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Contract No. AL G513

Expansion of Wo Hop Shek Crematorium

Monthly EM&A Report No.1
(Period from 10 March to 31 March 2020)

Document No.

ASCL	/	2018028	/	0001	/	A
Publisher		Project Code		Sequential No.		Revision Index

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Date:	13/05/2020	13/05/2020	13/05/2020

REVISION HISTORY

REV.	DESCRIPTION OF MODIFICATION	DATE
A	First Issue for Comments	17 Apr 2020

CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

A1. The Project, Expansion of Wo Hop Shek Crematorium, is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Environmental Permit (EP No. EP – 329/2009) for the construction and operation of the Project.

A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works for air quality monitoring and waste management should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.

A3. This is the 1st Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Wo Hop Shek Crematorium during the reporting period from 10 March 2020 to 31 March 2020.

A4. The EM&A programme for this contract has covered environmental monitoring on construction dust level at selected NSRs and Contractor's environmental performance auditing in the aspects of construction dust, construction noise, water quality, waste management, Landscape and Visual and Ecology.

SUMMARY OF MAIN WORKS UNDERTAKEN & KEY MITIGATION MEASURES IMPLEMENTED

A5. Key activities carried out in this reporting period for the Project included the following:

- Access Road Construction;
- Tree Transplanting Works (T041-T047)

A6. The major environmental impacts brought by the above construction works include:

- Dust generation from the tree transplanting works
- Construction dust and noise generation from site formation works
- Waste generation from the construction activities

A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:

- Dust suppression by regular wetting and water spraying for construction works
- Watering to soil during tree transplanting works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

SUMMARY OF EXCEEDANCE & INVESTIGATION & FOLLOW-UP

A8. No project-related exceedance in air quality monitoring, including 24-hour TSP and 1-hour TSP of the Action Level was recorded during the reporting period.

A9. Weekly site inspections of the construction work by ET were carried out on 11, 18 & 25 March 2020 to audit the mitigation measures implementation status. Observations were recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

COMPLAINT HANDLING AND PROSECUTION

A10. No project-related environmental complaint was received during the reporting period.

A11. Neither notifications of summons nor prosecution was received for the Project.

REPORTING CHANGE

A12. There was no change to be reported that may affect the on-going EM&A programme.

SUMMARY OF UPCOMING KEY ISSUES AND KEY MITIGATION MEASURES

A13. Key activities anticipated in the next reporting period for the Project will include the following:

- Site Formation Works;
- Excavation for sub-structure work

A14. The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation from site formation work and excavation works;
- Waste generation from construction activities

A15. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

1. BASIC PROJECT INFORMATION

1.1. BACKGROUND

The Food and Environmental Hygiene Department (FEHD) is responsible for the operation of public crematorium in Hong Kong including the Cremators at Wo Hop Shek Crematorium pursuant to Environmental Permit No. EP-329/2009. The existing Wo Hop Shek Crematorium (WHSC) was re-provisioned in February 2013. It comprises six body cremators, one bone cremator and three service halls. At the design stage, areas had already been reserved for the addition of two body cremators and one service hall. In order to cope with increasing demand for cremation sessions, Expansion of Wo Hop Shek Crematorium (the Project) is being taken forward in this juncture. This Project shall provide two new cremators at WHSC and one service hall for commissioning. Architectural Services Department (ArchSD) acts as the works agent for FEHD, is responsible for the project management of the project.

The Project consists of three construction phases. Phase I of the project was substantially completed in October 2012 while Phase II of the project was substantially completed in November 2013. The Project has been re-initiated as Phase III and Shing Hing Construction Co. Ltd. (the Contractor) has been awarded the construction contract for the Project with contract no. AL G513.

The scope of the Project comprises provision of:

- Two new body cremators;
- One new multi-purpose service hall;
- A full range of ancillary facilities; and
- Addition, alteration and modification works that are necessary for the additional cremators and service hall.

1.2. THE REPORTING SCOPE

This is the 1st Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 10 March to 31 March 2020.

1.3. PROJECT ORGANIZATION

The Project Organization structure for Construction Phase is presented in Figure 1.1.

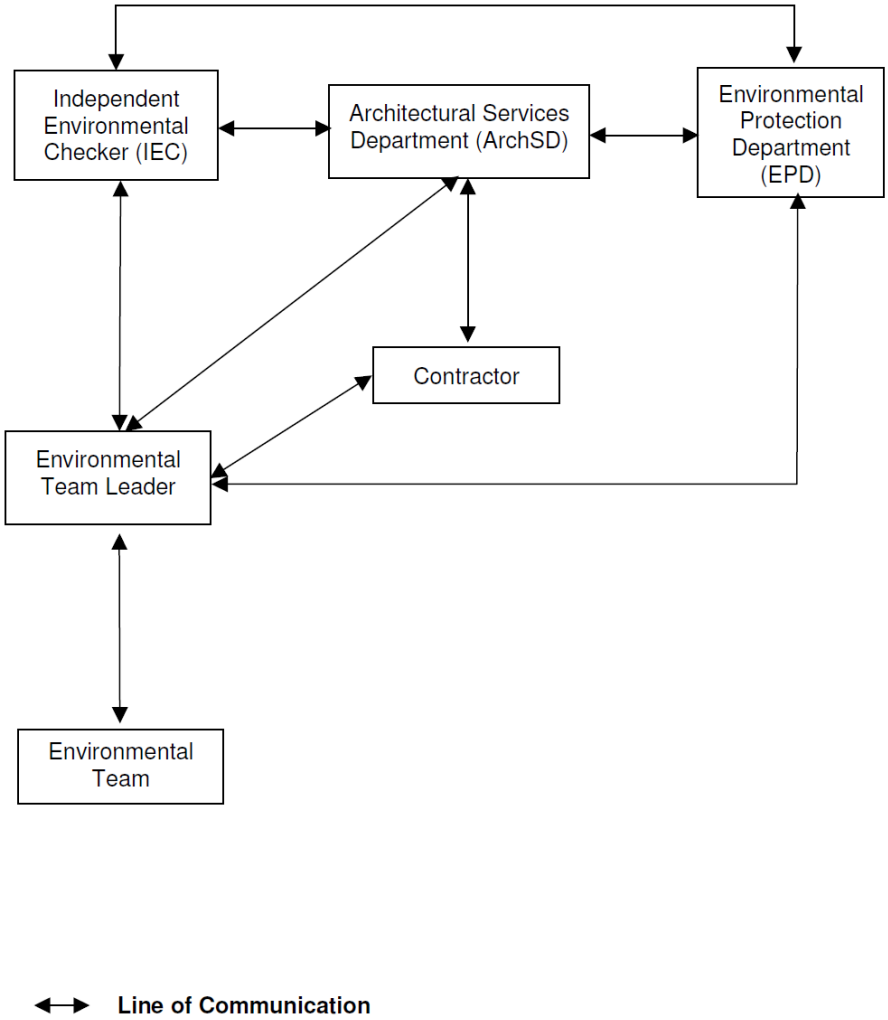


Figure 1.1 Project Organization Chart

Contact details of the key personnel are presented in Table 1.1 below:

Table 1.1 Contact Details of Key Personnel

Party	Position	Name	Telephone no.
Shing Hing Construction Co Ltd	Site Agent	M.Y. Wong	2807-4665
Acuity Sustainability Consulting Limited	Environmental Team Leader	Jacky Leung	2698-6833
Ove Arup & Partners Hong Kong Ltd	Independent Environmental Checker (IEC)	Sam Tsoi	2528-3031

1.4. Summary of Construction Works

Details of the major construction activities undertaken in this reporting period are shown in Table 1.2 below. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Activities Undertaken during the Reporting Month

Reporting Month	Construction Activities
March 2020	1. Access Road Construction:  

	2. Tree Transplanting Works (T041-T047):  

1.5. Summary of Environmental Status

Environmental permit (EP) conditions under the EIAO, submission status under the EP and implementation status of mitigation measures had been reviewed and implemented on schedule. The status of required submissions under the EP (EP-329/2009) as of the reporting period for the Project are summarised in Table 1.3.

Table 1.3 Summary of Status of Required Submission for EP-329/2009 for the Project

EP/FEP Condition (EP-457/2013/C)	Submission	Submission date
Condition 1.12	Notification of Commencement Date of Construction of the Project	14 Mar 2020
Condition 2.3	Inception Report	13 Mar 2019
Condition 2.4	Tree Transplant Proposal	12 Apr 2019
Condition 2.5	Landscape Plan with Tree Preservation Proposal	14 Feb 2018
Condition 5.2a	Baseline Monitoring Report	21 Jan 2020
Condition 5.2b	Alternative Air Quality Monitoring Station	05 Oct 2019
Condition 5.3	Monthly EM&A Report (Mar 2020)	14 May 2020

A summary of the valid permits, licences, and /or notifications on environmental protection for this Project is presented in Table 1.4.

Table 1.4 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-329/2009	Throughout the Contract	-
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref. Number: 455614	Throughout the Contract	-
Wastewater Discharge Licence	WT00034798-2019	Throughout the Contract	-
Chemical Waste Producer Registration	Under Application (Ref. Number: 455615)	-	-
Construction Noise Permit (24 hours)	GW-RN0022-20	25 Jan 2020 – 12 July 2020	-
Billing Account for Disposal of Construction Waste	7032841	Throughout the Contract	-

The status for all environmental aspects is presented in Table 1.5.

Table 1.5 Summary of Status for Key Environmental Aspects under the Updated EM&A Manual

Parameters	Status
Dust	
Baseline Monitoring	The baseline dust monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Landscape and Visual	On-going

Other than the EM&A work by ET, environmental briefings, trainings and regular environmental management meetings were conducted, in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the Updated EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix C**.

2. MONITORING RESULTS

2.1. MONITORING PARAMETERS

The impact monitoring had been carried out in accordance with section 2.6 of the approved EM&A Manual to determine the 1-hour and 24-hour total suspended particulates (TSP) levels at the monitoring locations in the reporting month.

The sampling frequency of at least once in every 6 days, shall be strictly observed at the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least 3 times in every 6 days should be undertaken when the highest dust impact occurs.

General meteorological conditions (wind speed, direction and precipitation) and notes regarding any significant adjacent dust producing sources had also been recorded throughout the impact monitoring period.

2.2. MONITORING EQUIPMENT

1-hour TSP levels and 24-hour TSP had been measured with direct reading dust meter and High Volume Samplers respectively. It has been demonstrated its capability in achieving comparable results with high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50).

The 1-hour TSP meter was calibrated by the manufacturer prior to purchasing. Zero response of the instrument was checked before and after each monitoring event. Operation of the 1-hour TSP meter followed manufacturer's Operation and Service Manual. The 24-hour TSP meter was calibrated against firmware 80570-8100-V1.0.4, annually. Operation of the 24-hour TSP meter followed manufacturer's Operation and Service Manual. Valid calibration certificate of dust monitoring equipment is attached in **Appendix F**.

A summary of the equipment that was deployed for the 24- hour averaged monitoring is shown in Table .1. The TSP monitoring was conducted as per the schedule presented in **Appendix D**.

The equipment used for 1-hour TSP and 24-hour TSP measurement and calibration are summarised in Table 2.1.

Table 2.1 Construction Dust Monitoring Equipment

Monitoring Parameter	Monitoring Equipment	Serial Number	Date of Calibration
1-hour TSP	LD-5R Digital Dust Indicator	992818	3 Sep 2019
1-hour TSP	LD-5R Digital Dust Indicator	851820	23 Aug 2019
24-hour TSP	TE-5170X High Volume Sampler	1049	12, 24 Mar 2020
	TE-5170X High Volume Sampler	1050	12, 24 Mar 2020
	TE-5028A Calibration Kit	3702	10 Oct 2019

2.3. Monitoring Methodology and QA/QC results

The 1-hour TSP monitor, portable dust meters (Sibata Digital Dust Indicator Model LD-5R) was used for the impact monitoring. The 1-hour TSP meters provides a real time 1-hour TSP measurement based on 90° light scattering. Three 1-hour TSP level were logged per every six days.

The 24-hour TSP monitor, High Volume Samplers (Tisch TE-5170X High Volume Air Sampler) were used for the impact monitoring. The 24-hour TSP monitoring consists of the following:

- The HVS was set at the monitoring location, with electricity supply connected and secured;
- HVS was calibrated before commencing the 1st measurement;
- The filter paper was weight and provided by HOKLAS lab (Acumen Laboratory and Testing Limited and ALS Technichem (HK) Pty Ltd) before and after the sampling. Certificate of HOKLAS accredited laboratory can be referred to **Appendix G**;
- The airflow over time during sampling process was recorded by the HVS.

HVSs was free- standing with no obstruction. The following criteria were considered in the installation of the HVS:

- Appropriate support to secure the samples against gusty wind needed to be provided the monitoring station;
- A minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- No furnace or incinerator flues was nearby;
- Airflow around the sampler was unrestricted; and
- Permission could be obtained to set up the samplers and gain access to the monitoring station.

Preparation of Filter Papers

- Glass fiber filters were labelled and sufficient filters that were clean and without pinholes were selected;
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25℃ and not varied by more than ±3℃; the relative humidity (RH)was 40%; and
- Acumen Laboratory and Testing Limited and ALS Technichem (HK) Pty Limited, as HOKLAS accredited laboratory, implemented comprehensive quality assurance and quality control programmes on the filters.

Field Monitoring

- The power supply was checked to ensure that the HVS was working properly;
- The filter holder and area surrounding the filter were cleaned;
- The filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- The shelter lid was closed and secured with an aluminum strip;
- The HVS was warmed- up for about 5 minutes to establish run- temperature conditions;
- A new flow rate record sheet was inserted into the flow recorder;
- The flow rates of the HVS was checked and adjusted to between 1.22-1.37m^3min^{-3}, which was within the range specified in the EM&A Manual (i.e. 0.6- 1.7 m^3min^{-3});
- The programmable timer was set for a sampling period of 24 hours ±hour, and the starting time, weather condition and filter number were recorded;
- The initial elapsed time was recorded;
- At the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- The filter paper was placed in a clean plastic envelope and sealed; all monitoring information was recorded on a standard data sheet and
- The filters were sent to (Acumen Laboratory and Testing Ltd and ALS Technichem (HK) Pty Ltd) for analysis.

Maintenance and Calibration

- The HVS and their accessories were maintained in a good working condition. For example, motor brushes were replaced routinely and electrical wiring was checked to ensure a continuous power supply; and
- The flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator, Initial calibrations of the dust monitoring equipment were conducted upon installation and prior to commissioning. Five- point calibration was carried out for HVS using TE-5025 Calibration Kit. HVS is calibrated bimonthly. The calibration records for the HVS is given in **Appendix F**.

Wind Data Monitoring

- The wind speed has been recorded from Hong Kong Observatory- Tai Po Kau meteorological station, along with portable wind speed meter stand by as back up if malfunction occurred or data was not recorded from HKO.

2.4. MONITORING LOCATIONS

Due to the disagreement of occupants in establishment of air quality monitoring station at their private permits, both of the original proposed dust monitoring locations were rejected. Two alternative air monitoring stations Fung Kai Liu Yun Sum Memorial School and Fanling Government School had been proposed by ET and approved by IEC. Two designated air monitoring locations were identified and agreed with IEC and EPD. Details of air monitoring stations are described in Table 2.2. The location plan of air quality monitoring stations is shown in **Appendix H**.

Table 2.2 Location of the Dust Monitoring Stations

Air Quality Monitoring Station	Dust Monitoring Station
A10	Fung Kai Liu Yun Sum Memorial School
A20	Fanling Government School

2.5. MONITORING DATE, TIME, FREQUENCY AND DURATION

A summary of impact monitoring duration, sampling parameter and frequency is presented in Table 2.3.

Table 2.3 Summary of Impact Monitoring Programme

Impact Monitoring	Duration	Sampling Parameter	Frequency
Dust	1-hour continuous measurement	1-hour TSP	3 times per six days
Dust	24-hour continuous sampling	24-hour TSP	Once per six days

2.6. Result Summary

According to our field observations, the major dust source identified at the designated air quality monitoring station in the reporting month are summarised in Table 2.4.

Table 2.4 Observation at Dust Monitoring Station

Monitoring Station	Major Dust Source
A10	Nearby traffic
A20	Nearby traffic

Air quality impact monitoring for the reporting month was carried out 12,18,24 and 30 March 2020 at A10 and A20.

The results for 1-hour TSP and 24-hour TSP are summarized in Table 2.5 and Table 2.6. The measurement data and details of influencing factors such as weather conditions and site observation are presented in **Appendix I**.

Table 2.5 Summary of 1-hour TSP Monitoring Results

Monitoring Location	Range(μg/m³)	Action Level(μg/m³)	Limit Level(μg/m³)
A10	49-76	290	500
A20	52-84	291	500

Table 2.6 Summary of 24-hour TSP Monitoring Results

Monitoring Location	Range(μg/m³)	Action Level(μg/m³)	Limit Level(μg/m³)
A10	27 - 51	169	260
A20	29 - 52	167	260

3. WASTE

The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in Table 3.1. Details of cumulative waste management data are presented as a waste flow table in **Appendix J.**

Table 3.1 Quantities of Waste Generated from the Project during March 2020

Reporting Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note)	Chemical Waste	Others, e.g. general refuse
	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)
March 2020	1.35	0	0	0	1.35	0	0	0	0	0	0

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

4. Summary of Monitoring Exceedance, Complaints, Notification of Summons and Prosecutions

The Environmental Complaint Handling Procedure is shown in below Figure 4.1:

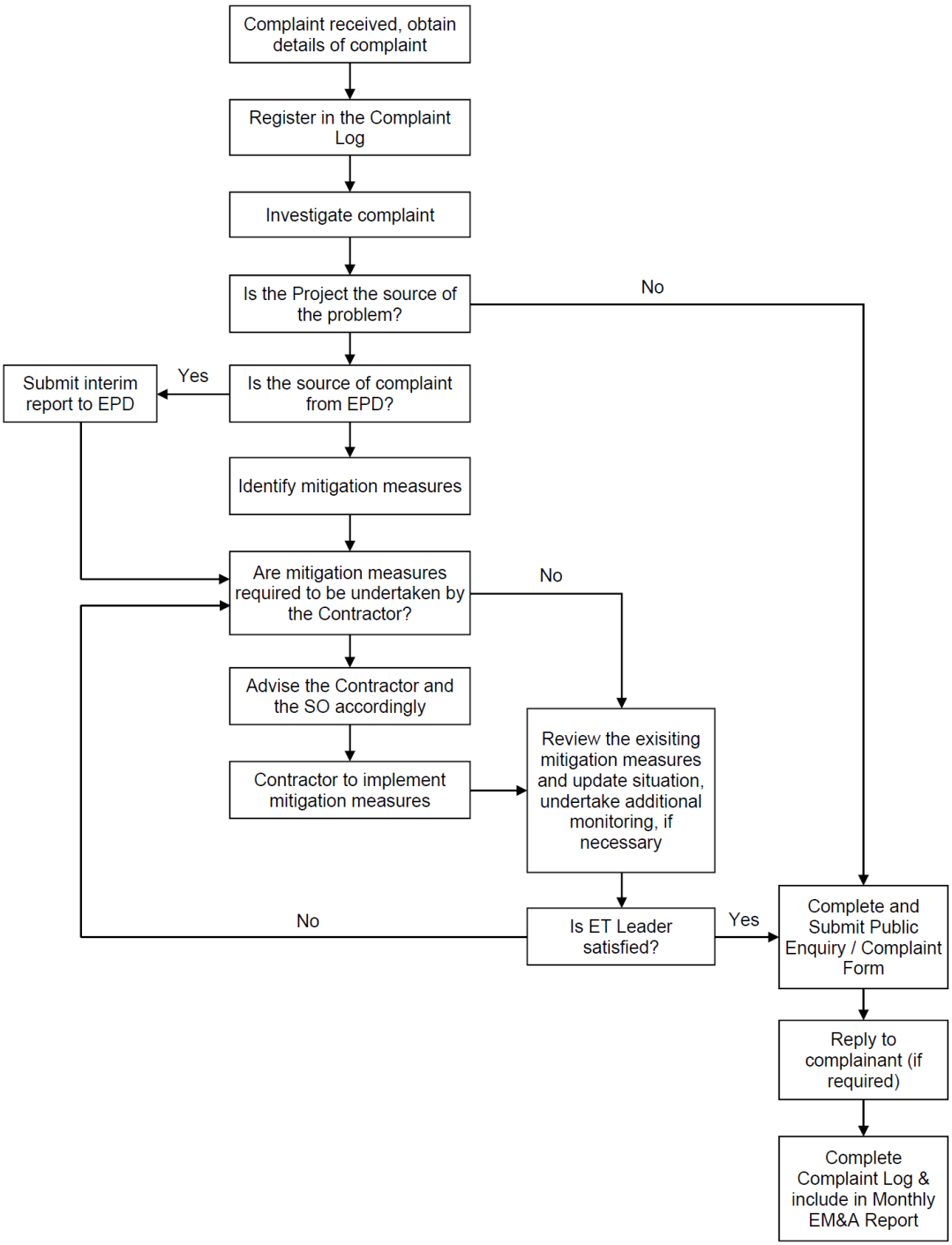


Figure 4.1 Environmental Complaint Handling Procedures

Air quality monitoring was conducted in the reporting period and no project-related exceedance of the Action Level was recorded during the reporting period.

No notification of summons and prosecution was received in the reporting period.

Statistics on complaints and regulatory compliance are summarized in **Appendix L**.

5. EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 11, 18 & 25 March 2020 at the site portions list in Table 5.1 below.

Table 5.1 Summaries of Site Inspection Reccord

Date	Inspected Site Portion	Time
11 March 2020	Wo Hop Shek Crematorium	10:00 – 11:00 AM
18 March 2020	Wo Hop Shek Crematorium	10:00 – 11:00 AM
25 March 2020	Wo Hop Shek Crematorium	09:30 – 10:20 AM

Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in Table 5.2.

Table 5.2 Site Observations

Date	Environmental Observations	Follow-up Status
11 March 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.
18 March 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.
24 March 2020 (Site inspection)	Observation(s) and Recommendation(s) 1. No major observation was observed.	Nil.

According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents are implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix C**.

Site inspection proforma of the reporting period is provided in **Appendix K.**

6. FUTURE KEY ISSUES

Works to be undertaken in the next reporting month are:

- Site Formation Works;
- Excavation for sub-structure work

The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation from site formation work and excavation works;
- Waste generation from construction activities

The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for construction works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste

The impact monitoring schedule for the next reporting month to be shown at **Appendix M**.

7. CONCLUSIONS AND RECOMMENDATIONS

This is the 1st Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 10 March to 31 March 2020., in accordance with the EM&A Manual and the requirement under EP – 329/2009.

Air quality monitoring was conducted in the reporting period and no project-related exceedance of the Action Level was recorded during the reporting period.

Weekly environmental site inspection was conducted during the reporting period. No major observation was observed during site inspection. The environmental performance of the project was therefore considered satisfactory.

No environmental complaint was received in the reporting period.

No notification of summons or prosecution was received since commencement of the Contract.

The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

APPENDIX A: MASTER PROGRAMME

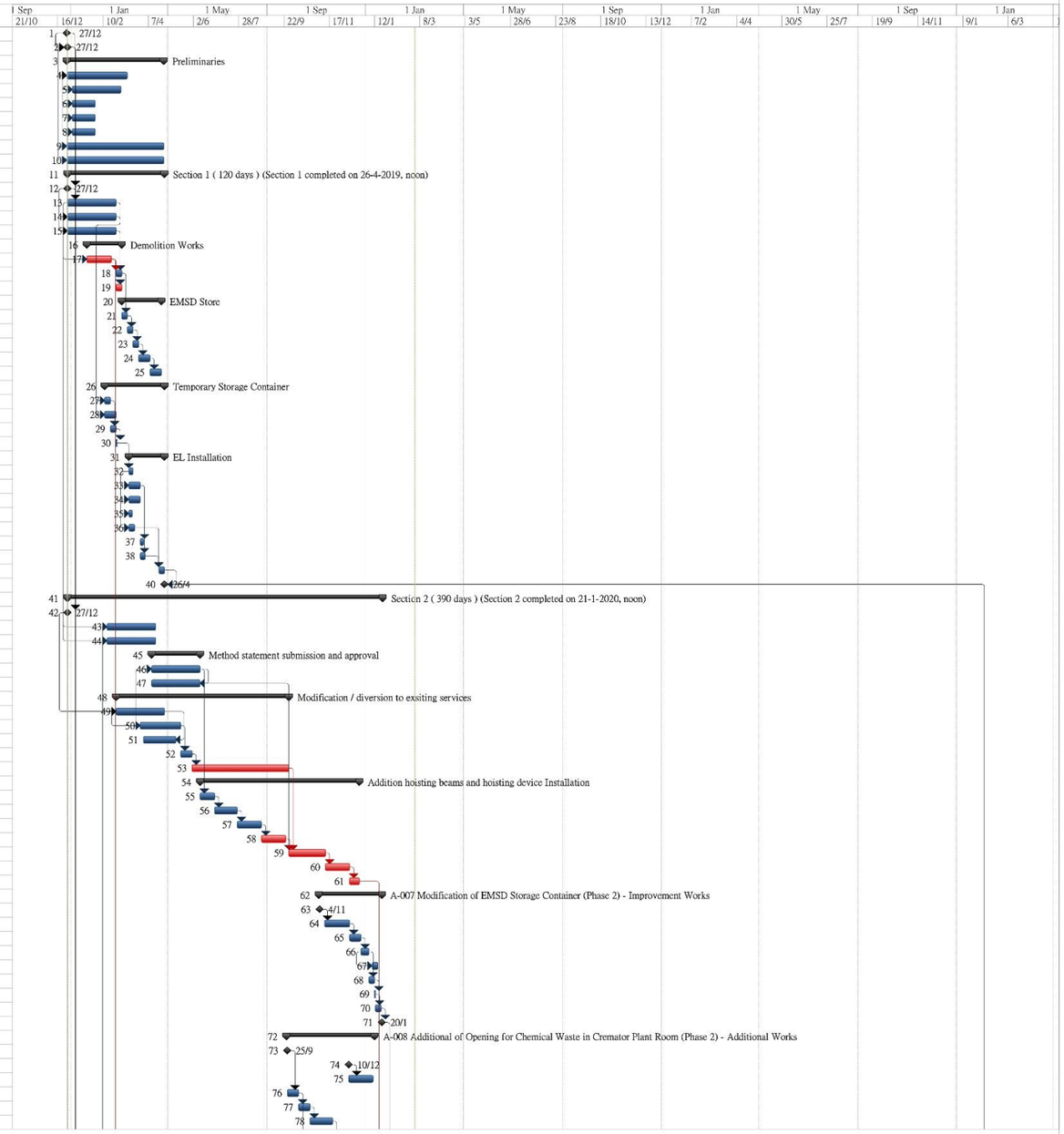
Construction Period :1140 Days
Section 1 : 120 Days
Section 2 : 390 Days
Section 3 : 720 Days (org),1071 Days (Revised)
Section 4 : 1140 Days

Shing Hing Construction Co Ltd

Working Programme for Expansion of Wo Hop Shek Crematorium (Revision T)

Date for Completion of Section 1 : 26/04/2019
Date for Completion of Section 2 : 21/01/2020
Date for Completion of Section 3 (Rev) : 2/12/2021
Date for Completion Section 4 : 9/2/2022

Item No.	Activities	工期	開始時間	完成時間
1	**Project commencement**	**0 days**	**27/12/2018**	**27/12/2018**
2	Procession of site	1 day	27/12/2018	27/12/2018
3	**Preliminaries**	**120 days**	**27/12/2018**	**25/4/2019**
4	Site setup and mobilization works	75 days	27/12/2018	11/3/2019
5	Erection of Site Office	60 days	3/1/2019	3/3/2019
6	Topographic survey	28 days	3/1/2019	30/1/2019
7	UU survey	28 days	3/1/2019	30/1/2019
8	Condition survey / Photo survey	28 days	3/1/2019	30/1/2019
9	Application / connection of temporary power supply and water supply	120 days	27/12/2018	25/4/2019
10	Applicaition of temporary drainage disposal license	120 days	27/12/2018	25/4/2019
11	**Section 1 (120 days) (Section 1 completed on 26-4-2019, noon)**	**120 days**	**27/12/2018**	**26/4/2019**
12	Handover of site area	0 days	27/12/2018	27/12/2018
13	Shop drawing submission and approval	60 days	28/12/2018	25/2/2019
14	Material submission and approval / testing	60 days	28/12/2018	25/2/2019
15	Method statement submission and approval	60 days	28/12/2018	25/2/2019
16	**Demolition Works**	**43 days**	**21/1/2019**	**4/3/2019**
17	Temporary enclosure : two hours fire seperation for EMSD store and rest room	30 days	21/1/2019	19/2/2019
18	Installation of temporary doors	7 days	26/2/2019	4/3/2019
19	Forming R.C wall opening at EMSD Store (Demolition Item 4)	7 days	26/2/2019	4/3/2019
20	**EMSD Store**	**49 days**	**5/3/2019**	**22/4/2019**
21	Installation of doors & ironmongery	7 days	5/3/2019	11/3/2019
22	Wall plastering	7 days	12/3/2019	18/3/2019
23	Floor screeding	7 days	19/3/2019	25/3/2019
24	Wall painting	14 days	26/3/2019	8/4/2019
25	Apply epoxy floor paint	14 days	9/4/2019	22/4/2019
26	**Temporary Storage Container**	**74 days**	**12/2/2019**	**26/4/2019**
27	Setting out works	7 days	12/2/2019	18/2/2019
28	Off-site fabrication of container	14 days	12/2/2019	25/2/2019
29	Construction of concrete plinth	7 days	19/2/2019	25/2/2019
30	Delivery and setting of container	1 day	26/2/2019	26/2/2019
31	**EL Installation**	**44 days**	**14/3/2019**	**26/4/2019**
32	Install U/G G.I. pipe for cable duct after excavation	5 days	14/3/2019	18/3/2019
33	Install G.I. conduit and wirings after complete the container & pillar box	14 days	14/3/2019	27/3/2019
34	Install new armoured cable for new power distribution board	14 days	14/3/2019	27/3/2019
35	Install new Cable Trunking in container	4 days	14/3/2019	17/3/2019
36	Install new power distribution board "CS1"	7 days	14/3/2019	20/3/2019
37	Install Faceplate	4 days	28/3/2019	31/3/2019
38	Install light fittings	6 days	28/3/2019	2/4/2019
39	T&C and inspection	7 days	20/4/2019	26/4/2019
40	Completion of Section 1 : 26/04/2019 (noon)	1 day	26/4/2019	26/4/2019
41	**Section 2 (390 days) (Section 2 completed on 21-1-2020, noon)**	**390 days**	**27/12/2018**	**21/1/2020**
42	Handover of site area	0 days	27/12/2018	27/12/2018
43	Shop drawing submission and approval	60 days	15/2/2019	15/4/2019
44	Material Submission and approval / Testing	60 days	15/2/2019	15/4/2019
45	**Method statement submission and approval**	**60 days**	**11/4/2019**	**9/6/2019**
46	Design and approval to working platform for I-beam installation	60 days	11/4/2019	9/6/2019
47	Method statement for I-beam delivery and installation	60 days	11/4/2019	9/6/2019
48	**Modification / diversion to exsiting services**	**214 days**	**26/2/2019**	**27/9/2019**
49	BIM modeling to existing services	60 days	26/2/2019	26/4/2019
50	Check for necessary diversion to existing services	50 days	28/3/2019	16/5/2019
51	4D simulation for addition I beam installation	40 days	1/4/2019	10/5/2019
52	Submission and approval to diversion proposal	14 days	17/5/2019	30/5/2019
53	Modification / diversion to exsiting services for I-beam installation	120 days	31/5/2019	27/9/2019
54	**Addition hoisting beams and hoisting device Installation**	**197 days**	**10/6/2019**	**23/12/2019**
55	Erecting working platfrom in cremator plant room	18 days	10/6/2019	27/6/2019
56	Setting out and checking to existing RC structural	28 days	28/6/2019	25/7/2019
57	Shop drawing submission and approval to I-beams	30 days	26/7/2019	24/8/2019
58	Fabrication for I-beams and parts for installation	30 days	25/8/2019	23/9/2019
59	Installation of New I-beams and hoisting device	45 days	28/9/2019	11/11/2019
60	Hoisting trolley fixing	30 days	12/11/2019	11/12/2019
61	T&C to addition hoisting device	12 days	12/12/2019	23/12/2019
62	***A-007 Modification of EMSD Storage Container (Phase 2) - Improvement Works***	***78 days***	***4/11/2019***	***20/1/2020***
63	*Issue of A-007*	*1 day*	*4/11/2019*	*4/11/2019*
64	*Consolidate and confirmation of construction detail*	*31 days*	*11/11/2019*	*11/12/2019*
65	*Material ordering*	*14 days*	*12/12/2019*	*25/12/2019*
66	*Material delivery*	*10 days*	*26/12/2019*	*4/1/2020*
67	*Installation work*	*7 days*	*9/1/2020*	*15/1/2020*
68	*Painting*	*7 days*	*5/1/2020*	*11/1/2020*
69	*Inspection before completion*	*1 day*	*12/1/2020*	*12/1/2020*
70	*Making good*	*7 days*	*13/1/2020*	*19/1/2020*
71	*Handover*	*1 day*	*20/1/2020*	*20/1/2020*
72	***A-008 Additional of Opening for Chemical Waste in Cremator Plant Room (Phase 2) - Additional Works***	***109 days***	***25/9/2019***	***11/1/2020***
73	*Issue of A-008*	*1 day*	*25/9/2019*	*25/9/2019*
74	*Confirmaiton for BS diversion works*	*1 day*	*10/12/2019*	*10/12/2019*
75	*Relocation of existing building services for forming floor slab opening for lifting chemical waste*	*30 days*	*11/12/2019*	*9/1/2020*
76	*Consolidate and confirmation of construction detail*	*14 days*	*26/9/2019*	*9/10/2019*
77	*Material ordering*	*14 days*	*10/10/2019*	*23/10/2019*
78	*Material testing*	*28 days*	*24/10/2019*	*20/11/2019*



