MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

MONTHLY EM&A REPORT

November 2019

Client : Civil Engineering and Development Department, HKSAR

Contract No. : KLN/2015/07

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

Report No. : 0405/15/ED/1222A

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

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

EP-451/2013 Trunk Road T2

Prepared by : Toby K. H. Wan

Reviewed by : Cyrus C. Y. Lai

Certified by :

Colin K. L. Yung
Environmental Team Leader
MateriaLab Consultants Limited

RAMBOLL

Ref.: CEDKTDS3EM00_0_0433L.19

9 December 2019

Hyder-Meinhardt Joint Venture
17/F, Two Harbour Square,
180 Wai Yip Street, Kwun Tong
Kowloon, Hong Kong

By Post and Email

Attention: Mr. Wong W. K., Chris

Dear Mr. Wong,

Re: Contract No. KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway
Monthly EM&A Report for November 2019

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for November 2019 (Report No. 0405/15/ED/1222A) we received by e-mail on 9 December 2019.

Please be informed that we have no adverse comment on the captioned report. We hereby verify the captioned submission according to Condition 3.3 of EP-337/2009, Condition 3.3 of EP-339/2009/A and Condition 3.4 of EP-451/2013.

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

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

F. C. Tsang
Independent Environmental Checker

c.c.	CEDD	Attn.:	Mr. Simon Kwok	Fax: 2739 0076
	Fugro	Attn.:	Mr. Colin K. L. Yung	By email
	CRBC	Attn.:	Mr. Dickey Yau	Fax: 2283 1689

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
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1-15 Kwai Fung Crescent, Kwai Fong,
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Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

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i. The Civil Engineering and Development Department HKSAR has appointed MateriaLab Consultants Limited (MCL) to undertake the Environmental Team services for the Project and implement the EM&A works.

ii. This Monthly EM&A report presents the environmental monitoring and audit works for the period between 1 November and 30 November 2019. As informed by the Contractor, major activities in the reporting month were:

- Excavation and laying of drainage pipe and manhole;
- Construction of SUS structure;
- Construction of District Cooling System;
- Construction of road base and road pavement.
- Utility laying
- Demolition of the barging point

Breaches of the Action and Limit Levels

iii. No Action / Limit Level exceedance was recorded for 24-hr TSP and construction noise at KTD1a, KTD2b and KER1b in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

iv. No environmental complaint, notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

v. There was no reporting change in the reporting month.

Future Key Issues

vi. The key issues to be considered in the coming reporting month include:

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impacts.

1. INTRODUCTION

1.1 Background

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

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

EP-451/2013 – Trunk Road T2

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

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

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

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

(vi) Demolition of RADAR Tower and guard house;

Other works not covered by any EP

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

1.1.3 The location and boundary of the site is shown in **Figure 1**.

1.1.4 This Monthly EM&A report is required under EP-337/2009 Condition 3.3, EP-339/2009/A Condition 3.3 and EP-451/2013 Condition 3.4. It is to report the results and findings of the EM&A programme required in the EM&A Manuals.

1.1.5 This is the 45th monthly EM&A Report which summarize the impact monitoring results and audit findings for the Project within the period between 1 November and 30 November 2019.

1.2 Project Organization

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

1.2.2 The organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarized in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
Project Proponent (CEDD)	Engineer	Mr. Simon Kwok	3842 7140	2739 0076
Engineer's Representative (HMJV)	Chief Resident Engineer	Mr. W. K., Chris Wong	3742 3803	3742 3899
IEC (Ramboll Hong Kong Limited)	Independent Environmental Checker	Mr. F. C. Tsang	3465 2851	3465 2899
Main Contractor (CRBC)	Site Agent	Mr. Yau Kwok Kiu, Dickey	5699 4503	2283 1689
	Environmental Officer	Miss. Elena Lai	6841 3324	2283 1689
ET (MCL)	Environmental Team Leader	Mr. Colin Yung	3565 4114	3565 4160

1.3 Construction Programme and Activities

1.3.1 The construction of the Project commenced in February 2016 and is expected to complete in 2020. The construction programme is shown in **Appendix A**.

1.3.2 A summary of the major construction activities undertaken in the reporting month were:

- Excavation and laying of drainage pipe and manhole;
- Construction of SUS structure;
- Construction of District Cooling System;
- Construction of road base and road pavement.
- Utility laying
- Demolition of the barging point

1.4 Inter-relationship with the environmental protection/ mitigation measures with the construction programme

1.4.1 According to the construction activities in the construction programme mentioned in Section 1.3.2, the following environmental protection/ mitigation measures including Air Quality Impact,

Construction Noise Impact, Water Quality Impact, Chemical and Waste Management, Landscape and Visual Impact shall be implemented:

- Sufficient watering of the works site with the active dust emitting activities;
- Limitation of the speed for vehicles on unpaved site roads;
- Properly cover or enclosure of the stockpiles and dusty materials;
- Good site practices on loading dusty materials;
- Providing sufficient vehicles washing facilities at every vehicle exit point;
- Good maintenance to the plant and equipment;
- Use of quieter plant and Quality Powered Mechanical Equipment (QPME);
- Use of acoustic fabric and noise barrier;
- Using the approved Non-road Mobile Machineries (NRMMs);
- Proper storage and handling of chemical;
- Appropriate desilting, oil interceptors or sedimentation devices provided on site for treatment before discharge;
- Onsite waste sorting and implementation of trip ticket system;
- Training of the site personnel in proper waste management and chemical waste handling procedures;
- Proper storage of the construction materials;
- Erection of decorative screen hoarding;
- Strictly following the Environmental Permits and Licenses;
- Provide sufficient mitigation measures as recommended in Approved EIA Reports

1.5 Status of Environmental Licences, Notifications and Permits

1.5.1 A summary of the relevant environmental licenses, permits and/or notifications on environmental protection for this Contract is presented in **Table 1.2**.

Table 1.2 Relevant Environmental Licenses, Permits and/or Notifications

Environmental License / Permit / Notification	Reference Number	Valid From	Valid Till
Environmental Permit	EP-337/2009 EP-339/2009/A EP-451/2013	23 April 2009 18 June 2009 19 September 2013	Not Applicable Not Applicable Not Applicable
Notification pursuant to Air Pollution (Construction Dust) Regulation	395601	4 December 2015	Not Applicable
Billing Account for Waste Disposal	A/C No.: 7023814	22 December 2015	Not Applicable
Construction Noise Permit	GW-RE0433-19	6 June 2019	5 December 2019
Construction Noise Permit	GW-RE0556-19	12 July 2019	11 January 2020
Wastewater Discharge License	WT00023125-2015	6 January 2016	31 January 2021
Chemical Waste Producer License	5213-247-C1232-12	23 November 2015	Not Applicable

2. AIR QUALITY

2.1 Monitoring Requirement

In accordance with the approved EM&A Manuals, 24-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station is required. Impact 24-hour TSP monitoring should be carried out at least once every 6 days. In case of complaints, 1-hour TSP monitoring should be carried out at least 3 times per 6 days when the highest dust impacts are likely to occur. The Action and Limit Levels of the air quality monitoring are given in **Appendix C**.

2.2 Monitoring Equipment

The 24-hour TSP air quality monitoring was performed using High Volume Air Samplers (HVS) located at each of the designated monitoring station. Portable TSP Monitors would be used in case of complaints for 1-hour TSP monitoring.

Table 2.1 summarizes the equipment used in air quality monitoring.

Table 2.1 Air Quality Monitoring Equipment

Item	Location	Brand	Model	Equipment	Serial Number
1	KER1b	Tisch	TE-5170 (TSP)	High Volume Sampler	
			TE-300-310X	- Mass Flow Controller	2037
			TE-5005X	- Blower Motor Assembly	3482
			TE-5007X	- Mechanical Timer	4488
			TE-5009X	- Continuous Flow Recorder	4371
2	KTD1a	Tisch	TE-5170 (TSP)	High Volume Sampler	
			TE-300-310X	- Mass Flow Controller	2524
			TE-5005X	- Blower Motor Assembly	4037
			TE-5007X	- Mechanical Timer	5160
			TE-5009X	- Continuous Flow Recorder	4377
3	KTD2b	Tisch	TE-5170 (TSP)	High Volume Sampler	
			TE-300-310X	- Mass Flow Controller	2618
			TE-5005X	- Blower Motor Assembly	3838
			G3031	- Mechanical Timer	2251
			G1051	- Continuous Flow Recorder	2307
4		Tisch	TE-5025A	HVS Sampler Calibrator	438320/2154
5		*Sibata	Model LD-3B	Sibata Portable TSP Monitors	NA

Note:
No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted.

2.3 Monitoring Methodology

2.3.1 24-hour TSP air quality monitoring

HVS Installation

The following guidelines were adopted during the installation of HVS:

- Sufficient support is provided to secure the samplers against gusty wind.
- No two samplers are placed less than 2 meters apart.

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

Filters Preparation

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

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

Operating / Analytical Procedures

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

- Prior to the commencement of the dust sampling, the flow rate of the HVS are properly set (between 0.6 m^3/min and 1.7 m^3/min) in accordance with the EM&A manual. The flow rate shall be indicated on the flow rate chart.
- The power supply shall be checked to ensure the samplers worked properly.
- On sampling, the samplers shall be operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station.
- The filter holding frame is then removed by loosening the four nuts and carefully a weighted and conditioned filter is centered with the stamped number upwards, on a supporting screen.
- The filter shall be aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame is tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid shall be closed and secured with the aluminum strip.
- The timer is then programmed. Information shall be recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter shall be removed and sent to laboratory for weighing. The elapsed time is also recorded.
- Before weighing, all filters are equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%. Weighing results are returned to MCL for further analysis of TSP concentrations collected by each filter.

2.3.2 1-hour TSP air quality monitoring

Operating / Analytical Procedures

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

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

2.4 Maintenance / Calibration

2.4.1 24-hour TSP air quality monitoring

The following maintenance / calibration are required for the HVS:

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

2.4.2 1-hour TSP air quality monitoring

The portable TSP monitor should be calibrated at 1 year intervals

2.5 Monitoring Locations

2.5.1 According to the EM&A Manual, three air quality monitoring locations, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two air quality monitoring locations, which are identified in Cha Kwo Ling area, are farther than 500m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.

2.5.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: () in EP2/K19/A/21 pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for air quality monitoring.

2.5.3 According to the approved relocation of monitoring location KER1a (EPD reference: () in EP2/K19/A/21 pt.5), the monitoring location KER1a are proposed to be relocated by alternative monitoring locations KER1b for air quality monitoring.

2.5.4 According to the approved relocation of monitoring location KTD2a (EPD reference: () in EP2/K19/A/21 pt.6), the monitoring location KTD2a are proposed to be relocated by alternative monitoring locations KTD2b for air quality monitoring.

2.5.5 The most updated locations are summarized in **Table 2.2** and shown in **Figure 2**.

Table 2.2 Location of Air Quality Monitoring Station

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2b	G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)
KER1b	Site Boundary at Cheung Yip Street

2.6 Results and Observations

2.6.1 The schedule of air quality monitoring in reporting month is provided in **Appendix E**.

2.6.2 No Action / Limit Level exceedance was recorded for 24-hr TSP at KTD1a, KTD2b and KER1b in the reporting month.

2.6.3 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.

2.6.4 During the reporting month, major dust sources including loading and unloading of C&D wastes, vehicles movement were observed in the site. Non-project related construction activities at the nearby construction site and road traffic along Shing Fung Road, Shing Cheong Road, Cheung Yip Street and the Kwun Tong By-pass were observed. The above factors may affect the monitoring results.

2.6.5 The weather conditions during the monitoring are provided in **Appendix K**.

2.6.6 The monitoring data of 24-hr TSP are summarized in **Table 2.3**. Detailed monitoring data are presented in **Appendix F**.

Table 2.3 Summary of 24-hr TSP Monitoring Results

Parameter	Monitoring Station	Average ($\mu g/m^3$)	Range ($\mu g/ m^3$)	Action Level ($\mu g/ m^3$)	Limit Level ($\mu g/ m^3$)
24-hr TSP in $\mu g/m^3$	KTD1a	47	26-84	177	260
	KTD2b	62	11-86	157	
	KER1b	54	15-102	172	

2.6.7 The Event and Action Plan for air quality is given in **Appendix H**.

2.7 Comparison of 24-hr TSP Monitoring Results with EIA Predictions

2.7.1 The monitoring data of 24-hr TSP was compared with the EIA predictions as summarized in **Table 2.4**.

Table 2.4 Comparison of 24-hr TSP data with EIA predictions

Monitoring Station	Receiver Reference	Predicted Maximum 24-hour TSP Concentration ($\mu g/m^3$)	24-hour TSP concentration in November 2019 ($\mu g/m^3$)	Average 24-hour TSP concentration in November 2019 ($\mu g/m^3$)
KTD1a	KTD3	126	26-84	47
KTD2b	-	-	11-86	62
KER1b	KTD6	169	15-102	54

Note:
For KTD2b, there was no receiver reference in the EIA report, EIAR-174/2013.
Predicted Maximum TSP Concentration extracted from Table 4.14 of EIA Report, EIAR-174/2013.

2.7.2 The 24-hour TSP monitoring results at KTD1a and KER1b were below the Predicted Maximum 24-hr TSP concentration in the approved Environmental Impact Assessment (EIA) Report and no Action / Limit Level exceedance was recorded in the reporting period.

3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the approved EM&A Manuals, Leq (30min) monitoring is conducted for at least once a week during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

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

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

3.2.3 Measurements shall be recorded to the nearest 0.1dB. Sound level meters are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 on normal weekdays at least once a week when construction activities are underway.

Table 3.1 summarizes the noise monitoring equipment model being used for this project.

Table 3.1 Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial Number
1	Casella	CEL-63X Series	Integrating Sound Level Meter	1488272
2	Casella	CEL-63X Series	Integrating Sound Level Meter	3756127
4	Casella	CEL-120/1	Calibrator	4358250
5	Casella	CEL-120/1	Calibrator	4358289
6	Benetech	GM816	Wind Speed Anemometer	N/A

3.3 Monitoring Parameters and Frequency

Table 3.2 presents the noise monitoring parameters and frequencies.

Table 3.2 Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency and Period
LAeq **(30min)** L10 and L90 will be recorded for reference	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week

3.4 Monitoring Methodology

3.4.1 The monitoring procedures are as follows:

- The monitoring station is set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground.
- The battery condition is checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time are set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - measurement time : Weekly 30 minutes between 0700-1900 on normal weekdays
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise monitoring should be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the Leq, L10 and L90 are recorded. In addition, site conditions and noise sources are recorded on a standard record sheet.

3.5 Maintenance / Calibration

3.5.1 Maintenance and Calibration procedures are as follows:

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

3.6 Monitoring Locations

3.6.1 According to the EM&A Manual, three noise monitoring locations, namely KTD1, KTD2 and KER1, are covered by this Contract within the South Apron Area of Former Kai Tak Airport. The other two noise monitoring locations, which are identified in Cha Kwo Ling area, are farther than 300m away from the site boundary and thus not covered by this Contract. The monitoring works in Cha Kwo Ling area are covered by other Contract(s) respectively.

3.6.2 According to the approved alternative baseline air quality and noise monitoring locations (EPD reference: () in EP2/K19/A/21 pt.5), the original monitoring locations (KTD1, KTD2 and KER1) are proposed to be replaced by alternative monitoring locations (KTD1a, KTD2a and KER1a) for noise monitoring.

