



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

Monthly EM&A Report for April 2019

May 2019



Home Affairs Bureau  
Kai Tak Sports Park Project Office  
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**Agreement No. CE 30/2018 (EP)**  
**Environmental Team for Kai Tak Sports Park –**  
**Design and Construction**

Monthly EM&A Report for April 2019

May 2019







Environmental Permit No. EP- 544/2017

Kai Tak Sports Park – Investigation

Environmental Team Leader Certification

Reference Document /Plan

Document/ <del>Plan</del> to be Certified:	Monthly EM&A Report for April 2019
Date of Report:	May 2019
Date received by ETL:	8 May 2019

Reference EP Condition

Environmental Permit Condition:	3.4
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Three hard copies and one electronic copy of the monthly EM&A Report shall be submitted to the Director within 10 working days after the end of each reporting month. The monthly EM&A Reports shall include a summary of all non-compliance with the recommendations in the approved EIA Report (Register No. AEIAR-204/2017) or this Permit. The submissions shall be certified by the ET Leader and verified by the IEC as complying with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of submission shall be provided upon request by the Director.

ETL Certification

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

Mr Sunny Chan  
Environmental Team Leader

Date: 8 May 2019



## Environmental Permit No. EP-544/2017

### Kai Tak Sports Park - Investigation

### Independent Environmental Checker Verification

#### Reference Document/Plan

Document/Plan to be <del>Certified</del> / Verified:	Monthly EM&A Report No. 1 (April 2019)
Date of Report:	May 2019
Date received by IEC:	7 May 2019

#### Reference EP Condition

Environmental Permit Condition:	3.4
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Three hard copies and one electronic copy of the monthly EM&A Report shall be submitted to the Director within 10 working days after the end of each reporting month. The monthly EM&A Reports shall include a summary of all non-compliance with the recommendations in the approved EIA Report (Register No. AEIAR-204/2017) or this Permit. The submissions shall be certified by the ET Leader and verified by the IEC as complying with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of submission shall be provided upon request by the Director.

#### IEC Verification

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

Ms Mandy To  
Independent Environmental Checker

Date: 8 May 2019

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# Executive summary

The Project – hereby meaning the Designated Project (Items O.6 and O.7 Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO)), comprising the “Kai Tak Sports Park” (KTSP) project and the Hotel and Office (H/O) Development of NKIL 6607 adjoining the KTSP – is located in the Kai Tak Development (KTD) area in Kowloon.

An EIA Report for the Project (Register No. AEIAR-204/2017) was approved by the Environmental Protection Department (EPD) on 6 January 2017. The current Environmental Permit (EP) for the Project, namely No. EP-544/2017, was issued on 8 September 2017. These documents are available through the EIA Ordinance Register. The Project construction works commenced on 8 April 2019.

In February 2019, Mott MacDonald Hong Kong Limited was appointed by the Home Affairs Bureau (HAB) as the Environmental Team (ET) to implement the Environmental Monitoring & Audit (EM&A) programme for the construction phase and first year of operation of the Project in accordance with the approved EM&A Manual.

This is the 1<sup>st</sup> Monthly EM&A Report for the construction phase of the Project which summaries findings of the EM&A programme during the reporting period from 8 to 30 April 2019.

## Key Construction Works in the Reporting Period

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

- Site clearance;
- Ground investigation works;
- Trial piling; and
- Hoarding erection.

## Environmental Monitoring and Audit Progress

The monthly EM&A programme was undertaken by ET in accordance with the approved EM&A Manual. A summary of the monitoring activities during the reporting period is presented below:

Activity	Monitoring Locations	Date
Air Quality Monitoring (1-hour TSP)	AMS1, AMS2	8, 12, 18, 24, 30 April
Noise Monitoring ( $L_{eq}$ (30 min))	NMS1, NMS2	8, 18, 24, 30 April
Weekly environmental site inspections	-	10, 17, 25, 30 April
Landscape and visual site inspections	-	10, 25 April

## Breaches of Action and Limit Levels

There was no breach of Action or Limit Levels for Air Quality (1-hr TSP) and Noise level (as  $L_{eq30min}$ ) in the reporting month.

## Complaint Log

There were two complaints received during the reporting month:

**Table 1.1: Summary of Complaints in the reporting month**

<b>Date of Notification from EPD</b>	<b>Date of Complaint</b>	<b>Description of Complaint</b>	<b>Recommendations / Actions</b>	<b>Close-Out Date / Status</b>
8 Apr 2019	21 Mar 2019	Dust was bringing out onto the road when vehicles were leaving the subject site.	1. Water spraying has been provided on at the site entrance to minimize dust emission. 2. Drainage channel has been implemented at the site entrance to collect site runoff. 3. Wheel washing pool has been setup to minimize dust carried by leaving vehicles.	18 Apr 2019
16 Apr 2019	11 Apr 2019	Excessive dust was caused at the construction site of Kai Tak Sports Park (Southern Part) because of insufficient dust suppression measures	1. Water spraying has been provided on haul road in the site to minimize dust emission. 2. Wheel washing pool has been setup at the site entrance (Southern Part) to minimize dust carried by leaving vehicles.	18 Apr 2019

**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.

**Future Key Issues**

The future key issues to be undertaken in the upcoming month are:

- Site Clearance;
- Ground investigation works;
- Trial piling;
- Mobilization; and
- Hoarding erection.

# 1 Introduction

## 1.1 Background

The Project – hereby meaning the Designated Project (Items O.6 and O.7 Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO)), comprising the “Kai Tak Sports Park” (KTSP) project and the Hotel and Office (H/O) Development of NKIL 6607 adjoining the KTSP – is located in the Kai Tak Development (KTD) area in Kowloon.

The key construction works of the Project include:

### (i) KTSP project

- a. a multi-purpose Main Stadium with a spectator capacity of around 50,000;
- b. a Public Sports Ground, with a spectator capacity of around 5,000;
- c. an Indoor Sports Centre with a multi-purpose main arena with a seating capacity of up to 10,000 and an ancillary sports hall with a seating capacity of 500;
- d. retail and dining outlets with a gross floor area (GFA) of about 57,000 square metres (m<sup>2</sup>), a bowling centre with 40 lanes and a health and wellness centre with about 2,500 m<sup>2</sup> GFA;
- e. more than 8 hectares of public open space including landscaped deck structures across Shing Kai Road, passive amenities and park features, outdoor ball courts; and
- f. ancillary facilities such as car parks, toilets, changing rooms, etc.

### (ii) H/O Development

- g. an office development;
- h. a 300-room hotel with a GFA of about 16,000 m<sup>2</sup>; and
- i. ancillary facilities such as retails, car parks, etc.

In February 2019, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by the Home Affairs Bureau (HAB) under Agreement No. CE 30/2018 (EP) to undertake the Environmental Team (ET) services for carrying out the Environmental Monitoring & Audit (EM&A) programme during the construction phase and first year of operation of the Project in accordance with the approved Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-204/2017), EM&A Manual (including any subsequent amendments) and EP (including any subsequent variations of it and/or any further environmental permit issued under the EIAO). The current EP (No. EP-544/2017) was issued by EPD on 8 September 2017.

This is the 1<sup>st</sup> Monthly EM&A Report summarising the key findings of the construction phase EM&A programme from 8 to 30 April 2019 (the “reporting period”) and is submitted to fulfil Condition 3.4 of the EP.

## 1.2 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 1.2](#).



**Table 1.2: 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	Arthur Lo	2828 5994	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
24-hour Community Liaison Hotline	-	-	5587 6112	-

### 1.3 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**.

### 1.4 Construction Works undertaken during the Reporting Period

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

- Site Clearance;
- Ground investigation works;
- Trial piling;
- Mobilization; and
- Hoarding erection.

## 2 Air Quality Monitoring

### 2.1 Introduction

In accordance with the EM&A Manual of the Project, baseline 1-hour Total Suspended Particulates (TSP) levels at air quality monitoring stations AMS1 and AMS2 were established. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days.

### 2.2 Monitoring Parameters, Frequency and Duration

**Table 2.1** summarises the monitoring parameters, frequency and duration of impact noise 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 Monitoring Locations

According to the EM&A Manual, a total of five air quality monitoring stations are identified for impact monitoring. Of these, three air sensitive receivers are planned residential use and were not available for baseline monitoring; the same three are also 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

During the reporting period, monitoring locations AMS1 and AMS2 were set up at the proposed locations for impact monitoring.

Permission on setting up and carrying out impact monitoring works at AMS3, AMS4 and AMS5 will be sought once each respective development is completed and occupied.

### 2.4 Monitoring Action and Limit Levels

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, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
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**.

If exceedance(s) at these stations is/are recorded by the ET of the Project, it will carry out an investigation and findings will be reported in the monthly EM&A Report.

## 2.5 Monitoring Schedule for the Reporting Period

The schedule for air quality monitoring at AMS1 and AMS2 in the reporting period is presented in **Appendix E**.

## 2.6 Monitoring Equipment

Portable direct reading dust meters were used to carry out the 1-hour TSP monitoring. The brand(s) and model(s) of the equipment used for air quality monitoring stations AMS1 and AMS2 under this Project are given in **Table 2.4**.

**Table 2.4: 1-hour TSP Monitoring Equipment**

Equipment	Brand	Model No.
Portable direct reading dust meter	Sibata Digital Dust Monitor	LD-3B (S/N: 276019 & 456668)

## 2.7 Monitoring Methodology

### Field Monitoring

The measuring procedures of the 1-hour TSP dust meter are in accordance with the Manufacturer’s Instruction Manual as follows:

- Turn the power on.
- Close the air collecting opening cover.
- Push the “TIME SETTING” switch to [BG].
- Push “START/STOP” switch to perform background measurement for 6 seconds.
- Turn the knob at SENSI ADJ position to insert the light scattering plate.
- Leave the equipment for 1 minute upon “SPAN CHECK” is indicated in the display.
- Push “START/STOP” switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- Pull out the knob and return it to MEASURE position.
- Setting time period of 1 hour for the 1-hour TSP measurement.

- Push “START/STOP” to start the 1-hour TSP measurement.
- Regular checking of the time period setting to ensure monitoring time of 1 hour.

### Maintenance and Calibration

- The 1-hour dust meter would be checked at 3-month intervals and calibrated at 1-year intervals throughout all stages of the air quality monitoring.
- Calibration records for direct dust meters are given in **Appendix F**.

## 2.8 Monitoring Results

The monitoring results for 1-hour TSP at AMS1 and AMS2 are summarized in **Table 2.5**. Detailed impact air quality monitoring results are presented in **Appendix G**.

**Table 2.5: Summary of 1-hour TSP Monitoring Results During the Reporting Period**

Monitoring Station	Average, $\mu\text{g}/\text{m}^3$	Min, $\mu\text{g}/\text{m}^3$	Max, $\mu\text{g}/\text{m}^3$	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
AMS1	43	27	57	283	500
AMS2	45	25	61	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.

## 2.9 Wind Data

Wind data at Kai Tak automatic weather station collected from the Hong Kong Observatory (HKO) were used for the air quality monitoring and they are shown in **Appendix H**. 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 proposed use of the existing wind data from Kai Tak automatic weather station collected from HKO for wind data collection instead of setting up wind monitoring equipment near the monitoring stations was proposed by ET and agreed by IEC in accordance with the requirements as stated in Section 3.4.7 of the EM&A Manual of the Project.

## 3 Noise Monitoring

### 3.1 Introduction

In accordance with the EM&A Manual, impact noise monitoring was conducted at least once per week for each noise monitoring location during the construction phase of the Project.

### 3.2 Monitoring Parameters, Frequency and Duration

**Table 3.1** summarises the monitoring parameters, frequency and duration of impact noise monitoring.

**Table 3.1: 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 <sub>eq</sub> , L <sub>10</sub> and L <sub>90</sub> would be recorded.	At least once per week

### 3.3 Monitoring Locations

According to the approved EM&A Manual, a total of seven noise monitoring stations were identified for the impact monitoring locations. Of these, five noise sensitive receivers are planned residential use (NMS1A, NMS2A, NMS3, NMS4 and NMS5) and were not available for baseline monitoring; the same five are also currently not available for impact monitoring.

**Table 3.2** describes the details of the monitoring stations and **Figure 3.1** shows the locations of noise monitoring stations.

**Table 3.2: 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

During the reporting period, monitoring locations NMS1 and NMS2 were set up at the proposed locations for impact monitoring.

Since NMS1A & NMS2A are planned (i.e. not existing) noise sensitive receivers, noise monitoring should be carried out initially at NMS1 and NMS2 respectively before the population intake of the planned developments. Once the planned developments are completed and occupied, NMS1A shall replace NMS1, while NMS2A shall replace NMS2. It is proposed that

the baseline noise level and Limit Level at NMS1A and NMS2A will be the same as those derived from the baseline monitoring data recorded at NMS1 and NMS2 respectively.

Permission on setting up and carrying out impact monitoring works at NMS3, NMS4 and NMS5 will be sought once each respective development is completed and occupied.

### 3.4 Action and Limit Levels

The Action and Limit Levels for construction noise are defined in **Table 3.3**.

**Table 3.3: 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**.

If exceedance(s) at these stations is/are recorded by the ET of the Project, it will carry out an investigation and findings will be reported in the monthly EM&A Report.

### 3.5 Monitoring Schedule for the Reporting Period

The schedule for noise monitoring in the reporting period is presented in **Appendix E**.

### 3.6 Monitoring Equipment

Noise monitoring was performed using sound level meters at each designed monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment used for noise monitoring under this Project is given in **Table 3.4**.