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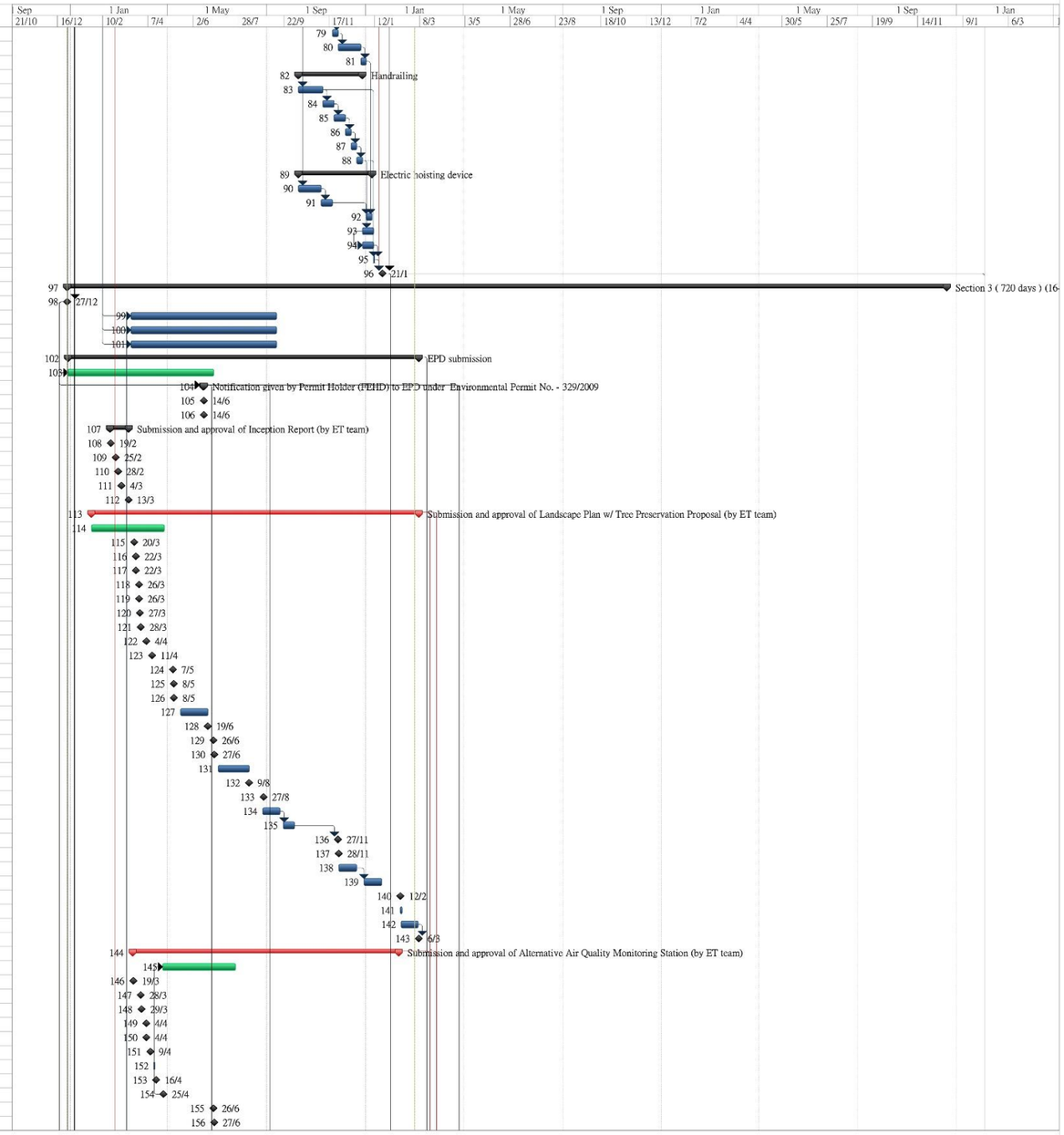
79	*Materail delivery*	*7 days*	*21/11/2019*	*27/11/2019*
80	*Fabrication for hoisting beam, ets*	*28 days*	*28/11/2019*	*25/12/2019*
81	*Installation to hoisting beam*	*7 days*	*26/12/2019*	*1/1/2020*
82	***Handrailing***	***79 days***	***10/10/2019***	***27/12/2019***
83	*Shop drawing submission and approval*	*30 days*	*10/10/2019*	*8/11/2019*
84	*Material submission and approval*	*14 days*	*9/11/2019*	*22/11/2019*
85	*Material ordering*	*14 days*	*23/11/2019*	*6/12/2019*
86	*Off-site fabrication and delivery*	*7 days*	*7/12/2019*	*13/12/2019*
87	*On-site installation*	*7 days*	*14/12/2019*	*20/12/2019*
88	*Painting*	*7 days*	*21/12/2019*	*27/12/2019*
89	***Electric hoisting device***	***91 days***	***10/10/2019***	***8/1/2020***
90	*Material submission and approval*	*28 days*	*10/10/2019*	*6/11/2019*
91	*Material ordering and delivery*	*14 days*	*7/11/2019*	*20/11/2019*
92	*Installatin of hoisting device*	*7 days*	*2/1/2020*	*8/1/2020*
93	*Forming metal decking opening (Demolition Item 3)*	*14 days*	*28/12/2019*	*10/1/2020*
94	*Frabrication to folding doors*	*14 days*	*28/12/2019*	*10/1/2020*
95	*T&C to hoisting device for lifting chemical waste*	*1 day*	*11/1/2020*	*11/1/2020*
96	Completion of Section 2 : 21/01/2020 (noon)	1 day	21/1/2020	21/1/2020
97	**Section 3 (720 days) (16-12-2020, noon)**	**1088 days**	**27/12/2018**	**19/12/2021**
98	Handover of site area	0 days	27/12/2018	27/12/2018
99	Shop drawing submission and approval	180 days	17/3/2019	12/9/2019
100	Material submission and approval	180 days	17/3/2019	12/9/2019
101	Method statement submission and approval	180 days	17/3/2019	12/9/2019
102	**EPD submission**	**434 days**	**29/12/2018**	**6/3/2020**
103	***Org anticipate submission and approval period for EPD submission***	***180 days***	***29/12/2018***	***26/6/2019***
104	**Notification given by Permit Holder (FEHD) to EPD under Environmental Permit No. - 329/2009**	**1 day**	**14/6/2019**	**14/6/2019**
105	~ Notification given to FEHD from ArchSD	1 day	14/6/2019	14/6/2019
106	~ Notification given to EPD from FEHD	1 day	14/6/2019	14/6/2019
107	**Submission and approval of Inception Report (by ET team)**	**23 days**	**19/2/2019**	**13/3/2019**
108	**~ 1st submission to ArchSD**	**1 day**	**19/2/2019**	**19/2/2019**
109	~ Comment from ArchSD for 1st submission	1 day	25/2/2019	25/2/2019
110	**~ 2nd submission to ArchSD**	**1 day**	**28/2/2019**	**28/2/2019**
111	~ Comment from ArchSD for 2nd submission	1 day	4/3/2019	4/3/2019
112	**~ 3rd submission to ArchSD**	**1 day**	**13/3/2019**	**13/3/2019**
113	**Submission and approval of Landscape Plan w/ Tree Preservation Proposal (by ET team)**	**405 days**	**27/1/2019**	**6/3/2020**
114	***Org anticipate submission and approval period***	***90 days***	***27/1/2019***	***26/4/2019***
115	**~ Rev.0 submission to IEC**	**1 day**	**20/3/2019**	**20/3/2019**
116	~ Comment from IEC	1 day	22/3/2019	22/3/2019
117	**~ Rev.1 submission to IEC**	**1 day**	**22/3/2019**	**22/3/2019**
118	~ Comment from IEC	1 day	26/3/2019	26/3/2019
119	**~ Rev.2 submission to IEC**	**1 day**	**26/3/2019**	**26/3/2019**
120	~ Comment from IEC	1 day	27/3/2019	27/3/2019
121	~ Comment from ArchSD	1 day	28/3/2019	28/3/2019
122	~ Submission to EPD	1 day	4/4/2019	4/4/2019
123	**~ Rev.3 submission to IEC**	**1 day**	**11/4/2019**	**11/4/2019**
124	~ Comment from IEC	1 day	7/5/2019	7/5/2019
125	**~ Rev.4 submission to IEC**	**1 day**	**8/5/2019**	**8/5/2019**
126	~ Comment from IEC	1 day	8/5/2019	8/5/2019
127	~ Submission to EPD	34 days	17/5/2019	19/6/2019
128	~ Comment from EPD	1 day	19/6/2019	19/6/2019
129	**~ Rev.3 (EPD) submission to IEC**	**1 day**	**26/6/2019**	**26/6/2019**
130	~ Comment from IEC	1 day	27/6/2019	27/6/2019
131	~ Submission to EPD	38 days	3/7/2019	9/8/2019
132	~ Comment from EPD	1 day	9/8/2019	9/8/2019
133	**~ Rev. 4.3 (EPD) submission to IEC**	**1 day**	**27/8/2019**	**27/8/2019**
134	~ Comment from IEC	21 days	27/8/2019	16/9/2019
135	~ Submission to EPD	14 days	21/9/2019	4/10/2019
136	~ Comment from EPD	1 day	27/11/2019	27/11/2019
137	**~ Rev. 5.1 (EPD) submission to IEC**	**1 day**	**28/11/2019**	**28/11/2019**
138	~ Comment from IEC	22 days	29/11/2019	20/12/2019
139	~ Submission to EPD	22 days	30/12/2019	20/1/2020
140	**~ Rev. 6.4 (EPD) submission to IEC**	**1 day**	**12/2/2020**	**12/2/2020**
141	~ Comment from IEC	2 days	13/2/2020	14/2/2020
142	~ Submission to EPD	21 days	14/2/2020	5/3/2020
143	*~ Approval from EPD*	*1 day*	*6/3/2020*	*6/3/2020*
144	**Submission and approval of Alternative Air Quality Monitoring Station (by ET team)**	**329 days**	**19/3/2019**	**10/2/2020**
145	***Org anticipate submission and approval period***	***90 days***	***25/4/2019***	***23/7/2019***
146	**~ Rev.0 submission to IEC**	**1 day**	**19/3/2019**	**19/3/2019**
147	~ Comment from IEC	1 day	28/3/2019	28/3/2019
148	**~ Rev.1 submission to IEC**	**1 day**	**29/3/2019**	**29/3/2019**
149	~ Comment from IEC	1 day	4/4/2019	4/4/2019
150	**~ Rev.2 submission to IEC**	**1 day**	**4/4/2019**	**4/4/2019**
151	~ Comment from IEC	1 day	9/4/2019	9/4/2019
152	~ Submission to ArchSD	1 day	14/4/2019	14/4/2019
153	~ Comment from ArchSD	1 day	16/4/2019	16/4/2019
154	~ Submission to EPD	1 day	25/4/2019	25/4/2019
155	~ Comment from EPD	1 day	26/6/2019	26/6/2019
156	**~ Rev.3 submission to IEC**	**1 day**	**27/6/2019**	**27/6/2019**



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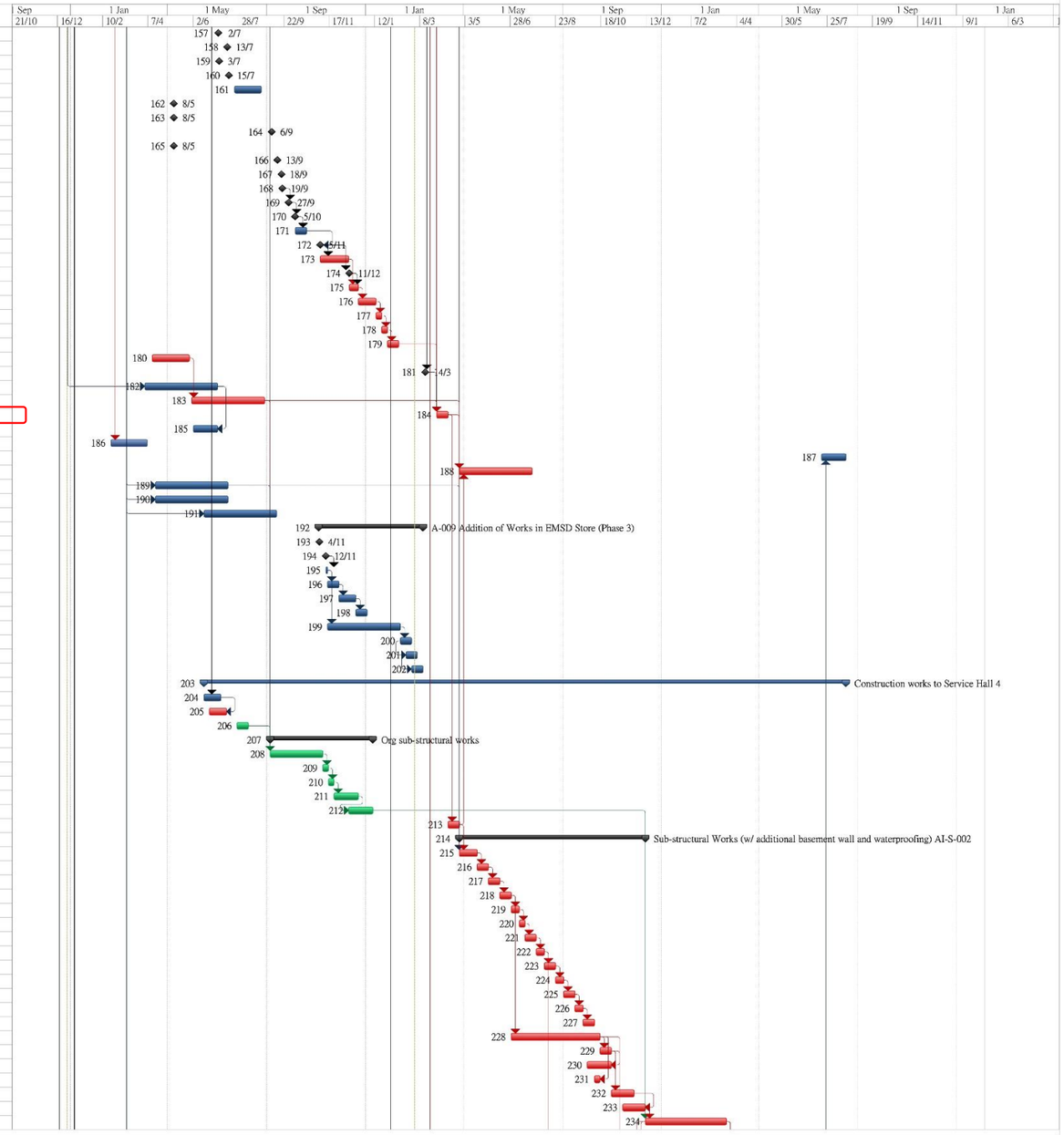
157	~ Comment from IEC	1 day	2/7/2019	2/7/2019
158	~ Submission to ArchSD	1 day	13/7/2019	13/7/2019
159	~ Submission to EPD	1 day	3/7/2019	3/7/2019
160	~ Comment from EPD (reject the proposal)	1 day	15/7/2019	15/7/2019
161	***Re-visit to ASRs***	***33 days***	***23/7/2019***	***24/8/2019***
162	**~ Rev.4 submission to IEC**	**1 day**	**8/5/2019**	**8/5/2019**
163	~ Comment from IEC	1 day	8/5/2019	8/5/2019
164	**~ Rev.5 submission to IEC**	**1 day**	**6/9/2019**	**6/9/2019**
165	~ Comment from IEC	1 day	8/5/2019	8/5/2019
166	**~ Rev.6 submission to IEC**	**1 day**	**13/9/2019**	**13/9/2019**
167	~ Comment from IEC	1 day	18/9/2019	18/9/2019
168	~ Submission to ArchSD	1 day	19/9/2019	19/9/2019
169	~ Comment from ArchSD	1 day	27/9/2019	27/9/2019
170	~ Submission to EPD	1 day	5/10/2019	5/10/2019
171	~ Comment from EPD	14 days	6/10/2019	19/10/2019
172	*Acceptance of alternative Air Monitoring Stations (Ver 7.4) given by EPD*	*1 day*	*5/11/2019*	*5/11/2019*
173	Notice to owner / tendant of alternative Air Monitoring Station (by ArchSD)	35 days	6/11/2019	10/12/2019
174	*A-011 Proposal for Alternative Air Quality Monitoring Location Rev.7.4 (Section 3)*	*1 day*	*11/12/2019*	*11/12/2019*
175	Preparation work to setup air monitoring stations	11 days	12/12/2019	22/12/2019
176	Commenance of baseline air monitoring	22 days	23/12/2019	13/1/2020
177	Data analysis and report preparation	7 days	14/1/2020	20/1/2020
178	Submission of baseline monitoring report to EPD	7 days	21/1/2020	27/1/2020
179	Acceptance of baseline monitoring report given by EPD	14 days	28/1/2020	10/2/2020
180	**Submission of Tree Transplant Proposal (by ET team)**	**46 days**	**12/4/2019**	**27/5/2019**
181	Notification given by Permit Holder (FEHD) for commencement of construction work to Servic Hall No.4	1 day	14/3/2020	14/3/2020
182	Mapping / searching to existing UU	90 days	3/4/2019	1/7/2019
183	Root pruning and org tree transplant	90 days	31/5/2019	28/8/2019
184	Tree Transplant	14 days	29/3/2020	11/4/2020
185	Erecting hoarding for site area of New Service Hall 4	30 days	2/6/2019	1/7/2019
186	Temporary enclosure : proprietary high density two hours fire rate encloure of Service Hall 4	45 days	20/2/2019	5/4/2019
187	Demolition items 5 & 6 at G/F of Ex. Rest Room	30 days	18/7/2021	16/8/2021
188	Demolition items 9 to 14 at external area	90 days	26/4/2020	24/7/2020
189	Submission and approval of method statement for excavtion and backfilling	90 days	16/4/2019	14/7/2019
190	Submission and approval for formwork & falsework design to sub-structure	90 days	16/4/2019	14/7/2019
191	Submission and approval for formwork & falsework design to superstructure	90 days	15/6/2019	12/9/2019
192	*A-009 Addition of Works in EMSD Store (Phase 3)*	*129 days*	*4/11/2019*	*11/3/2020*
193	*Issue of A-009*	*1 day*	*4/11/2019*	*4/11/2019*
194	*Handover of EMSD store*	*1 day*	*12/11/2019*	*12/11/2019*
195	*Condition survey / Photo survey*	*2 days*	*13/11/2019*	*14/11/2019*
196	*Makegood to concrete spalling to ceiling*	*14 days*	*15/11/2019*	*28/11/2019*
197	*Plastering to ceiling*	*21 days*	*29/11/2019*	*19/12/2019*
198	*Painting to ceiling*	*14 days*	*20/12/2019*	*2/1/2020*
199	*Submission and approval to CSD / CBWD*	*90 days*	*15/11/2019*	*12/2/2020*
200	*ELE works installation*	*14 days*	*13/2/2020*	*26/2/2020*
201	*HVAC works installation*	*14 days*	*20/2/2020*	*4/3/2020*
202	*FS works installation*	*14 days*	*27/2/2020*	*11/3/2020*
203	**Construction works to Service Hall 4**	**794 days**	**15/6/2019**	**16/8/2021**
204	Setting out work	21 days	15/6/2019	5/7/2019
205	Verify to existing structure	21 days	22/6/2019	12/7/2019
206	*Org start date to Site formation*	*14 days*	*26/7/2019*	*8/8/2019*
207	***Org sub-structural works***	***127 days***	***5/9/2019***	***9/1/2020***
208	*Excavation for sub-structure of Service Hall 4*	*65 days*	*5/9/2019*	*8/11/2019*
209	*Laying blinding layer*	*7 days*	*9/11/2019*	*15/11/2019*
210	*Setting out*	*7 days*	*16/11/2019*	*22/11/2019*
211	*Erect formwork , Rebar fixing & Concreting for Substructure*	*30 days*	*23/11/2019*	*22/12/2019*
212	*Backfill and compaction & test*	*30 days*	*11/12/2019*	*9/1/2020*
213	Site formation	14 days	12/4/2020	25/4/2020
214	**Sub-structural Works (w/ additional basement wall and waterproofing) AI-S-002**	**230 days**	**26/4/2020**	**11/12/2020**
215	Excavation for sub-structure work	22 days	26/4/2020	17/5/2020
216	Concrete breaking to exisitng RC wall for rebar connection	14 days	18/5/2020	31/5/2020
217	Construction works to raft foundation and footings (Stage 1)	14 days	1/6/2020	14/6/2020
218	Construction of basement wall	14 days	15/6/2020	28/6/2020
219	Apply waterproofing membrance	10 days	29/6/2020	8/7/2020
220	Testing (if necessary)	7 days	9/7/2020	15/7/2020
221	Erecting tanking blockwall	14 days	16/7/2020	29/7/2020
222	Mass filling	10 days	30/7/2020	8/8/2020
223	Construction works to footings (Stage 2)	14 days	9/8/2020	22/8/2020
224	Mass filling	10 days	23/8/2020	1/9/2020
225	Construction works to footings (Stage 3)	14 days	2/9/2020	15/9/2020
226	Mass filling	10 days	16/9/2020	25/9/2020
227	Construciton works to footing (Stage 4)	14 days	26/9/2020	9/10/2020
228	Dwarf wall construction	110 days	29/6/2020	16/10/2020
229	Backfill and compaction & test	14 days	17/10/2020	30/10/2020
230	Mockup to fair face finish (1000 x 1000mm)	30 days	1/10/2020	30/10/2020
231	Construction to on-grade slab to basement area	7 days	10/10/2020	16/10/2020
232	Construction works to on-grade slab	28 days	31/10/2020	27/11/2020
233	Construction work to suspended slab	28 days	14/11/2020	11/12/2020
234	Superstructure: formwork , fixing & Concreting	100 days	12/12/2020	21/3/2021



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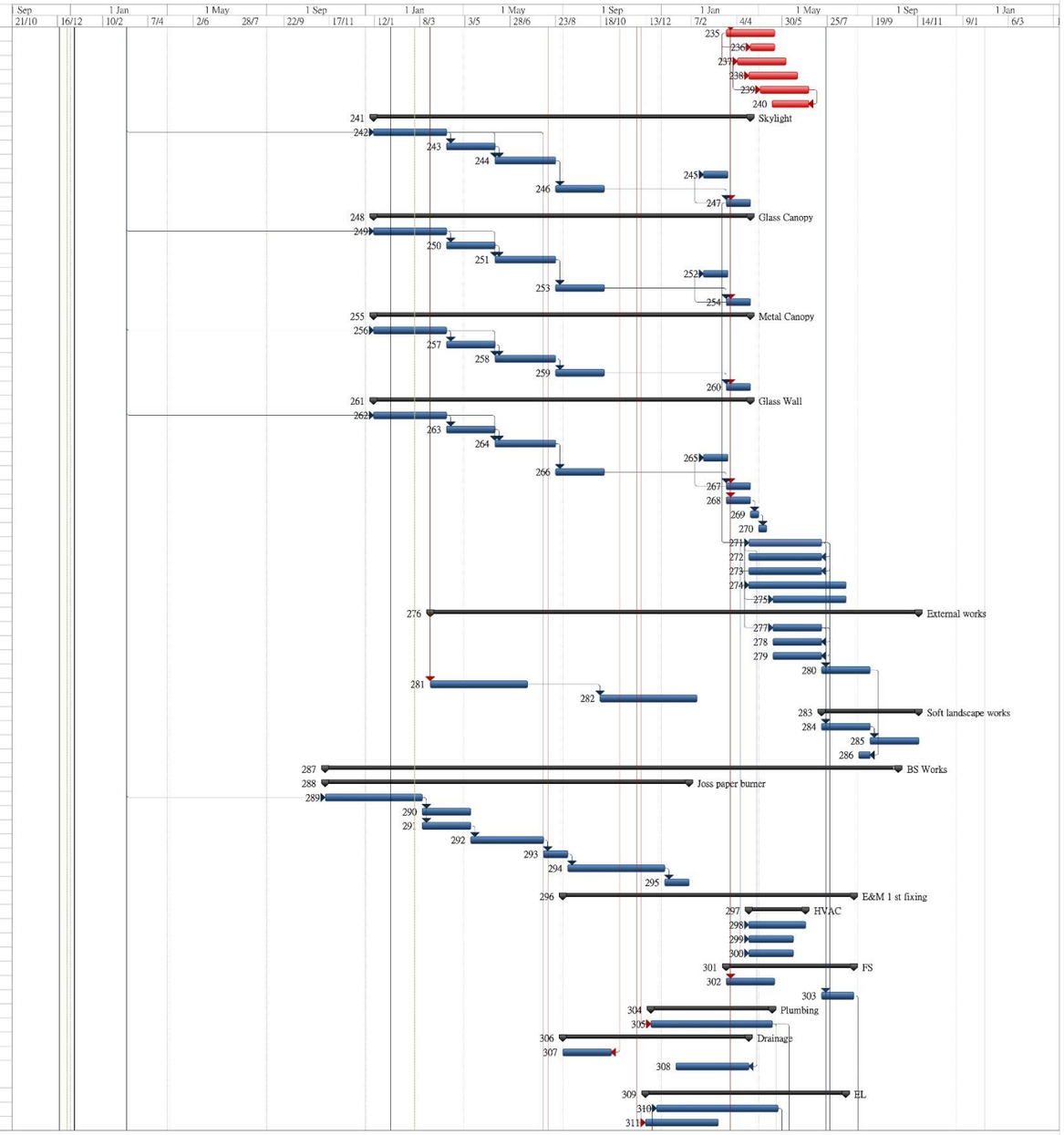
235	Waterproofing work to lavatories	60 days	22/3/2021	20/5/2021
236	Testing to waterproofing to lavatories	30 days	21/4/2021	20/5/2021
237	Brick work and block work ; internal partition wall	60 days	5/4/2021	3/6/2021
238	External wall plastering, tiling & cladding	60 days	19/4/2021	17/6/2021
239	Doors, gates, shutters, grilles, hatches and windows	60 days	3/5/2021	1/7/2021
240	Structural steel works	45 days	18/5/2021	1/7/2021
241	**Skylight**	**466 days**	**11/1/2020**	**20/4/2021**
242	Shop drawing submission and approval	90 days	11/1/2020	9/4/2020
243	Material submission and approval	60 days	10/4/2020	8/6/2020
244	Material testing and ordering	75 days	9/6/2020	22/8/2020
245	Heat soak test for temper glass and delivery	30 days	22/2/2021	23/3/2021
246	Offsite fabrication	60 days	23/8/2020	21/10/2020
247	Material delivery and installation	30 days	22/3/2021	20/4/2021
248	**Glass Canopy**	**466 days**	**11/1/2020**	**20/4/2021**
249	Shop drawing submission and approval	90 days	11/1/2020	9/4/2020
250	Material submission and approval	60 days	10/4/2020	8/6/2020
251	Material testing and ordering	75 days	9/6/2020	22/8/2020
252	Heat soak test for temper glass and delivery	30 days	22/2/2021	23/3/2021
253	Offsite fabrication	60 days	23/8/2020	21/10/2020
254	Material delivery and installation	30 days	22/3/2021	20/4/2021
255	**Metal Canopy**	**466 days**	**11/1/2020**	**20/4/2021**
256	Shop drawing submission and approval	90 days	11/1/2020	9/4/2020
257	Material submission and approval	60 days	10/4/2020	8/6/2020
258	Material testing and ordering	75 days	9/6/2020	22/8/2020
259	Offsite fabrication	60 days	23/8/2020	21/10/2020
260	Material delivery and installation	30 days	22/3/2021	20/4/2021
261	**Glass Wall**	**466 days**	**11/1/2020**	**20/4/2021**
262	Shop drawing submission and approval	90 days	11/1/2020	9/4/2020
263	Material submission and approval	60 days	10/4/2020	8/6/2020
264	Material testing and ordering	75 days	9/6/2020	22/8/2020
265	Heat soak test for temper glass and delivery	30 days	22/2/2021	23/3/2021
266	Offsite fabrication	60 days	23/8/2020	21/10/2020
267	Material delivery and installation	30 days	22/3/2021	20/4/2021
268	Waterproofing to roofing	30 days	22/3/2021	20/4/2021
269	Water test to roofing	10 days	21/4/2021	30/4/2021
270	Water test to Skylight and canopy	10 days	1/5/2021	10/5/2021
271	Interior fitting out works	90 days	19/4/2021	17/7/2021
272	Suspended ceilings	90 days	19/4/2021	17/7/2021
273	Painting	90 days	19/4/2021	17/7/2021
274	Framed work, stair. handrails and balustrades	120 days	19/4/2021	16/8/2021
275	Furniture, fittings, shelving, racks, playground, equipment	90 days	19/5/2021	16/8/2021
276	**External works**	**604 days**	**21/3/2020**	**14/11/2021**
277	Backfill and compaction & test	60 days	19/5/2021	17/7/2021
278	UG drainage pipework	60 days	19/5/2021	17/7/2021
279	UG plumbing pipework	60 days	19/5/2021	17/7/2021
280	Re-instatement to Pavement and FVA	60 days	18/7/2021	15/9/2021
281	Tree survey and submission	120 days	21/3/2020	18/7/2020
282	Submission and approval to planting schedule	120 days	17/10/2020	13/2/2021
283	Soft landscape works	120 days	18/7/2021	14/11/2021
284	Soiling	60 days	18/7/2021	15/9/2021
285	Planting	60 days	16/9/2021	14/11/2021
286	Demolition to hoarding	14 days	2/9/2021	15/9/2021
287	**BS Works**	**709 days**	**12/11/2019**	**20/10/2021**
288	**Joss paper burner**	**450 days**	**12/11/2019**	**3/2/2021**
289	Shop drawing submission and approval of Joss Paper Burner	120 days	12/11/2019	10/3/2020
290	Shop drawing submission and approval of alumium cladding and lourve	60 days	11/3/2020	9/5/2020
291	Material submission and approval	60 days	11/3/2020	9/5/2020
292	Material ordering	90 days	10/5/2020	7/8/2020
293	Material delivery	30 days	8/8/2020	6/9/2020
294	Installation works	120 days	7/9/2020	4/1/2021
295	* T&C to Joss paper burner (detail schedule to be submitted separatily)	30 days	5/1/2021	3/2/2021
296	**E&M 1 st fixing**	**360 days**	**1/9/2020**	**26/8/2021**
297	**HVAC**	**70 days**	**19/4/2021**	**27/6/2021**
298	Install indoor unit & ventilation fan	70 days	19/4/2021	27/6/2021
299	Install air duct c/w insulation	55 days	19/4/2021	12/6/2021
300	Install refrigerant pipe c/w insulation	55 days	19/4/2021	12/6/2021
301	**FS**	**158 days**	**22/3/2021**	**26/8/2021**
302	Install SPR/FS pipe	60 days	22/3/2021	20/5/2021
303	Control Wirings for AFA system	40 days	18/7/2021	26/8/2021
304	**Plumbing**	**150 days**	**19/12/2020**	**17/5/2021**
305	Install water pipes for fresh water and flushing water supply	150 days	19/12/2020	17/5/2021
306	**Drainage**	**230 days**	**1/9/2020**	**19/4/2021**
307	Install U/G drainage	60 days	1/9/2020	30/10/2020
308	Install aboveground drainage such as soil & wasdte pipe, vent pipe, rain water pipe, rain water outlet etc.	90 days	19/1/2021	19/4/2021
309	**EL**	**248 days**	**12/12/2020**	**16/8/2021**
310	Install main power cable c/w cable tray	150 days	26/12/2020	24/5/2021
311	Install conceal conduit & conduit point (EL & FS)	90 days	12/12/2020	11/3/2021



