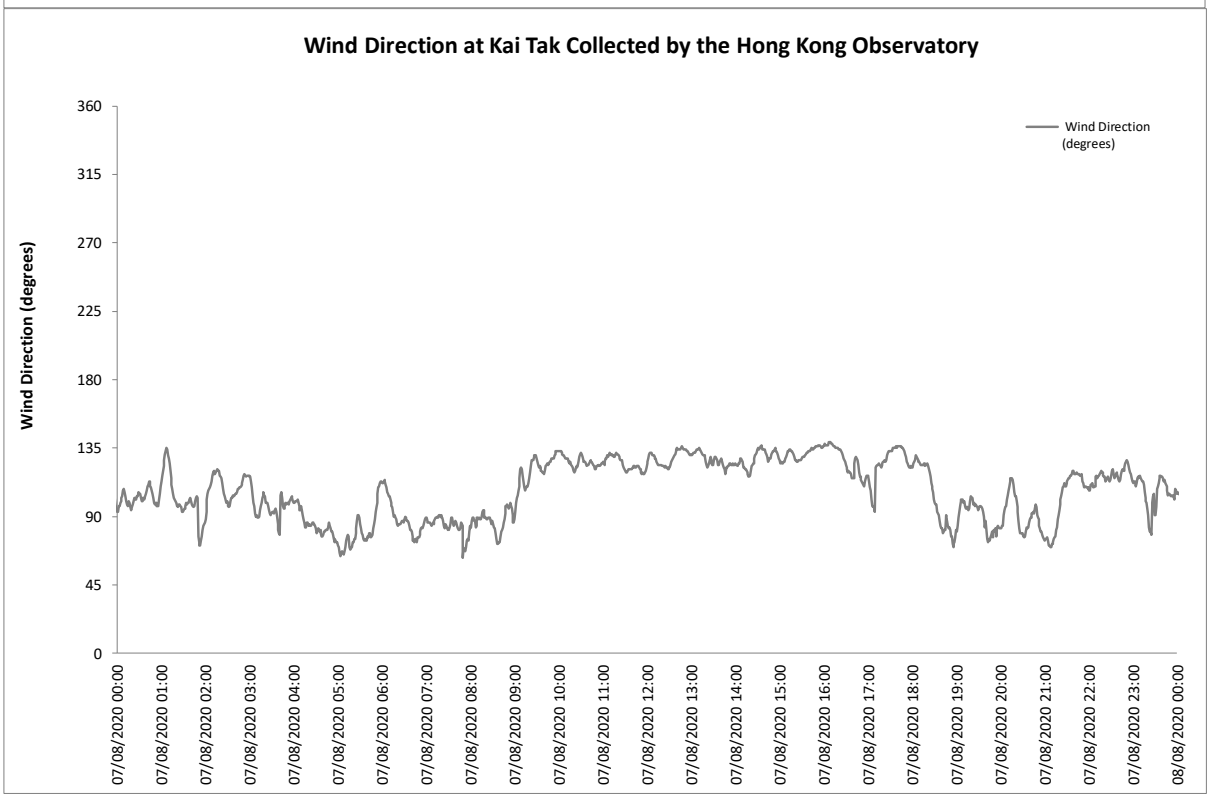
3 August 2020



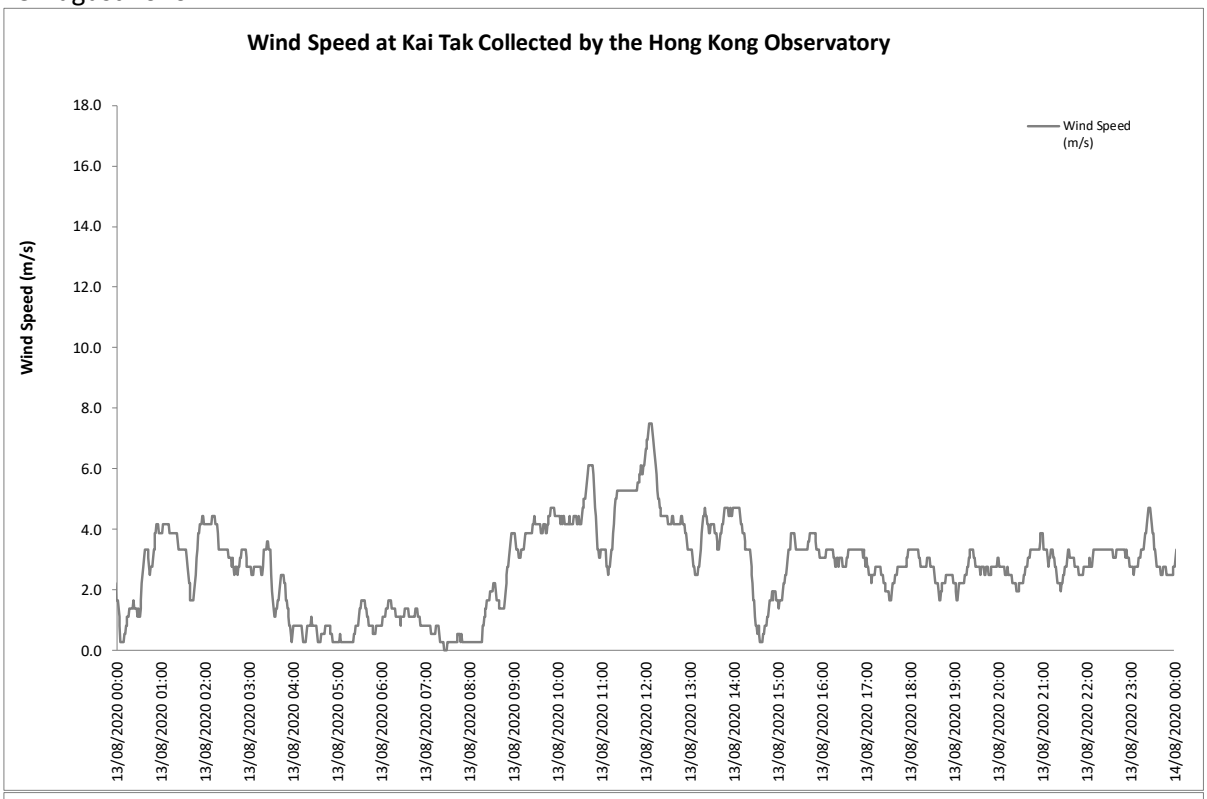


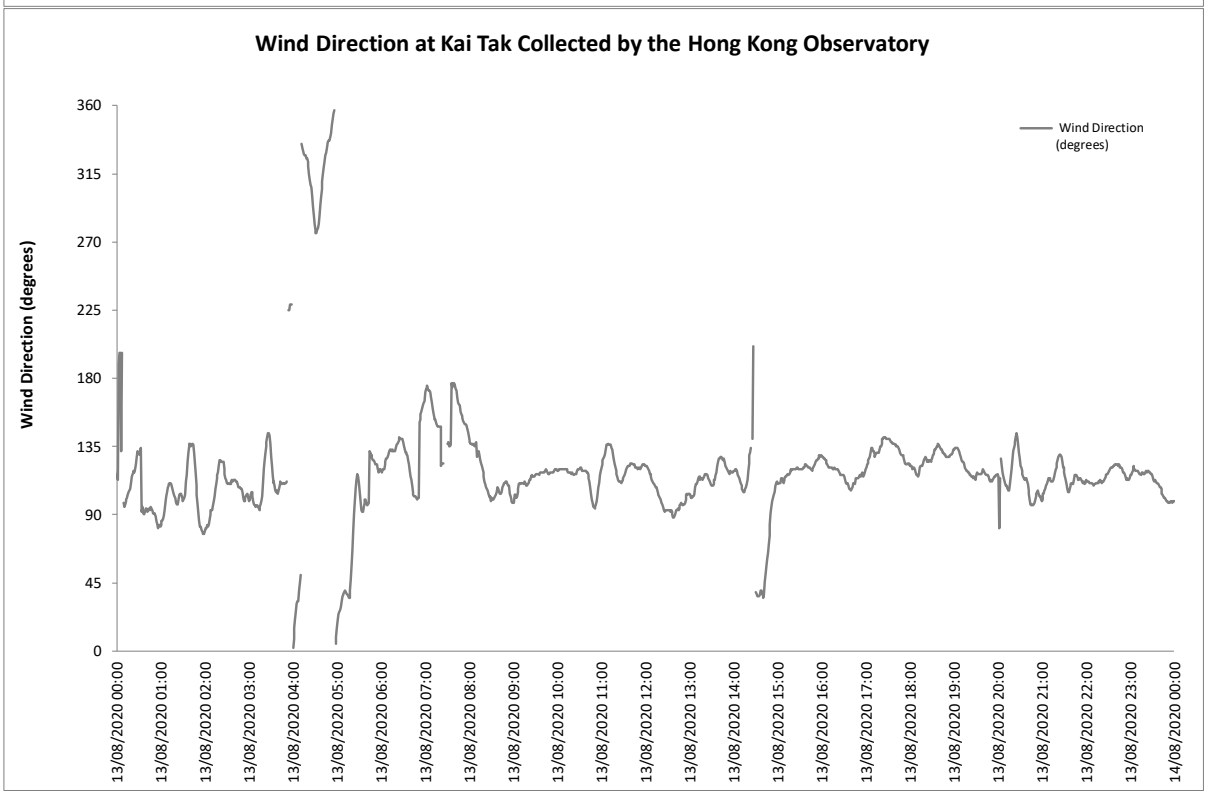
7 August 2020



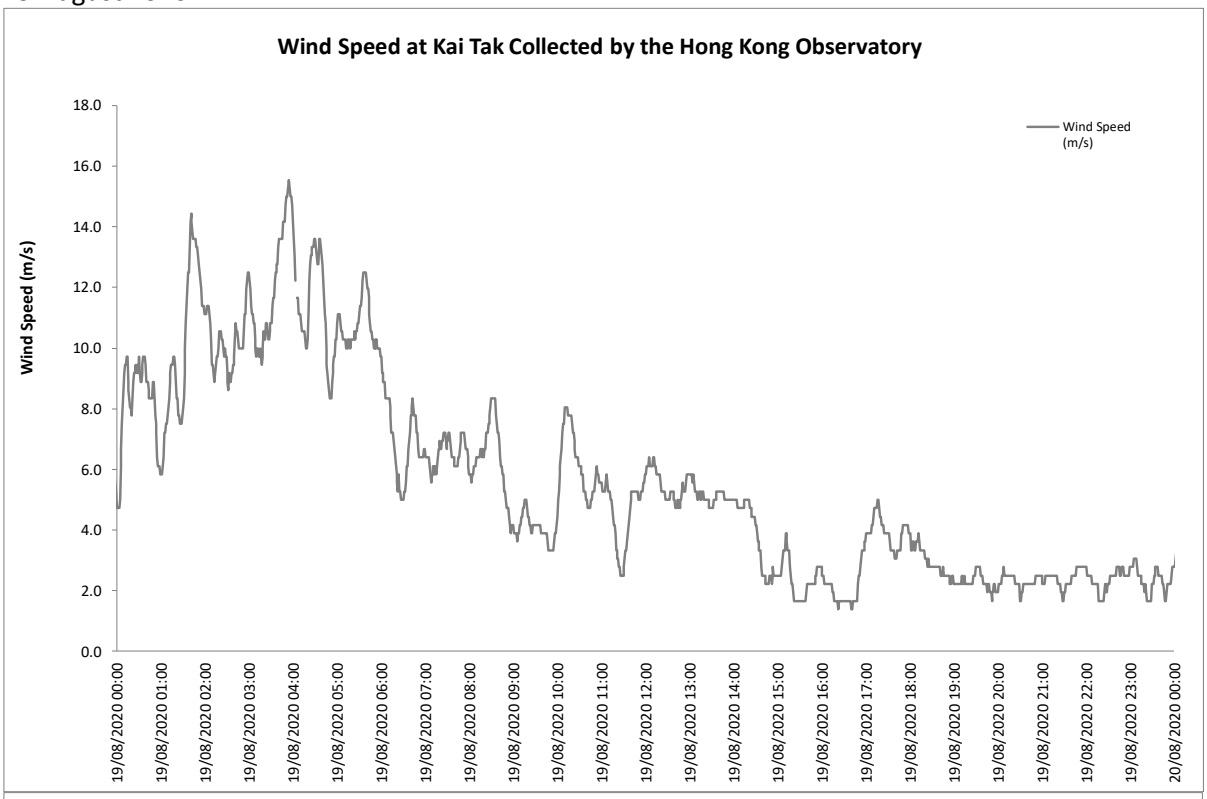


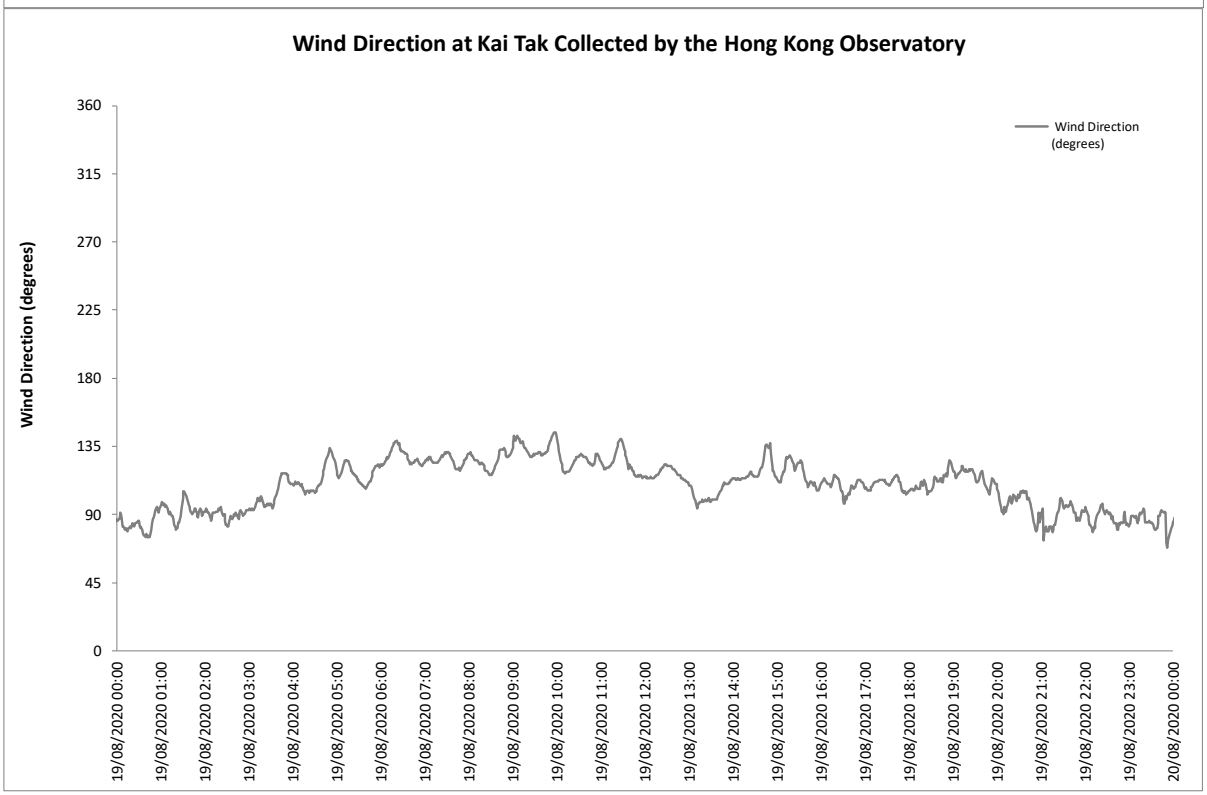