3.6.3 According to the approved relocation of monitoring location KER1a (EPD reference: () in EP2/K19/A/21 pt.5), the monitoring location KER1a are proposed to be relocated by alternative monitoring locations KER1b for noise monitoring.

3.6.4 According to the approved relocation of monitoring location KTD2a (EPD reference: () in EP2/K19/A/21 pt.6), the monitoring location KTD2a are proposed to be relocated by alternative monitoring locations KTD2b for noise monitoring.

3.6.5 The most updated locations are summarized in **Table 3.3** and shown in **Figure 2**.

Table 3.3 Location of Noise Monitoring Station

Monitoring Station	Location
KTD1a	Centre of Excellence in Paediatrics (Children's Hospital)
KTD2b	G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)
KER1b	Site Boundary at Cheung Yip Street

3.7 Results and Observations

3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix E**.

3.7.2 During the monitoring month, at KTD1a, project related construction activities and road traffic along Shing Fung Road and Shing Cheong Road were observed in the surroundings. At KTD2b, road traffic along the Kwun Tong By-pass and non-project related construction activities at the nearby construction site was observed. At KER1b, project related construction activities, road traffic along Cheung Yip Street and non-project related construction activities at the nearby construction site was observed. Major noise sources including noise emission from plant & PME and some other construction activities, travel of vehicles, loading and unloading of C&D waste were observed in the site. The above factors may affect the monitoring results.

3.7.3 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather conditions during the monitoring month are provided in **Appendix K**.

3.7.4 The noise monitoring data are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix G**.

Table 3.4 Summary of Noise Impact Monitoring Results

Time Period	Leq $_{(30min)}$ dB(A) (Range)			Action Level	Limit Level
	Noise Monitoring Stations				
	KTD1a	KTD2b	KER1b		
0700-1900 hrs on normal weekdays	69-71	69-74	68-73	When one documented complaint is received	75 dB(A)

Note:
KTD1a: Façade Measurement
KTD2b & KER1b: Free-field measurement (+3dB(A) correction has been applied)

3.7.5 No Action / Limit Level exceedance of location KTD1a, KTD2b and KER1b was recorded for construction noise in the reporting month.

3.7.6 The Action and Limit Levels for noise impact monitoring have been set and are presented in **Appendix C**.

3.7.7 The Event and Action Plan for noise is given in **Appendix H**.

3.8 Comparison of Noise Monitoring Results with EIA Predictions

3.8.1 The noise monitoring data was compared with the EIA predictions as summarized in **Table 3.5**.

Table 3.5 Comparison of Noise Monitoring data with EIA predictions

Monitoring Station	Receiver Reference	Maximum Predicted Mitigated Construction Noise Level, dB(A)	Maximum Leq $_{(30min)}$ dB(A) In November 2019
KTD1a	KTD1	74	71
KTD2b	KTD2	75	74
KER1b	KER1	75	73

Note:
Maximum Predicted Mitigated Construction Noise Level extracted from Table 5.13 of EIA Report, EIAR-174/2013.

3.8.2 The impact noise monitoring results of location KTD1a, KTD2b and KER1b in the reporting month did not exceed the Maximum Predicted Mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report and no Action / Limit Level exceedance was recorded in the reporting period.

4. LANDSCAPE AND VISUAL

4.1 Audit Requirements

4.1.1 As per the Trunk Road T2 EM&A Manual, the landscape and visual mitigation measures during the construction phase shall be audited by a Registered Landscape Architect, as a member of the Environmental Team, at least once every two weeks to ensure compliance with the intended aims of the measures.

4.1.2 According to the Kai Tak Development EM&A Manual, measures to mitigate landscape and visual impacts during construction should be checked to ensure compliance with the intended aims of the measures. The progress of the engineering works shall be regularly reviewed onsite to identify the earliest practical opportunities for the landscape works to be undertaken. The ET shall report on the Contractor's compliance on a weekly basis.

4.2 Results and Observations

4.2.1 To monitor and audit the implementation of landscape and visual mitigation measures, four weekly Landscape and Visual Site audits were carried out on 6, 14, 20 and 27 November 2019 and two of them 6 and 20 November 2019 were carried out by a Registered Landscape Architect. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009).

4.2.2 Should non-compliance of the landscape and visual impact occur, action in accordance to the event action plan presented in **Appendix H** shall be carried out.

5. WASTE MANAGEMENT

5.1 Audit Requirements

5.1.1 The effective management of waste arising during the construction phase will be monitored through the site audit programme. Regular audits and site inspections should be carried out to ensure that the recommended good site practices and other mitigation measures are implemented by the Contractor.

5.1.2 The audit should look at all aspects of on-site waste management practices including the waste generation, storage, recycling, transport and disposal. The aims of waste audit are:

- to ensure the waste arising from the works are handled, stored, collected, transferred and disposed of in an environmentally acceptable manner;
- verify the implementation status and evaluate the effectiveness of the mitigation measures; and
- to encourage the reuse and recycling of material.

5.2 Results and Observations

5.2.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.

5.2.2 The amount of wastes generated by the site activities in the reporting month is shown in **Appendix I**.

6. SITE INSPECTION

6.1 Site Inspection

6.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix J**.

6.1.2 In the reporting month, four site inspections were carried out on 6, 14, 20 and 27 November 2019. Two of them, held on 6 and 14 November 2019 was the joint inspections with the IEC, ER, the Contractor and the ET.

6.1.3 No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix M**.

6.1.4 All the follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during the reporting month.

7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP and construction noise at KTD1a, KTD2b and KER1b in the reporting month.

7.2 Complaints, Notification of Summons and Prosecution

7.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting month.

7.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L.**

8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

8.1 Implementation Status

8.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month is summarized in **Appendix J**. Status of required submission under the EP during the reporting period is summarized in **Table 8.1**.

Table 8.1 Status of Required Submission under Environmental Permit

EP Condition	Submission	Submission Date
EP-337/2009		
Condition 2.3	Management Organization of Main Construction Companies	18/12/2015
Condition 2.4	Design Drawing of the Project	18/12/2015
Condition 2.11	Landscape Mitigation Plan(s)	18/12/2015
Condition 3.3	Monthly EM&A Report (October 2019)	14/11/2019
EP-339/2009/A		
Condition 2.4	Management Organization of Main Construction Companies	18/12/2015
Condition 2.5	Design Drawing of the Project	18/12/2015
Condition 3.3	Monthly EM&A Report (October 2019)	14/11/2019
EP-451/2013		
Condition 2.3	Management Organization of Main Construction Companies	18/12/2015
Condition 2.4	Design Drawing of the Project	18/12/2015
Condition 2.5	Landscape Mitigation Plan(s)	18/12/2015
Condition 2.10	Supplementary Contamination Assessment Report	18/12/2015
Condition 3.3	Baseline Monitoring Report	12/02/2016
Condition 3.4	Monthly EM&A Report (October 2019)	14/11/2019

9. FUTURE KEY ISSUES

9.1 Construction Programme for the Next Two Months

- Installation of sheet pile for drainage pipe and manhole
- Excavation and laying of drainage pipe and manhole
- Removal of temporary decking and temporary road pavement
- Construction of SUS structure
- Construction of District Cooling System
- Utility laying
- Demolition of the barging point

9.2 Key Issues for the Coming Month

9.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impact.

9.3 Monitoring Schedules for the Next Three Months

9.3.1 The tentative schedules for environmental monitoring in the coming three months are provided in **Appendix E**.

10. CONCLUSIONS

10.1.1 24-hour TSP impact monitoring and construction noise monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.

10.1.2 No complaint of air quality was received. Therefore, no impact 1-hour TSP monitoring was conducted in the reporting month.

10.1.3 Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for chemical and waste management were given to the Contractor for remediating the deficiencies identified during the site inspections.

10.1.4 Four weekly Landscape and Visual Site audits were carried out on 6, 14, 20 and 27 November 2019 and two of them 6 and 20 November 2019 were carried out by a Registered Landscape Architect in the reporting month. The weekly Landscape and Visual Impact reports were counter-signed by IEC as according to the requirement of EM&A Manual (AEIAR-130/2009).

10.1.5 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting month.

10.2 Comment and Recommendations

10.2.1 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.

10.2.2 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality Impact
- No specific observation was identified in the reporting month.

Construction Noise Impact
- No specific observation was identified in the reporting month.

Water Quality Impact
- No specific observation was identified in the reporting month.

Chemical and Waste Management
- Drip tray should be provided to prevent chemical leakage.

Land Contamination
- No specific observation was identified in the reporting month.

Landscape and Visual Impact
- No specific observation was identified in the reporting month.

General Condition

- No specific observation was identified in the reporting month.

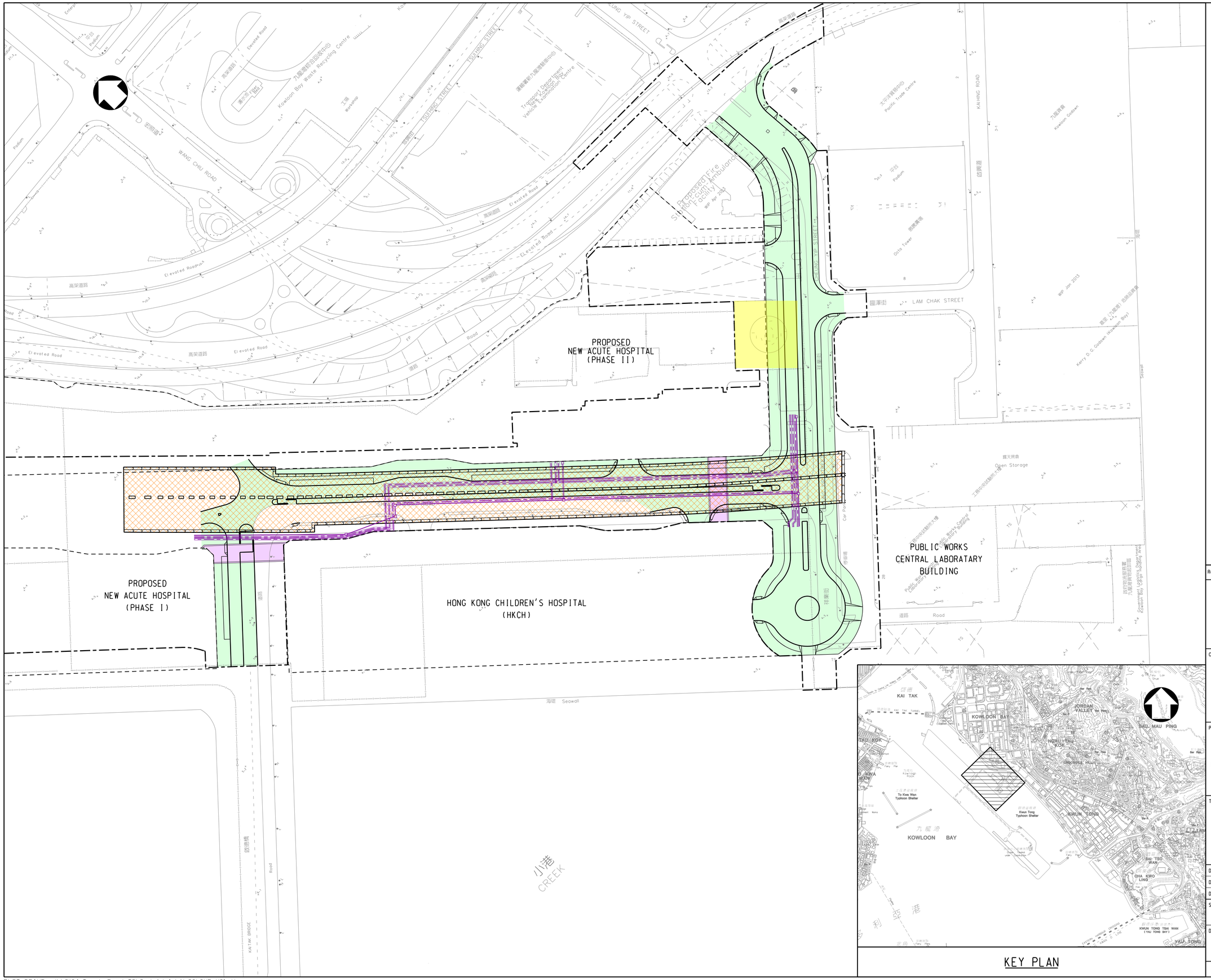
Permit / Licenses

- No specific observation was identified in the reporting month.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Figure 1

Project General Layout



LEGENDS:

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

Rev.	Date	Drawn	Description	Checked	Approved

Hyder MEINHARDT
Hyder-Meinhardt JV

CLIENT

CEDD 土木工程拓展署
Civil Engineering and Development Department
九龍拓展處
Kowloon Development Office

PROJECT

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

TITLE

GENERAL LAYOUT PLAN

DESIGNED			ENG. CHECK		
DRAWN			COORDINATION		
DWG. CHECK			APPROVED		

SCALE AT A1	STATUS	REV
1 : 1000		A

Drawing No.

FIGURE 1.0

KEY PLAN

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Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

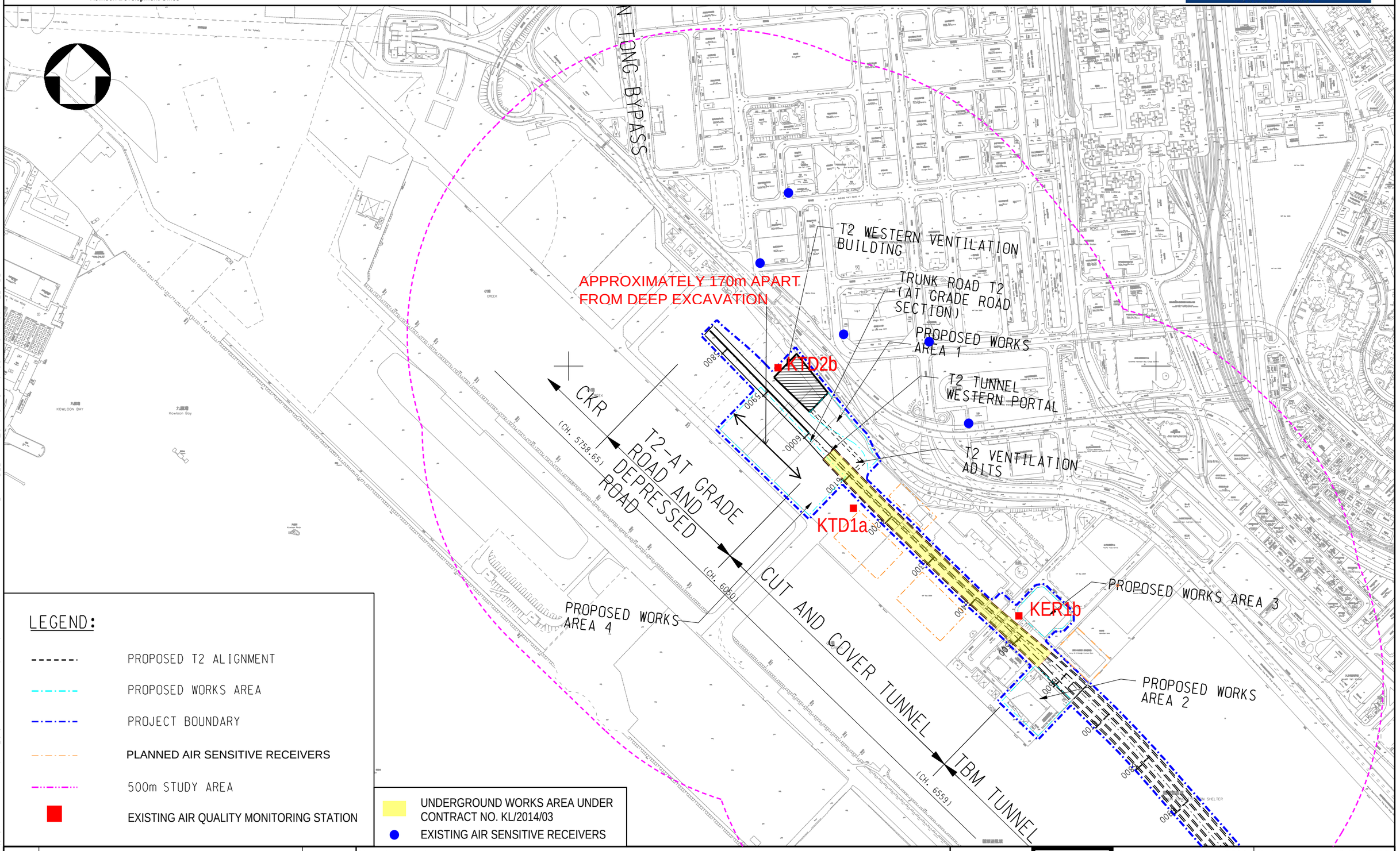
Figure 2

Air and Noise Monitoring Locations

土木工程拓展署
Civil Engineering and Development Department
九龍拓展處
Kowloon Development Office