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Construction Period :1140 Days
Section 1 : 120 Days
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Shing Hing Construction Co Ltd

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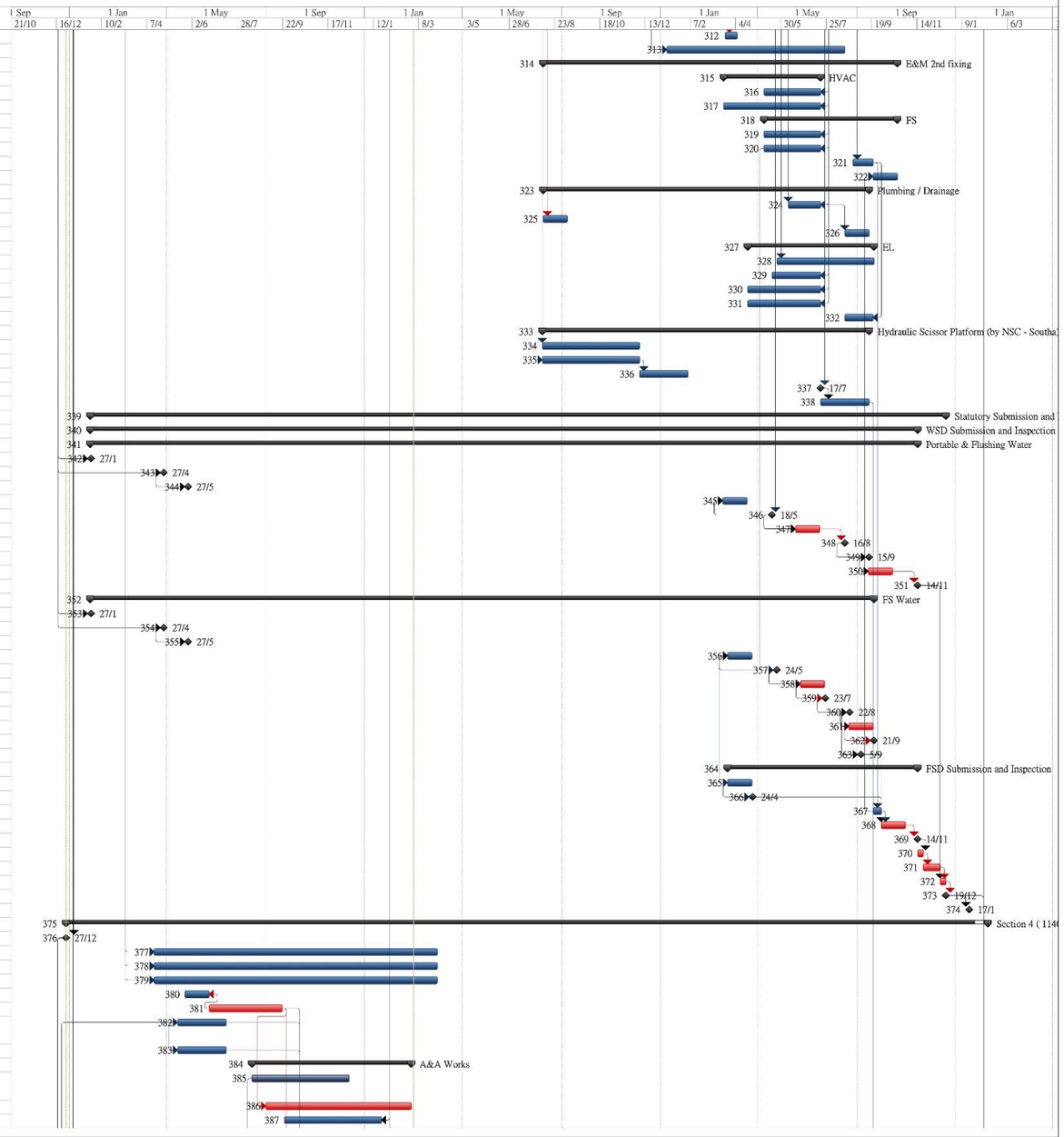
Date for Completion of Section 3 (Rev) : 2/12/2021
Date for Completion Section 4 : 9/2/2022

Item No.	Activities	工期	開始時間	完成時間
312	Install G.I. conduit, trunking & wirings in ceiling void	15 days	22/3/2021	5/4/2021
313	Install copper tape & earthing rod for lightning system	220 days	9/1/2021	16/8/2021
314	**E&M 2nd fixing**	**438 days**	**9/8/2020**	**20/10/2021**
315	**HVAC**	**120 days**	**20/3/2021**	**17/7/2021**
316	Air Grille installation	70 days	9/5/2021	17/7/2021
317	VRV Outdoor unit installation including programming with T&C works	120 days	20/3/2021	17/7/2021
318	**FS**	**165 days**	**9/5/2021**	**20/10/2021**
319	SPR head, VFA, smoke detector installation	70 days	9/5/2021	17/7/2021
320	Hose Reel Installation	70 days	9/5/2021	17/7/2021
321	Interfacing ex. AFA system and reprogramming	25 days	27/8/2021	20/9/2021
322	T&C works to FS system	30 days	21/9/2021	20/10/2021
323	**Plumbing / Drainage**	**403 days**	**9/8/2020**	**15/9/2021**
324	Sanitary ware installation	40 days	8/6/2021	17/7/2021
325	Tee off from existing water supply from existing water meter cabinet	30 days	9/8/2020	7/9/2020
326	T&C work for plumbing and drainage	30 days	17/8/2021	15/9/2021
327	**EL**	**156 days**	**19/4/2021**	**21/9/2021**
328	Distribution board installation with T&C works	120 days	25/5/2021	21/9/2021
329	Light Fitting installation with T&C works	60 days	19/5/2021	17/7/2021
330	Faceplate installation such as socket outlet, data outlet	90 days	19/4/2021	17/7/2021
331	Speaker, CCTV installation with T&C works	90 days	19/4/2021	17/7/2021
332	Power connection to existing distribution system	35 days	17/8/2021	20/9/2021
333	**Hydraulic Scissor Platform (by NSC - Southa)**	**404 days**	**8/8/2020**	**15/9/2021**
334	Shop drawing submission and approval	120 days	8/8/2020	5/12/2020
335	Material submission and approval	120 days	8/8/2020	5/12/2020
336	Builder's Work for hydraulic scissor platform installation	60 days	6/12/2020	3/2/2021
337	Handover of Service Hall 4	0 days	17/7/2021	17/7/2021
338	Hydraulic Scissor Platform	60 days	18/7/2021	15/9/2021
339	**Statutory Submission and Inspection**	**1058 days**	**27/1/2019**	**19/12/2021**
340	**WSD Submission and Inspection**	**1023 days**	**27/1/2019**	**14/11/2021**
341	**Portable & Flushing Water**	**1023 days**	**27/1/2019**	**14/11/2021**
342	Submission of WWO542	1 day	27/1/2019	27/1/2019
343	Submission of WWO46 part 1 & 2	1 day	27/4/2019	27/4/2019
344	Issue of WWO46 part 3 by WSD	1 day	27/5/2019	27/5/2019
345	Submission of final amendment drawing	30 days	19/3/2021	17/4/2021
346	Submission of WWO46 part 4 to WSD	1 day	18/5/2021	18/5/2021
347	WSD inspection / re-inspection	30 days	17/6/2021	16/7/2021
348	Issue of WWO46 part 5a	1 day	16/8/2021	16/8/2021
349	Issue of WWO1005	1 day	15/9/2021	15/9/2021
350	Water sample selection	30 days	15/9/2021	14/10/2021
351	Issue of WWO46 part 5b (Completion advice)	1 day	14/11/2021	14/11/2021
352	**FS Water**	**969 days**	**27/1/2019**	**21/9/2021**
353	Submission of WWO542	1 day	27/1/2019	27/1/2019
354	Submission of WWO46 part 1 & 2	1 day	27/4/2019	27/4/2019
355	Issue of WWO46 part 3 by WSD	1 day	27/5/2019	27/5/2019
356	Submission of final amendment drawing	30 days	25/3/2021	23/4/2021
357	Submission of WWO46 part 4 to WSD	1 day	24/5/2021	24/5/2021
358	WSD inspection / re-inspection	30 days	23/6/2021	22/7/2021
359	Issue of WWO46 part 5a	1 day	23/7/2021	23/7/2021
360	Issue of WWO1005	1 day	22/8/2021	22/8/2021
361	Water sample selection	30 days	22/8/2021	20/9/2021
362	Issue of WWO46 part 5b (Completion advice)	1 day	21/9/2021	21/9/2021
363	Issuance of FSCA	1 day	5/9/2021	5/9/2021
364	**FSD Submission and Inspection**	**235 days**	**25/3/2021**	**14/11/2021**
365	Submission of FS final amendment drawing	30 days	25/3/2021	23/4/2021
366	Submission of FS314 & FS501 submission to FSD	1 day	24/4/2021	24/4/2021
367	Rehearsal for FS inspection & T&C works	10 days	21/9/2021	30/9/2021
368	FS inspection & re-inspection	30 days	1/10/2021	30/10/2021
369	Issuance of FS Certificate	1 day	14/11/2021	14/11/2021
370	SCCU inspection	7 days	15/11/2021	21/11/2021
371	Making after SCCU inspection	21 days	22/11/2021	12/12/2021
372	SCCU reinspection	7 days	13/12/2021	19/12/2021
373	Completion of Phase 3 : 27/08/2021 (noon)	0 days	19/12/2021	19/12/2021
374	Target date for temporary closure of existing Service Hall 3	1 day	17/1/2022	17/1/2022
375	**Section 4 (1140 days) (9-2-2022, noon)**	**1140 days**	**27/12/2018**	**9/2/2022**
376	Handover of site area	0 days	27/12/2018	27/12/2018
377	Shop drawing submission and approval	350 days	16/4/2019	30/3/2020
378	Material submission and approval	350 days	16/4/2019	30/3/2020
379	Method statement submission and approval	350 days	16/4/2019	30/3/2020
380	Shop drawing submission and approval to hoarding	30 days	24/5/2019	23/6/2019
381	Temporary metal hoarding and Non-combustible canvas inside Cremator Plant Room	90 days	23/6/2019	20/9/2019
382	Submission of survey report for builder's work and services diversion for new cremator installation	60 days	15/5/2019	13/7/2019
383	Submission of survey report for existing chimneys	60 days	15/5/2019	13/7/2019
384	**A&A Works**	**197 days**	**15/8/2019**	**27/2/2020**
385	Coordination with NSD for modification and strengthening of existing perforated platform for installation of new cremators	120 days	15/8/2019	12/12/2019
386	Demolition items 1, 2 at B/F & 7, 8 at G/F of Cremator Plant Room	180 days	1/9/2019	27/2/2020
387	Hoisting beam & trolley for cremator	120 days	24/9/2019	21/1/2020



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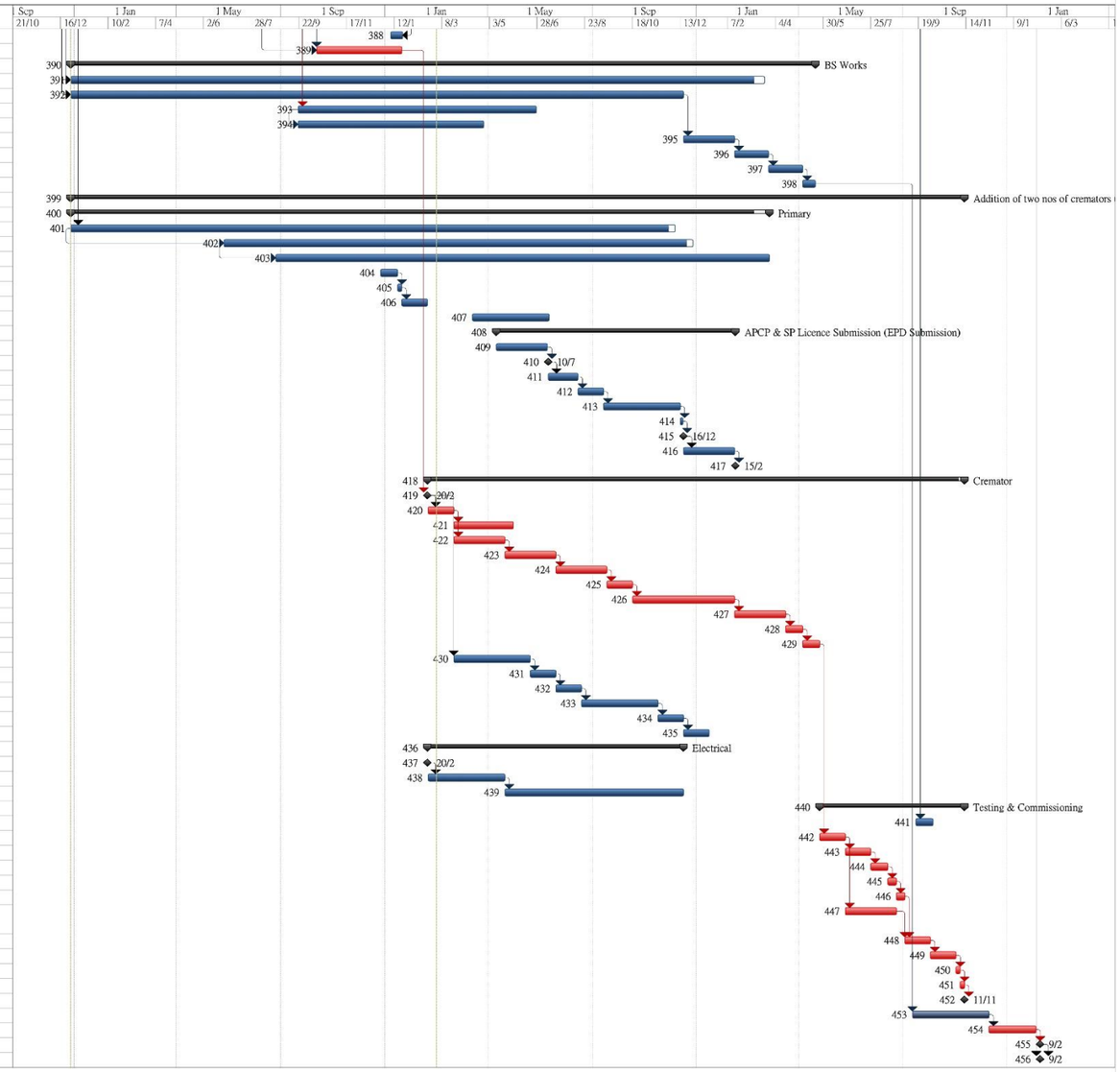
Item No.	Activities	工期	開始時期	完成時期
388	Loading test to hoisting beam	14 days	8/1/2020	21/1/2020
389	Builder's Work and Services Diversion for Cremator Installation at LG & GF	100 days	13/10/2019	20/1/2020
390	**BS Works**	**875 days**	**28/12/2018**	**20/5/2021**
391	BIM modelling and stimulation of delivery to existing building	815 days	28/12/2018	21/3/2021
392	BIM modelling to new building parts	720 days	28/12/2018	16/12/2020
393	Diversion / modification to existing services	280 days	21/9/2019	26/6/2020
394	Dismantle existing air duct	218 days	21/9/2019	25/4/2020
395	Install new G.I. trunking	60 days	17/12/2020	14/2/2021
396	Install new G.I. conduit for CCTV & power point	40 days	15/2/2021	26/3/2021
397	Cable wirings for CCTV and power point	40 days	27/3/2021	5/5/2021
398	Install CCTV Camera	15 days	6/5/2021	20/5/2021
399	**Addition of two nos of cremators (by NSC - Southa)**	**1050 days**	**28/12/2018**	**11/11/2021**
400	Primary	821 days	28/12/2018	27/3/2021
401	Drawing & Equipment Submission & Approval	710 days	28/12/2018	6/12/2020
402	Equipment Ordering	551 days	26/6/2019	27/12/2020
403	Parts & equipment delivery on site	580 days	26/8/2019	27/3/2021
404	Lifting Hoist & Trolley for Cremator 7 & 8	20 days	27/12/2019	15/1/2020
405	Loading Test for Lifting Hoist & Trolley	5 days	16/1/2020	20/1/2020
406	Strengthing / modification to Existing Steel Platform	30 days	21/1/2020	19/2/2020
407	EPD Submission for New Cremators	90 days	13/4/2020	11/7/2020
408	**APCP & SP Licence Submission (EPD Submission)**	**281 days**	**11/5/2020**	**15/2/2021**
409	Preparation of APCP (Form 1)	60 days	11/5/2020	9/7/2020
410	Draft APCP & SP Submission	1 day	10/7/2020	10/7/2020
411	EPD comment on draft APCP & SP	35 days	11/7/2020	14/8/2020
412	Formal Submission of APCP & SP	30 days	15/8/2020	13/9/2020
413	EPD Comment / Approval of APCP & SP	90 days	14/9/2020	12/12/2020
414	Public notification period - 3 days	3 days	13/12/2020	15/12/2020
415	Draft Licence Issued by EPD	1 day	16/12/2020	16/12/2020
416	Review of draft licence	60 days	17/12/2020	14/2/2021
417	Licence Obtained	1 day	15/2/2021	15/2/2021
418	**Cremator**	**631 days**	**20/2/2020**	**11/11/2021**
419	Handover of Plant Room (SHC to Southa)	0 days	20/2/2020	20/2/2020
420	Cremator Steel Frame Work	30 days	21/2/2020	21/3/2020
421	Underground Flue Gas Duct	70 days	22/3/2020	30/5/2020
422	Lower Refractory for Cremator 7 & 8	60 days	22/3/2020	20/5/2020
423	Upper Refractory for Cremator 7 & 8	60 days	21/5/2020	19/7/2020
424	Cremator Door, Burners, Rotray Drive & Accessories	60 days	20/7/2020	17/9/2020
425	Heat Exchanger w/ Insulation	30 days	18/9/2020	17/10/2020
426	Flat Bag Filter w/ Insulation	120 days	18/10/2020	14/2/2021
427	Chemosorption Filter w/ Insulation	60 days	15/2/2021	15/4/2021
428	Waste Gas Fans	20 days	16/4/2021	5/5/2021
429	Combustion Air Fans	20 days	6/5/2021	25/5/2021
430	Air Compressor & Piping	90 days	22/3/2020	19/6/2020
431	Towngas piping	30 days	20/6/2020	19/7/2020
432	Air Cooled Radiator Installation at R/F	30 days	20/7/2020	18/8/2020
433	Cooling Water Pump & Piping	90 days	19/8/2020	16/11/2020
434	Insulation & Cladding	30 days	17/11/2020	16/12/2020
435	Service platform for emission gas sample	30 days	17/12/2020	15/1/2021
436	**Electrical**	**301 days**	**20/2/2020**	**16/12/2020**
437	Handover of Electric Plant Room (SHC to Southa)	0 days	20/2/2020	20/2/2020
438	Extension of L.V. Switchboard	90 days	21/2/2020	20/5/2020
439	Electrical and Control Installation	210 days	21/5/2020	16/12/2020
440	**Testing & Commissioning**	**170 days**	**26/5/2021**	**11/11/2021**
441	Function test for hydraulic scissor platform	20 days	16/9/2021	5/10/2021
442	Manufacturer self testing	30 days	26/5/2021	24/6/2021
443	Dry Heating	30 days	25/6/2021	24/7/2021
444	Cold Commissioning	20 days	25/7/2021	13/8/2021
445	Pre-Heating	10 days	14/8/2021	23/8/2021
446	Trial Run	10 days	24/8/2021	2/9/2021
447	Equipment Function Test (included cremator control and monitoring system, automatic coffin insertion machines, cremulators, etc.)	60 days	25/6/2021	23/8/2021
448	Emission Test Manual Sampling	30 days	3/9/2021	2/10/2021
449	Emission Test Report Issuance	30 days	3/10/2021	1/11/2021
450	Submission of O & M Manual	5 days	2/11/2021	6/11/2021
451	Training	5 days	7/11/2021	11/11/2021
452	Handover of Cremators (Southa to ArchSD)	0 days	11/11/2021	11/11/2021
453	T&C for B.S. work	90 days	12/9/2021	10/12/2021
454	Cleaning on completion	55 days	11/12/2021	3/2/2022
455	Completion of Phase 4 : 09/02/2022 (noon)	0 days	9/2/2022	9/2/2022
456	**Project Completion**	**0 days**	**9/2/2022**	**9/2/2022**



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APPENDIX B: WORK AREA FOR THE CONTRACT NO. AL G513

APPENDIX C: SUMMARY OF IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
Air (Construction Phase)							
S.3.3.5		Under the Air Pollution Control (Specified Process) Regulation, an incinerator (including cremator) with an installed capacity exceeding 0.5 tonnes per hour, is classified as a specified process, and requires a Specified Process license to operate. FEHD shall apply for a specified licence under the APCO.	New Cremators in the New Crematorium / prior to operation	FEHD	Construction Phase	APCO	NA
S.3.9 S.3.9.2		Asbestos Investigation: ▮ The incense burner, coffin and skeletal crematorium shall be thoroughly investigated prior to any demolition work commencing to ascertain the presence of any ACM. A registered asbestos consultant shall carry outan asbestos investigation report (AIR).	Incense burner, coffin and skeletal crematorium / Prior to any demolition work commencing	Arch SD, Registered Asbestos Consultant, Registered Asbestos Contractor	Construction Phase	APCO AIR and AAP	NA
S.3.9.3		▮ If any ACM are identified in the existing crematorium, an asbestos abatement plan shall be submitted to EPD prior to any asbestos abatement works.					
S.3.9.4		The following precautionary and mitigation measures shall be implemented during the removal of ACM: ▮ Enclosure of the work area. ▮ Containment and sealing for the asbestos containing waste. ▮ Provision of personal decontamination facility. ▮ Use of personal respiratory/protection equipment. ▮ Use of vacuum cleaner equipped with high-efficiency air particulate (HEPA) filter for cleaning up the work area. ▮ Carrying out air quality monitoring during the asbestos abatement works.					

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.3.9.5		The following qualified personnel shall be appointed to carry out the asbestos abatement works: ▮ Registered asbestos contractor for carrying out the asbestos removal works. ▮ Registered asbestos supervisor for supervising the asbestos abatement works. ▮ Registered asbestos laboratory for monitoring the air quality during the asbestos abatement works. ▮ Registered asbestos consultant for supervising and certifying theasbestos abatement works.					NA
S.3.9.7 – S.3.9.9		Other Site Management:					NA
S.3.9.7		The asbestos materials in each building/premises must be abated before other contractors/trades are allowed to work in the building/premises.					NA
S.3.9.8		Tight security measures shall be taken at the asbestos abatement works site to prevent any disturbance to ACM that may result from the stealing of valuable items on site such as electrical cable and copper pipes. It is recommended that priority shall be given for the abatement of all friable ACM.					NA
S.3.9.9		As different contractors may be working on-site at the same time, the following measures should be considered: ▮ If there is a sensitive receptor around the area, conduct environmentalair monitoring at this off-site receptor. ▮ Submit to EPD a completion report, including photos and air monitoring results, immediately after completion of asbestos abatement work for every work zone.					NA
S.3.9.9		As different contractors may be working on-site at the same time, the following measures should be considered: ▮ If there is a sensitive receptor around the area, conduct environmentalair monitoring at this off-site receptor. ▮ Submit to EPD a completion report, including photos and air monitoring results, immediately after completion of asbestos abatement work for every work zone.					NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.3.10.1 - S.3.10.2		The contractor has a responsibility to notify EPD for undertaking any 'notifiable' works prior to the commencement of such works. In addition, the contractor is also required to fulfil specific dust control requirements given in the APCO Regulation's Schedule for specific jobs.	Prior to 'notifiable' works including Construction of the foundation of a building and construction of the superstructure of a building	Contractor	Construction Phase	Air Pollution Control (Construction Dust) Regulation APCO	Implemented
S.3.10.3 - S.3.10.4	S.2.9.1 - S.2.9.3	Good site management / practices to avoid / minimise incidences of dust emissions: *Site Boundary and Entrance* ▮ Vehicle washing facilities including a high pressure water jet shall be provided at every discernible or designated vehicle exit point. ▮ The area at which vehicle washing takes place and the section of the road between the washing facilities and the exit point shall be paved with concrete, bituminous or hardcore material. *Access Haul Roads and Unpaved Areas* ▮ Each and every main haul road shall be paved with concrete, bituminous hardcore materials or metal plates, and kept clear of dusty materials. Or ▮ Unpaved haul roads and areas shall be sprayed with water so as to keep the entire road surface wet.	Project Site / Construction and Demolition	Contractor	Construction Phase	Air Pollution Control (Construction Dust) Regulation APCO	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		Excavated Materials ▮ Any stockpile of dusty material shall be either: (a) covered entirely by impervious sheeting. (b) placed in an area sheltered on the top and the three sides. or (c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet. *Exposed Earth* ▮ Exposed earth shall be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six monthsafter the last construction activity on the site or part of the site where the exposed earth lies. *Loading, Unloading or Transfer of Dusty Materials* ▮ All dusty materials shall be sprayed with water immediately prior toany loading or transfer operation so as to keep the dusty material wet. *Debris Handling* ▮ Any debris shall be covered entirely by impervious sheeting or stored ina debris collection area sheltered on the top and the three sides. ▮ Before debris is dumped into a chute, water shall be sprayed so that itremains wet when it is dumped. *Transport of Dusty Materials* ▮ Vehicles used for transporting dusty materials/spoils shall be covered with tarpaulin or similar material. The cover shall extend over the edges of the sides and tailboards. *Site Clearance* ▮ The working area for the uprooting of trees, shrubs, or vegetation or the removal of boulders, pole, pillars shall be sprayed with water immediately before, during and immediately after the operation so as to maintain theentire surface wet. ▮ All demolished items shall be covered by impervious sheeting or placed in a spot with shelters on top and three sides within a day of the demolition. ▮ Workers at all levels should be co-operative to avoid dust generation and dispersion to the surrounding environment.					