13 August 2020



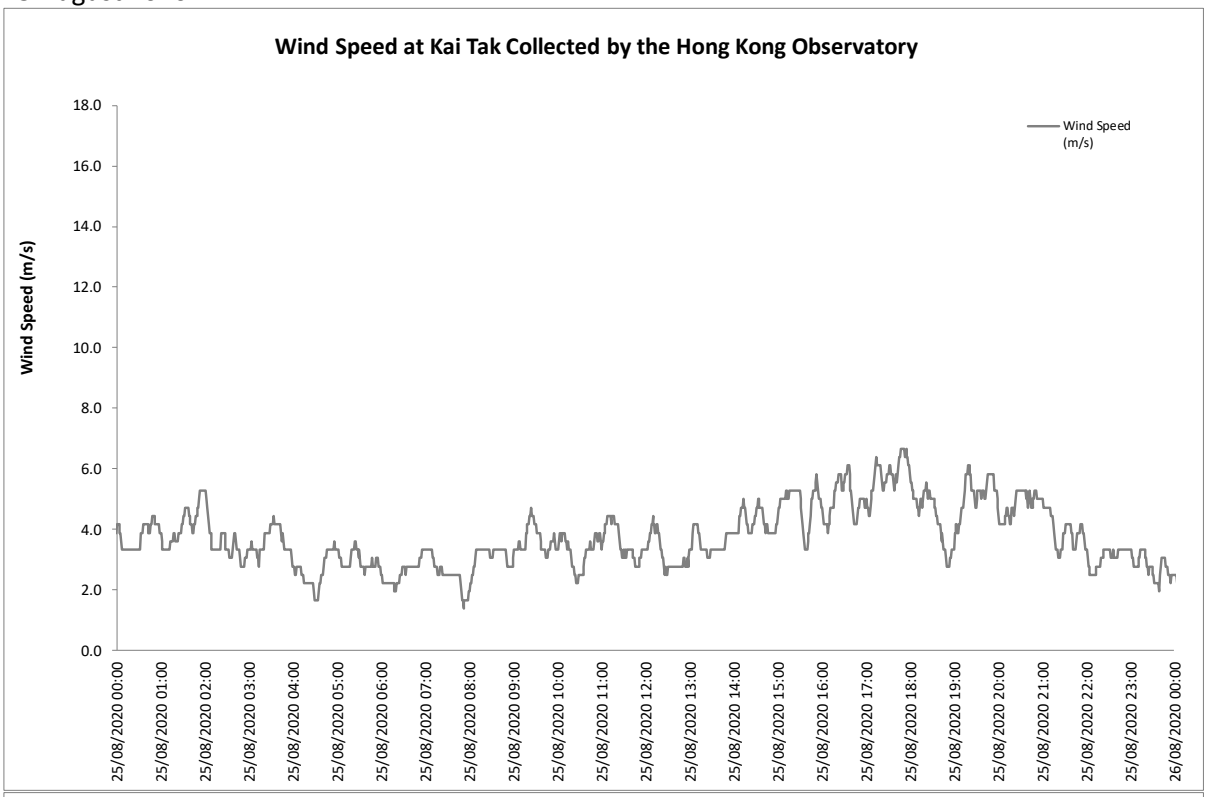


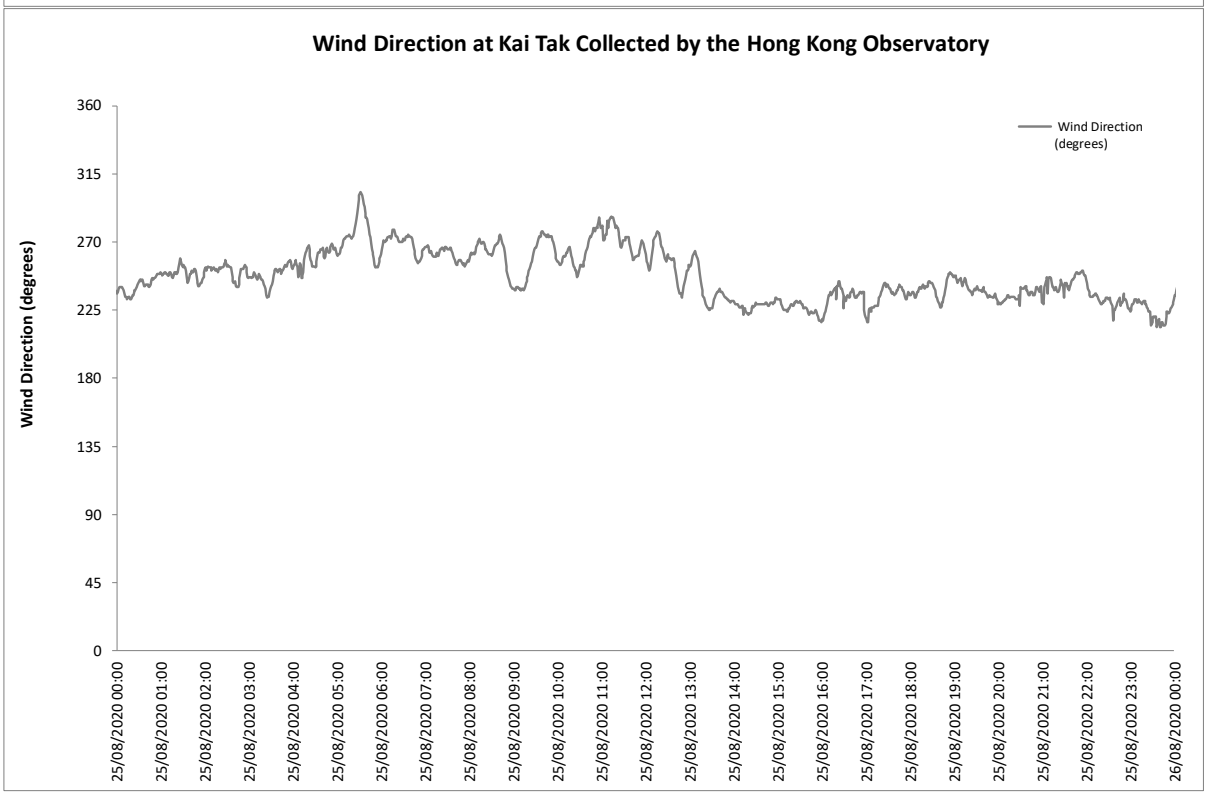
19 August 2020



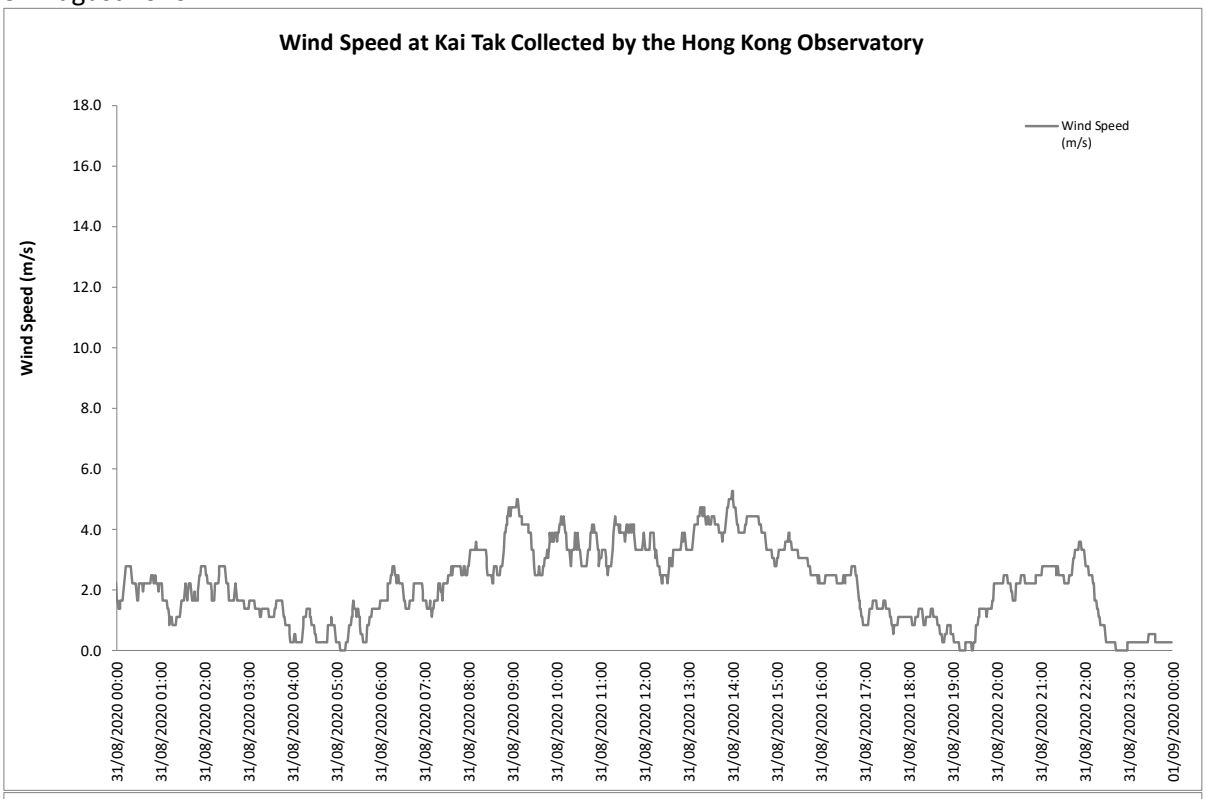


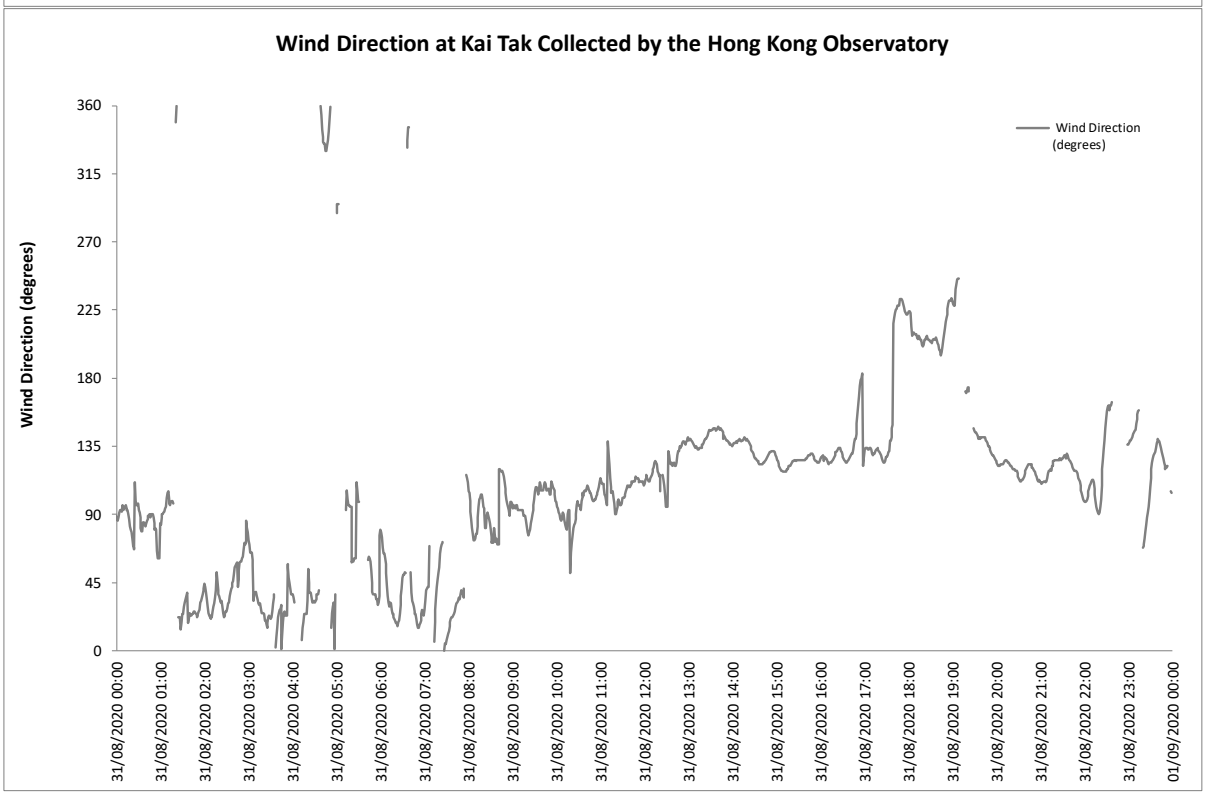
25 August 2020