AGREEMENT NO. CE 38/2008(HY)
KAI TAK DEVELOPMENT - TRUNK ROAD T2 AND INFRASTRUCTURE AT SOUTH APRON - INVESTIGATION, DESIGN AND CONSTRUCTION

Hyder-Meinhardt JV



LEGEND:

- PROPOSED T2 ALIGNMENT
- PROPOSED WORKS AREA
- PROJECT BOUNDARY
- PLANNED AIR SENSITIVE RECEIVERS
- 500m STUDY AREA
- EXISTING AIR QUALITY MONITORING STATION
- UNDERGROUND WORKS AREA UNDER CONTRACT NO. KL/2014/03
- EXISTING AIR SENSITIVE RECEIVERS

Rev.	Description	Date

Drawing title

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

Original Size: A3

Scale: 1 : 6000 | Date: 30/01/2012

File name

Drawing No.: FIGURE 2.1a (revised)

Rev.: --

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Civil Engineering and Development Department
九龍拓展處
Kowloon Development Office

AGREEMENT NO. CE 38/2008(HY)
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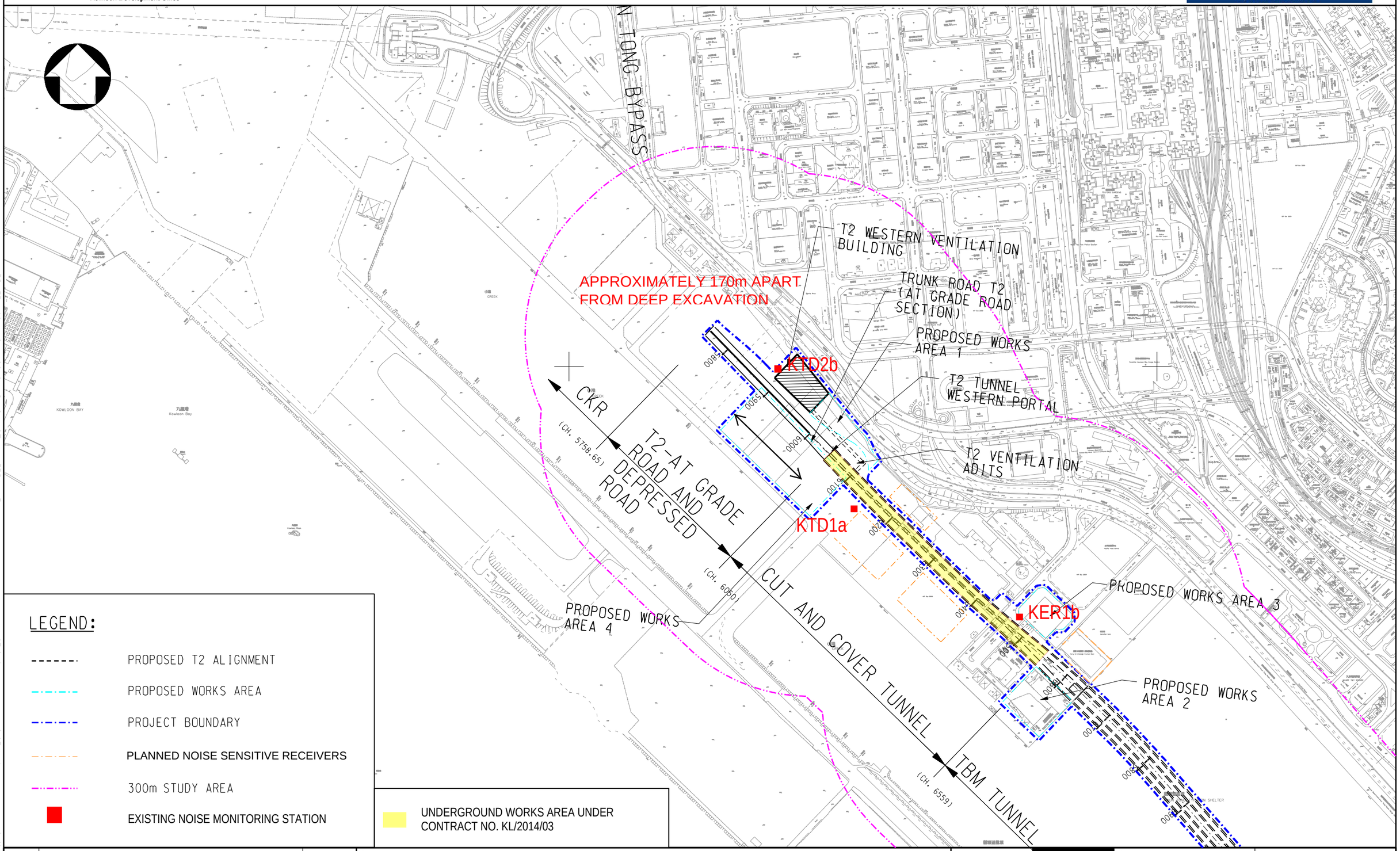
Hyder-Meinhardt JV



LEGEND:

- PROPOSED T2 ALIGNMENT
- PROPOSED WORKS AREA
- PROJECT BOUNDARY
- PLANNED NOISE SENSITIVE RECEIVERS
- 300m STUDY AREA
- EXISTING NOISE MONITORING STATION
- UNDERGROUND WORKS AREA UNDER CONTRACT NO. KL/2014/03

Rev.	Description	Date

Drawing title

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

Original Size: A3
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Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix A

Construction Programme

Hyder - Meinhardt JV

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

CEDD 土木工程拓展署 Civil Engineering and Development Department 九龍拓展處 Kowloon Development Office

Activity ID	Activity Name	Remaining Duration	Start	Finish
KL/2014/03-Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway		430	04-Jan-16 A	02-Jan-21
Project Key Dates		62	20-Feb-16 A	31-Dec-19
Project Completion Date		0	31-Oct-19	31-Oct-19
K-PK-PCD-1000	Section 1-Remainder of the Works (i.e. all Works except Works included in other Section of the Work)	0		31-Oct-19*
K-PK-PCD-1100	Section 1A - Construction of supporting underground structure	0		31-Oct-19*
K-PK-PCD-1300	Section 3 - Construction of District Cooling System (DCS)	0		31-Oct-19*
K-PK-PCD-1600	Section 5 - Completion of All Landscape Softworks	0		31-Oct-19*
K-PK-PCD-1800	Section 7 - Preservation and Protection of Existing Trees	0		31-Oct-19*
Site Handover Date		62	31-Oct-19	31-Dec-19
K-PK-SHD-1000	Portion A	0		31-Dec-19*
K-PK-SHD-1400	Portion D	0		31-Oct-19*
K-PK-SHD-1500	Portion E	0		31-Oct-19*
K-PK-SHD-1600	Portion F	0		31-Oct-19*
K-PK-SHD-1900	Portion K	0		31-Oct-19*
K-PK-SHD-2000	Portion M	0		31-Oct-19*
K-PK-SHD-2200	Portion O	0		31-Oct-19*
K-PK-SHD-2500	Portion R	0		31-Oct-19*
K-PK-SHD-2600	Portion X	0		20-Dec-19*
General Submission		59	09-Jun-16 A	28-Dec-19
Programming / Reporting		25	09-Jun-16 A	24-Nov-19
Works Programme		25	09-Jun-16 A	24-Nov-19
K-PA-GSP-4300	Acceptance of the Works Programme	25	09-Jun-16 A	24-Nov-19
Interfacing Works		9	17-Dec-19	28-Dec-19
K-PA-INT-5000	Joint inspection and handover for DCS Contract/ EMSD	4	17-Dec-19	20-Dec-19
K-PA-INT-6000	Joint inspection and handover for road works, street furniture and lighting to HyD	4	23-Dec-19	28-Dec-19
K-PA-INT-6010	Joint inspection and handover for traffic signal system to TD/EMSD	4	21-Dec-19	27-Dec-19
Prelimiaries		51	20-Feb-16 A	20-Dec-19
K-DR-PRE-1800	Submission of time-lapsed photographs and video	51	20-Feb-16 A	20-Dec-19
Barge Loading Facilities		13	01-Nov-19	15-Nov-19

中國路橋工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

Milestone
Critical Activity
Non-Critical Activity
Remaining Level of Effort
Actual Work

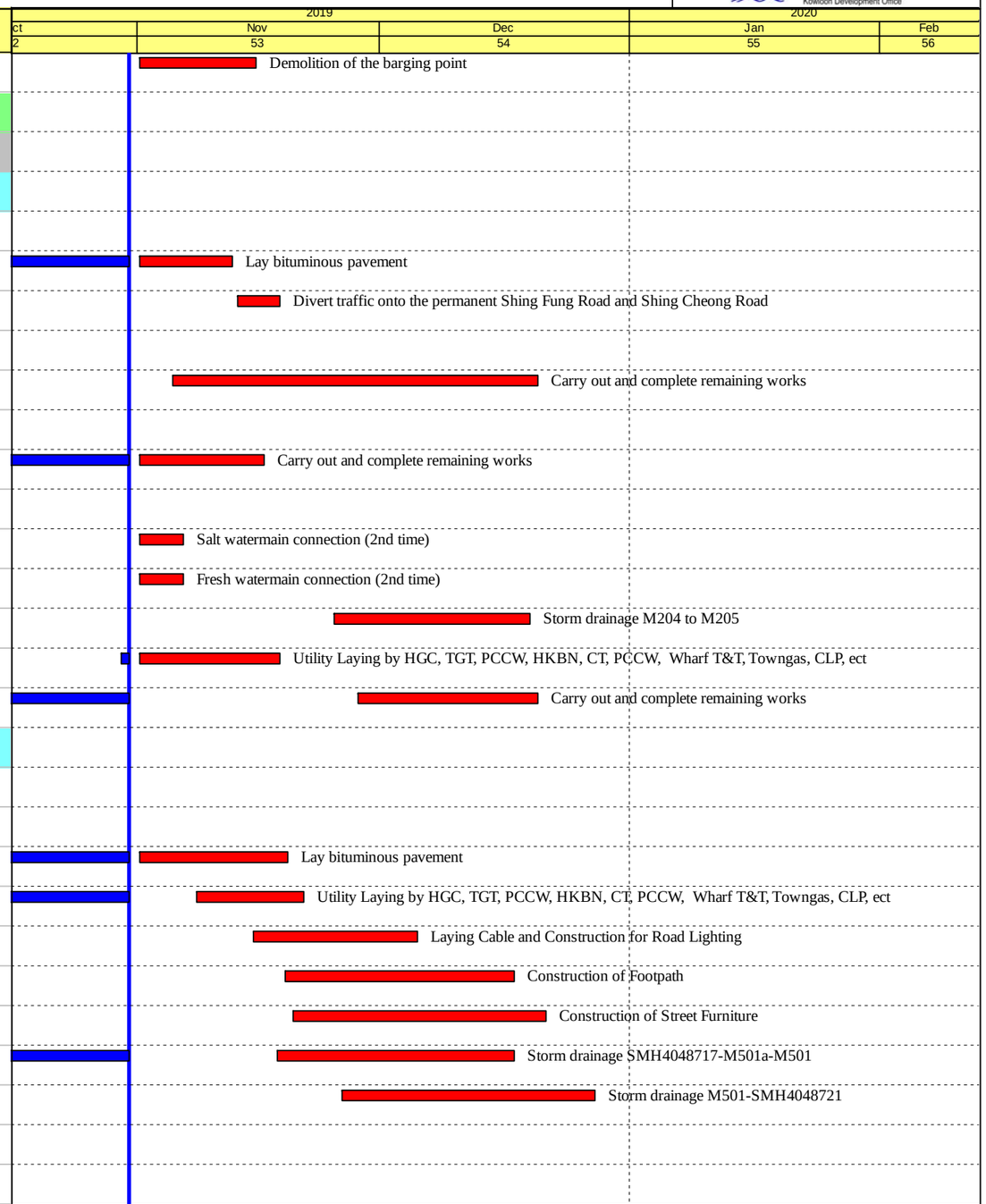
3MPR Nov 2019 - Jan 2020

Project ID :47 MPR 30 Oct 19
Layout : KL201403 3MPR

Monthly Progress Update

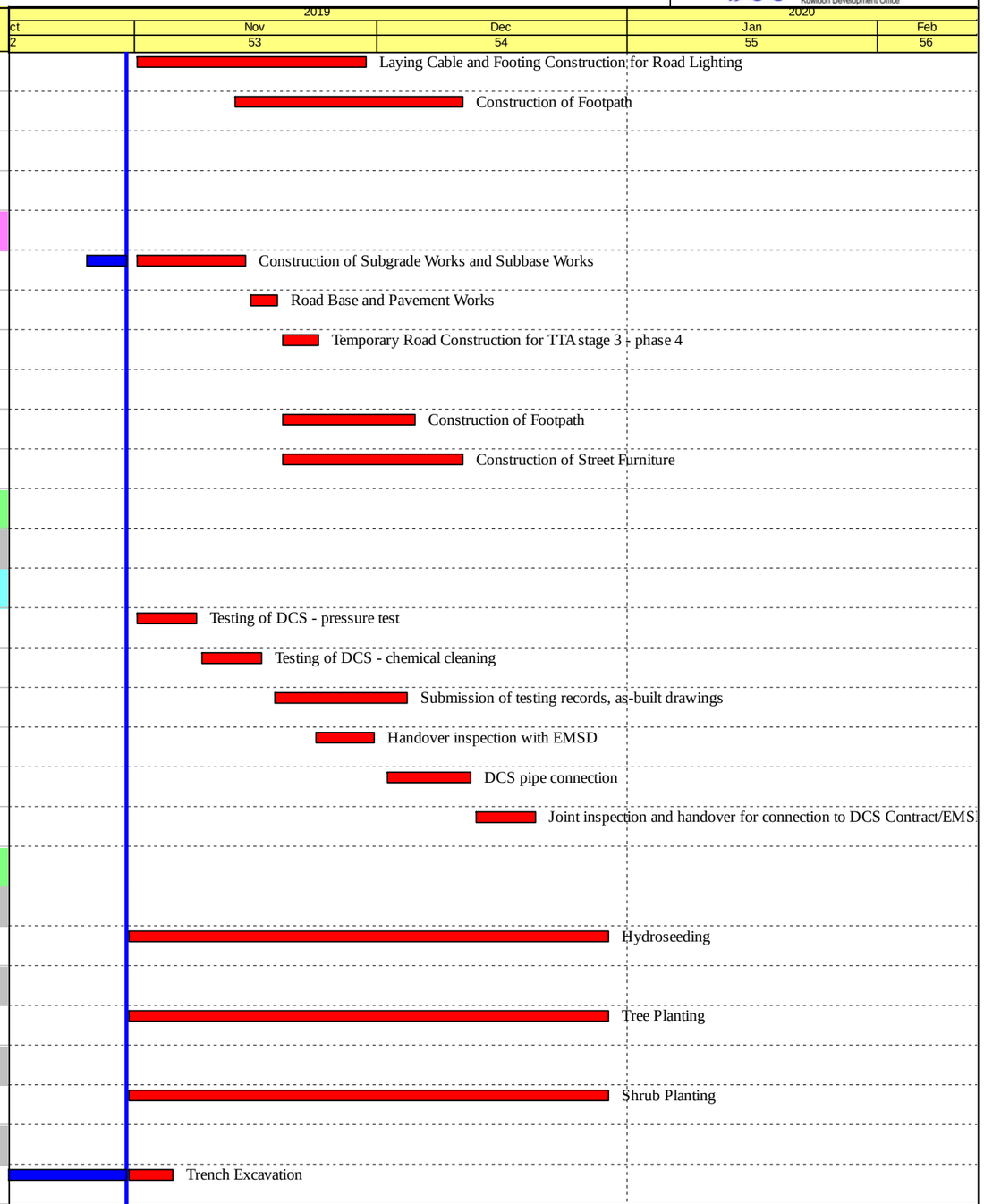
Date	Revision	Checked	Approved
28-Feb-18	WP Rev.6A		
31-Oct-19	Monthly Progress Update		