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
Air (EM&A for Construction Phase							
S.11.2.4 - S.11.2.5	S.2.5 - S.2.6	Conduct baseline and regular 1-hr and 24-hr TSP monitoring at 2 measurement locations at a 6-day frequency	A22a and A22b / Baseline monitoring prior to construction works / Regular monitoring throughout construction period	Contractor	Construction Phase	EIAO	Implemented
Noise (Construction Phase)							
S.4.4.9 - S.4.4.10	S.3.2.1 - S.3.2.2	Good Site Practice and Noise Management: ▮ Only well-maintained plant shall be operated on site and the plant shallbe regularly serviced during the construction works. ▮ Plant used intermittently shall be turned off or throttled down when notin active use. ▮ Plant that is known to emit noise strongly in one direction shall be orientedto face away from NSRs. ▮ Silencers, mufflers and enclosures for plant shall be used where possible and maintained adequately throughout the works. ▮ Mobile plant shall be sited away from NSRs. ▮ Stockpiles of excavated materials and other structures such as site buildings shall be used effectively to screen noise from the works. ▮ PME shall be well maintained and use properly on site to minimise the any excessive noise generated.	Work site / Construction phase	Contractor	Construction Phase	GW-TM & NCO	Implemented
Land Contamination (Construction Phase)							
S.5.7.2		Remedial Action Plan:	All areas	Contractor	Construction Phase	Waste Disposal	NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		If large amounts of contaminated soil (say 500m³) are found following further site investigation after the decommissioning of the crematorium, remediation options such as bioremediation for organics should be considered. Although disposal of smallamount of contaminated soil to landfills might be considered as an economic and acceptable option for remediation, it should be considered as the last resort if all remediation options including reuse are considered to be inappropriate or infeasible.	requiring remedial works in Project site			Ordinance (Cap.354) Waste Disposal (Chemical Waste) Regulations Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes CAP ProPECC Note PN3/94 Dutch A, B, C Classificati-on system WPCO Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM)	
S.5.7.3		▮ If disposal to landfills is chosen asthe remediation measure, the criteria set primarily of Toxicity Characteristic Leaching Procedure (TCLP) limits, as stated in Annex E in the GN) should be met. ▮ At least three soil samples should be taken from the most contaminated area(s) and tested for TCLP for a full suite of parameters (16 metals) asstated in Table E1 in Annex E in the GN. ▮ If the testing result shows that any of the TCLP limits cannot be met, the soil shall be treated by cement stabilization and further tested for TCLP prior to landfill disposal or treated as chemical waste and disposed of at the Chemical Waste Treatment Centre (CWTC).					NA
S.5.7.4		All soil treated as a chemical waste, shall be collected by a registered chemical waste contractor and the Waste Disposal (Chemical Waste) Regulations under the Waste Disposal Ordinance (Cap.354) shall be observed. Reference shall be made to the Registration of Chemical Waste Producers and Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, issued by EPD.					NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.5.7.6		Confirmatory Soil Sampling ▮ In order to confirm the extent of the soil contamination and if the contaminated soil should be removed or treated, confirmatory soil sampling shall be carried out during the remediation works. ▮ This shall consist of five to six samples in each location where soil contamination is identified from SI works. The locations will be to the north, south, east and west of the location where contaminated soil is found. Two locations should also be above and below the location (in terms of elevation) where contaminated soil is found. ▮ If analytical results exceed the Dutch B Levels or other agreed remedialtarget suggested in a supplementary CAR, the contaminated area shall be extended and further confirmatory sampling shall be carried out until no further contamination is encountered.					NA
S.5.8	S.4	Further Site Investigation	Areas that are currently in use and cannot be accessed, including the transformer room, dangerous goods stores, day tank room, fuel pump room, sunken fuel	Contractor	Construction Phase	Interim CAR and RAP ProPECC Note PN3/94 Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards and Car	NA
S.5.8.1	S.4.1 - S.4.7	Further site investigations in areas that are currently in use and cannot be accessed are required. These areas include the transformer room, dangerous goods stores, day tank room, fuel pump room, sunken fuel pipe and cremator.					
S.5.8.2		The demolition contractor shall carry out further site investigations, after the decommissioning of the existing crematorium and skeletal cremator building.					
S.5.8.3		Potential contaminants in the soils have been identified in CAP and the parameters to be analysed for soils at different locations are summarised in Table 5-3 in S.5.8.3.					

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.5.8.4		Sampling and analysis plans for these investigations shall be prepared and submitted to EPD for approval prior to any of these investigation works. Supplementary CAR and RAP shall be prepared to describe the results and findings of these site investigations and, if necessary, any remedial works.	pipe and cremator. After the decommissioning of the existing crematorium and skeletal cremator building.			Repair / DismantlingWorkshops	
Land Contamination (EM&A)							
S.11.2.9 - S.11.2.15	S.4.1 - S.4.7	Further Site Investigation: ▮ Conduct further site investigation for Petroleum hydrocarbons and PAH in soil samples. ▮ Conduct further site investigation for PCBs in soil samples. ▮ Conduct further site investigation for PAH, Dioxins and Metals (Cr, Co, Ni, Cu, Zn, As, Mo, Cd, Sn, Ba, Hg, Pb) in soil samples.	After decommissioning, prior to construction: Existing crematorium: Dangerous goods store, Daily tank room, fuel pump room and sunken fuel pipe Skeletal Cremator Building: Dangerous goods store Existing crematorium: Transformer room Cremators (residual inside the	Contractor	Construction Phase	Interim CAR & RAP	NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
			cremator, flue and chimneys				
Waste Management (Construction Phase)							
S.6.7.24		Good Site Practice: ▮ Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28). ▮ Obtain a billing account with EPD for disposal of construction waste. ▮ A Waste Management Plan (WMP), incorporated in an Environmental Management Plan (EMP) shall be prepared and submitted to the Engineer/Supervising Officer for approval. Reference shall be made to Environment, Transport and Works Bureau Technical Circular (Works)(ETWB TCW) 19/2005. ▮ Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site. ▮ Use of a waste haulier, authorised or licensed to collect specific category of waste. ▮ A trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of C&D and solid wastes at public filling facilities and landfills, and to control fly tipping. Reference shall be made to ETWB TCW No. 31/2004. ▮ Training of site personnel in proper waste management and chemicalwaste handling procedures. ▮ Separation of chemical wastes for special handling and appropriate treatment at a licensed facility. ▮ Routine cleaning and maintenance programme for drainage systems,sumps and oil interceptors. ▮ Provision of sufficient waste disposal points and regular collection for disposal. ▮ Adoption of appropriate measures to minimise windblown litter and dustduring transportation of waste, such as covering trucks or transporting wastes in enclosed containers.	Project site/ design, construction and demolition stages	Contractor	Construction Phase	Waste Disposal Ordinance (Cap. 354) Waste Disposal (Chemical Waste) (General) Regulation Waste Disposal (Charges for Disposal of Construction Waste) Regulation	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		▮ Implementation of a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).					
S.6.7.25		Waste Reduction Measures: ▮ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. ▮ Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins shall be provided to help segregate this waste from other general refuse generated by the work force. ▮ Any unused chemicals or those with remaining functional capacity shallbe recycled as far as practicable. ▮ Reuse C&D materials when possible to reduce the amount of C&D material/waste. ▮ Wood, steel and other metals shall be separated for reuse and / or recycling Prior to disposal of C&D waste to minimise the quantity of waste to be disposed of to landfill. ▮ Minimise the potential for damage or contamination of construction material by having proper storage and site practices. ▮ Plan and stock construction materials carefully to minimise the amount of waste generated.	Project site / construction and demolition stages	Contractor	Construction Phase	WBTC No. 32/1992 WBTC No. 19/2005	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.6.7.4		*Excavated Material* Rock and soil generated from excavation shall be reused for site formation and excavated material from foundation work reused for landscaping as far as practicable to avoid disposal off-site.	Project site / construction and demolition stages	Contractor	Construction Phase	WBTC No. 12/2000	Implemented
S.6.7.5 - S.6.7.7	S.5.3.5 - S.5.3.9	*Construction and Demolition Material* ▮ Reuse of the public fill and C&D waste shall be practiced on site as far as practicable. ▮ The handling of C&D materials is governed by WBTC No. 2/93. Inert C&D material (public fill) shall be directed to an approved public filling area or reclamation site, where it has the benefit of offsetting the need for removal of materials from borrow areas for reclamation purposes and helps to reduce the pressure on landfill sites. ▮ Individuals or companies who deliver public fill to public filling areas require dumping licences. ▮ Careful design, planning and good site management can minimise over- ordering and generation of waste materials such as concrete, mortar and cement grouts. The design of formwork shall maximise the use of standard wooden or metal panels so that high reuse levels can be achieved. Alternatives such as. steel formwork, plastic fencing and reusable site office structures shall be considered to increase the potential for reuse and minimise C&D waste generation. ▮ The contractor shall use as much as possible of the C&D material on-site. Proper segregation of waste types on site will increase the feasibility of certain components of the waste stream by recycling contractors.	Project site / construction and demolition stages	ArchSD / Contractor	Construction Phase	WBTC No. 2/93 The Land (Miscellaneous Provision) Ordinance WBTC No. 19/2005	Implemented

<table>
<tr><th>EIA Ref</th><th>EM&A Ref.</th><th>Environmental Protection Measures / Mitigation Measures</th><th>Location / Timing</th><th>Implementation Agent</th><th>Implementation Stage</th><th>Relevant Legislation and Guidelines</th><th>Implementation Status</th></tr>
<tr><td>S.6.11.1 - S.6.11.5</td><td>S.5.3.10 - S.5.3.14</td><td>Contaminated Material – Further Contamination Investigation

▮ After decommissioning but prior to demolition of the Existing Crematorium, the following further contamination investigations shall be carried out to confirm the quality and quantity of ash waste and building structures requiring treatment and disposal.
<table>
<tr><th>Location</th><th>Investigation Parameter</th><th>Investigation Period</th><th>Responsible Party</th></tr>
<tr><td>Cremators / flue / chimney and surrounding areas</td><td>Asbestos

(building structures)</td><td rowspan="2">After decommissioning but prior to demolition of the Existing Crematorium</td><td rowspan="2">The Contractor</td></tr>
<tr><td>Cremators / flue / chimney and surrounding areas</td><td>Dioxins, heavy metals, PAH

(ash waste)</td></tr>
</table>
▮ Prior to any demolition work commencing, these areas suspected to contain asbestos containing material (ACM) shall be further inspected by aregistered asbestos consultant to determine the presence of any ACM. These areas shall be thoroughly investigated and the additional findings submitted as supplementary information to the Asbestos Investigation Report.
▮ Samples shall be analysed for the presence and type of asbestos according to the Laboratory's HOKLAS accredited testing procedures. If the findings of the investigation indicate ACM materials present on the premises an Asbestos Abatement Plan must be prepared prior to commencement of demolition works.</td><td>Cremators, Flues Chimneys and surrounding areas / After decommissioning but prior to demolition of the existing crematorium.</td><td>FEHD, ArchSD, Contractor</td><td>Construction Phase</td><td>ProPECC PN 2/97

ProPECC PN 3/94

APCO</td><td>NA</td></tr>
</table>

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		▮ It is not currently possible to conduct inspection and sampling within the cremators, chimney and flues to assess the levels of contamination due to the operation of the crematorium. It is recommended that samples shall be collected from the potential areas of contamination for testing of dioxin, heavy metal and PAH after decommissioning and prior to the demolition of the Existing Crematorium.					
S.6.9.6 - S.6.9.7	S.5.3.15 - S.5.3.17	Asbestos Containing Material ▮ Asbestos wastes shall be handled in accordance with the Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste issued by the Environment and Food Bureau. ▮ Production, collection and disposal of Asbestos waste will follow the 'trip-ticket' system. The registered asbestos contractor shall appoint a licensed asbestos waste collector to collect the packaged asbestos waste and deliver it to the designated landfill for disposal. Notification has to be given to EPD for its disposal. EPD will normally require ten working days notice of the intention to dispose of any quantity of asbestos waste. After processing the notification, EPD will issue specific instructions and directions for disposal of the waste. The waste producer or agent must strictly follow these directions.	Cremator room in Existing Crematorium / before demolition and after decommission	Contractor	Construction Phase	COP on Handling, Transportation and Disposal of Asbestos Waste under the Waste Disposal (Chemical Waste) (General) Regulation.	NA
		Dioxin Contaminated Materials (DCM) / Heavy Metal Contaminated Materials (HMCM) / Polyaromatic Hydrocarbon Contaminated Materials (PAHCM) from Demolition of the Existing Crematorium ▮ Proposed Contamination Classifications for Ash Waste with DCM / HMCM / PAHCM.	Cremator room in Existing Crematorium / before demolition and after decommission	Contractor	Construction Phase	ProPECC PN 3/94 APCO	NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		<table><tr><td>Classification of Contamination</td><td>Dioxin Level in ash waste</td><td>Heavy Metal Level / Polyaromatic Hydrocarbon in Ash Waste</td></tr><tr><td>Low Contaminated DCM/HMCM/PAHCM</td><td><1 ppb TEQ</td><td>< Dutch “B” List</td></tr><tr><td>Moderately/Severely Contaminated HMCM/PAHCM</td><td><1 ppb TEQ</td><td>> Dutch “B” List</td></tr><tr><td>Moderately Contaminated DCM</td><td>> 1 and < 10 ppb TEQ</td><td>Any Level</td></tr><tr><td>Severely contaminated DCM</td><td>>10 ppbTEQ</td><td>Any Level</td></tr></table>					
S.6.9.9	S.5.3.19	Demolition, Handling, Treatment and Disposal of Low Contaminated DCM / HMCM / PAHCM from Demolition of Existing Crematorium ▮ Where the ash waste contains low contaminated DCM / HMCM / PAHCM, the contractor shall avoid ash waste becoming airborne during demolition. General dust suppression measures shall be followed. The ash waste can be directly disposed of at a landfill site.	Cremator room in Existing Crematorium / demolition	Contractor	Construction Phase	ProPECC PN 3/94 APCO	NA
S.6.9.10 - S.6.9.14	S.5.3.20 - S.5.3.24	Demolition, Handling, Treatment and Disposal of Moderately / Severely Contaminated DCM and Moderately / Severely Contaminated HMCM / PAHCM from Demolition of the Existing Crematorium *Site preparation procedures:* ▮ Except the cremators/flue/chimney, all removable contaminated items shallbe removed as far as practicable to avoid obstructing the decontamination activities. ▮ Preliminary site decontamination of all debris shall be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner. ▮ A chamber with three layers of polythene sheets shall enclose the	Cremator room in Existing Crematorium / demolition	Contractor	Construction Phase	Waste Disposal (Chemical Waste) (General) Regulation ProPECC PN 3/94 APCO	NA

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		top portion of the chimney above the roof. ▮ A 3-chamber decontamination unit shall be constructed at the entrance to the cremators/flues/chimney for entry and exit from the work area. It shall comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3 layers of fire retardant polythene sheet. ▮ Workers shall carry out decontamination procedures before leaving thework area. ▮ All workers shall wear full protective equipment, disposable protective overall, nitrile gloves, rubber boots, and full-face positive pressure respirator. ▮ Warning signs in both Chinese and English shall be put up in conspicuous areas. *Site preparation procedures specific to severely contaminated DCM:* ▮ The walls, floor and ceiling of the cremator room shall be lined with 3-layersof fire retardant polythene sheets. ▮ Air movers shall be installed at the cremator room, and at the bottom of the chimney to exhaust air from the work area. A stand by air mover shall alsobe installed with each of the air movers. Sufficient air movement shall be maintained to give a minimum of 6 air changes per hour to the workarea. ▮ New pre-filters and HEPA filters shall be used on the air movers. ▮ Before commencement of the decommissioning work a smoke test with non- toxic smoke shall be carried out to ensure the air tightness of thecontainment. *Demolition and handling procedures:* ▮ The cremators/flue/chimney shall be removed from top down. ▮ Scrubbing and HEPA vacuuming shall be used to remove any ash or residues attached to the cremators, flue, chimney and other building structures. ▮ Wastes generated from the contaminant or decontamination unit including the workers protection clothing shall be disposed of at landfill site. ▮ After completion of removal, all surfaces shall be decontaminated byHEPA vacuum. ▮ If any contaminated wastewater needs to be discharged out of the					

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		site, it shall be properly treated to WPCO requirements with prior agreements with EPD on discharge standards. *Demolition and handling procedures specific to severely contaminated DCM:* ▮ The contaminated detached sections of the building structures shall be wrapped with 2 layers of fire retardant polythene sheets. A third layer shall be wrapped and secured with duct tape. Wet wiping shall be used to decontaminate the outer layer. ▮ After completion of removal and decontamination, spray the innermost layer of the fire retardant polythene sheet with PVA. Upon drying, peel off and dispose of at landfill site. Repeat for the other 2 layers disposing the final layer as contaminated wastes. *Treatment and disposal procedures:* ▮ Immobilise the ash waste by mixing with cement in the correct ratio as determined by pilot mixing and TCLP test. ▮ Place material in polythene lined steel drums for disposal at landfill. The drums should clearly be marked with "DANGEROUS CHEMICAL WASTE" in English and Chinese. Prior agreement of the disposal criteria must be obtained from EPD and the landfill operator. ▮ If the landfill disposal criteria cannot be met, disposal at the CWTC in Tsing Yi shall be considered.					
S.6.9.1 - S.6.9.2	S.5.3.25 - S.5.3.7	Chemical Waste ▮ Should any chemical waste be generated, the Contractor must register with the EPD as chemical waste producer. ▮ All the chemical waste shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste shall be stored and collected by an approved contractor for disposal at a licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. ▮ Principles of reuse and recycle chemical waste on site as far as practicable shall be adopted by the Contractor.	Project site / demolition	Contractor	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Waste Disposal (Chemical Waste) (General) Regulation.	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.6.9.3	S.5.3.28	Containers used for the storage of chemical waste shall: ▮ Be suitable for the substance they are holding, resistant to corrosion, maintained in good condition, and securely closed. ▮ Have a capacity of less than 450 litres unless the specifications havebeen approved by the EPD. ▮ Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation.					
S.6.9.4	S.5.3.29	The storage area for chemical waste shall: ▮ Be clearly labelled and used solely for the storage of chemical waste. ▮ Be enclosed on at least 3 sides. ▮ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest. ▮ Have adequate ventilation. ▮ Be covered to prevent rainfall entering (water collected within the bundmust be tested and disposed as chemical waste if necessary). ▮ Be properly arranged so that incompatible materials are adequately separated.					
S.6.9.25	S.5.3.30	Disposal of chemical waste shall be: ▮ Via a licensed waste collector. ▮ A facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi, which offers a chemical waste collection service and can supply the necessary storage containers. or ▮ A waste recycling plant approved by EPD.					

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.6.7.27 - S.6.7.28	S.5.3.31 - S5.3.32	General Refuse ▮ General refuse shall be stored in enclosed bins or compaction units separate from C&D and chemical wastes. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts. ▮ Individual collectors often recover aluminium cans from the waste stream if they are segregated or easily accessible. Therefore, separately labelled bins for their deposit shall be provided if feasible. Similarly, plastic bottles and carton package material generated on site shall be separated for recycling as far as possible. Site office waste shall be reduced through recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme shall be considered if one is available.	Project site / construction and demolition stages	Contractor	Construction Phase		Implemented
Waste Management (EM&A)							
S.11.2.17	S.5.3.10	Supplementary site investigations shall be conducted for asbestos in building structures and for dioxins, heavy metals and PAH in ash/particular matter samples.	Cremators / flue / chimney and surrounding area. After decommissioning but prior to demolition	Contractor	Construction Phase	ProPECC PN 2/97 and 3/94 AIR, AMP/AAP to be submitted under APCO Future Supplementary Investigation Site Plan	NA
Landscape and Visual (Construction Phase)							
S.7.9.2 MC 1	S.6.3.1	Site offices and construction yards: ▮ Site offices shall have olive green roof and façade coating or colour matches with existing environment. ▮ Site offices and the construction yard shall be decommissioned after construction.	All site offices / Design and construction phases	ArchSD's Contractor	Construction Phase		Implemented
S.7.9.2 MC 2	S.6.3.1	Height of site offices: ▮ The height of site offices, including the rooftop shall not exceed 10m. ▮ Building services equipment such as antennas may exceed 10m and shall be coated in black.	All site offices / Design and construction phases	ArchSD's Contractor	Construction Phase		Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.7.9.2 MC 3	S.6.3.1	Hoarding and screening: ▮ Where practical the site offices areas, construction yards and storage areas shall be screened using colour in harmony with the surrounding environment around the peripheries of the works area until the completion of relevant construction phases.	All site offices and construction yard areas / Design and construction phases	ArchSD's Contractor	Construction Phase		Implemented
S.7.9.2 MC 4	S.6.3.1	Construction plant and building material: ▮ Shall be orderly and carefully stored in order to appear neat and avoid visibility from outside where practical. ▮ Excess materials shall be removed from site as soon as practical. ▮ All construction plants shall be removed from site upon completion of construction works.	Works site / Design and construction phases	ArchSD's Contractor	Construction Phase		Implemented
S.7.9.2 MC 5	S.6.3.1	Construction light: ▮ To be oriented away from the viewing location of VSRs. ▮ All lighting facing sensitive receiver shall have frosted diffusers and reflective covers.	All construction lights / Design and construction phases	ArchSD's Contractor	Construction Phase		Implemented
S.7.9.2 MC 6	S.6.3.1	Silting trap: ▮ Silting traps shall be installed to minimise silting to streams.	Streams / Construction phase	Contractor	Construction Phase		NA
S.7.9.3 MT 1	S.6.3.1	Compensation for losses: ▮ The tree compensation to tree loss ratio shall be at least 1:1 in term of quantity.	Within the Wo Hop Shek Crematorium	ArchSD's Contractor	Construction Phase	ETWB TCW No. 2/2004 ETWB TCW No. 3/2006	NA
S.7.9.3 MT 2	S.6.3.1	Where practical, trees that require removal shall be transplanted on Site.	Work site / Design and construction phases	ArchSD's Contractor	Construction Phase	ETWB TCW No. 2/2004 ETWB TCW No. 3/2006	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.7.9.3 MT 3	S.6.3.1	Amenity planting: ▮ Planting works shall be carried out under the supervision of a specialist landscape sub-contractor. ▮ The rooftop of the cremation plant room shall be planted with lawn. ▮ Open spaces shall be included Project. ▮ Screen planting such as planting a roll of trees along the site boundary butting Kiu Tau Road shall be carried out. ▮ New trees, shrubs and groundcover shall be carefully selected and designed to homogenize with the environment.	As shown on mitigation measure plans / All phases	ArchSD's & FEHD's Contractor	Construction Phase	ETWB 2/2004	NA
S.7.9.3 MT 4	S.6.3.1	Woodland mix planting: ▮ Woodland mix, comprising of tree seedlings and shrubs, shall be planted within the Wo Hop Shek Cemetery to enhance the ecological value and compensatory of tree loss.	Within the Wo Hop Shek Cemetery / All phases	ArchSD's Contractor	Construction Phase	ETWB TCW No. 2/2004ETWB TCW No. 3/2006	NA
S.7.9.3 MT 5	S.6.3.1	Preservation: No tree shall be transplanted or felled without prior approval by relevant Government departments. ▮ All trees that are marked for retention shall be fenced off with a 1.2mhigh fence around the dripline of trees or larger area as far as feasible. ▮ Transplant preparation works shall be carried as soon as possible after commencement of construction. Over-pruning such as hard pruning of tree crown, pollarding or topping shall be avoided. Rootball and crown pruning shall be carried out over at least 3 months. ▮ Existing shrub and ground cover planting areas that will not be removed shall be maintained in good condition and enhanced where practical.	Work site / All phases	ArchSD's Contractor	Construction Phase	ETWB TCW No. 2/2004 ETWB TCW No.	Implemented
S.7.9.4 MB 1	S.6.3.1	The 10m height headroom cremation plant room shall be half sunken to reduce the visual impact to pedestrians.	Cremation plant room / Design phase	ArchSD's Contractor	Construction Phase		NA
S.7.9.4 MB 2	S.6.3.1	The chimney shall be designed to have sculptural outlook and articulated.	Chimney / Design phase	ArchSD's Contractor	Construction Phase		NA
S.7.9.4 MB 3:	S.6.3.1	The chimney stacks shall be designed to locate at the least conspicuous location of the site to VSRs.	Chimney / Design phase	ArchSD's Contractor	Construction Phase		NA
Landscape and Visual (EM&A)							

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.11.2.23 - S.11.2.24	S.6.2	Details of the inspection frequency and parameters will be outlined in the EM&A Manual.	Work site / Construction	Contractor	Construction Phase		NA
Water Quality (Construction Phase)							
S.8.7.1 - S.8.7.4	S.7.2.2	Construction Runoff and Drainage ▮ Wastewater shall be properly treated to meet the discharge standards set out in the relevant Water Pollution Control Ordinance (WPCO) discharge licence. No direct discharge of site runoff into the two streams shall be allowed. ▮ Provision of perimeter channels to intercept storm runoff from outside the Site. These shall be constructed in advance of site formation works andearthworks. ▮ Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the Technical Memorandum standard under the WPCO. ▮ Works shall be carefully programmed to minimise soil excavation works during rainy seasons. Exposed soil surface shall be protected by paving as soon as possibleto reduce the potential of soil erosion. ▮ Temporary access roads shall be protected by crushed gravel and exposed slope surfaces shall be protected when rainstorms are likely to occur. ▮ Trench excavation shall be avoided in the wet season as far as practicable, and if necessary, these trenches shall be excavated and backfilled in short sections. ▮ Open stockpiles of construction materials on Site shall be covered with tarpaulin or similar fabric during rainstorms. ▮ Sand and silt in the wash water from the wheel from the wheel washingfacility shall be settled out and removed before discharging into the storm drain. ▮ Oil receptor shall be provided in the drainage system and regularly emptied to prevent the release of oil and grease into the storm drainage system after accidental spillage.	Work site / Construction	Contractor	Construction Phase	ProPECC PN 1-94 & WPCO	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
S.8.7.5	S.7.2.3	General Construction Activities ▮ Debris and rubbish generated on Site shall be collected, handledand disposed of properly to avoid them entering the two streams. ▮ All fuel tanks and storage areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storagecapacity of the largest tank. ▮ Open storm water drains and culverts near the works area shall be covered to block the entrance of large debris and refuse.	Work site / Construction phase	Contractor	Construction Phase	ProPECC PN 1-94 & WPCO	Implemented
S.8.7.6	S.7.2.4	Sewage from On-site Workforce: ▮ Portable chemical toilets shall handle the sewage from construction work force if the existing toilets in the Site are not adequate. Licensed contractors who shall be responsible for appropriate disposal and maintenance of these facilities shall provide appropriate and adequate portable toilets. ▮ Sheet piling shall be provided at suitable location around the basement excavation to reduce the effect of lowering the water table from any dewatering process. Any discharge of groundwater pumped out from any dewatering process of the construction works shall be treated to comply with the standards set in the relevant discharge licence prior discharge. No discharge of the groundwater shall be allowed into the two streams.	Work site / Construction phase	Contractor	Construction Phase	WPCO	Implemented
Ecology (Construction Phase)							
S.9.8.3 -	S.8.3.1	Mitigation to minimise impacts on habitat and vegetation loss: ▮ Layout of the Project shall be carefully designed to avoid or minimise thearea of habitat loss and the numbers to trees to be felled. ▮ All trees shall be preserved as far as possible, especially species of conservation concern. Recommendations to be provided in the Tree Survey Report to mitigate impacts on trees shall be followed. ▮ Disturbance of individuals of the shrub / tree Transplantation of the two shrub / tree species of conservation concern, namely *Aquilaria sinensis* and *Cibotium barometz*, shall be avoided. Where loss of these species would be unavoidable, it is recommended to transplant them to same habitats with similar conditions. Following transplantation, regular monitoring of these trees shall be conducted by a suitable qualified botanist / horticulturist over a 12-	Work site particularly semi- natural woodland / Design and construction phases.	Arch SD / Contractor	Construction Phase	ETWB Technical Circular No. 3/2006	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		month period. ▮ Transplantation of any affected trees to grassland / scrubland within the Wo Hop Shek Cemetery. ▮ Compensatory planting of the felled trees shall follow the Technical Circular No. 3/2006 issued by ETWB.					
S.9.8.15 - S.9.8.16	S.8.3.1	Mitigation to construction runoff through general good site practice: ▮ Temporary access to the work sites shall be carefully planned and located to minimise disturbance caused to the streams and nearby habitats. ▮ Use of less or smaller construction plant may be specified to reduce disturbance to the streams and nearby habitats. ▮ Temporary sewage system shall be designed and installed to collect wastewater and prevent it from entering the streams and nearby habitats. ▮ The Site inside or in the proximity of the streams and nearby habitats shall be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props, to prevent adverse impacts on these areas. ▮ Natural bottom and existing flow in the streams shall be preserved as much as possible to avoid disturbance to the stream habitats. ▮ Proper locations well away from the streams and nearby habitats for temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil shall be identified before commencement of the works. ▮ Stockpiling of construction materials, if necessary, shall be properly covered and located away from the streams and nearby habitats. ▮ Construction debris and spoil shall be covered up and/or properly disposed of as soon as possible to avoid being washed into the streams and nearby habitats by rain. ▮ Construction effluent, site runoff and sewage shall be properly collected and/or treated.	Work site / Construction phase	Contractor	Construction Phase	ETWB Technical Circular (Works) No. 5/2005.	Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		▮ Proper locations for discharge outlets of wastewater treatment facilities well away from the streams and nearby habitats shall be identified. ▮ Vehicles and other plant shall be carefully maintained and properly used to minimise the chance for accidental spillage. ▮ Any spillages that do occur shall be quickly identified and appropriately cleaned up before they can contaminate streams or groundwater. ▮ Temporary geo-textile silt fences around earth moving works shall beerected to trap any sediments being washed away and prevent them from entering surrounding areas. ▮ Silt traps shall be installed at points where drainage from the Site enters temporary sewage system. ▮ Exposed soil or other loose materials shall be covered with tarpaulins to prevent erosion, and then seeded and covered with a biodegradable geo- textile blanket for erosion control purposes.					
S.9.8.18		Mitigation to protect the groundwater: ▮ Basement formation or any construction activities likely to pump out a large quantity of groundwater shall be protected with sheet-piling at suitable locations around the basement footprint, or by any like method. ▮ No groundwater shall be pumped back to the two stream courses to protect the natural integrity of the stream habitat and the associated organism.	Work site / Construction phase	Contractor	Construction Phase		NA
S.9.8.20	S.8.3.1	Mitigation for noise and other disturbance on ecological integrity: ▮ Use of sturdy 1.8 metres protective fencing shall be located at the edge ofthe tree canopy but not around the trunk. ▮ Works beneath the tree canopy shall be avoided: If encroachment under the canopy area is unavoidable, adequate protections shall be provided toensure no damage of any part of the tree would occur due to the encroachment. ▮ An approved Landscape Contractor shall implement any tree transplanting and planting works. Quality control of the work shall be undertaken by a qualified Landscape Architect through site inspections and approval of works.	Work site / Construction phase	Contractor	Construction Phase		Implemented

EIA Ref	EM&A Ref.	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stage	Relevant Legislation and Guidelines	Implementation Status
		▮ Construction works shall be restricted to works area which are clearly defined. ▮ Woodland or other habitats that would be affected by the construction works shall be well-defined and minimised. ▮ Human inference to habitats beyond the site boundary and habitats proposed to be retained shall be avoided by providing temporary barricades. ▮ Works area shall be reinstated immediately after completion of the construction. ▮ Waste and other garbage generated during the construction of the proposed development shall be dumped properly. ▮ Uncontrolled fire shall be strictly prohibited. Appropriate fire control measures shall be provided in order to protect nearby habitats.					
Ecology (EM&A)							
S.9.11 & S.11.2.29	S.8.2.1	Audit/Inspection: ▮ Regular site audit / inspection shall be conducted at least once a week to inspect the implementation of the recommended mitigation measures (details to be outlined in the EM&A Manual).	Work site / Construction phase	Contractor	Construction Phase		Implemented
S.11.2.32 - S.11.2.33	S.8.2.2 - S.8.2.4	Monitoring on Transplantation: ▮ Trees requiring transplantation or protection shall be identified based on the information illustrated in the Tree Survey Report. ▮ Regular monitoring after transplantation of Aquilaria sinensis and Cibotium barometz individuals shall be conducted to check on the health and conditions of the plants. Monitoring shall cover the 12-month period following transplantation. The monitoring shall be conducted by a suitably qualified botanist / horticulturist at least twice a month for the first four months after transplantation, and once a month for the remaining eight months.	Work site / Construction phase	Contractor	Construction Phase		Implemented

APPENDIX D: IMPACT MONITORING SCHEDULE OF THE REPORTING MONTH

Impact Monitoring Schedule for Expansion of Wo Hop Shek Crematorium

Mar-20						
Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
			Weekly ET site inspection and audit	Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630		
15	16	17	18	19	20	21
			Weekly ET site inspection and audit Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630			
22	23	24	25	26	27	28
		Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630 Progress Meeting	Weekly ET site inspection and audit			
29	30	31				
	Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630					

***Remarks: 1. This impact monitoring schedule is subject to change due to adverse weather conditions or other rationales.**

2. Advance notification of the changes will be given to all relevant parties at lease 48 hours prior to implementation.

APPENDIX E: EVENT/ACTION PLAN FOR DUST EXCEEDANCE

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

Event	Action			
	ET	IEC	AR	Contractor
	additional monitoring.			
Limit Level				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, AR, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and AR informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the AR on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, AR, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine	1. Discuss amongst AR, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the AR accordingly; 3. Supervise the implementation of remedial	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under

Event	Action			
	ET	IEC	AR	Contractor
	possible mitigation to be implemented; 6. Arrange meeting with IEC and AR to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and AR informed of the results; 8. If exceedance stops, cease additional monitoring.	measures.	properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	control; 5. Stop the relevant portion of works as determined by the AR until the exceedance is abated.