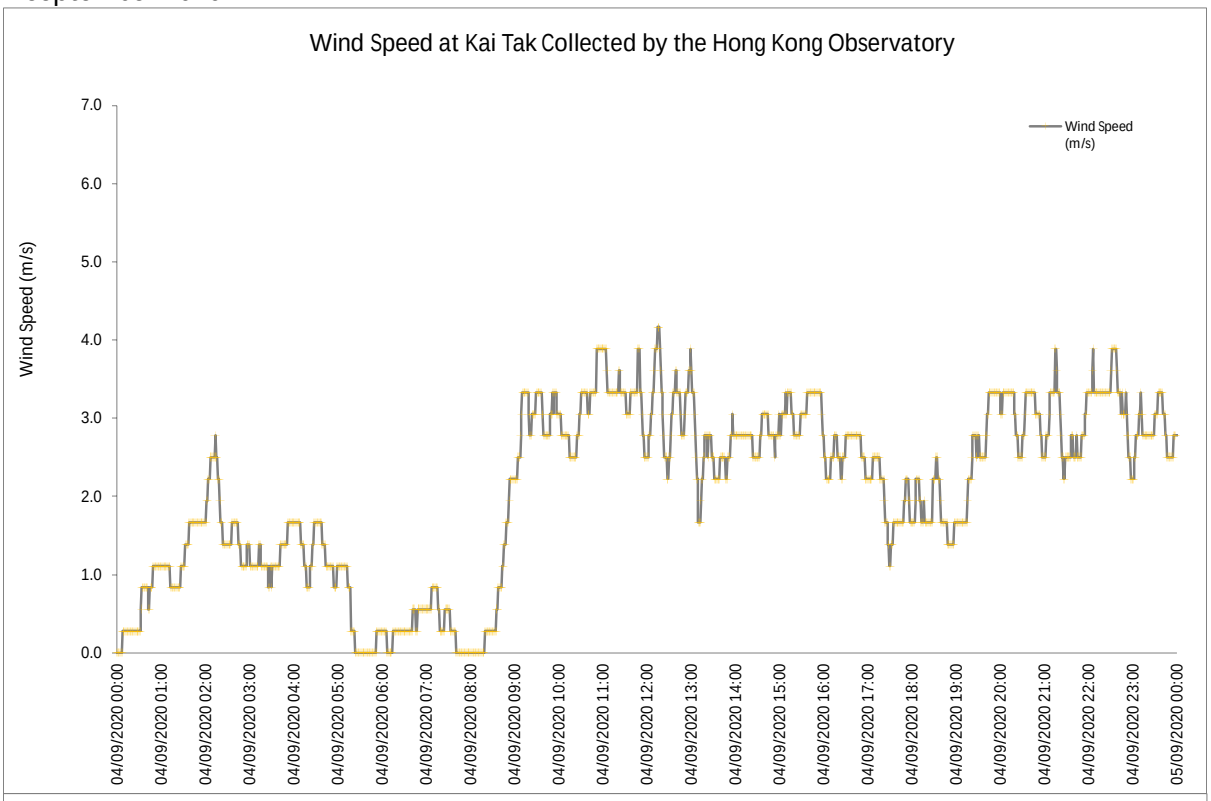


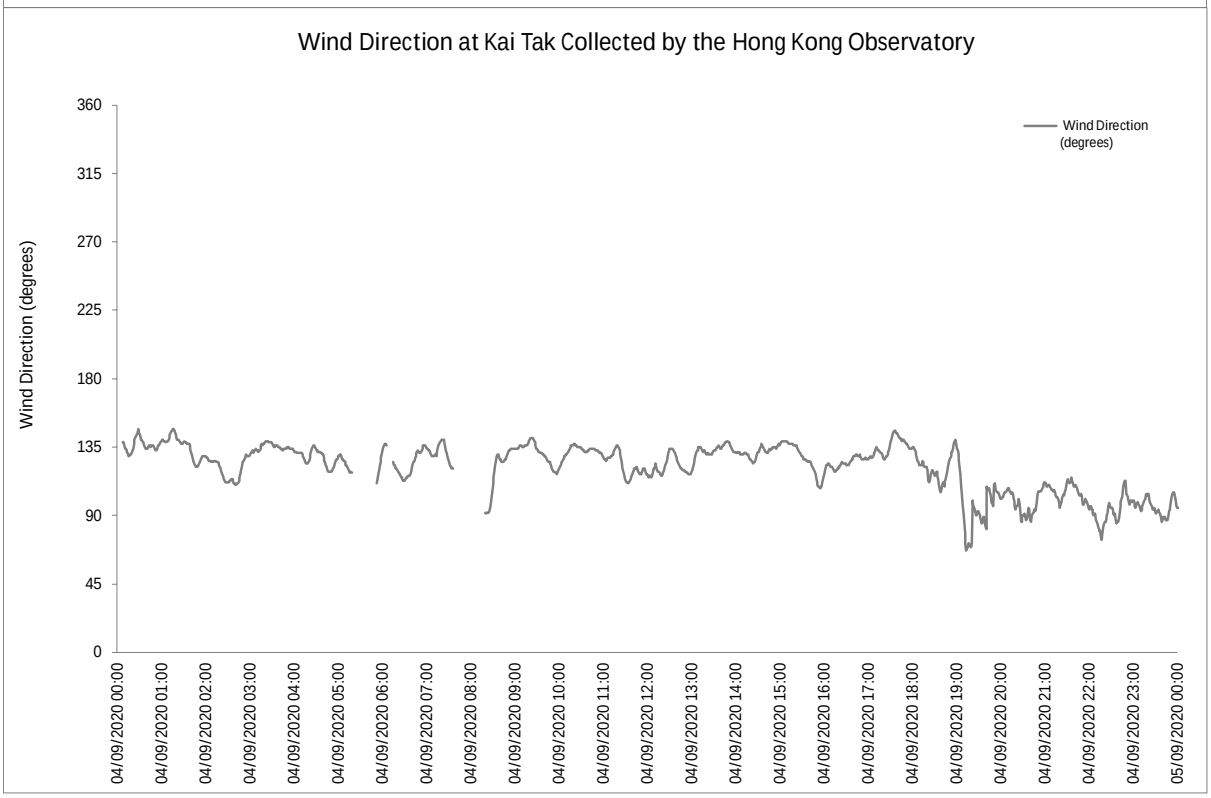
31 August 2020





4 September 2020





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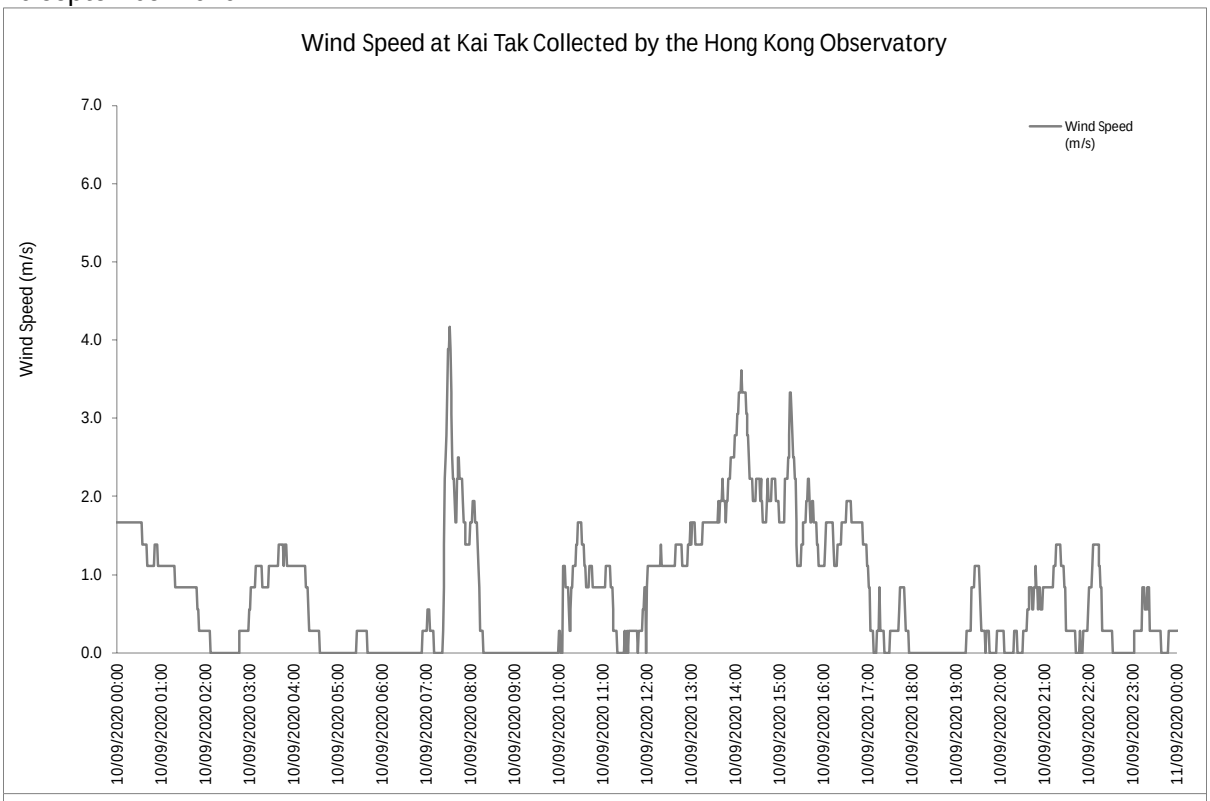