**Table 3.4: Noise Monitoring Equipment**

Equipment	Brand	Model No.
Integrated Sound Level Meter	Rion	NL-52 (S/N: 00542913)
Acoustic Calibrator	LARSON DAVIS	CAL200 (S/N: 15678)

### 3.7 Monitoring Methodology

- Façade and Free Field measurements were made at the monitoring locations.
- For Façade measurement, the microphone hear of the head level meter was positioned 1m exterior of the noise sensitive façade and lowered sufficiently so that the building’s external wall acts as a reflecting surface.
- For free field, the microphone of the Sound Level Meter was set at least 1.2 m above the ground.
- A correction of +3dB(A) was made for free field measurement.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting: A
  - time weighting: Fast

- time measurement: 30-minute intervals (between 0700-1900 on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1 kHz. If the difference in the calibration level before and after measurement was more than 1 dB, the measurement would be considered invalid and repeated after the re-calibration or repair of the equipment.
- During the monitoring period, the  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  were recorded. In addition, any site observations and noise sources were recorded on a standard record sheet.
- Noise measurements were not made in presence of fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s.

**Maintenance and Calibration**

- The microphone head of the sound level meter and calibrator is cleaned with soft cloth at quarterly intervals.
- The sound level meter and calibrator are sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- Calibration records are shown in **Appendix F**.

**3.8 Monitoring Results**

The monitoring results for construction noise are summarized in **Table 3.5**. Detailed impact noise monitoring results and relevant graphical plots are presented in **Appendix G**.

**Table 3.5: Summary of Construction Noise Monitoring Results During the Reporting Period**

Monitoring Station	Measured Noise Level $L_{eq}$ (30 mins), dB(A)			
	Average	Min	Max	Limit Level
NMS1	68	66	68	75
NMS2	69	68	69	75

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

## 4 Environmental Site and Audit

### 4.1 Site Inspection

Site inspections were carried out by ET on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the Project. Key observations were recorded in the site inspection checklist and passed to the Contracted Party together with the appropriate recommended mitigation measures where necessary. During the reporting period, site inspections were carried out on 10, 17, 25 and 30 April 2019. Joint IEC site inspection was carried out on 25 April 2019. Bi-weekly landscape and visual site audit was carried out on 10 and 25 April 2019. Landscape and visual audit result were shown in **Appendix K**.

Key observations during the site inspections are described in **Table 4.1**.

**Table 4.1: Summary of Site Inspections and Recommendations**

Inspection Date	Key Observations	Recommendations / Actions	Close-Out Date / Status
10 Apr 2019	Accumulation of stagnant water was observed at the drip tray of the generators near HH container area.	The Contractor was reminded to clear the stagnant water at the drip tray.	12 Apr 2019
10 Apr 2019	No environmental permit was displayed at the site entrance.	The Contractor was reminded to display the environment permit at the site entrance.	12 Apr 2019
30 Apr 2019	Accumulation of stagnant water was observed in the drip tray of the generator at the southern site area.	The Contractor was reminded to clear the stagnant water.	On going
30 Apr 2019	The chemical waste storage area without lock was observed.	The Contractor was reminded to provide lock for the chemical waste storage area.	On going
30 Apr 2019	The accumulation of excavated materials was observed on site.	The Contractor was reminded to provide covering for the excavated materials.	On going

### 4.2 Advice on the Solid and Liquid Waste Management Status

The Contracted Party was registered as a chemical waste producer for the Project. Sufficient numbers of receptacles were available for general refuse collection and sorting.

The monthly summary of waste flow table is detailed in **Appendix I**.

The Contracted Party was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.



### 4.3 Environmental Licenses and Permits

The valid environmental licenses and permits for the Project during the reporting period are summarized in **Appendix J**.

### 4.4 Implementation Status of Environmental Mitigation Measures

In response to the site audit findings, the Contracted Party carried out corrective actions.

A summary of the environmental mitigation measures implementation status is presented in **Appendix K**. Most of the necessary mitigation measures were implemented properly.

### 4.5 Summary of Exceedance of the Environmental Quality Performance Limit

#### 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 were recorded at NMS1 and NMS2 during the reporting period.

### 4.6 Summary of Complaints, Notification of Summons and Successful Prosecution

#### Complaints

There were two complaints received in relation to the environmental impact during the reporting period.

**Table 4.2: Summary of Complaints in the reporting month**

Date of Notification from EPD	Date of Complaint	Description of Complaint	Recommendations / Actions	Close-Out Date / Status
8 Apr 2019	21 Mar 2019	Dust was bringing out onto the road when vehicles were leaving the subject site.	1. Water spraying has been provided on at the site entrance to minimize dust emission. 2. Drainage channel has been implemented at the site entrance to collect site runoff. 3. Wheel washing pool has been setup to minimize dust carried by leaving vehicles.	18 Apr 2019
16 Apr 2019	11 Apr 2019	Excessive dust was caused at the construction site of Kai Tak Sports Park (Southern Part) because of insufficient dust suppression measures	1. Water spraying has been provided on haul road in the site to minimize dust emission. 2. Wheel washing pool has been setup at the site entrance (Southern	18 Apr 2019

Date of Notification from EPD	Date of Complaint	Description of Complaint	Recommendations / Actions	Close-Out Date / Status
			Part) to minimize dust carried by leaving vehicles.	

Details of the complaint investigation is shown in **Appendix M**.

**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 L**.

## 5 Future Key Issues

### 5.1 Construction Programme for the Coming Months

As informed by the Contracted Party, the major construction activities for the next reporting period (May 2019) are summarized in **Table 5.1**.

**Table 5.1: Construction Activities for the Next Reporting Period**

Site Area	Description of Activities
<ul style="list-style-type: none"><li>• Kai Tak Sports Park</li></ul>	<ul style="list-style-type: none"><li>• Site Clearance</li><li>• Ground Investigation works</li><li>• Trial piling</li><li>• Mobilization</li><li>• Hoarding erection</li></ul>

### 5.2 Environmental Site Inspection and Monitoring Schedule for the Next Reporting Period

The tentative schedule for weekly site inspection and monitoring for air quality and noise for the next reporting period is provided in **Appendix E**.

# 6 Conclusions

## 6.1 Conclusions

### General

The construction works for the Project commenced on 8 April 2019.

The ET of the Project has implemented the air quality and noise environmental impact monitoring under the construction phase EM&A programme during 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 were recorded at NMS1 and NMS2 during the reporting period.

### Environmental Site Inspections

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

### Complaints

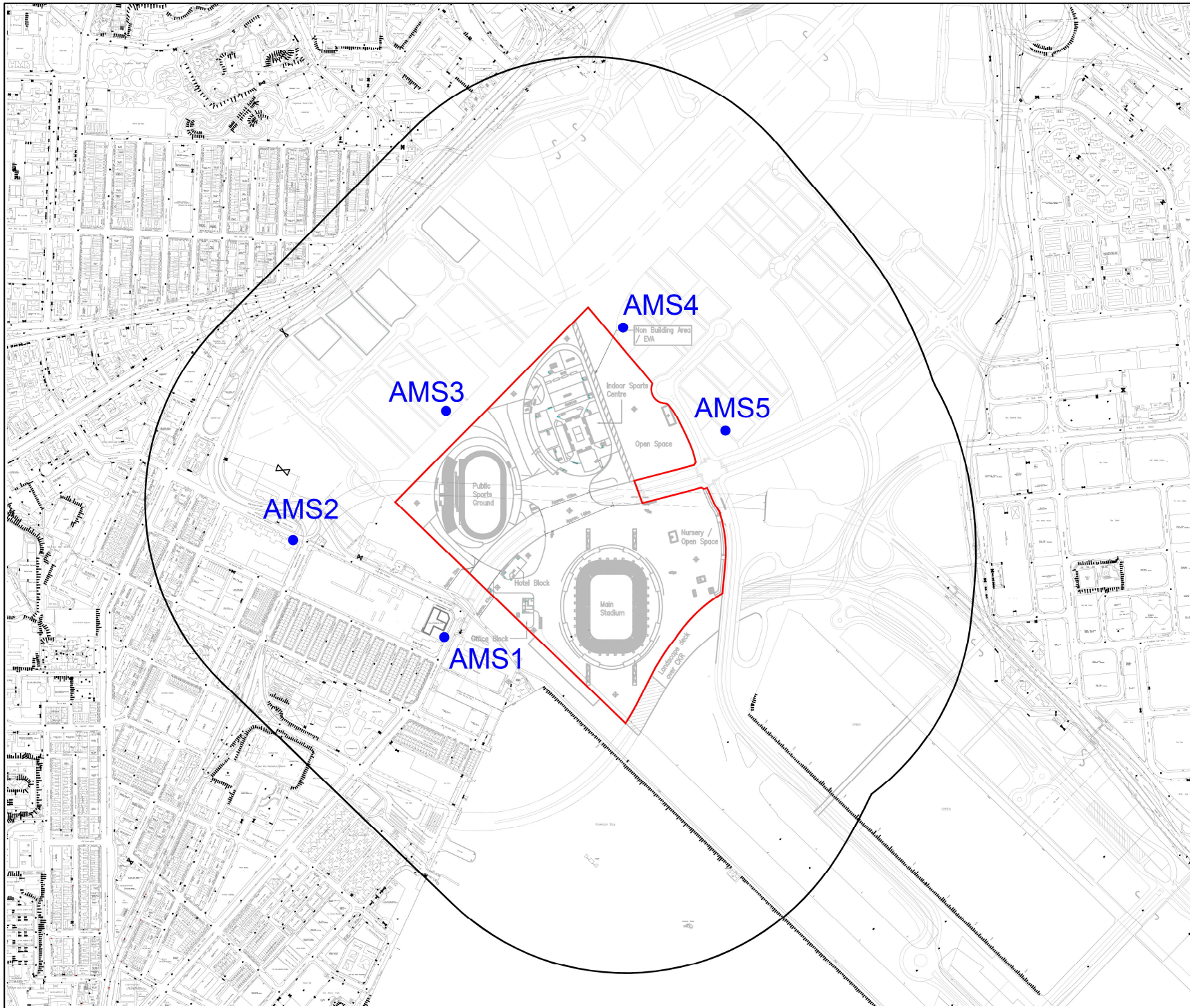
There were two complaints received in relation to the environmental impact during the reporting period.

### 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'g'd	App'd

**M M**  
**MOTT  
MACDONALD**

3/F, Mapletree Bay Point  
348 Kowloon Tong Road  
Kowloon, Kowloon  
Hong Kong  
T +852 2828 5757  
F +852 2827 1659  
W mottmac.com

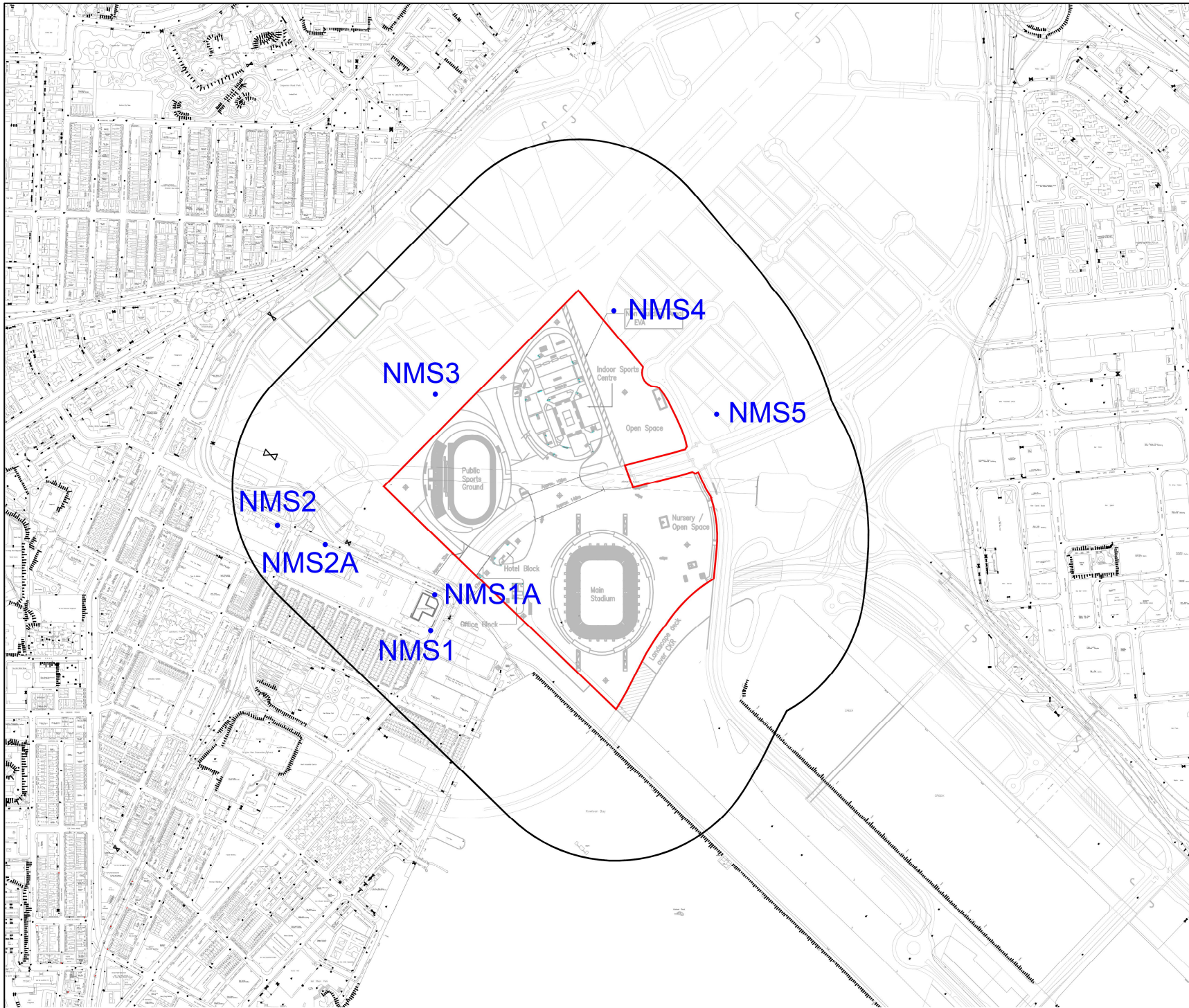
Client

Project

Figure 2.1  
Location of Air Quality Monitoring Stations

Designed		Eng check	
Drawn		Consultation	
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-ORDINATE SYSTEM.
  3. PIPE AND BOX DIA/VERT 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'g'd	App'd