APPENDIX F: DUST MONITORING EQUIPMENT CALIBRATION CERTIFICATE

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	Fung Kai Liu Yun Sum Memorial School	Site ID:	A10	Date:	12-Mar-2020
Serial No:	1049	Model:	TE-5170X	Operator:	Kelvin

Ambient Condition

Corrected Pressure (mm Hg):	763.3	Temperature (deg K):	293.8

Calibration Orifice

Model:	TE-5028	Slope:	1.66723
Serial No.:	3702	Intercept:	-0.03281
Calibration Due Date:	10-Oct-20	Corr. Coeff:	0.99991

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.03	0.634	25.3	25.54
2	2.43	0.963	32.6	32.90
3	3.18	1.099	35.6	35.93
4	4.05	1.238	38.5	38.86
5	5.11	1.388	42.6	43.00

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 22.8488 b= 10.9210 Corr. Coeff= 0.9992

Sampler set point(SSP) 38 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

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

Checked by: Kelvin 十文 Date: 12-Mar-2020

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	Fung Kai Liu Yun Sum Memorial School	Site ID:	A10	Date:	24-Mar-2020
Serial No:	1049	Model:	TE-5170X	Operator:	Kelvin

Ambient Condition

Corrected Pressure (mm Hg):	763.4	Temperature (deg K):	294.8

Calibration Orifice

Model:	TE-5028	Slope:	1.66723
Serial No.:	3702	Intercept:	-0.03281
Calibration Due Date:	10-Oct-20	Corr. Coeff:	0.99991

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	0.79	0.557	25.7	25.90
2	1.21	0.685	28.6	28.82
3	2.93	1.054	35.8	36.07
4	3.78	1.195	38.7	39.00
5	4.58	1.313	41.2	41.52

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 20.4062 b= 14.6562 Corr. Coeff= 0.9998

Sampler set point(SSP) 39 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

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

For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

Checked by: Kelvin 培 Date: 24-Mar-2020

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	Fanling Government School	Site ID:	A20	Date:	12-Mar-2020
Serial No:	1050	Model:	TE-5170X	Operator:	Kelvin

Ambient Condition

Corrected Pressure (mm Hg):	763.3	Temperature (deg K):	293.8

Calibration Orifice

Model:	TE-5028	Slope:	1.66723
Serial No.:	3702	Intercept:	-0.03281
Calibration Due Date:	10-Oct-20	Corr. Coeff:	0.99991

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	0.83	0.571	25.8	26.04
2	1.46	0.751	30.3	30.58
3	2.76	1.025	36.2	36.54
4	3.98	1.227	40.6	40.98
5	5.02	1.376	44.2	44.61

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 22.7535 b= 13.2181 Corr. Coeff= 0.9997

Sampler set point(SSP) 40 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

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

For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

Checked by: Kelvin 培 Date: 12-Mar-2020

InnoTech Instrumentation Co. Ltd.
創 新 科 儀 有 限 公 司

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	Fanling Government School	Site ID:	A20	Date:	24-Mar-2020
Serial No:	1050	Model:	TE-5170X	Operator:	Kelvin

Ambient Condition

Corrected Pressure (mm Hg):	763.4	Temperature (deg K):	294.8

Calibration Orifice

Model:	TE-5028	Slope:	1.66723
Serial No.:	3702	Intercept:	-0.03281
Calibration Due Date:	10-Oct-20	Corr. Coeff:	0.99991

Calibration Data

Plate or Test #	In,H2O (in)	Qa, X-Axis (m3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.24	0.693	23.9	24.08
2	1.98	0.870	29.5	29.73
3	3.03	1.072	35.3	35.57
4	4.15	1.251	41.2	41.52
5	5.09	1.383	45.6	45.95

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 31.4670 b= 2.2106 Corr. Coeff= 0.9997

Sampler set point(SSP) 40 CFM

Calculations

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
(1.21*m+b)/[Sqrt(298/Tav)(Pav/760)]

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

Checked by: Kelvin 培 Date: 24-Mar-2020

TISCH Environmental

RECALIBRATION DUE DATE:
October 10, 2020

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	October 10, 2019	Rootsmeter S/N: 438320	Ta: 296	°K	
Operator:	Jim Tisch		Pa: 748.03	mm Hg	
Calibration Model #:	TE-5028A	Calibrator S/N: 3702			

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3100	4.1	1.50
2	3	4	1	1.0240	6.7	2.50
3	5	6	1	0.9260	8.0	3.00
4	7	8	1	0.8620	9.4	3.50
5	9	10	1	0.6540	16.2	6.00

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)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9855	0.7523	1.2192	0.9945	0.7592	0.7704
0.9820	0.9590	1.5739	0.9910	0.9678	0.9946
0.9803	1.0586	1.7242	0.9893	1.0684	1.0895
0.9784	1.1351	1.8623	0.9874	1.1455	1.1768
0.9694	1.4823	2.4383	0.9783	1.4959	1.5409
QSTD	m=	1.66723	QA	m=	1.04399
	b=	-0.03281		b=	-0.02074
	r=	0.99991		r=	0.99991

Calculations

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

For subsequent flow rate calculations:

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

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.

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

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

SIBATA

SIBATA SCIENTIFIC TECHNOLOGY LTD.
1-1-62, Nakane, Soka, Saitama, 340-0005 Japan
TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: August 28th, 2019

Equipment Name	:	Digital Dust Indicator, Model LD-5R
Code No.	:	080000-72
Quantity	:	1 unit
Serial No.	:	851820
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	640
Scale Setting	:	August 23rd, 2019

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

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Tong Zhang

Tong Zhang
Overseas & New Business Group
Overseas Sales Department

SIBATA SCIENTIFIC TECHNOLOGY LTD.

SIBATA

SIBATA SCIENTIFIC TECHNOLOGY LTD.
1-1-62, Nakane, Soka, Saitama, 340-0005 Japan
TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: September 24th, 2019

Equipment Name	:	Digital Dust Indicator, Model LD-5R
Code No.	:	080000-72
Quantity	:	1 unit
Serial No.	:	992818
Sensitivity	:	0.001 mg/m3
Sensitivity Adjustment	:	638CPM
Scale Setting	:	September 3rd, 2019

We hereby certify that the above mentioned instrment has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Tong Zhang

Tong Zhang
Overseas & New Business Group
Overseas Sales Department

SIBATA SCIENTIFIC TECHNOLOGY LTD.

APPENDIX G: THE CERTIFICATION OF LABORATORY CERTIFICATE

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，
of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定
listed in the HOKLAS Directory of Accredited Laboratories within the test category of
測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised international Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格演示在指定範圍所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
發發日期：二零零九年五月五日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 000552

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ACUMEN LABORATORY AND TESTING LIMITED
浩科檢測中心有限公司

Lot 12, Tam Kon Shan Road, North Tsing Yi, New Territories, Hong Kong
香港新界青衣北担杆山路12路段

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
在認可諮詢委員會的建議下獲香港認可處執行機關接受為

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO/IEC 17025:2005 and it has been accredited for performing specific tests or calibrations as listed in the scope of accreditation within the test category of

Environmental Testing

此實驗所符合ISO/IEC 17025:2005所訂的要求
並獲認可進行載於認可範圍內下述測試類別中的指定測試或校正工作

環境測試

This accreditation to ISO/IEC 17025:2005 demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2005 的認可資格證明此實驗所具備指定範疇內所須的技術能力並實施一套實驗所質量管理體系(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

WONG Wang-wah, Executive Administrator
執行幹事 黃宏華
Issue Date : 16 July 2014
簽發日期：二零一四年七月十六日

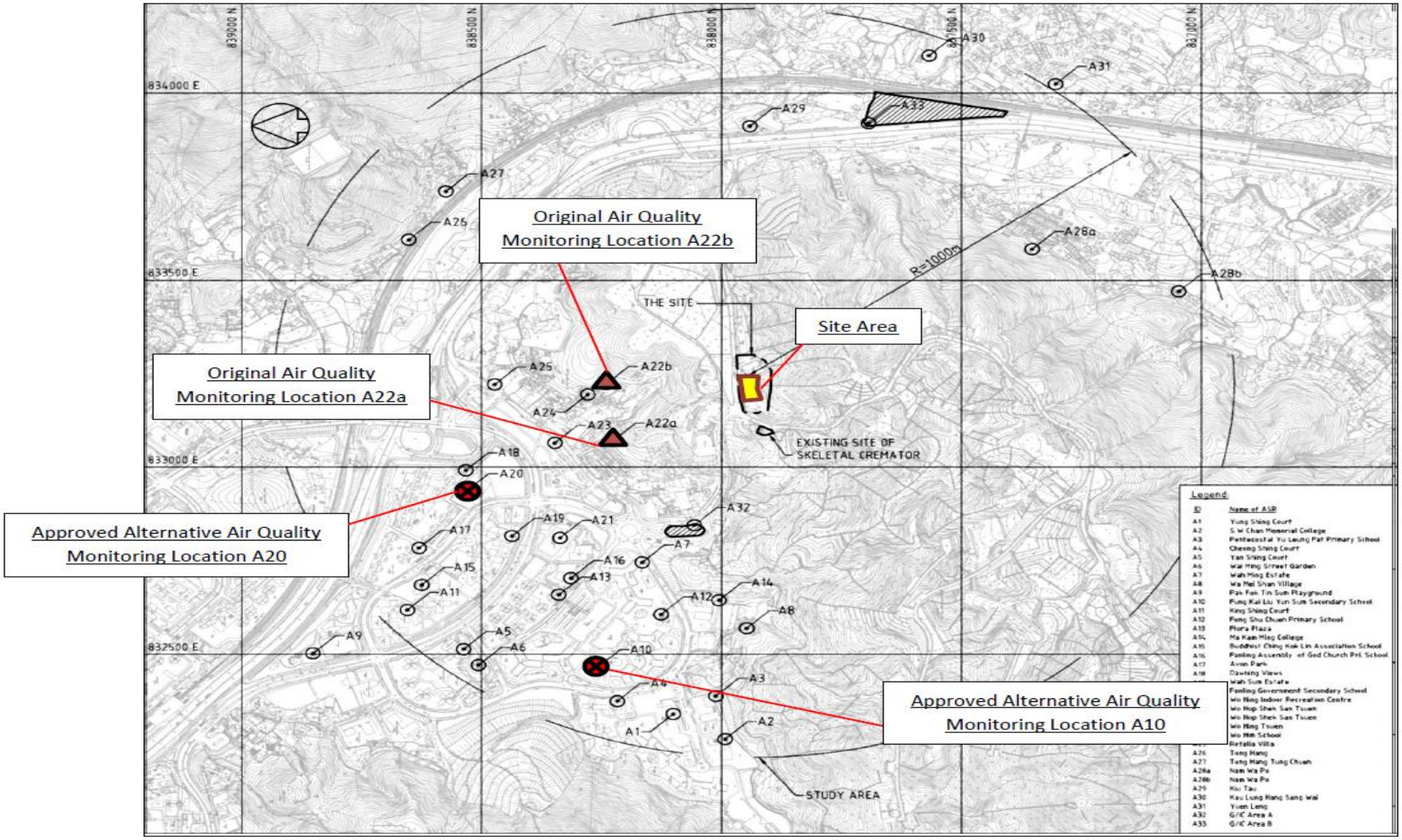
Registration Number : HOKLAS 241
註冊號碼：

Date of First Registration : 16 July 2014
首次註冊日期：二零一四年七月十六日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L 001195

APPENDIX H: LOCATION PLAN OF AIR QUALITY MONITORING STATION

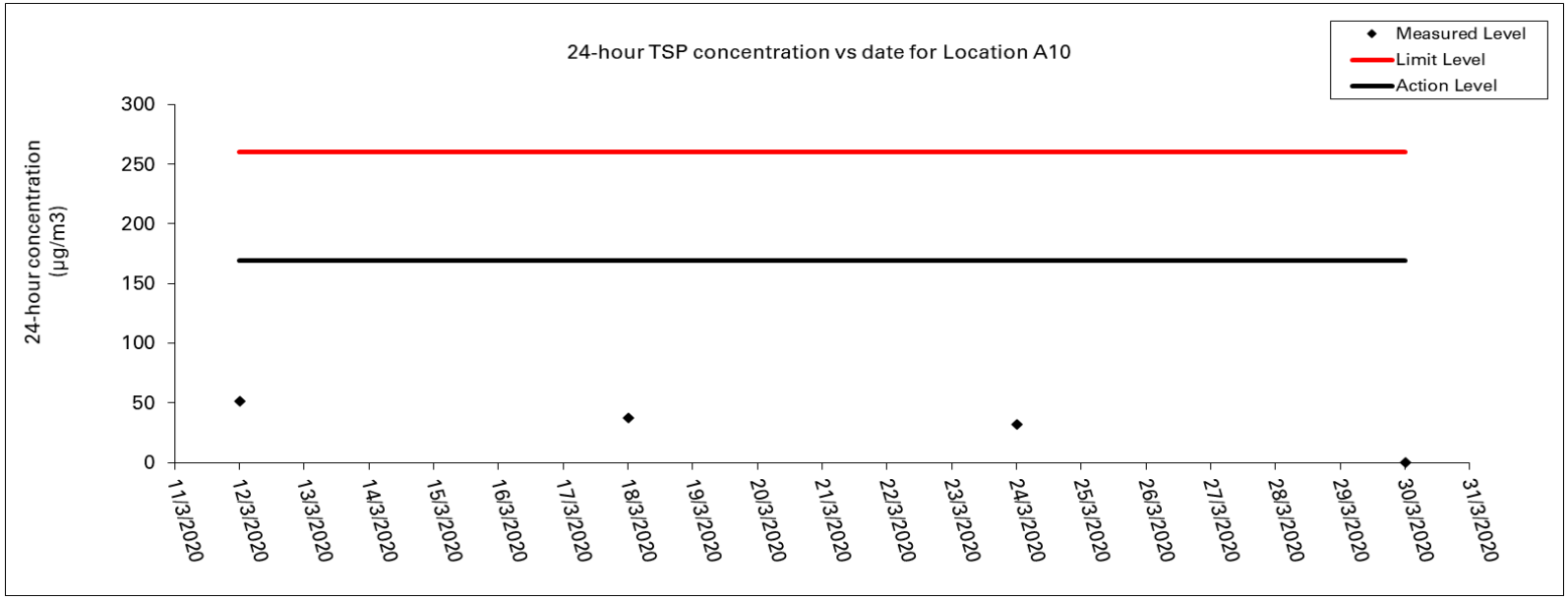


APPENDIX I: AIR QUALITY MONITORING DATA

The Summary of TSP-1hr Concentration (μg/m³) at A10

Date	Weather	Sampling Time (1)	Sampling Time (2)	Sampling Time (3)	Reading (1)	Reading (2)	Reading (3)	Average
					μg/m³	μg/m³	μg/m³	μg/m³
12/03/2020	Cloudy	10:00	11:00	12:00	64	60	71	65
18/03/2020	Cloudy	13:52	14:52	15:52	76	58	63	66
24/03/2020	Cloudy	10:30	11:30	12:30	49	55	52	52
30/03/2020	Cloudy	9:30	10:30	11:30	60	54	59	58

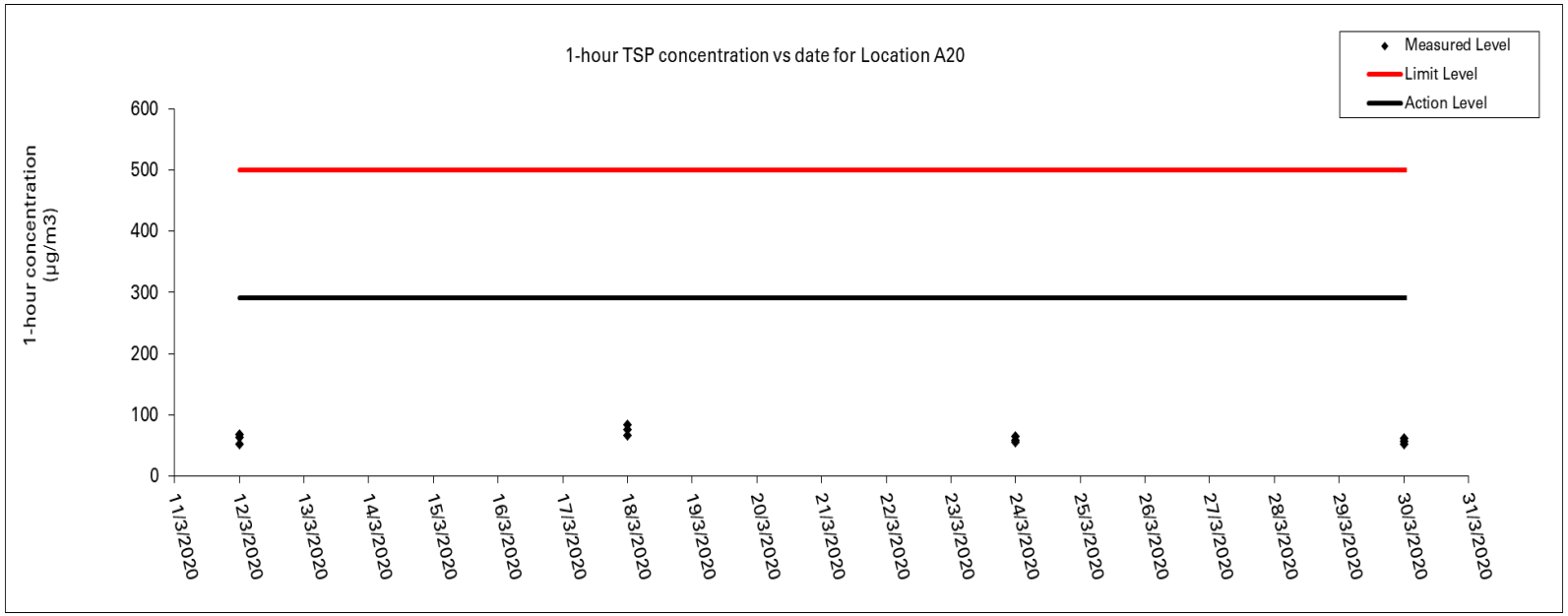
		Max.	Min.
Average TSP-1hr:	60	76	49



The Summary of TSP-1hr Concentration (μg/m³) at A20

Date	Weather	Sampling Time (1)	Sampling Time (2)	Sampling Time (3)	Reading (1)	Reading (2)	Reading (3)	Average
					μg/m³	μg/m³	μg/m³	μg/m³
12/03/2020	Cloudy	10:30	11:30	12:30	52	68	63	61
18/03/2020	Cloudy	13:30	14:30	15:30	67	84	76	76
24/03/2020	Cloudy	11:00	12:00	13:00	55	59	65	60
30/03/2020	Cloudy	9:00	10:00	11:00	61	53	57	57

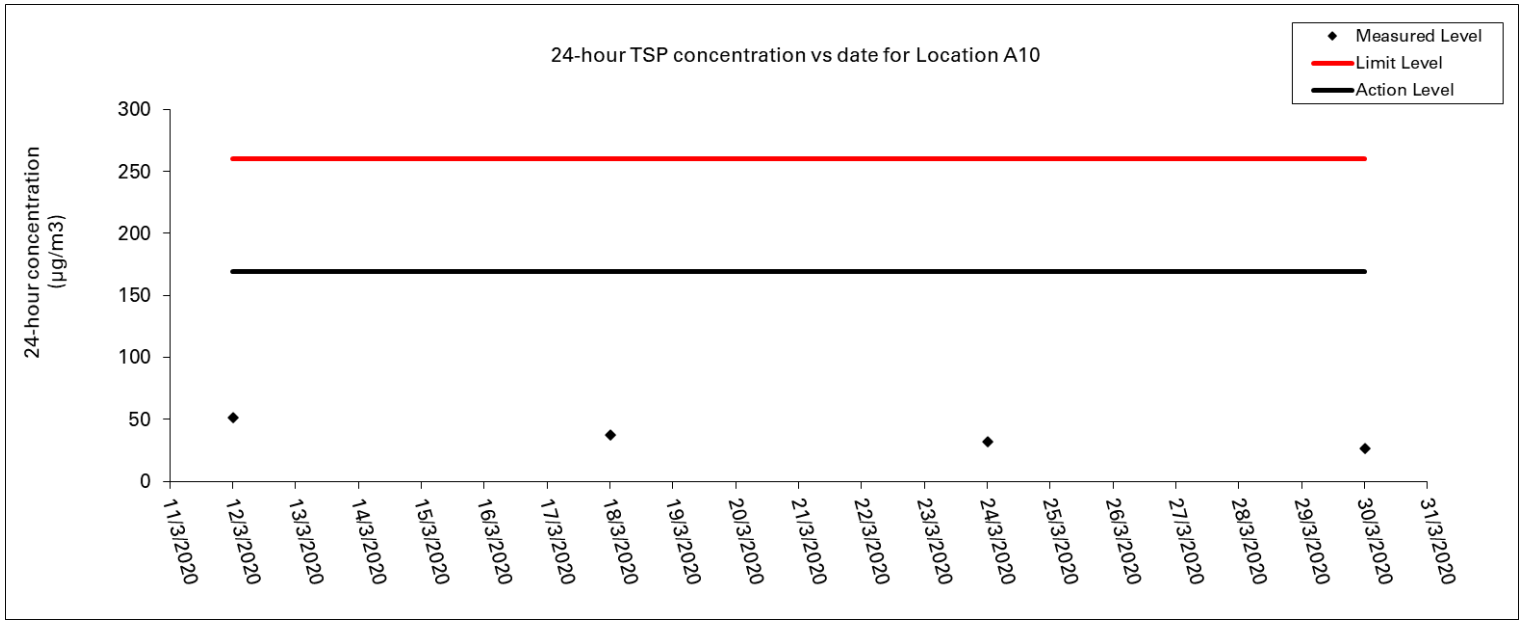
		Max.	Min.
Average TSP-1hr:	63	84	52



Date of Calibration: 12-Mar-20	Slop =	22.8488
Calibration due date: 26-Mar-20	Intercept =	10.9210
Date of Calibration: 24-Mar-20	Slop =	20.4062
Calibration due date: 7-Apr-20	Intercept =	14.6562

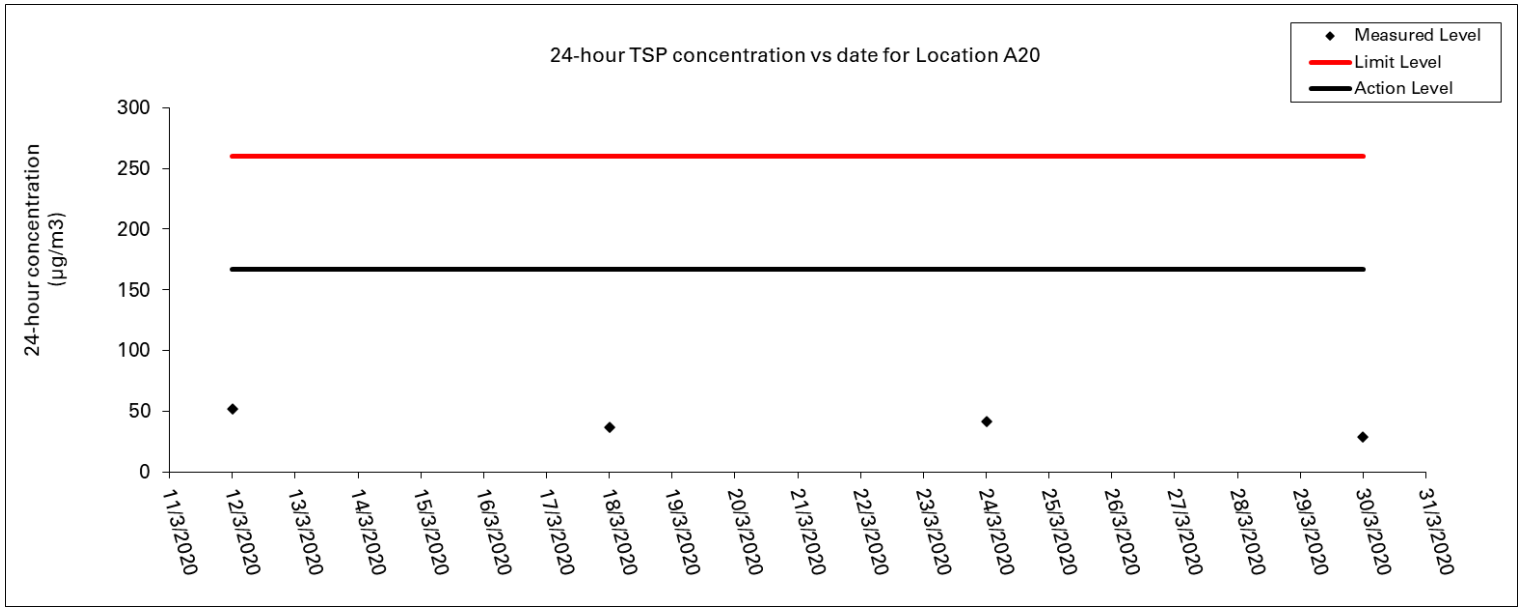
Start Date	Weather Condition	Elapse Time			Chart Reading			Avg Air Temp (°C)	Avg Atmospheric Pressure (mm Hg)	Flow Rate (m³/min)	Standard Air Volume (m³)	Filter Weight (g)		Particulate weight (g)	Conc. (µg/m³)
		Initial	Final	Actual (min)	Min	Max	Avg					Initial	Final		
12/3/2020	Cloudy	5859.2	5883.2	1440.0	40	40	40.0	20.8	763.3	1.29	1862	2.7452	2.8409	0.0957	51
18/3/2020	Cloudy	5883.2	5907.2	1440.0	40	40	40.0	19.5	765.4	1.30	1874	2.7149	2.7854	0.0705	38
24/3/2020	Cloudy	5909.7	5933.7	1440.0	40	41	40.5	21.8	763.4	1.31	1889	2.6949	2.7554	0.0605	32
30/3/2020	Cloudy	5933.7	5957.7	1440.0	40	40	40.0	19.7	760.0	1.29	1855	2.7008	2.7508	0.0500	27

Min	27
Max	51
Avg	37



Date of Calibration: 12-Mar-20		Slop =	22.7535
Calibration due date: 26-Mar-20		Intercept =	13.2181
Date of Calibration: 24-Mar-20		Slop =	31.4670
Calibration due date: 7-Apr-20		Intercept =	2.2106

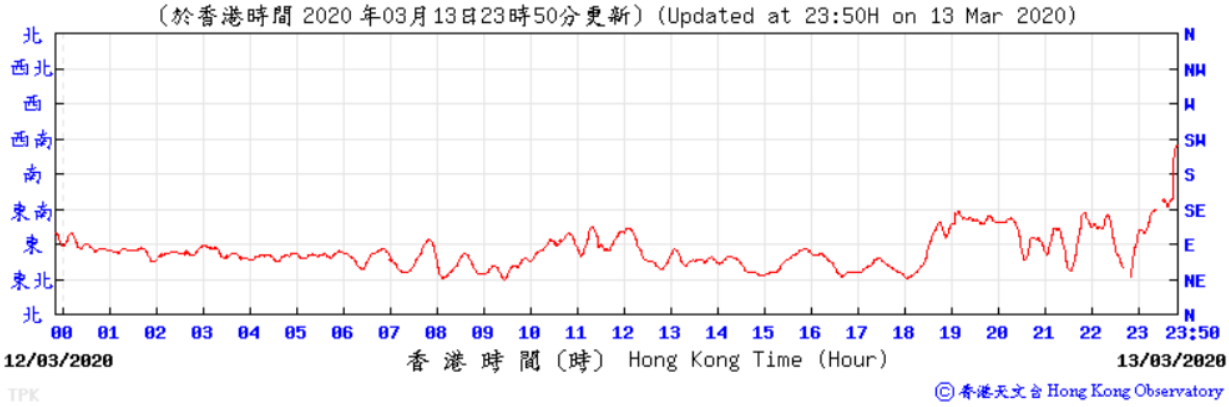
Start Date	Weather Condition	Elapse Time			Chart Reading			Avg Air Temp (°C)	Avg Atmospheric Pressure (mm Hg)	Flow Rate (m³/min)	Standard Air Volume (m³)	Filter Weight (g)		Particulate weight (g)	Conc. (µg/m³)
		Initial	Final	Actual (min)	Min	Max	Avg					Initial	Final		
12/3/2020	Cloudy	5859.3	5883.3	1440.0	39	40	39.5	20.8	763.3	1.18	1692	2.7466	2.8338	0.0872	52
18/3/2020	Cloudy	5883.3	5907.3	1440.0	39	40	39.5	19.5	765.4	1.18	1705	2.6989	2.7610	0.0621	36
24/3/2020	Cloudy	5910.2	5934.2	1440.0	39	40	39.5	21.8	763.4	1.17	1688	2.7001	2.7695	0.0694	41
30/3/2020	Cloudy	5933.7	5957.7	1440.0	40	40	40.0	19.7	760.0	1.19	1718	2.6789	2.7285	0.0496	29
												Min		29	
												Max		52	
												Avg		43	