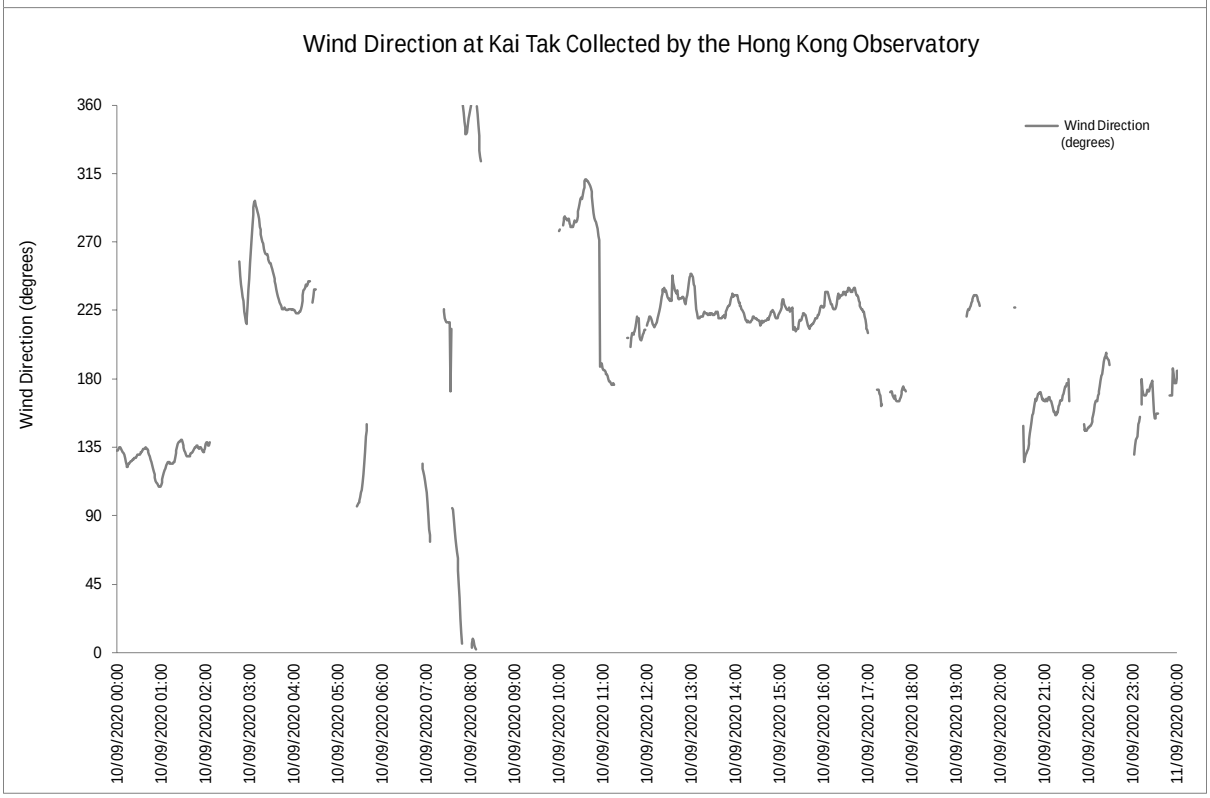

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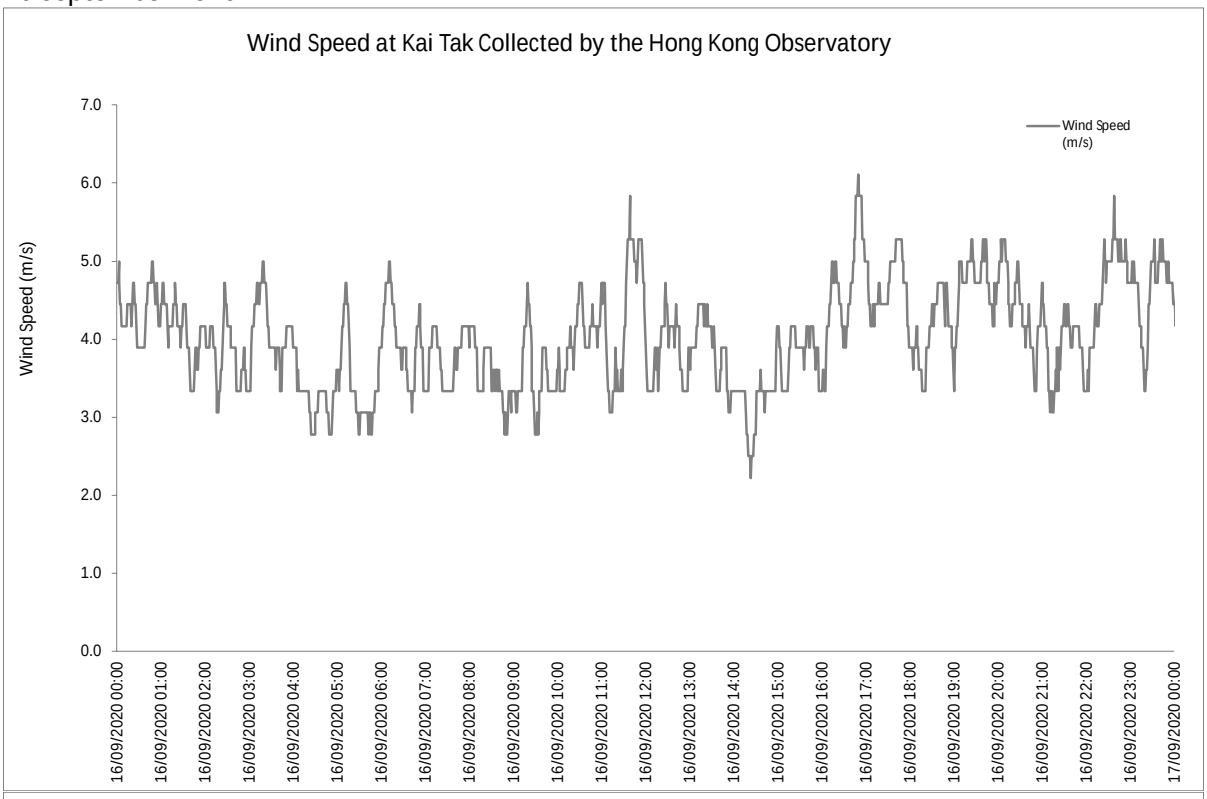

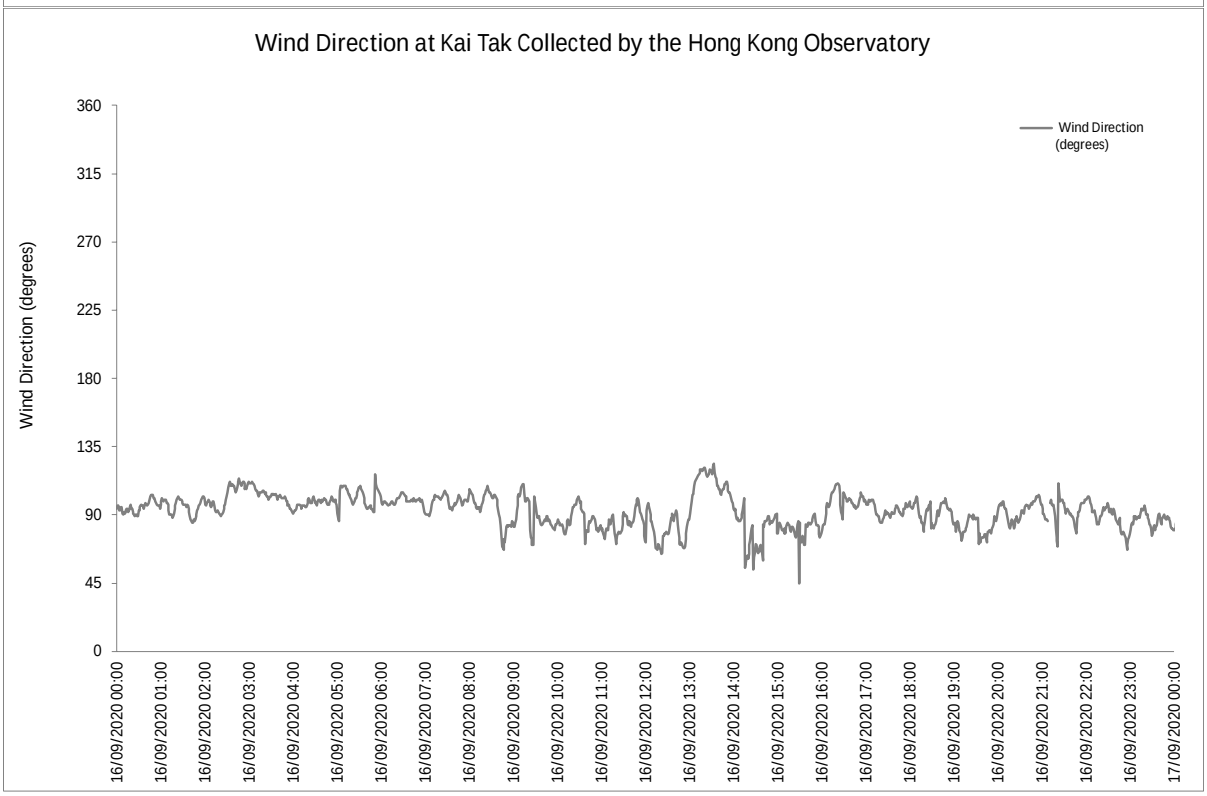

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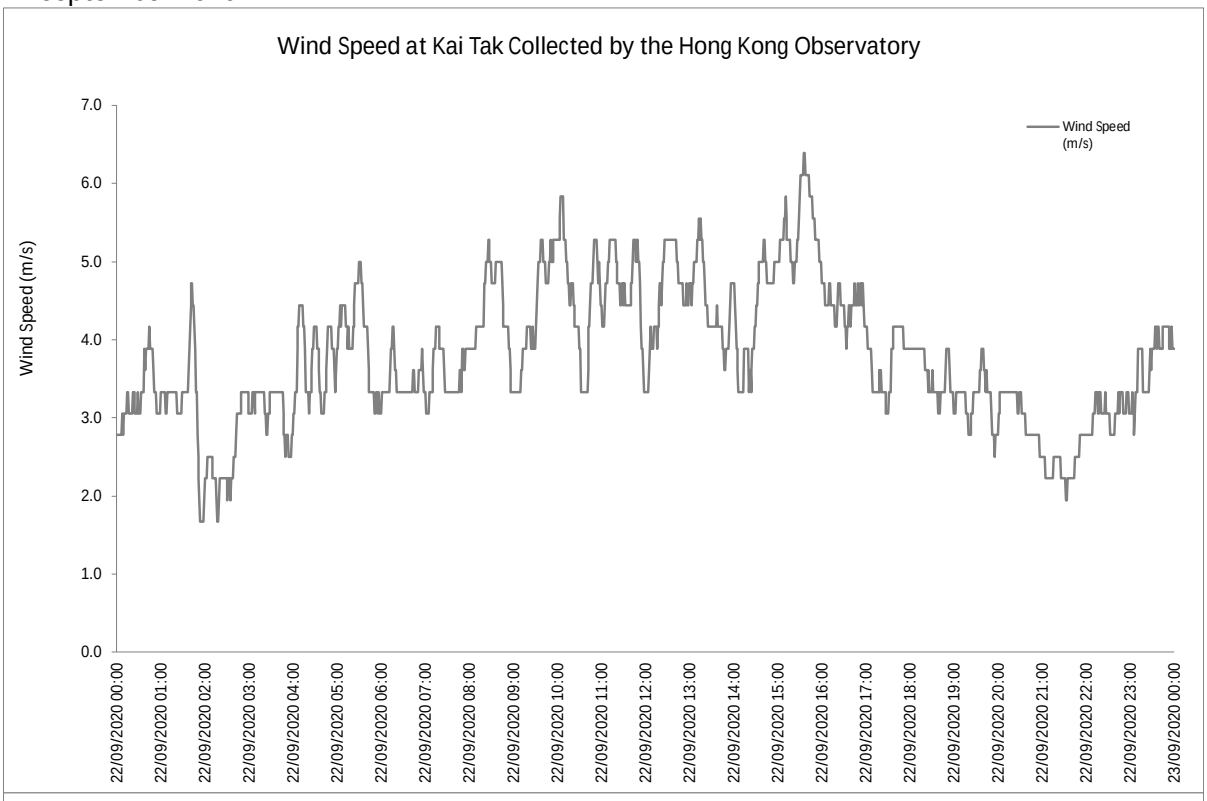