Activity ID	Activity Name	Remaining Duration	Start	Finish
K-DR-PRE-1485	Demolition of the barging point	13	01-Nov-19	15-Nov-19
Section 1 of the Works-Remainder of the Works		47	28-Mar-19 A	27-Dec-19
Roadwork and Drainage Works		47	28-Mar-19 A	27-Dec-19
Road D4-3 (Ching Shung Road)		43	28-Mar-19 A	20-Dec-19
Zone 1 & 2 and Shing Fung Road R & D Works (Stage 2) CH410-CH340		15	16-Oct-19 A	18-Nov-19
SCR1450	Lay bituminous pavement	10	16-Oct-19 A	12-Nov-19
SCR1460	Divert traffic onto the permanent Shing Fung Road and Shing Cheong Road	5	13-Nov-19	18-Nov-19
Zone 1 & 2 and Shing Fung Road R & D Works (Stage 3) CH410-CH340		40	05-Nov-19	20-Dec-19
SCR1470	Carry out and complete remaining works	40	05-Nov-19	20-Dec-19
Zone 3 R & D Works (Stage 2) CH270 to 190		14	28-Mar-19 A	16-Nov-19
SCR1860	Carry out and complete remaining works	14	28-Mar-19 A	16-Nov-19
Zone 4 R & D Works		43	20-Aug-19 A	20-Dec-19
SCR2165	Salt watermain connection (2nd time)	5	01-Nov-19	06-Nov-19
SCR2168	Fresh watermain connection (2nd time)	5	01-Nov-19	06-Nov-19
SCR2170	Storm drainage M204 to M205	22	25-Nov-19	19-Dec-19
SCR2171	Utility Laying by HGC, TGT, PCCW, HKBN, CT, PCCW, Wharf T&T, Towngas, CLP, ect	15	30-Oct-19 A	18-Nov-19
SCR2172	Carry out and complete remaining works	20	20-Aug-19 A	20-Dec-19
Road D4-4 (Cheung Yip Street)		47	22-Apr-19 A	27-Dec-19
CH100 to CH150 Cheung Yip Street Cul de Sac		47	22-Apr-19 A	27-Dec-19
Cheung Yip Street Cul de Sac		47	22-Apr-19 A	27-Dec-19
SCR2650	Lay bituminous pavement	16	08-Oct-19 A	19-Nov-19
SCR2660	Utility Laying by HGC, TGT, PCCW, HKBN, CT, PCCW, Wharf T&T, Towngas, CLP, ect	12	24-Sep-19 A	21-Nov-19
SCR2670	Laying Cable and Construction for Road Lighting	18	15-Nov-19	05-Dec-19
SCR2680	Construction of Footpath	25	19-Nov-19	17-Dec-19
SCR2690	Construction of Street Furniture	28	20-Nov-19	21-Dec-19
SCR2700	Storm drainage SMH4048717-M501a-M501	26	22-Apr-19 A	17-Dec-19
SCR2710	Storm drainage M501-SMH4048721	26	26-Nov-19	27-Dec-19
CH220 - CH420 Northbound		35	01-Nov-19	11-Dec-19
Road Works and Miscellaneous Works		35	01-Nov-19	11-Dec-19



Monthly Progress Update			
Date	Revision	Checked	Approved
28-Feb-18	WP Rev.6A		
31-Oct-19	Monthly Progress Update		

Activity ID	Activity Name	Remaining Duration	Start	Finish
K-01-RWS-9442	Laying Cable and Footing Construction for Road Lighting	25	01-Nov-19	29-Nov-19
K-01-RWS-9444	Construction of Footpath	25	13-Nov-19	11-Dec-19
CH220 - CH420 Southbound		35	26-Oct-19 A	11-Dec-19
Part 3		20	26-Oct-19 A	23-Nov-19
Road Works		20	26-Oct-19 A	23-Nov-19
K-01-RWS-10817	Construction of Subgrade Works and Subbase Works	12	26-Oct-19 A	14-Nov-19
K-01-RWS-10827	Road Base and Pavement Works	3	15-Nov-19	18-Nov-19
K-01-RWS-10837	Temporary Road Construction for TTA stage 3 - phase 4	5	19-Nov-19	23-Nov-19
Miscellaneous Works		20	19-Nov-19	11-Dec-19
K-01-RWS-9630	Construction of Footpath	15	19-Nov-19	05-Dec-19
K-01-RWS-9632	Construction of Street Furniture	20	19-Nov-19	11-Dec-19
Section 3 of the Works- Construction of District Cooling System (Subject to Excision)		43	01-Nov-19	20-Dec-19
Construction of District Cooling System		43	01-Nov-19	20-Dec-19
Construction of DCS Works at Zone 4		43	01-Nov-19	20-Dec-19
SCR2330	Testing of DCS - pressure test	7	01-Nov-19	08-Nov-19
SCR2340	Testing of DCS - chemical cleaning	7	09-Nov-19	16-Nov-19
SCR2350	Submission of testing records, as-built drawings	15	18-Nov-19	04-Dec-19
SCR2360	Handover inspection with EMSD	7	23-Nov-19	30-Nov-19
SCR2370	DCS pipe connection	10	02-Dec-19	12-Dec-19
SCR2380	Joint inspection and handover for connection to DCS Contract/EMSD	7	13-Dec-19	20-Dec-19
Section 5 of the Works-Completion of All Landscape Softworks		65	15-Mar-19 A	03-Jan-20
Hydroseeding		60	31-Oct-19	29-Dec-19
K-05-HYD-1050	Hydroseeding	60	31-Oct-19	29-Dec-19
Tree Planting		60	31-Oct-19	29-Dec-19
K-05-TPG-1150	Tree Planting	60	31-Oct-19	29-Dec-19
Shrub Planting		60	31-Oct-19	29-Dec-19
K-05-SPG-1200	Shrub Planting	60	31-Oct-19	29-Dec-19
Irrigation System		65	15-Mar-19 A	03-Jan-20
K-05-ISM-1260	Trench Excavation	6	15-Mar-19 A	05-Nov-19



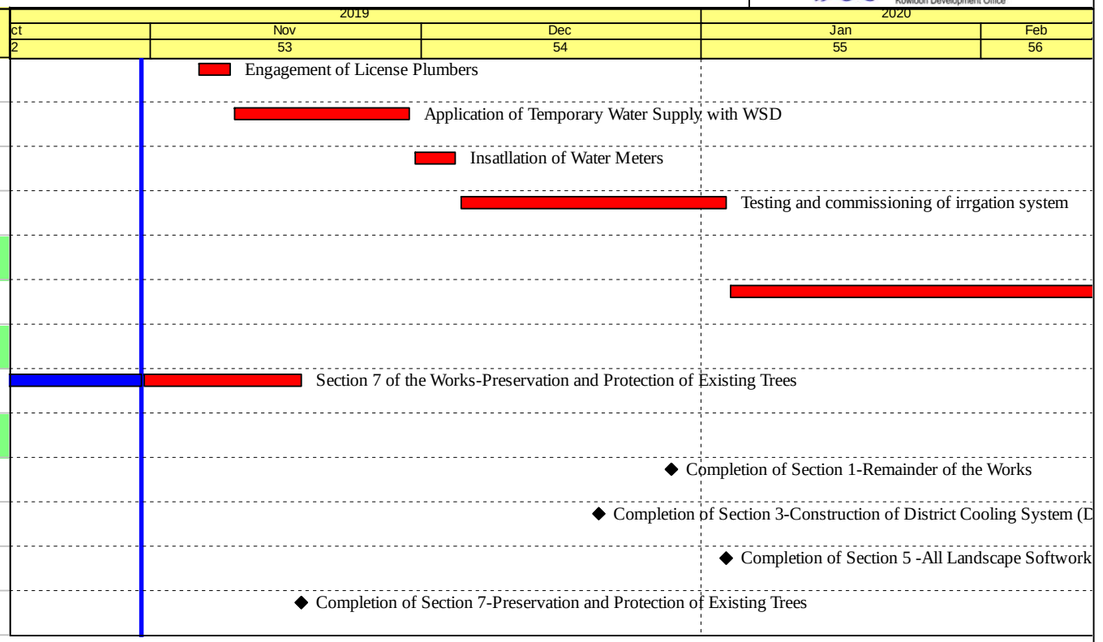
Monthly Progress Update			
Date	Revision	Checked	Approved
28-Feb-18	WP Rev.6A		
31-Oct-19	Monthly Progress Update		

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

Hyder - Meinhardt JV

CEDD 土木工程拓展署 Civil Engineering and Development Department 九龍拓展處 Kowloon Development Office

Activity ID	Activity Name	Remaining Duration	Start	Finish
K-05-ISM-1270	Engagement of License Plumbers	4	06-Nov-19	09-Nov-19
K-05-ISM-1280	Application of Temporary Water Supply with WSD	20	10-Nov-19	29-Nov-19
K-05-ISM-1290	Insatllation of Water Meters	5	30-Nov-19	04-Dec-19
K-05-ISM-1300	Testing and commissioning of irrgation system	30	05-Dec-19	03-Jan-20
Section 6 of the Works-Completion of all Establishment Works for all Landscape Softwo		365	04-Jan-20	02-Jan-21
K-06-001-1000	Section 6 of the Works-Completion of all Establishment Works for all Landscape Softworks	365	04-Jan-20	02-Jan-21
Section 7 of the Works-Preservation and Protection of Existing Trees		18	04-Jan-16 A	17-Nov-19
K-07-001-1000	Section 7 of the Works-Preservation and Protection of Existing Trees	18	04-Jan-16 A	17-Nov-19
Sections Completion Date		47	17-Nov-19	03-Jan-20
K-PK-SCC-1900	Completion of Section 1-Remainder of the Works	0		28-Dec-19
K-PK-SCC-2200	Completion of Section 3-Construction of District Cooling System (DCS)	0		20-Dec-19
K-PK-SCC-2500	Completion of Section 5 -All Landscape Softworks	0		03-Jan-20
K-PK-SCC-2700	Completion of Section 7-Preservation and Protection of Existing Trees	0		17-Nov-19



中國路橋工程有限責任公司 CHINA ROAD AND BRIDGE CORPORATION

◆ Milestone
Critical Activity
Non-Critical Activity
Remaining Level of Effort
Actual Work

3MPR Nov 2019 - Jan 2020

Page 4 of 4

Project ID :47 MPR 30 Oct 19
Layout : KL201403 3MPR
Page 4 of 4

Monthly Progress Update			
Date	Revision	Checked	Approved
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MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix B

Project Organization Chart

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
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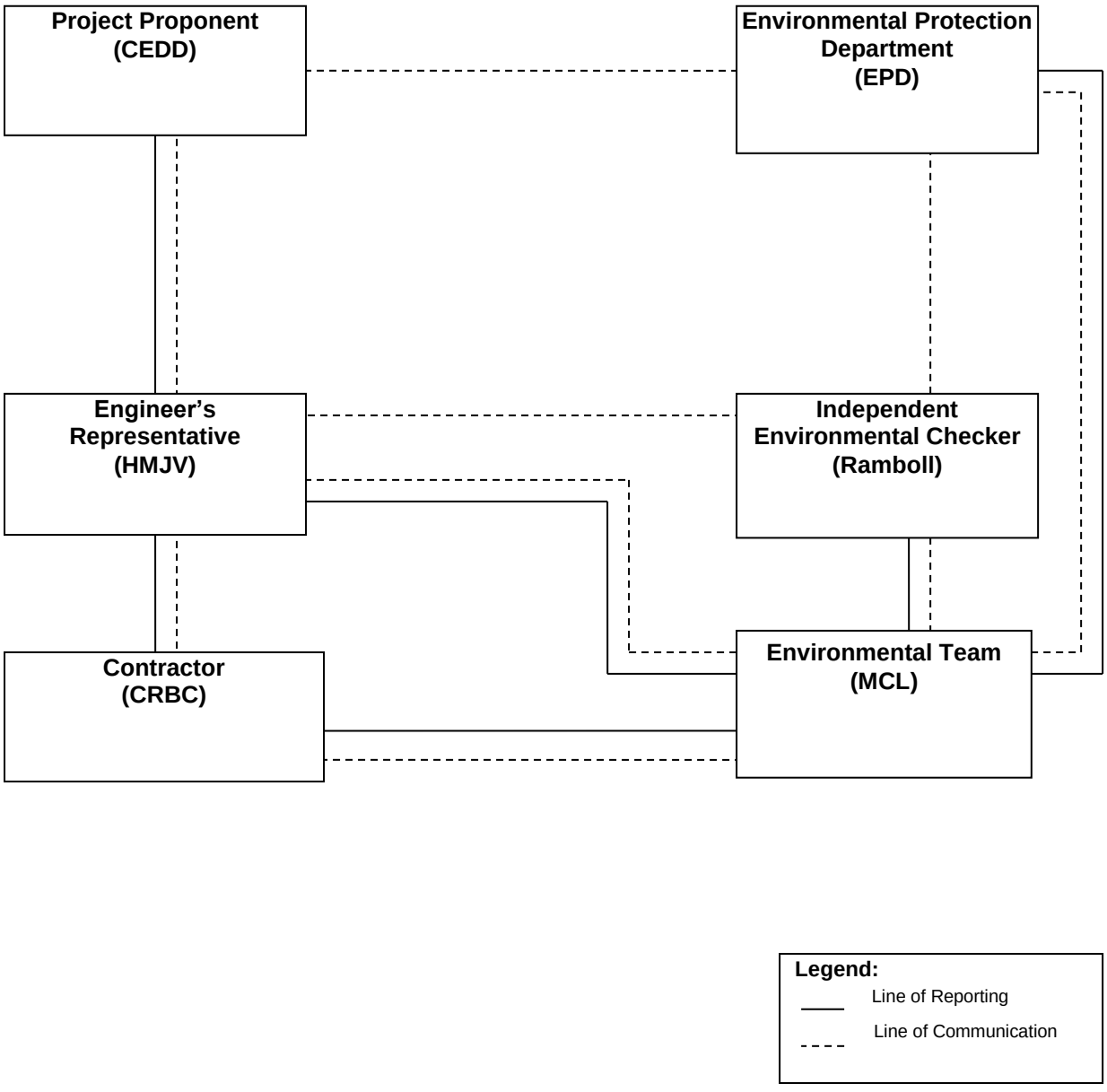

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Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix C

Action and Limit Levels for Air Quality and Noise

Action and Limit Levels for 24-hr TSP and 1-hr TSP

Parameter	Monitoring Station	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/ m^3$)
24-hr TSP ($\mu g/m^3$)	KTD1a	177	260
	KTD2b	157	
	KER1b	172	
*1-hr TSP ($\mu g/m^3$)	KTD1a	285	500
	KTD2b	279	
	KER1b	295	

Note:
1-hr TSP monitoring should be required in case of complaints.