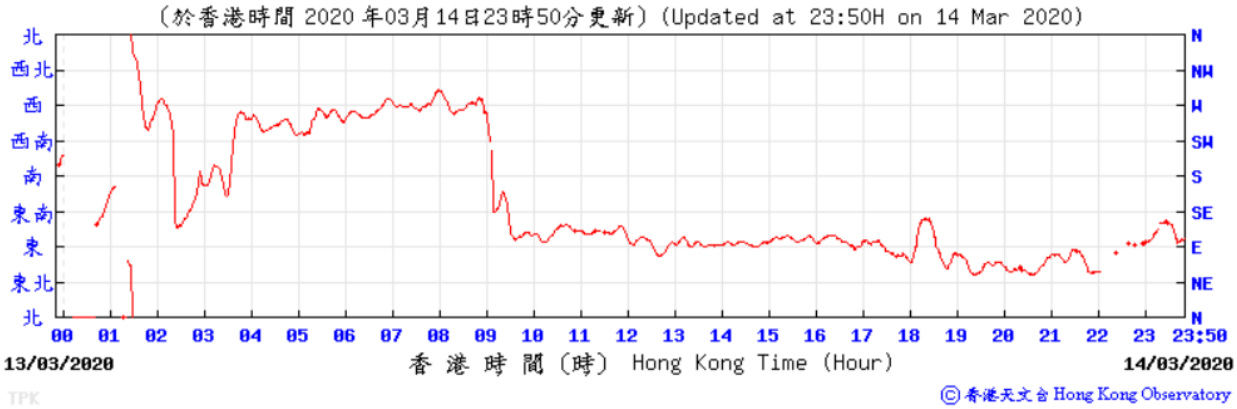
Wind direction data for 12, 18, 24 and 30 March 2020

A. 12/03/2020:

Wind Direction:



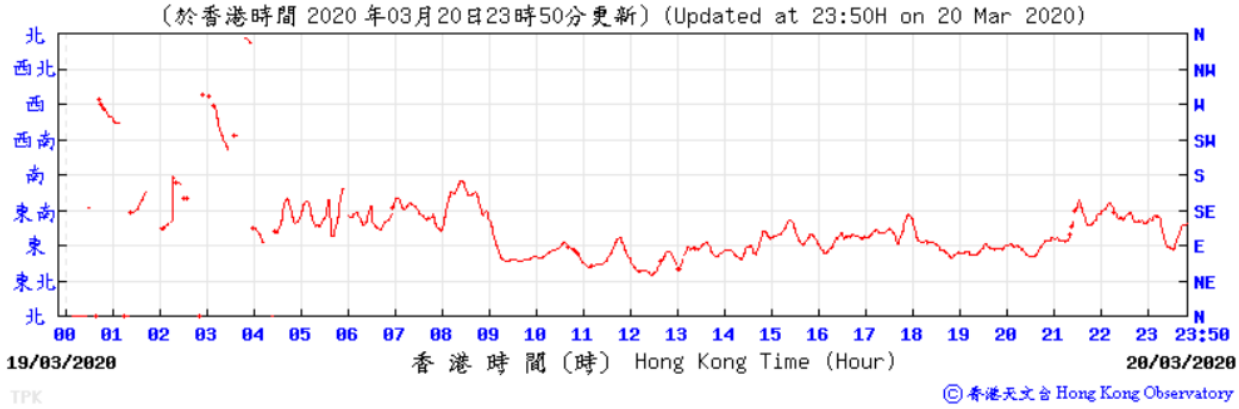
Wind Direction:



B. 18/03/2020:

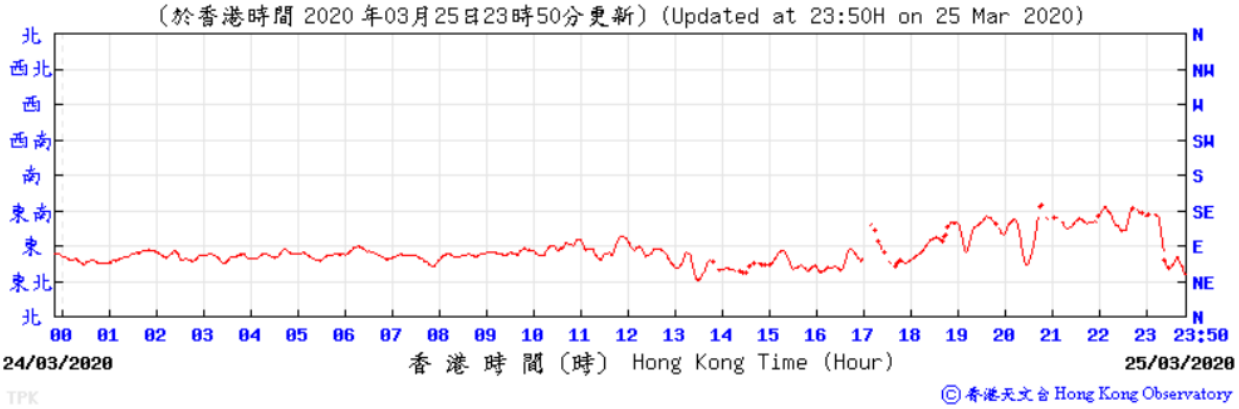
Wind Direction:

Wind Direction:

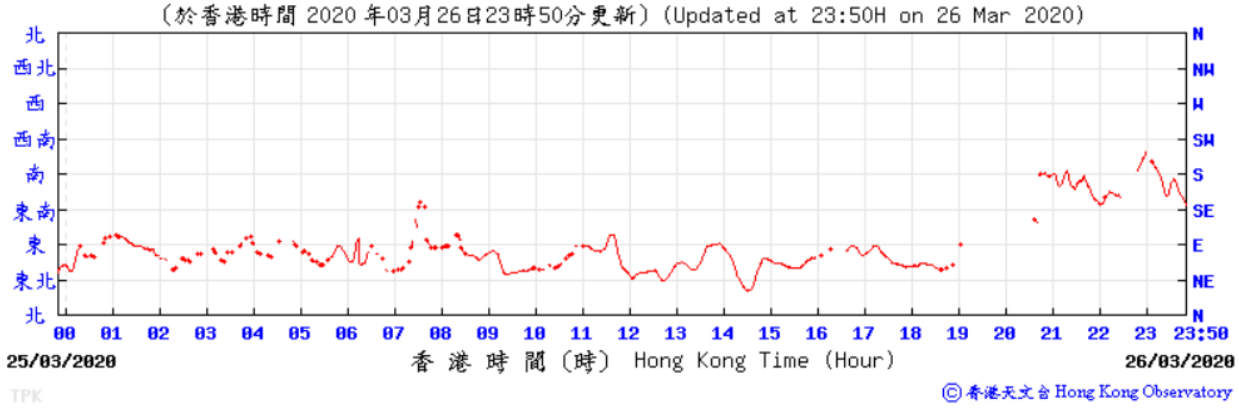


C. 24/03/2020:

Wind Direction:

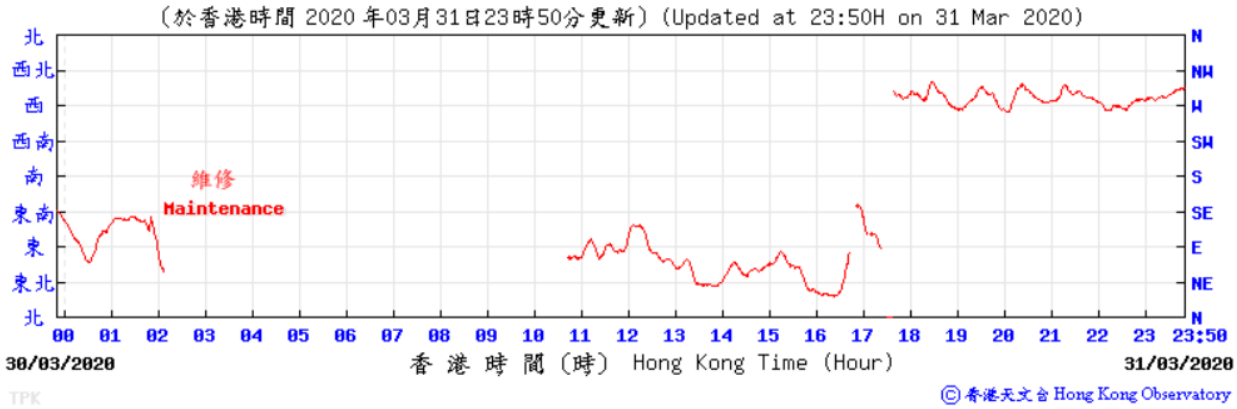


Wind Direction:

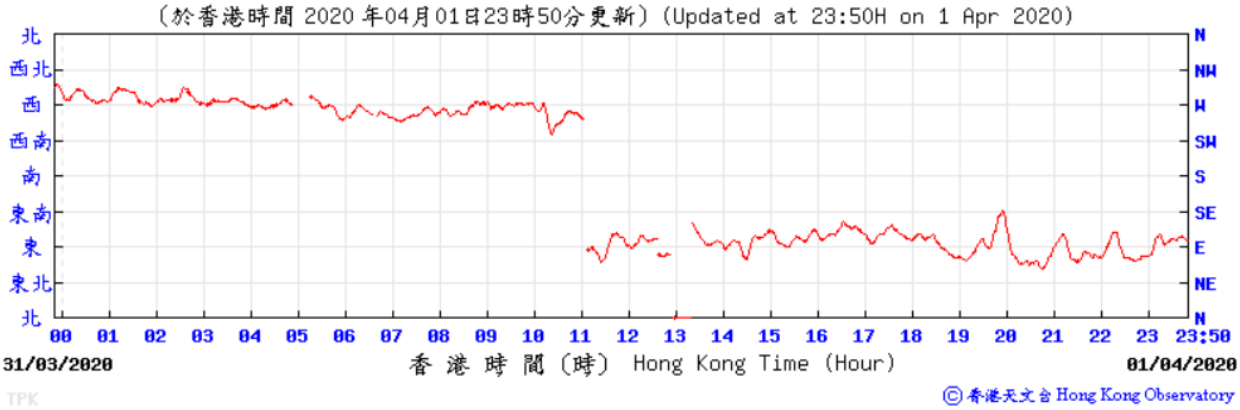


D. 30/03/2020:

Wind Direction:

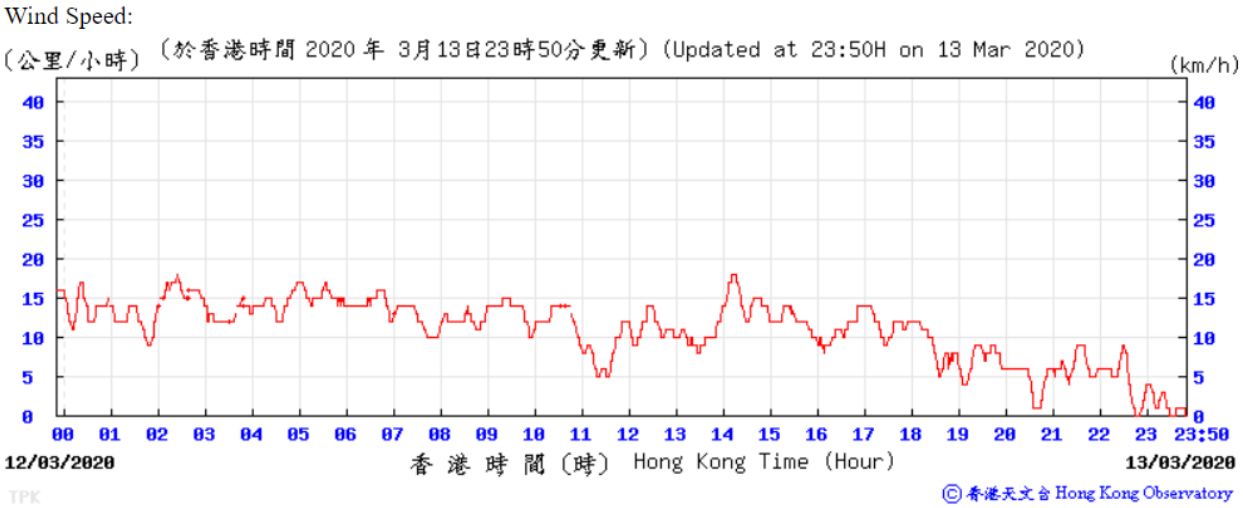


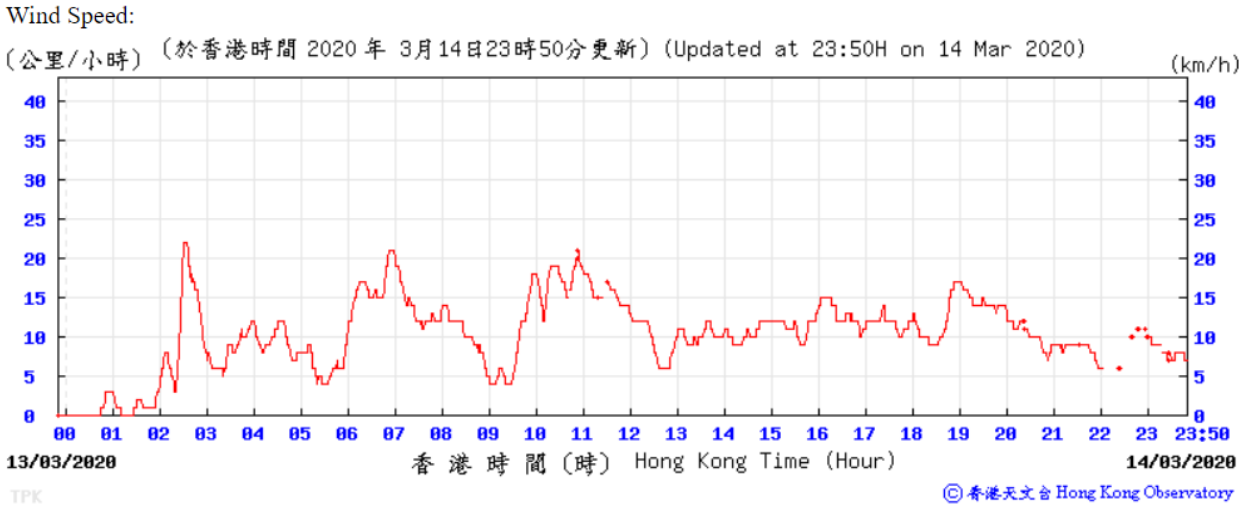
Wind Direction:



Wind speed data for 12, 18, 24 and 30 March 2020

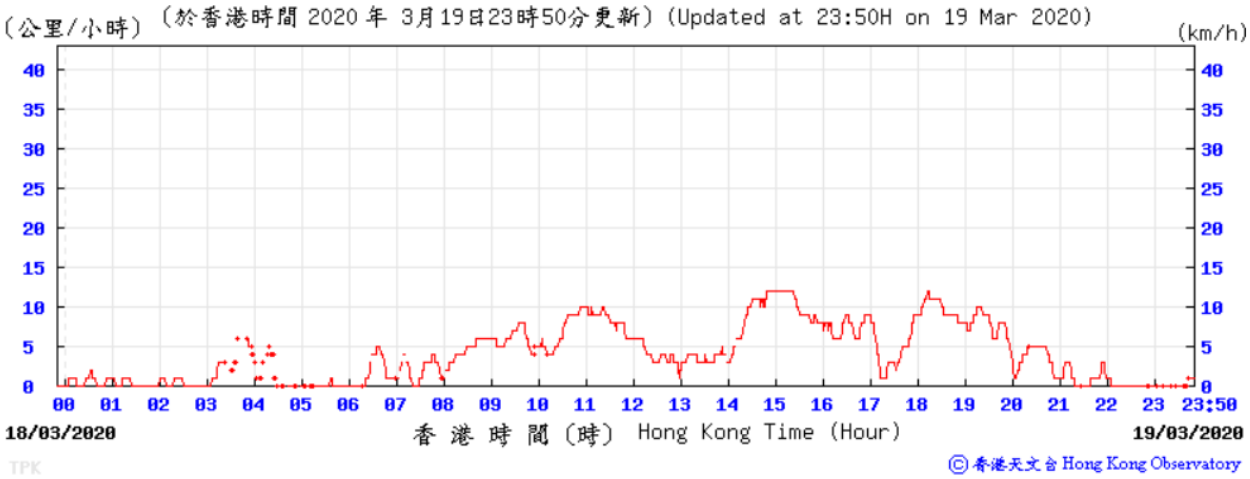
A. 12/03/2020:



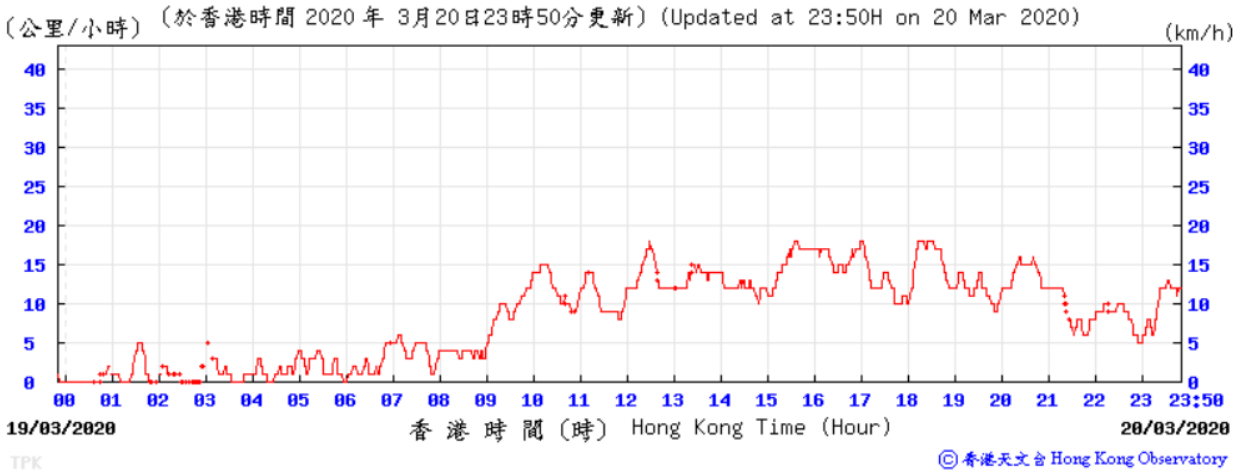


B. 18/03/2020:

Wind Speed:

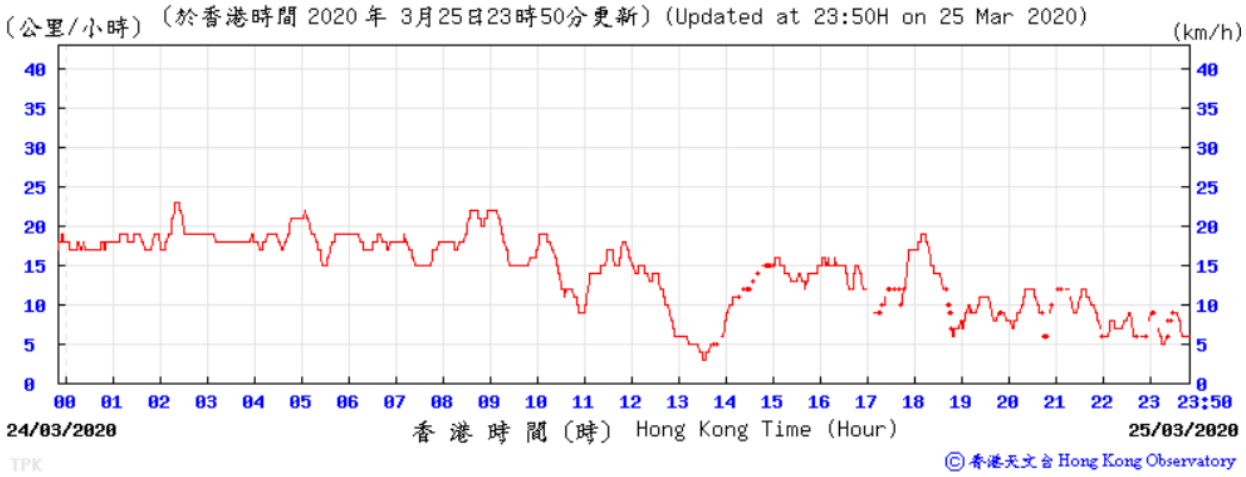


Wind Speed:

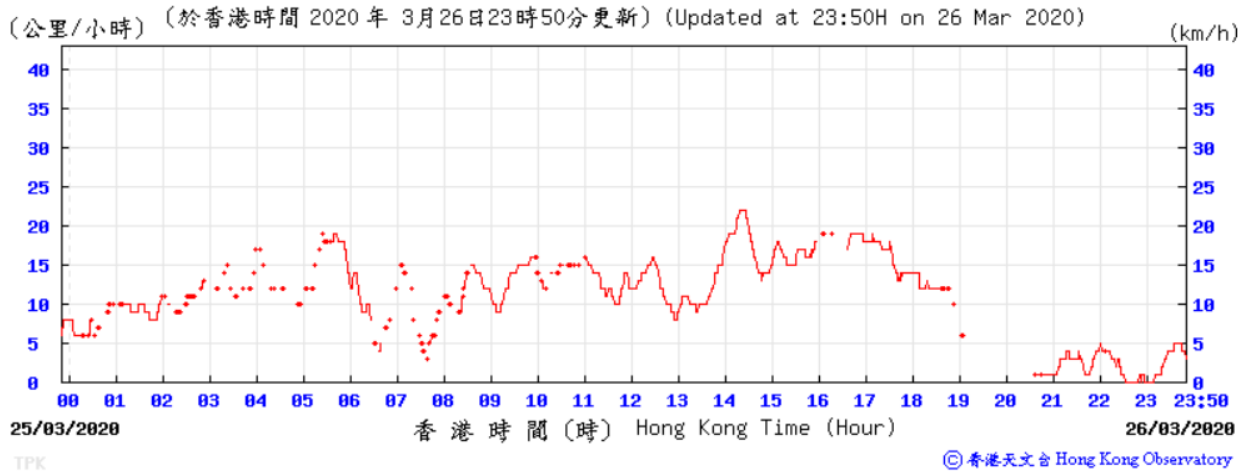


C. 24/03/2020:

Wind Speed:

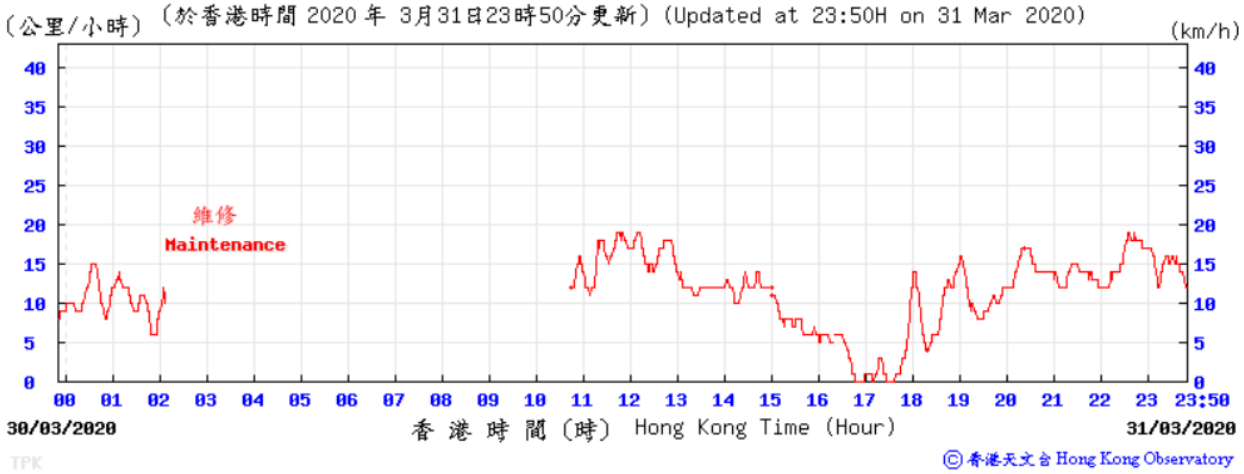


Wind Speed:

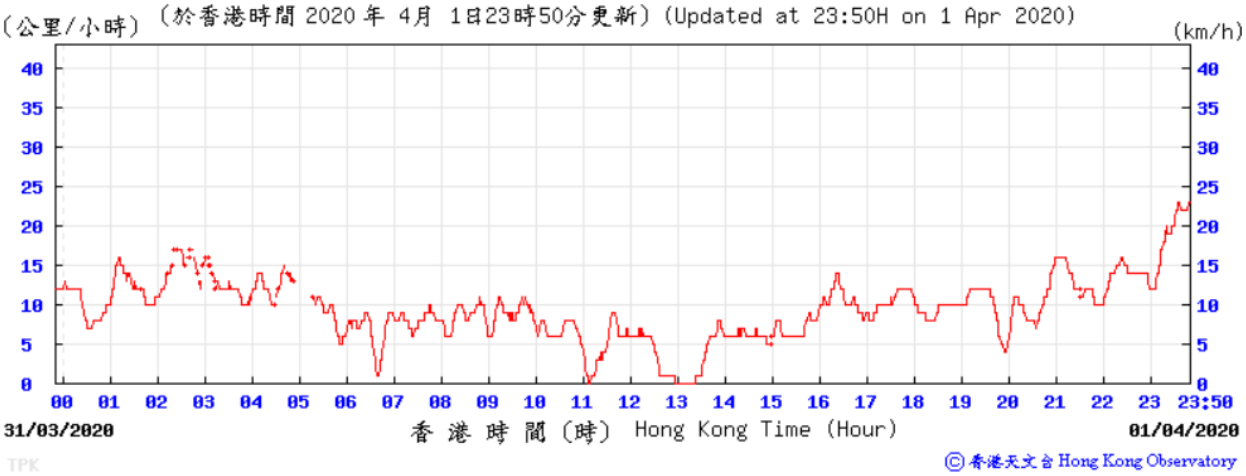


D. 30/03/2020:

Wind Speed:



Wind Speed:



APPENDIX J: WASTE FLOW TABLE

Reporting Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note)	Chemical Waste	Others, e.g. general refuse
	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)
March 2020	1.35	0	0	0	1.35	0	0	0	0	0	0

Waste to Fill Bank (March 2020):

Facility	Date of transaction	Vehicle No.	Account No.	Chit No.	Time-in	Time-out	Waste depth (meter)	Weight-in (tonne)	Weight-out (tonne)	Net weight (tonne)
TKO137FB	25/03/20	NP7*6	7032841	20269124	15:10	15:18	0	16.26	14.91	1.35
									Grand Total:	**1.35**

THE GOVERNMENT OF THE HKSAR
FILL BANK AT TSEUNG KWAN O AREA 137
TRANSACTION RECORD
香港特別行政區政府將軍澳第137區填料庫交收記錄

Date:
日期 2020-03-25

Trans. Ref. No.:
備考號碼 200095431

Vehicle No.:
車輛登記號碼 NP766

Classifying Label:
車輛標識類別

Time In:
進入時間 15:10:55

Time Out:
離開時間 15:18:49

Source of Material:
物料來源地 North (北區)

Type of Material:
物料類別 Broken Concrete (混凝

Contract No.:
工程合約編號

DDF Serial No.:
運載記錄票編號

Weight In (tonne):
入載重量（公噸） 16.26

Weight Out (tonne):
出載重量（公噸） 14.91

Net Vehicle Load (tonne):
物料淨重量（公噸） 1.35

Charged Load (tonne):
收費重量（公噸） 1.40

Amount (HK$):
總數（港幣） 99.40

Chit No.:
記帳單編號 20269124

Account No.:
帳戶編號 7032841

Remarks:
備註

REASONS FOR REJECTING
R1: Unsuitable Material
R2: Overloaded
R3: Invalid Dumping Licence
R4: Unmatched DDF Information
R5: Suspended/Invalid Chit Account
R6: Suspended VRM Account
R7: Others

拒進原因一覽表
R1: 物料不符合要求
R2: 超載
R3: 無有效卸泥執照
R4: 運載記錄票資料不符
R5: 記帳戶已暫停/無效
R6: VRM 帳戶已暫停
R7: 其它

"This is not a formal record of payment. All information is subject to final verification."
此記錄並非正式收費收據。所有資料須經最後核對後方可作實。

APPENDIX K: SITE INSPECTION PROFORMA

Acuity Sustainability Consulting Limited
Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.
O: 2333-6823 | F: 2333-1316 | E: general@acuityhk.com | www.acuityhk.com

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 11/3/2020 **Inspected by:** **ET:** Joe Ho **AR:** Yeung

Inspection Time: 10:00 **Contractor:** Sum **IEC:** NA

Weather

Condition ☐ Sunny ☐ Fine ☑ Overcast ☐ Drizzle ☐ Rain ☐ Storm ☐ Hazy

Temperature 19 °C **Humidity** ☐ High ☑ Moderate ☐ Low

Wind ☐ Calm ☑ Light ☐ Breeze ☐ Strong

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
1.00	**Air (Construction Phase)**					
1.01	Vehicle washing facilities (including a high pressure water jet) were provided at every discernible or designated vehicle exit point.	☐	☑	☐	☐	The washing facilities will be provided late
1.02	Road between the washing facilities and the exit point is paved with concrete, bituminous or hardcore material.	☐	☐	☑	☐	
1.03	Every main haul road is paved with concrete, bituminous hardcore materials or metal plates, and kept clear of dusty materials. Or unpaved haul roads and areas are sprayed with water to keep the entire road surface wet.	☐	☐	☑	☐	
1.04	Stockpile of dusty material including demolished items is either: a) covered entirely by impervious sheeting, or b) placed in an area sheltered on the top and the three sides, or c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	☐	☐	☑	☐	
1.05	Exposed earth is properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.	☑	☐	☐	☐	Construction has not been completed yet
1.06	Water is sprayed to all dusty materials before loading or transfer operation.	☑	☐	☐	☐	No loading or transfer operat
1.07	Any debris is covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.	☑	☐	☐	☐	No debris was stored on-s
1.08	Water is sprayed to debris before it is dumped into a chute.	☑	☐	☐	☐	No debris was stored on-sit
1.09	Vehicles for transporting dusty materials/spoils are covered with tarpaulin or similar material. The cover extends over the edges of the sides and tailboards.	☑	☐	☐	☐	No dusty material was transpo
1.10	Water is sprayed immediately to the working area for uprooting of trees, shrubs, or vegetation or the removal of boulders, pole, pillars before, during and after the operation.	☑	☐	☐	☐	No dusty material was rem
1.11	Workers at all levels are co-operative to avoid dust generation and dispersion to the surrounding environment.	☐	☐	☑	☐	
2.00	**Noise (Construction Phase)**					