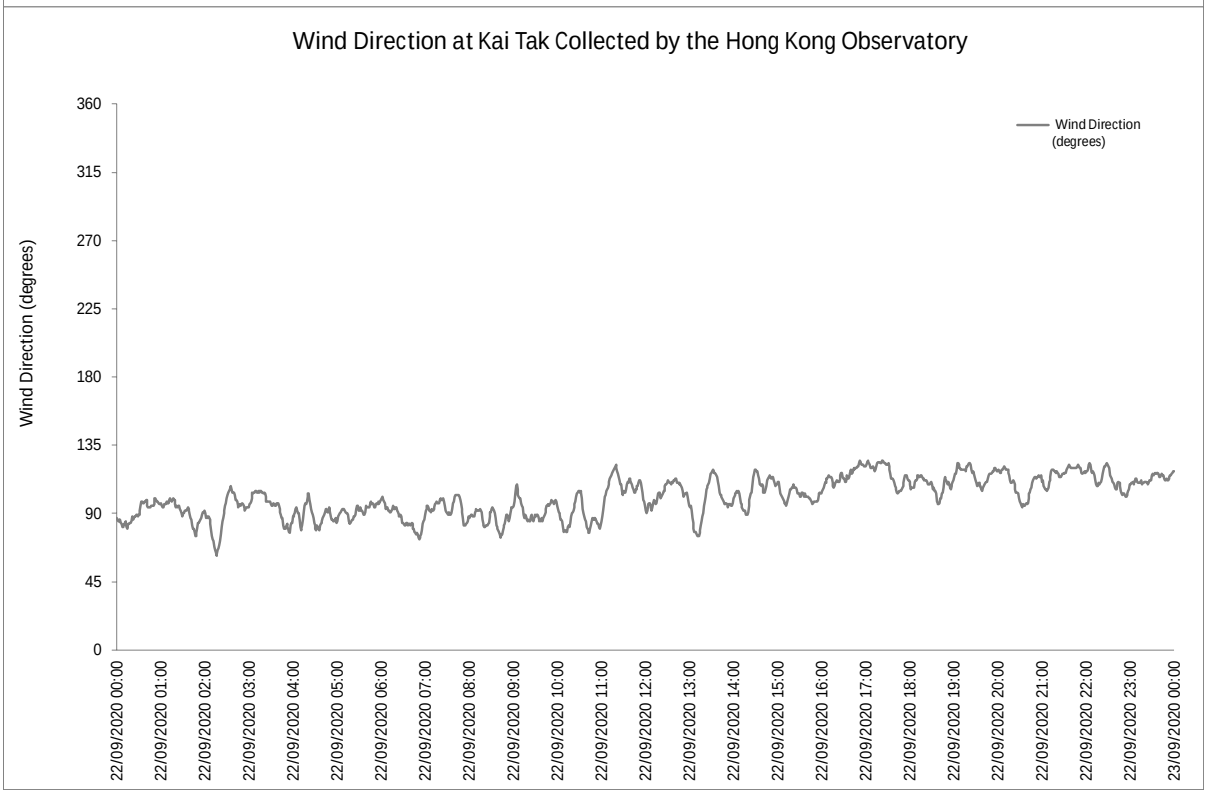

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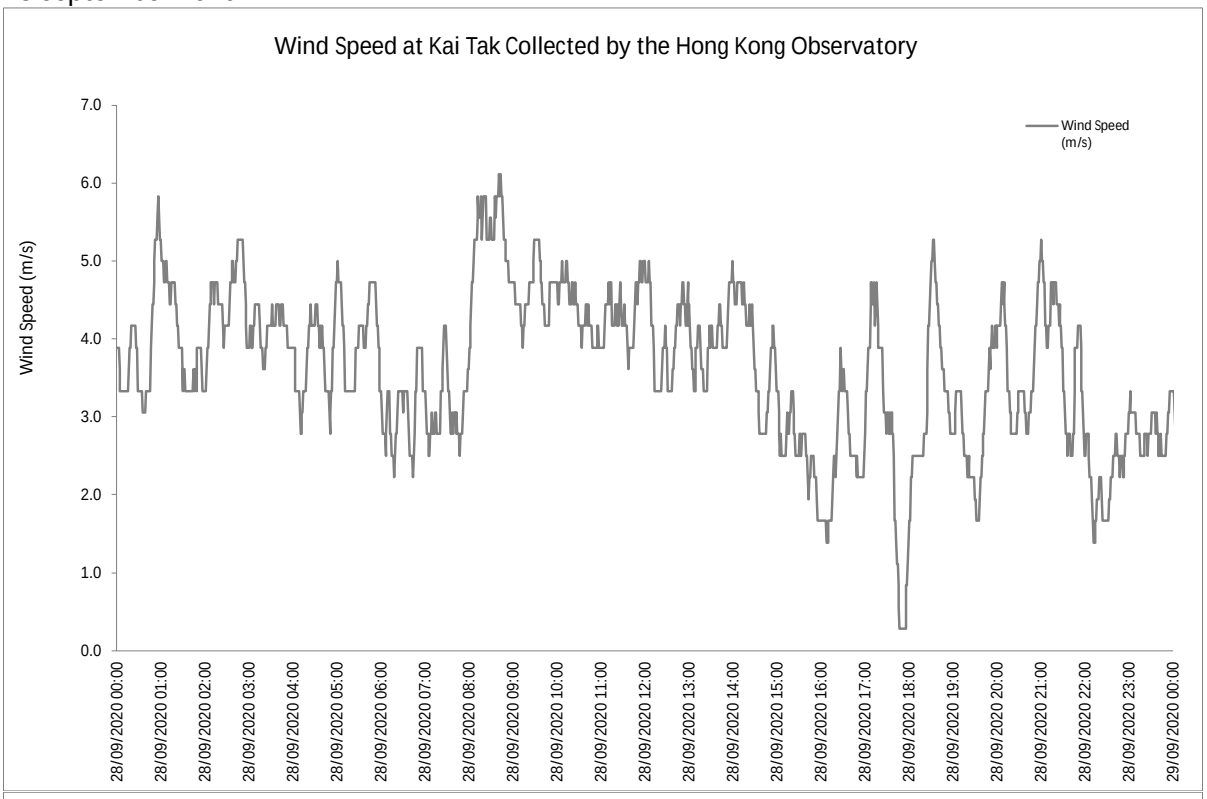
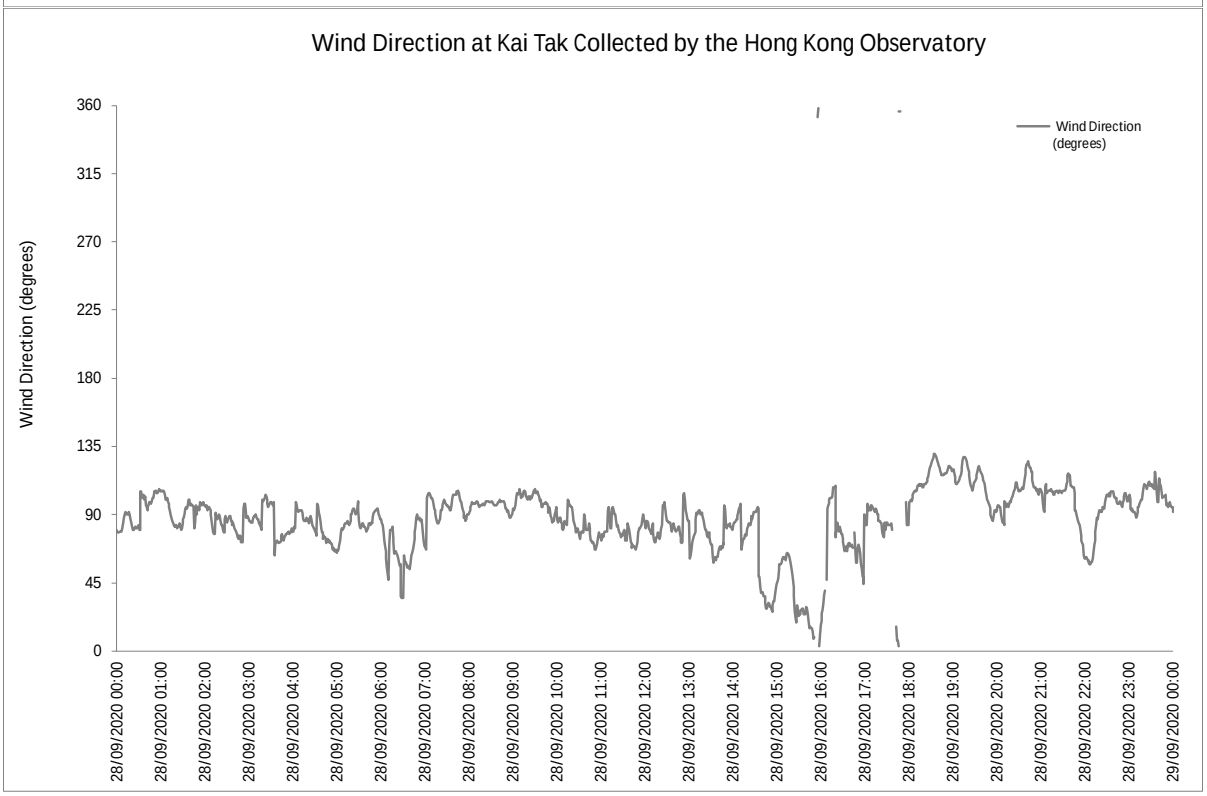




Appendix G. Waste Flow Table

Project: Kai Tak Sport Park
Contract No.: HAB/ KTSP/ 01
Contract Title: Design, Construction and Operation of the Kai Tak Sports Park at Kai Tak, Kowloon City District, Hong Kong
Year of Record: 2019-2020