3/F, Maple Tree Bay Point  
 348 Kowloon Tong Road  
 Kowloon, Kowloon  
 Hong Kong  
 T +852 2828 5757  
 F +852 2827 1652  
 W motmac.com

Client

Project

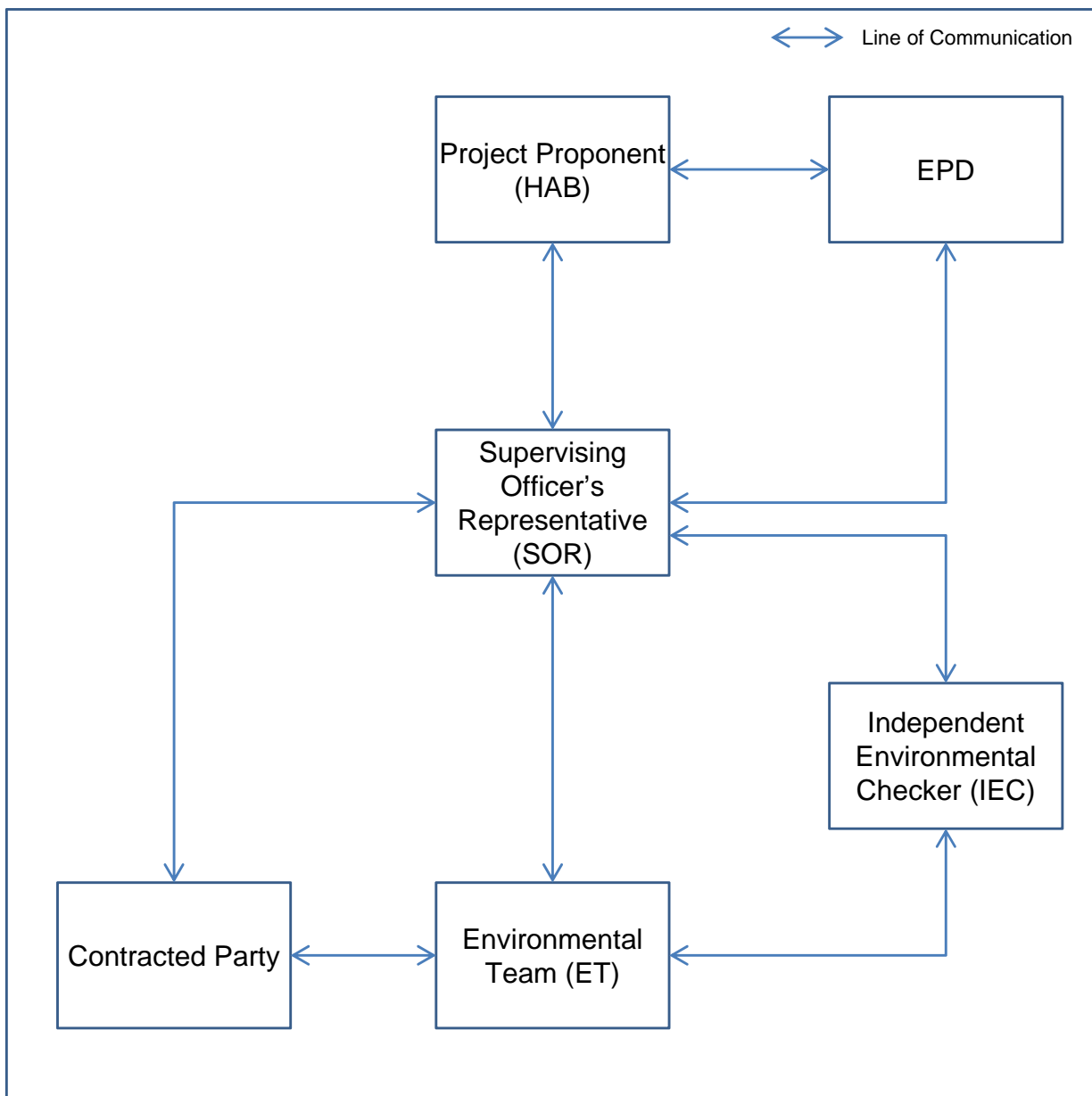
**Figure 3.1**  
**Location of Noise Monitoring Stations**

Designed		Eng check	
Drawn		Consultation	
Dwg check		Approved	
Scale at A3	Status	Rev	
Drawing Number			

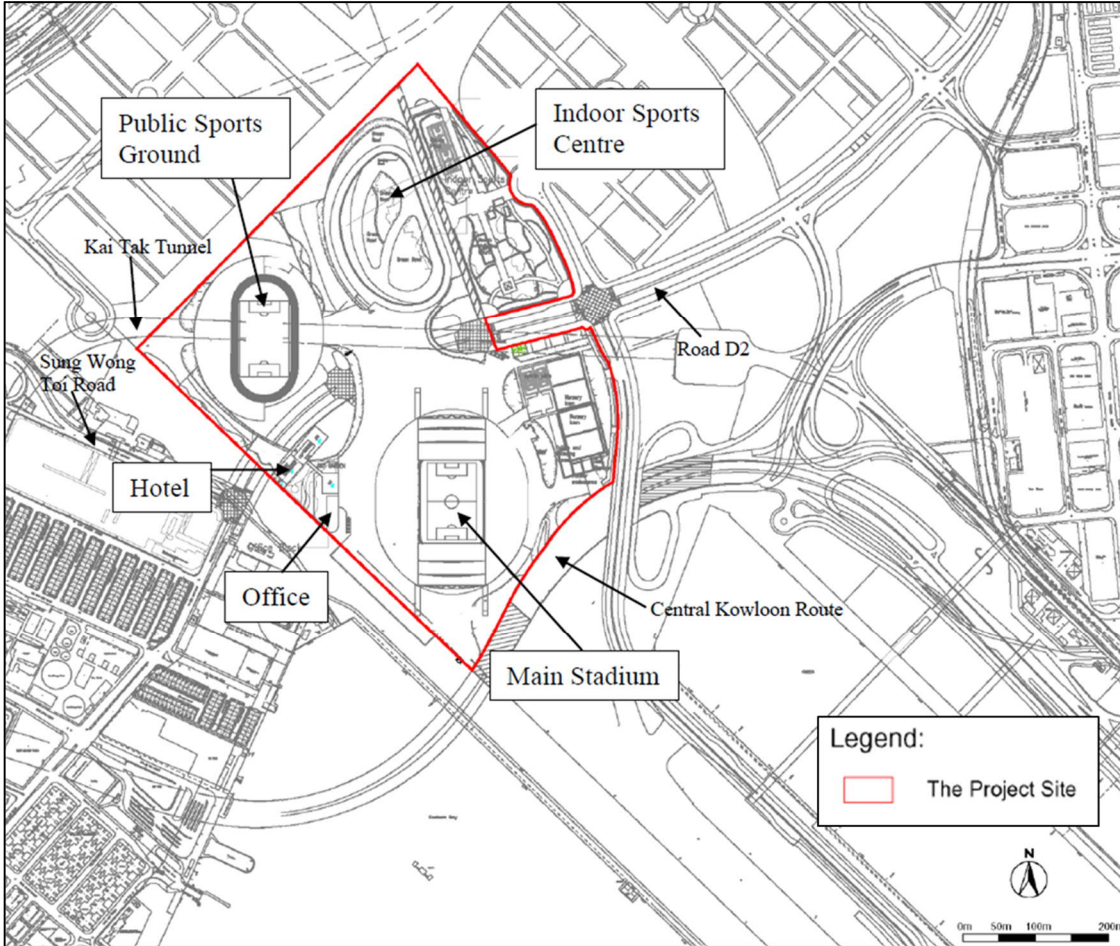


# Appendix A. Project Organization for Environmental Works

## Project Organisation for Environmental Works



## Appendix B. Location of Works Areas



## Appendix C. Construction Programme

**Design, Construction and Operation of the Kai Tak Sports Park**  
**Contract No. HAB/KTSP/01 (PROGRAMME NO. 3272RS)**  
**KTSP - 3 Month Rolling Master Programme - Data Date 28 December 2018**



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 Special Administrative Region



Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020											
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
<b>Design, Construction and Operation of the Kai Tak Sports Park</b>																												
<b>DESIGN STAGE</b>																												
<b>Architectural Design</b>																												
General Building Plans																												
GBP Plans Statutory Submission																												
DE16010	GBP Statutory Submission - Main Stadium	0	17-Apr-19*	02-May-19																								
DE16020	GBP Statutory Submission - Indoor Sports Centre	0	02-May-19*	02-May-19																								
DE16030	GBP Statutory Submission - Public Sports Ground	0	02-May-19*	02-May-19																								
<b>MLP</b>																												
Approved in Principle (AIP)																												
DE0030	Endorsement by Design Checker	12	15-Mar-19	26-Mar-19																								
DE0040	AIP - 1st Submission & Review by SO	19	27-Mar-19	14-Apr-19																								
DE0041	Obtain Approval of MLP Disposition	0	14-Apr-19	14-Apr-19																								
DE0045	AIP - 1st Submission Re-Work	14	15-Apr-19	28-Apr-19																								
DE0050	AIP - 2nd Submission & Review by SO	14	29-Apr-19	12-May-19																								
DE0060	Obtain AIP for MLP	0	12-May-19	12-May-19																								
<b>Main Stadium</b>																												
Main Stadium General Arrangement																												
AIP Main Stadium General Arrangement Plan																												
DE0080	Endorsement by Design Checker	14	10-May-19	23-May-19																								
DE0090	AIP - 1st Submission & Review by SO	42	24-May-19	04-Jul-19																								
Fire Engineering Report																												
DE15668	Submit Fire Engineering Report	0	10-May-19*	10-May-19																								
<b>Indoor Sports Centre</b>																												
Indoor Sports Centre General Arrangement																												
AIP Indoor Sports Centre General Arrangement Plan																												
DE15248	Prepare Indoor Sports Centre GA for AIP Submission	31	02-May-19	01-Jun-19																								
DE15258	Endorsement by Design Checker	14	02-Jun-19	15-Jun-19																								
DE15268	AIP - 1st Submission & Review by SO	42	16-Jun-19	27-Jul-19																								
Fire Engineering Report																												
DE15688	Submit Fire Engineering Report	0	02-May-19*	02-May-19																								
<b>Public Sports Ground</b>																												
Public Sports Ground General Arrangement																												
AIP Public Sports Ground General Arrangement Plan																												
DE15328	Prepare Public Sports Ground GA for AIP Submission	31	01-Apr-19	01-May-19																								
DE15338	Endorsement by Design Checker	14	02-May-19	15-May-19																								
DE15348	AIP - 1st Submission & Review by SO	42	16-May-19	26-Jun-19																								
DE15358	AIP - 1st Submission Re-Work	35	27-Jun-19	31-Jul-19																								
<b>Public Open Space, Dining Cove and Harbourfront Promenade</b>																												
Public Open Space General Arrangement																												
AIP Public Open Space General Arrangement Plan																												
DE15408	Prepare Public Open Space GA for AIP Submission	34	13-May-19	15-Jun-19																								
DE15418	Endorsement by Design Checker	14	16-Jun-19	29-Jun-19																								
DE15428	AIP - 1st Submission & Review by SO	42	30-Jun-19	10-Aug-19																								
<b>Landscaping</b>																												
AIP - Approval in Principle																												
DE6120	Prepare Landscaping Plans for AIP Submission	30	13-May-19	11-Jun-19																								
DE6130	Endorsement by Design Checker	14	12-Jun-19	25-Jun-19																								
DE6140	AIP - 1st Submission & Review by SO	42	26-Jun-19	06-Aug-19																								
<b>Structural Design / Geotechnical Design</b>																												
Ground Investigation Plan																												
Part 1 & 2																												
DE0240	Obtain Approval for GI Plan	0	20-Mar-19	20-Mar-19																								
Part 3																												

■ Remaining Level of Effort    ■ Remaining Work    ◆ Milestone Critical  
■ Actual Level of Effort    ■ Critical Remaining Work    ◆ Milestone  
■ Actual Work    ◆ Milestone

Programme No:			
Date	Revision	Checked	Approved
28-Dec-18	RevA	MW	EL





Design, Construction and Operation of the Kai Tak Sports Park  
 Contract No. HAB/KTSP/01 (PROGRAMME NO. 3272RS)  
 KTSP - 3 Month Rolling Master Programme - Data Date 28 December 2018



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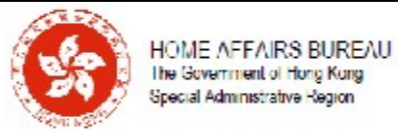


Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020							
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>Pile Cap Plans</b>																								
AIP - Approval in Principle																								
DE2360	Prepare Pile Cap Plans for AIP Submission	82	24-Mar-19	13-Jun-19																				
DE2370	Endorsement by Design Checker	14	14-Jun-19	27-Jun-19																				
DE2390	AIP - 1st Submission & Review by SO	42	28-Jun-19	08-Aug-19																				
<b>ELS Plans</b>																								
Approval in Principle & Detailed Design Approval																								
DE2470	Prepare ELS Plans for Submission	69	24-Mar-19	31-May-19																				
DE2480	Endorsement by Design Checker	14	01-Jun-19	14-Jun-19																				
DE2490	Submission & Review by SO	42	15-Jun-19	26-Jul-19																				
<b>Drainage Plan</b>																								
AIP - Approval in Principle																								
DE2640	Prepare Drainage Plans for AIP Submission	30	15-May-19	13-Jun-19																				
DE2650	Endorsement by Design Checker	14	14-Jun-19	27-Jun-19																				
DE2660	AIP - 1st Submission & Review by SO	42	28-Jun-19	08-Aug-19																				
<b>Steel Roof Structure Design</b>																								
AIP - Approval in Principle																								
DE6280	Prepare Steel Roof Structure Design for AIP	30	16-May-19	14-Jun-19																				
DE6290	Endorsement by Design Checker	14	15-Jun-19	28-Jun-19																				
DE6300	AIP - 1st Submission & Review by SO	42	29-Jun-19	09-Aug-19																				
<b>Public Sports Ground</b>																								
Foundation Plans																								
Approval in Principle & Detailed Design Approval																								
DE3300	Prepare Foundation Plan for Submission	72	11-Jan-19	23-Mar-19																				
DE3310	Endorsement by Design Checker	3	24-Mar-19	26-Mar-19																				
DE3320	AIP Submission & Review by SO (Whole Site)	42	27-Mar-19	07-May-19																				
DE3323	Prepare Foundation Plan for DDA Submission	35	08-May-19	11-Jun-19																				
DE3325	Endorsement by Design Checker	14	12-Jun-19	25-Jun-19																				
DE3330	DDA Submission & Review by SO	42	26-Jun-19	06-Aug-19																				
<b>Pile Cap Plans</b>																								
AIP - Approval in Principle																								
DE3360	Prepare Pile Cap Plans for AIP Submission	30	24-Mar-19	22-Apr-19																				
DE3370	Endorsement by Design Checker	14	23-Apr-19	06-May-19																				
DE3380	AIP - 1st Submission & Review by SO	42	07-May-19	17-Jun-19																				
DE3385	AIP - 1st Submission Re-Work	35	18-Jun-19	22-Jul-19																				
<b>Structural Drawings</b>																								
AIP - Approval in Principle																								
DE3530	Prepare Framing Plans for AIP Submission	30	16-May-19	14-Jun-19																				
DE3540	Endorsement by Design Checker	14	15-Jun-19	28-Jun-19																				
DE3550	AIP - 1st Submission & Review by SO	42	29-Jun-19	09-Aug-19																				
<b>Steel Roof Structure Design</b>																								
AIP - Approval in Principle																								
DE6390	Prepare Steel Roof Structure Design for AIP	30	23-Apr-19	22-May-19																				
DE6400	Endorsement by Design Checker	14	23-May-19	05-Jun-19																				
DE6410	AIP - 1st Submission & Review by SO	42	06-Jun-19	17-Jul-19																				
<b>Public Open Space, Dining Cove and Harbourfront Promenade</b>																								
Foundation Plans																								
Approval in Principle & Detailed Design Approval																								
DE4300	Prepare Foundation Plan for Submission	76	07-Jan-19	23-Mar-19																				
DE4302	Endorsement by Design Checker	3	24-Mar-19	26-Mar-19																				
DE4320	AIP Submission & Review by SO (Whole Site)	43	27-Mar-19	08-May-19																				
DE4325	Endorsement by Design Checker (Zone 1 - South West Plaza (1))	8	27-Mar-19	03-Apr-19																				
DE4330	DDA Submission & Review by SO (Zone 1 - South West Plaza (1))	12	09-May-19	20-May-19																				

Remaining Level of Effort    
  Remaining Work    
 ♦ Milestone Critical  
 Actual Level of Effort    
 Critical Remaining Work  
 Actual Work    
♦ Milestone

Programme No:			
Date	Revision	Checked	Approved
28-Dec-18	RevA	MW	EL

Design, Construction and Operation of the Kai Tak Sports Park  
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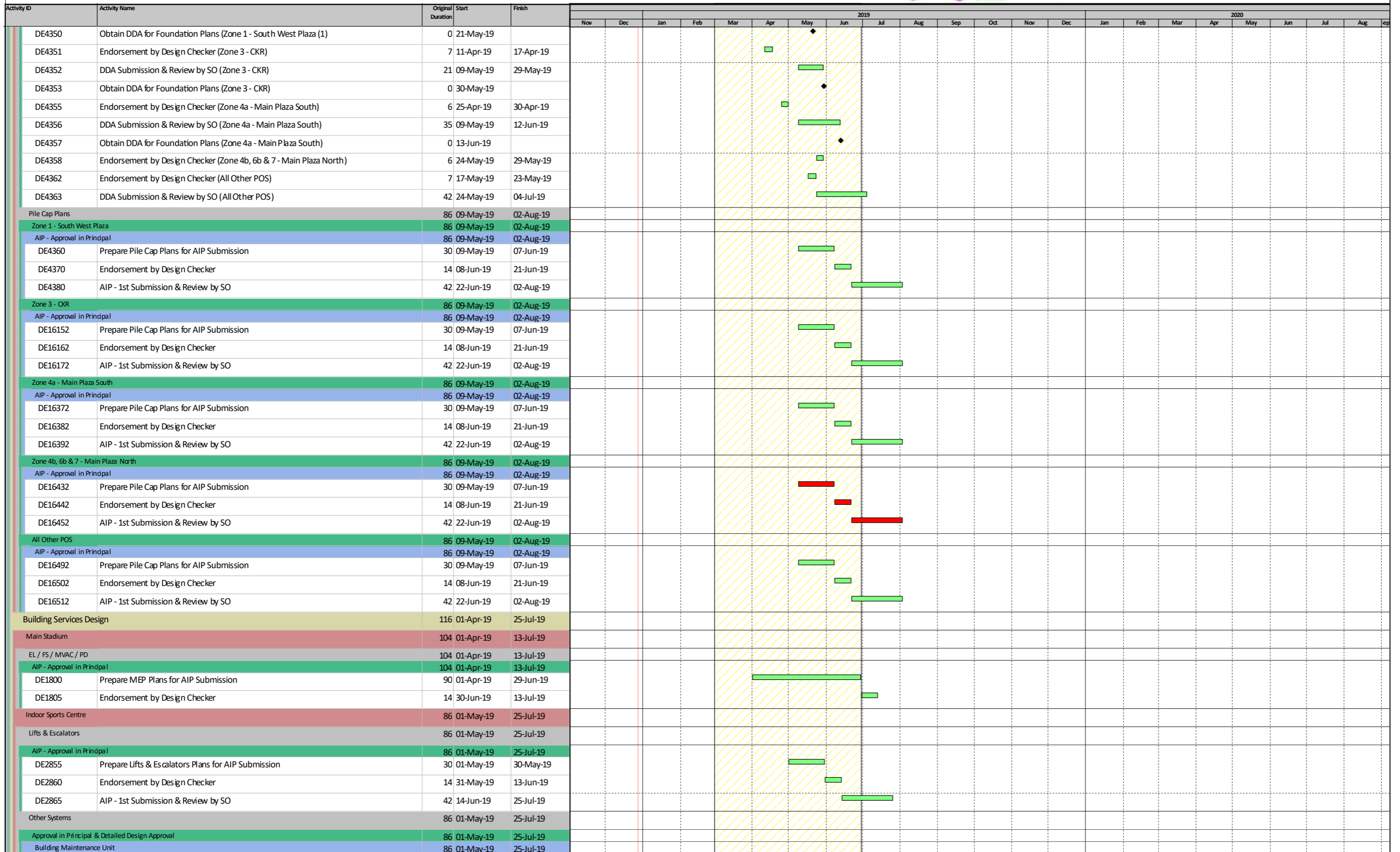
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 Special Administrative Region



KAI TAK SPORTS PARK  
 啟德體育園  
 READY-SET-GO  
 齊集開



協興工程有限公司  
 HIPING ENGINEERING CO LTD  
 新創建築師成員 Member of NWS Holdings



	Remaining Level of Effort		Remaining Work		Milestone Critical
	Actual Level of Effort		Critical Remaining Work		Milestone
	Actual Work				

Programme No:			
Date	Revision	Checked	Approved
28-Dec-18	RevA	MW	EL



Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020								
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
DE15739	Prepare AIP - Building Maintenance Unit	30	01-May-19	30-May-19																					
DE15749	Endorsed by Design Checker - Building Maintenance Unit	14	31-May-19	13-Jun-19																					
DE15759	AIP 1st Submission - Building Maintenance Unit	42	14-Jun-19	25-Jul-19																					
<b>Town Gas</b>																									
DE2915	Prepare AIP - Town Gas	30	01-May-19	30-May-19																					
DE9768	Endorsed by Design Checker - Town Gas	14	31-May-19	13-Jun-19																					
DE9778	AIP 1st Submission - Town Gas	42	14-Jun-19	25-Jul-19																					
<b>PV Solar Panels</b>																									
DE2920	Prepare AIP - PV, Solar Panels	30	01-May-19	30-May-19																					
DE9888	Endorsed by Design Checker - PV, Solar Panels	14	31-May-19	13-Jun-19																					
DE9898	AIP 1st Submission - PV, Solar Panels	42	14-Jun-19	25-Jul-19																					
<b>Information and Communications Technology System</b>																									
DE10007	Prepare AIP - Information and Communications Technology System	30	01-May-19	30-May-19																					
DE10008	Endorsed by Design Checker - Information and Communications Technology System	14	31-May-19	13-Jun-19																					
DE10018	AIP 1st Submission - Information and Communications Technology System	42	14-Jun-19	25-Jul-19																					
<b>Specialist, Architectural &amp; Decorative Lighting System</b>																									
DE10127	Prepare AIP - Specialist, Architectural & Decorative Lighting System	30	01-May-19	30-May-19																					
DE10128	Endorsed by Design Checker - Specialist, Architectural & Decorative Lighting System	14	31-May-19	13-Jun-19																					
DE10138	AIP 1st Submission - Specialist, Architectural & Decorative Lighting System	42	14-Jun-19	25-Jul-19																					
<b>Burglar System &amp; Security System</b>																									
DE10247	Prepare AIP - Burglar Alarm & Security System	30	01-May-19	30-May-19																					
DE10248	Endorsed by Design Checker - Burglar Alarm & Security System	14	31-May-19	13-Jun-19																					
DE10258	AIP 1st Submission - Burglar Alarm & Security System	42	14-Jun-19	25-Jul-19																					
<b>Broadcast Reception System</b>																									
DE10367	Prepare AIP - Broadcast Reception System	30	01-May-19	30-May-19																					
DE10368	Endorsed by Design Checker - Broadcast Reception System	14	31-May-19	13-Jun-19																					
DE10378	AIP 1st Submission - Broadcast Reception System	42	14-Jun-19	25-Jul-19																					
<b>Public Address/TBE/PABX/AV Systems</b>																									
DE10487	Prepare AIP - Public Address / TBE / PABX / AV Systems	30	01-May-19	30-May-19																					
DE10488	Endorsed by Design Checker - Public Address / TBE / PABX / AV Systems	14	31-May-19	13-Jun-19																					
DE10498	AIP 1st Submission - Public Address / TBE / PABX / AV Systems	42	14-Jun-19	25-Jul-19																					
<b>Automatic Irrigation System</b>																									
DE10607	Prepare AIP - Automatic Irrigation System	30	01-May-19	30-May-19																					
DE10608	Endorsed by Design Checker - Automatic Irrigation System	14	31-May-19	13-Jun-19																					
DE10618	AIP 1st Submission - Automatic Irrigation System	42	14-Jun-19	25-Jul-19																					
<b>Design for Other Disciplines</b>																									
<b>Hoarding &amp; Covered Walkways</b>																									
Approval in Principal & Detailed Design Approval					63	01-Mar-19	03-May-19																		
DE6020	1st Submission & Review by SO	28	01-Mar-19	28-Mar-19																					
DE6030	2nd Submission & Review by SO	35	29-Mar-19	02-May-19																					
DE6040	Obtain AIP/DDA for Hoarding Plans	0	03-May-19																						
<b>Tree Felling Plan</b>																									
Approval in Principal & Detailed Design Approval					114	03-Mar-19	24-Jun-19																		
DE6060	Prepare Tree Felling Plan	30	03-Mar-19	01-Apr-19																					
DE6070	Blanket approval by ArchSD & DLO	60	03-Mar-19	01-May-19																					
DE6080	1st Submission & Review by SO	28	02-Apr-19	29-Apr-19																					
DE6090	2nd Submission & Review by SO	28	30-Apr-19	27-May-19																					
DE6100	3rd Submission & Review by SO	28	28-May-19	24-Jun-19																					
DE6110	Obtain Approval for Tree Felling Plan	0		24-Jun-19																					
<b>PRE-CONSTRUCTION STAGE</b>					104	20-Mar-19	01-Jul-19																		

 Remaining Level of Effort   
  Remaining Work   
 ◆ Milestone Critical  
 Actual Level of Effort   
  Critical Remaining Work  
 Actual Work   
 ◆ Milestone

Programme No:			
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28-Dec-18	RevA	MW	EL

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**KTSP - 3 Month Rolling Master Programme - Data Date 28 December 2018**