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
2.01	Only well-maintained plant is operated on site and the plant should be regularly serviced during the construction works.	☑	☐	☐	☐	0
2.02	Plant used intermittently is turned off or throttled down when not in active use.	☑	☐	☐	☐	0
2.03	Plant that emits noise strongly in one direction is oriented to face away from NSRs.	☑	☐	☐	☐	0
2.04	Silencers, mufflers and enclosures for plant are applied where possible and maintained adequately throughout the works	☑	☐	☐	☐	0
2.05	Where possible, mobile plant is sited away from NSRs	☑	☐	☐	☐	0
2.06	PME is well maintained and used properly on site to minimise any excessive noise generated.	☑	☐	☐	☐	0
2.07	Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.	☑	☐	☐	☐	0
3.00	**Land Contamination (Construction Phase)**					
	N/A to the Phase III development					
4.00	**Waste Management (Construction Phase)**					
4.01	The necessary waste disposal permits from the appropriate authorities are obtained, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28).	☐	☐	☑	☐	
4.02	A billing account with EPD for disposal of construction waste is obtained.	☐	☐	☑	☐	
4.03	A Waste Management Plan (WMP), incorporated in an Environmental Management Plan (EMP) is prepared and submitted to the Engineer/Supervising Officer for approval. Reference is made to Environment, Transport and Works Bureau Technical Circular (Works) (ETWB TCW) 19/2005.	☐	☐	☑	☐	
4.04	An approved person to be responsible for good site practice is nominated, including arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	☐	☐	☑	☐	
4.05	Is authorised or licensed waste hauler used to collect specific category of waste?	☐	☐	☑	☐	
4.06	A trip-ticket system is included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of C&D and solid wastes at public filling facilities and landfills, and to control fly tipping. Reference is made to ETWB TCW No. 31/2004.	☐	☐	☑	☐	
4.07	Training of site personnel in proper waste management and chemical waste handling procedures.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.08	Is routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors conducted?	☐	☐	☑	☐	
4.09	Are sufficient waste disposal points and regular collection for disposal provided?	☐	☐	☑	☐	
4.10	Are appropriate measures to minimise windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers adopted?	☑	☐	☐	☐	No waste transportation
4.11	Is recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) implemented?	☐	☐	☑	☐	
4.12	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	☐	☐	☑	☐	
4.13	Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separately labelled bins are provided to help segregate this waste from other general refuse generated by the work force.	☐	☐	☑	☐	
4.14	Are C&D materials reused when possible to reduce the amount of C&D material/waste?	☑	☐	☐	☐	The site was under preparation stage, no construction work
4.15	Are wood, steel and other metals separated for reuse and / or recycling prior to disposal of C&D waste to minimise the quantity of waste to be disposed of to landfill?	☑	☐	☐	☐	The site was under preparation stage, no construction work
4.16	Minimise the potential for damage or contamination of construction material by having proper storage and site practices.	☐	☐	☑	☐	
4.17	Plan and stock construction materials carefully to minimise the amount of surplus materials.	☐	☐	☑	☐	
4.18	Rock and soil generated from excavation are reused for site formation and excavated material from foundation work reused for landscaping as far as practicable to avoid disposal off-site.	☑	☐	☐	☐	No excavation work
4.19	Is reuse of the public fill and C&D waste practiced on site as far as practicable?	☑	☐	☐	☐	No inert waste or C&D waste was generated
4.20	The handling of C&D materials is governed by WBTC No. 2/93. Inert C&D material (public fill) is directed to an approved public filling area or reclamation site, where it has the benefit of offsetting the need for removal of materials from borrow areas for reclamation purposes and helps to reduce the pressure on landfill sites.	☑	☐	☐	☐	No inert waste or C&D waste was generated
4.21	Are individuals or companies who deliver public fill to public filling areas obtained dumping licences?	☑	☐	☐	☐	No inert waste was delivered to public-filling areas

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.22	Are careful design, planning and good site management adopted to minimise overordering and generation of waste materials such as concrete, mortar and cement grouts? The design of formwork maximise the use of standard wooden or metal panels so that high reuse levels can be achieved. Alternatives such as steel formwork, plastic fencing and reusable site office structures are considered to increase the potential for reuse and minimize C&D waste generation.	☐	☐	☑	☐	
4.23	The contractor uses as much as possible of the C&D material on-site. Proper segregation of waste types on site will increase the feasibility of certain components of the waste stream by recycling contractors.	☑	☐	☑	☐	
4.24	General refuse is stored in enclosed bins or compaction units separate from C&D and chemical wastes. A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts.	☐	☐	☑	☐	
	Chemical Waste					
4.25	Contractor registers with the EPD as chemical waste producer if any chemical waste is generated	☐	☐	☑	☐	
4.26	All the chemical waste is handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste is stored and collected by an approved contractor for disposal at a licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	☑	☐	☐	☐	(2)
4.27	Principles of reuse and recycle chemical waste on site as far as practicable is adopted by the contractor.	☑	☐	☐	☐	(2)
4.28	Are unused chemicals or those with remaining functional capacity reused as far as practicable?	☑	☐	☐	☐	(2)
4.29	Disposal of chemical waste via a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi, which offers a chemical waste collection service and can supply the necessary storage containers or a waste recycling plant approved by EPD.	☑	☐	☐	☐	(2)
5.00	**Landscape and Visual (Construction Phase)**					
5.01	Do site offices have olive green roof and façade coating or colour that matche with existing environment?	☐	☐	☑	☐	
5.02	Are site offices and the construction yard decommissioned after construction?	☑	☐	☐	☐	costruction work has not been completed yet
5.03	The height of site offices, including the rooftop does not exceed 10m, except building services equipment such as antennas, which exceeds 10 m but is coated in black.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.04	Is site hoarding with 2.4m height and colour in harmony with the surrounding environment erected along the site boundary until the completion of relevant construction phases?	☐	☐	☑	☐	
5.05	Are construction plants and building materials orderly and carefully stored to appear neat and avoid visibility from outside where practical?	☐	☐	☑	☐	
5.06	Are excess materials removed from site as soon as practical?	☐	☐	☑	☐	
5.07	Are all construction plants removed from site upon completion of construction works?	☑	☐	☐	☐	Construction work has not been completed yet.
5.08	Are construction lights oriented away from the viewing location of VSRs?	☐	☐	☑	☐	
5.09	Are all lightings facing sensitive receiver installed with frosted diffusers and reflective covers?	☐	☐	☑	☐	
5.10	Trees that require removal are transplanted on site if practical. If not practical, these trees will be transplanted in locations within the vicinity as approved by the Architect.	☐	☐	☑	☐	
5.11	Planting works are carried out under the supervision of a specialist landscape specialist.	☑	☐	☐	☐	No planting work
5.12	The rooftop of the cremation plant room is planted with lawn.	☑	☐	☐	☐	No planting work
5.13	New trees, shrubs and groundcover are carefully selected and designed to homogenize with the environment.	☑	☐	☐	☐	No planting work
5.14	No tree is transplanted or felled without prior approval by relevant Government departments.	☐	☐	☑	☐	
5.15	All trees that are marked for retention are fenced off with a 1.2m high fence around the dripline of trees or larger area as far as feasible.	☐	☐	☑	☐	
5.16	Transplant preparation works are carried out as soon as possible after the commencement of construction. Over-pruning such as hard pruning of tree crown, pollarding or topping are avoided. Rootball and crown pruning are carried out over at least 3 months.	☐	☐	☑	☐	
5.17	Existing shrub and ground cover planting areas that will not be removed are maintained in good condition and enhanced if practical.	☐	☐	☑	☐	
5.18	The chimney has been designed to have sculptural outlook and articulated. It is kept in proportion with the rest of the building.	☑	☐	☐	☐	The chimney has not be constructed yet
5.19	The chimney stack is designed to locate at the least conspicuous location of the site to VSRs.	☑	☐	☐	☐	The chimney has not be constructed yet

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.20	Bi-weekly checking would be performed on the nine Terminalia mantaly trees within and outside the works area of the Project, or otherwise if the transplantations are not carried out according to the plan.	☐	☐	☑	☐	
5.21	Are silting traps installed to minimize silting to streams?	☐	☑	☐	☐	The silting trap will be ~~constructed later~~ later.
5.22	Is the tree compensation to tree loss ratio at least 1:1 in term of quantity? About 100 trees will be planted to compensate for the loss of 54 trees. 100 trees will be planted on site and others, in locations within the vicinity approved by the Architect	☑	☐	☐	☐	No planting work
5.23	Is amenity planting for open spaces included in the Project?	☑	☐	☐	☐	No planting work
5.24	Is screen planting such as planting a roll of trees along the site boundary butting Kiu Tau Road carried out?	☑	☐	☐	☐	No planting work
5.25	Woodland mix, comprising of tree seedlings and shrubs, are planted within the Wo Hop Shek Cemetery to enhance the ecological value and compensatory of tree loss.	☑	☐	☐	☐	No planting work
5.26	Is the 10m height headroom cremation plant room half-sunken to reduce the visual impact to pedestrians?	☑	☐	☐	☐	The headroom cremation plant room has not been constructed yet
6.00	**Water Quality (Construction Phase)**					
6.01	Wastewater is properly treated to meet the discharge standards set out in the relevant Water Pollution Control Ordinance (WPCO) discharge licence. No direct discharge of site runoff into the two streams is allowed.	☑	☐	☑	☐	
6.02	Perimeter channels are provided to intercept storm runoff from outside the site. The channels are constructed in advance of site formation works and earthworks.	☑	☑	☐	☐	The channel will be constru later
6.03	Sand/silt removal facilities such as sand traps, silt traps and sediment basins are provided to remove sand/silt particles from runoff to meet the requirements of the Technical Memorandum standard under the WPCO.	☐	☑	☐	☐	Silt removal facility will be ~~installed~~ later
6.04	Works are carefully programmed to minimise soil excavation works during rainy seasons.	☑	☑	☐	☐	No excavation work
6.05	Exposed soil surfaces are protected by paving as soon as possible to reduce the potential of soil erosion.	☐	☐	☑	☐	
6.06	Temporary access roads are protected by crushed gravel and exposed slope surfaces are protected when rainstorms are likely to occur.	☐	☐	☑	☐	
6.07	Trench excavation is avoided in the wet season as far as practicable, and if necessary, these trenches are excavated and backfilled in short sections.	☑	☐	☐	☐	No excavation work
6.08	Open stockpiles of construction materials on site are covered with tarpaulin or similar fabric during rainstorms.	☐	☐	☑	☐	

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
6.09	Sand and silt in the wash water from the wheel from the wheel washing facility are settled out and removed before discharging into the storm drain.	☐	☑	☐	☐	The wheel washing facili will be provided later
6.10	Oil interceptor is provided in the drainage system and regularly emptied to prevent the release of oil and grease into the storm drainage system after accidental spillage.	☐	☑	☐	☐	The oil interceptor will be provided later
6.11	Debris and rubbishes generated on site are collected, handled and disposed of properly to avoid them entering the two streams.	☐	☐	☑	☐	
6.12	All fuel tanks and storage areas are provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	☑	☐	☐	☐	No fuel tank on-site
6.13	Open storm water drains and culverts near the works area are covered to block the entrance of large debris and refuse.	☐	☑	☐	☐	The storm water drai will be covered later
6.14	Portable chemical toilets handle the sewage from construction work force if the existing toilets in the Site are not adequate. Licensed contractors who are responsible for appropriate disposal and maintenance of these facilities provide appropriate and adequate portable toilets.	☐	☐	☑	☐	
6.15	Sheet piling is provided at suitable location around the basement excavation to reduce the effect of lowering the water table from any dewatering process. Any discharge of groundwater pumped out from any dewatering process of the construction works is treated to comply with the standards set in the relevant discharge licence prior discharge. No discharge of the groundwater is allowed into the two streams.	☑	☐	☐	☐	No basement excavation
7.00	**Ecology (Construction Phase)**					
7.01	Any affected trees are transplanted to grassland / scrubland within the Wo Hop Shek Cemetery.	☐	☐	☑	☐	
7.02	Temporary accesses to the work sites are carefully planned and located to minimise disturbance caused to the streams and nearby habitats.	☐	☐	☑	☐	
7.03	Less or smaller construction plants are used to reduce disturbance to the nearby habitats.	☑	☐	☐	☐	No construction plant on-site
7.04	Vehicles and other plants are carefully maintained and properly used to minimise the chance for accidental spillage.	☑	☐	☐	☐	No vehicles and other pla on-site
7.05	Any spillages that do occur are quickly identified and appropriately cleaned up before they can contaminate streams or groundwater.	☑	☐	☐	☐	No spillage
7.06	Basement formation or any construction activities likely to pump out a large quantity of groundwater are protected with sheet-piling at suitable locations around the basement footprint, or by any like method.	☑	☐	☐	☐	No basement formation work
7.07	No groundwater is pumped back to the two stream courses to protect the natural integrity of the stream habitat and the associated organism.	☑	☐	☐	☐	No groundwater was pumped

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.08	Sturdy 1.8 metres protective fencings are located at the edge of the tree canopy but not around the trunk.	☐	☐	☑	☐	
7.09	Works beneath the tree canopy are avoided. If encroachment under the canopy area is unavoidable, adequate protections are provided to ensure no damage of any part of the tree would occur due to the encroachment.	☐	☐	☑	☐	
7.10	Any tree transplanting and planting works are implemented by an approved Landscape Contractor. Quality control of the work is undertaken by a qualified Landscape Architect through site inspections and approval of works.	☐	☐	☑	☐	
7.11	Construction works are restricted within works area which are clearly defined.	☐	☐	☑	☐	
7.12	Woodland or other habitats that are affected by the construction works are well-defined and minimised.	☐	☐	☑	☐	
7.13	Human inference to habitats beyond the site boundary and habitats proposed to be retained are avoided by providing temporary barricades.	☐	☐	☑	☐	
7.14	Works area is reinstated immediately after completion of the construction.	☑	☐	☐	☐	The construction work has not been completed
7.15	Uncontrolled burning of refuse is strictly prohibited. Appropriate fire control measures are provided in order to protect nearby habitats.	☐	☐	☑	☐	
7.16	Trees requiring transplantation or protection are identified based on the information illustrated in the Tree Survey Report.	☐	☐	☑	☐	
7.17	Is layout of the Project carefully designed to avoid or minimize the area of habitat loss and the numbers of trees to be felled?	☐	☐	☑	☐	
7.18	All trees are preserved as far as possible, especially species of conservation concern. Recommendations provided in the Tree Survey Report to mitigate impacts on trees shall be followed.	☐	☐	☑	☐	
7.19	Disturbance to the two plant species of conservation concern, namely Aquilaria sinensis and Cibotium barometz, is avoided. Where removal of these species is unavoidable, it is recommended to transplant them to habitats with similar conditions. Following transplantation, regular monitoring of these plants is conducted by a suitable qualified botanist / horticulturist over a 12-month period;	☐	☐	☑	☐	
7.20	Compensatory planting of the felled trees follows the Technical Circular No. 3/2006 issued by ETWB.	☑	☐	☐	☐	No planting work
7.21	The Site inside or in the proximity of the streams and nearby habitats is temporarily isolated, by placing of sandbags or silt curtains with lead edge at the bottom and properly supported props, to prevent adverse impacts on these areas.	☐	☐	☑	☐	

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.22	Appropriate storage locations are situated well away from the streams and nearby habitats for the temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil are identified before commencement of the works.	☐	☐	☑	☐	
7.23	Stockpiling of construction materials, are covered and located away from the streams and nearby habitats.	☑	☐	☑	☐	
7.24	Construction debris and spoil are covered up and/or properly disposed of as soon as possible to avoid being washed into the streams and nearby habitats by rain.	☑	☐	☐	☐	No debris was stored onsite
7.25	Construction effluent, site runoff and sewage is properly collected and/or treated.	☑	☐	☐	☐	No effluent was generated
7.26	Proper locations for discharge outlets of any wastewater treatment facilities well away from the streams and nearby habitats are identified.	☑	☑	☐	☐	Wastewater treatment facilities ~~has~~ were not ready to use
7.27	Vehicles and other plant are carefully maintained and properly used to minimise the chance for accidental spillage.	☑	☐	☐	☐	No vehicles and plant onsite
7.28	Temporary geo-textile silt fences around earth moving works are erected to trap any sediments being washed away and prevent them from entering surrounding areas.	☑	☑	☐	☐	The silt fence will be provided
7.29	Exposed soil or other loose materials are covered with tarpaulins to prevent erosion, and then seeded and covered with a biodegradable geotextile blanket for erosion control purposes.	☑	☐	☑	☐	

*Remarks: N/A = Not applicable at current stage

N/O = Not observed in the site walk

Yes = Compliance

No = Non-compliance

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

N:1

Remarks: ①: No PME was located on-site, the site was under proparation stage.
②: No chemical waste was generated

Signatures:

ET Representative	Contractor's Representative	Architect's Representative	IEC's Representative
(Name: Joe Ho)	(Name: Y. S. LEE)	(Name: N.S. YEUNG)	(Name:)

Acuity Sustainability Consulting Limited
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Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 18/3/2020 **Inspected by:** **ET:** Joe Ho **AR:** Yeung

Inspection Time: 1014 **Contractor:** Sum **IEC:** _____

Weather

Condition ☐ Sunny ☐ Fine ☑ Overcast ☐ Drizzle ☐ Rain ☐ Storm ☐ Hazy

Temperature 22 °C **Humidity** ☑ High ☐ Moderate ☐ Low

Wind ☑ Calm ☐ Light ☐ Breeze ☐ Strong

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
1.00	**Air (Construction Phase)**					
1.01	Vehicle washing facilities (including a high pressure water jet) were provided at every discernible or designated vehicle exit point.	☐	☑	☐	☐	The washing facilities will be provided later
1.02	Road between the washing facilities and the exit point is paved with concrete, bituminous or hardcore material.	☐	☐	☑	☐	_____
1.03	Every main haul road is paved with concrete, bituminous hardcore materials or metal plates, and kept clear of dusty materials. Or unpaved haul roads and areas are sprayed with water to keep the entire road surface wet.	☐	☐	☑	☐	_____
1.04	Stockpile of dusty material including demolished items is either: a) covered entirely by impervious sheeting, or b) placed in an area sheltered on the top and the three sides, or c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	☐	☐	☑	☐	_____
1.05	Exposed earth is properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.	☑	☐	☐	☐	The construction work has not been completed yet
1.06	Water is sprayed to all dusty materials before loading or transfer operation.	☑	☐	☐	☐	No loading or transfer operation
1.07	Any debris is covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.	☑	☐	☐	☐	No debris was stored on-site
1.08	Water is sprayed to debris before it is dumped into a chute.	☑	☐	☐	☐	No debris was stored on-s
1.09	Vehicles for transporting dusty materials/spoils are covered with tarpaulin or similar material. The cover extends over the edges of the sides and tailboards.	☑	☐	☐	☐	No dusty material was transported
1.10	Water is sprayed immediately to the working area for uprooting of trees, shrubs, or vegetation or the removal of boulders, pole, pillars before, during and after the operation.	☑	☐	☐	☐	No dusty material was removed
1.11	Workers at all levels are co-operative to avoid dust generation and dispersion to the surrounding environment.	☐	☐	☑	☐	_____
2.00	**Noise (Construction Phase)**					

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
2.01	Only well-maintained plant is operated on site and the plant should be regularly serviced during the construction works..	☑	☐	☐	☐	①
2.02	Plant used intermittently is turned off or throttled down when not in active use.	☑	☐	☐	☐	①
2.03	Plant that emits noise strongly in one direction is oriented to face away from NSRs.	☑	☐	☐	☐	①
2.04	Silencers, mufflers and enclosures for plant are applied where possible and maintained adequately throughout the works	☑	☐	☐	☐	①
2.05	Where possible, mobile plant is sited away from NSRs	☑	☐	☐	☐	①
2.06	PME is well maintained and used properly on site to minimise any excessive noise generated.	☑	☐	☐	☐	①
2.07	Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.	☑	☐	☐	☐	①
3.00	**Land Contamination (Construction Phase)**					
	N/A to the Phase III development					
4.00	**Waste Management (Construction Phase)**					
4.01	The necessary waste disposal permits from the appropriate authorities are obtained, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28).	☐	☐	☑	☐	
4.02	A billing account with EPD for disposal of construction waste is obtained.	☐	☐	☑	☐	
4.03	A Waste Management Plan (WMP), incorporated in an Environmental Management Plan (EMP) is prepared and submitted to the Engineer/Supervising Officer for approval. Reference is made to Environment, Transport and Works Bureau Technical Circular (Works) (ETWB TCW) 19/2005.	☐	☐	☑	☐	
4.04	An approved person to be responsible for good site practice is nominated, including arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	☐	☐	☑	☐	
4.05	Is authorised or licensed waste hauler used to collect specific category of waste?	☐	☐	☑	☐	
4.06	A trip-ticket system is included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of C&D and solid wastes at public filling facilities and landfills, and to control fly tipping. Reference is made to ETWB TCW No. 31/2004.	☐	☐	☑	☐	
4.07	Training of site personnel in proper waste management and chemical waste handling procedures.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.08	Is routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors conducted?	☐	☐	☑	☐	
4.09	Are sufficient waste disposal points and regular collection for disposal provided?	☐	☐	☑	☐	
4.10	Are appropriate measures to minimise windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers adopted?	☑	☐	☐	☐	No waste transportation
4.11	Is recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) implemented?	☐	☐	☑	☐	
4.12	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	☐	☐	☑	☐	
4.13	Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separately labelled bins are provided to help segregate this waste from other general refuse generated by the work force.	☐	☐	☑	☐	
4.14	Are C&D materials reused when possible to reduce the amount of C&D material/waste?	☑	☐	☐	☐	The site was under prepa stage, no construction wor
4.15	Are wood, steel and other metals separated for reuse and / or recycling prior to disposal of C&D waste to minimise the quantity of waste to be disposed of to landfill?	☑	☐	☐	☐	The site was under preparat stage, no construction wo
4.16	Minimise the potential for damage or contamination of construction material by having proper storage and site practices.	☐	☐	☑	☐	
4.17	Plan and stock construction materials carefully to minimise the amount of surplus materials.	☐	☐	☑	☐	
4.18	Rock and soil generated from excavation are reused for site formation and excavated material from foundation work reused for landscaping as far as practicable to avoid disposal off-site.	☑	☐	☐	☐	No excavation work
4.19	Is reuse of the public fill and C&D waste practiced on site as far as practicable?	☑	☐	☐	☐	No inert waste or C&D waste was generated
4.20	The handling of C&D materials is governed by WBTC No. 2/93. Inert C&D material (public fill) is directed to an approved public filling area or reclamation site, where it has the benefit of offsetting the need for removal of materials from borrow areas for reclamation purposes and helps to reduce the pressure on landfill sites.	☑	☐	☐	☐	No inert waste or C&D waste was generated
4.21	Are individuals or companies who deliver public fill to public filling areas obtained dumping licences?	☑	☐	☐	☐	No inert waste was delivered to public filling areas

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.22	Are careful design, planning and good site management adopted to minimise overordering and generation of waste materials such as concrete, mortar and cement grouts? The design of formwork maximise the use of standard wooden or metal panels so that high reuse levels can be achieved. Alternatives such as steel formwork, plastic fencing and reusable site office structures are considered to increase the potential for reuse and minimize C&D waste generation.	☐	☐	☑	☐	
4.23	The contractor uses as much as possible of the C&D material on-site. Proper segregation of waste types on site will increase the feasibility of certain components of the waste stream by recycling contractors.	☐	☐	☑	☐	
4.24	General refuse is stored in enclosed bins or compaction units separate from C&D and chemical wastes. A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts.	☐	☐	☑	☐	
	Chemical Waste					
4.25	Contractor registers with the EPD as chemical waste producer if any chemical waste is generated	☐	☐	☑	☐	
4.26	All the chemical waste is handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste is stored and collected by an approved contractor for disposal at a licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	☑	☐	☐	☐	(2)
4.27	Principles of reuse and recycle chemical waste on site as far as practicable is adopted by the contractor.	☑	☐	☐	☐	(2)
4.28	Are unused chemicals or those with remaining functional capacity reused as far as practicable?	☑	☐	☐	☐	(2)
4.29	Disposal of chemical waste via a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi, which offers a chemical waste collection service and can supply the necessary storage containers or a waste recycling plant approved by EPD.	☑	☐	☐	☐	(2)
5.00	**Landscape and Visual (Construction Phase)**					
5.01	Do site offices have olive green roof and façade coating or colour that matche with existing environment?	☐	☐	☑	☐	
5.02	Are site offices and the construction yard decommissioned after construction?	☑	☐	☐	☐	Construction work has not been completed ye
5.03	The height of site offices, including the rooftop does not exceed 10m, except building services equipment such as antennas, which exceeds 10 m but is coated in black.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.04	Is site hoarding with 2.4m height and colour in harmony with the surrounding environment erected along the site boundary until the completion of relevant construction phases?	☐	☐	☑	☐	
5.05	Are construction plants and building materials orderly and carefully stored to appear neat and avoid visibility from outside where practical?	☐	☐	☑	☐	
5.06	Are excess materials removed from site as soon as practical?	☐	☐	☑	☐	
5.07	Are all construction plants removed from site upon completion of construction works?	☑	☐	☐	☐	Construction work has not been completed
5.08	Are construction lights oriented away from the viewing location of VSRs?	☐	☐	☑	☐	
5.09	Are all lightings facing sensitive receiver installed with frosted diffusers and reflective covers?	☐	☐	☑	☐	
5.10	Trees that require removal are transplanted on site if practical. If not practical, these trees will be transplanted in locations within the vicinity as approved by the Architect.	☐	☐	☑	☐	
5.11	Planting works are carried out under the supervision of a specialist landscape specialist.	☑	☐	☐	☐	No planting work
5.12	The rooftop of the cremation plant room is planted with lawn.	☑	☐	☐	☐	No planting work
5.13	New trees, shrubs and groundcover are carefully selected and designed to homogenize with the environment.	☑	☐	☐	☐	No planting work
5.14	No tree is transplanted or felled without prior approval by relevant Government departments.	☐	☐	☑	☐	
5.15	All trees that are marked for retention are fenced off with a 1.2m high fence around the dripline of trees or larger area as far as feasible.	☐	☐	☑	☐	
5.16	Transplant preparation works are carried out as soon as possible after the commencement of construction. Over-pruning such as hard pruning of tree crown, pollarding or topping are avoided. Rootball and crown pruning are carried out over at least 3 months.	☐	☐	☑	☐	
5.17	Existing shrub and ground cover planting areas that will not be removed are maintained in good condition and enhanced if practical.	☐	☐	☑	☐	
5.18	The chimney has been designed to have sculptural outlook and articulated. It is kept in proportion with the rest of the building.	☑	☐	☐	☐	The chimney has not been constructed yet
5.19	The chimney stack is designed to locate at the least conspicuous location of the site to VSRs.	☑	☐	☐	☐	The chimney has not been constructed yet

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.20	Bi-weekly checking would be performed on the nine Terminalia mantaly trees within and outside the works area of the Project, or otherwise if the transplantations are not carried out according to the plan.	☐	☐	☑	☐	
5.21	Are silting traps installed to minimize silting to streams?	☐	☑	☐	☐	The silting trap will be constructed later.
5.22	Is the tree compensation to tree loss ratio at least 1:1 in term of quantity? About 100 trees will be planted to compensate for the loss of 54 trees. 100 trees will be planted on site and others, in locations within the vicinity approved by the Architect	☑	☐	☐	☐	No planting work
5.23	Is amenity planting for open spaces included in the Project?	☑	☐	☐	☐	No planting work
5.24	Is screen planting such as planting a roll of trees along the site boundary butting Kiu Tau Road carried out?	☑	☐	☐	☐	No planting work
5.25	Woodland mix, comprising of tree seedlings and shrubs, are planted within the Wo Hop Shek Cemetery to enhance the ecological value and compensatory of tree loss.	☑	☐	☐	☐	No planting work
5.26	Is the 10m height headroom cremation plant room half-sunken to reduce the visual impact to pedestrians?	☑	☐	☐	☐	The headroom cremation plant room has not been constructed yet
6.00	**Water Quality (Construction Phase)**					
6.01	Wastewater is properly treated to meet the discharge standards set out in the relevant Water Pollution Control Ordinance (WPCO) discharge licence. No direct discharge of site runoff into the two streams is allowed.	☐	☐	☑	☐	
6.02	Perimeter channels are provided to intercept storm runoff from outside the site. The channels are constructed in advance of site formation works and earthworks.	☐	☑	☐	☐	The channel will be constructed later
6.03	Sand/silt removal facilities such as sand traps, silt traps and sediment basins are provided to remove sand/silt particles from runoff to meet the requirements of the Technical Memorandum standard under the WPCO.	☐	☑	☐	☐	Silt removal facility will be installed later
6.04	Works are carefully programmed to minimise soil excavation works during rainy seasons.	☑	☐	☐	☐	No excavation work
6.05	Exposed soil surfaces are protected by paving as soon as possible to reduce the potential of soil erosion.	☐	☐	☑	☐	
6.06	Temporary access roads are protected by crushed gravel and exposed slope surfaces are protected when rainstorms are likely to occur.	☐	☐	☑	☐	
6.07	Trench excavation is avoided in the wet season as far as practicable, and if necessary, these trenches are excavated and backfilled in short sections.	☑	☐	☐	☐	No excavation work
6.08	Open stockpiles of construction materials on site are covered with tarpaulin or similar fabric during rainstorms.	☐	☐	☑	☐	

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
6.09	Sand and silt in the wash water from the wheel from the wheel washing facility are settled out and removed before discharging into the storm drain.	☐	☑	☐	☐	The wheel washing facil. will be provided later
6.10	Oil interceptor is provided in the drainage system and regularly emptied to prevent the release of oil and grease into the storm drainage system after accidental spillage.	☐	☑	☐	☐	The ~~oil~~ oil Interceptor will be provided later
6.11	Debris and rubbishes generated on site are collected, handled and disposed of properly to avoid them entering the two streams.	☐	☐	☑	☐	
6.12	All fuel tanks and storage areas are provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	☑	☐	☐	☐	No fuel tank on-site
6.13	Open storm water drains and culverts near the works area are covered to block the entrance of large debris and refuse.	☐	☑	☐	☐	The storm water drain will be covered later
6.14	Portable chemical toilets handle the sewage from construction work force if the existing toilets in the Site are not adequate. Licensed contractors who are responsible for appropriate disposal and maintenance of these facilities provide appropriate and adequate portable toilets.	☐	☐	☑	☐	
6.15	Sheet piling is provided at suitable location around the basement excavation to reduce the effect of lowering the water table from any dewatering process. Any discharge of groundwater pumped out from any dewatering process of the construction works is treated to comply with the standards set in the relevant discharge licence prior discharge. No discharge of the groundwater is allowed into the two streams.	☑	☐	☐	☐	No basement excavation
7.00	**Ecology (Construction Phase)**					
7.01	Any affected trees are transplanted to grassland / scrubland within the Wo Hop Shek Cemetery.	☐	☐	☑	☐	
7.02	Temporary accesses to the work sites are carefully planned and located to minimise disturbance caused to the streams and nearby habitats.	☐	☐	☑	☐	
7.03	Less or smaller construction plants are used to reduce disturbance to the nearby habitats.	☑	☐	☐	☐	No construction plant on-site
7.04	Vehicles and other plants are carefully maintained and properly used to minimise the chance for accidental spillage.	☑	☐	☐	☐	No vehicles and other pl on-site
7.05	Any spillages that do occur are quickly identified and appropriately cleaned up before they can contaminate streams or groundwater.	☑	☐	☐	☐	No spillage
7.06	Basement formation or any construction activities likely to pump out a large quantity of groundwater are protected with sheet-piling at suitable locations around the basement footprint, or by any like method.	☑	☐	☐	☐	~~No basement excavation~~ No bas format work
7.07	No groundwater is pumped back to the two stream courses to protect the natural integrity of the stream habitat and the associated organism.	☑	☐	☐	☐	~~No basement excavation~~ No ground water was pumped

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.08	Sturdy 1.8 metres protective fencings are located at the edge of the tree canopy but not around the trunk.	☐	☐	☑	☐	
7.09	Works beneath the tree canopy are avoided: If encroachment under the canopy area is unavoidable, adequate protections are provided to ensure no damage of any part of the tree would occur due to the encroachment.	☐	☐	☑	☐	
7.10	Any tree transplanting and planting works are implemented by an approved Landscape Contractor. Quality control of the work is undertaken by a qualified Landscape Architect through site inspections and approval of works.	☐	☐	☑	☐	
7.11	Construction works are restricted within works area which are clearly defined.	☐	☐	☑	☐	
7.12	Woodland or other habitats that are affected by the construction works are well-defined and minimised.	☐	☐	☑	☐	
7.13	Human inference to habitats beyond the site boundary and habitats proposed to be retained are avoided by providing temporary barricades.	☐	☐	☑	☐	
7.14	Works area is reinstated immediately after completion of the construction.	☑	☐	☐	☐	The construction work has not been completed yet
7.15	Uncontrolled burning of refuse is strictly prohibited. Appropriate fire control measures are provided in order to protect nearby habitats.	☐	☐	☑	☐	
7.16	Trees requiring transplantation or protection are identified based on the information illustrated in the Tree Survey Report.	☐	☐	☑	☐	
7.17	Is layout of the Project carefully designed to avoid or minimize the area of habitat loss and the numbers of trees to be felled?	☐	☐	☑	☐	
7.18	All trees are preserved as far as possible, especially species of conservation concern. Recommendations provided in the Tree Survey Report to mitigate impacts on trees shall be followed.	☐	☐	☑	☐	
7.19	Disturbance to the two plant species of conservation concern, namely Aquilaria sinensis and Cibotium barometz, is avoided. Where removal of these species is unavoidable, it is recommended to transplant them to habitats with similar conditions. Following transplantation, regular monitoring of these plants is conducted by a suitable qualified botanist / horticulturist over a 12-month period;	☐	☐	☑	☐	
7.20	Compensatory planting of the felled trees follows the Technical Circular No. 3/2006 issued by ETWB.	☑	☐	☐	☐	No planting work
7.21	The Site inside or in the proximity of the streams and nearby habitats is temporarily isolated, by placing of sandbags or silt curtains with lead edge at the bottom and properly supported props, to prevent adverse impacts on these areas.	☐	☐	☑	☐	

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.22	Appropriate storage locations are situated well away from the streams and nearby habitats for the temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil are identified before commencement of the works.	☐	☐	☑	☐	
7.23	Stockpiling of construction materials, are covered and located away from the streams and nearby habitats.	☐	☐	☑	☐	
7.24	Construction debris and spoil are covered up and/or properly disposed of as soon as possible to avoid being washed into the streams and nearby habitats by rain.	☑	☐	☐	☐	No debris was stored on site
7.25	Construction effluent, site runoff and sewage is properly collected and/or treated.	☑	☐	☐	☐	No effluent generate
7.26	Proper locations for discharge outlets of any wastewater treatment facilities well away from the streams and nearby habitats are identified.	☐	☑	☐	☐	The wastewater treat facility will be ins later
7.27	Vehicles and other plant are carefully maintained and properly used to minimise the chance for accidental spillage.	☑	☐	☐	☐	No vehicles and plant on-site
7.28	Temporary geo-textile silt fences around earth moving works are erected to trap any sediments being washed away and prevent them from entering surrounding areas.	☐	☑	☐	☐	The silt fence will be provided later
7.29	Exposed soil or other loose materials are covered with tarpaulins to prevent erosion, and then seeded and covered with a biodegradable geotextile blanket for erosion control purposes.	☐	☐	☑	☐	

*Remarks: N/A = Not applicable at current stage

N/O = Not observed in the site walk

Yes = Compliance

No = Non-compliance

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Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Nil

Remarks: ①: No PME or plant was located on-site, the site was under preparation stage.