協興工程有限公司
HIP HING ENGINEERING CO LTD
新創建集團成員 Member of NWS Holdings

Monthly Waste Flow Table

Month	Total Quantity Generated	Total Quantity Generated (Excluded Excavated Material)	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Materials Generated Monthly						Remarks
			Excavated Materials			Non-excavated Materials											
			Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip)(1)	Metals (aluminum can)(1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/ oil container)	Other, e.g. general refuse	
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	
	a1	a2	b	b	b	c	d	e	f	g	h	i	j	k	l	m	
Jan-19																	
Feb-19	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mar-19	4960.89	4741.39	219.50	0	0	0	0	0	0	0	11.84	0	0	0	0	4729.55	
Apr-19	1218.47	1211.81	6.66	0	0	0	0	0	0	0	0	0	0	0.06	0	1211.75	
May-19	87.29	87.29	0	0	0	0	0	0	0	0	0	0	0	0.01	0	87.28	
Jun-19	80.77	80.77	0	0	0	0	0	0	0	0	0.67	0	0.08	0.42	0	79.61	
Jul-19	2302.12	614.75	1687.37	0	0	0	0	0	0	0	0	0	0.26	0.95	0	613.54	
Aug-19	3619.81	280.59	3339.22	0	0	0	0	0	0	0	1.77	0	0	1.29	0.6	276.93	
Sep-19	9840.53	350.02	9490.51	0	0	0	0	0	0	0	0	0	0	1.41	0.6	348.01	
Oct-19	11504.49	543.12	10961.37	0	0	0	0	0	0	0	81.95	0	1.43	0.58	0	459.16	
Nov-19	4717.41	313.12	4404.29	0	0	0	0	0	0	0	69.84	0	0	0.89	0	242.39	
Dec-19	5185.036	102.38	5082.66	0	0	0	0	0	0	0	0	0	0	1.53	0.8	100.05	
Jan-20	12105.75	125.72	11980.03	0	0	0	0	0	0	0	16.32	0	1	0.03	0	108.8	
Feb-20	18104.46	100.08	13459.32	0	4545.06	0	0	0	0	0	23.64	0	0	0.46	0	75.98	
Mar-20	35699.68	236.48	6615.03	0	28848.17	0	0	0	0	0	90.73	0	0.50	1.82	0.8	142.63	
Apr-20	42585.99	136.86	0	0	42449.13	0	0	0	0	0	0	0	0	0.06	0	136.80	
May-20	64505.99	218.37	0	0	64287.62	0	0	0	0	0	47.41	0	0.4	1.09	0	169.47	
Jun-20	44982.44	336.11	6519.25	0	38127.08	0	0	0	0	0	171.56	0	0.6	1.46	0.8	161.71	
Jul-20	43467.27	601.19	0	0	42866.08	0	0	0	0	0	377.41	0	0.5	1.01	0.0	222.28	
Aug-20	61579.38	1092.15	3771.32	0	56715.91	0	0	0	0	0	834.1	0	0.7	1.15	0.0	256.21	
Sep-20	110996.79	681.28	0	0	110315.51	0	0	0	0	0	395.29	0	0.6	1.53	0.0	283.86	
Total	477544.56	11853.46	77536.53	0	388154.56	0	0	0	0	0	2122.53	0	5.60	15.73	3.6	9706.01	

Total C&D waste generated	477544.56	tonne	a1=b+c+d+e+f+g+h+i+j+k+l+m
Total C&D waste generated (excluding excavated materials)	11853.46	tonne	a2=c+d+e+f+g+h+i+j+k+l+m
Total recycled C&D waste	2143.86	tonne	a3=c+d+e+h+i+j+k
% of recycled C&D waste for BEAM Plus MA10 or MA11	18.09	%	a4=a3/a2 x 100%

Notes:
(1) Metal, paper & plastic were collected by recycler.
(2) The performance target of waste recycling are specified in the Contract.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates.
(6) Excavated materials/waste will NOT be considered as part of construction waste. It should be excluded in the calculation.
(7) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.
(8)Disposal record for August 2020 and September 2020 have been updated according to the latest information from contractor.

Contract No. BD3/4091/19

Proposed Composite Development at N.K.I.L. 6607 Shing Kai Road, Kai Tak, Kowloon

Monthly Summary Waste Flow Table for 2020

Month	Actual Quantities of Inert C&D Materials Generated Monthly										Actual 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		Metals		Paper / cardboard packaging		Plastics (see Note 1)		Chemical Waste (incld. ACM, DCM, spent oil)		Other, e.g. general refuse	
	(in '000 m^3)		(in '000 m^3)		(in '000 m^3)		(in '000 m^3)		(in '000 m^3)		(in '000 kg)		(in '000 kg)		(in '000 kg)		(in '000 m^3)		(in '000 m^3)	
	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.	Est.	Act.
Jan																				
Feb																				
Mar																				
Apr																				
May																				
Jun																				
Sub-total																				
Jul	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00
Aug	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00
Sep	0.104	0.104	-	0.00	-	0.00	-	0.00	0.104	0.104	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00
Oct																				
Nov																				
Dec																				
Total	0.104	0.104	0.00	0.00	0.00	0.00	0.00	0.00	0.104	0.104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes : (1) Plastics refer to plastic bottles / container, plastic sheets / foam from packaging material.

(2) Broken concrete for recycling into aggregates.

Appendix H. Environmental Licences and Permits

Table H.1: Summary of Environmental Licences and Permits Status (KTSP)

Item No.	Type of Permit / Licence	Reference No.	Application Date	Valid from	Valid until	Remark
1	Environmental Permit under EIAO	EP-544/2017	21 Aug 2017	8 Sep 2017	N/A	Issued
2	Construction Dust Notification under APCO	441733	25 Jan 2019	29 Jan 2019	N/A	N/A
3	Construction Waste Disposal Account (Main)	7033182	12 Feb 2019	12 Feb 2019	N/A	N/A
4	Construction Waste Disposal Account (Vessel)	7033555	28 May 2020	1 Jun 2020	11 Aug 2020	Superseded
			8 Jul 2020	13 Jul 2020	11 Nov 2020	Issued
5	Registration as a Chemical Waste Producer	WPN5213-286-H3906-02	29 Jan 2019	12 Feb 2019	N/A	N/A
6	Discharge Licence under WPCO	WT00034082-2019	15 Feb 2019	26 Jun 2019	30 Jun 2024	Issued
7	Construction Noise Permit (Percussive Piling)	PP-RE0024-20	10 Jun 2020	27 Jun 2020	19 Dec 2020	Superseded by PP-RE0027-20 on 31 July 2020
8	Construction Noise Permit (Percussive Piling)	PP-RE0027-20	10 July 2020	31 July 2020	19 Jan 2021	Issued
9	Construction Noise Permit (General Construction Works, Barging Point)	GW-RE0462-20	15 May 2020	5 Jun 2020	21 Nov 2020	Issued
10	Construction Noise Permit (General Construction Works, Northern Site)	GW-RE0482-20	25 May 2020	11 Jun 2020	4 Dec 2020	Superseded by GW-RE0720-20 on 4 Sep 2020
11	Construction Noise Permit (General Construction Works, Southern Site)	GW-RE0507-20	2 Jun 2020	19 Jun 2020	18 Aug 2020	Superseded by GW-RE0644-20 on 8 Aug 2020
12	Construction Noise Permit (General Construction	GW-RE0644-20	13 Jul 2020	8 Aug 2020	7 Nov 2020	Superseded by GW-RE0714-20

Item No.	Type of Permit / Licence	Reference No.	Application Date	Valid from	Valid until	Remark
	Works, Southern Site)					on 1 Sep 2020
13	Construction Noise Permit (Construction Works, Southern Site)	GW-RE0714-20	10 Aug 2020	1 Sep 2020	28 Feb 2021	Issued
14	Construction Noise Permit (Construction Works, Northern Site)	GW-RE0720-20	10 Aug 2020	4 Sep 2020	23 Feb 2021	Issued

Table H.1: Summary of Environmental Licences and Permits Status (H/O Development)

Item No.	Type of Permit / Licence	Reference No.	Application Date	Valid from	Valid until	Remark
1	Environmental Permit under EIAO	EP-544/2017	21 Aug 2017	8 Sep 2017	N/A	Issued
2	Construction Dust Notification under APCO	458255	17 Jul 2020	17 Jul 2020	N/A	N/A
3	Construction Waste Disposal Account (Main)	7037993	5 Aug 2020	5 Aug 2020	N/A	N/A
4	Registration as a Chemical Waste Producer	WPN5113-286-C1286-03	17 Jul 2020	10 Sep 2020	N/A	N/A
5	Discharge Licence under WPCO	N/A	17 Jul 2020	N/A	N/A	Pending

Appendix I. Environmental Mitigation Measures Implementation Status

Air Quality – Recommended Mitigation Measures

Air Quality Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Good housekeeping to minimize dust generation, e.g. by properly handling and storing dusty materials	✓	✓
• Store cement in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags	P	✓
• Cement delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed	N/A	N/A
• Loading, unloading, transfer, handling or storage of bulk cement should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system	✓	N/A
• Dusty materials (e.g. debris) should be wetted by misting / water-spraying before any loading, unloading, transfer or transport operation	✓	✓
• Any skip hoist for material transport should be fully enclosed by impervious sheeting	✓	N/A
• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously	✓	✓
• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities to maintain the entire surface wet	✓	✓
• Excavation area should be minimized as far as possible	✓	✓
• Stockpile of dusty materials should not be extended beyond the pedestrian barriers, fencing or traffic cones	✓	✓
• Excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet, and then removed, backfilled or reinstated where practicable within 24 hours of the excavation or unloading	P	P
• Dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads	✓	✓
• Properly fitted side and tail boards are necessary for any vehicle with open load area	✓	✓
• While transporting materials that potentially create dust (e.g. debris), materials should not be loaded higher than side and tail boards, and should be fully covered by tarpaulin or similar materials which extent at least 300 mm over the edges of the side and tail boards to prevent leakage.	✓	N/A
• Limit the maximum vehicle speed within the site to 10km/hr	✓	✓
• Haulage and delivery vehicles should be confined to designated roads	✓	✓
• Every main haul road should either be 1.) paved with concrete and kept clear of dusty materials, or 2.) sprayed or watered to maintain the entire road surface wet	✓	✓
• All on-site unpaved roads should be compacted and kept free of lose materials as possible	✓	✓
• Provide vehicle washing (e.g. wheel washing bay & high pressure water jet where practicable) at every vehicle exit point for cleaning vehicle body and wheels	✓	✓
• The vehicle washing area and the road between washing area and site exit should be paved with concrete, bituminous or other hardcores	✓	✓
• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials.	✓	✓

• Dusty materials on every vehicle's body and wheels should be removed in washing area before leaving the site	✓	✓
• Regular maintenance of all plant equipment	✓	✓
• Throttle down or switch off unused machines or machine in intermittent use	✓	✓
• If the site is adjacent to area where accessible to the public (e.g. road and service lane etc.), hoarding of not less than 2.4 m high from ground level should be erected along the adjoining the entire length of that portion of the site boundary, except for a site entrance or exit. The hoarding should be well maintained throughout the construction period.	✓	✓
• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding	N/A	N/A
• Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies	✓	✓
• Carry out air quality monitoring throughout the construction period	✓	✓
• Carry out weekly site inspection to audit the implementation of mitigation measures	✓	✓
• Regular watering once per hour on exposed worksites and haul road with an equivalent intensity of not less than 1.3L/m3 to achieve 91.7% dust removal efficiency.	P	✓
• Provision of electrical vehicle (EV) charging facilities in at least one-third of the car parking spaces for private cars. Provision of EV charging enabling facilities in all car parking spaces provided for private cars.	✓	N/A
Non-Road Mobile Machinery (NRMMs)		
• All NRMMs operated on-site are approved or exempted (as the case may be) and affixed with the requisite approval/exemption labels under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation or are in the process of application for such approval/exemption during the relevant grace period.	P	P

Noise – Recommended Mitigation Measures

Noise Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Adopt good site practice, such as throttle down or switch off equipment unused or intermittently used between works	✓	✓
• Regular maintenance of equipment to prevent noise emission due to impair	✓	✓
• Position mobile noisy equipment in locations away from NSRs and point the noise sources to directions away from NSRs	✓	✓
• Use silencer or muffler for equipment	P	✓
• Make good use structures for noise screening	✓	✓
• Use Quality Powered Mechanical Equipment (QPME) and quiet equipment which produces lower noise level.	✓	✓
• Erect movable noise barrier of 3m height to shed large plant equipment (e.g. breaker, backhoe & mobile crane) or hand-held items (e.g. poker, wood saw, power rammer & compactor) near low-rise NSR. Where necessary, special design (e.g. with noise absorbing material or bend top) should be adopted. The barrier's length should be at least five times greater than its height, and the minimum surface density is 10 kg/m2. Alternatively, acoustic shed, enclosure or silencer (for generator, air compressor and concrete pump) or acoustic mat (for piling) can be adopted.	✓	N/A
• Carry out regular site inspection to audit the implementation of mitigation measures	✓	✓
• Carry out noise monitoring throughout the construction period	✓	✓