HOME AFFAIRS BUREAU  
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Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020											
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
<b>Specialist Packages &amp; Long Lead-In Items</b>																												
<b>Main Stadium - Sub-Letting &amp; Procurement</b>																												
External Facade - Curtain/ Window Wall/ Cladding																												
Sub-Letting (Sub-Contractor) Approval																												
SS0080	Start Sub-Letting Process (Based Tender Documents)	0	01-Apr-19*																									
<b>Structural Steel Work (Retractable Roof)</b>																												
Sub-Letting (Sub-Contractor) Approval																												
SS12115	Start Sub-Letting Process	0	31-Mar-19																									
SS12125	Sub-Letting Process (Tender Reviewc)	59	31-Mar-19	28-May-19																								
SS12135	Sub-Contractor On-Board	0	29-May-19																									
<b>Procurement</b>																												
SS1440	Design Drawings Available	0	29-May-19	29-May-19																								
<b>Structural Steel Work (Structure)</b>																												
Sub-Letting (Sub-Contractor) Approval																												
SS12145	Start Sub-Letting Process	0	31-Mar-19																									
SS12155	Sub-Letting Process (Tender Reviewc)	59	31-Mar-19	28-May-19																								
SS12165	Sub-Contractor On-Board	0	29-May-19																									
<b>Procurement</b>																												
SS2100	Design Drawings Available	0	29-May-19	29-May-19																								
<b>Indoor Sports Centre - Sub-Letting &amp; Procurement</b>																												
Structural Steel Work (Roof)																												
Sub-Letting (Sub-Contractor) Approval																												
SS12415	Start Sub-Letting Process	0	31-Mar-19																									
SS12425	Sub-Letting Process (Tender Review)	90	31-Mar-19	28-Jun-19																								
SS12435	Sub-Contractor On-Board	0	29-Jun-19																									
<b>Procurement</b>																												
SS2680	Award of Specialist Package	0	29-Jun-19	29-Jun-19																								
<b>Preliminaries &amp; Preparation Work</b>																												
<b>Site Preparation Works</b>																												
Mobilisation & Site Establishment																												
SE0120	Establish Site Office (MS1.1.3)	70	23-Apr-19	01-Jul-19																								
SE0130	Erect Hoarding & Covered Walkway (MS1.1.4)	60	23-Apr-19	21-Jun-19																								
SE0140	Demolish existing 4 x 1830dia. drainage pipes after commissioning of CEDD Stage 5A box cu	45	03-May-19	16-Jun-19																								
SE0150	Form new ROW (the section between To Kwa Wan Road and the CKR site)	45	03-May-19	16-Jun-19																								
<b>Ground Investigation and Ground Works</b>																												
GW0120	Ground Investigation Works & Reporting	60	20-Mar-19	18-May-19																								
<b>CONSTRUCTION STAGE - MAIN STADIUM</b>																												
<b>Structural Works</b>																												
<b>Structural Works (South)</b>																												
<b>Foundation</b>																												
Pile Foundation (Zone A1 - Driven-H Piles)																												
FN1000	Setting out	7	21-Jun-19	29-Jun-19																								
Pile Foundation (Zone A1 - Bored Piles)																												
FN4540	Setting out	7	29-Apr-19	07-May-19																								
Pile Foundation (Zone B1 - Bored Pile)																												
FN4590	Setting out	8	29-Apr-19	08-May-19																								
<b>Structural Works (North)</b>																												
<b>Foundation</b>																												
Pile Foundation (Zone C1 - Driven-H Piles)																												
FN1200	Setting out	7	21-Jun-19	29-Jun-19																								
Pile Foundation (Zone C1 - Bored Pile)																												
FN4640	Setting out	7	29-Apr-19	07-May-19																								
Pile Foundation (Zone D1 - Driven-H Piles)																												
FN1240	Setting out	7	21-Jun-19	29-Jun-19																								
Pile Foundation (Zone D1 - Bored Pile)																												

■ Remaining Level of Effort    ■ Remaining Work    ◆ Milestone Critical  
■ Actual Level of Effort    ■ Critical Remaining Work    ◆ Milestone  
■ Actual Work    ◆ Milestone

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Activity ID	Activity Name	Original Duration	Start	Finish	2019												2020								
					Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
FN4690	Setting out	7	29-Apr-19	07-May-19																					
<b>CONSTRUCTION STAGE - INDOOR SPORTS CENTRE</b>																									
<b>Structural Works</b>																									
<b>Foundation (Socket-H piling)</b>																									
<b>Pile Foundation (Zone 1A - ISC West)</b>																									
FN2000	Setting out	7	01-Jun-19	11-Jun-19																					
<b>Pile Foundation (Zone 1B - ISC West)</b>																									
FN2040	Setting out	7	01-Jun-19	11-Jun-19																					
<b>Pile Foundation (Zone 2 - ISC Main Arena &amp; ASH)</b>																									
FN2100	Setting out	7	01-Jun-19	11-Jun-19																					
<b>CONSTRUCTION STAGE - PUBLIC OPEN SPACE, DINING COVE AND HARBOURFRONT PROMENADE</b>																									
<b>Structural Works</b>																									
<b>Foundation (Socket-H piling)</b>																									
<b>Pile Foundation (Zone E3 - Main Plaza (South)) - Stage 2</b>																									
FN4240	Setting out	7	13-Jun-19	22-Jun-19																					
<b>Pile Foundation (Zone E1 - South West Plaza (1)) - Stage 4</b>																									
FN4730	Setting out	7	21-May-19	29-May-19																					
FN4740	Trial Pile	14	30-May-19	18-Jun-19																					
<b>Pile Foundation (Zone CKR - Harbour Terrace - Southern end) - Stage 5</b>																									
FN4300	Setting out	7	30-May-19	08-Jun-19																					
FN4310	Trial Pile	14	30-May-19	18-Jun-19																					
<b>BS Installations, ABWF and Fitting Out Works</b>																									
<b>External Works</b>																									
<b>Works Outside Site Boundary</b>																									
EX4060	TTM Application Submission & Approval	60	17-Apr-19	15-Jun-19																					

Remaining Level of Effort	Remaining Work	Milestone Critical
Actual Level of Effort	Critical Remaining Work	
Actual Work	Milestone	

Programme No:			
Date	Revision	Checked	Approved
28-Dec-18	RevA	MW	EL

## 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
<b>Action Level</b>				
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Inform IEC, SOR and Contracted Party;</li> <li>2. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>3. Repeat measurement to confirm finding.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contracted Party's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contracted Party.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Inform IEC, SOR and Contracted Party;</li> <li>2. Identify source;</li> <li>3. Advise the SOR on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC, SOR and Contracted Party on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and SOR;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contracted Party's working method;</li> <li>3. Discuss with ET and Contracted Party on possible remedial measures;</li> <li>4. Advise the ET/SOR on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contracted Party;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial to SOR and IEC within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

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

Event	Action			
	ET	IEC	ET	Contracted Party
<b>Limit Level</b>				
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
<b>Action Level</b>	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.
<b>Limit Level</b>	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. Environmental Site Inspection and Monitoring Schedule

**Table E.1: Site Inspection and Monitoring Schedule for April 2019**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
					Ching Ming Festival	
7	8	9	10	11	12	13
	AMS1, NMS1 AMS2, NMS2		site inspection landscape and visual audit		AMS1 AMS2	
14	15	16	17	18	19	20
			site inspection	AMS1, NMS1 AMS2, NMS2	Good Friday	Easter Saturday
21	22	23	24	25	26	27
	Easter Monday		AMS1, NMS1 AMS2, NMS2	site inspection* landscape and visual audit		
28	29	30				
		AMS1, NMS1 AMS2, NMS2 site inspection				

 Air Quality/Noise Monitoring

Remarks: \*Joint site walk with IEC on 25 April 2019

**Table E.2: Tentative Site Inspection and Monitoring Schedule for May 2019**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Labour Day	2	3	4 AMS1, NMS1 AMS2, NMS2
5	6	7	8 site inspection landscape and visual audit	9	10 AMS1, NMS1 AMS2, NMS2	11
12	13 The day following the Birthday of Buddha	14	15 site inspection	16 AMS1, NMS1 AMS2, NMS2	17	18
19	20	21	22 AMS1, NMS1 AMS2, NMS2 site inspection landscape and visual audit	23	24	25
26	27	28 AMS1, NMS1 AMS2, NMS2	29 site inspection	30	31	

 Air Quality/Noise Monitoring

Remark: The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)



## Appendix F. Calibration Certificates





## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR K.W. FAN	WORK ORDER	: <b>HK1907875</b>
CLIENT	: <b>ENVIROTECH SERVICES CO.</b>		
ADDRESS	: RM113, 1/F, MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 22-FEB-2019
		DATE OF ISSUE	: 7-MAR-2019
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

#### General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on as received basis.
- 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

General Manager

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**

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Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

WORK ORDER : HK1907875  
SUB-BATCH : 1  
CLIENT : ENVIROTECH SERVICES CO.  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1907875-001	S/N: 276019	Equipments	22-Feb-2019	S/N: 276019

# Equipment Verification Report (TSP)

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 276019  
Equipment Ref: Nil  
Job Order HK1907875

## Standard Equipment:

Standard Equipment: Higher Volume Sampler  
Location & Location ID: AUES office (calibration room)  
Equipment Ref: HVS 018  
Last Calibration Date: 12 February 2019

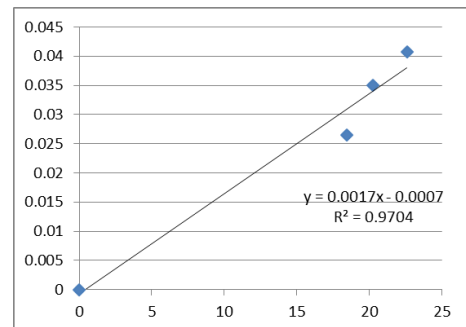
## Equipment Verification Results:

Testing Date: 4 March 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
2hr13min	09:10 ~ 11:23	20.9	1013.7	0.035	2699	20.3
2hr01min	11:30 ~ 13:31	20.9	1013.7	0.026	2235	18.4
2hr01min	13:40 ~ 15:41	20.9	1013.7	0.041	2723	22.6

## Linear Regression of Y or X

Slope (K-factor): 0.0017  
Correlation Coefficient 0.9851  
Date of Issue 7 March 2019



## Remarks:

- Strong** Correlation ( $R > 0.8$ )
  - Factor 0.0017 should be applied for TSP monitoring
- \*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Fai So Signature :  Date : 7 March 2019

QC Reviewer : Ben Tam Signature :  Date : 7 March 2019

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 12-Feb-19  
 Location ID : Calibration Room Next Calibration Date: 12-May-19

### CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369 Intercept = -1.8924 Corr. coeff. = 0.9951
13	2.8	6.9	9.7	1.584	52	52.81	
10	1.9	5.4	7.3	1.377	46	46.72	
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

**Calculations :**

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

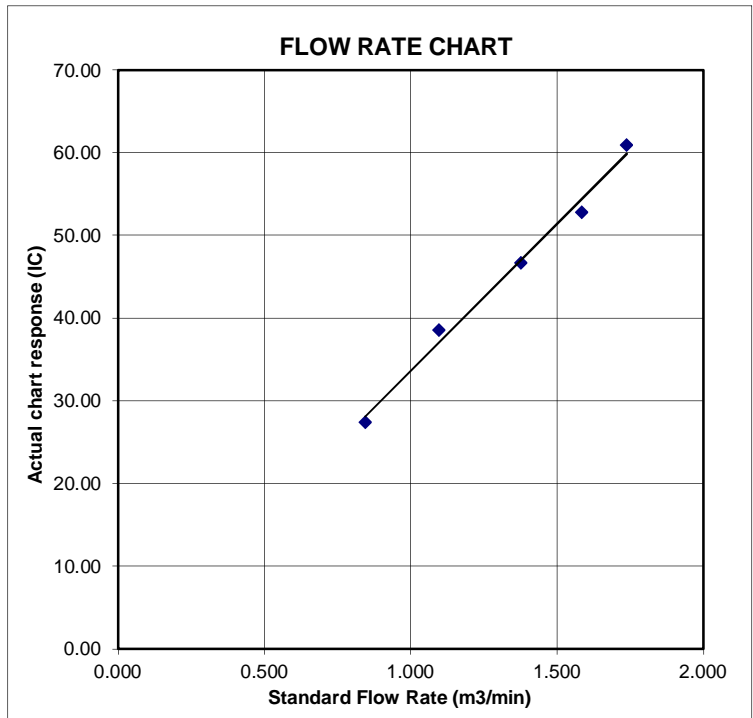
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

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

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: February 13, 2018	Rootsmeter S/N: 438320	Ta: 293	°K
Operator: Jim Tisch		Pa: 763.3	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1612</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
<b>QSTD</b>	m=	<b>2.02017</b>	<b>QA</b>	m=	<b>1.26500</b>
	b=	<b>-0.03691</b>		b=	<b>-0.02263</b>
	r=	<b>0.99988</b>		r=	<b>0.99988</b>

Calculations	
Vstd= $\Delta Vol \left( \frac{Pa - \Delta P}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)$	Va= $\Delta Vol \left( \frac{Pa - \Delta P}{Pa} \right)$
Qstd= Vstd/ΔTime	Qa= Va/ΔTime
For subsequent flow rate calculations:	
<b>Qstd=</b> $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	<b>Qa=</b> $1/m \left( \left( \sqrt{\Delta H \left( \frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
<b>Key</b>	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

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



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

### SUB-CONTRACTING REPORT

CONTACT	: MR K.W. FAN	WORK ORDER	: <b>HK1907876</b>
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	: 22-FEB-2019
		DATE OF ISSUE	: 7-MAR-2019
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

#### General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on as received basis.
- 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

General Manager

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**  
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Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)



WORK ORDER : HK1907876  
SUB-BATCH : 1  
CLIENT : ENVIROTECH SERVICES CO.  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1907876-001	S/N: 456668	Equipments	22-Feb-2019	S/N: 456668

## Equipment Verification Report (TSP)

### Equipment Calibrated:

Type: Laser Dust monitor  
 Manufacturer: Sibata LD-3B  
 Serial No. 456668  
 Equipment Ref: Nil  
 Job Order HK1907876

### Standard Equipment:

Standard Equipment: Higher Volume Sampler  
 Location & Location ID: AUES office (calibration room)  
 Equipment Ref: HVS 018  
 Last Calibration Date: 12 February 2019