②: No chemical waste was generated.

Signatures:

ET Representative	Contractor's Representative	Architect's Representative	IEC's Representative
(Name: Joe Ho)	(Name: Y.S. LEE)	(Name: N.S. YEUNG)	(Name:)

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Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 25/3/2020 **Inspected by:** **ET:** Joe Ho **AR:** L. Wong

Inspection Time: 1013 **Contractor:** M.Y. Wong **IEC:** NA

Weather

Condition ☐ Sunny ☐ Fine ☑ Overcast ☐ Drizzle ☐ Rain ☐ Storm ☐ Hazy

Temperature 22 °C **Humidity** ☑ High ☐ Moderate ☐ Low

Wind ☐ Calm ☑ Light ☐ Breeze ☐ Strong

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
1.00	**Air (Construction Phase)**					
1.01	Vehicle washing facilities (including a high pressure water jet) were provided at every discernible or designated vehicle exit point.	☐	☐	☑	☐	
1.02	Road between the washing facilities and the exit point is paved with concrete, bituminous or hardcore material.	☐	☐	☑	☐	
1.03	Every main haul road is paved with concrete, bituminous hardcore materials or metal plates, and kept clear of dusty materials. Or unpaved haul roads and areas are sprayed with water to keep the entire road surface wet.	☐	☐	☑	☐	
1.04	Stockpile of dusty material including demolished items is either: a) covered entirely by impervious sheeting, or b) placed in an area sheltered on the top and the three sides, or c) sprayed with water or a dust suppression chemical so as to maintain the entire surface wet.	☐	☐	☑	☐	
1.05	Exposed earth is properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.	☑	☐	☐	☐	Construction work has not been completed yet.
1.06	Water is sprayed to all dusty materials before loading or transfer operation.	☑	☑	☐	☐	No loading operation
1.07	Any debris is covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.	☐	☐	☑	☐	
1.08	Water is sprayed to debris before it is dumped into a chute.	☑	☐	☐	☐	No debris was stored onsite
1.09	Vehicles for transporting dusty materials/spoils are covered with tarpaulin or similar material. The cover extends over the edges of the sides and tailboards.	☑	☐	☐	☐	No dusty material was transported
1.10	Water is sprayed immediately to the working area for uprooting of trees, shrubs, or vegetation or the removal of boulders, pole, pillars before, during and after the operation.	☑	☐	☐	☐	No uploading of dusty materials.
1.11	Workers at all levels are co-operative to avoid dust generation and dispersion to the surrounding environment.	☐	☐	☑	☐	
2.00	**Noise (Construction Phase)**					

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
2.01	Only well-maintained plant is operated on site and the plant should be regularly serviced during the construction works..	☐	☑	☐	☐	No plant was placed on site
2.02	Plant used intermittently is turned off or throttled down when not in active use.	☐	☑	☐	☐	No plant was placed on-site
2.03	Plant that emits noise strongly in one direction is oriented to face away from NSRs.	☐	☑	☐	☐	No plant was placed on-site
2.04	Silencers, mufflers and enclosures for plant are applied where possible and maintained adequately throughout the works	☐	☑	☐	☐	No plant was placed on-site
2.05	Where possible, mobile plant is sited away from NSRs	☐	☑	☐	☐	No plant was placed On-site
2.06	PME is well maintained and used properly on site to minimise any excessive noise generated.	☐	☑	☐	☐	No PME was placed on-site
2.07	Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.	☑	☐	☐	☐	No ~~Excavated~~ construction work
3.00	**Land Contamination (Construction Phase)**					
	N/A to the Phase III development					
4.00	**Waste Management (Construction Phase)**					
4.01	The necessary waste disposal permits from the appropriate authorities are obtained, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28).	☐	☐	☑	☐	
4.02	A billing account with EPD for disposal of construction waste is obtained.	☐	☐	☑	☐	
4.03	A Waste Management Plan (WMP), incorporated in an Environmental Management Plan (EMP) is prepared and submitted to the Engineer/Supervising Officer for approval. Reference is made to Environment, Transport and Works Bureau Technical Circular (Works) (ETWB TCW) 19/2005.	☐	☐	☑	☐	
4.04	An approved person to be responsible for good site practice is nominated, including arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	☐	☐	☑	☐	
4.05	Is authorised or licensed waste hauler used to collect specific category of waste?	☐	☐	☑	☐	
4.06	A trip-ticket system is included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of C&D and solid wastes at public filling facilities and landfills, and to control fly tipping. Reference is made to ETWB TCW No. 31/2004.	☐	☐	☑	☐	
4.07	Training of site personnel in proper waste management and chemical waste handling procedures.	☐	☐	☑	☐	

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.08	Is routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors conducted?	☐	☐	☑	☐	
4.09	Are sufficient waste disposal points and regular collection for disposal provided?	☐	☐	☑	☐	
4.10	Are appropriate measures to minimise windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers adopted?	☐	☐	☑	☐	
4.11	Is recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) implemented?	☐	☐	☑	☐	
4.12	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	☐	☐	☑	☐	
4.13	Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separately labelled bins are provided to help segregate this waste from other general refuse generated by the work force.	☐	☐	☑	☐	
4.14	Are C&D materials reused when possible to reduce the amount of C&D material/waste?	☑	☑	☐	☐	No construction work
4.15	Are wood, steel and other metals separated for reuse and / or recycling prior to disposal of C&D waste to minimise the quantity of waste to be disposed of to landfill?	☐	☑	☐	☐	No construction work
4.16	Minimise the potential for damage or contamination of construction material by having proper storage and site practices.	☐	☐	☑	☐	
4.17	Plan and stock construction materials carefully to minimise the amount of surplus materials.	☐	☐	☑	☐	
4.18	Rock and soil generated from excavation are reused for site formation and excavated material from foundation work reused for landscaping as far as practicable to avoid disposal off-site.	☑	☐	☐	☐	No excavation and construction work
4.19	Is reuse of the public fill and C&D waste practiced on site as far as practicable?	☑	☐	☐	☐	No construction work
4.20	The handling of C&D materials is governed by WBTC No. 2/93. Inert C&D material (public fill) is directed to an approved public filling area or reclamation site, where it has the benefit of offsetting the need for removal of materials from borrow areas for reclamation purposes and helps to reduce the pressure on landfill sites.	☑	☐	☐	☐	No inert waste was trasported to public fill.
4.21	Are individuals or companies who deliver public fill to public filling areas obtained dumping licences?	☐	☑	☐	☐	No inert waste was transported to public fill

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
4.22	Are careful design, planning and good site management adopted to minimise overordering and generation of waste materials such as concrete, mortar and cement grouts? The design of formwork maximise the use of standard wooden or metal panels so that high reuse levels can be achieved. Alternatives such as steel formwork, plastic fencing and reusable site office structures are considered to increase the potential for reuse and minimize C&D waste generation.	☐	☐	☑	☐	
4.23	The contractor uses as much as possible of the C&D material on-site. Proper segregation of waste types on site will increase the feasibility of certain components of the waste stream by recycling contractors.	☐	☑	☐	☐	No construction work
4.24	General refuse is stored in enclosed bins or compaction units separate from C&D and chemical wastes. A reputable waste collector is employed by the Contractor to remove general refuse from the site, separately from C&D and chemical wastes, on a daily or every second day basis to minimise odour, pest and litter impacts.	☐	☐	☑	☐	
	Chemical Waste					
4.25	Contractor registers with the EPD as chemical waste producer if any chemical waste is generated	☐	☐	☑	☐	
4.26	All the chemical waste is handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste is stored and collected by an approved contractor for disposal at a licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	☐	☐	☑	☐	
4.27	Principles of reuse and recycle chemical waste on site as far as practicable is adopted by the contractor.	☑	☐	☐	☐	No chemical waste was reused.
4.28	Are unused chemicals or those with remaining functional capacity reused as far as practicable?	☑	☐	☐	☐	No chemical was reused
4.29	Disposal of chemical waste via a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi, which offers a chemical waste collection service and can supply the necessary storage containers or a waste recycling plant approved by EPD.	☐	☑	☐	☐	No chemical waste was disposed of.
5.00	**Landscape and Visual (Construction Phase)**					
5.01	Do site offices have olive green roof and façade coating or colour that matche with existing environment?	☐	☐	☑	☐	
5.02	Are site offices and the construction yard decommissioned after construction?	☑	☐	☐	☐	Construction work has not been completed yet
5.03	The height of site offices, including the rooftop does not exceed 10m, except building services equipment such as antennas, which exceeds 10 m but is coated in black.	☐	☐	☑	☐	

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	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.04	Is site hoarding with 2.4m height and colour in harmony with the surrounding environment erected along the site boundary until the completion of relevant construction phases?	☐	☐	☑	☐	
5.05	Are construction plants and building materials orderly and carefully stored to appear neat and avoid visibility from outside where practical?	☐	☐	☑	☐	
5.06	Are excess materials removed from site as soon as practical?	☐	☑	☐	☐	No construction work
5.07	Are all construction plants removed from site upon completion of construction works?	☑	☐	☐	☐	Construction work has not been completed ye
5.08	Are construction lights oriented away from the viewing location of VSRs?	☐	☑	☐	☐	No light was turned-on during site walk
5.09	Are all lightings facing sensitive receiver installed with frosted diffusers and reflective covers?	☐	☑	☐	☐	No light was turned-on during site walk
5.10	Trees that require removal are transplanted on site if practical. If not practical, these trees will be transplanted in locations within the vicinity as approved by the Architect.	☐	☑	☐	☐	The transplanting work has not been conducted yet
5.11	Planting works are carried out under the supervision of a specialist landscape specialist.	☐	☑	☐	☐	The transplanting work has not been conducted yet
5.12	The rooftop of the cremation plant room is planted with lawn.	☑	☐	☐	☐	The construction of cremation plant room has not been completed
5.13	New trees, shrubs and groundcover are carefully selected and designed to homogenize with the environment.	☑	☐	☐	☐	No planting work
5.14	No tree is transplanted or felled without prior approval by relevant Government departments.	☐	☑	☐	☐	The transplanting work has not been conducted yet
5.15	All trees that are marked for retention are fenced off with a 1.2m high fence around the dripline of trees or larger area as far as feasible.	☐	☐	☑	☐	
5.16	Transplant preparation works are carried out as soon as possible after the commencement of construction. Over-pruning such as hard pruning of tree crown, pollarding or topping are avoided. Rootball and crown pruning are carried out over at least 3 months.	☐	☐	☑	☐	
5.17	Existing shrub and ground cover planting areas that will not be removed are maintained in good condition and enhanced if practical.	☐	☐	☑	☐	
5.18	The chimney has been designed to have sculptural outlook and articulated. It is kept in proportion with the rest of the building.	☐	☑	☐	☐	The construction of chim. has not been completed yet
5.19	The chimney stack is designed to locate at the least conspicuous location of the site to VSRs.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
5.20	Bi-weekly checking would be performed on the nine Terminalia mantaly trees within and outside the works area of the Project, or otherwise if the transplantations are not carried out according to the plan.	☐	☐	☑	☐	
5.21	Are silting traps installed to minimize silting to streams?	☐	☑	☐	☐	The silting trap will be installed later.
5.22	Is the tree compensation to tree loss ratio at least 1:1 in term of quantity? About 100 trees will be planted to compensate for the loss of 54 trees. 100 trees will be planted on site and others, in locations within the vicinity approved by the Architect	☑	☐	☐	☐	No planting work
5.23	Is amenity planting for open spaces included in the Project?	☑	☐	☐	☐	No planting work
5.24	Is screen planting such as planting a roll of trees along the site boundary butting Kiu Tau Road carried out?	☑	☐	☐	☐	No planting work
5.25	Woodland mix, comprising of tree seedlings and shrubs, are planted within the Wo Hop Shek Cemetery to enhance the ecological value and compensatory of tree loss.	☑	☐	☐	☐	No planting work
5.26	Is the 10m height headroom cremation plant room half-sunken to reduce the visual impact to pedestrians?	☑	☐	☐	☐	The construction of cremation plant room has not been complete
6.00	**Water Quality (Construction Phase)**					
6.01	Wastewater is properly treated to meet the discharge standards set out in the relevant Water Pollution Control Ordinance (WPCO) discharge licence. No direct discharge of site runoff into the two streams is allowed.	☐	☐	☑	☐	
6.02	Perimeter channels are provided to intercept storm runoff from outside the site. The channels are constructed in advance of site formation works and earthworks.	☐	☐	☑	☐	
6.03	Sand/silt removal facilities such as sand traps, silt traps and sediment basins are provided to remove sand/silt particles from runoff to meet the requirements of the Technical Memorandum standard under the WPCO.	☐	☐	☑	☐	
6.04	Works are carefully programmed to minimise soil excavation works during rainy seasons.	☑	☑	☐	☐	No construction work
6.05	Exposed soil surfaces are protected by paving as soon as possible to reduce the potential of soil erosion.	☐	☐	☑	☐	
6.06	Temporary access roads are protected by crushed gravel and exposed slope surfaces are protected when rainstorms are likely to occur.	☐	☐	☑	☐	
6.07	Trench excavation is avoided in the wet season as far as practicable, and if necessary, these trenches are excavated and backfilled in short sections.	☑	☑	☐	☐	No excavation work
6.08	Open stockpiles of construction materials on site are covered with tarpaulin or similar fabric during rainstorms.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
6.09	Sand and silt in the wash water from the wheel from the wheel washing facility are settled out and removed before discharging into the storm drain.	☐	☑	☐	☐	The wheel washing facility is not ready for use.
6.10	Oil interceptor is provided in the drainage system and regularly emptied to prevent the release of oil and grease into the storm drainage system after accidental spillage.	☐	☑	☐	☐	The oil interceptor will be provided later
6.11	Debris and rubbishes generated on site are collected, handled and disposed of properly to avoid them entering the two streams.	☑	☐	☑	☐	No
6.12	All fuel tanks and storage areas are provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank.	☑	☐	☐	☐	No fuel tanks was placed on site
6.13	Open storm water drains and culverts near the works area are covered to block the entrance of large debris and refuse.	☐	☐	☑	☐	
6.14	Portable chemical toilets handle the sewage from construction work force if the existing toilets in the Site are not adequate. Licensed contractors who are responsible for appropriate disposal and maintenance of these facilities provide appropriate and adequate portable toilets.	☐	☐	☑	☐	
6.15	Sheet piling is provided at suitable location around the basement excavation to reduce the effect of lowering the water table from any dewatering process. Any discharge of groundwater pumped out from any dewatering process of the construction works is treated to comply with the standards set in the relevant discharge licence prior discharge. No discharge of the groundwater is allowed into the two streams.	☑	☐	☐	☐	No excavation work
7.00	**Ecology (Construction Phase)**					
7.01	Any affected trees are transplanted to grassland / scrubland within the Wo Hop Shek Cemetery.	☐	☑	☐	☐	The transplanting work has not been conducted yet
7.02	Temporary accesses to the work sites are carefully planned and located to minimise disturbance caused to the streams and nearby habitats.	☐	☐	☑	☐	
7.03	Less or smaller construction plants are used to reduce disturbance to the nearby habitats.	☐	☑	☐	☐	No plant was placed on site
7.04	Vehicles and other plants are carefully maintained and properly used to minimise the chance for accidental spillage.	☐	☑	☐	☐	No plant was placed on site
7.05	Any spillages that do occur are quickly identified and appropriately cleaned up before they can contaminate streams or groundwater.	☑	☐	☐	☐	No spillage
7.06	Basement formation or any construction activities likely to pump out a large quantity of groundwater are protected with sheet-piling at suitable locations around the basement footprint, or by any like method.	☑	☐	☐	☐	No groundwater was generated
7.07	No groundwater is pumped back to the two stream courses to protect the natural integrity of the stream habitat and the associated organism.	☑	☐	☐	☐	No groundwater was generated

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.08	Sturdy 1.8 metres protective fencings are located at the edge of the tree canopy but not around the trunk.	☐	☐	☑	☐	
7.09	Works beneath the tree canopy are avoided: If encroachment under the canopy area is unavoidable, adequate protections are provided to ensure no damage of any part of the tree would occur due to the encroachment.	☐	☐	☑	☐	
7.10	Any tree transplanting and planting works are implemented by an approved Landscape Contractor. Quality control of the work is undertaken by a qualified Landscape Architect through site inspections and approval of works.	☐	☑	☐	☐	The transplanting work has not been conducted yet
7.11	Construction works are restricted within works area which are clearly defined.	☐	☐	☑	☐	
7.12	Woodland or other habitats that are affected by the construction works are well-defined and minimised.	☐	☐	☑	☐	
7.13	Human inference to habitats beyond the site boundary and habitats proposed to be retained are avoided by providing temporary barricades.	☐	☐	☑	☐	
7.14	Works area is reinstated immediately after completion of the construction.	☑	☐	☐	☐	Construction work has not been completed yet
7.15	Uncontrolled burning of refuse is strictly prohibited. Appropriate fire control measures are provided in order to protect nearby habitats.	☐	☐	☑	☐	
7.16	Trees requiring transplantation or protection are identified based on the information illustrated in the Tree Survey Report.	☐	☐	☑	☐	
7.17	Is layout of the Project carefully designed to avoid or minimize the area of habitat loss and the numbers of trees to be felled?	☐	☐	☑	☐	
7.18	All trees are preserved as far as possible, especially species of conservation concern. Recommendations provided in the Tree Survey Report to mitigate impacts on trees shall be followed.	☐	☐	☑	☐	
7.19	Disturbance to the two plant species of conservation concern, namely Aquilaria sinensis and Cibotium barometz, is avoided. Where removal of these species is unavoidable, it is recommended to transplant them to habitats with similar conditions. Following transplantation, regular monitoring of these plants is conducted by a suitable qualified botanist / horticulturist over a 12-month period;	☐	☐	☑	☐	
7.20	Compensatory planting of the felled trees follows the Technical Circular No. 3/2006 issued by ETWB.	☑	☐	☐	☐	No planting work
7.21	The Site inside or in the proximity of the streams and nearby habitats is temporarily isolated, by placing of sandbags or silt curtains with lead edge at the bottom and properly supported props, to prevent adverse impacts on these areas.	☐	☐	☑	☐	

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

	Environmental Mitigation Measures	N/A*	N/O*	Yes*	No*	Photo/Remarks
7.22	Appropriate storage locations are situated well away from the streams and nearby habitats for the temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil are identified before commencement of the works.	☑	☐	☐	☐	No debris was stored on site
7.23	Stockpiling of construction materials, are covered and located away from the streams and nearby habitats.	☐	☐	☑	☐	
7.24	Construction debris and spoil are covered up and/or properly disposed of as soon as possible to avoid being washed into the streams and nearby habitats by rain.	☑	☐	☐	☐	No debris was stored on site
7.25	Construction effluent, site runoff and sewage is properly collected and/or treated.	☑	☑ N/O	☐	☐	No effluent was generated
7.26	Proper locations for discharge outlets of any wastewater treatment facilities well away from the streams and nearby habitats are identified.	☐	☑ N/O	☐	☐	The discharge outlet has not been connecte
7.27	Vehicles and other plant are carefully maintained and properly used to minimise the chance for accidental spillage.	☑	☐	☐	☐	No vehicle and plant was placed on si
7.28	Temporary geo-textile silt fences around earth moving works are erected to trap any sediments being washed away and prevent them from entering surrounding areas.	☑	☐	☐	☐	No earth-moving work
7.29	Exposed soil or other loose materials are covered with tarpaulins to prevent erosion, and then seeded and covered with a biodegradable geotextile blanket for erosion control purposes.	☐	☐	☑	☐	

*Remarks: N/A = Not applicable at current stage

N/O = Not observed in the site walk

Yes = Compliance

No = Non-compliance

Contract no. AL G513 Expansion of Wo Hop Shek Crematorium

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation : Nil

Reminder : Nil

Signatures:

ET Representative	Contractor's Representative	Architect's Representative	IEC's Representative
(Name: Joe Ho)	(Name: WONG MING YIP)	(Name: L. WONG)	(Name:)

APPENDIX L: STATISTICS ON COMPLAINT, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

Statistical Summary of Exceedances

Air Quality			
Location	**Action Level**	**Limit Level**	**Total**
A10	0	0	0
A20	0	0	0

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	**Cumulative**	**Complaint Nature**
10 Mar 2020 – 31 Mar 2020	0	0	N/A

Statistical Summary of Environmental Non-compliance

Reporting Period	Environmental Non-compliance Statistics		
	Frequency	**Cumulative**	**Details**
10 Mar 2020 – 31 Mar 2020	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	**Cumulative**	**Details**
10 Mar 2020 – 31 Mar 2020	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	**Cumulative**	**Details**
10 Mar 2020 – 31 Mar 2020	0	0	N/A

APPENDIX M: Impact Monitoring Schedule of NeXT REporting Month

Impact Monitoring Schedule for Expansion of Wo Hop Shek Crematorium

Apr-20						
Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2	3	4
			Weekly ET site inspection and audit		Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630	
5	6	7	8	9	10	11
			Weekly ET site inspection and audit	Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630		
12	13	14	15	16	17	18
			Weekly ET site inspection and audit Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630			
19	20	21	22	23	24	25
		Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630 Progress Meeting	Weekly ET site inspection and audit			
26	27	28	29	30		
	Air monitoring for A10, A20 for 1-hr TSP and 24-hr TSP Monitoring Time: 0900-1630					

***Remarks: 1. This impact monitoring schedule is subject to change due to adverse weather conditions or other rationales.**

2. Advance notification of the changes will be given to all relevant parties at lease 48 hours prior to implementation.

APPENDIX N: LAB REPORT

Acumen Laboratory and Testing Limited

Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number	: Q200003aR200240
Job Number	: R200240
Issue Date	: 31/03/2020
Name of Applicant	: Acuity Sustainability Consulting Limited
Address of Applicant	: Unit C, 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong
Project Name	: ASCL-2018028 Expansion of Wo Hop Shek Crematorium
Sample Description	: Total Suspended Particulates
Laboratory ID	: R200240/1-2
Date of Sampling	: 12/03/2020
Date Received	: 12/03/2020
Test Period	: 12/03/2020 – 13/03/2020
Test Required	: 1. Total Suspended Particulates (TSP)
Method Used	: 1. Gravimetric method
Test Result	: Refer to the results on page 2.

For and on behalf of

Acumen Laboratory and Testing Limited

Authorized Signature: _____

Hui Wai Fung, Huntington
Laboratory Manager
Chemical Division

Acumen Laboratory and Testing Limited
Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number : Q200003aR200240

Job Number : R200240

Issue Date : 31/03/2020

Test Result:

Lab ID	Date of Sampling	Client Sample ID	Initial Weight (g)	Final Weight (g)	Total Suspended Particulates (g)
R200240/1	12/03/2020	Fung Kai Liu Yun Sum Memorial School	2.7452	2.8409	0.0957
R200240/2	12/03/2020	Fanling Government Secondary School	2.7466	2.8338	0.0872

Note:
1. < indicates less than.
2. > indicates more than.
3. NA indicates Not Applicable.

End of Report

Acumen Laboratory and Testing Limited

Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number	: Q200003aR200241
Job Number	: R200241
Issue Date	: 31/03/2020
Name of Applicant	: Acuity Sustainability Consulting Limited
Address of Applicant	: Unit C, 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong
Project Name	: ASCL-2018028 Expansion of Wo Hop Shek Crematorium
Sample Description	: Total Suspended Particulates
Laboratory ID	: R200241/1-2
Date of Sampling	: 18/03/2020
Date Received	: 18/03/2020
Test Period	: 18/03/2020 – 19/03/2020
Test Required	: 1. Total Suspended Particulates (TSP)
Method Used	: 1. Gravimetric method
Test Result	: Refer to the results on page 2.

For and on behalf of

Acumen Laboratory and Testing Limited

Authorized Signature: _____

Hui Wai Fung, Huntington
Laboratory Manager
Chemical Division

Acumen Laboratory and Testing Limited
Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number : Q200003aR200241

Job Number : R200241

Issue Date : 31/03/2020

Test Result:

Lab ID	Date of Sampling	Client Sample ID	Initial Weight (g)	Final Weight (g)	Total Suspended Particulates (g)
R200241/1	18/03/2020	Fung Kai Liu Yun Sum Memorial School	2.7149	2.7854	**0.0705**
R200241/2	18/03/2020	Fanling Government Secondary School	2.6989	2.7610	**0.0621**

Note:
1. < indicates less than.
2. > indicates more than.
3. NA indicates Not Applicable.

End of Report

Acumen Laboratory and Testing Limited

Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number	: Q200003aR200248
Job Number	: R200248
Issue Date	: 06/04/2020
Name of Applicant	: Acuity Sustainability Consulting Limited
Address of Applicant	: Unit C, 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong
Project Name	: ASCL-2018028 Expansion of Wo Hop Shek Crematorium
Sample Description	: Total Suspended Particulates
Laboratory ID	: R200248/1-2
Date of Sampling	: 24/03/2020
Date Received	: 24/03/2020
Test Period	: 24/03/2020 – 25/03/2020
Test Required	: 1. Total Suspended Particulates (TSP)
Method Used	: 1. Gravimetric method
Test Result	: Refer to the results on page 2.

For and on behalf of

Acumen Laboratory and Testing Limited

Authorized Signature: _____

Hui Wai Fung, Huntington
Laboratory Manager
Chemical Division

Acumen Laboratory and Testing Limited
Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number : Q200003aR200248

Job Number : R200248

Issue Date : 06/04/2020

Test Result:

Lab ID	Date of Sampling	Client Sample ID	Initial Weight (g)	Final Weight (g)	Total Suspended Particulates (g)
R200248/1	24/03/2020	Fung Kai Liu Yun Sum Memorial School	2.6949	2.7554	0.0605
R200248/2	24/03/2020	Fanling Government Secondary School	2.7001	2.7695	0.0694

Note:
1. < indicates less than.
2. > indicates more than.
3. NA indicates Not Applicable.

End of Report

Acumen Laboratory and Testing Limited

Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number	: Q200003aR200305
Job Number	: R200305
Issue Date	: 21/04/2020
Name of Applicant	: Acuity Sustainability Consulting Limited
Address of Applicant	: Unit C, 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong
Project Name	: ASCL-2018028 Expansion of Wo Hop Shek Crematorium
Sample Description	: Total Suspended Particulates
Laboratory ID	: R200305/1-2
Date of Sampling	: 30/03/2020
Date Received	: 30/03/2020
Test Period	: 30/03/2020 – 31/03/2020
Test Required	: 1. Total Suspended Particulates (TSP)
Method Used	: 1. Gravimetric method
Test Result	: Refer to the results on page 2.

For and on behalf of

Acumen Laboratory and Testing Limited

Authorized Signature: _____

Hui Wai Fung, Huntington
Laboratory Manager
Chemical Division

Acumen Laboratory and Testing Limited
Lot 12, Tam Kon Shan Road, Tsing Yi (N), Hong Kong
Tel: (852) 2333 6823 Fax: (852) 2333 1316

Test Report

Report Number : Q200003aR200305

Job Number : R200305

Issue Date : 21/04/2020

Test Result:

Lab ID	Date of Sampling	Client Sample ID	Initial Weight (g)	Final Weight (g)	Total Suspended Particulates (g)
R200305/1	30/03/2020	Fung Kai Liu Yun Sum Memorial School	2.7008	2.7508	**0.0500**
R200305/2	30/03/2020	Fanling Government Secondary School	2.6789	2.7285	**0.0496**

Note:
1. < indicates less than.
2. > indicates more than.
3. NA indicates Not Applicable.

End of Report