Water Quality – Recommended Mitigation Measures

Water Quality Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	P	P
• Install perimeter channels in the works areas to intercept runoff from boundary prior to the commencement of any earthwork	✓	✓
• To prevent storm runoff from washing across exposed soil surfaces, intercepting channels should be provided.	✓	✓
• Drainage channels are required to convey site runoff to sand/silt traps and oil interceptors. Provision of regular cleaning and maintenance to ensure the normal operation of these facilities throughout the construction period.	P	✓
• Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements	✓	✓
• Minimum distances of 100 m should be maintained between the discharge points of construction site runoff and the existing WSD saltwater intake and EMSD cooling water intake.	✓	✓
• The following good site measures should be adopted for the use of the existing barging facilities being operated by the MTR SCL Project: - All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash. - All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material. - Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. - Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. - Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation. Whole construction site Contractor P WPCO, EIAO-TM Page	N/A	N/A
• The runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS.	P	N/A
• Reuse and recycling of the treated effluent from construction site runoff.	✓	✓
• Weekly site audit should be carried out to check the implementation status of the recommended water quality impact mitigation measures throughout construction period.	✓	✓
• The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons.	✓	✓
• Any exposed soil surfaces should be properly protected to minimise dust emission.	✓	✓
• In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided.	✓	✓
• Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times.	P	P
• The stockpiles of materials should be placed at locations away from any stream courses so as to avoid releasing materials into the water bodies.	✓	✓
• Final surfaces of earthworks should be compacted and protected by permanent work.	✓	✓
• Haul roads should be paved with concrete and the temporary access roads protected using crushed stone or gravel, wherever practicable.	✓	✓
• Wheel washing facilities should be provided at all site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles.	✓	✓
• Good site practices should be adopted to keep the site dry and tidy, such as clean the rubbish and litter on the construction sites.	✓	✓
• Adequate temporary site drainage and pumping should be provided, if necessary.	✓	✓
• Provide sufficient temporary toilets in the works areas. The toilet facilities should be more than 30 m from any watercourse. A licensed waste collector should be deployed to clean the temporary toilets on a regular basis.	✓	✓
• Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project.	✓	N/A

• Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓	✓
• Any service shop and 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.	✓	N/A
• Clean the construction sites on a regular basis.	✓	✓
• Oil interceptor in car parking area shall be designed and constructed according to Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers, APP-46 (PNAP 124)	N/A	N/A
• Provide two sequential storage tanks to contain surface water with residual fertilizers and pesticides and third holding tank for incidental rainstorm	N/A	N/A
Sewerage and Sewage Treatment Implications		
• Implementation of Sewer No. 1 and Sewer No.2 as proposed in Sections 7.2.2 - 7.2.3 of the EIA Report	✓	✓

Waste Management – Recommended Mitigation Measures

Waste Management Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Inert C&D materials (or public fills) will be used to form the ramps and other filling area as far as civil engineering design permits.	✓	✓
• The contractor should formulate waste management measures on waste minimization, storage, handling and disposal in a Waste Management Plan as part of Environmental Management Plan.	✓	✓
• Adopt good site practice as follows: - Provide training to workers on site cleanliness, waste management (waste reduction, reuse and recycle) and chemical handling procedures - Provide sufficient waste collection points and regular removal - Cover waste materials with tarpaulin or in enclosure during transportation - Maintain drainage systems, sumps and oil interceptors - Sort out chemical waste for proper handling and treatment onsite or offsite	P	✓
• Adopt waste reduction measures as follows: - Allocate area/containers for sorting, recovering and storing waste for reuse, recycle or disposal (e.g. demolition debris and excavated materials, general refuse like aluminium cans.) Remove waste from the Site for sorting once generated if no suitable space can be identified. - Allocate area for proper storage of construction materials to prevent contamination - Minimize wastage through careful planning and avoiding over-purchase of construction materials	✓	✓
• Store waste materials properly as follows: - Avoid contamination by proper handling and storing waste - Prevent erosion by covering waste - Apply water spray on excavated materials - Maintain and clean storage area regularly - Sort and stockpile different materials at designated location to enhance reuse	P	P
• Apply for relevant waste disposal permits in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28), Dumping at Sea Ordinance (Cap. 466).	✓	✓
• Hire licensed waste disposal contractors for waste collection and removal. Dispose waste at licensed waste disposal facilities.	✓	✓
• Implement trip-ticket system for recording the amount of waste generated, recycled and disposed, including chemical wastes	✓	✓
• Reduce water content in wet spoil generated from piling work by mixing with dry materials. Only dispose treated spoil with less than 25% dry density to Public Fill Reception Facilities	✓	✓

• Dispose dry waste or waste with less than 70% water content by weight to landfill	✓	✓
• Follow the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste as follows: - Store chemical wastes with suitable containers. Seal and maintain the container to avoid leakage or spillage during storage, handling and transport - Label chemical waste containers in both English and Chinese with instructions in accordance to Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation - The container capacity should be smaller than 450 litres unless agreed by the EPD	P	✓
• Comply with the requirement of the chemical storage area: - Store only chemical waste and label clearly the chemical characters of the waste - Have at least 3 sides enclosed and protected from rainfall with cover - Provide sufficient ventilation - Have impermeable floor and has bunds to contain 110% of the capacity of the largest container or 20% of the total volume of the stored waste in the area, whichever is larger - Adequately spaced incompatible materials	P	P
• Transfer used lubricants, waste oils and other chemicals to oil recycling companies, if possible, and empty oil drums for reuse or refill. No direct or indirect discharge is permitted	✓	✓
• Hire licensed chemical waste disposal contractors for waste collection and removal. Dispose chemical waste at the approved Chemical Waste Treatment Centre at Tsing Yi or other licensed facility	✓	✓
• Hire reputable waste collector to separately collect and dispose general refuse from other wastes. Cover the waste to prevent being blown away	✓	✓
• The hauling of C&D materials shall follow established environmental mitigation measures as stated in Practice Note for Registered Contractors No. 17 “Control of Environmental Nuisance from Construction Sites” issued by the Buildings Department	✓	✓
• Provide recycling bins for sorting out recyclables for collection by recycling companies. Non-recyclables should be removed to designated landfills every day by licensed collectors to prevent environmental and health nuisance.	✓	✓
• Organize training and reminders to site staff on waste minimization through avoidance and reduction, reusing and recycling	✓	✓
• Bentonite slurry which will not be reused shall be disposed of from the Site as soon as possible. Residual used dewatered bentonite slurry should be disposed to a public filling area and liquid bentonite slurry if mixed with inert fill material should be disposed to a public filling area.	N/A	N/A
• If chemical wastes were to be produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer, and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the waste such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport the chemical wastes. • The licensed collector shall deliver the waste to the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation	✓	✓
• Carry out weekly site inspection to check the implementation status of the recommended waste management measures.	✓	✓
• The barging of C&DM for this Project shall use the existing Kai Tak Barging Facility (KTBF), or otherwise approved by the Director.	N/A	N/A

Ecology – Recommended Mitigation Measures

Ecology Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Erection of hoarding, fencing or provision of clear demarcation of work zone	✓	✓
• Designate areas for placement of equipment, building materials and wastes away from drainage channels	✓	✓

• Carry out weekly site inspection to check the implementation status and the effectiveness of the proposed mitigation measures	✓	✓

Landscape and Visual – Recommended Mitigation Measures

Landscape and Visual Mitigation Measures during construction	Implementation Status	
	KTSP	H/O
• Construction Lighting Control - All security floodlights for construction sites should be equipped with adjustable shields, frosted diffusers and reflective covers, and be controlled to minimize light pollution and night-time glare to the visual sensitive receivers (VSRs).	✓	N/A
• Temporary Landscape Treatments - Including vertical greening, pot planting and application of green roofing to site offices, Hydroseeding of site formation areas and short term greening of site boundaries and land not immediately developed.	✓	N/A
• Decoration of Hoarding - Erection of screen hoardings should be designed appropriately to be compatible with the existing urban context, either brightly and imaginatively or with visually unobtrusive design and colours where more appropriate.	✓	N/A
• All security floodlights for construction sites shall be equipped with adjustable shield, frosted diffusers and reflective covers, and be carefully controlled to minimize light pollution and night-time glare to nearby receivers	✓	N/A
• Site inspection should be undertaken once every two weeks.	✓	✓
• Compensatory Tree Planting - A new parkland area is created in the project development to be used for the implementation of compensatory tree planting to offset the net loss of key landscape resources. It is recommended that 340 trees be planted in this regard and a compensatory tree planting proposal outlining the locations of tree compensation will be submitted separately in seeking relevant government department's approval in accordance with DEVB TC No.7/2015.	N/A	N/A

Other – Recommended Mitigation Measures

• Relevant environmental permits/licences should be posted at all vehicle entrances/exits.	P	✓

Legend:
✓ Implemented
× Not implemented
P Partially implemented
N/A Not applicable

Appendix J. Statistics on Environmental Complaints, Notification of Summons and Successful Prosecutions

Table J.1: Statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period (Jul to Sep 2020)	1	0	0
From commencement date of construction to end of reporting month	6	0	0

Appendix K. Calibration Certificate

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR K.W. FAN	WORK ORDER	: **HK1950891**
CLIENT	: ENVIROTECH SERVICES CO.		
ADDRESS	: RM113, 1/F, MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 3-DEC-2019
		DATE OF ISSUE	: 13-DEC-2019
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER	: HK1950891
SUB-BATCH	: 1
CLIENT	: ENVIROTECH SERVICES CO.
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1950891-001	S/N: 6Z7784	Equipments	03-Dec-2019	6Z7784

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	6Z7784
Equipment Ref:	Nil
Job Order	HK1950891

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Verification Date: 10 December 2019

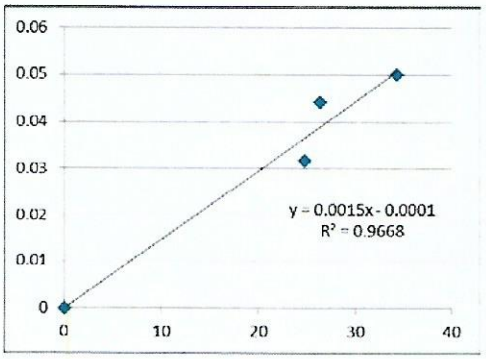
Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
2hr02min	09:08 ~ 11:10	18.4	1018.6	0.032	3020	24.8
2hr01min	11:15 ~ 13:16	18.4	1018.6	0.044	3185	26.4
2hr01min	13:22 ~ 15:23	18.4	1018.6	0.050	4141	34.3

Linear Regression of Y or X

Slope (K-factor): 0.0015

Correlation Coefficient 0.9833

Date of Issue 13 December 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0015 should be applied for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Fai So Signature : Date : 13 December 2019

QC Reviewer : Ben Tam Signature : Date : 13 December 2019

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR K.W. FAN	WORK ORDER	: **HK1950885**
CLIENT	: ENVIROTECH SERVICES CO.		
ADDRESS	: RM113, 1/F, MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 3-DEC-2019
		DATE OF ISSUE	: 13-DEC-2019
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK1950885
SUB-BATCH : 1
CLIENT : ENVIROTECH SERVICES CO.
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1950885-001	S/N: 235780	Equipments	03-Dec-2019	235780

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	235780
Equipment Ref:	Nil
Job Order	HK1950885

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Verification Date: 10 December 2019

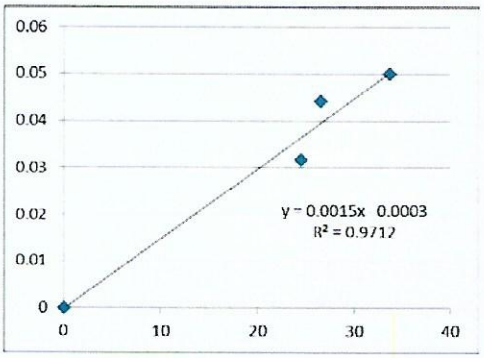
Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
2hr02min	09:08 ~ 11:10	18.4	1018.6	0.032	2989	24.5
2hr01min	11:15 ~ 13:16	18.4	1018.6	0.044	3203	26.6
2hr01min	13:22 ~ 15:23	18.4	1018.6	0.050	4060	33.7

Linear Regression of Y or X

Slope (K-factor): 0.0015

Correlation Coefficient 0.9855

Date of Issue 13 December 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0015 should be applied for TSP monitoring

*If R<0.5, repair or re-verification is required for the equipment

Operator : Fai So Signature : Date : 13 December 2019

QC Reviewer : Ben Tam Signature : Date : 13 December 2019

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C196453
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-2418) Date of Receipt / 收件日期 : 18 November 2019

Description / 儀器名稱	:	Precision Acoustic Calibrator
Manufacturer / 製造商	:	LARSON DAVIS
Model No. / 型號	:	CAL200
Serial No. / 編號	:	11334
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 30 November 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification & user's specified acceptance criteria.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 3 December 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C196453
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	User's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.8	± 0.5	± 0.2
114 dB, 1 kHz	113.7		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000	1 kHz ± 1 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

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

Note :
Only the original copy or the laboratory's certified true copy is valid.