### Equipment Verification Results:

Testing Date: 4 March 2019

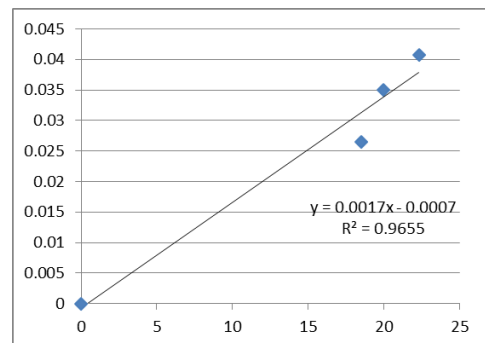
Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
2hr13min	09:10 ~ 11:23	20.9	1013.7	0.035	2659	20.0
2hr01min	11:30 ~ 13:31	20.9	1013.7	0.026	2241	18.5
2hr01min	13:40 ~ 15:41	20.9	1013.7	0.041	2688	22.3

### Linear Regression of Y or X

Slope (K-factor): 0.0017

Correlation Coefficient 0.9826

Date of Issue 7 March 2019



### Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 0.0017 should be applied for TSP monitoring

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

Operator : Fai So Signature :  Date : 7 March 2019

QC Reviewer : Ben Tam Signature :  Date : 7 March 2019

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

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### CONDITIONS

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Temperature (°C)	19.0	Temperature (K)	292

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Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

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8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

**Calculations :**

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

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

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K )

Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

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

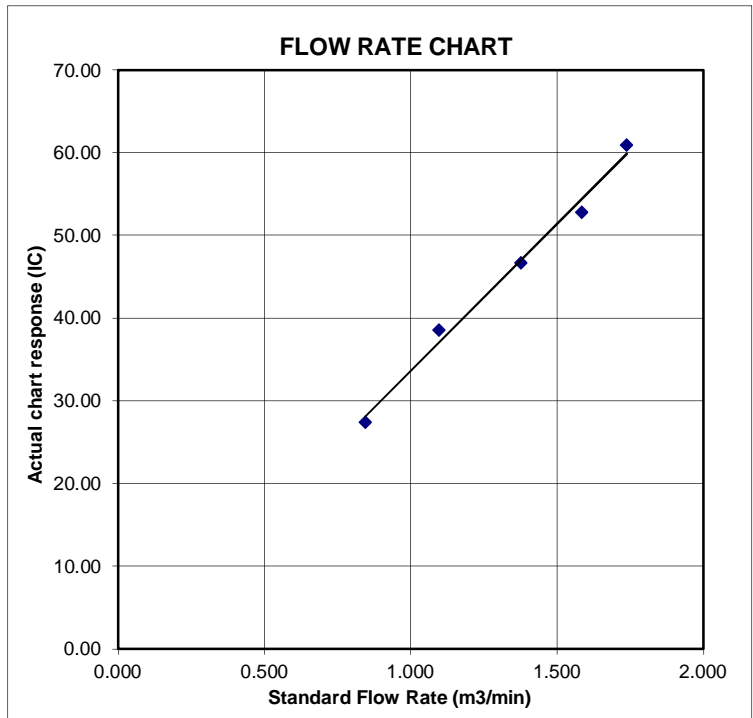
m = sampler slope

b = sampler intercept

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Tav = daily average temperature

Pav = daily average pressure



# Certificate of Calibration

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Operator: Jim Tisch		Pa: 763.3	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1612</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
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1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
<b>QSTD</b>	m=	<b>2.02017</b>	<b>QA</b>	m=	<b>1.26500</b>
	b=	<b>-0.03691</b>		b=	<b>-0.02263</b>
	r=	<b>0.99988</b>		r=	<b>0.99988</b>

Calculations	
<b>Vstd</b> = ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	<b>Va</b> = ΔVol((Pa-ΔP)/Pa)
<b>Qstd</b> = Vstd/ΔTime	<b>Qa</b> = Va/ΔTime
For subsequent flow rate calculations:	
<b>Qstd</b> = $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	<b>Qa</b> = $1/m \left( \left( \sqrt{\Delta H \left( \frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

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





# Certificate of Calibration 校正證書

Certificate No. : C185607  
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-1968) Date of Receipt / 收件日期 : 27 September 2018

Description / 儀器名稱 : Precision Acoustic Calibrator  
Manufacturer / 製造商 : LARSON DAVIS  
Model No. / 型號 : CAL200  
Serial No. / 編號 : 15678  
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 :  $(23 \pm 2)^{\circ}\text{C}$  Relative Humidity / 相對濕度 :  $(50 \pm 25)\%$   
Line Voltage / 電壓 : ---

## TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 14 October 2018

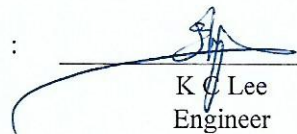
## TEST RESULTS / 測試結果

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By  
測試

  
K C Lee  
Engineer

Certified By  
核證

  
H C Chan  
Engineer

Date of Issue : 19 October 2018  
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C185607

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C183775
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	113.9		

### 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

Remark : 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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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 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

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輝創工程有限公司

Sun Creation Engineering Limited  
Calibration & Testing Laboratory

# Certificate of Calibration

## 校正證書

Certificate No. : C185972  
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC18-2180)      Date of Receipt / 收件日期 : 24 October 2018

Description / 儀器名稱 : Sound Level Meter  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NL-52  
Serial No. / 編號 : 00542913  
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 :  $(23 \pm 2)^{\circ}\text{C}$       Relative Humidity / 相對濕度 :  $(50 \pm 25)\%$   
Line Voltage / 電壓 : ---

### TEST SPECIFICATIONS / 測試規範

Calibration


DATE OF TEST / 測試日期 : 4 November 2018

### TEST RESULTS / 測試結果

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

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

Tested By :   
測試 : K C Lee  
Engineer

Certified By :   
核證 : H C Chan  
Engineer

Date of Issue : 7 November 2018  
簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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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 - 校正及檢測實驗室

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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. : C185972  
證書編號

- 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.
- Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C180024
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

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 <sub>A</sub>	A	Fast	94.00	1	* 95.9	± 1.1

\*Out of IEC 61672 Class 1 Spec.

6.1.1.2 After Adjustment

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 <sub>A</sub>	A	Fast	94.00	1	94.0	± 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 <sub>A</sub>	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

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# Certificate of Calibration

## 校正證書

Certificate No. : C185972

證書編號

### 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 <sub>A</sub>	A	Fast	94.00	1	94.0	Ref.
			Slow				

### 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 <sub>A</sub>	A	Fast	94.00	63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.7	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

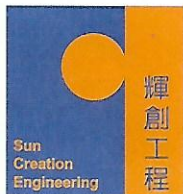
#### 6.3.2 C-Weighting

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 <sub>C</sub>	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C185972  
證書編號

- Remarks : - UUT Microphone Model No. : UC-53A & S/N : 320728
- 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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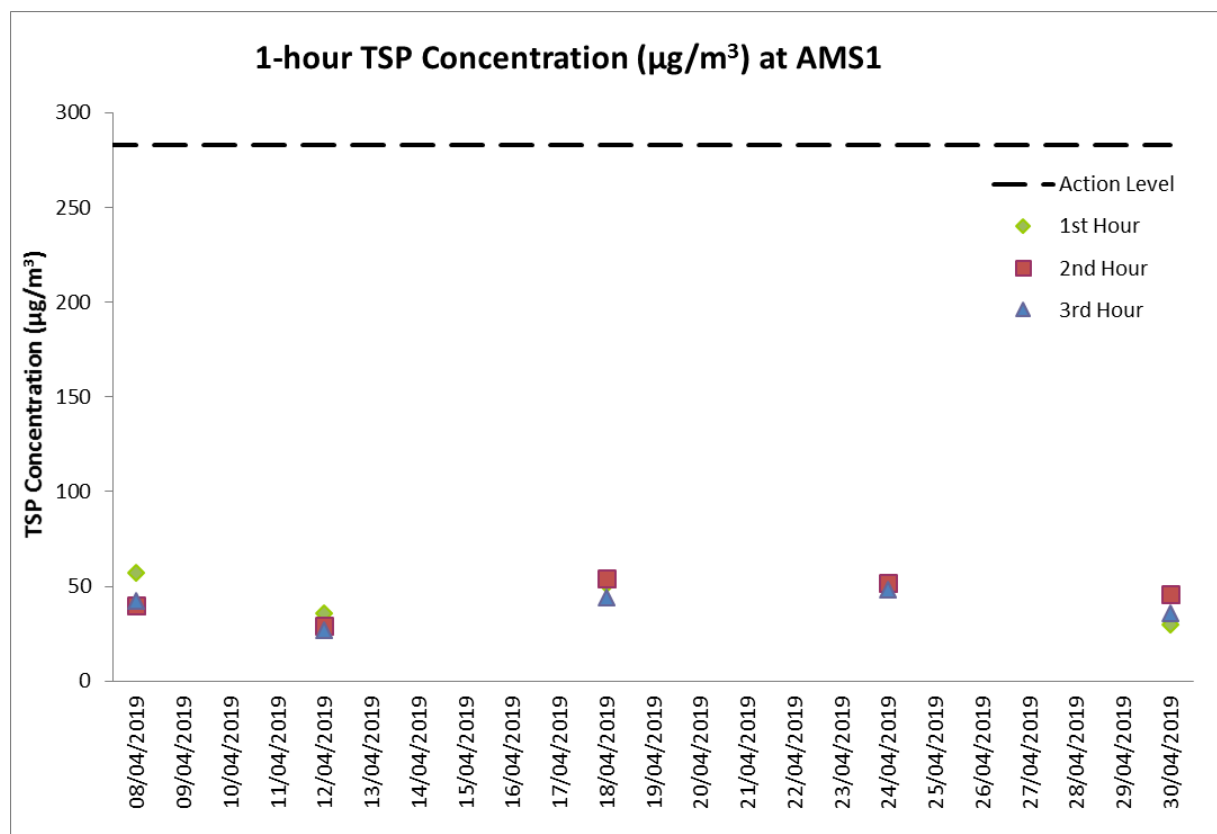
## **Appendix G. Monitoring Data and Graphical Plots (Air Quality and Noise)**



## 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 ( $\mu\text{g}/\text{m}^3$ )
8-Apr-19	8:15	9:15	Fine	1.0	219	57
8-Apr-19	9:15	10:15	Fine	0.7	243	40
8-Apr-19	10:15	11:15	Fine	1.7	232	42
12-Apr-19	8:25	9:25	Cloudy	6.8	87	36
12-Apr-19	9:25	10:25	Cloudy	4.0	58	29
12-Apr-19	10:25	11:25	Cloudy	6.4	107	27
18-Apr-19	9:10	10:10	Cloudy	4.7	102	51
18-Apr-19	10:10	11:10	Cloudy	5.7	104	54
18-Apr-19	11:10	12:10	Cloudy	4.6	97	44
24-Apr-19	9:00	10:00	Sunny	2.5	240	50
24-Apr-19	10:00	11:00	Sunny	2.3	237	52
24-Apr-19	11:00	12:00	Sunny	3.2	236	48
30-Apr-19	8:42	9:42	Sunny	2.1	150	30
30-Apr-19	9:42	10:42	Sunny	3.7	192	46
30-Apr-19	10:42	11:42	Sunny	2.9	195	36

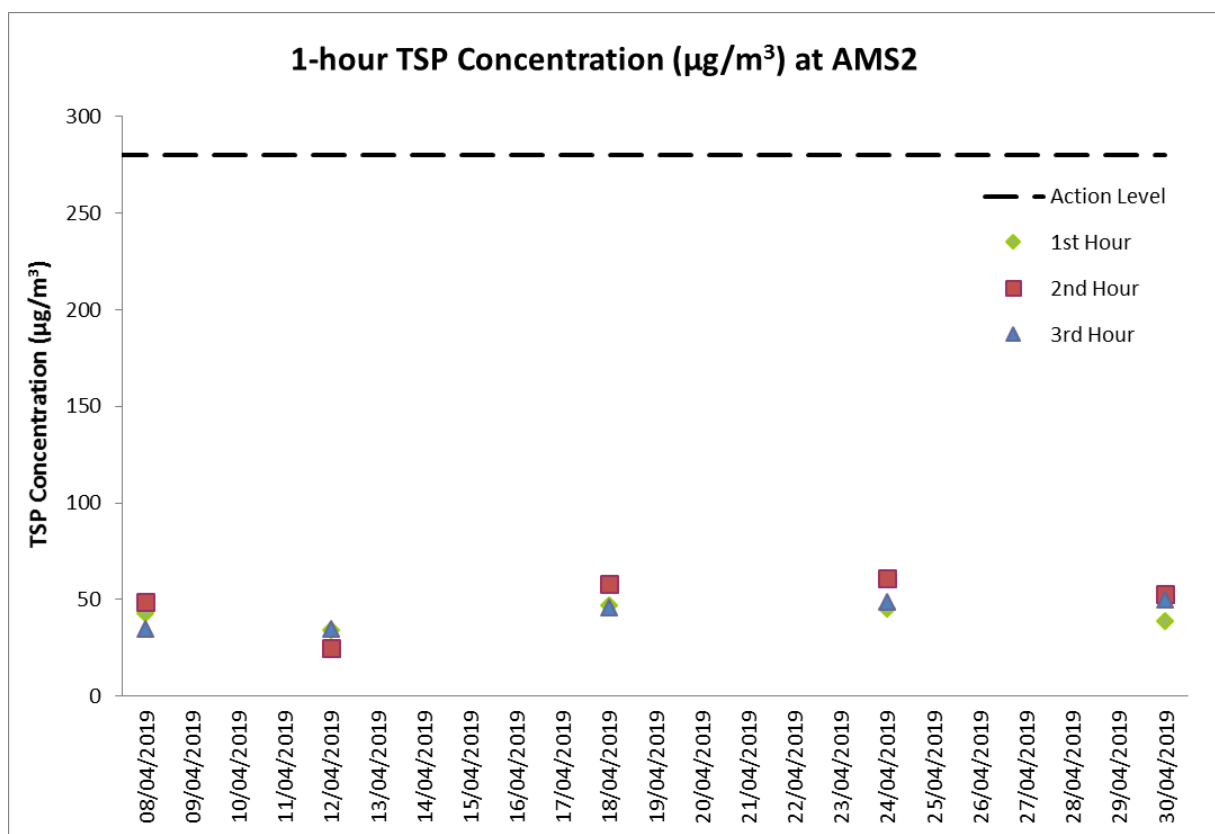
## Graphical Presentation for 1-hour TSP Monitoring at AMS1