Action and Limit Levels for Construction Noise, Leq (30min), dB(A)

Time Period	Location	Action	Limit
0700-1900 hrs on normal weekdays	KTD1a KTD2b KER1b	When one documented complaint is received	75 dB(A)

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix D

Calibration Certificates of Monitoring Equipment

TISCH Environmental

RECALIBRATION DUE DATE:
October 17, 2019

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	October 17, 2018	**Rootsmeter S/N:** 438320	**Ta:** 294	°K	
Operator:	Jim Tisch		**Pa:** 755.7	mm Hg	
Calibration Model #:	TE-5025A	**Calibrator S/N:** **2154**			

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0410	6.4	4.00
3	5	6	1	0.9310	7.9	5.00
4	7	8	1	0.8840	8.8	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0035	0.6878	1.4197	0.9958	0.6825	0.8821
0.9993	0.9599	2.0078	0.9915	0.9525	1.2475
0.9973	1.0712	2.2448	0.9895	1.0629	1.3948
0.9961	1.1268	2.3543	0.9884	1.1180	1.4628
0.9909	1.3536	2.8394	0.9832	1.3432	1.7642
QSTD	**m=**	**2.13015**	**QA**	**m=**	**1.33386**
	b=	**-0.04186**		**b=**	**-0.02601**
	r=	**0.99996**		**r=**	**0.99996**

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

sch Environmental, Inc.
45 South Miami Avenue
illage of Cleves, OH 45002

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

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07
Date of Calibration: 17-Sep-19
Location : KER1b
Next Calibration Date: 16-Dec-19
Brand: Tisch
Technician: Tony Wan
Model: TE-5170 S/N: 3482

CONDITIONS

Sea Level Pressure (hPa):	1009.0	Corrected Pressure (mm Hg):	757
Temperature (°C):	29.2	Temperature (K):	302

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.13015
Model:	TE-5025A	Qstd Intercept:	-0.04186
Calibration Date:	17-Oct-18	Expiry Date:	17-Oct-19
S/N:	2154		

CALIBRATION

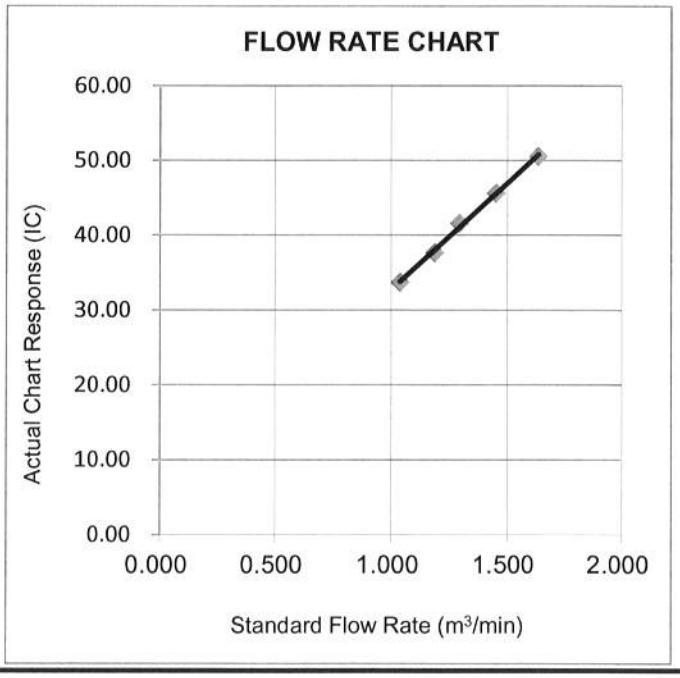
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	4.00	-8.10	12.100	1.638	51.00	50.54	Slope =	28.2944
13	2.50	-7.00	9.500	1.453	46.00	45.58	Intercept =	4.4062
10	1.40	-6.10	7.500	1.294	42.00	41.62	Corr. coeff.=	0.9984
7	0.90	-5.40	6.300	1.187	38.00	37.66		
5	0.60	-4.20	4.800	1.039	34.00	33.69		

Calculations:

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

For subsequent calculation of sampler flow:

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



Wan Ka Ho
Project Consultant

Report Date: 20 - Sep - 2019

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07 — Date of Calibration: 17-Sep-19
Location : KTD1a — Next Calibration Date: 16-Dec-19
Brand: Tisch — Technician: Tony Wan
Model: TE-5170 S/N: 4037

CONDITIONS

Sea Level Pressure (hPa):	1009.0	Corrected Pressure (mm Hg):	757
Temperature (°C):	29.2	Temperature (K):	302

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.13015
Model:	TE-5025A	Qstd Intercept:	-0.04186
Calibration Date:	17-Oct-18	Expiry Date:	17-Oct-19
S/N:	2154		

CALIBRATION

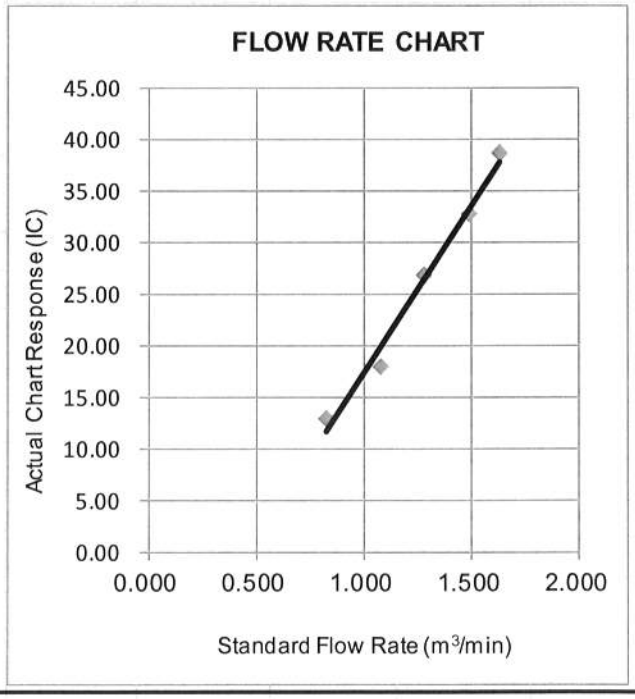
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	6.20	-5.80	12.000	1.631	39.00	38.65	Slope =	32.5384
13	4.90	-5.10	10.000	1.491	33.00	32.70	Intercept =	-15.3177
10	3.80	-3.60	7.400	1.285	27.00	26.76	Corr. coeff.	0.9922
7	2.50	-2.70	5.200	1.080	18.00	17.84		
5	1.40	-1.60	3.000	0.825	13.00	12.88		

Calculations:

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

For subsequent calculation of sampler flow:

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



Wan Ka Ho
Project Consultant

Report Date: 20 - Sep - 2019

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project : Environmantal Monitoring Works For Contract No. KLN/2015/07
Date of Calibration: 17-Sep-19
Location : KTD2b
Next Calibration Date: 16-Dec-19
Brand: Tisch
Technician: Tony Wan
Model: TE-5170 S/N: 3838

CONDITIONS

Sea Level Pressure (hPa):	1009.0	Corrected Pressure (mm Hg):	757
Temperature (°C):	29.2	Temperature (K):	302

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.13015
Model:	TE-5025A	Qstd Intercept:	-0.04186
Calibration Date:	17-Oct-18	Expiry Date:	17-Oct-19
S/N:	2154		

CALIBRATION

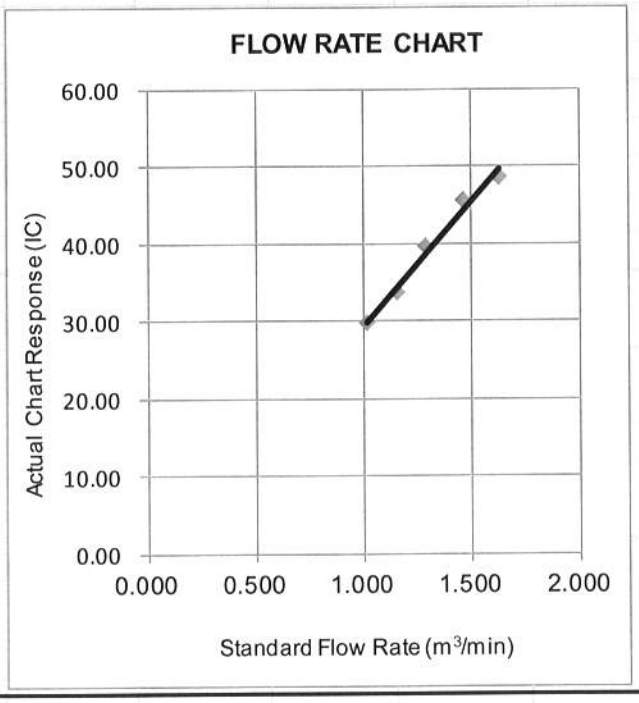
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	5.80	-6.20	12.000	1.631	49.00	48.56	Slope =	32.1209
13	4.90	-4.80	9.700	1.469	46.00	45.58	Intercept =	-2.7664
10	4.20	-3.30	7.500	1.294	40.00	39.64	Corr. coeff.	0.9921
7	3.70	-2.30	6.000	1.159	34.00	33.69		
5	3.40	-1.20	4.600	1.017	30.00	29.73		

Calculations:

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

For subsequent calculation of sampler flow:

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



Wan Ka Ho
Project Consultant

Report Date: 20 - Sep - 2019

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

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

MateriaLab

Report no.: 183057CA196181

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No.	1488272	02552	003942

Next Calibration Date : 01-Oct-2020

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 02-Oct-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	2.0	2.6 to -0.6
	2000Hz	1.4	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.4	-1.8 to -4.6
	250Hz	-8.8	-7.2 to -10.0
	125Hz	-16.3	-14.6 to -17.6
	63Hz	-26.3	-24.7 to -27.7
	31.5Hz	-39.3	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Uncertainties will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 4-10-2019 Certified by : KT Leung Date : 4-10-2019

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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

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

MateriaLab

Report no.: 183057CA195577

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No. :	3756127	00995	003359

Next Calibration Date : 16-May-2020

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 17-May-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	1.6	2.6 to -0.6
	2000Hz	1.3	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.4	-1.8 to -4.6
	250Hz	-8.7	-7.2 to -10.0
	125Hz	-16.2	-14.6 to -17.6
	63Hz	-26.2	-24.7 to -27.7
	31.5Hz	-39.1	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Uncertainties will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 17-5-2019 Certified by : K T Leung Date : 18-5-2019

Leung Kwok Tai (Assistant Manager)

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

** End of Report **

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

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

MateriaLab

Report no.: 183057CA195873(2)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358250
Equipment ID	:	N-33
Next Calibration Date	:	25-Jul-2020
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration	:	26-Jul-2019 Ambient Temperature : 22 °C
Calibration Location	:	Calibration Laboratory of FTS
Method Used	:	By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.0 dB	±0.4dB
114dB	0.0 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 26-7-2019 Certified by : F T Leung Date : 26-7-2019

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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

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

MateriaLab

Report no.: 183057CA195873

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358289
Equipment ID	:	N-35
Next Calibration Date	:	25-Jul-2020
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	26-Jul-2019	Ambient Temperature : 22 °C
Calibration Location :	Calibration Laboratory of FTS	
Method Used	:	By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	0.1 dB	±0.4dB
114dB	0.0 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 26-7-2019 Certified by : RT Leung Date : 26-7-2019

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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

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

MateriaLab

Report No. : 183057CA195782(1)

CALIBRATION CERTIFICATE OF ANEMOMETER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : Benetech

Model No. : GM816

Serial No. : N/A

Equipment ID. : WS-08

Next Calibration Date : 17-Jun-2020

Laboratory Information

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 18-Jun-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : R-C-279

Calibration Results :

Reference Reading (m/s)	UUT Reading (m/s)	Error (m/s)
2.05	1.0	-1.1
4.08	3.1	-1.0
6.07	4.8	-1.3
8.03	6.7	-1.3
10.14	8.8	-1.3

Remark :

1. The equipment being used in this calibration is traceable to recognized National Standards.

Checked by : William Date : 22-6-2019 Certified by : K.T. Leung Date : 24-6-2019

Leung Kwok Tai (Assistant Manager)

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

** End of Report **

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
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E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix E

Environmental Monitoring Schedule

FUGRO TECHNICAL SERVICES LIMITED

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

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

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

Impact Monitoring Schedule (November 2019)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
					1 TSP Monitoring Noise Monitoring	2
3	4	5	6	7 TSP Monitoring Noise Monitoring	8	9
10	11	12	13	14 TSP Monitoring Noise Monitoring	15	16
17	18	19 TSP Monitoring Noise Monitoring	20	21	22	23
24	25 TSP Monitoring Noise Monitoring	26	27	28	29	30 TSP Monitoring Noise Monitoring

Remarks

1. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: Site Boundary at Cheung Yip Street
2. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)
3. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.
4. Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.