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration

for

Description:	*Sound Level Meter*
Manufacturer:	*RION*
Type No.:	*NL-52 (Serial No.: 00175561)*
Microphone:	*UC-53A (Serial No.: 99995)*
Preamplifier:	*NH-25 (Serial No.:65663)*

Submitted by:

Customer:	***Envirotech Services Co.***
Address:	***Rm.113, 1/F., My Loft, 9 Hoi Wing Road, Tuen Mun, N.T., Hong Kong.***

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

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

Date of receipt: 24 September 2019

Date of calibration: 26 September 2019

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **26 September 2019**

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature:	24.1 °C
Air Pressure:	1006 hPa
Relative Humidity:	54.2 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV180064	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	94.3	±2.0
				63	94.2	±1.5
				125	94.1	±1.5
				250	94.0	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.9	±1.6
				4000	93.7	±1.6
				8000	91.9	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	31.5	55.2	-39.4±2.0
				63	68.0	-26.2±1.5
				125	78.0	-16.1±1.5
				250	85.4	-8.6±1.4
				500	90.8	-3.2±1.4
				1000	94.0	Ref
				2000	95.1	+1.2±1.6
				4000	94.7	+1.0±1.6
				8000	90.9	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC SPL	Fast	94	31.5	91.3	-3.0±2.0
				63	93.4	-0.8±1.5
				125	93.9	-0.2±1.5
				250	94.0	-0.0±1.4
				500	94.0	-0.0±1.4
				1000	94.0	Ref
				2000	93.8	-0.2±1.6
				4000	92.9	-0.8±1.6
				8000	89.0	–3.0 +2.1: –3.1

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.05
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.10
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C203822
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC20-1389) Date of Receipt / 收件日期 : 30 June 2020

Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	01010406
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/F, My Loft, 9 Hoi Wing Road, Tuen Mun, New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 9 July 2020

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA
- The Bruel & Kjaer Calibration Laboratory, Denmark

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 10 July 2020

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C203822
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C200258
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.9
				114.00		113.8

IEC 61672 Class 1 Spec. : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

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6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.1	+1.2 ± 1.6
					4 kHz	94.9	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.4	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.5	-6.2 (+3.0 ; -6.0)

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Remarks : - UUT Microphone Model No. : UC-59 & S/N : 04871

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
104 dB	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	1 kHz	: ± 0.10 dB (Ref. 94 dB)

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

Note :
Only the original copy or the laboratory's certified true copy is valid.

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

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Appendix L. Complaint Investigation Report

Interim Report on Complaint Investigation

RECEIPT OF COMPLAINT			**Ref: COM_0006**
Date:	15 September 2020		
Time:	10:56		
From:	PS Chan (Hip Hing Construction Limited)		
Via:	Email		
Contact no.:	-		
COMPLAINANT			
Name:	Ms. Viviana T.S. Tong	Address:	-
Contact no.:	2117 7572		
DETAILS OF COMPLAINT			
Date:	8 September 2020		
Time:	-		
Parameter:*	~~Dust~~ ~~Noise~~ Water ~~Other (specify):~~		
Description:			
- Complaint of polluting effluent discharged from your construction site into the nearby seashore.			
- Please closely monitor the effluent of your wastewater treatment plants, provide sufficient wastewater treatment capacity and take appropriate actions to prevent discharge of muddy water including surface run-off from your site. Please ensure the works comply with all relevant environmental legislations.			
INVESTIGATION RESULT & RESPONSE			
ET, IEC and SOR notified on:	15 September 2020		
Investigation conducted on:	16 September 2020		
Result of investigation:			
1. According to contractor's photo record on 8 September 2020, no polluting effluent discharge was observed at nearby seashore. (Photo 1)			
2. Site investigation was carried out on 16 September 2020, and details of findings summarised as follow:			
- No pollution effluent discharge was observed at nearby seashore. (Photo 2)			
- No leakage of effluent discharge was observed at site hoarding near seashore. (Photo 3)			
- Wastewater treatment plants on site were in normal conditions. (Photos 4a &4b)			
RECOMMENDATIONS / MITIGATION MEASURES / ACTIONS			
Environmental remediation action implemented and maintained summaries as follow:			
1. Footing of hoarding near the sea side has been re-sealed. (Photo 5)			
2. Regular sampling at wastewater treatment tank discharge, checking of the water body quality and taking record of muddy water discharged from box culvert. (Photos 6a & 6b)			
3. Regular cleaning of the sedimentation tanks and treatment plants to comply with the water quality requirement. (Photos 7a & 7b)			
4. Sedimentation ponds and tanks have been provided for temporary wastewater storage. (Photos 8a & 8b)			
Prepared by:	Sunny Chan	Title:	Environmental Team Leader
Signature:		Date:	18 September 2020

ATTACHMENTS

Photo Records:

Photo 1: Nearby Seashore (8 September 2020)

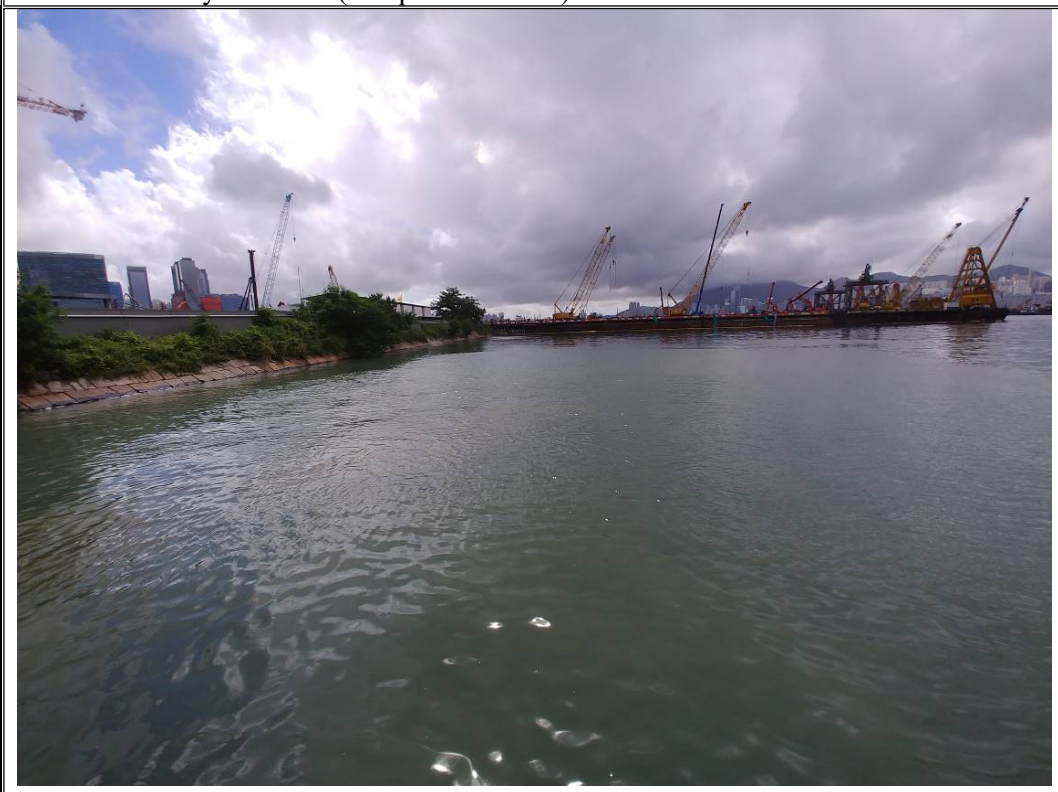

Photo 2: Nearby Seashore (16 September 2020)

Photo 3: Site Hoarding near Seashore (16 September 2020)

Photo 4a: pH value at Wastewater Treatment Plant (16 September 2020)

Photo 4b: Effluent Tank at Wastewater Treatment Plant (16 September 2020)

Photo 5: Re-sealing of Footing at Site Hoarding

Photo 6a: Regular Sampling at Wastewater Treatment Tank Discharge

Photo 6b: Regular Checking at Sea Shore near Box Culvert

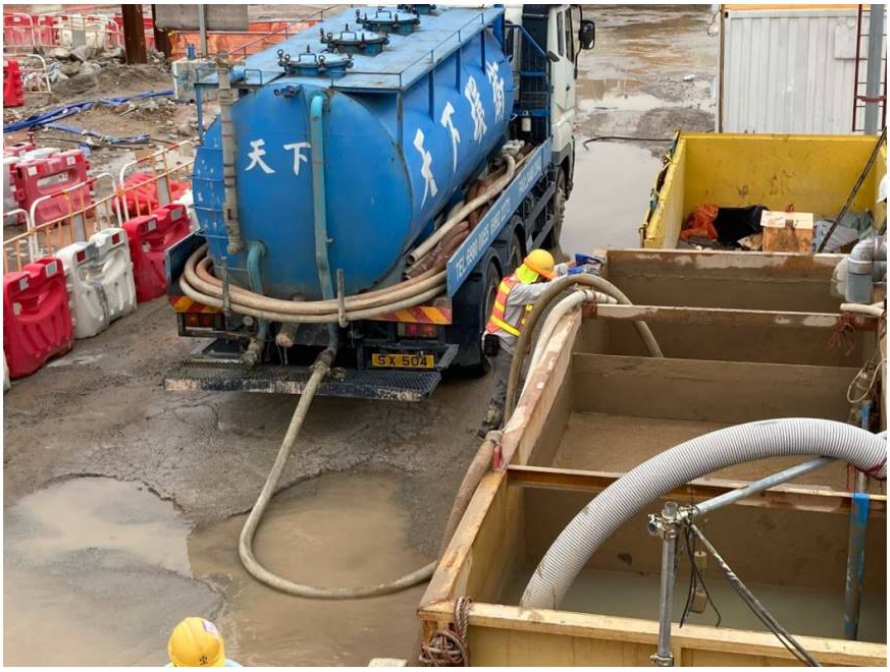

Photo 7a: Regular Sludge Removal at Sedimentation Tank

Photo 7b: Regular Sludge Removal at Wastewater Treatment Tank

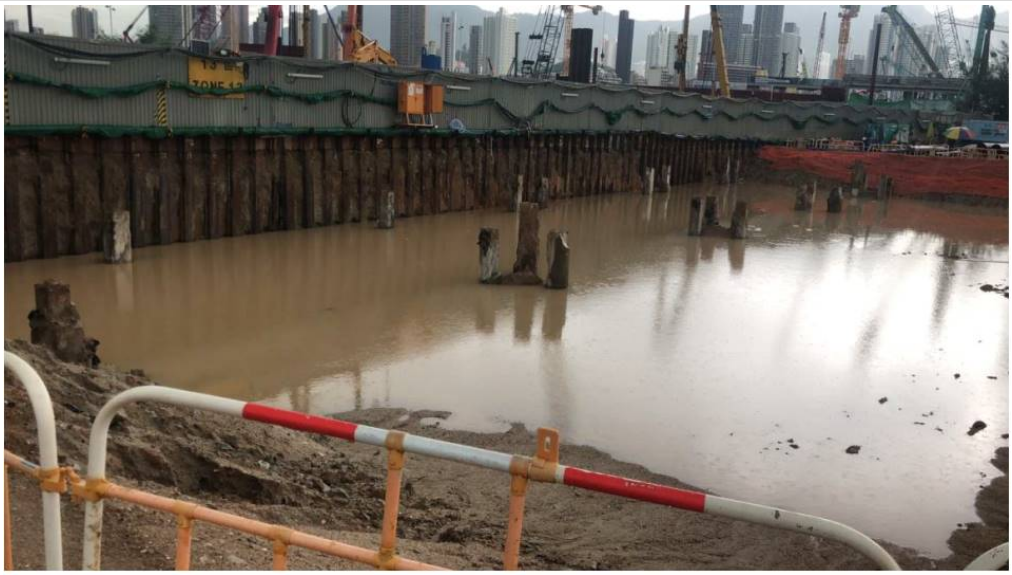

Photo 8a: Temporary Sedimentation Pond on Site

Photo 8b: Temporary Sedimentation Tank on Site