## 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 ( $\mu\text{g}/\text{m}^3$ )
8-Apr-19	8:00	1:00	Fine	0.3	Variable	43
8-Apr-19	9:00	1:00	Fine	0.7	234	49
8-Apr-19	10:00	1:00	Fine	2.4	232	35
12-Apr-19	8:36	1:00	Cloudy	6.7	86	34
12-Apr-19	9:36	1:00	Cloudy	1.5	132	25
12-Apr-19	10:36	1:00	Cloudy	2.1	109	35
18-Apr-19	8:50	1:00	Cloudy	4.5	106	47
18-Apr-19	9:50	1:00	Cloudy	4.6	106	58
18-Apr-19	10:50	1:00	Cloudy	4.8	103	46
24-Apr-19	8:45	1:00	Sunny	3.1	235	45
24-Apr-19	9:45	1:00	Sunny	2.7	244	61
24-Apr-19	10:45	1:00	Sunny	4.1	236	49
30-Apr-19	8:26	1:00	Cloudy	1.7	155	39
30-Apr-19	9:26	1:00	Cloudy	2.9	201	53
30-Apr-19	10:26	1:00	Cloudy	3.5	194	50

## Graphical Presentation for 1-hour TSP Monitoring at AMS2

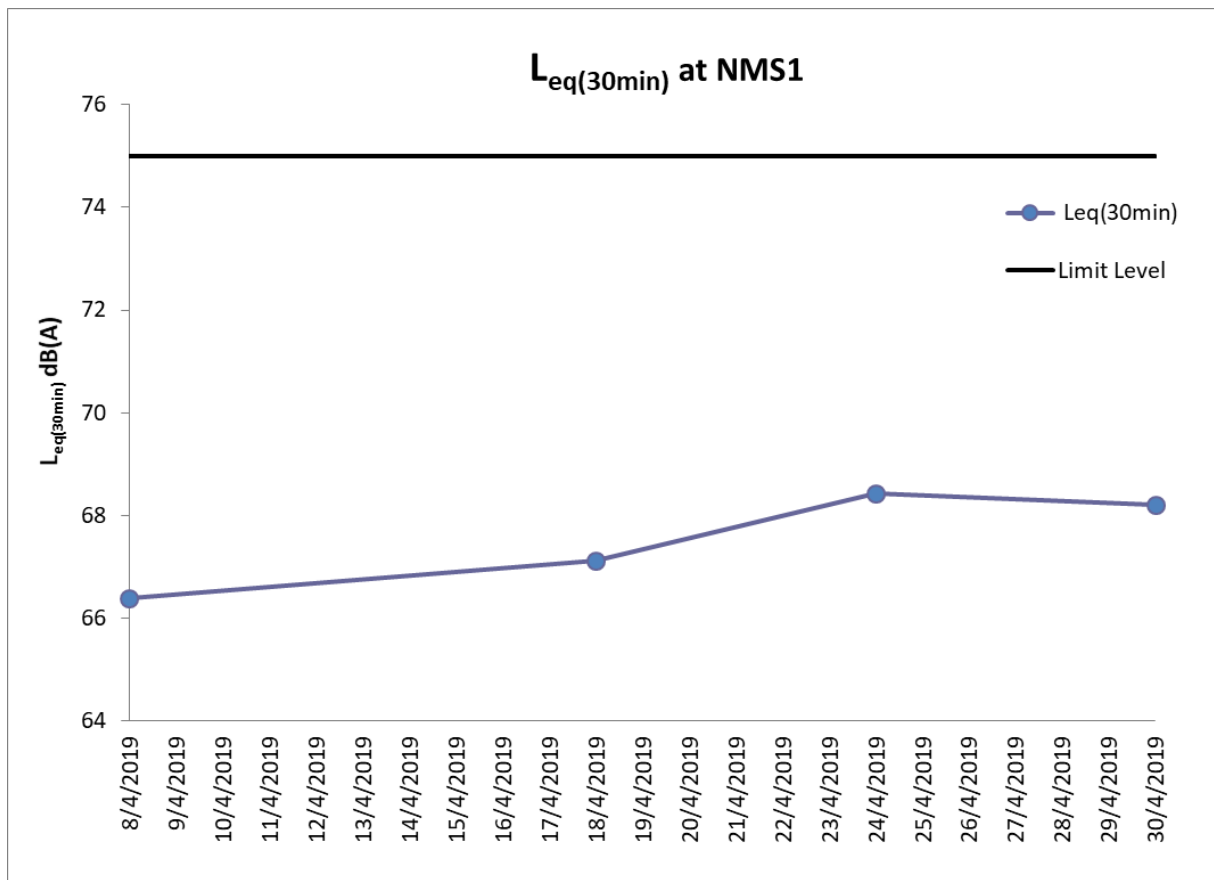




### Data for Noise Monitoring at Station NMS1

Date	Time	Weather	L <sub>eq</sub> (5min)	L <sub>10</sub>	L <sub>90</sub>	Measured L <sub>eq</sub> (30min)
8-Apr-19	9:00	Fine	66.1	68.5	59.5	66.4
8-Apr-19	9:05	Fine	66.6	69.6	60.2	
8-Apr-19	9:10	Fine	66.5	70.2	60.0	
8-Apr-19	9:15	Fine	65.8	71.0	59.8	
8-Apr-19	9:20	Fine	66.5	68.6	59.8	
8-Apr-19	9:25	Fine	66.7	69.1	59.9	
18-Apr-19	9:20	Cloudy	66.7	70.3	59.8	67.1
18-Apr-19	9:25	Cloudy	66.3	69.6	60.4	
18-Apr-19	9:30	Cloudy	67.7	69.0	60.2	
18-Apr-19	9:35	Cloudy	66.8	68.7	59.7	
18-Apr-19	9:40	Cloudy	68.1	71.3	58.0	
18-Apr-19	9:45	Cloudy	66.8	68.2	59.7	
24-Apr-19	9:10	Sunny	67.3	70.6	59.3	68.4
24-Apr-19	9:15	Sunny	66.2	70.8	59.4	
24-Apr-19	9:20	Sunny	69.5	71.3	58.2	
24-Apr-19	9:25	Sunny	69.8	71.6	59.0	
24-Apr-19	9:30	Sunny	67.7	69.2	58.1	
24-Apr-19	9:35	Sunny	68.9	69.9	58.6	
30-Apr-19	11:00	Cloudy	69.7	71.3	61.2	68.2
30-Apr-19	11:05	Cloudy	66.4	70.4	66.5	
30-Apr-19	11:10	Cloudy	69.8	70.8	61.3	
30-Apr-19	11:15	Cloudy	68.3	71.0	59.8	
30-Apr-19	11:20	Cloudy	66.6	70.6	61.6	
30-Apr-19	11:25	Cloudy	67.0	69.3	60.4	

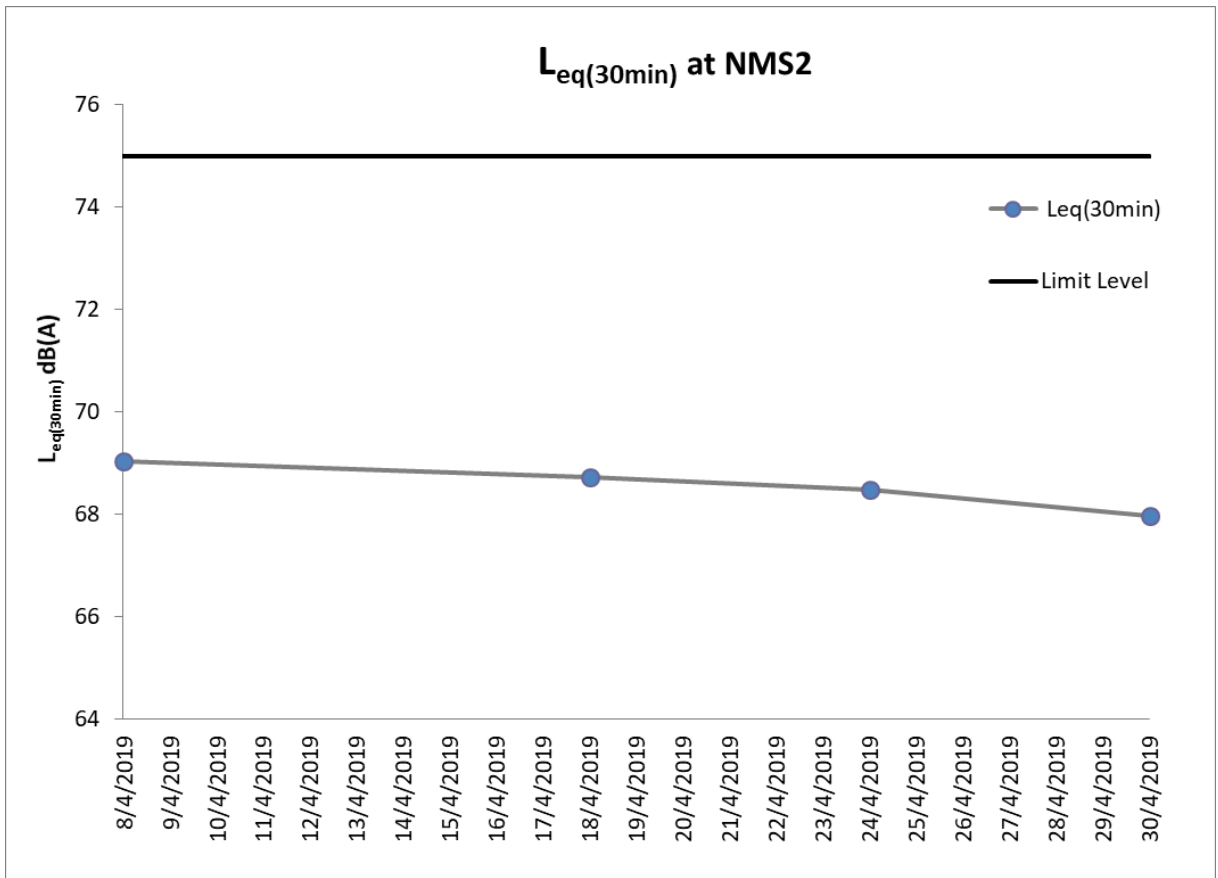
### Graphical Presentation for Noise Monitoring at NMS1



### Data for Noise Monitoring at Station NMS2

Date	Time	Weather	L <sub>eq</sub> (5min)	L <sub>10</sub>	L <sub>90</sub>	Measured L <sub>eq</sub> (30min)
8-Apr-19	10:00	Fine	69.8	72.8	64.0	69.0
8-Apr-19	10:05	Fine	68.8	71.9	63.5	
8-Apr-19	10:10	Fine	69.8	72.8	63.7	
8-Apr-19	10:15	Fine	68.9	71.7	63.8	
8-Apr-19	10:20	Fine	67.5	70.0	63.5	
8-Apr-19	10:25	Fine	69.0	72.4	63.7	
18-Apr-19	10:20	Cloudy	67.6	72.3	64.3	68.7
18-Apr-19	10:25	Cloudy	68.8	71.6	63.8	
18-Apr-19	10:30	Cloudy	68.4	71.0	64.0	
18-Apr-19	10:35	Cloudy	69.6	72.4	64.1	
18-Apr-19	10:40	Cloudy	69.7	72.7	63.5	
18-Apr-19	10:45	Cloudy	67.8	71.8	64.5	
24-Apr-19	10:00	Sunny	69.4	71.3	63.0	68.5
24-Apr-19	10:05	Sunny	68.6	71.6	63.1	
24-Apr-19	10:10	Sunny	68.0	72.5	64.5	
24-Apr-19	10:15	Sunny	69.2	71.6	63.5	
24-Apr-19	10:20	Sunny	67.3	70.8	64.5	
24-Apr-19	10:25	Sunny	68.0	71.3	63.6	
30-Apr-19	10:00	Cloudy	68.7	72.2	63.7	68.0
30-Apr-19	10:05	Cloudy	67.1	71.3	63.0	
30-Apr-19	10:10	Cloudy	67.1	71.5	65.2	
30-Apr-19	10:15	Cloudy	68.3	72.5	64.3	
30-Apr-19	10:20	Cloudy	67.5	70.4	64.0	
30-Apr-19	10:25	Cloudy	68.8	71.2	63.5	

### Graphical Presentation for Noise Monitoring at NMS2



## Appendix H. Wind Data

Wind Data at Kai Tak Collected by the Hong Kong Observatory in April 2019

Date & Time	Wind Speed (km/h)	Wind Speed (m/s)	Wind Direction
08/04/2019 08:00	1.1	0.3	Variable
08/04/2019 08:15	3.6	1.0	219
08/04/2019 09:00	2.5	0.7	234
08/04/2019 09:15	2.5	0.7	243
08/04/2019 10:00	8.6	2.4	232
08/04/2019 10:15	6.1	1.7	232
12/04/2019 08:25	24.5	6.8	87
12/04/2019 08:36	24.1	6.7	86
12/04/2019 09:25	14.4	4.0	58
12/04/2019 09:36	5.4	1.5	132
12/04/2019 10:25	23.0	6.4	107
12/04/2019 10:36	18.4	5.1	109
18/04/2019 08:50	16.2	4.5	106
18/04/2019 09:10	16.9	4.7	102
18/04/2019 09:50	16.6	4.6	106
18/04/2019 10:10	20.5	5.7	104
18/04/2019 10:50	17.3	4.8	103
18/04/2019 11:10	16.6	4.6	97
24/04/2019 08:45	11.2	3.1	235
24/04/2019 09:00	9.0	2.5	240
24/04/2019 09:45	9.7	2.7	244
24/04/2019 10:00	8.3	2.3	237
24/04/2019 10:45	14.8	4.1	236
24/04/2019 11:00	11.5	3.2	236
30/04/2019 08:26	6.1	1.7	155
30/04/2019 08:42	7.6	2.1	150
30/04/2019 09:26	10.4	2.9	201
30/04/2019 09:42	13.3	3.7	192
30/04/2019 10:26	12.6	3.5	194
30/04/2019 10:42	10.4	2.9	195

## Appendix I. 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

### 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					Metals (steel bar / metal strip) <sup>(1)</sup>	Metals (aluminum can) <sup>(1)</sup>	Paper / cardboard packaging <sup>(1)</sup>	Plastics <sup>(1) &amp; (4)</sup>	Chemical waste (wasted lubricant oil/ oil container)	Other, e.g. general refuse	
			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							
(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)	(in '000kg)	
	a1	a2	b	b	b	c	d	e	f	g	h	i	j	k	l	m	
Jan-19																	
Feb-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Mar-19	5150.06	4930.56	219.50	0	0	0	0	0	0	0	11.84	0	0	0	0	4918.72	
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																	
Jun-19																	
Jul-19																	
Aug-19																	
Sep-19																	
Oct-19																	
Nov-19																	
Dec-19																	
<b>Total</b>	<b>6368.53</b>	<b>6142.37</b>	<b>226.16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11.84</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6130.47</b>	

Total C&D waste generated	6368.53 tonne	a1=b+c+d+e+f+g+h+i+j+k+l+m
Total C&D waste generated (excluding excavated materials)	6142.372 tonne	a2=c+d+e+f+g+h+i+j+k+l+m
Total recycled C&D waste	11.90 tonne	a3=c+d+e+h+i+j+k
% of recycled C&D waste for BEAM Plus MA10 or MA11	0.19 %	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.