FUGRO TECHNICAL SERVICES LIMITED

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

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

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

Impact Monitoring Schedule (December 2019)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2	3	4	5	6 TSP Monitoring Noise Monitoring	7
8	9	10	11	12 TSP Monitoring Noise Monitoring	13	14
15	16	17	18 TSP Monitoring Noise Monitoring	19	20	21
22	23	24 TSP Monitoring Noise Monitoring	25	26	27	28
29	30 TSP Monitoring Noise Monitoring	31				

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition
2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: Site Boundary at Cheung Yip Street
3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)
4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

FUGRO TECHNICAL SERVICES LIMITED

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

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

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

Impact Monitoring Schedule (January 2020)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2	3	4 TSP Monitoring Noise Monitoring
5	6	7	8	9	10 TSP Monitoring Noise Monitoring	11
12	13	14	15	16 TSP Monitoring Noise Monitoring	17	18
19	20	21	22 TSP Monitoring Noise Monitoring	23	24	25
26	27	28 TSP Monitoring Noise Monitoring	29	30	31	

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition
2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: Site Boundary at Cheung Yip Street
3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)
4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

FUGRO TECHNICAL SERVICES LIMITED

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

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

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

Impact Monitoring Schedule (February 2020)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
						1
2	3 TSP Monitoring Noise Monitoring	4	5	6	7	8 TSP Monitoring Noise Monitoring
9	10	11	12	13	14 TSP Monitoring Noise Monitoring	15
16	17	18	19	20 TSP Monitoring Noise Monitoring	21	22
23	24	25	26 TSP Monitoring Noise Monitoring	27	28	29

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition
2. Monitoring Locations – KTD1a: Centre of Excellence in Paediatric (Children's Hospital), KTD2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital), KER1b: Site Boundary at Cheung Yip Street
3. TSP Monitoring: 24-hours TSP Monitoring per 6 days, and 3 x 1-hour TSP Monitoring per 6 days (as required in case of complaints)
4. Noise Monitoring: Leq (30 min) between 0700 and 1900 hours.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix F

Air Quality Monitoring Data

24-hour TSP Monitoring Result for
Kai Tak Development - Stage 3 Infrastructure Works for
Developments at the Southern Part of the Former Runway

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

Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m^3/min.)		Average flow (m^3/min.)	Total volume (m^3)	Conc. (ug/m^3)	Action Level (ug/m^3)	Limit Level (ug/m^3)
				Initial	Final			Initial	Final					
1-Nov-19	Fine	298.7	761.8	2.7274	2.7873	0.0599	24	1.58	1.58	1.58	2271.1	26	177	260
7-Nov-19	Fine	296.8	760.3	2.7210	2.8075	0.0865	24	1.58	1.58	1.58	2272.9	38		
14-Nov-19	Fine	296.0	764.2	2.6585	2.8617	0.2032	24	1.68	1.67	1.67	2409.2	84		
19-Nov-19	Fine	293.5	763.9	2.6913	2.7933	0.1020	24	1.65	1.64	1.64	2368.2	43		
25-Nov-19	Fine	296.8	764.8	2.6606	2.7964	0.1358	24	1.68	1.67	1.67	2408.3	56		
30-Nov-19	Fine	293.4	765.4	2.7149	2.7935	0.0786	24	1.68	1.67	1.68	2413.7	33		
											Min	26		
											Max	84		
											Average	47		

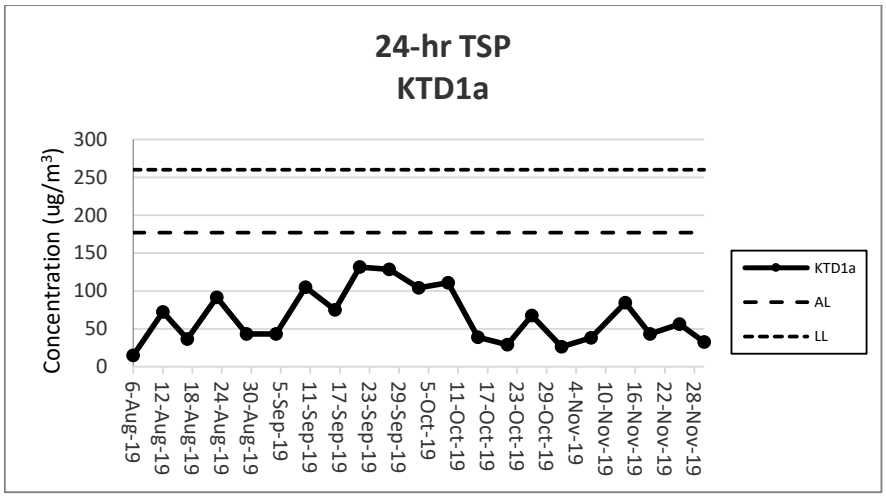
KTD 2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)

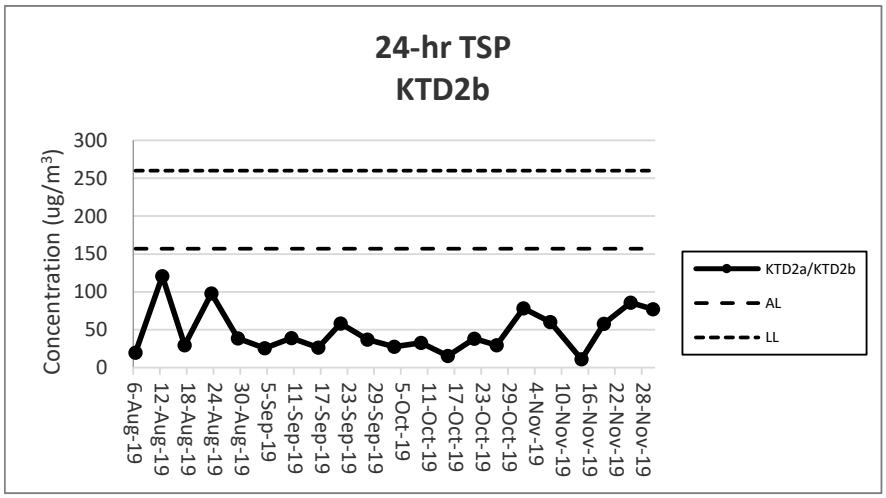
Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m^3/min.)		Average flow (m^3/min.)	Total volume (m^3)	Conc. (ug/m^3)	Action Level (ug/m^3)	Limit Level (ug/m^3)
				Initial	Final			Initial	Final					
1-Nov-19	Fine	298.7	761.8	2.7296	2.9008	0.1712	24	1.52	1.52	1.52	2186.3	78	157	260
7-Nov-19	Fine	296.8	760.3	2.7122	2.8333	0.1211	24	1.40	1.39	1.40	2009.0	60		
14-Nov-19	Fine	296.0	764.2	2.6382	2.6593	0.0211	24	1.34	1.33	1.34	1922.8	11		
19-Nov-19	Fine	293.5	763.9	2.6904	2.8072	0.1168	24	1.41	1.39	1.40	2016.5	58		
25-Nov-19	Fine	296.8	764.8	2.6571	2.8453	0.1882	24	1.53	1.52	1.52	2191.5	86		
30-Nov-19	Fine	293.4	765.4	2.6849	2.8338	0.1489	24	1.35	1.33	1.34	1927.4	77		
											Min	11		
											Max	86		
											Average	62		

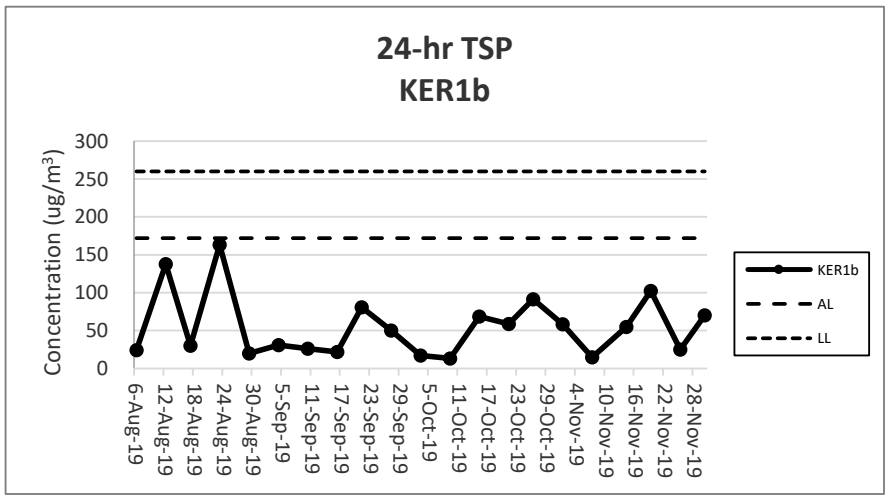
KER1b - Site Boundary at Cheung Yip Street

Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m^3/min.)		Average flow (m^3/min.)	Total volume (m^3)	Conc. (ug/m^3)	Action Level (ug/m^3)	Limit Level (ug/m^3)
				Initial	Final			Initial	Final					
1-Nov-19	Fine	298.7	761.8	2.7038	2.8215	0.1177	24	1.40	1.40	1.40	2015.1	58	172	260
7-Nov-19	Fine	296.8	760.3	2.7206	2.7477	0.0271	24	1.26	1.26	1.26	1813.8	15		
14-Nov-19	Fine	296.0	764.2	2.6471	2.7578	0.1107	24	1.41	1.40	1.40	2022.0	55		
19-Nov-19	Fine	293.5	763.9	2.6963	2.9244	0.2281	24	1.56	1.54	1.55	2231.1	102		
25-Nov-19	Fine	296.8	764.8	2.6737	2.7194	0.0457	24	1.27	1.26	1.26	1816.7	25		
30-Nov-19	Fine	293.4	765.4	2.6777	2.8055	0.1278	24	1.27	1.26	1.27	1823.1	70		
											Min	15		
											Max	102		
											Average	54		

Note:
Underline: Exceedance of Action Level
Underline and Bold: Exceedance of Limit Level







Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2
2) The weather conditions during the reporting period can be referred to Appendix K.
3) Any other factors which might affect the monitoing results can be referred to Section 2.6.4.
4) QA/QC results, calibration results and detection limits can be referred to Appendix D.
5) Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix G

Noise Monitoring Data

Noise Impact Monitoring Result for
Kai Tak Development - Stage 3 Infrastructure Works for
Developments at the Southern Part of the Former Runway

KTD 1a: Centre of Excellence in Paediatrics (Children's Hospital)

Date	Start Time	Leq 30min dB(A)	L10 dB(A)	L90 dB(A)	Wind Speed (m/s)	Weather
01-Nov-19	10:15	70	71	69	0.0	Fine
07-Nov-19	11:45	70	77	65	0.5	Fine
14-Nov-19	09:41	69	71	68	0.2	Fine
19-Nov-19	08:30	71	74	66	0.5	Fine
25-Nov-19	09:28	70	72	68	0.3	Fine
30-Nov-19	09:32	69	70	67	0.8	Fine

Max	71
Min	69
Limit Level	**75**

KTD 2b: G/IC Zone next to Kwun Tong Bypass (Next to the site of the New Acute Hospital)

Date	Start Time	Leq 30min dB(A)	L10 dB(A)	L90 dB(A)	Wind Speed (m/s)	Weather
01-Nov-19	11:08	69	71	67	0.0	Fine
07-Nov-19	13:00	74	76	70	0.9	Fine
14-Nov-19	10:32	74	76	72	0.4	Fine
19-Nov-19	09:14	71	75	67	0.7	Fine
25-Nov-19	10:11	73	75	71	0.2	Fine
30-Nov-19	10:14	70	72	67	1.1	Fine

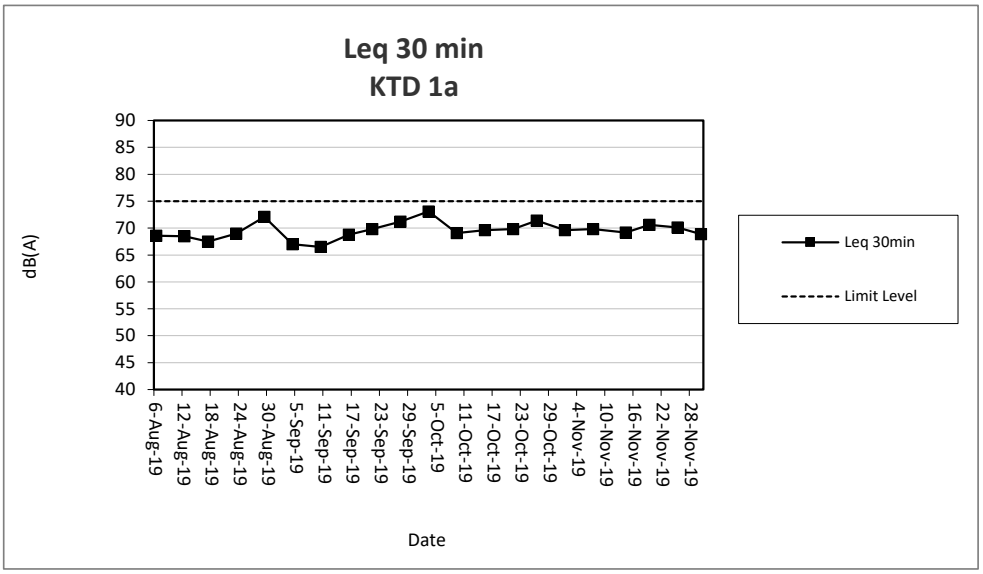
Max	74
Min	69
Limit Level	**75**

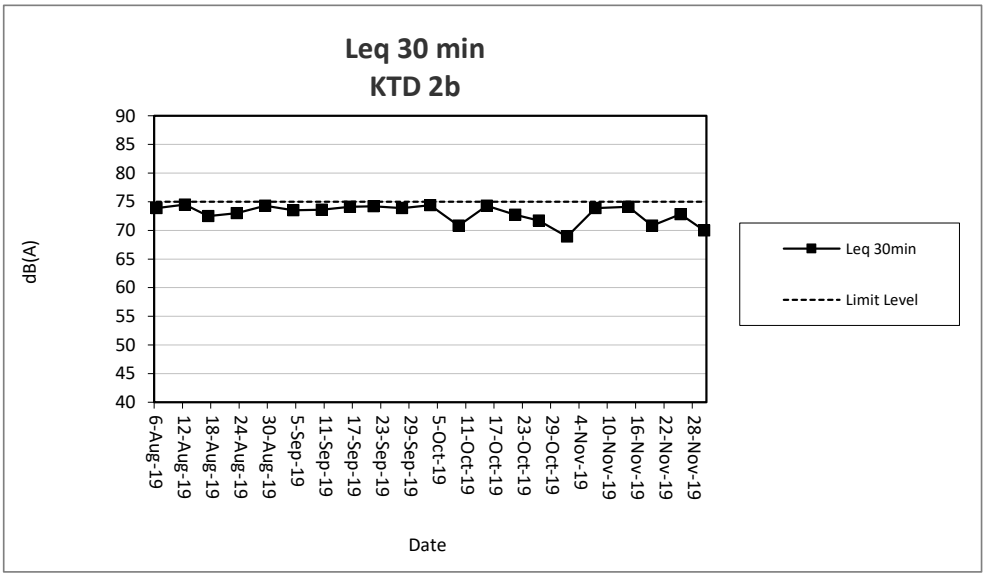
KER 1b: Site Boundary at Cheung Yip Street

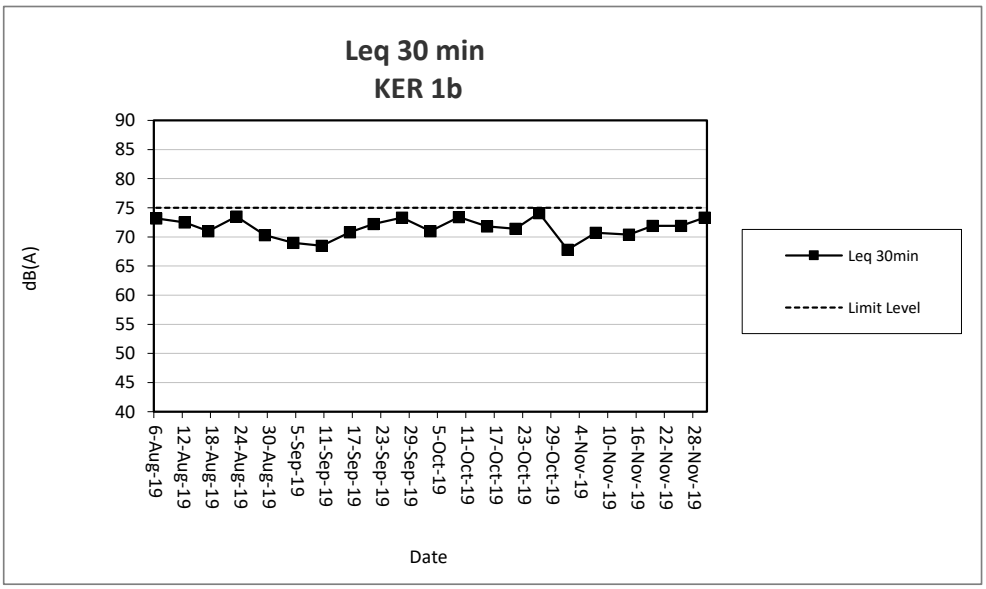
Date	Start Time	Leq 30min dB(A)	L10 dB(A)	L90 dB(A)	Wind Speed (m/s)	Weather
01-Nov-19	11:48	68	69	66	0.0	Fine
07-Nov-19	11:00	71	72	69	0.7	Fine
14-Nov-19	09:02	70	72	69	0.3	Fine
19-Nov-19	10:02	72	75	67	0.5	Fine
25-Nov-19	08:42	72	73	70	0.1	Fine
30-Nov-19	08:45	73	76	69	0.6	Fine

Max	73
Min	68
Limit Level	**75**

Note:
KTD1a: Façade Measurement
KTD2b & KER1b: Free-field measurement (+3dB(A) correction has been applied)
No raining or wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.
Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.







Note:

1) The major activities being carried out on site during the reporting period can be referred to Section 1.3.2.
2) The weather conditions during the reporting period can be referred to Appendix K.
3) Any other factors which might affect the monitoing results can be referred to Section 3.7.2.
4) QA/QC results, calibration results and detection limits can be referred to Appendix D.
5) Impact noise monitoring was change to 14 November 2019 due to the traffic disturbance on 13 November 2019.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix H

Events and Action Plan

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Event and Action Plan for Construction Dust Monitoring

EVENT	ACTION			
	ET	**IEC**	**ER**	**Contractor**
Action Level				
Exceedance for one sample.	1. Identify sources, investigate the causes of complaint and propose remedial measures. 2. Inform IEC and ER. 3. Repeat measurement to confirm finding;. 4. Increase monitoring frequency	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods.	1. Notify the Contractor.	1. Rectify any unacceptable practices. 2. Amend working methods agreed with the ER as appropriate.
Exceedance for two or more consecutive samples.	1.Identify sources. 2.Inform the IEC and ER. 3.Advise the ER on the effectiveness of the proposed remedial measures; 4.Repeat measurements to confirm findings. 5.Increase monitoring frequency to daily. 6.Discuss with the IEC, ER and Contractor on remedial action required. 7.If exceedance continues, arrange meeting with the IEC, Contractor and ER. 8.If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods. 3. Discuss with the ET, ER and Contractor on possible remedial measures if required. 4. Advise the ER on the effectiveness of proposed remedial measures if required.	1. Notify the Contractor. 2. Ensure remedial measures properly implemented.	1. Submit proposals for remedial action to the ER within 3 working days of notification. 2. Implement the agreed proposals. 3. Amend proposal as appropriate
Limit Level				
Exceedance for one sample.	1. Identify sources, investigate causes of exceedance and proposed remedial measures. 2. Inform the IEC, ER, and Contractor. 3. Repeat measurement to confirm finding. 4. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of the Contractor's remedial action and keep the IEC and ER informed of the results	1. Check monitoring data submitted by the ET. 2. Check the Contractor's working methods. 3. Discuss with the ET, ER and Contractor on possible remedial measures. 4. Advise the ER and ET on the effectiveness of the proposed remedial measures. 5. Supervise the implementation of remedial measures.	1. Confirm receipt of the notification of exceedance in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Amend proposal as appropriate.
Exceedance for two or more consecutive samples	1. Notify the IEC, ER and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures with the ER to determine the possible mitigation to be implemented. 6. Arrange meeting with the IEC and ER to discuss the remedial	1. Discuss amongst the ER, ET and Contractor on the potential remedial action. 2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER and ET accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of the notification of exceedance in writing. 2. Notify the Contractor. 3. In consultation with the IEC and ET, agree with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the IEC and ET within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problems still not under control. 5. Stop the relevant portion of works as determined by the ER

EVENT	ACTION			
	ET	IEC	ER	Contractor
	action to be taken. 7. Assess the effectiveness of the Contractor's remedial action and keep the IEC, EPD and ER informed of the results. 8. If exceedance stops, cease additional monitoring		what portion of works is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated.	until the exceedance is abated.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Event and Action Plan for Noise Impact

EVENT	ACTION			
	ET	**IEC**	**ER**	**Contractor**
Action Level	1. Notify the IEC, ER and Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and Contractor. 4. Discuss jointly with the ER and Contractor and formulate remedial measures. 5. Increase the monitoring frequency to check the mitigation effectiveness	1. Review the monitoring data submitted by the ET. 2. Review the construction methods and proposed redial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient	1. Notify the Contractor. 2. Require the Contractor to propose remedial measures for implementation if required.	1. Submit noise mitigation proposals to the ER and copy to the IEC and ET. 2. Implement noise mitigation proposals.
Limit Level	1. Notify the IEC, ER and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Carry out analysis of the Contractor's working procedures with the ER and Contractor to determine possible mitigations to be implemented. 5. Record the causes and action taken for the exceedances. 6. Increase the monitoring frequency. 7. Assess the effectiveness of the Contractor's remedial action with the ER and keep the IEC informed of the results. **8.** If exceedance stops, cease additional monitoring	1. Discuss amongst the ER, ET and Contractor on the potential remedial action. 2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the ER accordingly. **3.** Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problems. 4. Ensure remedial measures are properly implemented. **5.** If exceedance continues, consider what portion of work is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the ER and copy to the ET and IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problems still not under control. **5.** Stop the relevant portion of works as determined by the ER until the exceedance is abated.

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Event and Action Plan for Landscape and Visual Impact

EVENT	ACTION			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	1. Identify Source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures. 5. Check implementation of remedial measures.	1. Notify Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	1. Identify Source 2. Inform the IEC and the ER 3. Increase monitoring frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring	1. Check monitoring report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures.	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Appendix I

Waste Flow Table

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Waste Flow Table for Year 2016

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
2016 Jan	0.159	0.101	0.058	Nil	Nil	Nil	Nil	0.023	0.00002	0.0158	0.0335
2016 Feb	0.291	0.050	0.241	Nil	Nil	Nil	1.34	0.023	0.00002	0.0158	0.0335
2016 Mar	2.7389	0.0407	0.0662	Nil	2.632	Nil	5.92	0.023	0.00002	0.0158	0.0571
2016 Apr	4.1718	0.0578	0.462	Nil	3.652	Nil	12.5	0.023	0.00002	0.0158	0.0426
2016 May	3.592	Nil	0.299	Nil	3.293	Nil	5.23	0.023	0.00002	0.0158	0.0621
2016 Jun	4.6035	Nil	0.8555	Nil	3.748	Nil	Nil	0.023	0.00002	0.0158	0.0619
2016 Jul	6.155	0.153	0.015	Nil	5.987	Nil	7.84	0.023	0.00002	0.0158	0.0433
2016 Aug	5.1155	Nil	Nil	Nil	5.1155	Nil	19.93	0.023	Nil	Nil	0.0147
2016 Sept	7.2267	Nil	Nil	Nil	7.2267	Nil	33.65	0.023	Nil	Nil	0.0103
2016 Oct	4.6448	Nil	Nil	Nil	4.6448	Nil	13.30	0.023	Nil	Nil	0.0385
2016 Nov	6.1626	Nil	Nil	Nil	6.1626	Nil	27.06	0.023	Nil	Nil	0.0192
2016 Dec	6.3522	Nil	Nil	Nil	6.3522	Nil	13.30	0.023	Nil	Nil	0.0121
Total	51.213	0.4025	1.9967	Nil	48.8138	Nil	140.07	0.276	0.00014	0.1106	0.4288

Note:
1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Waste Flow Table for Year 2017

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
2017 Jan	4.2300	Nil	Nil	Nil	4.2300	Nil	0.015	0.023	Nil	Nil	0.0109
2017 Feb	3.2128	Nil	Nil	Nil	3.2128	Nil	0.015	0.023	Nil	Nil	0.0096
2017 Mar	9.4759	Nil	Nil	Nil	9.4759	Nil	0.034	0.023	Nil	Nil	0.0162
2017 Apr	4.8827	Nil	Nil	Nil	4.8827	Nil	0.016	0.023	Nil	Nil	0.0062
2017 May	3.0366	Nil	Nil	Nil	3.0366	Nil	0.022	0.023	Nil	Nil	0.0282
2017 Jun	2.5656	Nil	Nil	Nil	2.5656	Nil	41.25	Nil	Nil	Nil	0.0357
2017 Jul	5.5267	Nil	0.7851	Nil	4.7416	Nil	4.01	0.4515	Nil	0.25	0.0364
2017 Aug	11.4734	Nil	0.0276	Nil	11.4458	Nil	7.4	Nil	Nil	Nil	0.0196
2017 Sep	23.9373	Nil	2.6167	Nil	21.3206	Nil	3.52	Nil	Nil	Nil	0.0333
2017 Oct	17.8261	Nil	0.4069	Nil	17.4192	Nil	Nil	Nil	Nil	Nil	0.0156
2017 Nov	5.8834	Nil	0.6664	Nil	5.217	Nil	Nil	Nil	Nil	Nil	0.023
2017 Dec	21.3554	Nil	0.4763	Nil	20.8791	Nil	29.13	Nil	Nil	Nil	0.022
Total	113.4059	Nil	4.9790	Nil	108.4269	Nil	85.412	0.5665	Nil	0.25	0.2567

Note:
1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Waste Flow Table for Year 2018

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
2018 Jan	10.2340	Nil	Nil	Nil	10.2340	Nil	32.39	Nil	Nil	Nil	0.0161
2018 Feb	6.5256	Nil	Nil	Nil	6.5256	Nil	Nil	Nil	Nil	Nil	0.0235
2018 Mar	28.1995	Nil	Nil	Nil	28.1995	Nil	54.54	Nil	Nil	Nil	0.0190
2018 Apr	11.2165	Nil	Nil	Nil	11.2165	Nil	Nil	Nil	Nil	Nil	0.0270
2018 May	5.6011	Nil	Nil	Nil	5.6011	Nil	Nil	Nil	Nil	Nil	0.0140
2018 Jun	5.8072	Nil	Nil	Nil	5.8072	Nil	93.3	Nil	Nil	Nil	0.0235
2018 Jul	7.4206	Nil	Nil	Nil	7.4206	Nil	Nil	Nil	Nil	Nil	0.0383
2018 Aug	2.0815	Nil	Nil	Nil	2.0815	Nil	Nil	Nil	Nil	Nil	0.0665
2018 Sep	0.3710	Nil	Nil	Nil	0.3710	Nil	Nil	Nil	Nil	Nil	0.0436
2018 Oct	0.9087	Nil	Nil	Nil	0.9620	0.0533	Nil	Nil	Nil	Nil	0.0444
2018 Nov	0.7291	Nil	Nil	Nil	0.7733	0.0589	Nil	Nil	Nil	Nil	0.0225
2018 Dec	-0.0931	Nil	Nil	Nil	0.3860	0.4791	Nil	Nil	Nil	Nil	0.0228
Total	79.0017	Nil	Nil	Nil	79.5783	0.5913	180.23	Nil	Nil	Nil	0.3614

Note:
1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

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Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

Waste Flow Table for Year 2019

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
2019 Jan	0.2485	Nil	Nil	Nil	0.7063	0.45774	Nil	Nil	Nil	Nil	0.0100
2019 Feb	0.2790	Nil	Nil	Nil	0.2790	Nil	Nil	Nil	Nil	Nil	0.0076
2019 Mar	0.7376	Nil	Nil	Nil	0.7376	Nil	Nil	Nil	Nil	Nil	0.0929
2019 Apr	0.3694	Nil	Nil	Nil	0.3694	Nil	Nil	Nil	Nil	Nil	0.0365
2019 May	0.4683	Nil	Nil	Nil	0.4683	Nil	Nil	Nil	Nil	Nil	0.0383
2019 Jun	0.8571	Nil	Nil	Nil	0.8571	Nil	Nil	Nil	Nil	Nil	0.0160
2019 Jul	15.2091	Nil	Nil	Nil	15.2091	Nil	Nil	Nil	Nil	Nil	0.0331
2019 Aug	5.7307	Nil	Nil	Nil	5.7307	Nil	Nil	Nil	Nil	Nil	0.0249
2019 Sep	9.0074	Nil	Nil	Nil	9.0074	Nil	Nil	Nil	Nil	Nil	0.0541
2019 Oct	0.6616	Nil	Nil	Nil	0.6616	Nil	Nil	Nil	Nil	Nil	0.0269
2019 Nov	0.8783	Nil	Nil	Nil	0.8783	Nil	Nil	0.17	Nil	Nil	0.0453
2019 Dec											
Total	34.4470	0	0	0	34.9048	0.4577	0	0.17	0	0	0.3856

Note:
1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
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3) Total Quantity Generated (Inert) = Hard Rock and Large Broken Concrete + Reused in the Contract + Disposed as Public Fill – Imported Fill

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Website : www.fugro.com

Appendix J

Environmental Mitigation Implementation Schedule (EMIS)