## Appendix J. Environmental Licences and Permits

**Table J.1: Summary of Environmental Licences and Permits Status**

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	7033182	12 Feb 2019	12 Feb 2019	N/A	N/A
4	Registration as a Chemical Waste Producer	WPN5213-286-H3906-02	29 Jan 2019	12 Feb 2019	N/A	N/A
5	Discharge Licence under WPCO	N/A	15 Feb 2019	N/A	N/A	N/A
6	Construction Noise Permit	PP-RE0013-19	18 Mar 2019	13 Apr 2019	7 Sep 2019	Issued

# Appendix K. Environmental Mitigation Measures Implementation Status

## Air Quality – Recommended Mitigation Measures

Air Quality Mitigation Measures during construction	Implementation Status
• 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	✓
• 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
• 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	✓
• 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	N/A
• 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
• 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 extend at least 300 mm over the edges of the side and tail boards to prevent leakage.	✓
• 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 loose 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	✓

Air Quality Mitigation Measures during construction	Implementation Status
• 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
• 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/m <sup>3</sup> to achieve 91.7% dust removal efficiency.	✓
• 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.	✓

## Noise – Recommended Mitigation Measures

Noise Mitigation Measures during construction	Implementation Status
• 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	✓
• 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/m <sup>2</sup> . Alternatively, acoustic shed, enclosure or silencer (for generator, air compressor and concrete pump) or acoustic mat (for piling) can be adopted.	✓
• 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
• Practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	✓
• 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.	✓
• 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
• The runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS.	✓
• Reuse and recycling of the treated effluent from construction site runoff.	N/A
• 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.	✓
• 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.	✓

Water Quality Mitigation Measures during construction	Implementation Status
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Clean the construction sites on a regular basis.</li> </ul>	✓
<ul style="list-style-type: none"> <li>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)</li> </ul>	N/A
<ul style="list-style-type: none"> <li>Provide two sequential storage tanks to contain surface water with residual fertilizers and pesticides and third holding tank for incidental rainstorm</li> </ul>	N/A
<b>Sewerage and Sewage Treatment Implications</b>	
<ul style="list-style-type: none"> <li>Implementation of Sewer No. 1 and Sewer No.2 as proposed in Sections 7.2.2 - 7.2.3 of the EIA Report</li> </ul>	✓

## Waste Management – Recommended Mitigation Measures

Waste Management Mitigation Measures during construction	Implementation Status
<ul style="list-style-type: none"> <li>Inert C&amp;D materials (or public fills) will be used to form the ramps and other filling area as far as civil engineering design permits.</li> </ul>	✓
<ul style="list-style-type: none"> <li>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.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Adopt good site practice as follows:                             <ul style="list-style-type: none"> <li>Provide training to workers on site cleanliness, waste management (waste reduction, reuse and recycle) and chemical handling procedures</li> <li>Provide sufficient waste collection points and regular removal</li> <li>Cover waste materials with tarpaulin or in enclosure during transportation</li> <li>Maintain drainage systems, sumps and oil interceptors</li> <li>Sort out chemical waste for proper handling and treatment onsite or offsite</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>Adopt waste reduction measures as follows:                             <ul style="list-style-type: none"> <li>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.</li> <li>Allocate area for proper storage of construction materials to prevent contamination</li> <li>Minimize wastage through careful planning and avoiding over-purchase of construction materials</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>Store waste materials properly as follows:                             <ul style="list-style-type: none"> <li>Avoid contamination by proper handling and storing waste</li> <li>Prevent erosion by covering waste</li> <li>Apply water spray on excavated materials</li> <li>Maintain and clean storage area regularly</li> <li>Sort and stockpile different materials at designated location to enhance reuse</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>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).</li> </ul>	✓
<ul style="list-style-type: none"> <li>Hire licensed waste disposal contractors for waste collection and removal. Dispose waste at licensed waste disposal facilities.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Implement trip-ticket system for recording the amount of waste generated, recycled and disposed, including chemical wastes</li> </ul>	✓

Waste Management Mitigation Measures during construction	Implementation Status
<ul style="list-style-type: none"> <li>● 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</li> </ul>	✓
<ul style="list-style-type: none"> <li>● Dispose dry waste or waste with less than 70% water content by weight to landfill</li> </ul>	✓
<ul style="list-style-type: none"> <li>● Follow the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste as follows:                             <ul style="list-style-type: none"> <li>- Store chemical wastes with suitable containers. Seal and maintain the container to avoid leakage or spillage during storage, handling and transport</li> <li>- Label chemical waste containers in both English and Chinese with instructions in accordance to Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation</li> <li>- The container capacity should be smaller than 450 litres unless agreed by the EPD</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>● Comply with the requirement of the chemical storage area:                             <ul style="list-style-type: none"> <li>- Store only chemical waste and label clearly the chemical characters of the waste</li> <li>- Have at least 3 sides enclosed and protected from rainfall with cover</li> <li>- Provide sufficient ventilation</li> <li>- 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</li> <li>- Adequately spaced incompatible materials</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>● 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</li> </ul>	✓
<ul style="list-style-type: none"> <li>● 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</li> </ul>	✓
<ul style="list-style-type: none"> <li>● Hire reputable waste collector to separately collect and dispose general refuse from other wastes. Cover the waste to prevent being blown away</li> </ul>	✓
<ul style="list-style-type: none"> <li>● The hauling of C&amp;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</li> </ul>	✓
<ul style="list-style-type: none"> <li>● 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.</li> </ul>	✓
<ul style="list-style-type: none"> <li>● Organize training and reminders to site staff on waste minimization through avoidance and reduction, reusing and recycling</li> </ul>	✓
<ul style="list-style-type: none"> <li>● 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.</li> </ul>	N/A
<ul style="list-style-type: none"> <li>● 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.</li> <li>● 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</li> </ul>	✓
<ul style="list-style-type: none"> <li>● Carry out weekly site inspection to check the implementation status of the recommended waste management measures.</li> </ul>	✓
<ul style="list-style-type: none"> <li>● The barging of C&amp;DM for this Project shall use the existing Kai Tak Barging Facility (KTBF), or otherwise approved by the Director.</li> </ul>	N/A

## Ecology – Recommended Mitigation Measures

Ecology Mitigation Measures during construction	Implementation Status
<ul style="list-style-type: none"> <li>● Erection of hoarding, fencing or provision of clear demarcation of work zone</li> </ul>	✓



<b>Ecology Mitigation Measures during construction</b>	<b>Implementation Status</b>
<ul style="list-style-type: none"> <li>Designate areas for placement of equipment, building materials and wastes away from drainage channels</li> </ul>	✓
<ul style="list-style-type: none"> <li>Carry out weekly site inspection to check the implementation status and the effectiveness of the proposed mitigation measures</li> </ul>	✓

## Landscape and Visual – Recommended Mitigation Measures

<b>Landscape and Visual Mitigation Measures during construction</b>	<b>Implementation Status</b>
<ul style="list-style-type: none"> <li>Construction Lighting Control                             <ul style="list-style-type: none"> <li>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).</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>Temporary Landscape Treatments                             <ul style="list-style-type: none"> <li>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.</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>Decoration of Hoarding                             <ul style="list-style-type: none"> <li>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.</li> </ul> </li> </ul>	✓
<ul style="list-style-type: none"> <li>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</li> </ul>	✓
<ul style="list-style-type: none"> <li>Site inspection should be undertaken once every two weeks.</li> </ul>	✓
<ul style="list-style-type: none"> <li>Compensatory Tree Planting                             <ul style="list-style-type: none"> <li>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.</li> </ul> </li> </ul>	N/A

## Other – Recommended Mitigation Measures

<ul style="list-style-type: none"> <li>Relevant environmental permits/licences should be posted at all vehicle entrances/exits.</li> </ul>	P
--	---

Legend:

- ✓ Implemented
- x Not implemented
- P Partially implemented
- N/A Not applicable

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


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

Reporting Period	Complaints	Notifications of Summons	Successful Prosecutions
This reporting period (April 2019)	2	0	0
From commencement data of construction to end of reporting month	2	0	0

## Appendix M. Complaint Investigation Report



**Interim Report on Complaint Investigation**

<b>RECEIPT OF COMPLAINT</b>		<b>Ref: COM_0001</b>	
Date:	16 April 2019		
Time:	19:35		
From:	Hiko Law (Hip Hing Construction Limited)		
Via:	Email		
Contact no.:	60360068		
<b>COMPLAINANT</b>			
Name:	Mr. W.K. Tse	Address:	-
Contact no.:	2117 7572		
<b>DETAILS OF COMPLAINT</b>			
Date:	21 March 2019		
Time:	-		
Parameter:*	Dust <del>Noise</del> <del>Water</del> Other (specify):		
Description:	EPD notify Contractor of complaint on 8 April 2019. (EPD Ref: 19-8137) Complainant said dust was bringing out onto the road when vehicles were leaving the subject site.		
<b>INVESTIGATION RESULT &amp; RESPONSE</b>			
ET, IEC and SOR notified on:	16 April 2019		
Investigation conducted on:	17 April 2019		
Result of investigation:	<p>1. Water spraying has been provided on at the site entrance to minimize dust emission.</p> <p>2. Drainage channel has been implemented at the site entrance to collect site runoff.</p> <p>3. Wheel washing pool has been setup to minimize dust carried by leaving vehicles.</p>		
<b>RECOMMENDATIONS / MITIGATION MEASURES / ACTIONS</b>			
<p>1. Water spraying for all vehicles leaving the site shall be maintained.</p> <p>2. Regular cleaning the wheel washing pool shall be maintained.</p>			
Prepared by:	Sunny Chan	Title:	Environmental Team Leader
Signature:		Date:	18 April 2019
<b>ATTACHMENTS</b>			
<b>1) Photo of Investigation Record</b>			

\* Delete where inappropriate

**Photo of Investigation Record**

**Date of Investigation: 17 April 2019**



**1. Water spraying has been provided at the site entrance to minimize dust emission.**




**2. Drainage channel has been implemented at the site entrance to collect site runoff.**



**3. Wheel washing pool has been setup to minimize dust carried by leaving vehicles.**



**Interim Report on Complaint Investigation**

<b>RECEIPT OF COMPLAINT</b>		<b>Ref: COM_0002</b>	
Date:	17 April 2019		
Time:	17:33		
From:	Hiko Law (Hip Hing Construction Limited)		
Via:	Email		
Contact no.:	60360068		
<b>COMPLAINANT</b>			
Name:	Mr. W.K. Tse	Address:	-
Contact no.:	2117 7572		
<b>DETAILS OF COMPLAINT</b>			
Date:	11 April 2019		
Time:	-		
Parameter:*	Dust <del>Noise</del> <del>Water</del> Other (specify):		
Description:	EPD notify Contractor of complaint on 16 April 2019. (EPD Ref: 19-10732) Complainant said excessive dust was caused at the construction site of Kai Tak Sports Park (Southern Part) because of insufficient dust suppression measures.		
<b>INVESTIGATION RESULT &amp; RESPONSE</b>			
ET, IEC and SOR notified on:	16 April 2019		
Investigation conducted on:	17 April 2019		
Result of investigation:	<p>1. Water spraying has been provided on haul road in the site to minimize dust emission.</p> <p>2. Wheel washing pool has been setup at the site entrance (Southern Part) to minimize dust carried by leaving vehicles.</p>		
<b>RECOMMENDATIONS / MITIGATION MEASURES / ACTIONS</b>			
<p>1. Regular water spraying on the haul roads in the site shall be maintained.</p> <p>2. Speed limit signs shall be provided to limit the vehicle speed on site.</p>			
Prepared by:	Sunny Chan	Title:	Environmental Team Leader
Signature:		Date:	18 April 2019
<b>ATTACHMENTS</b>			
<b>1) Photo of Investigation Record</b>			

\* Delete where inappropriate

**Photo of Investigation Record**

**Date of Investigation: 17 April 2019**



**1. Water spraying has been provided on haul road in the site to minimize dust emission.**



**2. Wheel washing pool has been setup at the site entrance (Southern Part) to minimize dust carried by leaving vehicles.**