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
Air Quality Measures					
New Distributor Roads Serving the Planned KTD					
AEIAR-130/2009 S3.2	AEIAR 130/2009 EM&A Manual S2.2	8 times daily watering of the work site with active dust emitting activities.	Contractor	All relevant worksites	Implemented
Decommissioning of the Radar Station of the former Kai Tak Airport					
AEIAR-130/2009 S5.2.19	AEIAR 130/2009 EM&A Manual S4.2.4	The excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work. The exposed excavated area should be covered by the tarpaulin during night time. The top layer soils should be sprayed with fine misting of water immediately before the excavation.	Contractor	All relevant worksites	Not Applicable
Trunk Road T2					
AEIAR-174/2013 S4.9.2.1	AEIAR-174/2013 EM&A Manual S2.3.1.1	Watering of the construction areas 12 times per day to reduce dust emissions by 91.7%, with reference to the “Control of Open Fugitive Dust Sources” (USEPA AP-42). The amount of water to be applied would be 0.91L/m2 for the respective watering frequency.	Contractor	All relevant worksites	Implemented
		Dust enclosures with watering would be provided along the loading ramps and conveyor belts for unloading the C&D materials to the barge for dust suppression.	Contractor	All relevant worksites	Not Applicable
		8 km per hour is the recommended limit of the speed for vehicles on unpaved site roads.	Contractor	All relevant worksites	Implemented
		Good Site Practices			
AEIAR-130/2009	AEIAR 130/2009	Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should	Contractor	All relevant	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
S3.2, S5.2.19, AEIAR-174/2013 S4.9.2.2	EM&A Manual S2.2, S4.2, AEIAR-174/2013 EM&A Manual S2.3.1.2	be fully covered by impermeable sheeting to reduce dust emission.		worksites	
		Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. Use of frequent watering for particularly dusty construction areas and areas close to ASRs.	Contractor	All relevant worksites	Implemented
		Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying area should have properly fitted side and tail boards.	Contractor	All relevant worksites	Implemented
		Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.	Contractor	All relevant worksites	Implemented
		Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation.	Contractor	All relevant worksites	Implemented
		The vehicles should be restricted to maximum speed of 10 km per hour. Confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials.	Contractor	All relevant worksites	Implemented
		Vehicle washing facilities should be provided at every vehicle exit point. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites. The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	Contractor	All relevant worksites	Implemented
		Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	Contractor	All relevant worksites	Implemented
		Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.	Contractor	All relevant worksites	Not Applicable
		Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.	Contractor	All relevant worksites	Implemented
		Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.	Contractor	All relevant worksites	Implemented
		Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs.	Contractor	All relevant worksites	Implemented
		Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs.	Contractor	All relevant worksites	Implemented
		<u>Dark smoke</u>			
		Dark smoke emission shall be control in accordance with the Air Pollution Control (Smoke) Regulation and ETWB TCW 19/2005.	Contractor	All relevant worksites	Implemented
		Plant and equipment should be well maintained to prevent dark smoke emission.	Contractor	All relevant worksites	Implemented
<u>Noise Measures</u>					
Trunk Road T2					
AEIAR-174/2013 S5.9.2.1	AEIAR-174/2013 EM&A Manual S3.4.1.1	The use of quieter plant, including Quality Powered Mechanical Equipment (QPME) is specified for the list of equipment: • Concrete lorry mixer • Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne • Generator, Super Silenced, 70 dB(A) at 7m	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		• Poker, vibratory, Hand-held (electric) • Water Pump, Submersible (Electric) • Mobile Crane - KOBELCO CKS900 • Excavator, wheeled/tracked - HYUNDAI R80CR-9			
		Use of temporary or fixed noise barriers with a surface density of at least 10kg/m^2 to screen noise from movable and stationary plant.	Contractor	All relevant worksites	Not Applicable
		Use of enclosures with covers at top and three sides and a surface density of at least 10kg/m^2 to screen noise from generally static noisy plant such as air compressors.	Contractor	All relevant worksites	Not Applicable
		Use of acoustic fabric for the silent piling system, drill rigs, rock drills etc.	Contractor	All relevant worksites	Implemented
		<u>Good Site Practices</u>			
AEIAR-130/2009 S3.3, S5.3.10, AEIAR-174/2013 S5.9.2.1	AEIAR 130/2009 EM&A Manual S2.3, S4.3.2, AEIAR-174/2013 EM&A Manual S3.4.1.1	Only well-maintained plant should be operated on-site and plant shall be serviced regularly during the construction/ decommissioning program.	Contractor	All relevant worksites	Implemented
		Silencers or mufflers on construction equipment should be utilized and shall be properly maintained during the construction/ decommissioning program.	Contractor	All relevant worksites	Implemented
		Mobile plant, if any, should be sited as far away from NSRs as possible.	Contractor	All relevant worksites	Implemented
		Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or should be throttled down to a minimum.	Contractor	All relevant worksites	Implemented
		Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Contractor	All relevant worksites	Implemented
		Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction/ decommissioning activities.	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Use of site hoarding as a noise barrier to screen noise at low level NSRs.	Contractor	All relevant worksites	Implemented
		For the use of hand held percussive breakers (with mass of above 10kg) and portable air compressors (supply air at 500 kPa or above), the noise level of such PME shall comply with a stringent noise emission standard and a noise emission label shall be obtained from the DEP before use at any time in construction site.	Contractor	All relevant worksites	Implemented
		Quiet powered mechanical equipment (PME) shall be used for the construction of the Project.	Contractor	All relevant worksites	Implemented
		Full enclosures shall be used to screen noise from relatively static PMEs (including air compressor, bar bender, concrete pump, generator and water pump) from sensitive receiver(s).	Contractor	All relevant worksites	Not Applicable
		Movable cantilevered noise barriers shall be used to screen noise from mobile PMEs (including asphalt paver, breaker, excavator and hand-held breaker) from sensitive receiver(s). These movable cantilevered noise barriers shall be located close to the mobile PMEs and shall be moved/adjusted iteratively in step with each movement of the corresponding mobile PMEs in order to maximize their noise reduction effects.	Contractor	All relevant worksites	Not Applicable
		Only approved or exempted Non-road Mobile Machineries (NRMMs) including regulated machines and non-road vechicles with proper labels are allowed to be used in specified activities on-site.	Contractor	All relevant worksites	Implemented
Water Quality Measures					
Trunk Road T2					
		Accidental Spillage			
AEIAR-174/2013 S6.4.8.5	AEIAR-174/2013 EM&A Manual S4.2.1.1	All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed; The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only.	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides.	Contractor	All relevant worksites	Implemented
		The storage container should be sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary). An emergency clean up kit shall be readily available where bentonite fluid will be stored or used.	Contractor	All relevant worksites	Implemented
		The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry, if mixed with inert fill material, to be disposed to a public filling area) and disposal at landfill should be the last resort.	Contractor	All relevant worksites	Implemented
AEIAR-174/2013 S6.4.8.8	AEIAR-174/2013 EM&A Manual S4.2.1.1	In order to protect against impacts to the surrounding marine waters of the KTTS and Victoria Harbour in the event of an accidental spillage of fuel or oil, the Contractor will be required to prepare a spill response plan to the satisfaction of AFCD, EPD, FSD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site.	Contractor	All relevant worksites	Implemented
		<u>Dredging, Reclamation and Filling</u>			
		No dredging, reclamation or filling in the marine environment shall be carried out.	Contractor	All relevant worksites	Implemented
Decommissioning of the Radar Station of the former Kai Tak Airport					
		<u>Building Demolition</u>			

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
AEIAR-130/2009 S5.4	AEIAR 130/2009 EM&A Manual S4.4	The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed as far as practicable in order to minimise surface runoff and the chance of erosion.	Contractor	All relevant worksites	Not Applicable
		There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. It is anticipated that the wastewater generated from the works areas would be of small quantity. Monitoring of the treated effluent quality from the works areas should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.	Contractor	All relevant worksites	Not Applicable
		<u>General Construction Works</u>			
		<u>Construction Runoff</u>			
AEIAR-130/2009 S3.4, S5.4/ AEIAR-174/2013 S6.4.8.1	AEIAR 130/2009 EM&A Manual S2.4, S4.4/ AEIAR-174/2013 EM&A Manual S4.2.1.1	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include the use of sediment traps and adequate maintenance of drainage systems to prevent flooding and overflow.	Contractor	All relevant worksites	Implemented
		Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	Contractor	All relevant worksites	Implemented
		Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.			
		Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m3 capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Contractor	All relevant worksites	Implemented
		Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m^3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	Contractor	All relevant worksites	Implemented
		Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	Contractor	All relevant worksites	Implemented
		Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	Contractor	All relevant worksites	Implemented
		Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Contractor	All relevant worksites	Implemented
		An adequately designed and located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	Contractor	All relevant worksites	Implemented

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

Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		<u>Drainage</u>			
		It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	Contractor	All relevant worksites	Implemented
		All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Contractor	All relevant worksites	Implemented
		<u>Stormwater Discharges</u>			
		Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	Contractor	All relevant worksites	Implemented
		<u>Sewage Effluent</u>			
		Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	Contractor	All relevant worksites	Implemented
		<u>Debris and Litter</u>			
		In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur. Debris and refuse generated on-site should be collected, handled and disposed of	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		properly to avoid entering into the adjacent harbour waters. Stockpiles of cement and other construction materials should be kept covered when not being used.			
		<u>Accidental Spillage</u>			
		Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby harbour waters, all fuel tanks and storage areas should be 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, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ. The bund should be drained of rainwater after a rain event.	Contractor	All relevant worksites	Implemented
<u>Waste Management Measures</u>					
		<u>Waste Management Plan</u>			
AEIAR-174/2013 S11.4.8.1	AEIAR-174/2013 EM&A Manual S9.2.1.2	Contractor should be requested to submit an outline Waste Management Plan (WMP) prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction.	Contractor	All relevant worksites	Implemented
		<u>Good Site Practices</u>			
AEIAR-130/2009 S3.5, S5.5	AEIAR 130/2009 EM&A Manual S2.5, S4.5	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	Contractor	All relevant worksites	Implemented
		Training of site personnel in proper waste management and chemical waste handling procedures.	Contractor	All relevant worksites	Implemented
		Provision of sufficient waste disposal points and regular collection for disposal.	Contractor	All relevant worksites	Implemented
		Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	Contractor	All relevant worksites	Implemented

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	Contractor	All relevant worksites	Implemented
		<u>Waste Reduction Measures</u>			
		Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals.	Contractor	All relevant worksites	Implemented
		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.	Contractor	All relevant worksites	Implemented
		Encourage collection of aluminum cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.	Contractor	All relevant worksites	Implemented
		Any unused chemicals or those with remaining functional capacity should be recycled.	Contractor	All relevant worksites	Implemented
		Proper storage and site practices to minimize the potential for damage or contamination of construction materials.	Contractor	All relevant worksites	Implemented
		<u>Construction and Demolition Materials</u>			
		Where it is unavoidable to have transient stockpiles of C&D material within the work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.	Contractor	All relevant worksites	Implemented
		Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Contractor	All relevant worksites	Implemented
		Skip hoist for material transport should be totally enclosed by impervious sheeting.	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	Contractor	All relevant worksites	Implemented
		The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	Contractor	All relevant worksites	Implemented
		The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.	Contractor	All relevant worksites	Implemented
		All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	Contractor	All relevant worksites	Implemented
		The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	Contractor	All relevant worksites	Implemented
		When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 “Trip Ticket System for Disposal of Construction and Demolition Materials” should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.	Contractor	All relevant worksites	Implemented
		<u>Chemical Waste</u>			
		After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Contractor	All relevant worksites	Implemented

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		General Refuse			
		General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem.	Contractor	All relevant worksites	Implemented
Land Contamination Measures					
		For any excavation works conducted at Radar Station			
		As the risk due to dermal contact with groundwater by site workers is uncertain, it is recommended that personnel protective equipment (PPE) be used by site workers as a mitigation measure.	Contractor	All relevant worksites	Not Applicable
Landscape and Visual Impact					
		New Distributor Roads Serving the Planned KTD			
		Construction Phase			
		All existing trees should be carefully protected during construction.	Contractor	All relevant worksites	Not Applicable
		Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	Contractor	All relevant worksites	Not Applicable
		Control of night-time lighting.	Contractor	All relevant worksites	Not Applicable

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

Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		Erection of decorative screen hoarding.	Contractor	All relevant worksites	Implemented
		Trunk Road T2			
		Construction Phase			
AEIAR-174/2013 S9.9.1.1	AEIAR-174/2013 EM&A Manual S7.2.1.2	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	Contractor	All relevant worksites	Not Applicable
		Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	Contractor	All relevant worksites	Not Applicable
		Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	Contractor	All relevant worksites	Implemented
		Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.	Contractor	All relevant worksites	Implemented
		Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.	Contractor	All relevant worksites	Implemented
		All lighting in construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.	Contractor	All relevant worksites	Not Applicable
General Condition					
		The Permit Holder shall display conspicuously a copy of this Permit on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public's information at all times. The Permit Holder shall ensure that the most updated information about the Permit, including any amended Permit, is displayed at such locations. If the Permit Holder surrenders a part or the whole of the Permit, the notice he sends to the Director shall also be displayed at the same	Contractor	All relevant worksites	Implemented

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
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Hong Kong.
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Fax : +852 2450 8032
E-mail : mcl@fugro.com
Website : www.fugro.com

EIA Ref	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Who to implement the measure	Location / Timing	Construction Phase Implementation Status
		locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s).			

Implementation status: Implemented / Partially Implemented / Not Implemented / Not Applicable

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Appendix K

Weather and Meteorological Conditions during Reporting Month

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
November 2019						
1	1015.7	29.3	25.7	24.0	73	0
2	1014.6	28.2	25.3	23.9	74	0
3	1013.9	28.8	25.7	23.8	74	0
4	1014.5	28.6	25.0	22.8	56	0
5	1013.4	27.4	23.9	21.6	56	0
6	1012.0	26.5	23.8	22.3	69	0
7	1013.7	26.9	23.8	21.4	56	0
8	1017.0	26.8	23.3	20.8	51	0
9	1017.6	26.0	22.7	20.4	62	0
10	1016.1	26.7	22.7	20.6	70	0
11	1014.7	26.8	23.1	20.9	72	0
12	1016.4	25.2	23.3	22.3	78	0
13	1018.3	26.8	24.1	22.3	75	0
14	1018.9	25.9	23.0	21.1	64	0
15	1016.9	25.7	22.8	21.5	70	0
16	1015.7	25.6	22.5	21.5	76	0
17	1015.0	26.5	23.4	21.4	79	0
18	1015.7	28.4	24.3	20.6	69	0
19	1018.4	22.7	20.5	17.9	63	0
20	1019.5	24.0	21.1	19.4	66	0
21	1018.9	25.2	21.7	19.2	66	Trace
22	1017.1	26.3	22.3	19.6	66	0
23	1016.9	26.9	23.3	21.4	78	0
24	1017.5	27.4	23.4	21.1	77	0
25	1019.6	26.6	23.8	22.4	73	0
26	1020.7	23.4	22.0	21.0	76	Trace
27	1020.0	24.8	22.3	21.1	78	0
28	1021.9	23.1	20.3	18.0	61	0
29	1022.3	22.6	19.7	17.0	65	0
30	1020.4	23.8	20.4	17.9	71	0

Source: Hong Kong Observatory

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Appendix L

Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecution

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Environmental Complaints Log

Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply
20161207_complaint_c	7 Dec 2016	EPD	Andy Choy (CRBC)	Air	13 Feb 2017	Project-related	13 Feb 2017
20170209_complaint_c	9 Feb 2017	EPD	Andy Choy (CRBC)	Air	22 Feb2017	Not Project-related	7 Mar 2017
20170502_complaint_c	2 May 2017	CEDD	Andy Choy (CRBC)	Noise	4 May 2017	Not Valid	22 May 2017
20170716_complaint_a	16 July 2017	CEDD	HMJV	Water Quality	4 Aug 2017	Not Project-related	4 Aug 2017
20180530_complaint	30 May 2018	EPD	CRBC	Air	9 June 2018	Not Valid	20 June 2018

Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	3	0	3
Noise	1	0	1
Water	1	0	1
Waste	0	0	0
Total	0	0	0

Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Notification of Summons and Prosecutions This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Appendix M

Summary of Site Audit in the Reporting Month

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Summary of Site Audit in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	NA		
Noise	NA		
Water Quality	NA		
Chemical and Waste Management	14 November 2019	Observation: Drip tray should be provided to prevent chemical leakage. (Zone 1 & 3)	20 November 2019
Land Contamination	NA		
Landscape and Visual Impact	NA		
General Condition	NA		
Permit / Licenses	NA		

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Appendix N

Outstanding Issues and Deficiencies

MATERIALAB CONSULTANTS LIMITED
Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong.
Tel : +852 2450 8238
Fax : +852 2450 8032
E-mail : mcl@fugro.com

Summary of Outstanding Issues and Deficiencies in the Reporting Month

Parameters	Outstanding Issues	Deficiencies
Air Quality	NA	Any items of deficiencies can be referred to **Appendix M**.
Noise	NA	
Water Quality	NA	
Chemical and Waste Management	NA	
Land Contamination	NA	
Landscape and Visual Impact	NA	
General Condition	NA	
Others	NA	